



TOWN OF DISCOVERY BAY
A COMMUNITY SERVICES DISTRICT
SDLF Platinum-Level of Governance



President – Bryon Gutow • Vice-President – Kevin Graves • Director – Ashley Porter • Director – Michael Callahan • Director – Carolyn Graham

TOWN OF DISCOVERY BAY
COMMUNITY SERVICES DISTRICT
AGENDA PACKET

Regular Board Meeting
Wednesday, May 5, 2021

7:00 P.M. Regular Board Meeting

Community Center
1601 Discovery Bay Boulevard

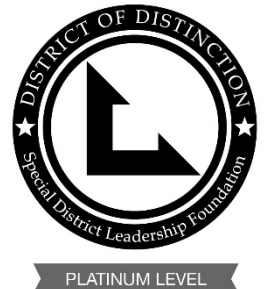




TOWN OF DISCOVERY BAY

A COMMUNITY SERVICES DISTRICT

SDLF Platinum-Level of Governance



President – Bryon Gutow • Director – Kevin Graves • Director – Ashley Porter • Director – Michael Callahan • Director – Carolyn Graham

**NOTICE OF THE REGULAR MEETING
OF THE BOARD OF DIRECTORS
OF THE TOWN OF DISCOVERY BAY
Wednesday May 5, 2021
REGULAR MEETING 7:00 P.M.**

**NOTICE
Coronavirus COVID-19**

In accordance with the Governor's Executive Order N-33-20, and for the period in which the Order remains in effect, the Town of Discovery Bay Community Services District Board Chambers will be closed to the public.

To accommodate the public during this period of time that the Board's Chambers are closed to the public, the Town of Discovery Bay Community Services District Board of Directors has arranged for members of the public to observe and address the meeting telephonically.

**TO ATTEND BY TELECONFERENCE:
Toll-Free Dial-In Number: (877)778-1806
CONFERENCE CODE **891949****

Download Agenda Packet and Materials at <http://www.todb.ca.gov/>

REGULAR MEETING 7:00 P.M.

A. ROLL CALL AND PLEDGE OF ALLEGIANCE

1. Call business meeting to order 7:00 p.m.
2. Pledge of Allegiance.
3. Roll Call.

B. PUBLIC COMMENTS (Individual Public Comments will be limited to a 3-minute time limit)

During Public Comments, the public may address the Board on any issue within the District's jurisdiction which is not on the Agenda. The public may comment on any item on the Agenda at the time the item is before the Board for consideration. Any person wishing to speak will have 3 minutes to make their comment. There will be no dialog between the Board and the commenter as the law strictly limits the ability of Board members to discuss matters not on the agenda. We ask that you refrain from personal attacks during comment, and that you address all comments to the Board only. Any clarifying questions from the Board must go through the President. Comments from the public do not necessarily reflect the viewpoint of the Directors.

C. CONSENT CALENDAR

All matters listed under the CONSENT CALENDAR are considered by the District to be routine and will be enacted by one motion.

1. Approve April 21, 2021 Regular Board of Directors DRAFT Meeting minutes.
2. Approve Register of District Invoices.

D. AREA AGENCIES REPORTS / PRESENTATION

1. Assembly Member Jim Frazier, District 11.
2. Supervisor Diane Burgis, District III Report.
3. Sheriff's Office Report.
4. CHP Report.
5. East Contra Costa Fire Protection District Report.

E. LIAISON REPORTS

F. PRESENTATIONS

1. Draft Urban Water Management Plan.

G. BUSINESS AND ACTION ITEMS

1. Discussion and Possible Action to Approve Community Center Pool Landscape and Hardscape Features.

H. MANAGER'S REPORT

I. GENERAL MANAGER'S REPORT

J. DIRECTORS' REPORTS

1. Standing Committee Reports.
 - a. Special Finance Committee Meeting (Committee Members Kevin Graves and Bryon Gutow) May 4, 2021.
 - b. Communications Committee Meeting (Committee Members Carolyn Graham and Michael Callahan) May 5, 2021.
 - c. Parks and Recreation Committee Meeting (Committee Members Bryon Gutow and Ashley Porter) May 5, 2021.
 - d. Water and Wastewater Committee Meeting (Committee Members Kevin Graves and Ashley Porter) May 5, 2021.
2. Other Reportable Items.

K. DIRECTOR'S TRAINING AND REGIONAL MEETING REPORTS

1. Report BUSD Regular Board Meeting – April 22, 2021 – Director Carolyn Graham.
2. Report Tri Delta Transit Board Meeting – April 28, 2021 – Director Carolyn Graham.

L. CORRESPONDENCE RECEIVED

M. FUTURE AGENDA ITEMS

N. OPEN SESSION DISCLOSURE OF CLOSED SESSION AGENDA

(Government Code Section 54957.7)

O. CLOSED SESSION:

1. Public Employee Appointment
Title: General Manager

P. RETURN TO OPEN SESSION; REPORT ON CLOSED SESSION

(Government Code Section 54957.1)

Q. ADJOURNMENT

1. Adjourn to the regular meeting on May 19, beginning at 7:00 p.m. at the Community Center located at 1601 Discovery Bay Boulevard.

"This agenda shall be made available upon request in alternative formats to persons with a disability, as required by the American with Disabilities Act of 1990 (42 U.S.C. § 12132) and the Ralph M. Brown Act (California Government Code § 54954.2). Persons requesting a disability related modification or accommodation in order to participate in the meeting should contact the Town of Discovery Bay, at (925) 634-1131, during regular business hours, at least forty-eight hours prior to the time of the meeting."

"Materials related to an item on the Agenda submitted to the Town of Discovery Bay after distribution of the agenda packet are available for public inspection in the District Office located at 1800 Willow Lake Road during normal business hours."



TOWN OF DISCOVERY BAY

A COMMUNITY SERVICES DISTRICT

SDLF Platinum-Level of Governance



PLATINUM LEVEL

President – Bryon Gutow • Director – Kevin Graves • Director – Ashley Porter • Director – Michael Callahan • Director – Carolyn Graham

**MINUTES OF THE REGULAR MEETING
OF THE BOARD OF DIRECTORS
OF THE TOWN OF DISCOVERY BAY
Wednesday April 21, 2021
REGULAR MEETING 7:00 P.M.**

**NOTICE
Coronavirus COVID-19**

In accordance with the Governor's Executive Order N-33-20, and for the period in which the Order remains in effect, the Town of Discovery Bay Community Services District Board Chambers will be closed to the public.

To accommodate the public during this period of time that the Board's Chambers are closed to the public, the Town of Discovery Bay Community Services District Board of Directors has arranged for members of the public to observe and address the meeting telephonically.

**TO ATTEND BY TELECONFERENCE:
Toll-Free Dial-In Number: (877)778-1806
CONFERENCE CODE 891949**

Download Agenda Packet and Materials at <http://www.todb.ca.gov/>

REGULAR MEETING 7:00 P.M.

A. ROLL CALL AND PLEDGE OF ALLEGIANCE

1. Call business meeting to order 7:00 p.m. – By President Bryon Gutow.
2. Pledge of Allegiance – Led by Director Ashley Porter.
3. Roll Call – All Present.

B. PUBLIC COMMENTS (Individual Public Comments will be limited to a 3-minute time limit)

Public comment regarding:

- With more day light hours, request was made to extend the hours of the Community Center grounds. Stated the County Health Officer has supported tournaments being allowed.

President Bryon Gutow recommended the caller reach out to Recreation Program Supervisor Monica Gallo for current Community Center grounds hours.

C. CONSENT CALENDAR

All matters listed under the CONSENT CALENDAR are considered by the District to be routine and will be enacted by one motion.

1. Approve April 7, 2021 Regular Board of Directors DRAFT Meeting minutes.
2. Approve Register of District Invoices.

Motion made by Director Ashley Porter to approve items on the Consent Calendar as presented.
Second by Director Michael Callahan.

Vote: Motion Carried – AYES: 5, NOES: 0, ABSTAINED: 0, ABSENT: 0

D. AREA AGENCIES REPORTS / PRESENTATION

None.

E. LIAISON REPORTS

F. PRESENTATIONS

1. Monthly Water and Wastewater Report from Veolia – February 2021 and March 2021.

Veolia Project Manager Anthony Harper presented the Board with February 2021 and March 2021 water operation reports. Advised of reports which have been submitted to the state as required. Gave update on Well statuses. Wastewater Plant No. 1 is non-operational. He provided updates on current projects.

Director Carolyn Graham asked if there were any issues with low water pressure on the morning of April 21, 2021.

Veolia Project Manager Harper advised the pumps slowed down and that may have caused changes in the water pressure approximately at 5:30 a.m. However, it was quickly fixed and his department did not receive any complaints.

G. BUSINESS AND ACTION ITEMS

1. Discussion and Possible Action to Send a Letter of Support for a Revised County Fireworks Ordinance. General Manager Mike Davies advised of a proposed update to the Fireworks Ordinance which will hold persons responsible for fireworks violations that occur on their property. Supervisor Burgis will modify this ordinance in hopes of reducing the risk of fires. Mr. Davies advised the Board of the interest to support this revision to the ordinance by writing a letter of support to the Supervisor's office.

Motion made by Director Carolyn Graham to approve the request by Supervisor Burgis' office to write a support letter to revise the ordinance.

Second by President Bryon Gutow.

Vote: Motion Carried – AYES: 5, NOES: 0, ABSTAINED: 0, ABSENT: 0

2. Discussion and Possible Action to Update the Town's Mission, Vision, Goals and Values Statement.

General Manager Mike Davies advised staff is recommending an update to the Town's Mission, Vision, Goals and Values Statement to add wording which includes diversity and inclusion. A draft was presented to the Board for review.

Motion made by Director Carolyn Graham to add "Champion diversity and inclusion" statement into the Town's Mission, Vision, Goals and Values Statement.

Second by Director Michael Callahan.

Vote: Motion Carried – AYES: 5, NOES: 0, ABSTAINED: 0, ABSENT: 0

3. Discussion and Possible Action to Adopt Resolution 2021-06 Approving the Mitigated Negative Declaration and Approving the Sewage Treatment Plants, Denitrification and Master Plan Upgrades Project.

Project Manager Mike Yeraka advised the Board of letters received by Indian tribes regarding the Mitigated Negative Declaration Notice. One of the letters indicated that there might be some potentially eligible cultural sites around our area. Town of Discovery Bay has retained a cultural research expert and depending on any findings, a professional will train employees in what to look for regarding artifacts and human remains. Resolution 2021-06 is included with this item and staff is recommending the adoption of the Mitigated Negative Declaration and Masterplan Upgrades.

Motion made by Director Ashley Porter to adopt Resolution 2021-06.

Second by President Bryon Gutow.

Vote: Motion Carried – AYES: 5, NOES: 0, ABSTAINED: 0, ABSENT: 0

H. MANAGER'S REPORT

I. GENERAL MANAGER'S REPORT

1. General Manager Mike Davies stated Pantages will have a public hearing before the Board of Supervisors Planning Commission on April 28th, 2021 at 6:30 p.m. The Pantages development has changed its plan from building homes with docks to building 277 residential lots and 18 common area parcels. It was determined that Well 8 is a viable site on Pantages property.

2. General Manager Mike Davies reminded the Board of Directors that Thursday, May 20, 2021 there will be a budget meeting. Advised the Board to keep in mind some of the upcoming projects and to be strategic of future improvements.

J. DIRECTORS' REPORTS

Director Ashley Porter reported of items discussed at the Special Parks and Recreation Committee Meeting earlier. Discussion included landscaping options for the area surrounding the Community Center Pool. The design for the corner of Seal/ Discovery Bay Boulevard and Riverlake/ Discovery Bay Boulevard.

President Bryon Gutow advised the Committee is leaning toward the option of installing artificial turf around

the pool. This item will be discussed with the Finance Committee for budgeting and review.

K. DIRECTOR'S TRAINING AND REGIONAL MEETING REPORTS

1. Report of LAFCO Regular Board Meeting – April 14, 2021- Director Michael Callahan.
2. Report of Contra Costa County Aviation Advisory Committee – April 8, 2021- Vice President Kevin Graves.
3. Report of ECCFPD Board of Directors Meeting- April 14, 2021 – Vice President Kevin Graves.

L. CORRESPONDENCE RECEIVED

M. FUTURE AGENDA ITEMS

N. OPEN SESSION DISCLOSURE OF CLOSED SESSION AGENDA

O. CLOSED SESSION:

P. RETURN TO OPEN SESSION; REPORT ON CLOSED SESSION

Q. ADJOURNMENT

1. Adjourned at 7:43 p.m. to the regular meeting on May 5, beginning at 7:00 p.m. at the Community Center located at 1601 Discovery Bay Boulevard.

"This agenda shall be made available upon request in alternative formats to persons with a disability, as required by the American with Disabilities Act of 1990 (42 U.S.C. § 12132) and the Ralph M. Brown Act (California Government Code § 54954.2). Persons requesting a disability related modification or accommodation in order to participate in the meeting should contact the Town of Discovery Bay, at (925) 634-1131, during regular business hours, at least forty-eight hours prior to the time of the meeting."

"Materials related to an item on the Agenda submitted to the Town of Discovery Bay after distribution of the agenda packet are available for public inspection in the District Office located at 1800 Willow Lake Road during normal business hours."

//ym//042221



Town of Discovery Bay

"A Community Services District"

STAFF REPORT

Meeting Date

May 5, 2021

Prepared By: Julie Carter, Finance Manager & Lesley Marable, Accountant
Submitted By: Michael R. Davies, General Manager

Agenda Title

Approve Register of District Invoices.

Recommended Action

Staff recommends that the Board approve the listed invoices for payment.

Executive Summary

District invoices are paid on a regular basis, and must obtain Board authorization prior to payment. Staff recommends Board authorization in order that the District can continue to pay warrants in a timely manner.

Fiscal Impact:

Amount Requested \$ 359,092.66

Sufficient Budgeted Funds Available?: Yes (If no, see attached fiscal analysis)

Prog/Fund # See listing of invoices. **Category:** Operating Expenses and Capital Improvements

Previous Relevant Board Actions for This Item

Attachments

Request For Authorization to Pay Invoices for the Town of Discovery Bay CSD 2020/2021

AGENDA ITEM: C-2

Request for Authorization to Pay Invoices
For The Meeting On May 5, 2021
Town of Discovery Bay CSD
Fiscal Year 7/20 - 6/21

Veolia Water North America	\$87,736.74
Northern Directional Drilling, Inc.	\$84,933.80
Pacific Gas & Electric	\$73,750.56
Luhdorff & Scalmanini	\$36,622.29
Town of Discovery Bay CSD	\$30,590.67
J.W. Backhoe & Construction, Inc.	\$22,404.94
City Of Brentwood	\$6,419.29
Univar Solutions USA Inc.	\$2,384.65
California State Lands Comm.	\$2,341.42
R & B Company	\$2,139.10
Upper Case Printing, Inc.	\$1,602.75
Urban Futures, Inc.	\$1,550.00
Pacific Landscape Supply, Inc.	\$1,398.40
Mt. Diablo Resource Recovery	\$986.00
Watersavers Irrigation Inc.	\$883.49
Express Employment Professionals	\$743.68
BACWA	\$385.81
Lucia Peters	\$360.00
Quadient Leasing USA, Inc.	\$299.28
Office Depot	\$281.09
Gladwell Governmental Services, Inc.	\$250.00
Bill Brandt Ford	\$187.08
Zee Medical Service Company	\$183.85
Utility Customer Refunds	\$174.83
Alhambra	\$127.66
UniFirst Corporation	\$111.51
Discovery Pest Control	\$99.00
Shred-It USA-Concord	\$74.62
Big B Lumber	\$45.05
Verizon Wireless	\$25.10
	<hr/>
	\$359,092.66



Town of Discovery Bay

Informational Presentation on the DRAFT 2020 Urban Water Management Plan

May 5, 2021



**Luhdorff &
Scalmanini**
Consulting Engineers

Topics

- 1. Draft 2020 Urban Water Management Plan (UWMP)**
- 2. Schedule for UWMP Adoption**



Draft UWMP – Overview

What Is Required

- Required by the California Water Code.
- Applies to water suppliers with more than 3,000 customers or supplying more than 3,000 acre-feet per year.
- Prepared every five (5) years and submitted to the Department of Water Resources (DWR).
- New requirements for the 2020 UWMP.
- An adopted UWMP must be submitted to DWR by July 1, 2021.



Draft UWMP – Overview

Purpose of UWMP

The 2020 UWMP allows agencies to:

- Provide long-term planning for reliable water supply.
- Develop water use efficiency measures and quantify water saving measures.
- Adopt an updated Water Shortage Contingency Plan.
- Integrate future recycled water use into water portfolio (e.g. groundwater recharge, irrigation, other).
- Maintain eligibility for grants and loans administered by the state.



Draft UWMP - Overview

New Requirements for 2020 UWMP

- Adopted Water Shortage Contingency Plan (WSCP)
- 5-year Drought Risk Assessment
- Long-term forecast of water supply
- Incorporation of projected land use changes
- Seismic risk assessment and mitigation plan
- Energy analysis
- Water savings from codes/standards
- Water losses audits
- Groundwater Sustainability Plan (GSP) updates
- Other minor changes



Draft UWMP – Contents

Contents of UWMP

1. Introduction and Overview
2. Plan Preparation
3. System Description
4. System Water Use
5. SB X7-7 Baselines and Targets
6. System Supplies
7. Water Supply Reliability Assessment
8. Water Shortage Contingency Plan
9. Demand Management Measures
10. Plan Adoption, Submittal and Implementation



Draft UWMP – System Water Use

System Water Use

- Over 6,000 service connections.
- Population and Demand projections to 2045 below.

Population - Current and Projected						
Population Served	2020	2025	2030	2035	2040	2045
	15,575	18,637	21,587	24,537	28,285	32,606
Total Water Demands						
Total Water Demand	2020	2025	2030	2035	2040	2045
	1,050	1,423	1,645	1,873	2,160	2,491
	Current Build-out	Other possible developments	Assumed growth 3.1%			



Draft UWMP – Baseline Water Use and Target

Baseline Water Use and Target

SB X7-7 – reduce water use by 20% by 2020

- Baseline water use: 261 gallons per capita per day (gpcd), established in 2010 UWMP
- 2020 Target 209 gpcd
- 2020 Actual 185 gpcd
- 20% by 2020 Target Met!



Draft UWMP – System Supplies

System Supplies

- Groundwater used exclusively to meet water demands
- Six groundwater wells
- TODB is one of seven Groundwater Sustainability Agencies in the East Contra Costa Subbasin developing a Groundwater Sustainability Plan
- Groundwater considered sustainable



Draft UWMP – Water Supply Reliability

Water Supply Reliability Assessment

- Groundwater supplies have been historically reliable through previous droughts.
- Current and Future water demands can be reliably met by the six groundwater wells in a:
 - Average water year
 - Single dry water year
 - Five consecutive year drought



Draft UWMP – Water Shortage Contingency Plan

Water Shortage Contingency Plan

- Adopted on March 3, 2021.
- Discusses annual water supply reliability analysis.
- Discusses six standard water shortage levels (ranging from 10% water use reduction to greater than 50% reduction).
- Discusses water shortage response actions (i.e. demand reduction actions, mandatory restrictions, etc.).



Draft UWMP – Demand Management Measures

Demand Management Measures (DMM)

- Discusses the six DMMs:
 - Water waste prevention ordinances
 - Metering
 - Conservation pricing
 - Public education
 - Programs to assess and manage distribution system real loss
 - Water conservation program
- Discusses implementation over past five years



Schedule

December 15, 2020
Presentation
UWMP and WSCP
Overview

January 20, 2021
Presentation
Draft WSCP

March 3, 2021
Public Hearing
Review and Adopt
WSCP

May 5, 2021
Presentation
Draft UWMP

June 2, 2021
Public Hearing
Review and Adopt
UWMP

**DUE TO
DWR BY
JULY 1, 2021**

DECEMBER

JANUARY

FEBRUARY

MARCH

APRIL

MAY

JUNE

JULY

January 26, 2021
UWMP- 60 Day
Notice

**Feb 17 and 26,
2021**
WSCP - 14 Day
Newspaper Notice

May 19 and 26, 2021
UWMP – 14 Day
Newspaper Notice

June 16, 2021
Submit UWMP
to DWR





Questions?



**Luhdorff &
Scalmanini**
Consulting Engineers

2020 URBAN WATER MANAGEMENT PLAN

PREPARED FOR

TOWN OF DISCOVERY BAY
COMMUNITY SERVICES DISTRICT



PREPARED BY



**Luhdorff &
Scalmanini**
Consulting Engineers

TABLE OF CONTENTS

ES 1. Introduction.....	1
ES 2. Plan Preparation	1
ES 3. System Description	1
ES 4. System Water Use	2
ES.5 SB X7-7 Baselines and Targets	2
ES 6. System Supplies.....	2
ES 7. Water Supply Reliability Assessment.....	2
ES 8. Water Shortage Contingency Planning	3
ES 9. Demand Management Measures	3
CHAPTER 1. INTRODUCTION AND OVERVIEW	1-1
1.1. Background and Purpose	1-1
1.2. Urban Water Management Planning and the California Water Code	1-1
1.3. Urban Water Management Plans in Relation to Other Efforts	1-2
1.4. UWMP Organization.....	1-2
CHAPTER 2. PLAN PREPARATION	2-1
2.1. Basis for Preparing a Plan.....	2-1
2.2. Regional Planning.....	2-1
2.3. Individual or Regional Planning and Compliance.....	2-1
2.4. Fiscal or Calendar Year and Units of Measure.....	2-2
2.5. Coordination and Outreach.....	2-2
CHAPTER 3. SYSTEM DESCRIPTION.....	3-1
3.1. General Description.....	3-1
3.2. Service Area Boundary Maps	3-1
3.2.1. Potable Water Service Area.....	3-2
3.2.2. Water Supply Wells	3-2
3.2.3. Water Treatment Plants and Storage.....	3-4
3.2.4. Water Distribution System	3-4
3.2.5. Service Area Changes	3-4
3.3. Service Area Climate	3-5

TABLE OF CONTENTS

3.4. Service Area Population and Demographics.....	3-5
3.5. Land Uses within Service Area.....	3-7
CHAPTER 4. SYSTEM WATER USE	4-1
4.1. Recycled versus Potable and Raw Water Demand	4-1
4.2. Water Uses by Sector	4-1
4.3. Distribution System Water Losses	4-3
4.4. Water Use for Lower Income Households.....	4-5
4.5. Climate Change	4-5
CHAPTER 5. SB X7-7 BASELINES AND TARGETS	5-1
5.1. Guidance for Wholesale Agencies	5-1
5.2. Updating Calculations from 2015 UWMP to the 2020 UWMP	5-1
5.3. Baseline Periods	5-1
5.4. Service Area Population	5-1
5.5. Gross Water Use	5-2
5.6. Baseline Daily Per Capita Water Use	5-3
5.7. Baseline and Targets Summary	5-4
5.8. 2020 Compliance Daily per Capita Water Use (GPCD).....	5-5
5.9. Regional Alliance	5-6
CHAPTER 6. SYSTEM SUPPLIES	6-1
6.1. Purchased or Imported Water.....	6-1
6.2. Recycled Water Use	6-1
6.3. Groundwater	6-1
6.3.1. Basin Description.....	6-1
6.3.2. Groundwater Basin.....	6-1
6.3.2.1. Geologic Setting and Occurrence of Groundwater	6-1
6.3.2.2. Hydrogeologic Setting in Discovery Bay.....	6-3
6.3.2.3. Groundwater Conditions	6-3
6.3.2.4. Well Yields and Aquifer Characteristics	6-7
6.3.3. Groundwater Management and Sustainability.....	6-8
6.3.4. Historical Groundwater Pumping	6-9
6.4. Surface Water	6-10

TABLE OF CONTENTS

6.5. Stormwater	6-10
6.6. Wastewater and Recycled Water	6-11
6.6.1. Recycled Water Coordination.....	6-11
6.6.2. Wastewater Collection, Treatment, and Disposal	6-11
6.6.3. Recycled Water System	6-14
6.6.4. Recycled Water Beneficial Uses.....	6-14
6.6.4.1. Current and Planned Uses of Recycled Water	6-14
6.6.5. Actions to Encourage and Optimize Future Recycled Water Use	6-17
6.7. Desalinated Water Opportunities	6-18
6.8. Exchanges or Transfers.....	6-18
6.9. Future Water Projects	6-18
6.10. Summary of Existing and Planned Sources of Water.....	6-19
6.11. Climate Change Impacts to Supply	6-20
6.12. Energy Intensity.....	6-21
CHAPTER 7. WATER SUPPLY RELIABILITY ASSESSMENT.....	7-1
7.1. Constraints on Water Sources	7-1
7.2. Reliability by Type of Year	7-1
7.3. Supply and Demand Assessment.....	7-2
7.4. Regional Supply Reliability	7-5
7.5. Drought Risk Assessment	7-5
CHAPTER 8. WATER SHORTAGE CONTINGENCY PLANNING	8-1
8.1. Water Supply Reliability Analysis	8-1
8.2. Annual Water Supply and Demand Analysis.....	8-1
8.3. Standard Water Shortage Levels	8-3
8.4. Shortage Response Actions	8-5
8.5. Communication Protocols	8-8
8.6. Compliance and Enforcement	8-9
8.7. Legal Authorities	8-9
8.8. Financial Consequences of WSCP	8-10
8.9. Monitoring and Reporting.....	8-10
8.10. WSCP Refinement Procedures	8-10

TABLE OF CONTENTS

8.11. Special Water Feature Distinction	8-10
8.12. Plan Adoption, Submittal and Availability	8-11
CHAPTER 9. DEMAND MANAGEMENT MEASURES.....	9-1
9.1. Existing Demand Management Measures for Retail Suppliers	9-1
9.1.1. Water Waste Prevention Ordinances	9-1
9.1.2. Metering.....	9-1
9.1.3. Conservation Pricing.....	9-1
9.1.4. Public Education and Outreach	9-2
9.1.5. Programs to Assess and Manage Distribution System Real Loss	9-2
9.1.6. Water Conservation Program Coordination and Staffing Support.....	9-3
9.1.7. Other Demand Management Measures	9-3
9.2. Implementation over the Past Five Years.....	9-3
9.2.1. Water Waste Prevention Ordinances	9-3
9.2.2. Metering.....	9-3
9.2.3. Conservation Pricing.....	9-3
9.2.4. Public Education and Outreach	9-3
9.2.5. Programs to Assess and Manage Distribution System Real Loss	9-4
9.2.6. Water Conservation Program Coordination and Staffing Support.....	9-4
9.2.7. Other Demand Management Measures	9-4
9.3. Planned Implementation to Achieve Water Use Targets.....	9-4
9.3.1. Water Waste Prevention Ordinances	9-4
9.3.2. Metering.....	9-4
9.3.3. Conservation Pricing.....	9-4
9.3.4. Public Education and Outreach	9-5
9.3.5. Programs to Assess and Manage Distribution System Real Loss	9-5
9.3.6. Water Conservation Program Coordination and Staffing Support.....	9-5
9.3.7. Other Demand Management Measures	9-5
9.4. Water Use Objectives (Future Requirements).....	9-6
CHAPTER 10. PLAN ADOPTION, SUBMITTAL, AND IMPLEMENTATION.....	10-1
10.1. Inclusion of All 2020 Data.....	10-1
10.2. Notice of Public Hearing.....	10-1

TABLE OF CONTENTS

10.3. Public Hearing and Adoption.....	10-1
10.4. Plan Submittal	10-2
10.4.1. Submitting a UWMP to DWR.....	10-2
10.4.2. Electronic Data Submittal	10-2
10.4.3. Submitting a UWMP to the California State Library	10-2
10.4.4. Submitting a UWMP to Cities and Counties	10-3
10.5. Public Availability	10-3
10.6. Amending an Adopted UWMP	10-3
CHAPTER 11. LIMITATIONS.....	11-1

LIST OF TABLES

Table 2-1. Retail Only: Public Water Systems.....	2-1
Table 2-2. Plan Identification	2-1
Table 2-3. Supplier Identification	2-2
Table 2-4. Retail: Water Supplier Information Exchange	2-2
Table 2-5. Coordination with Appropriate Agencies for Plan Preparation	2-3
Table 3-1. Retail: Population - Current and Projected.....	3-6
Table 3-2. American Community Survey - Demographic Information.....	3-7
Table 4-1. Retail: Demands for Potable and Raw Water - Actual	4-2
Table 4-2. Retail: Use for Potable and Non-Potable Water - Projected.....	4-2
Table 4-5 (DWR Table 4-4). Retail: 12 Month Water Loss Audit Reporting	4-4
Table 4-6 (DWR Table 4-5). Retail Only: Inclusion in Water Use Projections.....	4-5
SB X7-7 Table 5: Gallons Per Capita Per Day (GPCD)	5-4
Table 5-1. Baselines and Targets Summary Retail Supplier or Regional Alliance Only	5-5
Table 5-2. 2020 Compliance Retail Agency or Regional Alliance Only	5-6
Table 6-1. Retail: Groundwater Volume Pumped.....	6-9
Table 6-2. Groundwater Supply Well Information	6-10
Table 6-3 (DWR Table 6-2) Retail: Wastewater Collected Within Service Area in 2020	6-12
Table 6-4 (DWR Table 6-3) Retail: Wastewater Treatment and Discharge Within Service Area in 2020	6-13

TABLE OF CONTENTS

Table 6-4 Retail. Recycled Water Direct Beneficial Uses Within Service Area	6-16
IPR Indirect Potable Reuse	6-16
Table 6-6 (DWR Table 6-5). Retail: 2015 UWMP Recycled Water Use Projection Compared to 2020 Actual	6-17
Table 6-7 (DWR Table 6-6). Retail: Methods to Expand Future Recycled Water Use	6-18
Table 6-8 (DWR Table 6-7). Retail: Expected Future Water Supply Projects or Programs	6-19
Table 6-9 (DWR Table 6-8). Retail: Water Supplies — Actual	6-20
Table 6-10 (DWR Table 6-9) Retail: Water Supplies — Projected	6-20
Table 6-11. O-1A: Recommended Energy Intensity - Water Supply Process Approach	6-21
Table 6-12. O-2: Recommended Energy Intensity - Wastewater & Recycled Water	6-22
Table 7-1. Retail: Basis of Water Year Data (Reliability Assessment)	7-2
Table 7-2. Retail: Normal Year Supply and Demand Comparison	7-3
Table 7-3. Retail: Single Dry Year Supply and Demand Comparison	7-3
Table 7-4. Retail: Multiple Dry Years Supply and Demand Comparison	7-4
Table 7-5. Five-Year Drought Risk Assessment Tables to address Water Code Section 10635(b) 7-5	
Table 8-1. Water Shortage Contingency Plan Levels	8-4
Table 8-2. (DWR Table 8-3): Supply Augmentation and Other Actions	8-5
Table 8-3. (DWR Table 8-2): Demand Reduction Actions	8-6
Table 8-4. Mandatory Restrictions	8-7
Table 8-5. Communication Protocol for Each Level	8-9
Table 9-1. Overview of Future Water Use Objectives	9-7

LIST OF FIGURES

Figure 3-1. Existing Water System and Future Developments	3-3
Figure 3-2. Contra Costa County General Plan Land Use Map	3-8
Figure 6-1. Geologic Cross-Section	6-4
Figure 6-2. Hydrograph	6-6

TABLE OF CONTENTS

APPENDICES

Appendix A	2020 UWMP Checklist
Appendix B	DWR Standardized UWMP Data Tables
Appendix C	AWWA Free Water Audit Software Data Worksheets
Appendix D	SB X7-7 Tables
Appendix E	June 20, 2016, Supporting Analysis on Groundwater Conditions 2016 Self-Certified Water Conservation Standard, Luhdorff & Scalmanini Consulting Engineers
Appendix F	Water Shortage Contingency Plan
F – 1	Water Shortage Contingency Plan
F – 2	TODB Voluntary Water Reduction Resolution (2014-11)
F – 3	TODB Drought Regulation Ordinance (2016-27)
Appendix G	Public Involvement Materials
G-1	Notices of UWMP Preparation
G-2	Notice of Public Hearing
G-3	Public Hearing Minutes
Appendix H	2020 UWMP Adoption Resolution

LIST OF ABBREVIATIONS

ac-ft	Acre-Feet
CASGEM	California Statewide Groundwater Elevation Monitoring
CCF	100 Cubic Feet
CIP	Capital Improvement Plan
CUWCC	California Urban Water Conservation Council
CWC	California Water Code
CDP	Census Designated Place
CSD	Community Services District

TABLE OF CONTENTS

DMM	Demand Management Measure
DWR	Department of Water Resources
EDU	Equivalent Dwelling Unit
gpcd	Gallons per Capita per Day
gpm	Gallons per Minutes
gpm/ft	Gallons per Minute per Foot of Drawdown
ILI	Infrastructure Leakage Index
LSCE	Luhdorff & Scalmanini, Consulting Engineers
µS/cm	Micro-Siemens per Centimeter
MCL	Maximum Contaminant Level
MG	Million Gallons
MGD	Million Gallons per Day
MGY	Million Gallons per Year
MOU	Memorandum of Understanding Regarding Urban Water Conservation in California
NPDES	National Pollutant Discharge Elimination System
RWQCB	Regional Water Quality Control Board
SBX7-7	Senate Bill SBX7-7, Water Conservation Bill of 2009
TDS	Total Dissolved Solids
TODB	Town of Discovery Bay Community Services District (District)
UV	Ultraviolet
UWMP	Urban Water Management Plan
WDR	Waste Discharge Requirements
WMP	Water Master Plan
WSCP	Water Shortage Contingency Plan
WTP	Water Treatment Plant
WUE	Water Use Efficiency
WWTP	Wastewater Treatment Plant
WRCC	Western Regional Climate Center

EXECUTIVE SUMMARY

The Town of Discovery Bay Community Services District (District) has prepared this 2020 Urban Water Management Plan (UWMP) update to comply with the legislative requirements of the UWMP Act.

This UWMP shows that the District is well positioned to meet its water demands through its sole water source – groundwater. The District has a water supply capacity of 2,500 million gallons (MG) which is more than sufficient to meet water demands through 2045. Even through periods of drought, the District has not been impacted by reduced water supplies and has reliably met water demands through use of its six groundwater wells.

ES 1. Introduction

UWMPs are State-mandated water supply planning documents required by the Department of Water Resources (DWR) to be completed every five years by all urban water suppliers that have 3,000 or more service connections or supply 3,000 or more acre-feet of water per year. This UWMP meets the requirements of the DWR's 2020 UWMP Guidebook for Urban Water Suppliers.

ES 2. Plan Preparation

The District is required to prepare an UWMP as they provide water to over 3,000 service connections. As of 2020, the District provides water to 6,134 service connections.

To prepare for the 2020 UWMP update, the District coordinated with local water agencies and the general public.

ES 3. System Description

The Town of Discovery Bay (TODB) is located adjacent to the Sacramento-San Joaquin Delta (Delta) off of State Highway 4 and is approximately twenty miles due west of the City of Stockton. The TODB is a largely residential community with limited commercial development and institutional facilities. The community was developed and constructed within a network of man-made lakes and channels that are connected to the Delta and is known for its recreational activities.

The TODB's sole source of water is groundwater which is supplied through six groundwater wells. The groundwater is treated at two water treatment plants (Newport and Willow Lake). Storage tanks are located at each plant along with booster pump stations that are used to meet distribution system requirements.

The 2020 population in the TODB was estimated to be 15,575. Several developments are in the works including infill projects, Newport Pointe, Pantages and Cecchini Ranch which would bring



the estimated population to 24,537 by 2035. After 2035, utilizing the historical population growth rate of 3.1% per year, the projected population in 2045 is 32,606.

ES 4. System Water Use

In 2020, the District supplied 1,050 MG of water. In 2045, water demands are projected to be 2,491 MG based on population projections.

The District performs annual water audits utilizing the American Water Works Association (AWWA) Free Water Audit Software and has validated the results for the past five years.

ES.5 SB X7-7 Baselines and Targets

SB X7-7 required water agencies to reduce water use by 20% by 2020. In the 2010 UWMP, the District established an average baseline of 261 gallons per capita per day (gpcd). Thus, the water use target for 2020 was established as 209 gpcd. The District's actual 2020 water usage was 185 gpcd thus meeting the 20% by 2020 target.

ES 6. System Supplies

The District uses groundwater exclusively to meet water system demands. Historical water use and water levels in the TODB indicate strongly that the available supply is sustainable. The District's groundwater supply is considered sustainable and does not exhibit any characteristics of unsustainability as defined under the Sustainable Groundwater Management Act (SGMA).

The TODB is one of seven Groundwater Sustainability Agencies in the East Contra Costa Subbasin who are jointly developing a Groundwater Sustainability Plan due January 31, 2022.

Wastewater from the TODB is collected and treated at Wastewater Treatment Plant No. 1 and No. 2. The District does not supply any recycled water.

The District plans on constructing a new production well (Well 8) and bring it online by 2025 to replace Well 5A. Well 8 is estimated to supply up to 1,800 gpm.

ES 7. Water Supply Reliability Assessment

The TODB can reliably supply 2,500 MG of water from its six groundwater wells. Historically, the TODB has not been impacted by prolonged periods of drought and can reliably meet current and future water demands in an average water year, single dry water year and in a five consecutive year drought through 2045.



ES 8. Water Shortage Contingency Planning

The TODB adopted their Water Shortage Contingency Plan (WSCP) on March 3, 2021. The WSCP discusses the process to conduct the annual water supply reliability analysis for the TODB.

The WSCP also discusses the TODB's six standard water shortage levels which range from a mild water shortage (up to 10%) to a catastrophic water shortage (greater than 50%). In periods of water shortage, the TODB has shortage response actions to decrease customer water demands including demand reduction actions, operational changes and mandatory restrictions.

ES 9. Demand Management Measures

Existing demand management measures for the TODB include water waste prevention ordinances, metering, conservation pricing, public education, programs to assess and manage distribution system real loss and a water conservation program. Over the past five years, the TODB has enacted Drought Regulation Ordinance No. 2016-27, metered all service connections, conducted free home water audits, provided customers with water conservation information, performed annual water audits, implemented the water conservation program, etc

CHAPTER 1.

INTRODUCTION AND OVERVIEW

1.1. Background and Purpose

Urban Water Management Plans (UWMPs) are State-mandated water supply planning documents required by the Department of Water Resources (DWR) to be completed every five years by all urban water suppliers that have 3,000 or more service connections or supply 3,000 or more acre-feet of water per year. The Town of Discovery Bay Community Services District (District) prepared this 2020 UWMP to comply with the UWMP Act (California Water Code Division 6, Part 2.6, Sections 10610 through 10657) and the Water Conservation Bill of 2009 (SBX7-7). The DWR prepared UWMP Guidebook 2020 (Guidebook), was utilized to ensure that this 2020 UWMP complies with the state legislative requirements. Appendix A provides a completed UWMP Checklist per the Guidebook.

The purpose of the UWMP is to direct long-term resource planning to ensure adequate water supplies meet existing and future demands over a 20-year planning horizon and under various drought and water shortage scenarios. Furthermore, with goals set forth in the Water Conservation Bill of 2009 (SBX7-7) to reduce urban per-capita water use by 20% by 2020, each urban water supplier was required to set targets for water supply reduction in the 2010 UWMP.

This 2020 UWMP presents a final comparison to the water use target that was established in the 2015 UWMP, in addition to updating other aspects of the 2015 UWMP such as population growth, water deliveries and uses, water supply sources, efficient water uses, and water demand management measures (DMMs) with implementation strategies and schedules. Finally, the 2020 UWMP is required to include a water loss audit using American Water Works Association (AWWA) Free Water Audit Software.

1.2. Urban Water Management Planning and the California Water Code

The Urban Water Management Planning Act of 1983 (Act) is described in the California Water Code (CWC) Division 6, Part 2.6, Sections 10610 through 10657. Within the CWC Section 10620(d)(2), it requires the urban water supplier⁴ to coordinate the preparation of the UWMP with other appropriate agencies in the area to the extent practical. Furthermore, CWC Section 10642 requires the water supplier to make the UWMP available for public inspection and hold a public hearing. The hearing should include specific discussion of the UWMP with regard to the present and proposed future measures, programs, and policies to help achieve the water use reductions goals.

In accordance with the code requirements, the District will schedule a public hearing to review, consider changes and adopt the 2020 UWMP. At least 60 days prior to the public hearing to review and adopt the UWMP, the District will notify nearby applicable agencies of the intent to adopt the 2020 UWMP.



1.3. Urban Water Management Plans in Relation to Other Efforts

Water management is accomplished through multiple means such as city and county General Plans, Water Master Plans, Groundwater Sustainability Plans, Groundwater Management Plans, Integrated Regional Water Management Plans, and others. Each of these planning efforts is greatly enhanced when it relies upon the information found in the other documents. This UWMP incorporates information and data from these sources as appropriate.

1.4. UWMP Organization

This report is organized into the following sections as outlined in the 2020 Guidebook:

- UWMP Introduction and Overview
- UWMP Preparation
- System Description
- Water Use Characterization
- SBX7-7 Baseline and Targets
- Water Supply Characterization
- Water Service Reliability and Drought Risk Assessment
- Water Shortage Contingency Plan
- Demand Management Measures
- Plan Adoption, Submittal, and Implementation

A checklist of these required elements addressed in this UWMP is provided in Appendix A. This checklist specifies where each item is located in this UWMP. Appendix B includes the DWR Standardized UWMP Data Tables.

CHAPTER 2. PLAN PREPARATION

2.1. Basis for Preparing a Plan

The District is a retail urban supplier that supplies more than 3,000 service connections with more than 3,000 ac-ft of water per year. Both of these elements qualify the District to complete an UWMP to comply with the CWC. **Table 2-1** presents the system’s name, number, number of municipal connections, and volume of water supplied in 2020.

Table 2-1. Retail Only: Public Water Systems			
Public Water System Number	Public Water System Name	Number of Municipal Connections 2020	Volume of Water Supplied 2020 (MG)
CA 0710009	Town of Discovery Bay Community Services District	6,134	1,050
TOTAL		6,134	1,050

2.2. Regional Planning

The District has selected individual reporting for this UWMP since its water supply is not influenced by other water purveyors.

2.3. Individual or Regional Planning and Compliance

The District has elected to complete an individual UWMP covering its service area in compliance with the CWC as shown in **Table 2-2**.

Table 2-2. Plan Identification		
Select Only One	Type of Plan	Name of RUWMP or Regional Alliance
X	Individual UWMP	
	Water Supplier is also a member of a RUWMP	
	Water Supplier is also a member of a Regional Alliance	
	Regional Urban Water Management Plan (RUWMP)	



2.4. Fiscal or Calendar Year and Units of Measure

This UWMP is reported on a fiscal year basis using million gallons (MG) as the unit of measure, as shown in **Table 2-3**.

Table 2-3. Supplier Identification	
Type of Supplier	
	Supplier is a wholesaler
X	Supplier is a retailer
Fiscal or Calendar Year	
	UWMP Tables are in calendar years
X	UWMP Tables are in fiscal years
If using fiscal years provide month and date that the fiscal year begins (mm/dd)	
Units of measure used in UWMP (select from drop down)	
Unit	MG

2.5. Coordination and Outreach

The District only provides water from its groundwater wells to the District’s service area. No water is purchased from a wholesale water supplier as shown in **Table 2-4**.

Table 2-4. Retail: Water Supplier Information Exchange
The retail supplier has informed the following wholesale supplier(s) of projected water use in accordance with CWC 10631.
Wholesale Water Supplier Name
N/A



The Act requires the District to coordinate the preparation of its UWMP with other appropriate agencies in the area, including other water suppliers that share a common source, water management agencies, and relevant public agencies to the extent practicable. The District has coordinated this UWMP with other agencies, communities and public including diverse social, cultural, and economic elements of the public as summarized in **Table 2-5**. Coordination efforts were conducted to: (1) inform other agencies of the District’s activities, (2) gather high-quality data for use in developing the UWMP, and (3) coordinate planning activities with other related regional plans and initiatives.

Table 2-5. Coordination with Appropriate Agencies for Plan Preparation							
Coordinating Agencies ^{1,2}	Participated in developing the plan	Commented on the draft	Attended public meetings	Was contacted for assistance	Was sent a copy of the draft plan	Was sent a notice of intention to adopt	Not involved / No information
Contra Costa Water District						X	
East Contra Costa Irrigation District						X	
City of Brentwood						X	
Diablo Water District						X	
Contra Costa County						X	
East Contra Costa Subbasin Groundwater Sustainability Agency						X	
General Public				X	X	X	
¹ Indicate the specific name of the agency with which coordination or outreach occurred.							
² Check at least one box in each row.							

CHAPTER 3. SYSTEM DESCRIPTION

3.1. General Description

The Town of Discovery Bay (TODB) is located adjacent to the Sacramento-San Joaquin Delta (Delta) and is approximately twenty miles due west of the city of Stockton and six miles southeast of the city of Brentwood off State Highway 4. The TODB is a largely residential community with limited commercial development and institutional facilities. There is no industrial land-use within the TODB. The community was developed and constructed within a network of man-made lakes and channels that are connected to the Delta and is known for its recreational activities.

The levees and waterways within the TODB are managed and maintained by Reclamation District 800, the California Department of Boating and Waterways, and the US Army Corps of Engineers. The system is defined by relatively flat topographies with mean sea level elevations ranging from 5 feet to 15 feet across the entire system.

The TODB is an unincorporated community that operates as a Community Services District (District), formed in 1998, and is governed by a 5-member elected Board of Directors. Prior to the formation of the Community Services District, the developments were privately owned, and the water system was managed by the Sanitation District No. 19. The first developments in the TODB were constructed in the early 1970's as a resort community. Today, the TODB is primarily a year-around community with approximately 14,900 residents.

The District serves as the TODB's local government tasked with providing and maintaining the municipal public water (water supply, treatment, and distribution) and wastewater systems (collection, transmission and treatment) to approximately 5,975 homes and businesses. The District also manages the TODB common landscaping and recreation zones. The Board has no land-use or zoning authority; however, it advises the County of Contra Costa on decisions related to municipal services not provided by the TODB.

3.2. Service Area Boundary Maps

The District's public water system derives all of its water supply from six active groundwater supply wells. Raw water from the wells is delivered and treated at two water treatment plants (WTPs): the Newport WTP and the Willow Lake WTP. Storage tanks are located at each plant to provide operational equalization and reserves for fire flow. Booster facilities draw upon the storage tanks to provide the flow and pressure required in the interconnected distribution system. Each water treatment plant is equipped with standby generators to operate the facilities in the event of prolonged power outages. The distribution system consists of a network of piping that varies in material, age, and size (ranging in diameter from 6-inch through 20-inch). The system operates as one pressure zone.



Figure 3-1 provides a map of the water system including service area boundary, water supply sources, water treatment plants, and distribution piping. Details of the water system are discussed below.

3.2.1. Potable Water Service Area

The TODB is predominately a residential community, with some commercial, institutional and irrigation water uses. There is no industrial water use. Through 2020, the District serves potable drinking water to approximately 15,575 people via 6,134 service connections. Of those, 5,997 are residential services, 41 are commercial and institutional, 88 are landscape irrigation (e.g., parks, greenbelts, etc.) and 8 listed as other.

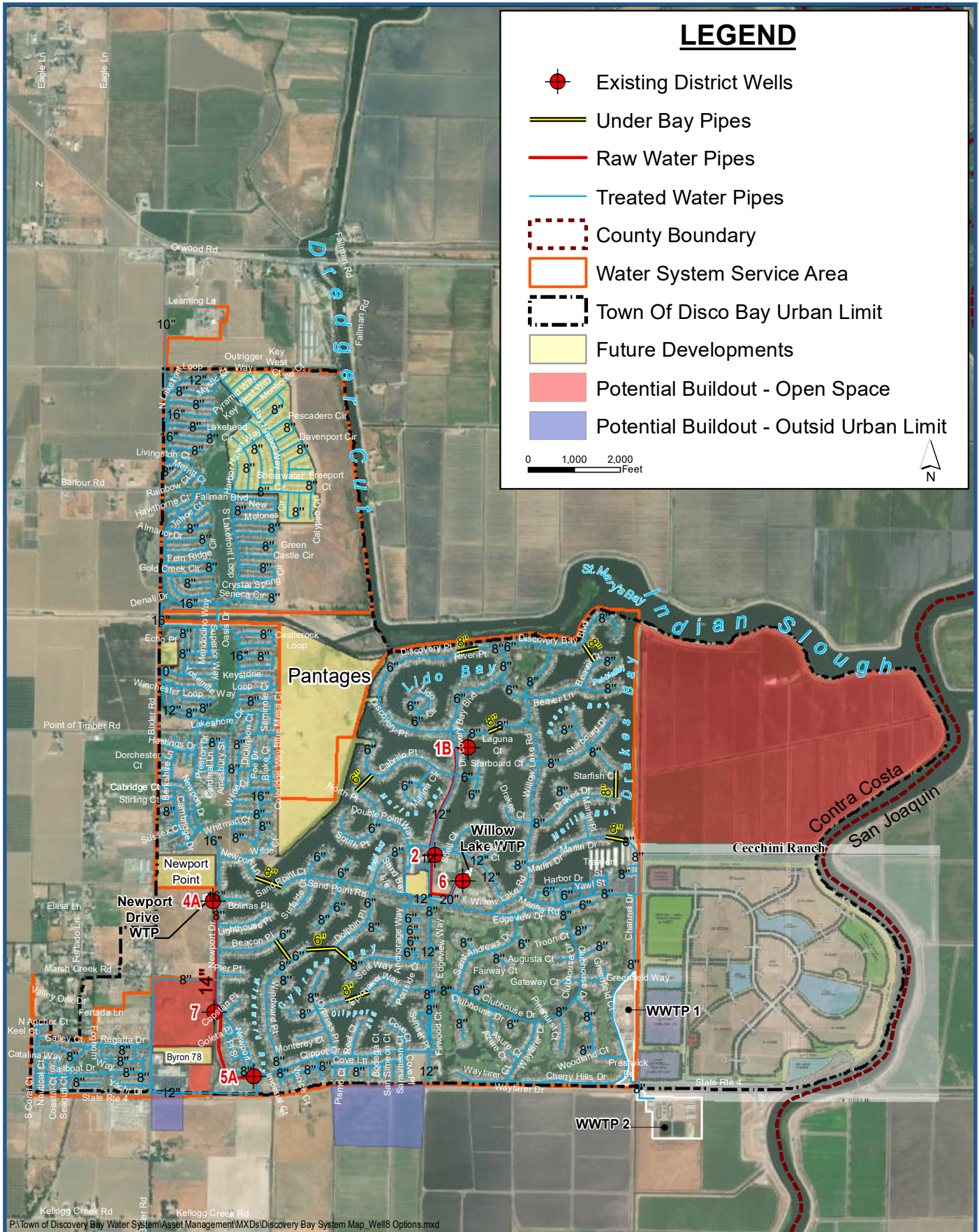
The District prepared a 2010 Water Master Plan¹ (WMP), which is currently being updated, that covered a ten-year planning horizon. It was assumed that growth in that period would be driven by housing development plans from local developers. There was also minor infill of vacant undeveloped lots within existing neighborhoods. The District defined the areas of growth and provided an estimated schedule for completion based on input from the developers. The future developments would build-out the existing service area boundary with some growth planned to occur outside the existing service area boundary.

In preparing this UWMP, the District provided updates to the historical number of service connections reported in the 2010 WMP and projections of population growth. As mentioned above, in 2020, the District had 6,134 total service connections serving a population of 15,575.











3.2.2. Water Supply Wells

The six active groundwater supply wells deliver groundwater to the treatment plants through dedicated raw water pipelines (Wells 1B, 2, 4A, 5A, 6, and 7). Wells 1B, 2, and 6 deliver water to the Willow Lake Water Treatment Plant (WTP). Wells 4A, 5A, and 7 deliver water to the Newport WTP. Well 2 is the oldest active well, constructed in 1971. Wells 1B, 4A and 5A were constructed between 1991 and 1996. Well 6 was constructed in 2009. Well 7 is the newest well, constructed in 2015.

¹ 2012, Luhdorff & Scalmanini Consulting Engineers, Discovery Bay 2010 Water Master Plan



LEGEND

-  Existing District Wells
-  Under Bay Pipes
-  Raw Water Pipes
-  Treated Water Pipes
-  County Boundary
-  Water System Service Area
-  Town Of Disco Bay Urban Limit
-  Future Developments
-  Potential Buildout - Open Space
-  Potential Buildout - Outsid Urban Limit

0 1,000 2,000 Feet





The combined well capacity is approximately 9,700 gpm. As presented in the 2010 WMP, Well 7 was constructed per the District’s Capital Improvement Plan (CIP) as a backup supply well to meet current and future water demands with the largest producing supply well offline. The District is currently in the process of constructing a new 1,800 gpm well, Well 8, to replace Well 5A.

3.2.3. Water Treatment Plants and Storage

In the early 2000s, the District constructed two centralized water treatment facilities for removal of iron and manganese in the groundwater. The facilities are known as the Willow Lake WTP and the Newport WTP. The treatment process is the same at both plants: raw water is chemically oxidized and filtered through manganese-green sand media filters and then stored in onsite reservoirs after treatment. Booster pumping stations draw from the reservoirs to maintain a pressurized water distribution system. Each treatment plant is equipped with a 750-kilowatt, diesel-powered backup generator, which can provide power to the entire treatment plant in the event of power outages.

The combined treatment capacity of both water treatment plants is 6,550 gpm. The combined storage capacity of the system is 2 million gallons. The TODB is also in the process of designing an 1800 gpm well that would pump treated water directly to the distribution system.

3.2.4. Water Distribution System

The distribution system has approximately 50 miles of mainline piping ranging in size from 6-inch to 20-inch in diameter. A majority of the system is 8-inch pipe, with 12-inch and 16-inch arterial mains. The system contains approximately 18 miles of asbestos cement (AC) pipe, 31 miles of PVC pipe, and about 1 mile of cement and mortar lined cast iron and ductile iron pipe. The 2010 WMP indicated that future subdivisions would add approximately 6.5 miles of pipeline to the system.

3.2.5. Service Area Changes

There are several developments within the TODB as part of the growth forecasts and water master planning. One development in particular would result in a modification to the Service Area; this development is known as the Pantages and it consists primarily of approximately 300 single-family residential housing units. The Pantages project has completed a Draft and Final Environmental Impact Report (EIR) that involved public comment. Annexation for the project is still not complete. A second development project called Newport Pointe would add about 70 additional single-family residential housing units. Several additional residential infill projects are expected over the next five years.



3.3. Service Area Climate

The climate in TODB consists of cool and humid winters and hot and dry summers, characteristic of the areas surrounding the Delta. Though climate data is not recorded in the TODB, historic climate data sets are available for nearby cities. The weather station used in this UWMP is located in the City of Antioch, located approximately 20 miles northwest of the TODB. Climate data is available for this station from 1955 to 2016 on the Western Regional Climate Center (WRCC)² website. Average temperatures range from 37°F to 91°F, but the extreme low and high temperatures have been 18°F and 117°F, respectively. The rainy season typically starts in November and ends in March, with some rain events occurring as early as September or as late as May. During the rainy season, average monthly precipitation is about 2 to 3 inches, and monthly precipitation has ranged from 0 to 9 inches. Average annual precipitation is 13 inches, and the maximum is 28 inches.

High water demand for the TODB is correlated with the hot and dry summers. Private landscape irrigation, including lawn irrigation, is a significant component of the higher summer water demands. Additionally, there is an unquantified vacation and tourist population that rises during the summer for recreation. Water demands are lowest during the winter months.

The TODB has not experienced climate change impacts that have affected groundwater levels or groundwater supplies. Water has been very reliable during recent droughts.

3.4. Service Area Population and Demographics

The service area population methods presented in the DWR Guidelines³ were applied to estimate the District's service area population. The service area population estimates below are used in calculating the baseline per capita water use (see Section 5.6).

US Census Bureau (census) data was used as the basis for population estimates. The census identifies the TODB as a "census designated place" (CDP), which is a term for populated areas that resemble incorporated places but are not incorporated under the laws of the state. The Census Block Map for the TODB CDP overlaps the District's Service Area Boundary. Accordingly, the District falls into Category 1 of the Guidebook, where the actual distribution area overlaps more than 95-percent with the Census Block Map estimates for the community. Therefore, the census data for the TODB CDP is directly used to determine service area population of the District during baseline compliance years.

² Western Regional Climate Center website, Cooperative Climatological Data Summaries, NOAA Cooperative Stations, Antioch Pump Plant 3, California: <http://www.wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca0232>

³ March 2021, Urban Water Management Plan Guidebook 2020, California Department of Water Resources



The population estimates are based primarily on two information sources: 1) the census data, and 2) the number of homes added since 2010. The 2000 and 2010 Census Reports show the TODB had a population of 8,981 and 13,352, respectively. The 2010 Census shows 5,397 total household units, 4,742 households used as usual residences, and a 2.74 persons-per-household factor. The US Census defines the “usual residence” as the place where the people live and sleep most of the time.

The TODB observes a transient population associated with the recreational activities within the community. Using 2010 Census data, the difference of total household units and the households used as usual residences is 661 households, which is assumed to represent vacation households and transient population. Furthermore, it is assumed that these homes are occupied 25-percent of the time at 2.74 persons-per-household. This equates to approximately 453 people annually in the transient population in 2010. Adding this to the live-in resident population in 2010 results in a total 2010 population of 13,805.

Since 2010, new houses have been added. It is observed that these homes are typically occupied by live-in residences (i.e. not vacation housing). For each home added, it is assumed the population increases by 2.95 persons per household (2014-2018, U.S. Census Bureau website for Discovery Bay, CA, October 2020). From 2010 to 2020, 600 residential service connections were added. Utilizing the 2.95 persons-per-household factor, the estimated population in 2020 is 15,575. From 2020 to 2025 it is projected there will be 1,038 new homes from two new developments and infill projects within the TODB service area. The population by 2025 is estimated to be 18,637 using the growth of homes and the 2010 basis.

Beyond 2025, there aren’t any developments that are officially planned; however, there is a proposed development outside of the TODB that is in initial planning stages that could add 2,000 new residential connections (i.e. Cecchini Ranch). The timing for this development is unknown but for this projection it is assumed to be built-out over a 10-year span from 2025-2035.

Beginning in 2035, it is assumed that future housing projects will have been completed, and any further growth in the service area population is estimated based on the historic average growth rate of 3.1-percent per year for the TODB.

Table 3-1 summarizes the current and projected population for the TODB.

Table 3-1. Retail: Population - Current and Projected						
Population Served	2020	2025	2030	2035	2040	2045
	15,575	18,637	21,587	24,537	28,285	32,606
NOTES: Projected populations are based on proposed new development construction.						

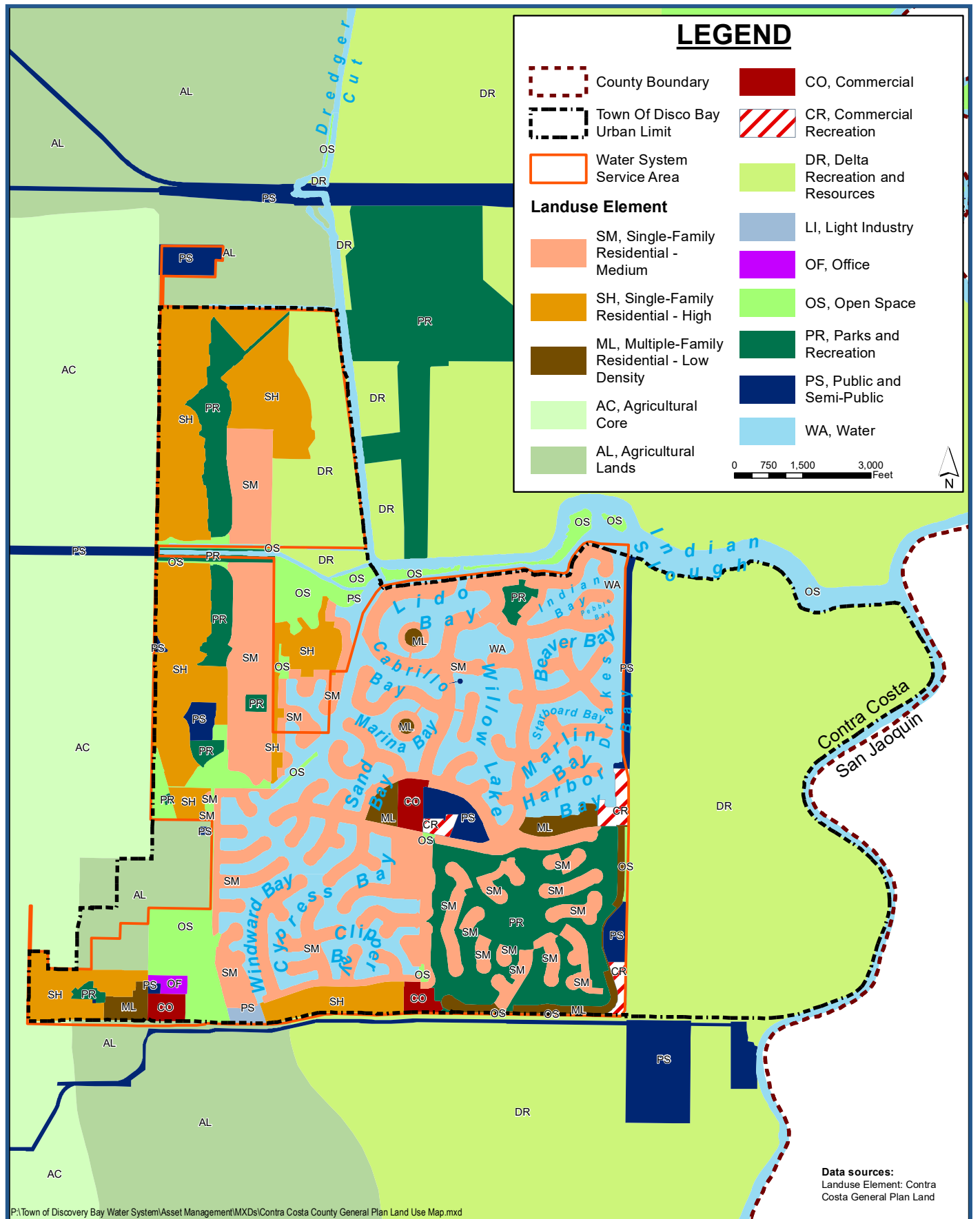


The TODB’s demographic information is summarized below from data collected through the American Community Survey (ACS) website from its 2015-2019 ACS data set see **Table 3-2** below.

Table 3-2. American Community Survey - Demographic Information		
Demographic Factor	Data Source	Data
Population	State of California DOF	15,575
Median Household Income	2015-2019 ACS 5-Year Estimates	\$130,547
Persons in Poverty	2015-2019 ACS 5-Year Estimates	7.70%
Educational Attainment (High School or >)	2015-2019 ACS 5-Year Estimates	96.60%
Persons w/out Health Insurance	2015-2019 ACS 5-Year Estimates	2.20%
Median Housing Value	2015-2019 ACS 5-Year Estimates	\$615,900
Total Housing Units	2015-2019 ACS 5-Year Estimates	5,921
Number of Firms	2015-2019 ACS 5-Year Estimates	894
Male Median Income	2015-2019 ACS 5-Year Estimates	\$75,451
Female Median Income	2015-2019 ACS 5-Year Estimates	\$43,543
Veterans	2015-2019 ACS 5-Year Estimates	927
% Households w/Internet Service	2015-2019 ACS 5-Year Estimates	97.00%

3.5. Land Uses within Service Area

The TODB is an unincorporated town within Contra Costa County. The Contra Costa County General Plan is in the process of being updated. The current General Plan shows that the District’s service area consists of numerous land uses including single family residential (medium and high density), multi-family residential – low density, agricultural core, agricultural lands, open space, water, Delta recreation and resources, parks and recreation, public/semi-public, commercial, commercial recreation, office and light industry. One development is in the early planning stage which would convert approximately 450 acres of Delta Recreation area to a mixture of light industrial, single family residential, water, park and recreation. Figure 3-2 below shows land uses within the TODB from the Contra Costa County General Plan. Figure 3-2 also shows the urban limit line.



CHAPTER 4. SYSTEM WATER USE

4.1. Recycled versus Potable and Raw Water Demand

The TODB does not use or have a recycled water system. Raw water pumped from the District's wells are treated before use throughout the system.

4.2. Water Uses by Sector

Potable water demands by water sector for 2020 are based on metered customer use as summarized below in **Table 4-1**. Since the 2015 UWMP, the TODB is now fully metered throughout its entire service area. The TODB's water system serves 6,134 service connections.

The TODB provides water treatment and distribution services as well as wastewater collection, treatment, and treated water disposal services to the following water sectors:

- Single-Family Residential – This sector refers to single-family residences in an identifiable suburban residential neighborhood or cluster-style development designed with open space and other amenities.
- Multi-Family Residential – This sector refers to families living in apartments and condominiums in structures of two or three stories with off-street parking and other requirements for higher density living.
- Commercial/Institutional/Industrial – This sector includes commercial, government, and industrial uses. It primarily includes uses associated with commercial buildings (e.g. landscaping, toilets, heating, ventilation, air conditioning, etc.) and commercial uses (e.g. car washes, laundries, nurseries, etc.).
- Landscape Irrigation – This sector primarily includes raw water (untreated) use for irrigation at parks, schools, cemeteries, churches, residences, or public facilities. This sector also includes recycled water at various parkways and landscaped medians throughout the City.
- Water Losses – This sector includes all water not accounted in metered usage and estimates of unmetered usage. This includes leaks, pipe breaks, and hydrant flushing.



Table 4-1. Retail: Demands for Potable and Raw Water - Actual			
Use Type	2020 Actual		
	Additional Description	Level of Treatment When Delivered	Volume
Other	Residential	Drinking Water	766
Commercial		Drinking Water	18
Institutional/Governmental	Included in Commercial	Drinking Water	
Landscape		Drinking Water	161
Losses		Drinking Water	105
TOTAL			1,050

Water demand projections are based on the projected population data in **Table 3-1**. In 2020, the per capital usage was 184 gpcd, which is 25 gpcd lower than the TODB’s water use target for 2020 of 209 gpcd set in the 2010 UWMP and reiterated in the 2015 UWMP. **Table 4-2** shows the projected water use for the TODB through 2045.

Table 4-2. Retail: Use for Potable and Non-Potable Water - Projected						
Use Type	Additional Description	Projected Water Use				
		2025	2030	2035	2040	2045
Commercial		24	24	32	37	43
Institutional/Governmental	Included in Commercial					
Landscape		218	253	287	331	382
Losses		142	165	187	216	249
Other	Residential	1039	1203	1367	1576	1817
TOTAL		1,423	1,645	1,873	2,160	2,491

As shown in Figure 3-1, there’s approximately 606 acres currently designated as open space and delta recreation land uses within the TODB’s Urban Limit line that could be used for Potential Buildout developments. There is also approximately 52 acres of Potential Buildout areas south of Highway 4 which are outside of the existing Urban Limit line. These two areas result in a total area for Potential Buildout of 658 acres. Applying a density of 3.5 homes/acre (based on other



proposed developments) the District’s projected build-out population is 31,254 and projected build-out water demand is 2,384 MG.

Table 4-3 shows total water demands, which is solely the demands listed in **Table 4-2** since the TODB does not have a recycled water system.

Table 4-3. Retail: Total Water Demands						
	2020	2025	2030	2035	2040	2045
Potable and Raw Water <i>From Tables 4-1 and 4-2</i>	1,050	1,423	1,645	1,873	2,160	2,491
Recycled Water Demand* <i>From Table 6-4</i>	0	0	0	0	0	0
TOTAL WATER DEMAND	1,050	1,423	1,645	1,873	2,160	2,491

4.3. Distribution System Water Losses

Distribution system losses are water losses that occur between the water source and point of customer consumption. The State has established water loss control requirements and is developing final performance standards at the time this document was being prepared. The TODB is required to include annual water audits conducted since the 2015 UWMP was prepared and adopted for the past five years including water audit validation reports filed with the SWRCB. Per State policy this means the TODB will include annual water audits for the five-year period from 2016-2020 with validated audits. Water suppliers have until October 2021 to file validated water audit results for the 2020 water audit if not completed by June 2021 for inclusion in the 2020 UWMP. The TODB utilized AWWA’s Water Audit Software to calculate system losses shown in **Table 4-4**. A copy of the AWWA Free Water Audit Software data sheets for the past 5 years (2016-2020) are included in Appendix C with completed validation reports. The TODB has a goal of maintaining its Infrastructure Leakage Index (ILI) between 1-3 and non-revenue water losses below 8 percent. On average the TODB has met these goals on a regular basis based on validated water audit data.



Table 4-4. Water Audit Summary		
Year	ILI Index	% Non-revenue Water
2015	3.16	10.7
2016/2017	1.43	5.3
2017/2018	1.6	6.5
2018/2019	0.61	4
2019/2020	3.21	10
Average	2.00	7.3

The State is developing water loss performance standards which would propose that the TODB would need to maintain water losses to less than 14 gallons per connection per day, which is equivalent to its 2016-2020 baseline period based on submitted water audit reports to the SWRCB. When the SWRCB adopts a final water loss performance standard, the TODB will track compliance progress based on the results of annual water audit data and water system management measures to ensure compliance with the TODB’s water loss performance standard target. A copy of the TODB’s preliminary water loss target is included in Appendix C. **Table 4-5** shows the TODB water loss for the past five years. This differs from losses reported in Tables 4-1 and 4-2 due to different methodologies. Total water losses are estimated to range from 0-12% of total production total.

Table 4-5 (DWR Table 4-4). Retail: 12 Month Water Loss Audit Reporting	
Reporting Period Start Date (mm/yyyy)	Volume of Water Loss*
01/2015	91
07/2016	46
07/2017	57
07/2018	33
07/2019	102

** Taken from the field "Water Losses" (a combination of apparent losses and real losses) from the AWWA worksheet.*



4.4. Water Use for Lower Income Households

Water suppliers must include in their 2020 UWMP an estimate of projected water use for lower income households as defined in Section 50079.5 of the Health and Safety Code. The estimate must be based on the housing element needs identified in the general plan for the water supplier’s service area. The TODB has some direct information pertaining to lower income households served or planned to be served in future developments in the service area. The Contra Costa County General Plan identified low-income housing needs in designated locations in Contra Costa County; however, those needs were not designated specifically in Discovery Bay. The US Census website (November 2020) reports that 7.3-percent of the population in Discovery Bay is below the poverty. For the purposes of the 2020 UWMP, projected water deliveries to low-income households are assumed to be 7.3-percent of total water deliveries.

Table 4-6 (DWR Table 4-5). Retail Only: Inclusion in Water Use Projections	
Are Future Water Savings Included in Projections? (Appendix K of UWMP Guidebook)	Yes
If "Yes" to above, state the section or page number, in the cell to the right, where citations of the codes, ordinances, etc. utilized in demand projections are found.	
Are Lower Income Residential Demands Included in Projections?	Yes

4.5. Climate Change

The TODB has not conducted any formal assessment of the impacts of climate change on the local water suppliers other than a recent evaluation of the effects on local groundwater conditions as a result of the record 5-year drought. LSCE produced a memorandum on June 20, 2016 exploring groundwater conditions of the underlying aquifers of the TODB during the drought. The analysis determined that there was a full recovery of groundwater levels proceeding the droughts of 2007-09 and 2012-2014. The latter drought produced some of the driest conditions on record, however, groundwater levels were unaffected. Considering that the TODB is making efforts to reduce the per capita water usage (see Chapter 5) and have exceeded its 2020 water usage goal, the TODB has taken measures to prepare for more extreme dry conditions in addition to having a highly reliable water source.

CHAPTER 5.

SB X7-7 BASELINES AND TARGETS

5.1. Guidance for Wholesale Agencies

Not applicable.

5.2. Updating Calculations from 2015 UWMP to the 2020 UWMP

This 2020 UWMP uses the 2020 Urban Water Use Target from the 2010 UWMP without update. The 2010 UWMP completed for the TODB used the 2010 U.S. Census data to calculate per capita water usage, which complies with requirements to complete the 2020 UWMP. The SB X7-7 tables (Appendix D) were completed to demonstrate 2020 Target calculations and compliance with the 2020 Target.

5.3. Baseline Periods

The TODB has set a baseline period from 2001 to 2010 to establish the 10-year baseline period for water use. Since the TODB has no recycled water use, the 10-year baseline is used over the 15-year baseline. The 5-year baseline period is from 2003 to 2007 (see SB X7-7 Table-1).

5.4. Service Area Population

The service area population methods presented in the Guidebook⁴ were applied to estimate the TODB's service area population. The service area population estimates below are used in calculating the baseline per capita water use.

U.S. Census Bureau (census) data was used as the basis for population estimates. The census identifies the TODB as a "census designated place" (CDP), which is a term for populated areas that resemble incorporated places but are not incorporated under the laws of the state. The Census Block Map for Discovery Bay CDP overlaps the District's Service Area Boundary. Accordingly, the TODB falls into Category 1 of the Guidebook, where the actual distribution area overlaps more than 95-percent with the Census Block Map estimates for the community. Therefore, the census data for Discovery Bay CDP is directly used to determine service area population of the TODB during baseline compliance years.

The population estimates are based primarily on two information sources: 1) the census data; and 2) the number of homes added since 2010. The 2000 and 2010 census reports show that the TODB had a population of 8,981 and 13,352, respectively. The census also shows the number of households, total housing units, and persons-per-household connection. The U.S. Census defines population and households as people that are counted at their "usual residence", which is

⁴ March 2021, Urban Water Management Plan Guidebook 2020, California Department of Water Resources



defined as the place where the person lives and sleeps most of the time. In 2010, there were 4,742 households with 2.74 persons-per-household, and 5,403 total housing units. Based on this data, there were 661 housing units not considered regular houses used as “usual residences”.

The TODB observes a transient population associated with local outdoor water and other recreational activities. The estimated number of houses used for vacation purposes is also based on the census data. The difference between total household units and households reported in the census represents houses that are not used as usual residences and are assumed to represent the vacation home use (i.e. there were approximately 661 vacation households in the TODB in 2010). It is assumed that these homes are occupied 25-percent of the time at 2.74 persons-per-household. This equates to approximately 453 people in the transient population. Adding this to the live-in resident population in 2010 results in a total 2010 population of 13,805.

Since 2010, new houses have been added. It is observed that these homes are typically occupied by live-in residences (i.e. not vacation housing). In 2020, based on the U.S. Census Bureau website, the TODB has 2.95 persons-per-household. Since 2010, 600 connections have been added. Thus, the 2020 population is 15,575 using the growth of homes and the 2010 U.S. Census population. Between two new developments and infill projects within the TODB, it is estimated that there will be 1,038 new connections by 2025.

Beginning in 2030, it is assumed that future housing projects will have been completed and service area population will continue to grow at the historic average annual growth rate of 3-percent for the TODB.

The population growth of the TODB to 2045 is shown in **Table 3-1**.

The TODB is a Census Designated Place (CDP), which encapsulates all of the District’s service area. This UWMP utilizes 2010 Census data to determine the population used in calculations (2010 population of 13,805). The TODB is comprised of both full-time residents and part-time/vacation residents, which would not be included in the Census population. Therefore, the Census population is less than the actual number of people the District serves on a daily basis.

The U.S. Census differentiates between “total households” and “usual households” in the TODB CDP statistics. The difference between these values is attributed as the number of vacation residences in the TODB.

5.5. Gross Water Use

The TODB does not use any water outside of drinking water. This includes recycled water, water placed into long term storage, water conveyed to other urban suppliers, and agricultural use. Therefore, the gross water use of the TODB is the total amount of water pumped from the District’s two WTPs with no adjustment (see SB X7-7 Table 4A).



5.6. Baseline Daily Per Capita Water Use

As stated in the Water Conservation Bill of 2009, Senate Bill SBX7-7 (SBX7-7), an urban retail water supplier shall include in its UWMP the baseline daily per capita water use, urban water use target, interim urban water use target, and compliance daily per capita water use. The plan should include the basis for determining those estimates and references to supporting data.

Baseline water use and targets were determined using Methodologies for Calculating Baseline and Compliance Urban Per Capita Water Use, developed by DWR for consistent implementation of SBX7-7. The baseline and target water use presented in this chapter were developed individually by the TODB, not regionally with other agencies.

The baseline daily per-capita water use (i.e. baseline water use) serves as the basis for setting the target water use reduction goals for 2020. To establish baseline water use, water suppliers must define a 10-year or 15-year base (i.e., baseline) period for water use. The 15-year baseline period applies to a water supplier that met at least 10 percent of its 2008 retail water demand through recycled water, which the TODB did not. Therefore, a 10-year base applies to the TODB.

Calculation of the baseline water use is based on the estimated service area population and the gross water use for each year in the base period. Chapter 3 provided estimates of the service area population. Gross water use was identified using the District's production records from its water production facilities. The water system, as described in Chapter 3, consists of two central water treatment plants that receive raw water from six groundwater supply wells. The system does not have imported water nor does it provide wholesale water. Historically, the system has not used recycled water. However, recycled water use has recently been incorporated into the wastewater treatment plant, but is not included in any reduction of domestic water use. Historical records of water production from the water treatment plants represent the gross water use of the system.

The daily per-capita water use is calculated for each baseline year. The baseline daily per capita water use was calculated using the average of the per-capita water use for each baseline year, and is 261 gallons per capita per day (gpcd) for the 10-year baseline and 264 gpcd for the 5-year baseline. **SB X7-7 Table 5**, below, summarizes the service area population, gross water use, the calculated daily per capita water use for each baseline year, and the baseline daily per capita water use. Units are expressed in million gallons per day (mgd) and gallons per capita per day (gpcd).



SB X7-7 Table 5: Gallons Per Capita Per Day (GPCD)				
Baseline Year		Service Area Population	Annual Gross Water Use	Daily Per Capita Water Use (GPCD)
10 to 15 Year Baseline GPCD				
Year 1	2001	9,594	818	234
Year 2	2002	9,594	851	243
Year 3	2003	9,447	921	267
Year 4	2004	11,125	1,035	255
Year 5	2005	12,034	1,204	274
Year 6	2006	13,106	1,185	248
Year 7	2007	13,110	1,322	276
Year 8	2008	13,164	1,328	276
Year 9	2009	13,155	1,282	267
Year 10	2010	13,352	1,306	268
10-15 Year Average Baseline GPCD				261
5 Year Baseline GPCD				
Baseline Year		Service Area Population	Annual Gross Water Use	Daily Per Capita Water Use
Year 1	2003	9,447	921	267
Year 2	2004	11,125	1,035	255
Year 3	2005	12,034	1,204	274
Year 4	2006	13,106	1,185	248
Year 5	2007	13,110	1,322	276
5 Year Average Baseline GPCD				264
2020 Compliance Year GPCD				
2020		15,575	1,050	185

5.7. Baseline and Targets Summary

Each water supplier must establish a water use reduction target for 2020, referred to as the urban water use target. There are four methods available to water suppliers for determining the urban water use target.

- Method 1: 20% reduction of Baseline Daily Per Capita Water Use
- Method 2: Efficiency Standards
- Method 3: Hydrologic Region
- Method 4: Savings by Sector



Due to lower regional targets, and predominant residential uses in the TODB, Method 1 was selected as the most appropriate. The target is set equal to 80-percent of the baseline water use. Using this method, the urban water use target is 209 gpcd by the year 2020 (i.e., a 20-percent reduction from 2010).

In accordance with SBX7-7, water suppliers must confirm that the 2020 water use target meets the legislation’s minimum water use reduction requirements by comparing the water use target determined above (209 gpcd) to the calculated water use for a 5-year baseline period, as shown in **SB X7-7 Table 5**, above. Following the Guidebook, the minimum required reduction in water use is calculated as 95-percent of the 5-year base water use (264 gpcd), which is 251 gpcd. The water use target (209 gpcd) is less than the minimum required (251 gpcd), and therefore no adjustment is needed to the water use target. DWR **Table 5-1** summarizes the baseline water use, and the water use target.

Table 5-1. Baselines and Targets Summary Retail Supplier or Regional Alliance Only				
Baseline Period	Start Year	End Year	Average Baseline GPCD*	Confirmed 2020 Target*
10-15 year	2001	2010	261	209
5 Year	2003	2007	264	
*All values are in Gallons per Capita per Day (GPCD)				

5.8. 2020 Compliance Daily per Capita Water Use (GPCD)

DWR **Table 5-2** below shows the TODB’s compliance for meeting the 2020 Target. The TODB’s 2020 water usage was 185 gpcd, which is less than the Target of 209 gpcd. The TODB met the target every year from 2016 through 2020.



Table 5-2. 2020 Compliance Retail Agency or Regional Alliance Only								
Actual 2020 GPCD *	Optional Adjustments to 2020 GPCD Enter "0" if no adjustment is made From Methodology 8					Adjusted 2020 GPCD*	2020 GPCD *	Did Supplier Achieve Targeted Reduction for 2020? Y/N
	Extraordinary Events*	Economic Adjustment *	Weather Normalization *	TOTAL Adjustments*				
184	0	0	0	0	185	185	Yes	
*All values are in Gallons per Capita per Day (GPCD)								

5.9. Regional Alliance

Not applicable. The TODB is not part of a Regional Alliance.

CHAPTER 6. SYSTEM SUPPLIES

6.1. Purchased or Imported Water

Not applicable. The TODB does not purchase or import water.

6.2. Recycled Water Use

Not applicable. The TODB does not currently utilize recycled water as part of its water portfolio and has no plans to use recycled water in the future to meet water system demands. However, the TODB could utilize tertiary treated recycled water in the future for landscape irrigation.

6.3. Groundwater

6.3.1. Basin Description

6.3.2. Groundwater Basin

The TODB overlies the East Contra Costa Subbasin, which is a medium priority subbasin in the San Joaquin Valley Groundwater Basin as designated by the California Department of Water Resources (Bulletin 118, Interim Update 2016). The East Contra Costa Subbasin boundaries are defined by the Contra Costa County line on the north, east and west. The western subbasin boundary is defined by the contact between the unconsolidated sedimentary deposits and the rocks of the Diablo Range (DWR, 2004).

6.3.2.1. Geologic Setting and Occurrence of Groundwater

The TODB is located in eastern Contra Costa County in the northwestern San Joaquin River Valley portion of the Great Valley geomorphic province of California. The province is characterized by the low relief valley of the north-flowing San Joaquin River and the south-flowing Sacramento River, which merge in the Delta region just north of the community and drain westward to the Pacific Ocean.

To the west of the TODB, the Coast Range province consists of low mountains of highly deformed Mesozoic and Cenozoic marine sedimentary rocks. These thick marine rocks extend eastward below the Great Valley where they are the targets for gas exploration.

Overlying the marine rocks is a sequence of late Cenozoic (Miocene, Pliocene, and Pleistocene) non-marine sedimentary deposits. Small areas of surface exposures of these deposits occur along the edge of the Coastal Range. These beds dip moderately to the east and extend below the San Joaquin Valley. In the subsurface, the nature of these deposits is poorly known, but they are believed to be dominated by fine-grained clays, silts, and mudstones with few sand beds. The



lower portion of these deposits may be, in part, equivalent to the Miocene-Pliocene Mehrten Formation along the east side of the Great Valley. The Upper portion of Pliocene and Pleistocene age may be equivalent to the Tulare Formation along the west side of the San Joaquin Valley to the south, and the Tehama Formation of the Sacramento Valley to the north. It is believed these deposits extend from about 400 feet to 1,500-2,000 feet below the San Joaquin River. Water quality from electric logs is difficult to interpret, but the quality appears to become brackish to saline with depth.

Late Cenozoic (Pleistocene and Holocene; 600,000 years to present) sedimentary deposits overlie the older geologic units. These deposits are largely unconsolidated beds of gravel, sand, silts, and clays. The deposits thicken eastward from a few tens of feet near the edge of the valley to about 400 feet at the Contra Costa County line. West of the TODB, the deposits are characterized by thin sand and gravel bands occurring within brown, sandy, silty clays and are believed to have formed on an alluvial fan plain fed from small streams off the Coastal Range to the west. The alluvial plain deposits interbed and interfinger with deposits of the fluvial plain to the east. The fluvial deposits consist of thicker, more laterally extensive, sand and gravel beds of stream channel origin interbedded with flood plain deposits of gray to bluish sandy to silty clays. The TODB overlies the fluvial plain area of eastern Contra Costa County. Groundwater supply in the TODB is extracted for supply from these deposits to a depth of about 350 feet.

The regional geologic setting is shown on the geologic map of the San Francisco-San Jose quadrangle, California Division Mines and Geology, Regional Geologic Map Series, Map No. 5A (Wagner and others, 1990). Detailed surface geologic maps of the Coast Range in this area include Davis and Goldman (1958), Brabb and Others (1971), and Dibblee (1980a, b, c). Subsurface characterization of the marine rocks beneath the San Joaquin Valley can be found in oil and gas field summaries produced by the California Division of Oil and Gas (1982), and Thesken and Adams (1995). General geologic descriptions and histories of these marine rocks are contained in Bartow (1991) and Bertoldi and Others (1991). Because of their marine origin, highly consolidated nature, and presence of saline water, the Mesozoic and tertiary marine rocks are not a source of potable water supply in the region.

A regional study of the thickness of the Tertiary-Quaternary non-marine sedimentary deposits was made by Page (1974) and evaluations of the depth to base of fresh water by the California State Water Project Authority (1956) and Berkstresser (1973). Regional studies of the Sacramento-San Joaquin Valley groundwater basin were performed by Bertoldi and Others (1991) and Page (1986). The United States Geological Survey (USGS) compiled water quality information that covers the area in a series of reports (Keeter 1980; Sorenson 1981; and Fogelman 1982). California Department of Water Resources (DWR, 1967) covers the groundwater resources of the San Joaquin County to the east.



6.3.2.2. Hydrogeologic Setting in Discovery Bay

The hydrogeology of the TODB is illustrated through a geologic cross section on **Figure 6-1**. The cross section depicts water wells that are the source of supply for the District. Starting at the bottom of the cross section, the deepest sand unit encountered in water wells in the TODB is below about 350 feet. The unit is interpreted as the uppermost, older non-marine deposits of largely fine-grained silt and clay with thin, fine sand interbeds with poor to brackish water quality. As a result, domestic supply wells are terminated above the depth of this unit.

Overlying geologic units are comprised of Pleistocene alluvium of generally thick beds of sand and gravel with a thin clay interbed. These are probably stream channel deposits of a northward flowing ancestral San Joaquin River and comprise the main production aquifer completed in all of the District's supply wells (see Aquifer A on **Figure 6-1**).

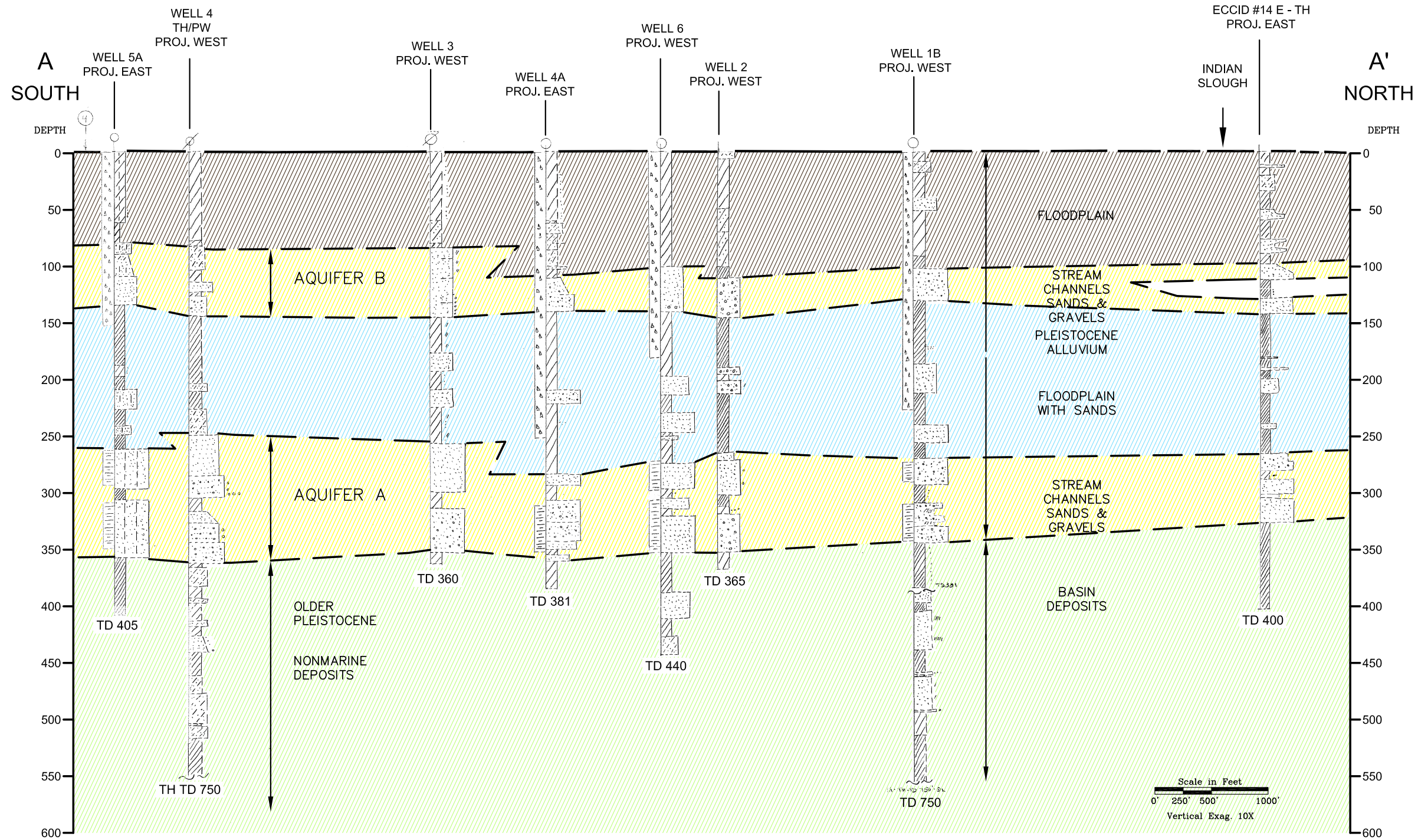
Overlying Aquifer A is a thick sequence of grayish to bluish silt and clay with thin inter beds of sand. This unit, which confines the production zone, appears to represent deposition on a floodplain with the mainstream channels probably further east. The thin sand appears to represent flood-sprays of sand spread out on to the flood plain.

Another aquifer unit, labeled Aquifer B on **Figure 6-1**, occurs above about 140 feet below ground surface and consists of a thinner sand and gravel bed. Again, these appear to be stream channel deposits. However, Aquifer B has been found to contain brackish to saline water, which must be sealed off to protect water quality of the supply source in Aquifer A and avoid corrosion of the steel well casings.

Overlying Aquifer B is a sequence of gray to brown silt and clay beds with some thin sand beds. These beds appear to be either floodplain deposits or possibly distal alluvial plain deposits from the west.

6.3.2.3. Groundwater Conditions

Groundwater conditions that are relevant to the District are discussed below in terms of water levels and water quality.



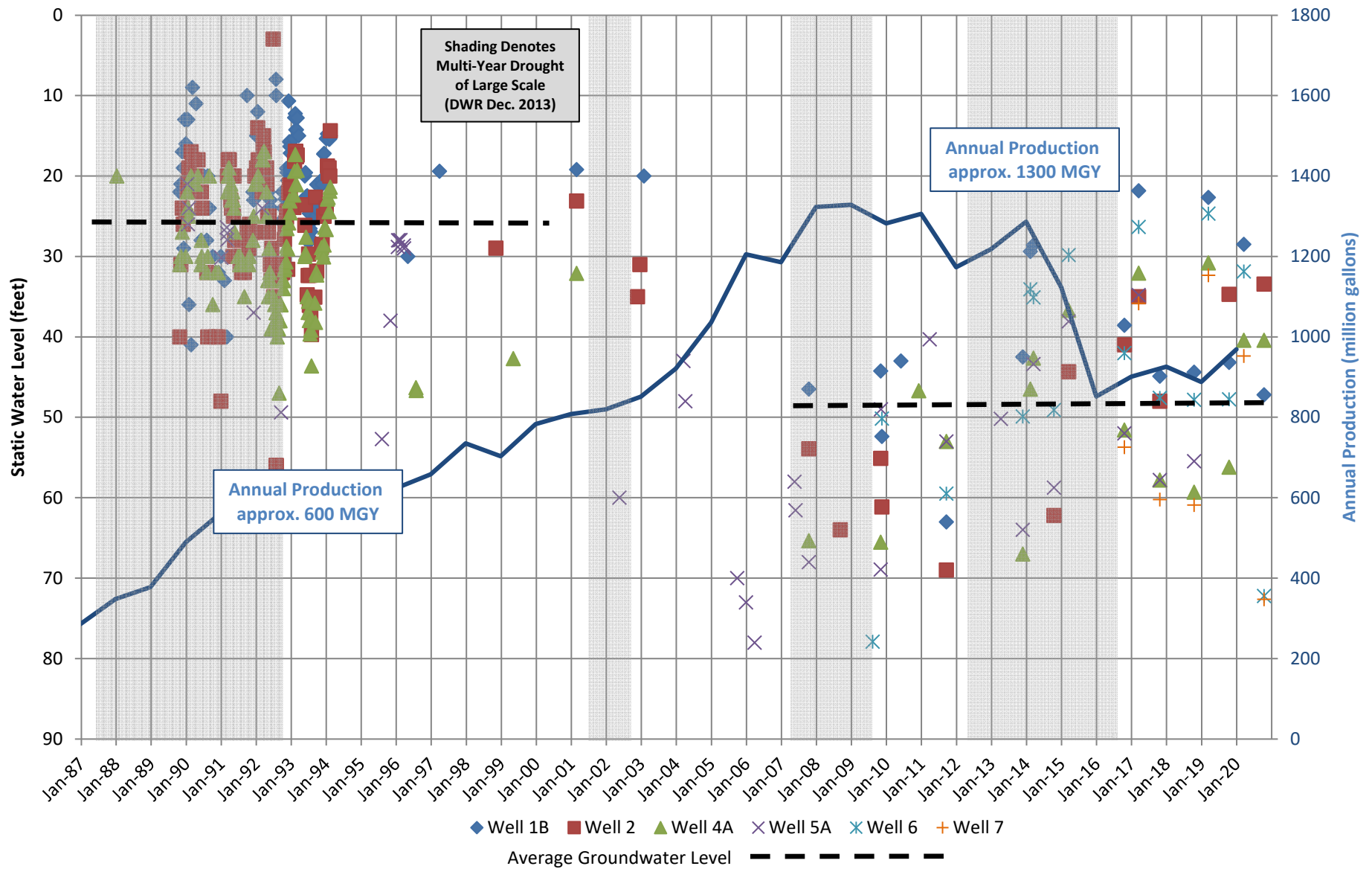
CAD FILE: D:\LS ACAD Dropbox\Projects\Discovery Bay\20-5-068\Geologic Cross-Section-Figure 6-1.dwg DATE: 11/23/2020 9:36 AM



Pumpage and Groundwater Levels

Groundwater level data from the TODB wells are available since the late 1980s when the community was first developed. Since that time, the TODB has conducted a robust monitoring program to aid in sustainable groundwater management and water supply assessments. **Figure 6-2** is a hydrograph showing water level trends using data obtained from the District's supply wells. The hydrograph denotes drought periods and pumpage. The upward trend in pumpage to about 2008 corresponds to growth in population. Pumpage increased from about 300 million gallons per year (MGY) in 1987 to about 800 MGY by 2001. Between 2001 and 2008, pumpage increased to 1,300 MGY. The subsequent flattening in the pumpage curve from 2008 to 2011 reflects the effects of the national economic downturn and a statewide drought (2007-09). In the 2012-16 statewide drought, pumpage declined significantly as a result of local and statewide conservation measures while. In the past four years, the District has recorded a modest rise in pumpage that is still well below peak groundwater usage in 2008.

Water well driller reports indicate that before the onset of significant groundwater pumping in the TODB groundwater levels were near sea level. At this elevation, depth-to-water in the primary production aquifer and overlying units was about 10 feet below ground surface (bgs). With the onset of pumping and initial growth, the static level in production wells exhibited seasonal variations between 10 and 40 feet below ground surface (see **Figure 6-2**). During peak pumpage in 2007-11, water levels fluctuated between about 40 and 80 feet bgs. With decreased water use after 2014, water levels rose to 20 to 60 feet bgs demonstrating a strong relationship between pumpage and groundwater levels. The history of water use and water levels in the TODB indicate strongly that the available supply is sustainable and that demand management during drought or other periods has a direct and immediate effect on water levels. Notably with respect to the 2014 Sustainable Groundwater Management Act (SGMA) and related regulations added to the Water Code, there were no undesirable results with respect to sustainability even during peak water usage and the deepest water levels recorded in the wells.





Groundwater Quality

Groundwater quality from the District's supply wells meets all California primary drinking water standards. The groundwater does not meet secondary standards for manganese exceeding the drinking water maximum contaminant limit (MCL) of 0.050 mg/L for that constituent. With manganese removal treatment instituted, manganese has been eliminated as a water quality issue.

The groundwater source is considered hard with high total dissolved solids (TDS) but does not exceed the upper MCL (1,000 ppm) for TDS. Because of the depth of the primary aquifer (see Aquifer A in **Figure 6-1**) and intervening clay layers, source protection is achievable with appropriate annular seals in each production well structure. As a result, none of the wells have exhibited anthropogenic sources of contamination such as volatile or semi-volatile organic contaminants that are often found in urbanized settings.

The most important water quality concern for the District's well sources is the brackish to saline water that occurs in Aquifer B overlying the main completion targets of the supply wells (see **Figure 6-1**). Historic wells in the TODB experienced failure due to improper sealing of the well casing through the saline Aquifer B. This led to rapid corrosion of well casings and cross-contamination of the drinking water source by saline water. At present, Well 5A exhibits evidence of cross-flow and the well is operated under strict protocol to mitigate potential cross flow between Aquifers A and B. TDS in Well 5A recently increased to about 1,500 ppm. This has been evaluated and the well is being considered for destruction. The other wells exhibit stable levels of TDS with time.

In the absence of chronic downward trends in water levels or degraded water quality, the status of TODB's groundwater supply is considered sustainable and does not exhibit any characteristics of unsustainability as defined under SGMA. Furthermore, the historic trends through variable hydrologic periods, including the stability in groundwater levels through the recent drought in water years 2012-16, indicate that groundwater pumpage is sustainable at past peak and current usage by TODB. To ensure future sustainability, TODB is a Groundwater Sustainability Agency and is a participant with other local agencies in developing a Groundwater Sustainability Plan (GSP) under SGMA by January 2022.

6.3.2.4. Well Yields and Aquifer Characteristics

Specific capacities of the District's supply wells vary from less than 10 to over 30 gallons per minute per foot of drawdown (gpm/ft). At these magnitudes, the supply wells can be equipped to pump at capacities up to 2,200 gpm. Historic tests indicate that the primary production aquifer has a transmissivity ranging from about 50,000 to 100,000 gallons per day per foot and a storativity that is consistent with a confined system. Aquifer parameter estimates provide a basis



for evaluating well performance and appropriate spacing of future wells to minimize mutual pumping interference.

Proper well maintenance and early identification of well degradation in terms of well yields are important activities for a groundwater system that relies entirely on well water as a source. In 2007, the District instituted a biennial program to test the well facilities, which included quantification of specific capacity. Through this program, specific capacity testing is used to schedule rehabilitation programs and identify signs of structural problems that impact well production and operational efficiency. Each testing cycle is documented generating a report discussing changes since the last reporting period and recommendations for preventative or remedial work to sustain source capacity. Since structural problems may be forewarned by increasing salinity (i.e., because of the presence of shallow brackish water), regular water quality testing is an integral part of the biennial testing.

6.3.3. Groundwater Management and Sustainability

Local water agencies including the District participated in a groundwater resources study of eastern Contra Costa County (LSCE, 1999). The east Contra Costa County area is also under a Groundwater Management Plan (Diablo Water District, 2007), which was also prepared by LSCE. In addition, LSCE conducted a study of groundwater resources pertaining directly to Discovery Bay (1993) and a Water Master Plan (2010). The District participates in the California Statewide Groundwater Elevation Monitoring Program (CASGEM) and reports static groundwater levels from its monitoring wells biannually. The CASGEM program for the East Contra Costa Subbasin is managed by the Diablo Water District but will be superseded by reporting under a Groundwater Sustainability Plan under development.

The TODB is one of seven Groundwater Sustainability Agencies in the East Contra Costa Subbasin who are jointly developing a Groundwater Sustainability Plan as required under the SGMA legislation. As a medium priority subbasin, the GSP is due January 31, 2022. Information regarding GSP development is available at <https://www.eccc-irwm.org/sgma>.

Under the GSP being developed by the TODB and other GSAs in the Subbasin, groundwater will be managed sustainability according to principles set forth by the SGMA legislation and Best Management Practices published by the Department of Water Resources. Historically and at present the East Contra Costa Subbasin is considered to be operated with its sustainable yield by the lack of undesirable results. Efforts are underway through the preparation of a GSP to develop a groundwater flow model by which future scenarios of pumping with climate change will be managed. The model will be used to identify the maximum sustainable yield of the Subbasin and to set Minimum Thresholds for such parameters as maximum water levels and groundwater storage to avoid undesirable results. Projects and management actions are being developed as required under SGMA regulations to address any trends in water levels, storage, water quality,



subsidence and seawater intrusion to enable GSAs to act in a timely manner to maintain the groundwater source sustainably during GSP implementation and a 50-year planning horizon.

Projected growth in groundwater demand in the East Contra Costa Subbasin is modest and about 85-percent of total supplies will be provided through surface water rights. The TODB is the only GSA that relies wholly on groundwater as a source of supply. Availability and sustainability of groundwater to the District is governed by the regional hydrogeologic setting and coordination with other GSAs through the GSP. There is no evidence to date from the setting or projected future usage that the available supplies will exceed the sustainable yield of the system and the tools and additional safeguards to be implemented with the GSP are expected to provide ongoing assurance that the District’s supplies will remain secure.

6.3.4. Historical Groundwater Pumping

The TODB maintains six well facilities which meet the maximum day demand of its system with the largest well source offline, in accordance with State of California Code of Regulations, Title 22 California Waterworks Standards. All water is pumped from the East Contra Costa Subbasin. The quantity of groundwater pumped for fiscal years 2016 to 2020 is listed in **Table 6-1**.

Table 6-1. Retail: Groundwater Volume Pumped						
Groundwater Type	Location or Basin Name	2016	2017	2018	2019	2020
Alluvial Basin	East Contra Costa Subbasin of the San Joaquin Valley Groundwater Basin	829	911	916	888	1,050
TOTAL		829	911	916	888	1,050

Table 6-2, below, presents the information for the District’s six production wells.



Table 6-2. Groundwater Supply Well Information						
	Well 1B	Well 2	Well 4A	Well 5A	Well 6	Well 7
WELL CONSTRUCTION						
Drilling Date	1995	1971	1996	1991	2009	2014
Well Diameter (inch)	16"	12"	16"	16"	18"	18"
Well Depth (ft.)	350'	348'	357'	357'	360'	346'
Top Screen Interval	271'/289'	245'/335'	307'/347'	261'/291'	270'/295'	282'/292'
PUMP AND MOTOR						
Design Flow (gpm)	1,600	850	1,800	2,000	1,700	1,800
Design Head (ft.)	280	190	190	180	230	345
Pump Type	Submersible	Oil Lube	Submersible	Water Lube	Submersible	Submersible
Installation Date	2012	2003	2001	2004	2010	2015
Pump Setting Depth (ft.)	260'	220'	180'	240'	250'	290'
Column Diameter (inch)	12"	8"	12"	10"	12"	12"
Bowl Manufacturer	BJ/Flowserve	Goulds	BJ/Flowserve	Floway	BJ/Flowserve	BJ/Flowserve
Impeller Model	13MQH	11CHC	13MQH	14DKH	14EMM	15EMM
Number of Stages	3	4	3	3	3	4
Motor Horsepower	150 HP	100 HP	150 HP	200 HP	150 HP	200 HP
Well Control	Willow	Willow	Newport	Newport	Willow	Newport

6.4. Surface Water

The TODB does not use or have access to surface water.

6.5. Stormwater

The TODB does not use storm water for any uses and has no plans to do so.



6.6. Wastewater and Recycled Water

6.6.1. Recycled Water Coordination

The TODB owns and operates a community wastewater collection, treatment, and solids disposal facilities. The information in this section was provided by the TODB in coordination with the wastewater engineering consultant, Herwit Engineering, and from information provided in the TODB 2019 Wastewater Master Plan . All recycled water opportunities would be solely supplied by the District’s wastewater treatment plant (WWTP).

6.6.2. Wastewater Collection, Treatment, and Disposal

Wastewater is collected and conveyed to the WWTP by a network of gravity sewer mains and force mains. There are fifteen sewage pumping stations within the TODB sewage collection system that deliver sewage from the developments to the overall WWTP, located on the north and south sides of Highway 4 and directly southeast from the TODB.

The WWTP currently produces a disinfected secondary effluent that is discharged to Old River. The WWTP consists of an influent pump station, influent screening, secondary treatment facilities using oxidation ditches, and ultraviolet (UV) disinfection prior to discharge into Old River. The WWTP average daily flow in fiscal year 2019/2020 was approximately 1.33 million gallons per day (MGD). The facilities are permitted by the Regional Water Quality Control Board (RWQCB) to treat and discharge to Old River under specific waste discharge requirements (WDRs).

The facilities include a solids handling system for the residual sludge or biosolids developed in the WWTP. Solids handling facilities consist of waste activated sludge (WAS) pumping systems, a small aerobic digester, two sludge lagoons, a belt press dewatering facility, and four active solar sludge dryers.

Title 22 sets forth the regulations that govern recycled water treatment and uses. There are specific filtration and disinfection requirements to use recycled water in applications such as irrigation of landscaping areas. The District has constructed improvements to treat all the effluent to meet the Title 22 requirements for “disinfected tertiary recycled water” in order to comply with the discharge permitting requirements of the National Pollutant Discharge Elimination System (NPDES). However, the District does not have a Title 22 permit to use the treated effluent from the WWTP for use in the water system for recycled water applications (e.g. landscape irrigation).

Table 6-3 (DWR Table 6-2) shows the volume of wastewater collected within the TODB service area in 2020.



Table 6-3 (DWR Table 6-2) Retail: Wastewater Collected Within Service Area in 2020						
There is no wastewater collection system. The supplier will not complete the table below.						
100	Percentage of 2020 service area covered by wastewater collection system					
100	Percentage of 2020 service area population covered by wastewater collection system					
Wastewater Collection			Recipient of Collected Wastewater			
Name of Wastewater Collection Agency	Wastewater Volume Metered or Estimated?	Volume of Wastewater Collected from UWMP Service Area 2020	Name of Wastewater Treatment Agency Receiving Collected Wastewater	Treatment Plant Name	Is WWTP Located Within UWMP Area?	Is WWTP Operation Contracted to a Third Party?
Town of Discovery Bay Community Services District	Estimated	486	Town of Discovery Bay Community Services District	WWTP No. 1 and No. 2	Yes	Yes
Total Wastewater Collected from Service Area in 2020:		486				

Table 6-4 (DWR Table 6-3) shows the amount of wastewater treated and discharged from the TODB service area in 2020.



Table 6-4 (DWR Table 6-3) Retail: Wastewater Treatment and Discharge Within Service Area in 2020

No wastewater is treated or disposed of within the UWMP service area.
The Supplier will not complete the table below.

Wastewater Treatment Plant Name	Discharge Location Name or Identifier	Discharge Location Description	Wastewater Discharge ID Number	Method of Disposal	Does This Plant Treat Wastewater Generated Outside the Service Area?	Treatment Level	2020 volumes				
							Wastewater Treated	Discharged Treated Wastewater	Recycled Within Service Area	Recycled Outside of Service Area	Instream Flow Permit Requirement
WWTP No. 1 and 2	Old River	Old River South of Highway 4 Bridge		River or Creek Outfall	No	Tertiary	486	486	0	0	
Total							486	486	0	0	0

NOTES: The TODB upgraded its WWTP treatment to tertiary level to meet NDPEs Permit Discharge Requirements.



6.6.3. Recycled Water System

All of the newer developments in the TODB (from 1999 and on) are constructed with “purple pipe”, which is dedicated for distribution of recycled water to the system. The older developments do not have a purple pipe system. The purple pipes can connect to public irrigation services as well as individual residences for landscape needs. It is estimated that at build-out in 2020, approximately 36% of the service area will have purple pipe. The estimated irrigation demand for these areas (residential and public irrigation) is approximately 300 MGY, and approximately half can be served recycled water (150 MGY) due to operational considerations with water quality.

Those developments with purple pipe are located on the opposite side of the service area from the WWTP. Connecting the purple pipe systems to the WWTP would require a 5-mile transmission, likely to be a 12-inch diameter pipe through congested utilities and a highway crossing. It is estimated that construction costs for such a project is on the order of \$4-6 million. Based on this conceptual assessment, the project would likely serve up to 150 MGY, which equates to the amount of water used by 770 equivalent dwelling units (EDU). In comparison, a typical groundwater supply well in the TODB can serve twice as many EDU (approximately 1,500 EDU) and cost half as much to construct (approximately \$2 million). A recycled water pipeline is not being pursued due to cost-to-benefit and, given the current outlook of groundwater, appears to be sustainable. However, the project could become more economically feasible if grant funding were available to supplement the cost and will be considered further by the TODB.

6.6.4. Recycled Water Beneficial Uses

6.6.4.1. Current and Planned Uses of Recycled Water

As noted above the effluent from the WWTP does not currently meet Title 22 requirements for recycled water uses in the water system. However, Title 22 allows a restricted use of untreated recycled water onsite at the WWTP, provided public access to the recycled water is restricted. The District completed a project in early 2015 that utilizes the secondary effluent from the WWTP in the solids handling process.

Previously, the belt presses and spray nozzles in the solids handling process required a water source that used approximately 20 MGY of potable water from the system. The actual water requirements would vary based on time of year. A baseline flow of approximately 50 gallons per minute (gpm) is required with peak use over 300 gpm during the summer months when the belt presses and the drying process is operating. The maximum capacity of the onsite reclaim water system will be 400 gpm to supply water during peak demand requirements. With completion of this project, potable water is no longer required in the WWTP processes.



The District has completed construction of the tertiary treatment system at the wastewater treatment plant, however the District does not have a Title 22 permit for recycled water use. There are potential opportunities for use of recycled water, however, none are being pursued at this time. Potential uses and limitations of recycled water are discussed below.

Water quality concerns: Of particular concern with recycled water application to irrigation is the source water quality. Boron and salinity are two important parameters when irrigating for agricultural and landscape purposes. Crops and vegetation have varying levels of tolerance to these parameters (among others); however, it generally starts to be an issue when boron is above 2 parts per million (ppm) or electrical conductivity (EC) is above 2000 micro-Siemens per centimeter ($\mu\text{S}/\text{cm}$). The groundwater wells have boron at approximately 1-2 ppm concentrations, whereas the secondary effluent from the WWTP contains boron ranging from 3-4 ppm. The groundwater wells generally have an EC of around 500 $\mu\text{S}/\text{cm}$, whereas the secondary effluent is 2100 $\mu\text{S}/\text{cm}$. Salinity is known to increase in wastewater due to point-of-use water softeners treating water hardness. Boron and salinity will not be removed in the recycled water and could pose operational issues if applied to landscape irrigation.

Similar recycled water quality issues are present in other systems. In response to recycled water quality issues, it has become common practice to blend recycled water to decrease concentrations, or to cycle between recycled water and potable water to reduce soil column salt loading. For the purposes of assessing recycled water potential in the UWMP, it is assumed irrigation water could only meet half (50%) of its demand from recycled water due to poor water quality issues noted above.

Irrigation: Other potential uses for recycled water is irrigation in the TODB golf course or in the adjacent agricultural fields, neither of which is currently supplied water by the District's system. Therefore, supplying recycled water to these would not reduce the per-capita water use of TODB. The golf course is part of an HOA that has surface water rights for irrigation. Agricultural lands surrounding the TODB are irrigated with surface and groundwater. The TODB may still considered delivering recycled water to the golf course or agricultural fields as a benefit to regional water supplies even though it would not reduce the per-capita water use in the TODB system.

Groundwater Recharge: Groundwater recharge is another alternative for the recycled water use. As discussed above, the TODB's groundwater supply is from a confined aquifer system and could not be replenished from a surface recharge. Injection would be the only alternative for recharge, which has limited cost-to-benefit considering the high costs for delivery, construction, permitting and operational complexities associated with injection.

Table 6-5 (DWR Table 6-4) shows that the TODB is currently not using recycled water within its service area.



Table 6-4 Retail. Recycled Water Direct Beneficial Uses Within Service Area

Recycled water is not used and is not planned for use within the service area of the supplier. The supplier will not complete the table below.										
Name of Supplier Producing (Treating) the Recycled Water:				Town of Discovery Bay Community Services District						
Name of Supplier Operating the Recycled Water Distribution System:				Town of Discovery Bay Community Services District						
Supplemental Water Added in 2020 (volume) include units				0						
Source of 2020				N/A						
Beneficial Use Type	Potential Beneficial Uses of Recycled Water (Describe)	Amount of Potential Uses of Rycled Water (Quantit) Include volume units	General Description of 2020 Uses	Level of Treatment drop down list	2020	2025	2030	2035	2040	2045 (opt)
Agricultural Irrigation					0	0	0	0	0	0
Landscape Irrigation					0	0	0	0	0	0
Golf Course Irrigation (excludes gold courses)					0	0	0	0	0	0
Golf Course Irrigation					0	0	0	0	0	0
Commercial Use					0	0	0	0	0	0
Industrial Use					0	0	0	0	0	0
Geothermal and Other Energy Production					0	0	0	0	0	0
Seawater Intrusion Barrier					0	0	0	0	0	0
Recreational Impoundment					0	0	0	0	0	0
Wetlands or Wildlife					0	0	0	0	0	0
Groundwater Recharge (IPR)					0	0	0	0	0	0
Surface Water Augmentation (IPR)					0	0	0	0	0	0
Direct Potable Reuse					0	0	0	0	0	0
Other (Provide General Description)					0	0	0	0	0	0
Total					0	0	0	0	0	0
Internal Reuse										

IPR Indirect Potable Reuse



Table 6-6 (DWR Table 6-5), below, compares projected 2020 recycled water use with actual 2020 recycled water use. There is no projected or actual recycled water use.

Table 6-6 (DWR Table 6-5). Retail: 2015 UWMP Recycled Water Use Projection Compared to 2020 Actual			
X		Recycled water was not used in 2015 nor projected for use in 2020. The Supplier will not complete the table below.	
Use Type		2015 Projection for 2020	2020 Actual Use
Agricultural irrigation		0	0
Landscape irrigation (excludes golf courses)		0	0
Golf course irrigation		0	0
Commercial use		0	0
Industrial use		0	0
Geothermal and other energy production		0	0
Seawater intrusion barrier		0	0
Recreational impoundment		0	0
Wetlands or wildlife habitat		0	0
Groundwater recharge (IPR)		0	0
Surface water augmentation (IPR)		0	0
Direct potable reuse		0	0
Other	<i>Type of Use</i>	0	0
Total		0	0

6.6.5. Actions to Encourage and Optimize Future Recycled Water Use

The most feasible uses of recycled water include the onsite uses at the WWTP, irrigating in the system using the existing purple pipe network, golf course irrigation, and nearby agricultural irrigation. The latter two are not part of the TODB potable water demand and would not reduce per-capita consumption for the TODB. However, those may still be pursued as a benefit to other surface and groundwater uses outside of the TODB under a groundwater sustainability plan. Furthermore, as discussed above, irrigation uses within the system using the existing purple pipe are likely to only be pursued further if grant funding is identified for such a project.

Given the conclusions of limited current recycled water use and uncertainty with the viability of future recycled water use, there is no current plan to optimize recycled water as shown below in



Table 6-7 (DWR Table 6-6) nor is there a separate master plan for recycled water beyond the information presented above.

Table 6-7 (DWR Table 6-6). Retail: Methods to Expand Future Recycled Water Use			
x	Supplier does not plan to expand recycled water use in the future. Supplier will not complete the table below but will provide narrative explanation.		
	Provide page location of narrative in UWMP		
Name of Action	Description	Planned Implementation Year	Expected Increase in Recycled Water Use
N/A			
Total			0

6.7. Desalinated Water Opportunities

The TODB does not plan to build desalinated water plants and there are no opportunities for the development of a desalinated water plant for future water supplies.

6.8. Exchanges or Transfers

The TODB does not participate in transfer or exchange programs and does not have any planned in the future.

6.9. Future Water Projects

The District plans on constructing a new production well (Well 8). Well 8 is anticipated to be brought online by 2025 and is estimated to supply up to 1,800 gpm. Well 8 is intended to replace Well 5A, which has water quality problems as noted in Section 6.2.1.4. The addition of Well 8 will increase the reliability of the TODB’s water supply though total groundwater source capacity will ultimately not change with the intended destruction of Well 5A. Future water projects are shown below in **Table 6-8** (DWR Table 6-7).



Table 6-8 (DWR Table 6-7). Retail: Expected Future Water Supply Projects or Programs						
No expected future water supply projects or programs that provide a quantifiable increase to the agency's water supply. Supplier will not complete the table below.						
Some or all of the supplier's future water supply projects or programs are not compatible with this table and are described in a narrative format.						
Provide page location of narrative in the UWMP						
Name of Future Projects or Programs	Joint Project with other suppliers?		Description (if needed)	Planned Implementation Year	Planned for Use in Year Type	Expected Increase in Water Supply to Supplier
Well 8	No		Groundwater Well	By 2025	All Year Types	0
NOTES: Well 8 is intended to replace Well 5A. Well 5A will be abandoned upon completion of Well 8.						

6.10. Summary of Existing and Planned Sources of Water

The TODB utilizes groundwater exclusively to meet its total water demand needs. The TODB has six (6) groundwater wells capable of pumping 2,500 MG to meet demands during a normal water year, single dry year and droughts lasting at least five years. The TODB’s available groundwater resources have not historically been affected by drought conditions or extended dry periods. Anticipated water supply availability is the same under normal, single dry year and a drought lasting longer than five years. Additional analysis in this regard is provided in Chapter 7 under the Drought Risk Assessment section. **Table 6-9** (DWR Table 6-8) below summarizes the actual water supply for the District in fiscal year 2019/2020 in MG. **Table 6-10** (DWR Table 6-9) projects available water supply through 2045 based on updated population projections and 2020 water use target of 209 gpcd



Table 6-9 (DWR Table 6-8). Retail: Water Supplies — Actual				
Water Supply	Additional Detail on Water Supply	2020		
		Actual Volume	Water Quality	Total Right or Safe Yield
Groundwater (not desalinated)		1,050	Drinking Water	
Total		1,050		

Table 6-10 (DWR Table 6-9) Retail: Water Supplies — Projected						
Water Supply	Additional Detail on Water Supply	Projected Water Supply Report To the Extent Practicable				
		2025	2030	2035	2040	2045
		Reasonably Available Volume	Reasonably Available Volume	Reasonably Available Volume	Reasonably Available Volume	Reasonably Available Volume
Groundwater (not desalinated)		2,500	2,500	2,500	2,500	2,500
Total		2,500	2,500	2,500	2,500	2,500

6.11. Climate Change Impacts to Supply

The District’s supply wells are the sole source of water for the TODB. The wells were able to supply the TODB at the height of the 2012-2015 drought without impacts to the aquifer. Groundwater levels have been shown to fully recover.

The District’s water supply does not come from snowmelt, is not diverted from the Delta, is not a coastal aquifer, is not subject to invasive species management, and has always been able to meet the TODB’s water demand.

The District’s water supply reliability is detailed in Chapter 7.



6.12. Energy Intensity

The District pumps groundwater from its six (6) water production wells. These six groundwater wells pump groundwater to its two (2) surface water treatment plants to address iron and manganese water quality issues. After TODB’s groundwater is treated, two booster pump stations distribute treated water to the distribution system to customer taps. The total amount of energy used to extract water from the groundwater aquifer, treat the raw water, and pump the treated water to the distribution system is shown in **Table 6-11** (DWR Guidebook Appendix O, Table O-1A) below.

Table 6-11. O-1A: Recommended Energy Intensity - Water Supply Process Approach							
Enter Start Date for Reporting Period	7/1/2019	Urban Water Supplier Operational Control					
End Date	6/30/2020	Water Management Process					
		Extract and Divert	Place into Storage	Conveyance	Treatment	Distribution	Total Utility
<i>Volume of Water Entering Process (AF)</i>		3,222.5	0	0	3,222.5	0	3,222.5
<i>Energy Consumed (kWh)</i>		13,581	0	0	1,044,960	0	1,058,541
<i>Energy Intensity (kWh/AF)</i>		4.2	0.0	0.0	324.3	0.0	328.5

Wastewater is collected by the District and pumped to the wastewater treatment plant via 15 lift stations. The wastewater is then treated before being discharged to Old River within NPDES permit discharge requirements. The District does not treat any wastewater for recycled water use purposes at this time. A summary of the wastewater and recycled water energy use is shown in **Table 6-12** (DWR Guidebook Appendix O, Table O-2) below.



Table 6-12. O-2: Recommended Energy Intensity - Wastewater & Recycled Water					
Enter Start Date for Reporting Period	10/1/2019	Urban Water Supplier Operational Control			
End Date	9/29/2020				
		Water Management Process			
		Collection / Conveyance	Treatment	Discharge / Distribution	Total
<i>Volume of Wastewater Entering Process (AF)</i>		0	1488.5	0	1488.5
<i>Wastewater Energy Consumed (kWh)</i>		0	17,178,543	0	17,178,543
<i>Wastewater Energy Intensity (kWh/AF)</i>		0.0	11,540.8	0.0	11,540.8
<i>Volume of Recycled Water Entering Process (AF)</i>		0	0	0	0
<i>Recycled Water Energy Consumed (kWh)</i>		0	0	0	0
<i>Recycled Water Energy Intensity (kWh/AF)</i>		0.0	0.0	0.0	0.0

CHAPTER 7.

WATER SUPPLY RELIABILITY ASSESSMENT

7.1. Constraints on Water Sources

LSCE conducted a review of the District’s water supply reliability and produced a memorandum presenting *Supporting Analysis on Groundwater Conditions*⁵ on June 20, 2016 which was prepared to comply with the June 2016 State of California Emergency Drought Regulations (see **Appendix E**). This memorandum concluded that there were no restrictions preventing the District from its ability to pump water from the aquifer to meet current and anticipated demand.

The District’s water supply limitations are due to the number and operating condition of the District’s wells. All wells, with the exception of Well 5A, are able to operate without limitations to produce sufficient water supply that exceeds current demand. Well 5A has had increasing levels of TDS, which has constrained its use. The District has plans to complete construction of a new well to replace Well 5A as noted in Chapter 6, which will remove this operating constraint.

7.2. Reliability by Type of Year

In the context of drought planning, this section describes reliability of the water supply and vulnerability to seasonal or climatic shortage for the following water–year types:

- Average water year: A year, or an averaged range of years, that most closely represents the average water supply available to the agency. The UWMP Act uses the term “normal” conditions.
- Single dry water year: The single-dry year is the year that represents the lowest water supply available to the agency.
- Five-Consecutive-Year Drought: The five-consecutive year drought for the DRA would be the driest five-year historical sequence for the supplier. For the water service reliability assessment, Suppliers are encouraged to use the same five-year sequence for their water service reliability assessment.

The District determined the base years as listed in **Table 7-1**. The average/normal base year is the highest water usage year on record. The dry years are based on the 2012-2015 drought. Seasonal fluctuations observed in groundwater levels do not result in any considerable loss of production for the District. Furthermore, the District has always been able to pump 100% of its groundwater supply during previous multiple-dry years.

⁵ June 20, 2016, Supporting Analysis on Groundwater Conditions 2016 Self-Certified Water Conservation Standard, Luhdorff & Scalmanini Consulting Engineers



Table 7-1 summarizes the effects water year-types would have on water supply and groundwater production. Annual groundwater production varies depending on the water demand. The maximum production of record was 1,328 MGY in 2008. 2015 was the height of a period of multiple-dry years and the District had access to 100% of its groundwater supplies, though usage was curtailed due to drought restrictions.

Table 7-1. Retail: Basis of Water Year Data (Reliability Assessment)			
Year Type	Base Year <i>If not using a calendar year, type in the last year of the fiscal, water year, or range of years, for example, water year 2019-2020, use 2020</i>	Available Supplies if Year Type Repeats	
			Quantification of available supplies is not compatible with this table and is provided elsewhere in the UWMP. Location _____
		X	Quantification of available supplies is provided in this table as either volume only, percent only, or both.
		Volume Available	% of Average Supply
Average Year	2008	1328	100%
Single-Dry Year	2007	1328	100%
Consecutive Dry Years 1st Year	2012	1328	100%
Consecutive Dry Years 2nd Year	1013	1328	100%
Consecutive Dry Years 3rd Year	2014	1328	100%
Consecutive Dry Years 4th Year	2015	1328	100%
Consecutive Dry Years 5th Year	2016	1328	100%

7.3. Supply and Demand Assessment

The water supply and demand assessment shall compare the total water supply sources with the total projected water use over the next 20 years for normal, single-dry and multiple-dry years. Tables 7-2, 7-3, and 7-4 provide the assessment of supply versus demand for each water year type. The water supply is based on operating all wells for 12 hours per day, 365 days per year, which the wells are capable for supplying. However, the wells will only be operated to the extent that meets the TODB’s demand and thus will pump less than what is possible.



Table 7-2. Retail: Normal Year Supply and Demand Comparison					
	2025	2030	2035	2040	2045
Supply Totals (from Table 6-9)	2,500	2,500	2,500	2,500	2,500
Demand Totals (from Table 4-3)	1,423	1,645	1,873	2,160	2,491
Difference	1,077	855	627	340	9

Table 7-3. Retail: Single Dry Year Supply and Demand Comparison					
	2025	2030	2035	2040	2045
Supply Totals	2,500	2,500	2,500	2,500	2,500
Demand totals	1,423	1,645	1,873	2,160	2,491
Difference	1,077	855	627	340	9



Table 7-4. Retail: Multiple Dry Years Supply and Demand Comparison						
		2025	2030	2035	2040	2045
First Year	Supply totals	2,500	2,500	2,500	2,500	2,500
	Demand totals	1,423	1,645	1,873	2,160	2,491
	Difference	1,077	855	627	340	9
Second Year	Supply totals	2,500	2,500	2,500	2,500	2,500
	Demand totals	1,423	1,645	1,873	2,160	2,491
	Difference	1,077	855	627	340	9
Third Year	Supply totals	2,500	2,500	2,500	2,500	2,500
	Demand totals	1,423	1,645	1,873	2,160	2,491
	Difference	1,077	855	627	340	9
Fourth Year	Supply totals	2,500	2,500	2,500	2,500	2,500
	Demand totals	1,423	1,645	1,873	2,160	2,491
	Difference	1,077	855	627	340	9
Fifth Year	Supply totals	2,500	2,500	2,500	2,500	2,500
	Demand totals	1,423	1,645	1,873	2,160	2,491
	Difference	1,077	855	627	340	9
Sixth Year <i>(optional)</i>	Supply totals	2,500	2,500	2,500	2,500	2,500
	Demand totals	1,423	1,645	1,873	2,160	2,491
	Difference	1,077	855	627	340	9



7.4. Regional Supply Reliability

All TODB water is produced locally, therefore no regional supplies are required, nor are they available. Groundwater is produced in a sustainable fashion. The District participates in regional planning (CASGEM, SGMA, etc.) and complies with the provisions set to ensure reliability of its water source.

7.5. Drought Risk Assessment

The TODB uses groundwater exclusively to meet total customer water demands. Historically, the TODB has not experienced water supply shortfalls during periods of drought or extended dry periods including the recent drought in 2012 through 2015. **Table 7-5** below shows a comparison of the total available water supplies available to the TODB versus the gross water use for a drought lasting five consecutive years. The analysis shows that the TODB does not need any additional water supply augmentation to meet water use during drought. The analysis also shows that it is not necessary to implement any Water Shortage Contingency Plan response actions to reduce water demands since there is not a water supply shortfall.

Table 7-5. Five-Year Drought Risk Assessment Tables to address Water Code Section 10635(b)	
2021	Total
Gross Water Use	1,125
Total Supplies	2,500
Surplus/Shortfall w/o WSCP Action	1,375
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	
WSCP - use reduction savings benefit	
Revised Surplus/(shortfall)	
Resulting % Use Reduction from WSCP action	0%

2022	Total
Gross Water Use	1,199
Total Supplies	2,500
Surplus/Shortfall w/o WSCP Action	1,301
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	
WSCP - use reduction savings benefit	
Revised Surplus/(shortfall)	
Resulting % Use Reduction from WSCP action	0%



2023	Total
Gross Water Use	1,274
Total Supplies	2,500
Surplus/Shortfall w/o WSCP Action	1,226
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	
WSCP - use reduction savings benefit	
Revised Surplus/(shortfall)	
Resulting % Use Reduction from WSCP action	0%



2024	Total
Gross Water Use	1,349
Total Supplies	2,500
Surplus/Shortfall w/o WSCP Action	1,151
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	
WSCP - use reduction savings benefit	
Revised Surplus/(shortfall)	
Resulting % Use Reduction from WSCP action	0%

2025	Total
Gross Water Use	1,424
Total Supplies	2,500
Surplus/Shortfall w/o WSCP Action	1,076
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	
WSCP - use reduction savings benefit	
Revised Surplus/(shortfall)	
Resulting % Use Reduction from WSCP action	0%

CHAPTER 8.

WATER SHORTAGE CONTINGENCY PLANNING

8.1. Water Supply Reliability Analysis

California Water Code (CWC) Section 10632(a)(1) requires an analysis of water supply reliability per CWC Section 10635. The TODB relies exclusively on groundwater to meet customer needs and has historically met customer demands through times of drought. Conditions could arise such as catastrophic events, prolonged periods of drought, unforeseen impacts to the groundwater supply, etc. that could require the activation of the District's Water Shortage Contingency Plan (WSCP) that was adopted on March 3, 2021. A copy of the resolution and the WSCP is included in **Appendix F**.

The TODB maintains six well facilities which meet the maximum day demand of its system with the largest well source offline, in accordance with State of California Code of Regulations, Title 22 California Waterworks Standards. Water supplies to meet the maximum daily demand and instantaneous peak flow requirements of the system are maintained through a combination of the water supply wells, treatment, storage, and booster pump capacity. All water is pumped from the East Contra Costa Groundwater Subbasin.

The water supply reliability analysis is based on the ability to meet annual water demands, as required in CWC 10635. The analysis considers the capacity of operating all six wells for 12 hours per day, 365 days per year, which the wells are capable of supplying. The total pumping capacity of the six wells is 2,500 million gallons per year. However, the wells will only be operated to the extent that meets the TODB's demand and thus will pump less than what is possible.

The water demand for the TODB was 1,050 million gallons for the fiscal year from July 1, 2019 to June 30, 2020. Water demand projections from the TODB's 2020 UWMP project a water demand of 2,871 million gallons per year in 2045. Thus, the existing capacity of the wells can reliably meet current and future water demands based on current growth projections.

Historically, the TODB has not experienced water supply shortfalls during periods of drought including the recent drought in 2012 through 2015. The groundwater wells can adequately meet the projected annual demands. The TODB is participating in the East Contra Costa Groundwater Sustainability Working Group to develop a Groundwater Sustainability Plan to ensure the continued reliability of groundwater to meet the water demands of the basin.

8.2. Annual Water Supply and Demand Analysis

CWC Section 10632 (a)(2) requires written procedures to be developed to conduct an annual water supply and demand assessment (annual assessment) to determine the water system's reliability. The annual assessment needs to be completed and submitted to DWR by July 1 of each



year. The steps to complete the annual assessment are described in the WSCP (see **Appendix F**). An example of an annual assessment is provided below.

Available Water Supply

In 2020, the available water supply to the District is 2,500 MG. Since the TODB has not historically been impacted by drought, the available supply for the subsequent dry year shall be the same as the current year.

Unconstrained Customer Demand

The water meter usage per customer class for the fiscal year from July 1, 2019 to June 30, 2020 was 1,050 MG. The TODB's population was estimated in Chapter 3 for 2020 as 15,575. To calculate the population in 2021 or any subsequent year, multiply the number of new service connections since 2020 times the 2.95 persons per household factor from the U.S. Census Bureau for the TODB and add that to the 2020 population. Assuming in 2021, 1/5 of the anticipated 1,038 new connections that are anticipated over the next 5 years are added to the TODB, the estimated population in 2021 is 16,187. The increase in population results in a water demand in 2021 of 1,091 MG. See detailed calculations below. Additional information is provided in the WSCP (see **Appendix F**).

Future Population = 2020 Population + No. of New Connections X Persons per Household

2021 Population = 15,575 people + (207.6 service connections X 2.95 People per Household)

2021 Population = 16,187 people

Anticipated Demand = Meter Usage X Future Population

Current Population

Anticipated 2021 Demand = 1,050 MG X 16,187 People = 1,091 MG

15,575 People

Evaluation Criteria

As shown above, the available water supply for the TODB is 2,500 MG for the current and upcoming year. The 2020 water demand was 1,050 MG and the 2021 is anticipated to be 1,091 MG. Since the available water supply is greater than the anticipated water demand, then the TODB does not need to take any further action.

Planned Water Use for Current Year Considering Dry Subsequent Year

As mentioned above, the TODB has not historically been impacted by drought thus planned water use for the current year shall not be impacted by an anticipated subsequent dry year.



Infrastructure Considerations

The TODB is in the process of designing a new well, Well 8, to replace Well 5. Construction of Well 8 will not have an impact on available water supply during construction. Water supply capacity will remain the same after Well 8 is constructed.

8.3. Standard Water Shortage Levels

CWC Section 10632 (a)(4) requires actions to be undertaken by the District in response to water supply shortages, including over a 50-percent reduction in water supply, and an outline of specific water supply conditions which are applicable to each water shortage level.

The District will implement six water shortage levels in response to water supply shortages to comply with State requirements (see **Table 8-1**). The levels will be implemented during water supply shortages, or regional drought conditions that may not be directly influencing the District's water supplies. The level determination and declaration of a water supply shortage will be made by the TODB Board of Directors.

Level I - This level would be initiated during a mild water shortage (up to 10%) and is part of an ongoing public information campaign encouraging voluntary water conservation. The TODB issued a resolution for voluntary water use in Resolution 2014-11 – Voluntary Water Reduction (**Appendix A**). There are no mandatory measures during Level I. Although Level I is ongoing, customers are reminded when a regional single-year drought is occurring.

Level II – This level would be initiated during a moderate water shortage (11-20%) and would be addressed through enhanced voluntary measures and public outreach with voluntary enforcement of the water waste ordinance. Level II would be implemented during a moderate drought where water conservation is mandatory but impacts to the TODB's groundwater supply wells are negligible or non-existent. During Level II, the TODB Board of Directors will declare prohibitions on water use, in accordance with the TODB Ordinance No. 2016-27 Drought Regulation (**Appendix F**).

Level III – This level would be initiated during a severe regional water shortage (21 to 30%), which could be caused by State mandated water use reductions or when the TODB has a redundant back-up well offline for repairs, which makes the overall supply system more vulnerable to shortages. During Level III, the TODB Board of Directors would adopt a new ordinance providing authority for the General Manager to implement additional prohibitions and consumption reduction methods that would include cutbacks in irrigation water use by all customers, enhanced leak repair by customers and the District, establishment of water shortage pricing surcharges, and other consumption reduction methods as needed to effectively reduce water demands to match available supplies.



Level IV – This level would be initiated during a critical water shortage (31 to 40%), which could be caused by a catastrophic failure of two groundwater supply wells. All steps taken in the prior levels would be intensified and production would be monitored daily for compliance with necessary reductions. Residents would be under water rationing. The TODB would be in emergency status to repair and bring online water supply wells.

Level V – This level would be initiated during a critical water shortage (41-50%), which could be caused by a natural disaster, prolonged severe drought event, or failure of water system facilities that greatly reduces supply capacity.

Level VI – This level would be initiated during a catastrophic water shortage (>50%), which could be caused by a natural disaster, catastrophic failure of the system of 3 or more groundwater supply wells. Rationing and mandatory restrictions would be enhanced as needed to effectively reduce water demands to match available supplies.

Table 8-1 below lists the six (6) water shortage levels of the WSCP.

Table 8-1. Water Shortage Contingency Plan Levels		
Shortage Level	Complete Both	
	Percent Shortage Range ¹ <i>Numerical value as a percent</i>	Water Shortage Condition <i>(Narrative description)</i>
1	Up to 10%	Mild Water Shortage
2	11 to 20%	Moderate Water Shortage
3	21 to 30%	Severe Water Shortage
4	31 to 40%	Critical Water Shortage
5	41 to 50%	Critical Water Shortage
6	>50%	Catastrophic Water Shortage

¹ One stage in the Water Shortage Contingency Plan must address a water shortage of 50%.

The six water shortage levels represent an ever-increasing gap between normal available supplies and normal expected customer demands to be addressed through appropriate local water shortage response actions.



8.4. Shortage Response Actions

CWC Section 10632(a)(4) requires water suppliers to implement water shortage response actions that align with the water shortage levels and include water supply augmentation actions, demand reduction actions, operational changes, mandatory prohibitions, and an estimate of the projected water demand reduction from the action.

Supply Augmentation

The TODB relies exclusively on groundwater to meet its water supply needs and does not have access to surface water or water supply augmentation through other means. Existing wells could be modified to increase pumping capacity if feasible. Recycled water available at the TODB wastewater treatment plant can be considered for non-potable applications although there is currently no infrastructure nor permit in place to support the use of recycled water. The TODB would also implement any non-potable solutions such as using older wells for irrigation purposes that no longer meet SDWA standards. **Table 8-2** (DWR Table 8-3) shows Supply Augmentation and Other Actions.

Table 8-2. (DWR Table 8-3): Supply Augmentation and Other Actions			
Shortage Level	Supply Augmentation Methods and Other Actions by Water Supplier	How much is this going to reduce the shortage gap?	Additional Explanation or Reference
> Stage 3	Reduce System Water Loss	Up to 50 AFY	As needed.
NOTES:			

Demand Reduction

The CWC requires the water supplier to implement consumption-reduction actions during the most severe levels of water shortage that are capable of reducing water use by at least 50%. The TODB would implement the water demand reduction actions shown on **Table 8-3** (DWR Table 8-2), below. Some of the methods are on-going and are part of the TODB water conservation efforts addressed in the Demand Management Measures. The actual combination of measures implemented will be based on water shortage levels and the effectiveness of demand reduction measures.



Table 8-3. (DWR Table 8-2): Demand Reduction Actions

Shortage Level	Demand Reduction Actions	How much is this going to reduce the shortage gap?	Additional Explanation or Reference	Penalty, Charge, or Other Enforcement?
All levels	Other	0-50%	Demand Reduction Program	No
I-II	Other	0-20%	Voluntary Water Use Reductions	No
I-II	Other		Voluntary Restrictions – no waste, not enforced	No
I-II	Expand Public Information Campaign	0-20%	Public Outreach Measures - General	No
II-VI	Other	20-30%	Expedite Conversion of Water Efficient Fixtures	No
II-III	Landscape - Limit landscape irrigation to specific days	20-30%	Irrigation Reduction – limit 3 watering days/week	Yes
II-VI	Landscape - Prohibit certain types of landscape irrigation	20-40%	Irrigation Reduction – parks/open spaces	Yes
II-VI	Other	20%+	Utility Leak Repair – expedite larger leak repairs	No
III-IV	Landscape - Limit landscape irrigation to specific days	30-40%	Irrigation Reduction – limit 2 watering days/week	Yes
III-VI	Expand Public Information Campaign	30%+	Public Outreach Measures – General and Specific	No
III-VI	Implement or Modify Drought Rate Structure or Surcharge	30-50%	Water shortage pricing - surcharge	Yes
III-VI	Other - Customers must repair leaks, breaks, and malfunctions in a timely manner	30%+	Customer Leak Repair – within five days of detection	Yes
III-VI	Other	30-50%	Mandatory restrictions – no waste enforced [patrols, tickets, fines, etc.]	Yes
III-VI	Other	30-50%	Apply penalties for excessive water use	Yes
IV-VI	Other	40-50%	Apply flow restrictions to customers	Yes
IV-VI	Other	10-50%	Restrict water use for only priority uses	Yes
V-VI	Landscape - Prohibit all landscape irrigation	40%-50%+	Irrigation Reduction – no lawn watering	Yes
V-VI	Other	20-50%	Mandatory water rationing, per capita allotment	Yes



Operational Changes

During times of water supply shortage, the TODB can also implement operational changes such as reduced system flushing, increased hydrant security, meter upgrades for accurate measurement of water use and enhanced reading capabilities and change water CIP priorities to focus on water reducing projects and programs. Staff can make use of customer water meter information to monitor where water leaks may be occurring. If water meter monitoring is implemented, Staff shall endeavor to notify customers of possible water leaks. During demand reduction actions are initiated, the operations can avoid using inefficient wells that are known to result in higher levels of system flushing.

Additional Mandatory Restrictions

The TODB would implement additional mandatory restrictions against specific water use practices that may be considered excessive during water shortages. If drought conditions or water shortages warrant mandatory restrictions (Level III), the TODB will implement the current water shortage emergency response plan, Ordinance No. 2016-27 Drought Regulation (**Appendix F**). Further mandatory restrictions will be implemented if warranted based on Level IV, V or Level VI conditions. **Table 8-4** identifies mandatory restrictions that would be enforced during a water shortage emergency.

Table 8-4. Mandatory Restrictions	
Restrictions	Level When Restriction Becomes Mandatory
Excessive outdoor watering (causing runoff to non-irrigated areas)	II, III, IV
Use of hose without a shut-off nozzle for vehicle washing	II, III, IV
Application of water to driveways or sidewalks	II, III, IV
Use of water in non-circulating fountain or water feature	II, III, IV
Outdoor irrigation beyond the allowed watering schedule	II, III, IV
Uncorrected plumbing leaks	III, IV
Washing cars	III, IV
Watering lawns/landscapes or filling outdoor water features	III, IV

Emergency Response Plan

In the event of catastrophic reduction in water supplies, the TODB would implement emergency preparedness plans, depending on the cause and severity of the water shortage. A catastrophic event resulting in a water shortage would be any event, either natural or man-made, with varying levels of severity to the water supply conditions. Examples include, but are not limited to, a regional power outage, an earthquake, or other disasters.



The TODB has in place an Emergency Operations Plan that would be implemented by the TODB staff in the event of a catastrophic water shortage. The TODB has equipped its facilities with standby emergency generators that would be operated if the catastrophic event involved loss of power. Both of the water treatment plants and booster stations are equipped with permanent emergency generators and automatic transfer switches. The TODB owns portable generators that can be used to operate the groundwater pumping stations. If there is catastrophic rupturing of pipelines, during an earthquake for example, the emergency operations procedures would be followed to isolate the damaged sections, notify customers and immediately repair the damage.

Seismic Risk Assessment and Mitigation Plan

The CWC requires the WSCP to include a seismic risk assessment and mitigation plan to assess the vulnerability of each water facility. Per CWC Section 10632.5 (c), this requirement is met by the Contra Costa County Hazard Mitigation plan.

Shortage Response Action Effectiveness

The CWC Section 10632(a)(4)(E) requires the water supplier to estimate the projected reduction of each shortage response action to close the gap between supplies and demand. Estimated water use reduction is shown above in **Table 8-2**.

8.5. Communication Protocols

The CWC Section 10632 (a)(5)(A) requires the TODB to notify all customers and stakeholders of any anticipated water shortages as result of the annual water supply and demand assessment. Per, the CWC Section 10632 (a)(5)(B), the TODB will also notify all customers and stakeholders if any shortage response actions are triggered pursuant to the annual water supply and demand assessment. In the event of an anticipated water shortage, the TODB will inform customers through newsletters and messages on the TODB website, water bill inserts, direct mail (e.g. post cards), newspapers, press releases, advertising, social media (Nextdoor app), mobile electronic street sign and community workshops and meetings as shown below in **Table 8-5**.



Table 8-5. Communication Protocol for Each Level		
Level No.	Water Supply Conditions	Communication Method
I - Voluntary	Normal to Minimum (0 to 10%)	None
II – Mandatory Conservation	Moderate (11 to 20%)	Bill Insert, Newsletter, Website
III - Rationing	Severe (21 to 30%)	Same as above plus: direct mail, newspaper, press release, advertising, social media, mobile electronic sign
IV – Intense Rationing	Critical (31 to 40%)	Same as above, plus: community workshop and meetings
V - Restrictions/Allocations	Critical (41 to 50%)	Same as above
VI - Restrictions/Allocations	Catastrophic (> 50%)	Same as above

8.6. Compliance and Enforcement

CWC Section 10632 (a)(6) requires a water supplier to penalize or charge for excessive use, where applicable. In accordance with the TODB Ordinance No. 2016-27, when a water shortage emergency is declared, the General Manager may issue a Notice of Violation to any customer that fails to comply with the conditions of the ordinance. After one notice has been issued further violations shall be punishable by a fine of: \$25 for a first violation; \$50 for a second violation; \$100 for a third violation; and \$500 for a fourth violation and any subsequent violation thereafter. Furthermore, each day upon which any condition of the ordinance is violated constitutes a separate violation.

During severe and critical water shortages (Stages III, IV, V and VI), there will be additional charges applied for excessive water use. During these water shortages, the General Manager may take further actions if violations continue after the one written warning, such as installing a flow-restricting device on the service line, or termination of service for repeated violations of unauthorized water use. **Table 8-2** shows the stages when penalties and charges take effect.

In accordance with the TODB Ordinance No. 2016-27, violations or fines may be appealed for reconsideration. Appeals for reconsideration shall be processed as indicated in the TODB Ordinance No. 2016-27.

8.7. Legal Authorities

Per the TODB Drought Regulation, Ordinance No. 2016-27, the TODB has the authority to implement the water response actions presented in the WSCP.



The TODB shall declare a water shortage emergency as required depending on the severity of the water shortage level in accordance with CWC Chapter 3, Sections 350 through 359.

The TODB shall coordinate with Contra Costa County for the possible proclamation of a local water supply emergency per California Government Code, California Emergency Services Act, Article 2, Section 8558.

8.8. Financial Consequences of WSCP

CWC Section 10632 (a)(8) requires a description of the impacts of consumption reduction on the revenues and expenditures of the water supplier. The TODB will establish an accounting system for tracking expenses and revenue shortfalls associated with voluntary and mandatory water use reductions. The TODB maintains reserve funds that can be used to offset expenditure impacts during times of emergency. The TODB will implement a surcharge to recover unmitigated revenue shortfalls.

8.9. Monitoring and Reporting

Per CWC Section 10632 (a)(9), the TODB will monitor and report on the implementation of the WSCP. Monthly water production and metered water use data will be collected, tracked and analyzed to monitor compliance and meet state reporting requirements. The State Water Resources Control Board is in the process of preparing regulations for regular monthly water use reporting by urban water suppliers.

8.10. WSCP Refinement Procedures

Per CWC Section 10632 (a) (10), the TODB may choose to refine the WSCP based on monitoring and reporting of data collected. Based on analysis of the data collected, the TODB may choose to modify or add consumption reduction methods to more accurately meet water level targets. Any updates to the WSCP will be approved by the Board of Directors as needed to maintain an effective water shortage response plan for the community.

8.11. Special Water Feature Distinction

Per CWC Section 10632 (b), the TODB shall analyze and define water features in the WSCP that are artificially supplied with water, including, ponds, fountains, etc. separately from pools and spas as defined by subdivision (a) of Section 115921 of the Health and Safety Code. Pools and spas must use potable water whereas ponds, fountains and other water features may be able to use recycled water.



8.12. Plan Adoption, Submittal and Availability

Per the CWC, the following steps will be performed prior to adoption of the WSCP:

- The TODB will issue a notification of a public hearing to customers, the county and public.
- The TODB will publish in a local newspaper for two consecutive weeks notification of the public hearing.
- The TODB shall hold a public hearing to obtain public input.
- Following the public hearing or at a subsequent Board meeting, the Board of Directors shall formally adopt the WSCP.
- Per CWC Section 10632 (a)(c), the TODB will make the WSCP available on the TODB's website, <https://www.todb.ca.gov/>, within 30 days of adoption by the Board of Directors.

CHAPTER 9.

DEMAND MANAGEMENT MEASURES

9.1. Existing Demand Management Measures for Retail Suppliers

9.1.1. Water Waste Prevention Ordinances

On September 3, 2014, the TODB enacted an ordinance on waste prohibition and assess fines for repeat offenders (Ordinance No. 25 Establishing Emergency Drought Regulations). This ordinance was updated in 2016 with the Drought Regulation Ordinance No. 2016-27, see **Appendix F**.

The TODB has also established the WSCP that defines further prohibitions to be implemented in the event of a water shortage emergency affecting the District's supply wells including a reduction greater than 50%.

If reductions of system water use are needed, the District will approach Contra Costa County to consider implementation of a landscape ordinance based on the State issued Model Water Efficient Landscape Ordinance (MWELO) that would require landscape permit, plan check, or design review for new and rehabilitated landscape areas that exceed a minimum square footage. The TODB does not have the authority to implement this themselves, therefore a County Ordinance and implementation is required.

In June 2016, during a revision of the Emergency Drought Regulations, the TODB petitioned for a self-certified conservation standard of 0% to which was conducted in conformance with the State of California Water Supply Reliability Certification and Data Submission Form and was supported by a technical evaluation of groundwater conditions by LSCE (**Appendix F**). While the TODB currently has a 0% water conservation standard with regard to the Emergency Drought Regulations, the TODB has also adopted a voluntary water conservation goal of up to 10% for the community.

9.1.2. Metering

The TODB began retrofitting existing residential meters in 2008 and has been fully metered since 2018. The TODB's program for metering with commodity rates has been implemented for all customer classes. The metering with commodity rates consists of: require meters on all services, read meters and bill on volume use, bill bi-monthly or more frequently, establish a program to test, repair and/or replace meters, and consider splitting mixed-use commercial and landscape meters to have a dedicated landscape meter.

9.1.3. Conservation Pricing

This measure relates with Section 9.1.2 (metering with commodity rates) and focuses on setting a rate structure with a price signal to customers to use water efficiently. In general, conservation-



pricing models involve setting a commodity rate structure such that a significant portion of the total revenue comes from the volumetric billing as compared to the fixed rate charges. However, each agency is unique in how rates are set, and professional studies are required to determine the rate case most applicable for each agency. The TODB completed a rate case study in 2020. The TODB “charges a fixed meter fee based on the size of the meter plus a volume rate billed to each 100 cubic feet (CCF) of water used” (Water and Wastewater Rate Study, June 2020).

9.1.4. Public Education and Outreach

The TODB has an ongoing public information program to promote water conservation by informing customers about the needs and benefits of water conservation. The public information program generally consists of the following methods for disseminating information: providing customers with bill inserts, using paid public advertising, providing information via a link on the TODB’s website (www.todb.ca.gov), providing year-to-year comparisons in customer water bills, sending out a newsletter twice per year, and a portable digital message board that is moved throughout town to display water conservation messages and information. The digital message board is used to display reminders about conservation and setting irrigation timers during summer months, and reminders about water use prohibitions during droughts or water shortages. Messaging and public information will need to be continually updated based on public input and staff training in water conservation techniques.

The District participates in the TODB’s annual Earth Day Fair by staffing a booth for outreach to local teachers and students regarding the water and wastewater services provided by the District. Pamphlets and other materials about water supply and water saving tips are distributed. The District provides additional information on request to teachers and school administrators to help them create educational programs regarding water conservation. Additionally, the District makes staff available on request for school tours of its wastewater treatment plant.

The TODB makes available District staff to provide residents with free home water use auditing at the request of customers. With completion of the water meter project, the top 5% of water users can be identified and personally offered this free service to help them reduce usage. This audit includes leak detection assistance, conservation survey of home appliances, recommending repairs, and water use efficiency techniques for landscape practices and irrigation timers. During a home survey, the TODB will identify toilets, washing machines and plumbing fixture replacements that could reduce household water use and provide residents with estimated water savings. The TODB also discusses use of weather-based irrigation controllers and how to program irrigation timers. The District will compose an inspection list to complete this task.

9.1.5. Programs to Assess and Manage Distribution System Real Loss

Currently, the District visually monitors the system with a focus on areas with older pipelines and immediately repairs any leaks that are identified. Current estimates of water system



unaccounted losses range from 11-13% of total production, which are attributed to pipe breaks, pipe leakage, and flushing programs. Whenever pipe leaks are identified and repaired, the District documents and keeps a record of the pipe material, condition, and location to identify areas of higher failure probability, which are used in developing and updating the pipe replacement programs. Two pipe replacement projects are planned for 2021 to improve fire flows and reduce leakage.

9.1.6. Water Conservation Program Coordination and Staffing Support

The TODB has designated a staff member to be responsible for coordinating water conservation program management, tracking, planning, and reporting on the DMM implementation. The designated water conservation coordinator is the Water and Wastewater Manager. The water conservation coordinator works with other staff, customers, and stakeholders to implement the water conservation program.

9.1.7. Other Demand Management Measures

As a result of the water metering project, individual customer usage can now be tracked. The installation of meters allows the District and customers to view their usage and to receive an alert if unusually high usage due to leaks, etc. is detected at their service connection thereby reducing the loss of water due to unknown circumstances.

9.2. Implementation over the Past Five Years

9.2.1. Water Waste Prevention Ordinances

On July 6, 2016, the TODB enacted Drought Regulation Ordinance No. 2016-27 which amended Ordinance No. 25 Establishing Emergency Drought Regulations. The amended ordinance enacts waste prohibition, declares a water shortage emergency and assesses fines for repeat offenders, see **Appendix F**.

9.2.2. Metering

Meters of all service connections was completed in 2018.

9.2.3. Conservation Pricing

A water rate study was completed in 2020 and the next rate study is scheduled for 2025.

9.2.4. Public Education and Outreach

Upon request of the customers, the TODB conducts a free home water use audit to assist with identifying potential water saving items. Results are entered into the customer file.



The TODB continues to update customers on water conservation activities and improve targeted messaging via the TODB website and the other forms discussed above.

9.2.5. Programs to Assess and Manage Distribution System Real Loss

The District monitors areas of high leak frequency and updates the pipe replacement program as warranted by leak frequency and cause. The TODB performs an annual water audit of the system.

9.2.6. Water Conservation Program Coordination and Staffing Support

The water conservation coordinator works with other staff, customers and stakeholders to implement the water conservation program.

9.2.7. Other Demand Management Measures

District staff routinely patrol the service area. If staff notice water runoff from private property, the owner is approached to help correct the problem. This reduces excessive water use, particularly during the high demand periods in the summer.

9.3. Planned Implementation to Achieve Water Use Targets

9.3.1. Water Waste Prevention Ordinances

During a water shortage emergency, waste prohibitions are declared by the Board of Directors and administered, implemented, and enforced by the General Manager. Water savings would be assessed during a water shortage emergency based on tracking total production and individual metered accounts. Implementing prohibitions will save water from 0-50% when the prohibitions are enforced during a water shortage emergency.

9.3.2. Metering

The TODB successfully completed installation of meters for all customers in 2018 and installs meters on all new service connections.

9.3.3. Conservation Pricing

The 2016 rate study assumed an average monthly residential use of 15 ccf. The 2020 rate study indicated the average monthly residential water use based on billing records is 13 ccf. The next rate study will occur in 2025.



9.3.4. Public Education and Outreach

The TODB will hold workshops with local school administrators and teachers to develop grade-appropriate material.

9.3.5. Programs to Assess and Manage Distribution System Real Loss

The District monitors areas of high leak frequency and updates the pipe replacement program as warranted by leak frequency and cause. The District will continue to perform annual water audits.

9.3.6. Water Conservation Program Coordination and Staffing Support

The water conservation coordinator works with other staff, customers and stakeholders to implement the water conservation program.

9.3.7. Other Demand Management Measures

The District will continue to informally patrol the service area to find and address water runoff from private property to reduce unnecessary water use, particularly during the summer months.

The District is also relying on water use related regulations to maintain per capita use in the future below its 2020 water use target with some examples listed below.

1. **The Water Conservation in Landscaping Act** (AB 1881, approved September 28, 2006, updated last in 2015) – This legislation mandates the adoption of a water conservation landscape ordinance with specific provisions for landscape design, construction, and maintenance of public and private developments (with landscapes greater than 2,500 sq. ft.) for the purpose of conserving water with an allowable landscape water budget parameter of 0.55 ETo (translates to inches of water applied).
2. **2008 California Green Building Standards Code** (California Building Standards Code, Title 24, adopted July, 2008, last updated in 2016) – These changes to the California Building Code include adoption of mandatory water conservation measures for residential and non-residential development, requiring the use of water conservation building practices, including but not limited to, low-flow rate plumbing fixtures (to achieve a 20% reduction of indoor water use), and moisture sensing irrigation controllers.
3. **Property Transfers: Replacement of Plumbing Fixtures** (SB 407, adopted October 12, 2009) – This legislation requires that all existing commercial, residential and multi-family buildings in California built before 1994 be retrofitted to meet high efficiency water use standards by January 1, 2017 or 2019, depending on the type of structure. Encourages plumbing fixture conversion through time-of-sale regulation.
4. **Water Loss Control: Annual Validated Audits/Performance Standards** (SB 555, adopted in 2015) – This legislation requires that all existing urban water suppliers conduct annual



distribution system water audits, validate annual audits, and develop performance standards to reduce water losses as a result of providing water to customers.

5. **Urban Water Use Targets: Residential, CII, Water Loss Control and Additional Per Capita Water Use Targets beyond 2020** (Water Conservation Legislation, AB 1668/SB 606, adopted in 2018) – This legislation requires the development of new water use standards for indoor and outdoor residential water uses, CII irrigation water use, and water loss for existing urban water suppliers. Once these new standards are adopted urban water suppliers will need to plan their DMMs carefully to ensure compliance in a timely manner.

9.4. Water Use Objectives (Future Requirements)

The California Water Code requires that urban water suppliers (UWS) develop new water use objectives that are based on specific standards for certain water use sectors. These water use objectives will not be developed until 2023, and the first report will require information on what DMMs water agencies will implement to meet their water management objectives. The District will consider aligning its conservation management actions with the changing urban water use trends observed since 2005 in order to consider these potential future requirements.

Table 9-1 below are the water use objectives the District is tracking and evaluating for incorporation into its long term water use efficiency program. Some of these activities will be implemented when State actions and policy updates are adopted by DWR and/or the SWRCB. Until then the District will prepare for future requirements and stay updated on new water use objectives for urban water suppliers (UWS) to address in their long-term water use efficiency programs.



Table 9-1. Overview of Future Water Use Objectives Subject To Review and Approval By DWR/SWRCB		
Water Use Objective	Objective Criteria	Action
Water Loss Control	Performance Standards for UWS by SWRCB	Complying With SB 555 provisions and developing programs to reduce District total water losses
Residential Indoor Water Use	Consider reducing indoor standard from 55 to 50 gpcd by 2030	District working to encourage customer older plumbing fixture and appliance conversions to current Green Code Standards
Residential Outdoor Water Use	Consider reducing outdoor use based on water budget approach	District converting irrigation uses to non-potable sources and implemented conservation-oriented rate structure
CII Water Uses	Consider standards for CII users	District evaluating CII uses and possible measures pending updated State policy
GPCD Water Use Targets	Consider additional targets beyond 20x2020 criteria	District planning to meet current water use target reliably and will re-assess pending updated State policy
Implement Smart Metering System	AMI or equivalent metering system deployment	District is working on the implementation of its AMI Metering System Upgrade Project with 2025 delivery

The District will be prepared to address additional water use objectives based on State policy updates and resource management objectives.

CHAPTER 10.

PLAN ADOPTION, SUBMITTAL, AND IMPLEMENTATION

10.1. Inclusion of All 2020 Data

This 2020 UWMP has been completed utilizing all data available through the end of the 2019/2020 fiscal year.

10.2. Notice of Public Hearing

The water districts, cities, and counties listed in **Table 10-1** were sent a 60-day notice of the TODB's intent to update its UWMP in 2020. Additionally, these entities were sent a notice of public hearing for comment. The public notice was made in local newspapers and on the TODB's website. Copies of the UWMP and WSCP public notices are included in **Appendix G**.

The public hearing was used to discuss the present and proposed future measures, programs, and policies in this 2020 UWMP to help achieve the water use reductions and present the per-capita water use goals.

10.3. Public Hearing and Adoption

For this 2020 UWMP, the TODB will notify applicable agencies listed in **Table 10-1**, at least 60 days in advance, that a public hearing will be held to review and consider any changes to the draft 2020 UWMP. The TODB intends to adopt this 2020 UWMP following the public hearing. The final 2020 UWMP will include a copy of the Public Hearing and Board resolution in **Appendix H** (to be included after the public hearing and adoption).

The public hearing will be used to discuss the present and proposed future measures, programs, and policies in the UWMP to help achieve the water use reductions and present the per-capita water use reduction goal.

Once the 2020 UWMP is adopted, the UWMP will be implemented. In general, the implementation of the elements of this UWMP involve continued water supply monitoring (groundwater levels and quality), monitoring of water demand, enacting water shortage contingency plans when necessary, in response to water shortages, and implementing water conservation and tracking demand reduction through the strategies and schedules described for DMMs.

Through the same process, the District held a public hearing to receive comments on the draft WSCP on March 3, 2021. No comments were received prior to or at the public hearing. Following the public hearing the District adopted the WSCP. The adoption resolution is included in **Appendix H**.



Table 10-1 Retail: Notification to Cities and Counties		
City Name	60 Day Notice	Notice of Public Hearing
City of Brentwood		X
Contra Costa Water District		X
East Contra Costa Irrigation District		X
Diablo Water District		X
General Public	X	X
County Name	60 Day Notice	Notice of Public Hearing
Contra Costa County		X

10.4. Plan Submittal

10.4.1. Submitting a UWMP to DWR

This 2020 UWMP, within 30 days of adoption by the TODB, will be submitted to DWR for review and determination if it addresses the requirements of the CWC.

10.4.2. Electronic Data Submittal

This 2020 UWMP will be submitted to DWR via the Water Use Efficiency (WUE) data online submittal tool.

10.4.3. Submitting a UWMP to the California State Library

This 2020 UWMP will be submitted to the California State Library via CD or mail within 30 days of adoption by the TODB and approval by DWR. The address of the California State Library is:

California State Library
Government Publications Section
P.O. Box 942837
Sacramento, CA 94237-0001
Attention: Coordinator, Urban Water Management Plans



10.4.4. Submitting a UWMP to Cities and Counties

The District provides water only to the TODB. No other cities or counties receive water from the District. This 2020 UWMP will be available for download to any interested parties at the TODB's website.

10.5. Public Availability

The UWMP and the WSCP will be made available for viewing by the public on the TODB's website. Additionally, hard copies will be available in the District's office for public viewing during normal business hours.

10.6. Amending an Adopted UWMP

If the TODB determines that this 2020 UWMP needs to be amended, all steps for notification, public hearings, adoption, and submittal outlined in Chapter 10 will be followed.

CHAPTER 11. LIMITATIONS

Luhdorff & Scalmanini, Consulting Engineers (LSCE) prepared this document solely for the TODB in accordance with professional standards at the time the services were performed and in accordance with the contract between the TODB and LSCE dated June 1, 2020. This document is governed by the specific scope of work authorized by the TODB; it is not intended to be relied upon by any other party except for regulatory authorities contemplated by the scope of work. We have relied on information or instructions provided by the TODB and other parties and, unless otherwise expressly indicated, have made no independent investigation as to the validity, completeness, or accuracy of such information.

Appendix A
UWMP Checklist

Appendix F: UWMP Checklist

Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (Optional Column for Agency Review Use)
x	x	Chapter 1	10615	A plan shall describe and evaluate sources of supply, reasonable and practical efficient uses, reclamation and demand management activities.	Introduction and Overview	
x	x	Chapter 1	10630.5	Each plan shall include a simple description of the supplier’s plan including water availability, future requirements, a strategy for meeting needs, and other pertinent information. Additionally, a supplier may also choose to include a simple description at the beginning of each chapter.	Summary	
x	x	Section 2.2	10620(b)	Every person that becomes an urban water supplier shall adopt an urban water management plan within one year after it has become an urban water supplier.	Plan Preparation	

Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (Optional Column for Agency Review Use)
x	x	Section 2.6	10620(d)(2)	Coordinate the preparation of its plan with other appropriate agencies in the area, including other water suppliers that share a common source, water management agencies, and relevant public agencies, to the extent practicable.	Plan Preparation	
x	x	Section 2.6.2	10642	Provide supporting documentation that the water supplier has encouraged active involvement of diverse social, cultural, and economic elements of the population within the service area prior to and during the preparation of the plan and contingency plan.	Plan Preparation	
x		Section 2.6, Section 6.1	10631(h)	Retail suppliers will include documentation that they have provided their wholesale supplier(s) - if any - with water use projections from that source.	System Supplies	

Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (Optional Column for Agency Review Use)
	x	Section 2.6	10631(h)	Wholesale suppliers will include documentation that they have provided their urban water suppliers with identification and quantification of the existing and planned sources of water available from the wholesale to the urban supplier during various water year types.	System Supplies	
x	x	Section 3.1	10631(a)	Describe the water supplier service area.	System Description	
x	x	Section 3.3	10631(a)	Describe the climate of the service area of the supplier.	System Description	
x	x	Section 3.4	10631(a)	Provide population projections for 2025, 2030, 2035, 2040 and optionally 2045.	System Description	
x	x	Section 3.4.2	10631(a)	Describe other social, economic, and demographic factors affecting the supplier's water management planning.	System Description	
x	x	Sections 3.4 and 5.4	10631(a)	Indicate the current population of the service area.	System Description and Baselines and Targets	
x	x	Section 3.5	10631(a)	Describe the land uses within the service area.	System Description	

Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (Optional Column for Agency Review Use)
x	x	Section 4.2	10631(d)(1)	Quantify past, current, and projected water use, identifying the uses among water use sectors.	System Water Use	
x	x	Section 4.2.4	10631(d)(3)(C)	Retail suppliers shall provide data to show the distribution loss standards were met.	System Water Use	
x	x	Section 4.2.6	10631(d)(4)(A)	In projected water use, include estimates of water savings from adopted codes, plans, and other policies or laws.	System Water Use	
x	x	Section 4.2.6	10631(d)(4)(B)	Provide citations of codes, standards, ordinances, or plans used to make water use projections.	System Water Use	
x	optional	Section 4.3.2.4	10631(d)(3)(A)	Report the distribution system water loss for each of the 5 years preceding the plan update.	System Water Use	
x	optional	Section 4.4	10631.1(a)	Include projected water use needed for lower income housing projected in the service area of the supplier.	System Water Use	
x	x	Section 4.5	10635(b)	Demands under climate change considerations must be included as part of the drought risk assessment.	System Water Use	

Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (Optional Column for Agency Review Use)
x		Chapter 5	10608.20(e)	Retail suppliers shall provide baseline daily per capita water use, urban water use target, interim urban water use target, and compliance daily per capita water use, along with the bases for determining those estimates, including references to supporting data.	Baselines and Targets	
x		Chapter 5	10608.24(a)	Retail suppliers shall meet their water use target by December 31, 2020.	Baselines and Targets	
	x	Section 5.1	10608.36	Wholesale suppliers shall include an assessment of present and proposed future measures, programs, and policies to help their retail water suppliers achieve targeted water use reductions.	Baselines and Targets	
x		Section 5.2	10608.24(d)(2)	If the retail supplier adjusts its compliance GPCD using weather normalization, economic adjustment, or extraordinary events, it shall provide the basis for, and data supporting the adjustment.	Baselines and Targets	

Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (Optional Column for Agency Review Use)
x		Section 5.5	10608.22	Retail suppliers' per capita daily water use reduction shall be no less than 5 percent of base daily per capita water use of the 5-year baseline. This does not apply if the suppliers base GPCD is at or below 100.	Baselines and Targets	
x		Section 5.5 and Appendix E	10608.4	Retail suppliers shall report on their compliance in meeting their water use targets. The data shall be reported using a standardized form in the SBX7-7 2020 Compliance Form.	Baselines and Targets	
x	x	Sections 6.1 and 6.2	10631(b)(1)	Provide a discussion of anticipated supply availability under a normal, single dry year, and a drought lasting five years, as well as more frequent and severe periods of drought.	System Supplies	
x	x	Sections 6.1	10631(b)(1)	Provide a discussion of anticipated supply availability under a normal, single dry year, and a drought lasting five years, as well as more frequent and severe periods of drought, <i>including changes in supply due to climate change.</i>	System Supplies	

Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (Optional Column for Agency Review Use)
x	x	Section 6.1	10631(b)(2)	When multiple sources of water supply are identified, describe the management of each supply in relationship to other identified supplies.	System Supplies	
x	x	Section 6.1.1	10631(b)(3)	Describe measures taken to acquire and develop planned sources of water.	System Supplies	
x	x	Section 6.2.8	10631(b)	Identify and quantify the existing and planned sources of water available for 2020, 2025, 2030, 2035, 2040 and optionally 2045.	System Supplies	
x	x	Section 6.2	10631(b)	Indicate whether groundwater is an existing or planned source of water available to the supplier.	System Supplies	
x	x	Section 6.2.2	10631(b)(4)(A)	Indicate whether a groundwater sustainability plan or groundwater management plan has been adopted by the water supplier or if there is any other specific authorization for groundwater management. Include a copy of the plan or authorization.	System Supplies	
x	x	Section 6.2.2	10631(b)(4)(B)	Describe the groundwater basin.	System Supplies	

Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (Optional Column for Agency Review Use)
x	x	Section 6.2.2	10631(b)(4)(B)	Indicate if the basin has been adjudicated and include a copy of the court order or decree and a description of the amount of water the supplier has the legal right to pump.	System Supplies	
x	x	Section 6.2.2.1	10631(b)(4)(B)	For unadjudicated basins, indicate whether or not the department has identified the basin as a high or medium priority. Describe efforts by the supplier to coordinate with sustainability or groundwater agencies to achieve sustainable groundwater conditions.	System Supplies	
x	x	Section 6.2.2.4	10631(b)(4)(C)	Provide a detailed description and analysis of the location, amount, and sufficiency of groundwater pumped by the urban water supplier for the past five years	System Supplies	
x	x	Section 6.2.2	10631(b)(4)(D)	Provide a detailed description and analysis of the amount and location of groundwater that is projected to be pumped.	System Supplies	
x	x	Section 6.2.7	10631(c)	Describe the opportunities for exchanges or transfers of water on a short-term or long- term basis.	System Supplies	

Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (Optional Column for Agency Review Use)
x	x	Section 6.2.5	10633(b)	Describe the quantity of treated wastewater that meets recycled water standards, is being discharged, and is otherwise available for use in a recycled water project.	System Supplies (Recycled Water)	
x	x	Section 6.2.5	10633(c)	Describe the recycled water currently being used in the supplier's service area.	System Supplies (Recycled Water)	
x	x	Section 6.2.5	10633(d)	Describe and quantify the potential uses of recycled water and provide a determination of the technical and economic feasibility of those uses.	System Supplies (Recycled Water)	
x	x	Section 6.2.5	10633(e)	Describe the projected use of recycled water within the supplier's service area at the end of 5, 10, 15, and 20 years, and a description of the actual use of recycled water in comparison to uses previously projected.	System Supplies (Recycled Water)	
x	x	Section 6.2.5	10633(f)	Describe the actions which may be taken to encourage the use of recycled water and the projected results of these actions in terms of acre-feet of recycled water used per year.	System Supplies (Recycled Water)	

Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (Optional Column for Agency Review Use)
x	x	Section 6.2.5	10633(g)	Provide a plan for optimizing the use of recycled water in the supplier's service area.	System Supplies (Recycled Water)	
x	x	Section 6.2.6	10631(g)	Describe desalinated water project opportunities for long-term supply.	System Supplies	
x	x	Section 6.2.5	10633(a)	Describe the wastewater collection and treatment systems in the supplier's service area with quantified amount of collection and treatment and the disposal methods.	System Supplies (Recycled Water)	
x	x	Section 6.2.8, Section 6.3.7	10631(f)	Describe the expected future water supply projects and programs that may be undertaken by the water supplier to address water supply reliability in average, single-dry, and for a period of drought lasting 5 consecutive water years.	System Supplies	
x	x	Section 6.4 and Appendix O	10631.2(a)	The UWMP must include energy information, as stated in the code, that a supplier can readily obtain.	System Suppliers, Energy Intensity	

Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (Optional Column for Agency Review Use)
x	x	Section 7.2	10634	Provide information on the quality of existing sources of water available to the supplier and the manner in which water quality affects water management strategies and supply reliability	Water Supply Reliability Assessment	
x	x	Section 7.2.4	10620(f)	Describe water management tools and options to maximize resources and minimize the need to import water from other regions.	Water Supply Reliability Assessment	
x	x	Section 7.3	10635(a)	Service Reliability Assessment: Assess the water supply reliability during normal, dry, and a drought lasting five consecutive water years by comparing the total water supply sources available to the water supplier with the total projected water use over the next 20 years.	Water Supply Reliability Assessment	
x	x	Section 7.3	10635(b)	Provide a drought risk assessment as part of information considered in developing the demand management measures and water supply projects.	Water Supply Reliability Assessment	

Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (Optional Column for Agency Review Use)
x	x	Section 7.3	10635(b)(1)	Include a description of the data, methodology, and basis for one or more supply shortage conditions that are necessary to conduct a drought risk assessment for a drought period that lasts 5 consecutive years.	Water Supply Reliability Assessment	
x	x	Section 7.3	10635(b)(2)	Include a determination of the reliability of each source of supply under a variety of water shortage conditions.	Water Supply Reliability Assessment	
x	x	Section 7.3	10635(b)(3)	Include a comparison of the total water supply sources available to the water supplier with the total projected water use for the drought period.	Water Supply Reliability Assessment	
x	x	Section 7.3	10635(b)(4)	Include considerations of the historical drought hydrology, plausible changes on projected supplies and demands under climate change conditions, anticipated regulatory changes, and other locally applicable criteria.	Water Supply Reliability Assessment	
x	x	Chapter 8	10632(a)	Provide a water shortage contingency plan (WSCP) with specified elements below.	Water Shortage Contingency Planning	

Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (Optional Column for Agency Review Use)
x	x	Chapter 8	10632(a)(1)	Provide the analysis of water supply reliability (from Chapter 7 of Guidebook) in the WSCP	Water Shortage Contingency Planning	
x	x	Section 8.10	10632(a)(10)	Describe reevaluation and improvement procedures for monitoring and evaluation the water shortage contingency plan to ensure risk tolerance is adequate and appropriate water shortage mitigation strategies are implemented.	Water Shortage Contingency Planning	
x	x	Section 8.2	10632(a)(2)(A)	Provide the written decision-making process and other methods that the supplier will use each year to determine its water reliability.	Water Shortage Contingency Planning	
x	x	Section 8.2	10632(a)(2)(B)	Provide data and methodology to evaluate the supplier's water reliability for the current year and one dry year pursuant to factors in the code.	Water Shortage Contingency Planning	

Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (Optional Column for Agency Review Use)
x	x	Section 8.3	10632(a)(3)(A)	Define six standard water shortage levels of 10, 20, 30, 40, 50 percent shortage and greater than 50 percent shortage. These levels shall be based on supply conditions, including percent reductions in supply, changes in groundwater levels, changes in surface elevation, or other conditions. The shortage levels shall also apply to a catastrophic interruption of supply.	Water Shortage Contingency Planning	
x	x	Section 8.3	10632(a)(3)(B)	Suppliers with an existing water shortage contingency plan that uses different water shortage levels must cross reference their categories with the six standard categories.	Water Shortage Contingency Planning	
x	x	Section 8.4	10632(a)(4)(A)	Suppliers with water shortage contingency plans that align with the defined shortage levels must specify locally appropriate supply augmentation actions.	Water Shortage Contingency Planning	
x	x	Section 8.4	10632(a)(4)(B)	Specify locally appropriate demand reduction actions to adequately respond to shortages.	Water Shortage Contingency Planning	

Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (Optional Column for Agency Review Use)
x	x	Section 8.4	10632(a)(4)(C)	Specify locally appropriate operational changes.	Water Shortage Contingency Planning	
x	x	Section 8.4	10632(a)(4)(D)	Specify additional mandatory prohibitions against specific water use practices that are in addition to state-mandated prohibitions are appropriate to local conditions.	Water Shortage Contingency Planning	
x	x	Section 8.4	10632(a)(4)(E)	Estimate the extent to which the gap between supplies and demand will be reduced by implementation of the action.	Water Shortage Contingency Planning	
x	x	Section 8.4.6	10632.5	The plan shall include a seismic risk assessment and mitigation plan.	Water Shortage Contingency Plan	
x	x	Section 8.5	10632(a)(5)(A)	Suppliers must describe that they will inform customers, the public and others regarding any current or predicted water shortages.	Water Shortage Contingency Planning	
x	x	Section 8.5 and 8.6	10632(a)(5)(B) 10632(a)(5)(C)	Suppliers must describe that they will inform customers, the public and others regarding any shortage response actions triggered or anticipated to be triggered and other relevant communications.	Water Shortage Contingency Planning	

Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (Optional Column for Agency Review Use)
x		Section 8.6	10632(a)(6)	Retail supplier must describe how it will ensure compliance with and enforce provisions of the WSCP.	Water Shortage Contingency Planning	
x	x	Section 8.7	10632(a)(7)(A)	Describe the legal authority that empowers the supplier to enforce shortage response actions.	Water Shortage Contingency Planning	
x	x	Section 8.7	10632(a)(7)(B)	Provide a statement that the supplier will declare a water shortage emergency Water Code Chapter 3.	Water Shortage Contingency Planning	
x	x	Section 8.7	10632(a)(7)(C)	Provide a statement that the supplier will coordinate with any city or county within which it provides water for the possible proclamation of a local emergency.	Water Shortage Contingency Planning	
x	x	Section 8.8	10632(a)(8)(A)	Describe the potential revenue reductions and expense increases associated with activated shortage response actions.	Water Shortage Contingency Planning	
x	x	Section 8.8	10632(a)(8)(B)	Provide a description of mitigation actions needed to address revenue reductions and expense increases associated with activated shortage response actions.	Water Shortage Contingency Planning	

Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (Optional Column for Agency Review Use)
x		Section 8.8	10632(a)(8)(C)	Retail suppliers must describe the cost of compliance with Water Code Chapter 3.3: Excessive Residential Water Use During Drought	Water Shortage Contingency Planning	
x		Section 8.9	10632(a)(9)	Retail suppliers must describe the monitoring and reporting requirements and procedures that ensure appropriate data is collected, tracked, and analyzed for purposes of monitoring customer compliance.	Water Shortage Contingency Planning	
x		Section 8.11	10632(b)	Analyze and define water features that are artificially supplied with water, including ponds, lakes, waterfalls, and fountains, separately from swimming pools and spas.	Water Shortage Contingency Planning	
x	x	Sections 8.12 and 10.4	10635(c)	Provide supporting documentation that Water Shortage Contingency Plan has been, or will be, provided to any city or county within which it provides water, no later than 30 days after the submission of the plan to DWR.	Plan Adoption, Submittal, and Implementation	

Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (Optional Column for Agency Review Use)
x	x	Section 8.14	10632(c)	Make available the Water Shortage Contingency Plan to customers and any city or county where it provides water within 30 after adopted the plan.	Water Shortage Contingency Planning	
	x	Sections 9.1 and 9.3	10631(e)(2)	Wholesale suppliers shall describe specific demand management measures listed in code, their distribution system asset management program, and supplier assistance program.	Demand Management Measures	
x		Sections 9.2 and 9.3	10631(e)(1)	Retail suppliers shall provide a description of the nature and extent of each demand management measure implemented over the past five years. The description will address specific measures listed in code.	Demand Management Measures	
x		Chapter 10	10608.26(a)	Retail suppliers shall conduct a public hearing to discuss adoption, implementation, and economic impact of water use targets (recommended to discuss compliance).	Plan Adoption, Submittal, and Implementation	

Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (Optional Column for Agency Review Use)
x	x	Section 10.2.1	10621(b)	Notify, at least 60 days prior to the public hearing, any city or county within which the supplier provides water that the urban water supplier will be reviewing the plan and considering amendments or changes to the plan. Reported in Table 10-1.	Plan Adoption, Submittal, and Implementation	
x	x	Section 10.4	10621(f)	Each urban water supplier shall update and submit its 2020 plan to the department by July 1, 2021.	Plan Adoption, Submittal, and Implementation	
x	x	Sections 10.2.2, 10.3, and 10.5	10642	Provide supporting documentation that the urban water supplier made the plan and contingency plan available for public inspection, published notice of the public hearing, and held a public hearing about the plan and contingency plan.	Plan Adoption, Submittal, and Implementation	
x	x	Section 10.2.2	10642	The water supplier is to provide the time and place of the hearing to any city or county within which the supplier provides water.	Plan Adoption, Submittal, and Implementation	
x	x	Section 10.3.2	10642	Provide supporting documentation that the plan and contingency plan has been adopted as prepared or modified.	Plan Adoption, Submittal, and Implementation	

Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (Optional Column for Agency Review Use)
x	x	Section 10.4	10644(a)	Provide supporting documentation that the urban water supplier has submitted this UWMP to the California State Library.	Plan Adoption, Submittal, and Implementation	
x	x	Section 10.4	10644(a)(1)	Provide supporting documentation that the urban water supplier has submitted this UWMP to any city or county within which the supplier provides water no later than 30 days after adoption.	Plan Adoption, Submittal, and Implementation	
x	x	Sections 10.4.1 and 10.4.2	10644(a)(2)	The plan, or amendments to the plan, submitted to the department shall be submitted electronically.	Plan Adoption, Submittal, and Implementation	
x	x	Section 10.5	10645(a)	Provide supporting documentation that, not later than 30 days after filing a copy of its plan with the department, the supplier has or will make the plan available for public review during normal business hours.	Plan Adoption, Submittal, and Implementation	
x	x	Section 10.5	10645(b)	Provide supporting documentation that, not later than 30 days after filing a copy of its water shortage contingency plan with the department, the supplier has or will make the plan available for public review during normal business hours.	Plan Adoption, Submittal, and Implementation	

Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (Optional Column for Agency Review Use)
x	x	Section 10.6	10621(c)	If supplier is regulated by the Public Utilities Commission, include its plan and contingency plan as part of its general rate case filings.	Plan Adoption, Submittal, and Implementation	
x	x	Section 10.7.2	10644(b)	If revised, submit a copy of the water shortage contingency plan to DWR within 30 days of adoption.	Plan Adoption, Submittal, and Implementation	

Appendix B
DWR Standardized UWMP Data Tables

Table 2-1 Retail Only: Public Water Systems

Public Water System Number	Public Water System Name	Number of Municipal Connections 2020	Volume of Water Supplied 2020
CA 0710009	Town of Discovery Bay Community Services District	6,134	1,049
TOTAL		6,134	1,049

NOTES: 2020 connections based on DDW permit and DOF population data including any growth that occurred in DB during 2020.

Table 2-2: Plan Identification		
Select Only One	Type of Plan	Name of RUWMP or Regional Alliance <i>if applicable</i>
<input checked="" type="checkbox"/>	Individual UWMP	
	<input type="checkbox"/> Water Supplier is also a member of a RUWMP	
	<input type="checkbox"/> Water Supplier is also a member of a Regional Alliance	
<input type="checkbox"/>	Regional Urban Water Management Plan (RUWMP)	
NOTES: DB is a retail water agency who serves customers within its service area and is preparing an individual UWMP similar to its 2010 and 2015 UWMPs.		

Table 2-3: Supplier Identification	
Type of Supplier (select one or both)	
<input type="checkbox"/>	Supplier is a wholesaler
<input checked="" type="checkbox"/>	Supplier is a retailer
Fiscal or Calendar Year (select one)	
<input type="checkbox"/>	UWMP Tables are in calendar years
<input checked="" type="checkbox"/>	UWMP Tables are in fiscal years
If using fiscal years provide month and date that the fiscal year begins (mm/dd)	
Units of measure used in UWMP (select from drop down)	
Unit	MG
NOTES: MG = million gallons.	

Table 2-4 Retail: Water Supplier Information Exchange

The retail Supplier has informed the following wholesale supplier(s) of projected water use in accordance with Water Code Section 10631.

Wholesale Water Supplier Name

N/A

NOTES: DB is not a wholesale agency nor does it receive any water supplies from a wholesale agency.

Table 3-1 Retail: Population - Current and Projected						
Population Served	2020	2025	2030	2035	2040	2045(opt)
	15,575	18,637	21,587	24,537	28,285	32,606
NOTES: Population projections are based on proposed new developments planned during the 2020 UWMP planning horizon (2020-2045).						

Table 4-1 Retail: Demands for Potable and Non-Potable Water - Actual

Use Type <i>(Add additional rows as needed)</i>	2020 Actual		
	Additional Description	Level of Treatment When Delivered	Volume
Commercial		Drinking Water	18
Institutional/Governmental	Included in Commercial	Drinking Water	
Landscape		Drinking Water	161
Losses		Drinking Water	105
Other	Residential	Drinking Water	766
TOTAL			1,050
NOTES: Based on 2020 calendar year water consumption data for all user accounts in the TODB service			

Table 4-3 Retail: Total Gross Water Use (Potable and Non-Potable)

	2020	2025	2030	2035	2040	2045 (opt)
Potable Water, Raw, Other Non-potable <i>From Tables 4-1R and 4-2 R</i>	1,050	1,423	1,645	1,873	2,160	2,491
Recycled Water Demand* <i>From Table 6-4</i>	0	0	0	0	0	0
TOTAL WATER USE	1,050	1,423	1,645	1,873	2,160	2,491

**Recycled water demand fields will be blank until Table 6-4 is complete.*

NOTES: Total gross water use based on TODB water use of 209 gpcd in accordance with updated population projections.

Table 4-4 Retail: 12 Month Water Loss Audit Reporting	
Reporting Period Start Date (mm/yyyy)	Volume of Water Loss*
01/2015	91
07/2016	46
07/2017	57
07/2018	33
07/2019	102
* Taken from the field "Water Losses" (a combination of apparent losses and real losses) from the AWWA worksheet.	
NOTES: olume of water loss based on 2020 water audit conducted by TODB including real plus apparent losses.	

Table 4-5 Retail Only: Inclusion in Water Use Projections

<p>Are Future Water Savings Included in Projections? (Refer to Appendix K of UWMP Guidebook)</p>	<p>Yes</p>
<p>If "Yes" to above, state the section or page number, in the cell to the right, where citations of the codes, ordinances, etc... utilized in demand projections are found.</p>	<p>Chapter 4, Section 4.2</p>
<p>Are Lower Income Residential Demands Included In Projections?</p>	<p>Yes</p>
<p>NOTES: Future water savings are based on reductions in per capita water use from green code compliance of pre-1994 housing stock, water loss reductions, and improved irrigation efficiency. Lower income residential demands included in 2020 UWMP future demand projection calculations.</p>	

Table 5-1 Baselines and Targets Summary
Retail Supplier or Regional Alliance Only

Baseline Period	Start Year	End Year	Average Baseline GPCD*	Confirmed 2020 Target*
10-15 year	2001	2010	261	209
5 Year	2003	2007	264	
*All values are in Gallons per Capita per Day (GPCD)				
NOTES: 2020 water use target methodology similar to basis for determination in 2015 UWMP.				

Table 5-2: 2020 Compliance

Retail Supplier or Regional Alliance Only

Actual 2020 GPCD*	Optional Adjustments to 2020 GPCD Enter "0" if no adjustment is made. <i>From Methodology 8</i>					2020 GPCD* <i>(Adjusted if applicable)</i>	Did Supplier Achieve Targeted Reduction for 2020? Y/N
	Extraordinary Events*	Economic Adjustment*	Weather Normalization*	TOTAL Adjustments*	Adjusted 2020 GPCD*		
184				0	184	184	Yes
<i>*All values are in Gallons per Capita per Day (GPCD)</i>							
NOTES: DB met 2020 water use target of 209 gpcd every year from 2016 through 2020 based on total water production divided by population served							

Table 6-1 Retail: Groundwater Volume Pumped						
<input type="checkbox"/>	Supplier does not pump groundwater. The supplier will not complete the table below.					
<input type="checkbox"/>	All or part of the groundwater described below is desalinated.					
Groundwater Type	Location or Basin Name	2016	2017	2018	2019	2020
Alluvial Basin	East Contra Costa Subbasin of the San Joaquin Valley Groundwater Basin	829	911	916	888	1,050
TOTAL		829	911	916	888	1,050
NOTES: Based on total metered groundwater volume pumped from TODB wells from calendar year 2016 through calendar year 2020. Increases are due to population growth.						

Table 6-2 Retail: Wastewater Collected Within Service Area in 2020						
<input type="checkbox"/>	There is no wastewater collection system. The supplier will not complete the table below.					
100	Percentage of 2020 service area covered by wastewater collection system <i>(optional)</i>					
100	Percentage of 2020 service area population covered by wastewater collection system <i>(optional)</i>					
Wastewater Collection			Recipient of Collected Wastewater			
Name of Wastewater Collection Agency	Wastewater Volume Metered or Estimated?	Volume of Wastewater Collected from UWMP Service Area 2020	Name of Wastewater Treatment Agency Receiving Collected Wastewater	Treatment Plant Name	Is WWTP Located Within UWMP Area?	Is WWTP Operation Contracted to a Third Party? <i>(optional)</i>
Town of Discovery Bay Community Services District	Estimated	486	Town of Discovery Bay Community Services District	WWTP No. 1 and No. 2	Yes	Yes
Total Wastewater Collected from Service Area in 2020:		486				
NOTES: Total wastewater influent volume is based on metered flows received at WWTP (No. 1 and No. 2) from 1/1/2020 through 12/31/2020.						

Table 6-4 (DWR Table 6-3) Retail: Wastewater Treatment and Discharge Within Service Area in 2020

<input type="checkbox"/> No wastewater is treated or disposed of within the UWMP service area. The Supplier will not complete the table below.											
Wastewater Treatment Plant Name	Discharge Location Name or Identifier	Discharge Location Description	Wastewater Discharge ID Number <i>(optional)</i>	Method of Disposal	Does This Plant Treat Wastewater Generated Outside the Service Area?	Treatment Level	2020 volumes				
							Wastewater Treated	Discharged Treated Wastewater	Recycled Within Service Area	Recycled Outside of Service Area	Instream Flow Permit Requirement
WWTP No. 1 and 2	Old River	Old River South of Highway 4 Bridge		River or Creek Outfall	No	Tertiary	486	486	0	0	
Total							486	486	0	0	0
NOTES: The TODB upgraded its WWTP treatment to tertiary level to meet NDPES Permit Discharge Requirements.											

Table 6-5 (DWR Table 6-4) Retail: Recycled Water Direct Beneficial Uses Within Service Area

<input checked="" type="checkbox"/>		Recycled water is not used and is not planned for use within the service area of the supplier. The supplier will not complete the table below.								
Name of Supplier Producing (Treating) the Recycled Water:		Town of Discovery Bay Community Services District								
Name of Supplier Operating the Recycled Water Distribution System:		Town of Discovery Bay Community Services District								
Supplemental Water Added in 2020 (volume) <i>Include units</i>		0								
Source of 2020 Supplemental Water		N/A								
Beneficial Use Type	Potential Beneficial Uses of Recycled Water (Describe)	Amount of Potential Uses of Recycled Water (Quantity) <i>Include volume units</i>	General Description of 2020 Uses	Level of Treatment <i>Drop down list</i>	2020	2025	2030	2035	2040	2045 (opt)
Agricultural irrigation					0	0	0	0	0	0
Landscape irrigation (excludes golf courses)					0	0	0	0	0	0
Golf course irrigation					0	0	0	0	0	0
Commercial use					0	0	0	0	0	0
Industrial use					0	0	0	0	0	0
Geothermal and other energy production					0	0	0	0	0	0
Seawater intrusion barrier					0	0	0	0	0	0
Recreational impoundment					0	0	0	0	0	0
Wetlands or wildlife habitat					0	0	0	0	0	0
Groundwater recharge (IPR)*					0	0	0	0	0	0
Surface water augmentation (IPR)*					0	0	0	0	0	0
Direct potable reuse					0	0	0	0	0	0
Other <i>(Provide General Description)</i>					0	0	0	0	0	0
Total:					0	0	0	0	0	0
Internal Reuse <i>(not counted towards Statewide Recycled Water volume).</i>										
*IPR - Indirect Potable Reuse										

Table 6-6 DWR Table 6-5 Retail: 2015 UWMP Recycled Water Use Projection Compared to 2020 Actual

<input checked="" type="checkbox"/>	Recycled water was not used in 2015 nor projected for use in 2020. The Supplier will not complete the table below.		
Use Type	2015 Projection for 2020	2020 Actual Use	
Agricultural irrigation	0	0	
Landscape irrigation (excludes golf courses)	0	0	
Golf course irrigation	0	0	
Commercial use	0	0	
Industrial use	0	0	
Geothermal and other energy production	0	0	
Seawater intrusion barrier	0	0	
Recreational impoundment	0	0	
Wetlands or wildlife habitat	0	0	
Groundwater recharge (IPR)	0	0	
Surface water augmentation (IPR)	0	0	
Direct potable reuse	0	0	
Other	<i>Type of Use</i>	0	0
Total		0	0
NOTES:			

Table 6-7 (DWR Table 6-6) Retail: Methods to Expand Future Recycled Water Use			
<input checked="" type="checkbox"/>	Supplier does not plan to expand recycled water use in the future. Supplier will not complete the table below but will provide narrative explanation.		
	Provide page location of narrative in UWMP		
Name of Action	Description	Planned Implementation Year	Expected Increase in Recycled Water Use
Total			0
NOTES:			

Table 6-8 (DWR Table 6-7) Retail: Expected Future Water Supply Projects or Programs						
<input type="checkbox"/>	No expected future water supply projects or programs that provide a quantifiable increase to the agency's water supply. Supplier will not complete the table below.					
<input type="checkbox"/>	Some or all of the supplier's future water supply projects or programs are not compatible with this table and are described in a narrative format.					
	Provide page location of narrative in the UWMP					
Name of Future Projects or Programs	Joint Project with other suppliers?		Description (if needed)	Planned Implementation Year	Planned for Use in Year Type	Expected Increase in Water Supply to Supplier
	<i>Drop Down List (y/n)</i>	<i>If Yes, Agency Name</i>				
<i>Add additional rows as needed</i>						
Well 8	No		Groundwater Well	2021	All Year Types	0
NOTES: Well 8 is intended to replace Well 5A. Well 5A will be abandoned upon completion of Well 8.						

Table 6-8 Retail: Water Supplies — Actual				
Water Supply	Additional Detail on Water Supply	2020		
		Actual Volume	Water Quality	Total Right or Safe Yield (optional)
Groundwater (not desalinated)		1,050	Drinking Water	
Total		1,050		0

NOTES: 2020 actual volume based on metered water production data from 1/1/2020 through 12/31/2020 for all water sources.

Table 6-10 (DWR Table 6-9) Retail: Water Supplies — Projected

Water Supply		Projected Water Supply <i>Report To the Extent Practicable</i>									
Additional Detail on Water Supply	2025		2030		2035		2040		2045 (opt)		
	Reasonably Available Volume	Total Right or Safe Yield (optional)	Reasonably Available Volume	Total Right or Safe Yield (optional)	Reasonably Available Volume	Total Right or Safe Yield (optional)	Reasonably Available Volume	Total Right or Safe Yield (optional)	Reasonably Available Volume	Total Right or Safe Yield (optional)	
Groundwater (not desalinated)		2,500		2,500		2,500		2,500		2,500	
Total		2,500	0	2,500	0	2,500	0	2,500	0	2,500	0

Table 7-1 Retail: Basis of Water Year Data (Reliability Assessment)

Year Type	Base Year <i>If not using a calendar year, type in the last year of the fiscal, water year, or range of years, for example, water year 2019-2020, use 2020</i>	Available Supplies if Year Type Repeats	
		<input type="checkbox"/>	Quantification of available supplies is not compatible with this table and is provided elsewhere in the UWMP. Location _____
		<input checked="" type="checkbox"/>	Quantification of available supplies is provided in this table as either volume only, percent only, or both.
		Volume Available	% of Average Supply
Average Year	2008	1328	100%
Single-Dry Year	2007	1328	100%
Consecutive Dry Years 1st Year	2012	1328	100%
Consecutive Dry Years 2nd Year	1013	1328	100%
Consecutive Dry Years 3rd Year	2014	1328	100%
Consecutive Dry Years 4th Year	2015	1328	100%
Consecutive Dry Years 5th Year	2016	1328	100%

Supplier may use multiple versions of Table 7-1 if different water sources have different base years and the supplier chooses to report the base years for each water source separately. If a Supplier uses multiple versions of Table 7-1, in the "Note" section of each table, state that multiple versions of Table 7-1 are being used and identify the particular water source that is being reported in each table.

Table 7-2 Retail: Normal Year Supply and Demand Comparison					
	2025	2030	2035	2040	2045 <i>(Opt)</i>
Supply totals <i>(autofill from Table 6-9)</i>	2,500	2,500	2,500	2,500	2,500
Demand totals <i>(autofill from Table 4-3)</i>	1,423	1,645	1,873	2,160	2,491
Difference	1,077	855	627	340	9

Table 7-3 Retail: Single Dry Year Supply and Demand Comparison					
	2025	2030	2035	2040	2045 (Opt)
Supply totals	2,500	2,500	2,500	2,500	2,500
Demand totals	1,423	1,645	1,873	2,160	2,491
Difference	1,077	855	627	340	9
NOTES: No demand reductions required, available supplies exceed total water demands. Available supplies not impacted from a single dry year condition.					

Table 7-4 Retail: Multiple Dry Years Supply and Demand Comparison						
		2025	2030	2035	2040	2045 (Opt)
First year	Supply totals	2,500	2,500	2,500	2,500	2,500
	Demand totals	1,423	1,645	1,873	2,160	2,491
	Difference	1,077	855	627	340	9
Second year	Supply totals	2,500	2,500	2,500	2,500	2,500
	Demand totals	1,423	1,645	1,873	2,160	2,491
	Difference	1,077	855	627	340	9
Third year	Supply totals	2,500	2,500	2,500	2,500	2,500
	Demand totals	1,423	1,645	1,873	2,160	2,491
	Difference	1,077	855	627	340	9
Fourth year	Supply totals	2,500	2,500	2,500	2,500	2,500
	Demand totals	1,423	1,645	1,873	2,160	2,491
	Difference	1,077	855	627	340	9
Fifth year	Supply totals	2,500	2,500	2,500	2,500	2,500
	Demand totals	1,423	1,645	1,873	2,160	2,491
	Difference	1,077	855	627	340	9
Sixth year <i>(optional)</i>	Supply totals	2,500	2,500	2,500	2,500	2,500
	Demand totals	1,423	1,645	1,873	2,160	2,491
	Difference	1,077	855	627	340	9

Table 7-5: Five-Year Drought Risk Assessment Tables to address Water Code Section 10635(b)

2021	Total
Gross Water Use	1,125
Total Supplies	2,500
Surplus/Shortfall w/o WSCP Action	1,375
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	
WSCP - use reduction savings benefit	
Revised Surplus/(shortfall)	
Resulting % Use Reduction from WSCP action	0%

2022	Total
Gross Water Use [Use Worksheet]	1,199
Total Supplies [Supply Worksheet]	2,500
Surplus/Shortfall w/o WSCP Action	1,301
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	
WSCP - use reduction savings benefit	
Revised Surplus/(shortfall)	
Resulting % Use Reduction from WSCP action	0%

2023	Total
Gross Water Use [Use Worksheet]	1,274
Total Supplies [Supply Worksheet]	2,500
Surplus/Shortfall w/o WSCP Action	1,226
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	
WSCP - use reduction savings benefit	
Revised Surplus/(shortfall)	
Resulting % Use Reduction from WSCP action	0%

2024	Total
Gross Water Use [Use Worksheet]	1,349
Total Supplies [Supply Worksheet]	2,500
Surplus/Shortfall w/o WSCP Action	1,151
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	
WSCP - use reduction savings benefit	
Revised Surplus/(shortfall)	
Resulting % Use Reduction from WSCP action	0%

2025	Total
Gross Water Use [Use Worksheet]	1,424
Total Supplies [Supply Worksheet]	2,500
Surplus/Shortfall w/o WSCP Action	1,076
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	
WSCP - use reduction savings benefit	
Revised Surplus/(shortfall)	
Resulting % Use Reduction from WSCP action	0%

**Table 8-1
Water Shortage Contingency Plan Levels**

Shortage Level	Complete Both	
	Percent Shortage Range ¹ <i>Numerical value as a percent</i>	Water Shortage Condition <i>(Narrative description)</i>
1	Up to 10%	Mild Water Shortage
2	11 to 20%	Moderate Water Shortage
3	21 to 30%	Severe Water Shortage
4	31 to 40%	Critical Water Shortage
5	41 to 50%	Critical Water Shortage
6	>50%	Catastrophic Water Shortage

¹ One stage in the Water Shortage Contingency Plan must address a water shortage of 50%.

Table 8-3 (DWR Table 8-2): Demand Reduction Actions

Shortage Level	Demand Reduction Actions	How much is this going to reduce the shortage gap? <i>Include volume units used.</i>	Additional Explanation or Reference <i>(optional)</i>	Penalty, Charge, or Other Enforcement?
All levels	Other	0-50%	Demand Reduction Program	No
I-II	Other	0-20%	Voluntary Water Use Reductions	No
I-II	Other		Voluntary Restrictions – no waste, not enforced	No
I-II	Expand Public Information Campaign	0-20%	Public Outreach Measures - General	No
II-VI	Other	20-30%	Expedite Conversion of Water Efficient Fixtures	No
II-III	Landscape - Limit landscape irrigation to specific days	20-30%	Irrigation Reduction – limit 3 watering days/week	Yes
II-VI	Landscape - Prohibit certain types of landscape irrigation	20-40%	Irrigation Reduction – parks/open spaces	Yes
II-VI	Other	20%+	Utility Leak Repair – expedite larger leak repairs	No
III-IV	Landscape - Limit landscape irrigation to specific days	30-40%	Irrigation Reduction – limit 2 watering days/week	Yes
III-VI	Expand Public Information Campaign	30%+	Public Outreach Measures – General and Specific	No
III-VI	Implement or Modify Drought Rate Structure or Surcharge	30-50%	Water shortage pricing - surcharge	Yes
III-VI	Other - Customers must repair leaks, breaks, and malfunctions in a timely manner	30%+	Customer Leak Repair – within five days of detection	Yes
III-VI	Other	30-50%	Mandatory restrictions – no waste enforced [patrols, tickets, fines, etc.]	Yes
III-VI	Other	30-50%	Apply penalties for excessive water use	Yes
IV-VI	Other	40-50%	Apply flow restrictions to customers	Yes
IV-VI	Other	10-50%	Restrict water use for only priority uses	Yes
V-VI	Landscape - Prohibit all landscape irrigation	40%-50%+	Irrigation Reduction – no lawn watering	Yes
V-VI	Other	20-50%	Mandatory water rationing, per capita allotment	Yes

Table 8-2 (DWR Table 8-3): Supply Augmentation and Other Actions

Shortage Level	Supply Augmentation Methods and Other Actions by Water Supplier	How much is this going to reduce the shortage gap? <i>Include volume units used.</i>	Additional Explanation or Reference <i>(optional)</i>
> Stage 3	Reduce System Water Loss	Up to 50 AFY	As needed.
NOTES: Available water supplies exceed normal year demands (meeting TODB 2020 water use target of 209 gpcd) during six consecutive dry year scenario, no supply augmentation measures are needed unless substantial system failures are experienced.			

Table 10-1 Retail: Notification to Cities and Counties

City Name	60 Day Notice	Notice of Public Hearing
City of Brentwood		X
Contra Costa Water District		X
East Contra Costa Irrigation District		X
Diablo Water District		X
General Public	X	X
County Name	60 Day Notice	Notice of Public Hearing
Contra Costa County		X

Appendix C

AWWA Free Water Audit Software Data Worksheets



AWWA Free Water Audit Software: Reporting Worksheet

WAS v5.0

American Water Works Association.

? Click to access definition
+ Click to add a comment

Water Audit Report for: Town of Discovery Bay Community Services District (0710009)
Reporting Year: 2020 7/2019 - 6/2020

Please enter data in the white cells below. Where available, metered values should be used; if metered values are unavailable please estimate a value. Indicate your confidence in the accuracy of the input data by grading each component (n/a or 1-10) using the drop-down list to the left of the input cell. Hover the mouse over the cell to obtain a description of the grades

All volumes to be entered as: MILLION GALLONS (US) PER YEAR

To select the correct data grading for each input, determine the highest grade where the utility meets or exceeds all criteria for that grade and all grades below it.

WATER SUPPLIED

----- Enter grading in column 'E' and 'J' ----->

Volume from own sources:	+	?	5	1,048.738	MG/Yr
Water imported:	+	?	n/a	0.000	MG/Yr
Water exported:	+	?	n/a	0.000	MG/Yr

Master Meter and Supply Error Adjustments

+	?	3	0.00%	MG/Yr
+	?		0.00%	MG/Yr
+	?		0.00%	MG/Yr

Enter negative % or value for under-registration
Enter positive % or value for over-registration

WATER SUPPLIED: 1,048.738 MG/Yr

AUTHORIZED CONSUMPTION

Billed metered:	+	?	5	943.922	MG/Yr
Billed unmetered:	+	?	n/a	0.000	MG/Yr
Unbilled metered:	+	?	n/a	0.000	MG/Yr
Unbilled unmetered:	+	?	5	2.622	MG/Yr

AUTHORIZED CONSUMPTION: 946.544 MG/Yr

Click here: ?
for help using option buttons below

Pcnt:	0.25%	Value:	2.622	MG/Yr
-------	-------	--------	-------	-------

Use buttons to select percentage of water supplied
OR
value

WATER LOSSES (Water Supplied - Authorized Consumption)

102.194 MG/Yr

Apparent Losses

Unauthorized consumption: 2.622 MG/Yr

Default option selected for unauthorized consumption - a grading of 5 is applied but not displayed

Customer metering inaccuracies: 3 14.374 MG/Yr

Systematic data handling errors: ? 2.360 MG/Yr

Default option selected for Systematic data handling errors - a grading of 5 is applied but not displayed

Apparent Losses: 19.356 MG/Yr

Pcnt:	0.25%	Value:	2.622	MG/Yr
-------	-------	--------	-------	-------

Pcnt:	1.50%	Value:	0.25%	MG/Yr
-------	-------	--------	-------	-------

Pcnt:	0.25%	Value:	0.25%	MG/Yr
-------	-------	--------	-------	-------

Real Losses (Current Annual Real Losses or CARL)

Real Losses = Water Losses - Apparent Losses: 82.837 MG/Yr

WATER LOSSES: 102.194 MG/Yr

NON-REVENUE WATER

NON-REVENUE WATER: 104.815 MG/Yr

= Water Losses + Unbilled Metered + Unbilled Unmetered

SYSTEM DATA

Length of mains:	+	?	8	48.0	miles
Number of <u>active AND inactive</u> service connections:	+	?	6	6,134	
Service connection density:	?			128	conn./mile main

Are customer meters typically located at the curbside or property line? Yes

Average length of customer service line: ? (length of service line, beyond the property boundary, that is the responsibility of the utility)

Average length of customer service line has been set to zero and a data grading score of 10 has been applied

Average operating pressure: ? 5 60.0 psi

COST DATA

Total annual cost of operating water system:	+	?	10	\$3,307,584	\$/Year
Customer retail unit cost (applied to Apparent Losses):	+	?	10	\$2.26	\$/100 cubic feet (ccf)
Variable production cost (applied to Real Losses):	+	?	5	\$458.29	\$/Million gallons <input type="checkbox"/> Use Customer Retail Unit Cost to value real losses

WATER AUDIT DATA VALIDITY SCORE:

*** YOUR SCORE IS: 58 out of 100 ***

A weighted scale for the components of consumption and water loss is included in the calculation of the Water Audit Data Validity Score

PRIORITY AREAS FOR ATTENTION:

Based on the information provided, audit accuracy can be improved by addressing the following components:

- 1: Volume from own sources
- 2: Customer metering inaccuracies
- 3: Billed metered



AWWA Free Water Audit Software: Reporting Worksheet

WAS v5.0

American Water Works Association.

Click to access definition
 Click to add a comment

Water Audit Report for: Town of Discovery Bay Community Services District (0710009)
Reporting Year: 2019 7/2018 - 6/2019

Please enter data in the white cells below. Where available, metered values should be used; if metered values are unavailable please estimate a value. Indicate your confidence in the accuracy of the input data by grading each component (n/a or 1-10) using the drop-down list to the left of the input cell. Hover the mouse over the cell to obtain a description of the grades

All volumes to be entered as: MILLION GALLONS (US) PER YEAR

To select the correct data grading for each input, determine the highest grade where the utility meets or exceeds all criteria for that grade and all grades below it.

WATER SUPPLIED

Volume from own sources:	<input type="button" value="+"/>	<input type="button" value="?"/>	<input type="text" value="5"/>	<input type="text" value="888.000"/>	MG/Yr
Water imported:	<input type="button" value="+"/>	<input type="button" value="?"/>	<input type="text" value="n/a"/>	<input type="text" value="0.000"/>	MG/Yr
Water exported:	<input type="button" value="+"/>	<input type="button" value="?"/>	<input type="text" value="n/a"/>	<input type="text" value="0.000"/>	MG/Yr

----- Enter grading in column 'E' and 'J' ----->

Master Meter and Supply Error Adjustments	
Pcnt:	Value:
<input type="button" value="+"/>	<input type="button" value="?"/>
<input type="text" value="3"/>	<input type="text" value="0.00%"/>
<input type="button" value="+"/>	<input type="button" value="?"/>
<input type="text" value=""/>	<input type="text" value=""/>
<input type="button" value="+"/>	<input type="button" value="?"/>
<input type="text" value=""/>	<input type="text" value=""/>

Enter negative % or value for under-registration
 Enter positive % or value for over-registration

WATER SUPPLIED: 888.000 MG/Yr

AUTHORIZED CONSUMPTION

Billed metered:	<input type="button" value="+"/>	<input type="button" value="?"/>	<input type="text" value="5"/>	<input type="text" value="852.700"/>	MG/Yr
Billed unmetered:	<input type="button" value="+"/>	<input type="button" value="?"/>	<input type="text" value="n/a"/>	<input type="text" value="0.000"/>	MG/Yr
Unbilled metered:	<input type="button" value="+"/>	<input type="button" value="?"/>	<input type="text" value="n/a"/>	<input type="text" value="0.000"/>	MG/Yr
Unbilled unmetered:	<input type="button" value="+"/>	<input type="button" value="?"/>	<input type="text" value="5"/>	<input type="text" value="2.220"/>	MG/Yr

Click here: for help using option buttons below

Pcnt:	Value:
<input type="text" value=""/>	<input type="text" value="2.220"/>

Use buttons to select percentage of water supplied **OR** value

AUTHORIZED CONSUMPTION: 854.920 MG/Yr

WATER LOSSES (Water Supplied - Authorized Consumption)

33.080 MG/Yr

Apparent Losses

Unauthorized consumption: MG/Yr

Default option selected for unauthorized consumption - a grading of 5 is applied but not displayed

Customer metering inaccuracies: MG/Yr

Systematic data handling errors: MG/Yr

Default option selected for Systematic data handling errors - a grading of 5 is applied but not displayed

Apparent Losses: 17.337 MG/Yr

Pcnt:	Value:
<input type="text" value="0.25%"/>	<input type="text" value=""/>

Pcnt:	Value:
<input type="text" value="1.50%"/>	<input type="text" value=""/>

Pcnt:	Value:
<input type="text" value="0.25%"/>	<input type="text" value=""/>

Real Losses (Current Annual Real Losses or CARL)

Real Losses = Water Losses - Apparent Losses: 15.743 MG/Yr

WATER LOSSES: 33.080 MG/Yr

NON-REVENUE WATER

NON-REVENUE WATER: 35.300 MG/Yr

= Water Losses + Unbilled Metered + Unbilled Unmetered

SYSTEM DATA

Length of mains:	<input type="button" value="+"/>	<input type="button" value="?"/>	<input type="text" value="8"/>	<input type="text" value="48.0"/>	miles
Number of <u>active AND inactive</u> service connections:	<input type="button" value="+"/>	<input type="button" value="?"/>	<input type="text" value="8"/>	<input type="text" value="6,116"/>	
Service connection density:	<input type="button" value="?"/>	<input type="text" value=""/>	<input type="text" value="127"/>	conn./mile main	

Are customer meters typically located at the curbside or property line?

Average length of customer service line: (length of service line, beyond the property boundary, that is the responsibility of the utility)

Average length of customer service line has been set to zero and a data grading score of 10 has been applied

Average operating pressure: psi

COST DATA

Total annual cost of operating water system:	<input type="button" value="+"/>	<input type="button" value="?"/>	<input type="text" value="10"/>	<input type="text" value="\$2,911,984"/>	\$/Year
Customer retail unit cost (applied to Apparent Losses):	<input type="button" value="+"/>	<input type="button" value="?"/>	<input type="text" value="10"/>	<input type="text" value="\$2.02"/>	\$/100 cubic feet (ccf)
Variable production cost (applied to Real Losses):	<input type="button" value="+"/>	<input type="button" value="?"/>	<input type="text" value="5"/>	<input type="text" value="\$521.01"/>	\$/Million gallons <input type="checkbox"/> Use Customer Retail Unit Cost to value real losses

WATER AUDIT DATA VALIDITY SCORE:

*** YOUR SCORE IS: 59 out of 100 ***

A weighted scale for the components of consumption and water loss is included in the calculation of the Water Audit Data Validity Score

PRIORITY AREAS FOR ATTENTION:

Based on the information provided, audit accuracy can be improved by addressing the following components:

- 1: Volume from own sources
- 2: Customer metering inaccuracies
- 3: Billed metered



AWWA Free Water Audit Software: Reporting Worksheet

WAS v5.0

American Water Works Association.

Click to access definition
 Click to add a comment

Water Audit Report for: Town of Discovery Bay Community Services District (0710009)
Reporting Year: 2017 7/2017 - 6/2018

Please enter data in the white cells below. Where available, metered values should be used; if metered values are unavailable please estimate a value. Indicate your confidence in the accuracy of the input data by grading each component (n/a or 1-10) using the drop-down list to the left of the input cell. Hover the mouse over the cell to obtain a description of the grades

All volumes to be entered as: MILLION GALLONS (US) PER YEAR

To select the correct data grading for each input, determine the highest grade where the utility meets or exceeds all criteria for that grade and all grades below it.

WATER SUPPLIED

	----- Enter grading in column 'E' and 'J' ----->	
Volume from own sources:	+ ? 8	916.000 MG/Yr
Water imported:	+ ? n/a	0.000 MG/Yr
Water exported:	+ ? n/a	0.000 MG/Yr

Master Meter and Supply Error Adjustments

	+ ?	3	0.00%	● ○	Value:		MG/Yr		
	+ ?			● ○		MG/Yr			
	+ ?			● ○		MG/Yr			

Enter negative % or value for under-registration
Enter positive % or value for over-registration

WATER SUPPLIED: 916.000 MG/Yr

AUTHORIZED CONSUMPTION

Billed metered:	+ ? 5	800.081 MG/Yr
Billed unmetered:	+ ? 7	56.455 MG/Yr
Unbilled metered:	+ ? n/a	0.000 MG/Yr
Unbilled unmetered:	+ ? 5	2.290 MG/Yr

Click here:
for help using option buttons below

	Pcnt:		Value:		○ ●	2.290	MG/Yr		

Use buttons to select percentage of water supplied
OR
value

AUTHORIZED CONSUMPTION: 858.826 MG/Yr

WATER LOSSES (Water Supplied - Authorized Consumption)

57.174 MG/Yr

Apparent Losses

Unauthorized consumption: 2.290 MG/Yr

Default option selected for unauthorized consumption - a grading of 5 is applied but not displayed

Customer metering inaccuracies: 3 12.184 MG/Yr

Systematic data handling errors: 2.000 MG/Yr

Default option selected for Systematic data handling errors - a grading of 5 is applied but not displayed

Apparent Losses: 16.474 MG/Yr

	Pcnt:	0.25%	Value:		○ ●		MG/Yr		

	Pcnt:	1.50%	Value:		○ ●		MG/Yr		

	Pcnt:	0.25%	Value:		○ ●		MG/Yr		

Real Losses (Current Annual Real Losses or CARL)

Real Losses = Water Losses - Apparent Losses: 40.700 MG/Yr

WATER LOSSES: 57.174 MG/Yr

NON-REVENUE WATER

NON-REVENUE WATER: 59.464 MG/Yr

= Water Losses + Unbilled Metered + Unbilled Unmetered

SYSTEM DATA

Length of mains:	+ ? 8	48.0 miles
Number of <u>active AND inactive</u> service connections:	+ ? 8	6,013
Service connection density:	?	125 conn./mile main

Are customer meters typically located at the curbside or property line? Yes

Average length of customer service line: (length of service line, beyond the property boundary, that is the responsibility of the utility)

Average length of customer service line has been set to zero and a data grading score of 10 has been applied

Average operating pressure: 5 60.0 psi

COST DATA

Total annual cost of operating water system:	+ ? 10	\$2,888,204	\$/Year
Customer retail unit cost (applied to Apparent Losses):	+ ? 10	\$1.80	\$/100 cubic feet (ccf)
Variable production cost (applied to Real Losses):	+ ? 5	\$519.00	\$/Million gallons <input type="checkbox"/> Use Customer Retail Unit Cost to value real losses

WATER AUDIT DATA VALIDITY SCORE:

***** YOUR SCORE IS: 70 out of 100 *****

A weighted scale for the components of consumption and water loss is included in the calculation of the Water Audit Data Validity Score

PRIORITY AREAS FOR ATTENTION:

Based on the information provided, audit accuracy can be improved by addressing the following components:

- 1: Volume from own sources
- 2: Customer metering inaccuracies
- 3: Billed metered



AWWA Free Water Audit Software: Reporting Worksheet

WAS v5.0

American Water Works Association.

Click to access definition
 Click to add a comment

Water Audit Report for: Town of Discovery Bay Community Services District (0710009)
Reporting Year: 2016 7/2016 - 6/2017

Please enter data in the white cells below. Where available, metered values should be used; if metered values are unavailable please estimate a value. Indicate your confidence in the accuracy of the input data by grading each component (n/a or 1-10) using the drop-down list to the left of the input cell. Hover the mouse over the cell to obtain a description of the grades

All volumes to be entered as: MILLION GALLONS (US) PER YEAR

To select the correct data grading for each input, determine the highest grade where the utility meets or exceeds all criteria for that grade and all grades below it.

WATER SUPPLIED

<----- Enter grading in column 'E' and 'J' ----->			
Volume from own sources:	<input type="button" value="+"/> <input type="button" value="7"/>	<input style="width: 100px;" type="text" value="911.000"/>	MG/Yr
Water imported:	<input type="button" value="+"/> <input type="button" value="n/a"/>	<input style="width: 100px;" type="text" value="0.000"/>	MG/Yr
Water exported:	<input type="button" value="+"/> <input type="button" value="n/a"/>	<input style="width: 100px;" type="text" value="0.000"/>	MG/Yr

Master Meter and Supply Error Adjustments

	<input type="button" value="+"/> <input type="button" value="3"/>	<input style="width: 100px;" type="text" value=""/>	MG/Yr
	<input type="button" value="+"/> <input type="button" value=""/>	<input style="width: 100px;" type="text" value=""/>	MG/Yr
	<input type="button" value="+"/> <input type="button" value=""/>	<input style="width: 100px;" type="text" value=""/>	MG/Yr

Enter negative % or value for under-registration
 Enter positive % or value for over-registration

WATER SUPPLIED: 911.000 MG/Yr

AUTHORIZED CONSUMPTION

Billed metered:	<input type="button" value="+"/> <input type="button" value="1"/>	<input style="width: 100px;" type="text" value="403.316"/>	MG/Yr
Billed unmetered:	<input type="button" value="+"/> <input type="button" value="4"/>	<input style="width: 100px;" type="text" value="459.030"/>	MG/Yr
Unbilled metered:	<input type="button" value="+"/> <input type="button" value="n/a"/>	<input style="width: 100px;" type="text" value="0.000"/>	MG/Yr
Unbilled unmetered:	<input type="button" value="+"/> <input type="button" value="5"/>	<input style="width: 100px;" type="text" value="2.278"/>	MG/Yr

AUTHORIZED CONSUMPTION: 864.624 MG/Yr

Click here: for help using option buttons below

Pcnt: Value: MG/Yr

Use buttons to select percentage of water supplied **OR** value

WATER LOSSES (Water Supplied - Authorized Consumption)

46.377 MG/Yr

Apparent Losses

Unauthorized consumption: MG/Yr

Default option selected for unauthorized consumption - a grading of 5 is applied but not displayed

Customer metering inaccuracies:	<input type="button" value="+"/> <input type="button" value="3"/>	<input style="width: 100px;" type="text" value="8.231"/>	MG/Yr
Systematic data handling errors:	<input type="button" value="+"/> <input type="button" value=""/>	<input style="width: 100px;" type="text" value="1.008"/>	MG/Yr

Default option selected for Systematic data handling errors - a grading of 5 is applied but not displayed

Apparent Losses: 11.517 MG/Yr

Pcnt: Value:

Real Losses (Current Annual Real Losses or CARL)

Real Losses = Water Losses - Apparent Losses: 34.860 MG/Yr

WATER LOSSES: 46.377 MG/Yr

NON-REVENUE WATER

NON-REVENUE WATER: 48.654 MG/Yr

= Water Losses + Unbilled Metered + Unbilled Unmetered

SYSTEM DATA

Length of mains:	<input type="button" value="+"/> <input type="button" value="8"/>	<input style="width: 100px;" type="text" value="48.0"/>	miles
Number of <u>active AND inactive</u> service connections:	<input type="button" value="+"/> <input type="button" value="8"/>	<input style="width: 100px;" type="text" value="5,704"/>	
Service connection density:	<input type="button" value=""/>	<input style="width: 100px;" type="text" value="119"/>	conn./mile main

Are customer meters typically located at the curbstoep or property line? (length of service line, beyond the property boundary, that is the responsibility of the utility)

Average length of customer service line has been set to zero and a data grading score of 10 has been applied

Average operating pressure: psi

COST DATA

Total annual cost of operating water system:	<input type="button" value="+"/> <input type="button" value="10"/>	<input style="width: 100px;" type="text" value="\$2,558,834"/>	\$/Year
Customer retail unit cost (applied to Apparent Losses):	<input type="button" value="+"/> <input type="button" value="10"/>	<input style="width: 100px;" type="text" value="\$1.51"/>	\$/100 cubic feet (ccf)
Variable production cost (applied to Real Losses):	<input type="button" value="+"/> <input type="button" value="5"/>	<input style="width: 100px;" type="text" value="\$344.68"/>	\$/Million gallons <input type="checkbox"/> Use Customer Retail Unit Cost to value real losses

WATER AUDIT DATA VALIDITY SCORE:

*** YOUR SCORE IS: 60 out of 100 ***

A weighted scale for the components of consumption and water loss is included in the calculation of the Water Audit Data Validity Score

PRIORITY AREAS FOR ATTENTION:

Based on the information provided, audit accuracy can be improved by addressing the following components:

- 1: Volume from own sources
- 2: Billed metered
- 3: Customer metering inaccuracies



AWWA Free Water Audit Software: Reporting Worksheet

WAS v5.0
American Water Works Association
Copyright © 2014. All Rights Reserved.

?	Click to access definition
+	Click to add a comment

Water Audit Report for: Town of Discovery Bay Community Services District (0710009)
Reporting Year: 2015 / 1/2015 - 12/2015

Please enter data in the white cells below. Where available, metered values should be used; if metered values are unavailable please estimate a value. Indicate your confidence in the accuracy of the input data by grading each component (n/a or 1-10) using the drop-down list to the left of the input cell. Hover the mouse over the cell to obtain a description of the grades

All volumes to be entered as: MILLION GALLONS (US) PER YEAR

To select the correct data grading for each input, determine the highest grade where the utility meets or exceeds all criteria for that grade and all grades below it.

Master Meter and Supply Error Adjustments

WATER SUPPLIED

----- Enter grading in column 'E' and 'J' ----->

Volume from own sources:	+	?	5	851.600	MG/Yr
Water imported:	+	?	n/a		MG/Yr
Water exported:	+	?	n/a		MG/Yr

Pcnt:	+	?	3	-2.00%	MG/Yr
Value:					MG/Yr
	+	?			MG/Yr

WATER SUPPLIED: 868.980 MG/Yr

Enter negative % or value for under-registration
Enter positive % or value for over-registration

AUTHORIZED CONSUMPTION

Billed metered:	+	?	1	345.300	MG/Yr
Billed unmetered:	+	?	2	430.900	MG/Yr
Unbilled metered:	+	?	n/a	0.000	MG/Yr
Unbilled unmetered:	+	?	5	2.172	MG/Yr

AUTHORIZED CONSUMPTION: 778.372 MG/Yr

Click here: ?
for help using option buttons below

Pcnt:	+	?		2.172	MG/Yr
Value:					MG/Yr

Use buttons to select percentage of water supplied
OR
value

WATER LOSSES (Water Supplied - Authorized Consumption)

90.607 MG/Yr

Apparent Losses

Unauthorized consumption: + ? 2.172 MG/Yr
 Default option selected for unauthorized consumption - a grading of 5 is applied but not displayed

Customer metering inaccuracies:	+	?	2	7.047	MG/Yr
Systematic data handling errors:	+	?		0.863	MG/Yr

Default option selected for Systematic data handling errors - a grading of 5 is applied but not displayed

Apparent Losses: 10.083 MG/Yr

Pcnt:	+	?	0.25%		MG/Yr
Value:					MG/Yr

	+	?	2.00%		MG/Yr
	+	?	0.25%		MG/Yr

Real Losses (Current Annual Real Losses or CARL)

Real Losses = Water Losses - Apparent Losses: 80.525 MG/Yr

WATER LOSSES: 90.607 MG/Yr

NON-REVENUE WATER

NON-REVENUE WATER: 92.780 MG/Yr

= Water Losses + Unbilled Metered + Unbilled Unmetered

SYSTEM DATA

Length of mains:	+	?	7	50.0	miles
Number of <u>active</u> AND <u>inactive</u> service connections:	+	?	2	5,947	
Service connection density:	?			119	conn./mile main

Are customer meters typically located at the curbstop or property line? Yes

Average length of customer service line: + ?
 Average length of customer service line has been set to zero and a data grading score of 10 has been applied

Average operating pressure:	+	?	5	60.0	psi
-----------------------------	---	---	---	------	-----

COST DATA

Total annual cost of operating water system:	+	?	10	\$2,450,461	\$/Year
Customer retail unit cost (applied to Apparent Losses):	+	?	3	\$1.51	\$/100 cubic feet (ccf)
Variable production cost (applied to Real Losses):	+	?	5	\$361.34	\$/Million gallons

Use Customer Retail Unit Cost to value real losses

WATER AUDIT DATA VALIDITY SCORE:

***** YOUR SCORE IS: 44 out of 100 *****

A weighted scale for the components of consumption and water loss is included in the calculation of the Water Audit Data Validity Score

PRIORITY AREAS FOR ATTENTION:

Based on the information provided, audit accuracy can be improved by addressing the following components:

- 1: Volume from own sources
- 2: Billed metered
- 3: Billed unmetered

Water Loss Target

December 1, 2020

Urban water supplier (naming per water loss audit)	Baseline water loss (Averaged over 2017-2019) Gallons per connection per day	Baseline water loss (Averaged over 2017-2019) Gallons per mile per day	Water loss performance standards Gallons per connection per day	Water loss performance standards Gallons per mile per day
Coalinga City Of	41.0	N/A	20.6	N/A
Coastside County Water District	18.5	N/A	18.5	N/A
Colton City Of	65.5	N/A	16.7	N/A
Contra Costa Water District	21.8	N/A	18.5	N/A
Corcoran City Of	N/A	2415.1	N/A	444.7
Corona City Of	16.1	N/A	16.1	N/A
Covina City Of	30.2	N/A	22.3	N/A
Covina Irrigating Company	37.7	N/A	22.2	N/A
Crescent City	80.2	N/A	21.6	N/A
Crescenta Valley Community Water District	22.4	N/A	22.4	N/A
Crestline Village Water District	4.3	N/A	4.3	N/A
Cucamonga Valley Water District	28.6	N/A	21.2	N/A
Cupertino City Of	25.6	N/A	25.6	N/A
Daly City	12.3	N/A	12.3	N/A
Davis City Of	37.3	N/A	11.1	N/A
Del Oro Water Company	22.0	N/A	22.0	N/A
Delano City Of	56.6	N/A	14.1	N/A
Desert Water Agency	87.1	N/A	21.2	N/A
Diablo Water District	15.5	N/A	15.5	N/A
Dinuba City Of	32.9	N/A	11.6	N/A
Discovery Bay Community Services District	14.0	N/A	14.0	N/A
Downey City Of	27.4	N/A	14.9	N/A
Dublin San Ramon Services District	7.3	N/A	7.3	N/A
East Bay Municipal Utility District	45.6	N/A	21.7	N/A
East Niles Community Services District	47.1	N/A	14.6	N/A

Appendix D
SB X7-7 Tables

SB X7-7 Table-1: Baseline Period Ranges

Baseline	Parameter	Value	Units
10- to 15-year baseline period	2008 total water deliveries	1,328	Million Gallons
	2008 total volume of delivered recycled water	-	Million Gallons
	2008 recycled water as a percent of total deliveries	0.00%	Percent
	Number of years in baseline period ^{1,2}	10	Years
	Year beginning baseline period range	2001	
	Year ending baseline period range ³	2010	
5-year baseline period	Number of years in baseline period	5	Years
	Year beginning baseline period range	2003	
	Year ending baseline period range ⁴	2007	
<p>¹ If the 2008 recycled water percent is less than 10 percent, then the first baseline period is a continuous 10-year period. If the amount of recycled water delivered in 2008 is 10 percent or greater, the first baseline period is a continuous 10- to 15-year period. ² The Water Code requires that the baseline period is between 10 and 15 years. However, DWR recognizes that some water suppliers may not have the minimum 10 years of baseline data.</p>			
<p>³ The ending year must be between December 31, 2004 and December 31, 2010.</p>			
<p>⁴ The ending year must be between December 31, 2007 and December 31, 2010.</p>			
<p>NOTES:</p>			

SB X7-7 Table 2: Method for Population Estimates**Method Used to Determine Population**
(may check more than one)**1. Department of Finance (DOF)**
DOF Table E-8 (1990 - 2000) and (2000-2010) and
DOF Table E-5 (2010 - 2020) when available**2. Persons-per-Connection Method****3. DWR Population Tool****4. Other**
DWR recommends pre-review

NOTES: Persons-per-Connection method. 2010 U.S. Census Data. An estimate of part-time residents is added.

SB X7-7 Table 3: Service Area Population		
Year		Population
10 to 15 Year Baseline Population		
Year 1	2001	9,594
Year 2	2002	9,594
Year 3	2003	9,447
Year 4	2004	11,125
Year 5	2005	12,034
Year 6	2006	13,106
Year 7	2007	13,110
Year 8	2008	13,164
Year 9	2009	13,155
Year 10	2010	13,352
Year 11		
Year 12		
Year 13		
Year 14		
Year 15		
5 Year Baseline Population		
Year 1	2003	9,447
Year 2	2004	11,125
Year 3	2005	12,034
Year 4	2006	13,106
Year 5	2007	13,110
2020 Compliance Year Population		
	2020	15,575
NOTES:		

SB X7-7 Table 4: Annual Gross Water Use *

Baseline Year <i>Fm SB X7-7 Table 3</i>	Volume Into Distribution System <i>This column will remain blank until SB X7-7 Table 4-A is completed.</i>	Deductions					Annual Gross Water Use
		Exported Water	Change in Dist. System Storage (+/-)	Indirect Recycled Water <i>This column will remain blank until SB X7-7 Table 4-B is completed.</i>	Water Delivered for Agricultural Use	Process Water <i>This column will remain blank until SB X7-7 Table 4-D is completed.</i>	
10 to 15 Year Baseline - Gross Water Use							
Year 1	2001	818			-		818
Year 2	2002	851			-		851
Year 3	2003	921			-		921
Year 4	2004	1,035			-		1,035
Year 5	2005	1,204			-		1,204
Year 6	2006	1,185			-		1,185
Year 7	2007	1,322			-		1,322
Year 8	2008	1,328			-		1,328
Year 9	2009	1,282			-		1,282
Year 10	2010	1,306			-		1,306
Year 11	0	-			-		-
Year 12	0	-			-		-
Year 13	0	-			-		-
Year 14	0	-			-		-
Year 15	0	-			-		-
10 - 15 year baseline average gross water use							1,125
5 Year Baseline - Gross Water Use							
Year 1	2003	921			-		921
Year 2	2004	1,035			-		1,035
Year 3	2005	1,204			-		1,204
Year 4	2006	1,185			-		1,185
Year 5	2007	1,322			-		1,322
5 year baseline average gross water use							1,133
2020 Compliance Year - Gross Water Use							
2020		1,050	-		-		1,050
* NOTE that the units of measure must remain consistent throughout the UWMP, as reported in Table 2-3							
NOTES:							

SB X7-7 Table 4-A: Volume Entering the Distribution System(s)

Complete one table for each source.

Name of Source		WTPs 1 and 2		
This water source is:				
<input checked="" type="checkbox"/>	The supplier's own water source			
<input type="checkbox"/>	A purchased or imported source			
Baseline Year <i>Fm SB X7-7 Table 3</i>	Volume Entering Distribution System	Meter Error Adjustment* <i>Optional (+/-)</i>	Corrected Volume Entering Distribution System	
10 to 15 Year Baseline - Water into Distribution System				
Year 1	2001	818		818
Year 2	2002	851		851
Year 3	2003	921		921
Year 4	2004	1,035		1,035
Year 5	2005	1,204		1,204
Year 6	2006	1,185		1,185
Year 7	2007	1,322		1,322
Year 8	2008	1,328		1,328
Year 9	2009	1,282		1,282
Year 10	2010	1,306		1,306
Year 11	0			-
Year 12	0			-
Year 13	0			-
Year 14	0			-
Year 15	0			-
5 Year Baseline - Water into Distribution System				
Year 1	2003	921		921
Year 2	2004	1,035		1,035
Year 3	2005	1,204		1,204
Year 4	2006	1,185		1,185
Year 5	2007	1,322		1,322
2020 Compliance Year - Water into Distribution System				
2020		1,050		1,050

SB X7-7 Table 5: Gallons Per Capita Per Day (GPCD)

Baseline Year <i>Fm SB X7-7 Table 3</i>		Service Area Population <i>Fm SB X7-7 Table 3</i>	Annual Gross Water Use <i>Fm SB X7-7 Table 4</i>	Daily Per Capita Water Use (GPCD)
10 to 15 Year Baseline GPCD				
Year 1	2001	9,594	818	234
Year 2	2002	9,594	851	243
Year 3	2003	9,447	921	267
Year 4	2004	11,125	1,035	255
Year 5	2005	12,034	1,204	274
Year 6	2006	13,106	1,185	248
Year 7	2007	13,110	1,322	276
Year 8	2008	13,164	1,328	276
Year 9	2009	13,155	1,282	267
Year 10	2010	13,352	1,306	268
<i>Year 11</i>	0	-	-	
<i>Year 12</i>	0	-	-	
<i>Year 13</i>	0	-	-	
<i>Year 14</i>	0	-	-	
<i>Year 15</i>	0	-	-	
10-15 Year Average Baseline GPCD				261
5 Year Baseline GPCD				
Baseline Year <i>Fm SB X7-7 Table 3</i>		Service Area Population <i>Fm SB X7-7 Table 3</i>	Gross Water Use <i>Fm SB X7-7 Table 4</i>	Daily Per Capita Water Use
Year 1	2003	9,447	921	267
Year 2	2004	11,125	1,035	255
Year 3	2005	12,034	1,204	274
Year 4	2006	13,106	1,185	248
Year 5	2007	13,110	1,322	276
5 Year Average Baseline GPCD				264
2020 Compliance Year GPCD				
2020		15,575	1,050	185

SB X7-7 Table 6: Gallons per Capita per Day
Summary From Table SB X7-7 Table 5

10-15 Year Baseline GPCD	261
5 Year Baseline GPCD	264
2020 Compliance Year GPCD	185
NOTES:	

SB X7-7 Table 7: 2020 Target Method*Select Only One*

Target Method		Supporting Documentation
X	Method 1	SB X7-7 Table 7A
	Method 2	SB X7-7 Tables 7B, 7C, and 7D <i>See UWMP DWR webpage or contact staff for these tables</i>
	Method 3	SB X7-7 Table 7-E
	Method 4	Method 4 Calculator

NOTES:

SB X7-7 Table 7-A: Target Method 1 20% Reduction	
10-15 Year Baseline GPCD	2020 Target GPCD
261	209
NOTES:	

SB X7-7 Table 7-E: Target Method 3

Agency May Select More Than One as Applicable	Percentage of Service Area in This Hydrological Region	Hydrologic Region	"2020 Plan" Regional Targets	Method 3 Regional Targets (95%)
		North Coast	137	130
		North Lahontan	173	164
		Sacramento River	176	167
		San Francisco Bay	131	124
		San Joaquin River	174	165
		Central Coast	123	117
		Tulare Lake	188	179
		South Lahontan	170	162
		South Coast	149	142
		Colorado River	211	200
<p align="center">Target <i>(If more than one region is selected, this value is calculated.)</i></p>				0
<p>NOTES:</p>				

SB X7-7 Table 7-F: Confirm Minimum Reduction for 2020 Target

5 Year Baseline GPCD <i>From SB X7-7 Table 5</i>	Maximum 2020 Target ¹	Calculated 2020 Target ²	Confirmed 2020 Target
264	251	209	209

¹ Maximum 2020 Target is 95% of the 5 Year Baseline GPCD except for suppliers at or below 100 GPCD.

² 2020 Target is calculated based on the selected Target Method, see SB X7-7 Table 7 and corresponding tables for agency's calculated target.

NOTES:

SB X7-7 Table 8: 2015 Interim Target GPCD

Confirmed 2020 Target <i>Fm SB X7-7 Table 7-F</i>	10-15 year Baseline GPCD <i>Fm SB X7-7 Table 5</i>	2015 Interim Target GPCD
209	261	235
NOTES:		

SB X7-7 Table 8: 2020 Compliance

Actual 2020 GPCD	2020 Interim Target GPCD	Optional Adjustments <i>(in GPCD)</i>					2020 GPCD <i>(Adjusted if applicable)</i>	Did Supplier Achieve Targeted Reduction for 2020?
		Enter "0" if Adjustment Not Used			TOTAL Adjustments	Adjusted 2020 GPCD		
		Extraordinary Events	Weather Normalization	Economic Adjustment				
185	235	<i>From Methodology 8 (Optional)</i>	<i>From Methodology 8 (Optional)</i>	<i>From Methodology 8 (Optional)</i>	-	185	185	YES

NOTES:

Appendix E
LSCE Report June 2016 Groundwater Conditions

Memorandum

DATE: June, 20, 2016

TO: Catherine Kutsuris, Interim General Manager
Town of Discovery Bay Community Services District

FROM: Tom Elson
Justin Shobe

SUBJECT: Supporting Analysis on Groundwater Conditions
2016 Self-Certified Water Conservation Standard

Introduction

This memorandum provides supporting analysis of water supply reliability for the Town of Discovery Bay Community Services District (TODB) used for the individualized self-certified supply conservation standard. The analysis was prepared to comply with the June 2016 State of California Emergency Drought Regulations and in accordance with the Guidance for Water Supply Reliability Certification and Data Submission.

Groundwater is the sole source of supply for the TODB water system. As such, the TODB Community Services District monitors well operations and groundwater conditions to ensure that sufficient supply is available to meet the requirements of its water supply permit. For the subject Water Supply Reliability Certification, this memorandum draws upon prior evaluations of supply including nature, extent, and continuity of the aquifer source, groundwater quality and storage as a function of historical use and hydrology, and overall conditions in the groundwater basin from which the groundwater source is derived.

Previous Investigations, Planning, and Monitoring

The Town of Discovery Bay along with other local water agencies funded a groundwater resources study of eastern Contra Costa County (Luhdorff & Scalmanini Consulting Engineers, 1999) to establish a basic understanding of groundwater resources in the region. The east Contra Costa County area was the subject of an AB3030 groundwater management plan (Diablo Water District, 2007) and the same local agencies cooperatively conduct monitoring under a California Groundwater Elevation Monitoring plan (2014). TODB prepared water master plans in 1999 and 2010 to ensure that infrastructure development matched growth in demand and prepared an Urban Water Management Plan in 2015.

Through each of these activities, local groundwater conditions have continually been evaluated for sufficiency in meeting demand and to determine whether the groundwater source was reliable and sustainable at the level of current and projected future use. Operationally, TODB conducts thorough well performance testing on a bi-annual basis to identify maintenance needs.

Geologic Setting and Groundwater Occurrence

Discovery Bay is located in eastern Contra Costa County in the northwestern San Joaquin River Valley portion of the Great Valley geomorphic province of California. The province is characterized by the low relief valley of the north-flowing San Joaquin River and the south-flowing Sacramento River, which merge in the Delta region just north of the community, draining westward to the Pacific Ocean.

To the west of Discovery Bay, the Coast Range province consists of low mountains of highly deformed Mesozoic and Cenozoic marine sedimentary rocks. These thick marine rocks extend eastward below the Great Valley where they are targets of deep well gas exploration.

Overlying the marine rocks is a sequence of late Cenozoic (Miocene, Pliocene, and Pleistocene) non-marine sedimentary deposits. Surface exposures of these deposits occur in small areas along the edge of the Coastal Range. The beds dip moderately to the east and extend below the San Joaquin Valley. In the subsurface, the nature of these deposits is poorly known, but they are believed to be dominated by fine-grained clays, silts, and mudstones with few sand beds. The lower portion of these deposits may be in part equivalent to the Miocene-Pliocene Mehrten Formation along the east side of the Great Valley. The upper portion of Pliocene and Pleistocene age may be equivalent to the Tulare Formation along the west side of the San Joaquin Valley to the south, and the Tehama Formation of the Sacramento Valley to the north. It is believed that these deposits extend from about 400 feet to 1,500-2,000 feet below the San Joaquin River. Water quality from electric logs is difficult to quantify, but groundwater appears to become brackish to saline with depth.

Late Cenozoic (Pleistocene and Holocene; 600,000 years to present) sedimentary deposits overlie the older geologic units. These deposits are largely unconsolidated beds of gravel, sand, silts, and clays. The deposits thicken eastward from a few tens of feet near the edge of the valley to about 400 feet at the Contra Costa County line. West of Discovery Bay, the deposits are characterized by thin sand and gravel bands occurring within brown, sandy silty clays and are believed to have formed on an alluvial fan plain fed from small streams off the Coastal Range to the west. The alluvial plain deposits interbed and interfinger with deposits of a fluvial plain to the east. The fluvial deposits consist of thicker, more laterally extensive sand and gravel beds of stream channel origin interbedded with flood plain deposits of gray to bluish, sandy to silty clays. Discovery Bay overlies the fluvial plain area of eastern Contra Costa County, and its supply is derived from wells completed in these deposits to a maximum depth of about 350 feet.

Hydrogeologic Setting

Discovery Bay overlies the northwestern portion of the Tracy Subbasin (see **Figure 1**), which is one of sixteen subbasins in the San Joaquin Valley Groundwater Basin as designated in Department of Water Resources Bulletin 118, 2003 Update. The Tracy Subbasin boundaries are defined by the Mokelumne and San Joaquin Rivers on the north; the San Joaquin River on the east; and the San Joaquin-Stanislaus County line on the south. The western subbasin boundary is defined by the contact between the unconsolidated sedimentary deposits and the rocks of the Diablo Range (DWR, 2004).

The hydrogeology of Discovery Bay is illustrated through the geologic cross section shown on **Figure 2**. The cross section depicts the distribution of aquifer materials completed in TODB's supply wells. The maximum depth of groundwater development is about 350 feet below ground surface. Sand units encountered below this depth are interpreted as the uppermost, older non-marine deposits of largely fine-grained silt and clay with thin, fine sand interbeds. Water quality appears to be poor to brackish in the older, deeper sediments. Water quality in the primary production aquifer is described in the next section under Groundwater Conditions.

Overlying the older non-marine deposits are Pleistocene alluvium of generally thick beds of sand and gravel with a thin clay interbed. These are interpreted as stream channel deposits of a northward flowing ancestral San Joaquin River and represent the primary production aquifer from which all TODB supply wells extract groundwater (see **Figure 2**).

The primary production aquifer is confined by a thick sequence of grayish to bluish silt and clay with thin interbeds of sand. This unit appears to represent deposition on a floodplain with the main stream channels further east. Thin sands within this sequence appear to be flood-sprays of sand spread onto the flood plain.

A second aquifer sequence above about 140 feet below ground surface consists of a thinner sand and gravel bed, and is encountered in wells throughout Discovery Bay (see **Figure 2**). These appear to be stream channel deposits, but water quality is brackish to saline. As a result, this zone must be sealed off to protect water quality of the primary production aquifer and to avoid corrosion of the well casing. Overlying the brackish zone is a sequence of gray to brown silt and clay beds with some thin sand beds. These beds appear to be either floodplain deposits or distal alluvial plain deposits from the west.

Groundwater Conditions

Groundwater conditions in Discovery Bay are closely monitored to ensure that TODB can meet the requirements of its public water system permit. Groundwater level data for Discovery Bay have been collected since the late 1980s when the town was developed. Monitoring has evolved to

include compliance with CASGEM and for developing a Groundwater Sustainability Plan (GSP) with other local agencies under the 2014 Groundwater Sustainability Act. Water level and water quality trends are discussed below as indicators of reliability and sustainability of the source.

Groundwater Levels

Early water well driller reports for wells in Discovery Bay indicate that before significant development occurred, static groundwater levels were near sea level. At this elevation, water levels in wells were about 10 feet below ground surface. With the onset of pumping and initial growth, the static level in production wells exhibited seasonal variations between 10 and 40 feet below ground surface. During this period, pumpage increased from about 300 million gallons per year (MGY) in 1987 to about 800 MGY by 2001. Between 2001 and 2008, pumpage increased to 1,300 MGY. After 2008, pumpage leveled off as a result of the national economic downturn and water levels since 2008 have exhibited stable to rising trends. Water level measurements in fall 2014 and 2015 were higher than the last year of the 2007-09 statewide drought. **Figure 3** is a hydrograph showing water level data for TODB's production wells and denotes dry periods and pumpage.

TODB also conducts continuous monitoring of key monitoring wells with the use of water level transducers equipped with dataloggers. Data from this effort are complementary to the seasonal manual measurements in the TODB production wells. An example of output is shown on **Figure 4** with data from a shallow and deep monitoring well at the Well 4 site. The deep monitoring well data reflect daily drawdown induced by the operation of Well 4. The shallow monitoring well is completed in the brackish zone above 140 feet and serves as a sentinel to ensure that pumping influences in the primary production aquifer do not induce downward vertical flow of brackish groundwater.

Groundwater Quality

Groundwater quality from TODB supply wells meets all California primary drinking water standards. Groundwater does not meet secondary standards for manganese, which exceeds the drinking water maximum contaminant limit (MCL) of 0.050 mg/L. As a result, manganese removal treatment is employed so that all Title 22 requirements for drinking water are satisfied. Because of the depth of the primary production aquifer (see **Figure 2**) and presence of confining clay layers, source protection is achieved with deep annular seals in the well structure. As a result, none of the wells have exhibited anthropogenic sources of contamination such as volatile or semi-volatile organic contaminants that are often found in urbanized settings.

The most important water quality concern for the well sources in Discovery Bay is the brackish to saline water that occurs in the shallow zone above 140 feet (see **Figure 2**). With the exception of one well that has a compromised seal, all TODB wells exhibit stable levels of

dissolved mineral content. The problem well serves as an emergency standby source and is anticipated to be replaced.

Groundwater Sustainability and SGMA

In the absence of chronic downward trends in water levels or degraded water quality, TODB's groundwater supply is considered sustainable and does not exhibit any characteristics of unsustainability as defined under the 2014 Sustainable Groundwater Management Act (SGMA). Furthermore, the historic trends through variable hydrologic periods, including the stability in groundwater levels through the recent drought in water years 2013-15, indicate that groundwater pumpage is sustainable at current usage by TODB. To ensure future sustainability, TODB is a participant with other local agencies in seeking to develop a Groundwater Sustainability Plan under SGMA.

Total Available Supply

TODB water supply comes from six (6) existing groundwater production wells. The pumping capacity of these wells ranges from 850 gallons per minute (gpm) to 1,800 gpm. Four of the wells pump at the higher 1,800-gpm capacity. In accordance with the California Waterworks Standards (Title 22), the source capacity of TODB wells are sized such that the maximum day demand of the system can be met with the largest well offline. Thus, there is a redundancy in meeting the maximum day demand, for example, if a well is offline for maintenance during the high demand period.

The total pumping capacity of all TODB wells combined is 9,500 gpm. With the largest well offline, the combined pumping capacity of the remaining wells is 7,700 gpm. In comparison, the current maximum day demand is estimated to be approximately 6,000 gpm. Through an analysis of the TODB water demands (2010 Water Master Plan), it is estimated that when the annual demand reaches 1,800 million gallons per year (MGY) the maximum day demand of the system will be approximately 7,700 gpm. While the TODB supply wells could pump much more than 1,800 MGY if continually operated, this annual production represents the size of the system at which the maximum day demand would be equal to 7,700 gpm, and thus the capacity of the existing well field.

The groundwater questions on Worksheet 1 of the Guidance for Water Supply Reliability Certification and Data Submission form are supported by the data discussed in this technical memorandum as follows:

Do you know the volume of water in the aquifer that is in your source(s) of groundwater?

Yes. The minimum volume of groundwater available to TODB corresponds to the maximum annual historical extraction. While a greater volume might exist, data indicating that no undesirable effects occurred at the maximum pumpage rate provides a conservative estimate of source volume representing a measure of sustainable yield.

How frequently are groundwater elevations monitored?

Key monitoring wells are equipped with transducers and dataloggers set at 15-minute frequency (see **Figure 4**). These wells are used to assess operations and are part of the CASGEM monitoring network for the groundwater subbasin that TODB overlies. Semi-annual monitoring of all production wells is performed at same time as CASGEM monitoring. Additional water level measurements are made at the time of well maintenance activities.

At what depth is/was your water table?

Water levels in TODB production wells indicate full recoveries after droughts in 2007-09 and 2012-14 and current water levels in Wells 1B, 2, and 4 are as high as anytime in the past 20 years (see **Figure 3**). MW4-Deep is used to represent conditions for the TODB well network. The profiles for all existing wells were evaluated for selection MW4 as the sentinel. The depth-to-water readings below were made when nearby production Well 4A was not running. The depth-to-water in feet in June 2013 and June 2016 for this well are as follows:

<i>June 20, 2013</i>	<i>June 20, 2016</i>
57.4	57.0

How many feet can you withdraw without substantially affecting your ability to pump water?

Well 4A is representative of the TODB supply well network. The historic low static level is 66 to 68 feet recorded in the fall of dry years 2008, 2009, and 2014 (see **Figure 3**). In fall of 2009, when the historic low static water level was measured, a pump performance test was performed in which the pumping level was 132 feet at the operating flow rate. The pump setting depth is 180 feet, providing a margin of 48 feet. For the same pump setting depth, the low static water level could decline an additional 40 feet without requiring lowering of the pump or adversely affecting daily extraction in high demand months. As part of this determination, the pump curve and well profile were examined.

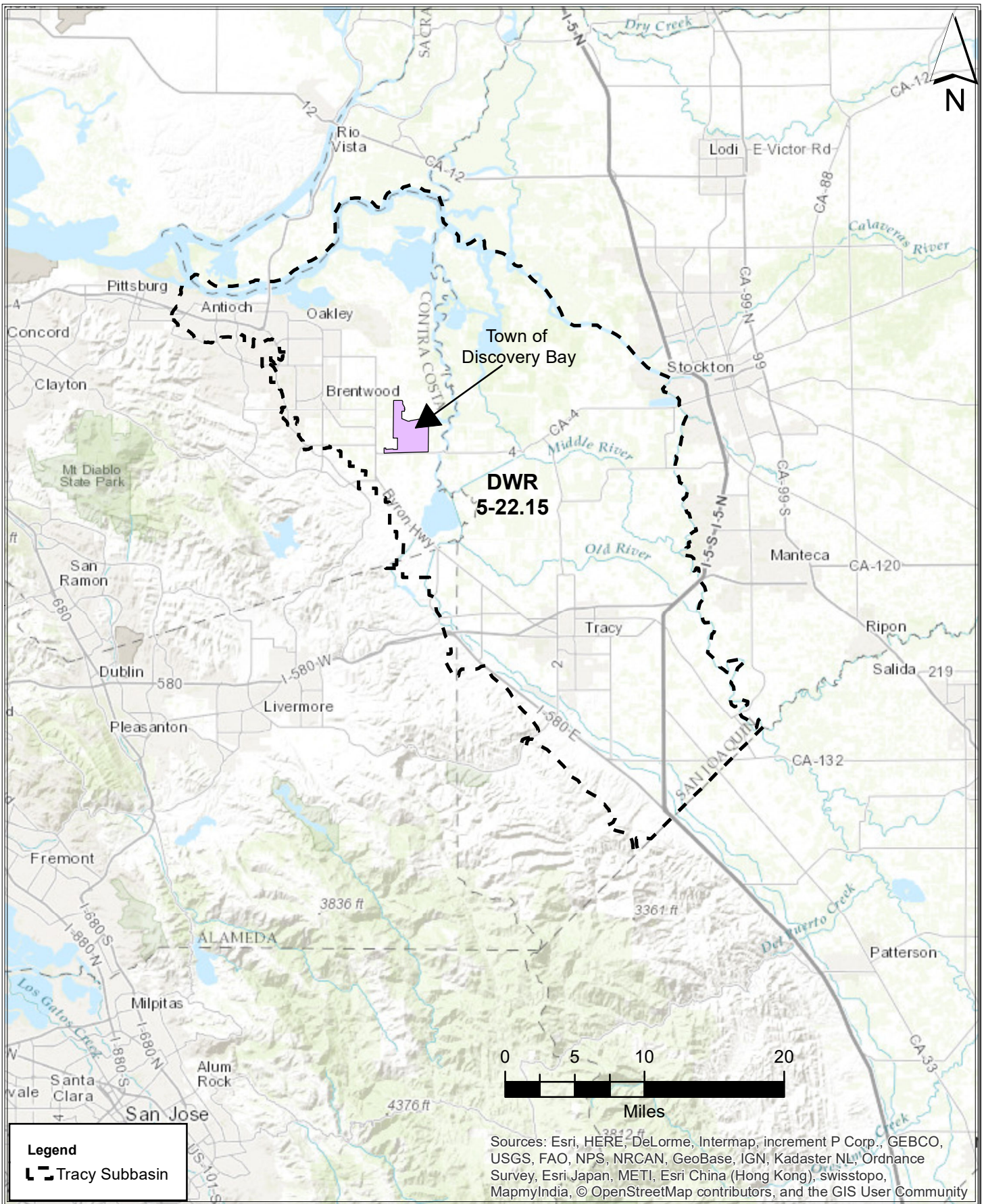
References

Diablo Water District. 2007. *Groundwater Management Plan for AB 3030*. Prepared by Luhdorff & Scalmanini, May.

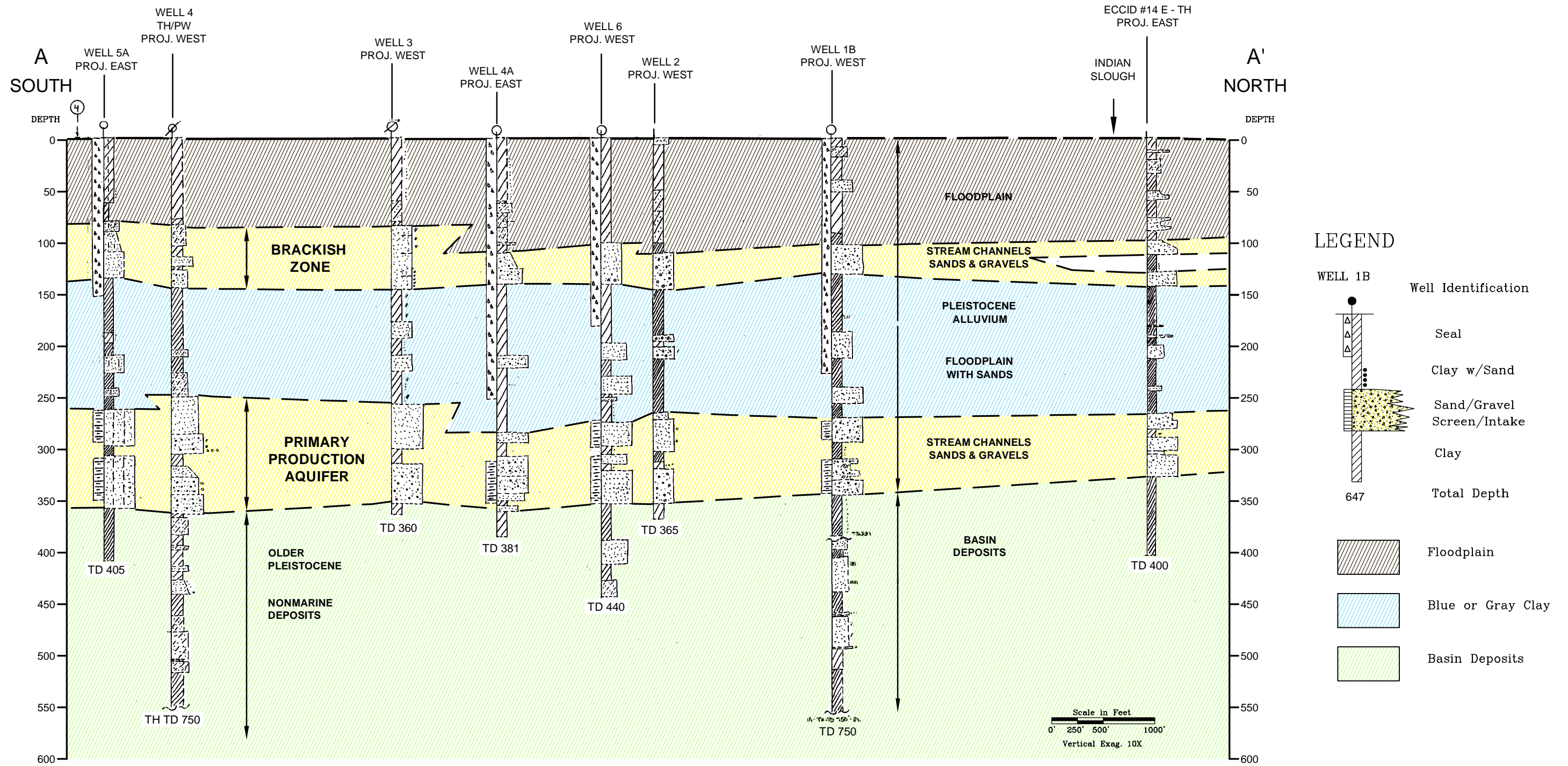
Luhdorff & Scalmanini Consulting Engineers. 1999. *Investigation of Groundwater Resources in the East Contra Costa Area*. Prepared for five water agencies in eastern Contra Costa County. March.

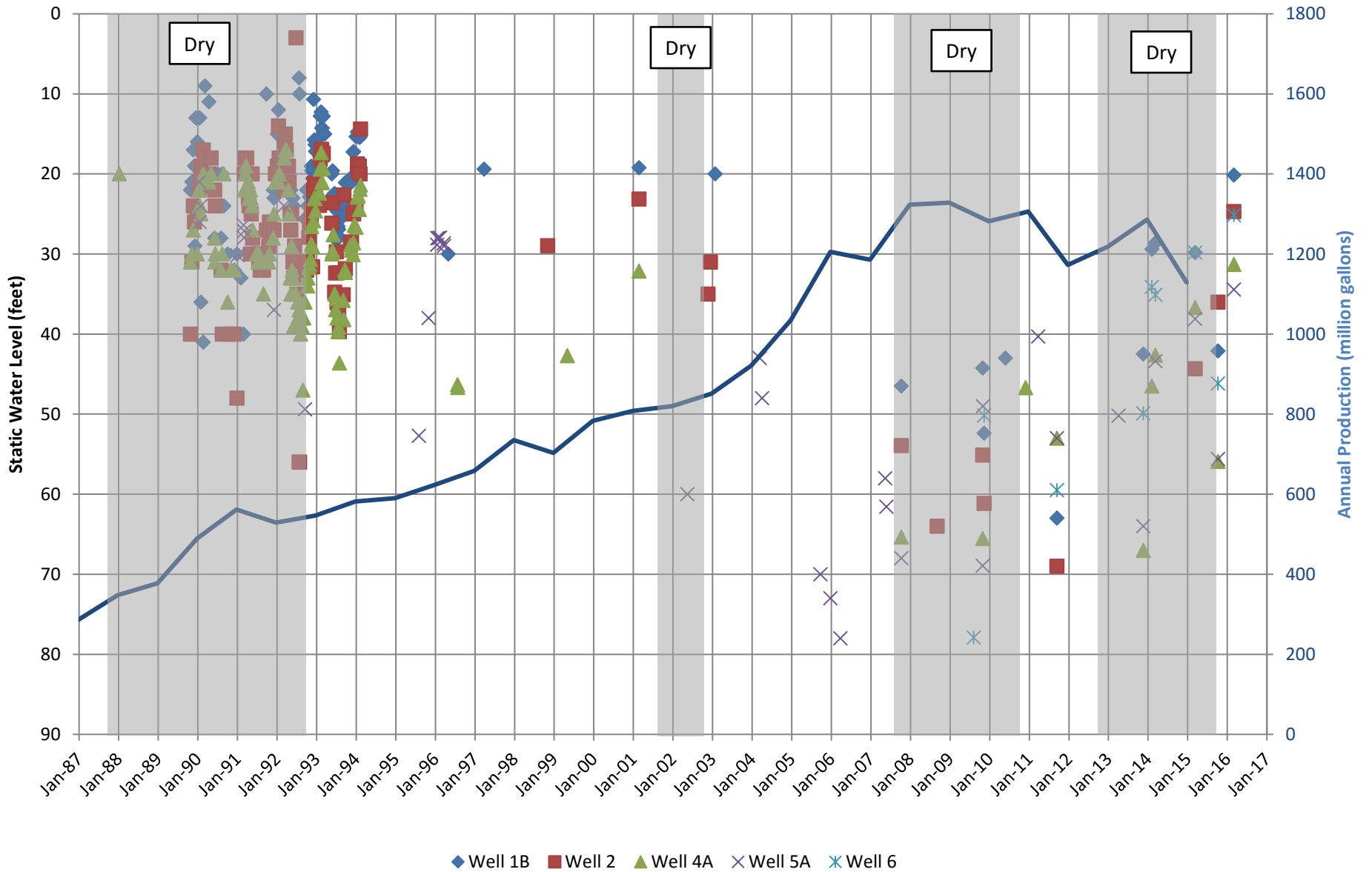
_____. 2014. *East Contra Costa County Groundwater Elevation Monitoring (CASGEM) Network Plan*. Prepared by Luhdorff & Scalmanini, July.

_____. 2014. *East Contra Costa County Groundwater Elevation Monitoring (CASGEM) Network Plan*. Joint plan for Town of Discovery Bay and five water agencies in eastern Contra Costa County. Prepared by Luhdorff & Scalmanini, July.



X:\2014 Job Files\14-126 East Contra Costa County GSP\GIS_EastCCC\Tracy Subbasin\Figure 1_TODB.mxd





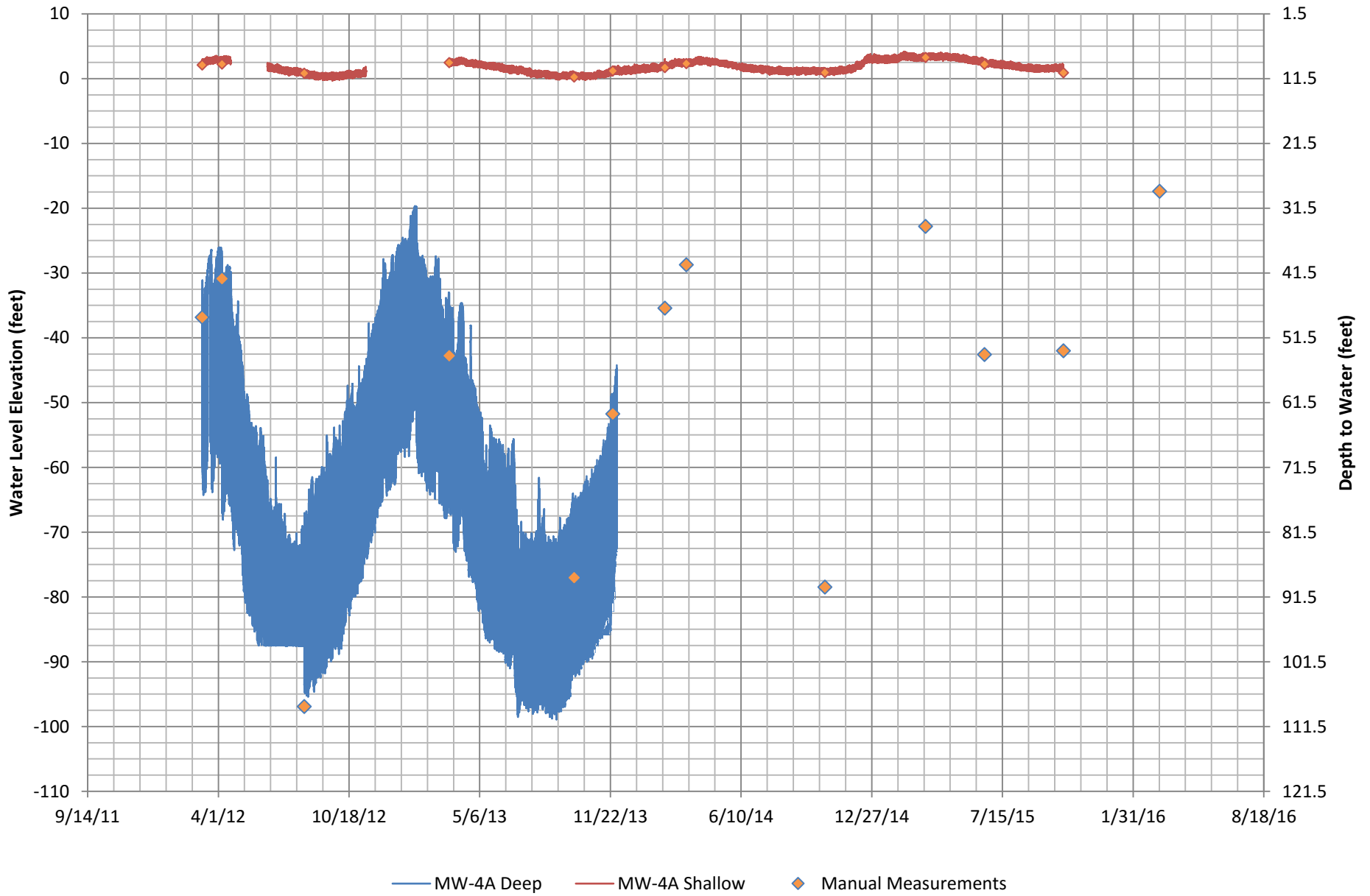


Figure 4
Continuous Monitoring at Monitoring Well 4

Appendix F
TODB Water Shortage Contingency Plan

Water Shortage Contingency Plan

Town of Discovery Bay Community Services District

January 20, 2021

Prepared for



Prepared by



TABLE OF CONTENTS

Section 1	Water Supply Reliability Analysis.....	1
Section 2	Annual Water Supply and Demand Assessment	2
	Available Water Supply	2
	Unconstrained Customer Demand	2
	Evaluation Criteria.....	2
	Planned Water Use for Current Year Considering Dry Subsequent Year	3
	Infrastructure Considerations.....	3
Section 3	Standard Water Shortage Levels.....	3
Section 4	Shortage Response Actions	5
	Supply Augmentation	5
	Demand Reduction	5
	Operational Changes.....	7
	Additional Mandatory Restrictions.....	7
	Emergency Response Plan	8
	Seismic Risk Assessment and Mitigation Plan	8
	Shortage Response Action Effectiveness.....	8
Section 5	Communication Protocols	8
Section 6	Compliance and Enforcement.....	9
Section 7	Legal Authorities.....	10
Section 8	Financial Consequences of WSCP.....	10
Section 9	Monitoring and Reporting.....	10
Section 10	WSCP Refinement Procedures.....	10
Section 11	Special Water Feature Distinction.....	11
Section 12	Plan Adoption, Submittal and Availability.....	11

LIST OF TABLES

Table 1	Water Shortage Contingency Plan Levels
Table 2	Demand Reduction Actions
Table 3	Mandatory Restrictions
Table 4	Communication Protocol for Each Level
Table 5	Penalties and Charges

APPENDICES

Appendix A	Resolution 2014-11 – Voluntary Water Reduction
Appendix B	Ordinance No. 2016-27 – TODB Drought Regulation
Appendix C	Sample Resolution – Implementation of Water Supply Shortage Level

This Water Shortage Contingency Plan (WSCP) outlines water supply reliability analysis, annual water supply and demand assessment procedures, water shortage levels, water shortage response actions and communication protocols that will be implemented by the Town of Discovery Bay Community Services District (TODB) in the event of water supply shortages due to catastrophic events, drought, etc. The purpose of this WSCP is to provide a plan of action to be followed at the various levels of a water shortage. A copy of the TODB's Resolution 2014-11 Voluntary Water Reduction and Ordinance 2016-27 Drought Regulation, are included in Appendix A and B.

SECTION 1 WATER SUPPLY RELIABILITY ANALYSIS

California Water Code (CWC) Section 10632(a)(1) requires an analysis of water supply reliability per CWC Section 10635. The TODB relies exclusively on groundwater to meet customer needs and has historically met customer demands through times of drought. Conditions could arise such as catastrophic events, prolonged periods of drought, unforeseen impacts to the groundwater supply, etc. that could require the activation of the WSCP.

The TODB maintains six well facilities which meet the maximum day demand of its system with the largest well source offline, in accordance with State of California Code of Regulations, Title 22 California Waterworks Standards. Water supplies to meet the maximum daily demand and instantaneous peak flow requirements of the system are maintained through a combination of the water supply wells, treatment, storage, and booster pump capacity. All water is pumped from the East Contra Costa Groundwater Subbasin.

The water supply reliability analysis is based on the ability to meet annual water demands, as required in CWC 10635. The analysis considers the capacity of operating all six wells for 12 hours per day, 365 days per year, which the wells are capable of supplying. The total pumping capacity of the six wells is 2,500 million gallons per year. However, the wells will only be operated to the extent that meets the TODB's demand and thus will pump less than what is possible.

The water demand for the TODB was 1,050 million gallons for the fiscal year from July 1, 2019 to June 30, 2020. Water demand projections from the TODB's 2020 Urban Water Management Plan project a water demand of 1,941 million gallons per year in 2045. Thus, the existing capacity of the wells can reliably meet current and future annual water demands based on current growth projections.

Historically, the TODB has not experienced water supply shortfalls during periods of drought including the recent drought in 2012 through 2015. The groundwater wells can adequately meet the projected annual demands. The TODB is participating in the East Contra Costa Groundwater Sustainability Working Group to develop a Groundwater Sustainability Plan to ensure the continued reliability of groundwater to meet the water demands of the basin.

SECTION 2 ANNUAL WATER SUPPLY AND DEMAND ASSESSMENT

CWC Section 10632 (a)(2) requires written procedures to be developed to conduct an annual water supply and demand assessment (annual assessment) to determine the water system's reliability. The annual assessment needs to be completed and submitted to the California Department of Water Resources (DWR) by July 1 of each year.

A presentation to the TODB Board of Directors shall be made each year following the completion of the annual assessment and prior to submittal to DWR. The Board of Directors shall vote on the findings of the annual assessment and if necessary, trigger implementation of any water shortage response actions resulting from the annual assessment through a resolution. Appendix C includes a sample resolution for Implementation of Water Supply Shortage Level.

The steps to complete the annual assessment are described below.

Available Water Supply

Available water supplies for the TODB shall be quantified each year by summing the capacity of each groundwater well. An analysis of one subsequent dry year shall also be done. Since the TODB has not historically been impacted by drought, the available supply for the subsequent dry year shall be the same as the current year.

Unconstrained Customer Demand

Water use for the previous year shall be quantified by summing the meter usage of each customer class for the previous year. Customer water demands for the TODB shall be projected for the upcoming year based on the previous year's water usage and the number of anticipated new customer connections.

The first step to calculate the anticipated demand is to calculate the future population. To calculate future population, multiply the number of anticipated new customer connections by the number of persons per household as shown on the U.S. Census Bureau website for the TODB. That number shall be added to the current population to obtain the future population.

$$\text{Future Population} = \text{Current Population} + \text{No. of New Connections} \times \text{Persons per Household}$$

To calculate anticipated demands for the upcoming year, multiply each meter usage per customer class by the future population and divide it by the current population.

$$\text{Anticipated Demand} = \frac{\text{Meter Usage} \times \text{Future Population}}{\text{Current Population}}$$

Evaluation Criteria

If the available water supply is greater than the anticipated customer demand for the upcoming year, then the TODB does not need to take any further action. If the anticipated customer demand for the upcoming year is greater than the available water supplies the TODB can initiate water conservation actions as detailed

in this WSCP.

Planned Water Use for Current Year Considering Dry Subsequent Year

As mentioned above, the TODB has not historically been impacted by drought thus planned water use for the current year shall not be impacted by an anticipated subsequent dry year.

Infrastructure Considerations

If infrastructure projects are anticipated for the upcoming year that could impact water supply production (e.g. repairs at treatment plant, new groundwater well, etc.), these water supply impacts shall be evaluated for the timeframe (i.e. months) the infrastructure projects will impact the system. Thus, the available water supply shall be increased or reduced accordingly for each month.

SECTION 3 STANDARD WATER SHORTAGE LEVELS

CWC Section 10632 (a)(3)(A) requires standard water shortage levels including greater than a 50-percent reduction in water supply. The TODB will implement six water shortage levels in response to water supply shortages to comply with CWC requirements. The levels will be implemented during water supply shortages, or regional drought conditions that may not be directly influencing the TODB water supplies. The level determination and declaration of a water supply shortage will be made by the TODB Board of Directors.

Level I – This level would be initiated during a mild water shortage (up to 10%) and is part of an ongoing public information campaign encouraging voluntary water conservation. The TODB issued a resolution for voluntary water use in *Resolution 2014-11 – Voluntary Water Reduction* (Appendix A). There are no mandatory measures during Level I. Although Level I is ongoing, customers are reminded when a regional single-year drought is occurring.

Level II – This level would be initiated during a moderate water shortage (11-20%) and would be addressed through enhanced voluntary measures and public outreach with voluntary enforcement of the water waste ordinance. Level II would be implemented during a moderate drought where water conservation is mandatory but impacts to the TODB's groundwater supply wells are negligible or non-existent. During Level II, the TODB Board of Directors will declare prohibitions on water use, in accordance with the TODB *Ordinance No. 2016-27 Drought Regulation* (Appendix B).

Level III – This level would be initiated during a severe regional water shortage (21 to 30%), which could be caused by State mandated water use reductions or when the TODB has a redundant back-up well offline for repairs, which makes the overall supply system more vulnerable to shortages. During Level III, the TODB Board of Directors would adopt a new ordinance providing authority for the General Manager to implement additional prohibitions and consumption reduction methods that would include cutbacks in irrigation water use by all customers, enhanced leak repair by customers and the District, establishment of water shortage pricing surcharges, and other consumption reduction methods as needed to effectively reduce water demands to match available supplies.

Level IV – This level would be initiated during a critical water shortage (31 to 40%), which could be caused by a catastrophic failure of two groundwater supply wells. All steps taken in the prior levels would be intensified and production would be monitored daily for compliance with necessary reductions. Residents would be under water rationing. The TODB would be in emergency status to repair and bring online water supply wells.

Level V – This level would be initiated during a critical water shortage (41-50%), which could be caused by a natural disaster, prolonged severe drought event, or failure of water system facilities that greatly reduces supply capacity.

Level VI – This level would be initiated during a catastrophic water shortage (>50%), which could be caused by a natural disaster, catastrophic failure of the system of 3 or more groundwater supply wells. Rationing and mandatory restrictions would be enhanced as needed to effectively reduce water demands to match available supplies.

Table 1 lists the six (6) water shortage levels of the WSCP.

Table 1: Water Shortage Contingency Plan Levels

	Percent Shortage Range	Water Shortage Condition
1	Up to 10%	Mild Water Shortage
2	Up to 20%	Moderate Water Shortage
3	Up to 30%	Severe Water Shortage
4	Up to 40%	Critical Water Shortage
5	Up to 50%	Critical Water Shortage
6	>50%	Catastrophic Water Shortage

The six water shortage levels represent an ever-increasing gap between normal available supplies and normal expected customer demands to be addressed through appropriate local water shortage response actions.

SECTION 4 SHORTAGE RESPONSE ACTIONS

CWC Section 10632(a)(4) requires water suppliers to implement water shortage response actions that align with the water shortage levels and include water supply augmentation actions, demand reduction actions, operational changes, mandatory prohibitions, and an estimate of the projected water demand reduction from the action.

Supply Augmentation

The TODB relies exclusively on groundwater to meet its water supply needs and does not have access to surface water or water supply augmentation through other means. Existing wells could be modified to increase pumping capacity if feasible. Recycled water available at the TODB wastewater treatment plant can be considered for non-potable applications although there is currently no infrastructure nor permit in place to support the use of recycled water.

Demand Reduction

The CWC requires the water supplier to implement consumption-reduction actions during the most severe levels of water shortage that are capable of reducing water use by at least 50%. The TODB would implement the water consumption–reduction actions shown on Table 2, below. Some of the methods are on-going and are part of the TODB water conservation efforts addressed in the Demand Management Measures. The actual combination of measures implemented will be based on water shortage levels and the effectiveness of demand reduction measures.

Table 2: Demand Reduction Actions

Shortage Level	Demand Reduction Actions	Projected Reduction	Additional Explanation	Penalty or Charge
All levels	Other	0-50%	Demand Reduction Program	No
I-II	Other	0-20%	Voluntary Water Use Reductions	No
I-II	Other	0-20%	Voluntary Restrictions – no waste, not enforced	No
I-II	Expand Public Information Campaign	0-20%	Public Outreach Measures - General	No
II-VI	Other	20-30%	Expedite Conversion of Water Efficient Fixtures	No
II-III	Landscape - Limit landscape irrigation to specific days	20-30%	Irrigation Reduction – limit 3 watering days/week	Yes
II-VI	Landscape - Prohibit certain types of landscape irrigation	20-40%	Irrigation Reduction – parks/open spaces	Yes
II-VI	Other	20%+	Utility Leak Repair – expedite larger leak repairs	No
III-IV	Landscape - Limit landscape irrigation to specific days	30-40%	Irrigation Reduction – limit 2 watering days/week	Yes
III-VI	Expand Public Information Campaign	30%+	Public Outreach Measures – General and Specific	No
III-VI	Implement or Modify Drought Rate Structure or Surcharge	30-50%	Water shortage pricing - surcharge	Yes
III-VI	Other - Customers must repair leaks, breaks, and malfunctions in a timely manner	30%+	Customer Leak Repair – within five days of detection	Yes
III-VI	Other	30-50%	Mandatory restrictions – no waste enforced [patrols, tickets, fines, etc.]	Yes
III-VI	Other	30-50%	Apply penalties for excessive water use	Yes
IV-VI	Other	40-50%	Apply flow restrictions to customers	Yes
IV-VI	Other	10-50%	Restrict water use for only priority uses	Yes
V-VI	Landscape - Prohibit all landscape irrigation	40%-50%+	Irrigation Reduction – no lawn watering	Yes
V-VI	Other	20-50%	Mandatory water rationing, per capita allotment	Yes

Operational Changes

During times of water supply shortage, the TODB can also implement operational changes such as reduced system flushing, increased hydrant security, meter upgrades for accurate measurement of water use and enhanced reading capabilities, and change water CIP priorities to focus on water reducing projects and programs. Staff can make use of customer water meter information to monitor where water leaks may be occurring. If water meter monitoring is implemented, Staff shall endeavor to notify customers of possible water leaks. During demand reduction actions are initiated, the operations can avoid using inefficient wells that are known to result in higher levels of system flushing.

Additional Mandatory Restrictions

The TODB would implement additional mandatory restrictions against specific water use practices that may be considered excessive during water shortages. If drought conditions or water shortages warrant mandatory restrictions (Level III), the TODB will implement the current water shortage emergency response plan, *Ordinance No. 2016-27 Drought Regulation* (Appendix B). Further mandatory restrictions will be implemented if warranted based on Level IV, V or Level VI conditions. Table 3 identifies mandatory restrictions that would be enforced during a water shortage emergency.

Table 3: Mandatory Restrictions

Restrictions	Level When Restriction Becomes Mandatory
Excessive outdoor watering (causing runoff to non-irrigated areas)	II, III, IV
Use of hose without a shut-off nozzle for vehicle washing	II, III, IV
Application of water to driveways or sidewalks	II, III, IV
Use of water in non-circulating fountain or water feature	II, III, IV
Outdoor irrigation beyond the allowed watering schedule	II, III, IV
Uncorrected plumbing leaks	III, IV
Washing cars	III, IV
Watering lawns/landscapes or filling outdoor water features	III, IV

Emergency Response Plan

In the event of catastrophic reduction in water supplies, the TODB would implement emergency preparedness plans, depending on the cause and severity of the water shortage. A catastrophic event resulting in a water shortage would be any event, either natural or man-made, with varying levels of severity to the water supply conditions. Examples include, but are not limited to, a regional power outage, an earthquake, or other disasters.

The TODB has in place an Emergency Operations Plan that would be implemented by the TODB staff in the event of a catastrophic water shortage. The TODB has equipped its facilities with standby emergency generators that would be operated if the catastrophic event involved loss of power. Both of the water treatment plants and booster stations are equipped with permanent emergency generators and automatic transfer switches. The TODB owns portable generators that can be used to operate the groundwater pumping stations. If there is catastrophic rupturing of pipelines, during an earthquake for example, the emergency operations procedures would be followed to isolate the damaged sections, notify customers and immediately repair the damage. Table 1 shows an example of how water shortage levels are tied to catastrophic loss of wells.

Seismic Risk Assessment and Mitigation Plan

The CWC requires the WSCP to include a seismic risk assessment and mitigation plan to assess the vulnerability of each water facility. Per CWC Section 10632.5 (c), this requirement is met by the Contra Costa County Hazard Mitigation plan.

Shortage Response Action Effectiveness

The CWC Section 10632(a)(4)(E) requires the water supplier to estimate the projected reduction of each shortage response action to close the gap between supplies and demand. Estimated water use reduction is shown above in Table 2.

SECTION 5 COMMUNICATION PROTOCOLS

The CWC Section 10632 (a)(5)(A) requires the TODB to notify all customers and stakeholders of any anticipated water shortages as result of the annual water supply and demand assessment. Per, the CWC Section 10632 (a)(5)(B), the TODB will also notify all customers and stakeholders if any shortage response actions are triggered pursuant to the annual water supply and demand assessment. In the event of an anticipated water shortage, the TODB will inform customers through newsletters and messages on the TODB website, water bill inserts, direct mail (e.g. post cards), newspapers, press releases, advertising, social media (Nextdoor app), mobile electronic street sign and community workshops and meetings as shown below in Table 4.

Table 4: Communication Protocol for Each Level

Level No.	Water Supply Conditions	Communication Method
I - Voluntary	Normal to Minimum (0 to 10%)	None
II – Mandatory Conservation	Moderate (11 to 20%)	Bill Insert, Newsletter, Website
III - Rationing	Severe (21 to 30%)	Same as above plus: direct mail, newspaper, press release, advertising, social media, mobile electronic sign
IV – Intense Rationing	Critical (31 to 40%)	Same as above, plus: community workshop and meetings
V - Restrictions/Allocations	Critical (41 to 50%)	Same as above
VI - Restrictions/Allocations	Catastrophic (> 50%)	Same as above

SECTION 6 COMPLIANCE AND ENFORCEMENT

CWC Section 10632 (a)(6) requires a water supplier to penalize or charge for excessive use, where applicable. In accordance with the TODB Ordinance No. 2016-27, when a water shortage emergency is declared, the General Manager may issue a Notice of Violation to any customer that fails to comply with the conditions of the ordinance. After one notice has been issued further violations shall be punishable by a fine of: \$25 for a first violation; \$50 for a second violation; \$100 for a third violation; and \$500 for a fourth violation and any subsequent violation thereafter. Furthermore, each day upon which any condition of the ordinance is violated constitutes a separate violation.

During severe and critical water shortages (Levels III, IV, V and VI), there will be additional charges applied for excessive water use. During these water shortages, the General Manager may take further actions if violations continue after the one written warning, such as installing a flow-restricting device on the service line, or termination of service for repeated violations of unauthorized water use. Table 5 presents the stages during which penalties and charges take effect.

Table 5: Penalties and Charges

Penalties or Charges	Stage When Penalty Takes Effect
Penalty for Excess Use	III-VI
Charge for Excess Use	III-VI
Flow Restriction	IV-VI
Termination of Service	V-VI

In accordance with the TODB Ordinance No. 2016-27, violations or fines may be appealed for reconsideration. Appeals for reconsideration shall be processed as indicated in the TODB Ordinance No. 2016-27.

SECTION 7 LEGAL AUTHORITIES

Per the TODB Drought Regulation, Ordinance No. 2016-27, the TODB has the authority to implement the water response actions presented in Section 4.

The TODB shall declare a water shortage emergency as required depending on the severity of the water shortage level in accordance with CWC Chapter 3, Sections 350 through 359.

The TODB shall coordinate with Contra Costa County for the possible proclamation of a local water supply emergency per California Government Code, California Emergency Services Act, Article 2, Section 8558.

SECTION 8 FINANCIAL CONSEQUENCES OF WSCP

CWC Section 10632 (a)(8) requires a description of the impacts of consumption reduction on the revenues and expenditures of the water supplier. The TODB will establish an accounting system for tracking expenses and revenue shortfalls associated with voluntary and mandatory water use reductions. The TODB maintains reserve funds that can be used to offset expenditure impacts during times of emergency. The TODB will implement a surcharge to recover unmitigated revenue shortfalls.

SECTION 9 MONITORING AND REPORTING

Per CWC Section 10632 (a)(9), the TODB will monitor and report on the implementation of the WSCP. Monthly water production and metered water use data will be collected, tracked and analyzed to monitor compliance and meet state reporting requirements. The State Water Resources Control Board is in the process of preparing regulations for regular monthly water use reporting by urban water suppliers.

SECTION 10 WSCP REFINEMENT PROCEDURES

Per CWC Section 10632 (a) (10), the TODB may choose to refine the WSCP based on monitoring and reporting of data collected. Based on analysis of the data collected, the TODB may choose to modify or

add consumption reduction methods to more accurately meet water level targets. Any updates to the WSCP will be approved by the Board of Directors as needed to maintain an effective water shortage response plan for the community.

SECTION 11 SPECIAL WATER FEATURE DISTINCTION

Per CWC Section 10632 (b), the TODB shall analyze and define water features in the WSCP that are artificially supplied with water, including, ponds, fountains, etc. separately from pools and spas as defined by subdivision (a) of Section 115921 of the Health and Safety Code. Pools and spas must use potable water whereas ponds, fountains and other water features may be able to use recycled water.

SECTION 12 PLAN ADOPTION, SUBMITTAL AND AVAILABILITY

Per the CWC, the following steps shall be performed prior to adoption of the WSCP:

The TODB will issue a notification of a public hearing to customers, the county and public.

- The TODB will publish in a local newspaper for two consecutive weeks notification of the public hearing.
- The TODB shall hold a public hearing to obtain public input.
- Following the public hearing or at a subsequent Board meeting, the Board of Directors shall formally adopt the WSCP.
- Per CWC Section 10632 (a)(c), the TODB will make the WSCP available on the TODB's website, <https://www.todb.ca.gov/>, within 30 days of adoption by the Board of Directors.

The TODB may choose to amend the WSCP at any time, if so each of the steps above must be followed.

Appendix A

Resolution 2014-11 - Voluntary Water Reduction



**TOWN OF DISCOVERY BAY
COMMUNITY SERVICES DISTRICT**

RESOLUTION 2014-11

**A RESOLUTION OF THE BOARD OF DIRECTORS
OF THE TOWN OF DISCOVERY BAY,
A CALIFORNIA COMMUNITY SERVICES DISTRICT,
ENCOURAGING DISCOVERY BAY RESIDENTS TO VOLUNTARILY
REDUCE WATER CONSUMPTION BY 20% TO AID IN DROUGHT RELIEF EFFORTS**

WHEREAS, Town of Discovery Bay Community Services District has as one of its functions the production, treatment and delivery of potable water for domestic purposes; and

WHEREAS, the State of California is in the midst of a three-year water drought that has severely depleted the reservoirs and lakes necessary to provide continued water supplies to all Californians; and

WHEREAS, on January 17, 2014 California Governor Edmund G. Brown declared a water State of Emergency as California and the West enter yet another year of extreme drought conditions; and

WHEREAS, on April 25, 2014 Governor Brown urged all Californians to reduce water consumption by 20%, and encourages all Californians to visit www.saveourh2o.org to find out how water can be conserved.

NOW, THEREFORE, THE BOARD OF DIRECTORS OF THE TOWN OF DISCOVERY BAY COMMUNITY SERVICES DISTRICT DOES HEREBY RESOLVE AS FOLLOWS:

SECTION 1. That the Town of Discovery Bay encourages all Discovery Bay water users to voluntarily reduce water consumption by 20% until the time the drought has ended and to visit www.saveourh2o.org to find ways to conserve water.

SECTION 2. The Board Secretary shall certify the adoption of this Resolution.

PASSED, APPROVED AND ADOPTED THIS 4th DAY OF June, 2014.

Mark Simon
Board President

I hereby certify that the foregoing Resolution was duly adopted by the Board of Directors of the Town of Discovery Bay Community Services District at a regularly scheduled meeting, held on June 4, 2014, by the following vote of the Board:

AYES: 5
NOES: 0
ABSENT: 0
ABSTAIN: 0

Richard J. Howard
Board Secretary

Appendix B

Ordinance No. 2016-27 – TODB Drought Regulation



**TOWN OF DISCOVERY BAY
COMMUNITY SERVICES DISTRICT
ORDINANCE NO. 2016-27**

**AN ORDINANCE OF THE BOARD OF DIRECTORS
OF THE TOWN OF DISCOVERY BAY,
A CALIFORNIA COMMUNITY SERVICES DISTRICT,
DROUGHT REGULATION ORDINANCE
AMENDING IN ITS ENTIRETY AND RE-NUMBERING ORDINANCE NO. 25**

Be it ordained by the Board of Directors of the Town of Discovery Bay Community Services District as follows:

SECTION 1. Short Title

This Ordinance shall be known and may be cited as Town of Discovery Bay Drought Regulation Ordinance ("Ordinance").

SECTION 2. Purpose

The purpose of this Ordinance is to protect the health, safety, and welfare of residents of the Town of Discovery Bay Community Services District ("District"); to continue to respond to the ongoing drought issues and to regulate water usage in the District for the purpose of conserving limited water resources.

SECTION 3. Water Shortage Emergency Declaration and Response Authority

The Board of Directors may declare a water shortage emergency by resolution upon finding that water use restrictions are necessary for the immediate protection of health and safety or as required by State law.

A water shortage emergency declaration is effective until the Board of Directors finds, and declares by resolution, that the water shortage emergency condition has abated, changed in degree, or no longer exists.

The Board of Directors has the authority to continue water conservation regulations to address water supply conditions within the District. The Board of Directors may also take additional action to prevent waste and unreasonable use of water and to further promote conservation.

SECTION 4. Water Conservation Regulations

While the District continues to be impacted by limited water supplies, the following activities are prohibited, except where necessary to address an immediate health and safety need:

1. The application of potable water to outdoor landscapes in a manner that causes runoff such that water flows onto adjacent property, non-irrigated areas, private and public walkways, roadways, parking lots, or structures;

2. The use of a hose that dispenses potable water to wash a motor vehicle except where the hose is fitted with a shut-off nozzle or device attached to it that causes it to cease dispensing water immediately when not in use;
3. The application of potable water to driveways and sidewalks;
4. The use of potable water in a fountain or other decorative water feature, except where the water is part of a recirculating system;
5. The application of potable water to outdoor landscapes during and within 48 hours after measurable rainfall;
6. The irrigation of landscapes outside of newly constructed homes and buildings with potable water in a manner inconsistent with regulations or other requirements established by the California Building Standards Commission and the Department of Housing and Community Development;
7. The irrigation of ornamental turf on public street medians with potable water;
8. The serving of drinking water other than upon request in eating or drinking establishments, including but not limited to restaurants, hotels, cafes, cafeterias, bars, or other public places where food or drink are served or purchased.

SECTION 5. Enforcement

The General Manager of the District shall administer, implement and enforce the provisions of this Ordinance. Any powers or duties granted to the General Manager may be delegated by the General Manager to persons acting in the beneficial interest of or in the employ of the District.

SECTION 6. Violation

The General Manager, or his/her designee, may issue a Notice of Violation to any person, business, association, or other party who fails to comply with any conditions of this Ordinance. Any person, business, association or other party violating this Ordinance after issuance of a Notice of Violation shall be assessed a fine of \$25 for a first violation, a fine of \$50 for a second violation in any 6-month period, and a fine of \$100 for each additional violation in any 6-month period. Fines assessed pursuant to this Ordinance may be included in the offending party's water service bill or, for unmetered accounts which do not receive a water service bill, with the water service charges collected on the county tax roll on behalf of the District. Non-payment of water service bills or water service charges collected on the county tax roll on behalf of the District, including the non-payment of any fine included therein, may result in termination of service and disconnection from the water system pursuant to District Ordinance. In addition to any other action taken by the District, the District may utilize an outside collection agency to recover unpaid fines.

Any use or activity in violation of the terms of this Ordinance is declared to be a nuisance per se, and may be abated by order of any court of competent jurisdiction. The District Board, in addition to other remedies, may institute any appropriate action or proceedings to prevent, abate, or restrain the violation. All costs, fees and expenses in connection with such action shall be assessed as damages against the violation.

SECTION 7. Appeals

Any party subject to a Notice of Violation or fine issued pursuant this Ordinance may appeal for reconsideration. Appeals for reconsideration shall be processed as follows:

1. A party appealing for reconsideration a Notice of Violation or fine issued pursuant to this Ordinance shall do so in writing to the General Manager by either using forms provided by the District or by letter setting forth in detail the reasons for the appeal.
2. The General Manager shall review all appeals for consideration and shall within fifteen (15) days of receipt of the written appeal notify the appealing party of his or her decision to deny or sustain the appeal, or to modify the Notice of Violation or fine based on the evidence presented.
3. If the appealing party disagrees with the General Manager's decision, the decision may be appealed to the Board of Directors. An appeal to the Board of Directors shall be submitted in writing to the Clerk of the Board by either using forms provided by the District or by letter setting forth in detail the reasons for the appeal. Each appeal to the Board of Directors shall be accompanied by the payment of an appeal fee of \$25.00, or as set by resolution of the Board of Directors, to defray the costs of the appeal.
4. If an appeal to the Board of Directors is made, the appealing party shall be notified of a hearing date by mail. Such hearing shall be scheduled within thirty (30) days of receipt of the written appeal. A decision shall be forwarded to the appealing party within fifteen (15) days after completion of the hearing. Decisions by the Board of Directors are final.

SECTION 8. Severability

The various parts, paragraphs, section, and clauses of this Ordinance are declared to be severable. If any part, sentence, paragraph, section, or clause is adjudged unconstitutional or invalid by a court of competent jurisdiction, the remainder of the Ordinance shall not be affected.

SECTION 9. Adoption and Effective Date

This Ordinance is hereby declared to have been adopted by the District Board of Directors at a meeting thereof duly called and held on the 6th day of July, 2016, and ordered to be given effect thirty (30) days after its first publication as mandated by statute.


CERTIFICATION

Passed and adopted at a regular meeting of the Board of Directors of the Town of Discovery Bay Community Services District held on July 6, 2016 by the following vote:



Bill Pease
Board President

AYES: 5
NOES: 4
ABSENT: 0
ABSTAIN: 0



Catherine Kutsuris
Board Secretary

Appendix C

Sample Resolution – Implementation of Water Supply Shortage Level

TOWN OF DISCOVERY BAY COMMUNITY SERVICES DISTRICT

RESOLUTION _____

**A RESOLUTION OF THE BOARD OF DIRECTORS OF THE TOWN OF DISCOVERY BAY,
A CALIFORNIA COMMUNITY SERVICES DISTRICT,**

**ON THE IMPLEMENTATION OF LEVEL [III, IV, V OR VI] OF THE WATER SHORTAGE
CONTINGENCY PLAN AS OUTLINED IN THE 2020 URBAN WATER MANAGEMENT PLAN ON
FILE WITH THE CALIFORNIA DEPARTMENT OF WATER RESOURCES**

WHEREAS, on [DATE], by Resolution _____, The Board of Directors of the Town of Discovery Bay Community Services District approved the 2020 Urban Water Management Plan (UWMP); and

WHEREAS, the 2020 Urban Water Management Plan includes the Water Shortage Contingency Plan which is required for inclusion in a Department of Water Resources (DWR) compliant 2020 UWMP; and

WHEREAS, based on the DWR requirements included in the DWR 2020 UWMP Guidebook [describe water supply shortage condition caused by drought or loss of water supply wells] the Board of Directors of the Town of Discovery Bay Community Services District hereby approves a six (6) level WSCP that enables the Board of Directors to declare that a water shortage condition or emergency prevails within the water service area of the Town of Discovery Bay and that water use within the Town of Discovery Bay should be reduced by 50% or more with effective response measures; and

WHEREAS, required water use reduction described above necessitates implementation of Level [III, IV, V or VI] of the Town of Discovery Bay's Water Shortage Contingency Plan. The water conservation measures and water use restrictions for Level [III, IV, V or VI] are described in the attached Water Shortage Contingency Plan. Implementation of Level [III, IV, V or VI] shall be cumulative and shall include implementation of all previous provisions listed in Level [I, II, III, IV, or V]; and

WHEREAS, the General Manager is hereby authorized and empowered to delegate his or her authority hereunder to such assistants, deputies, officers, employees, or agents of the Town of Discovery Bay as he or she shall designate, and to establish such rules, regulations and procedures, and to prepare or furnish such forms, as he or she deems necessary or appropriate to carry out the provisions of the Resolution; and

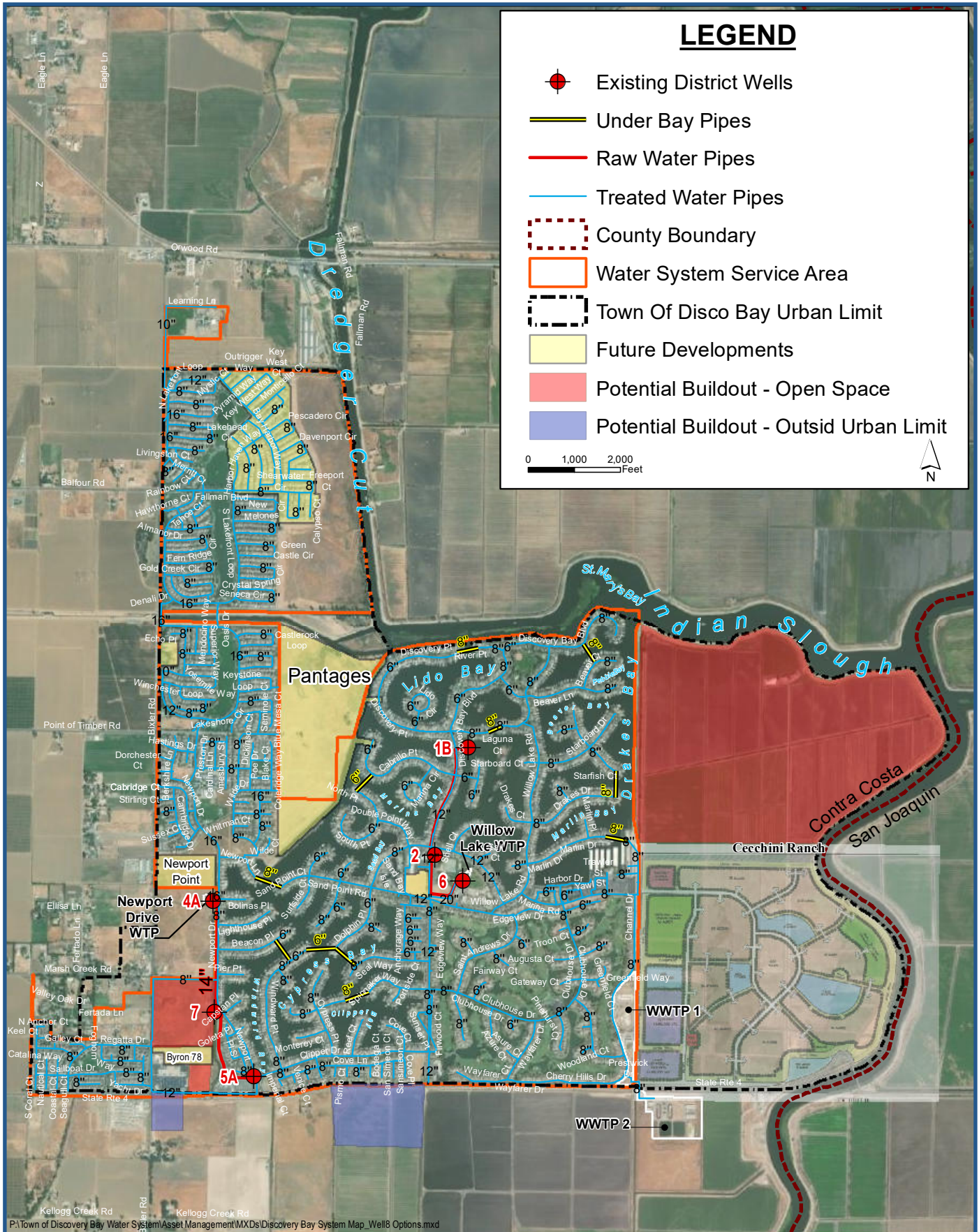
WHEREAS, this Resolution shall be effective upon its adoption, and shall remain effective until the water shortage conditions are resolved, in which case this Resolution shall be rescinded, or until conditions worsen, thus requiring additional action by the Board of Directors, in which case a subsequent Resolution will be considered for adoption.

NOW, THEREFORE BE IT RESOLVED by the Board of Directors of the Town of Discovery Bay that Level [III, IV, V, or VI] of the Water Shortage Contingency Plan is hereby adopted.











PASSED, APPROVED AND ADOPTED THIS [day] DAY OF [month], [year] by the following vote:

Appendix G
Public Involvement Materials

Appendix H
2020 UWMP Adoption Resolution

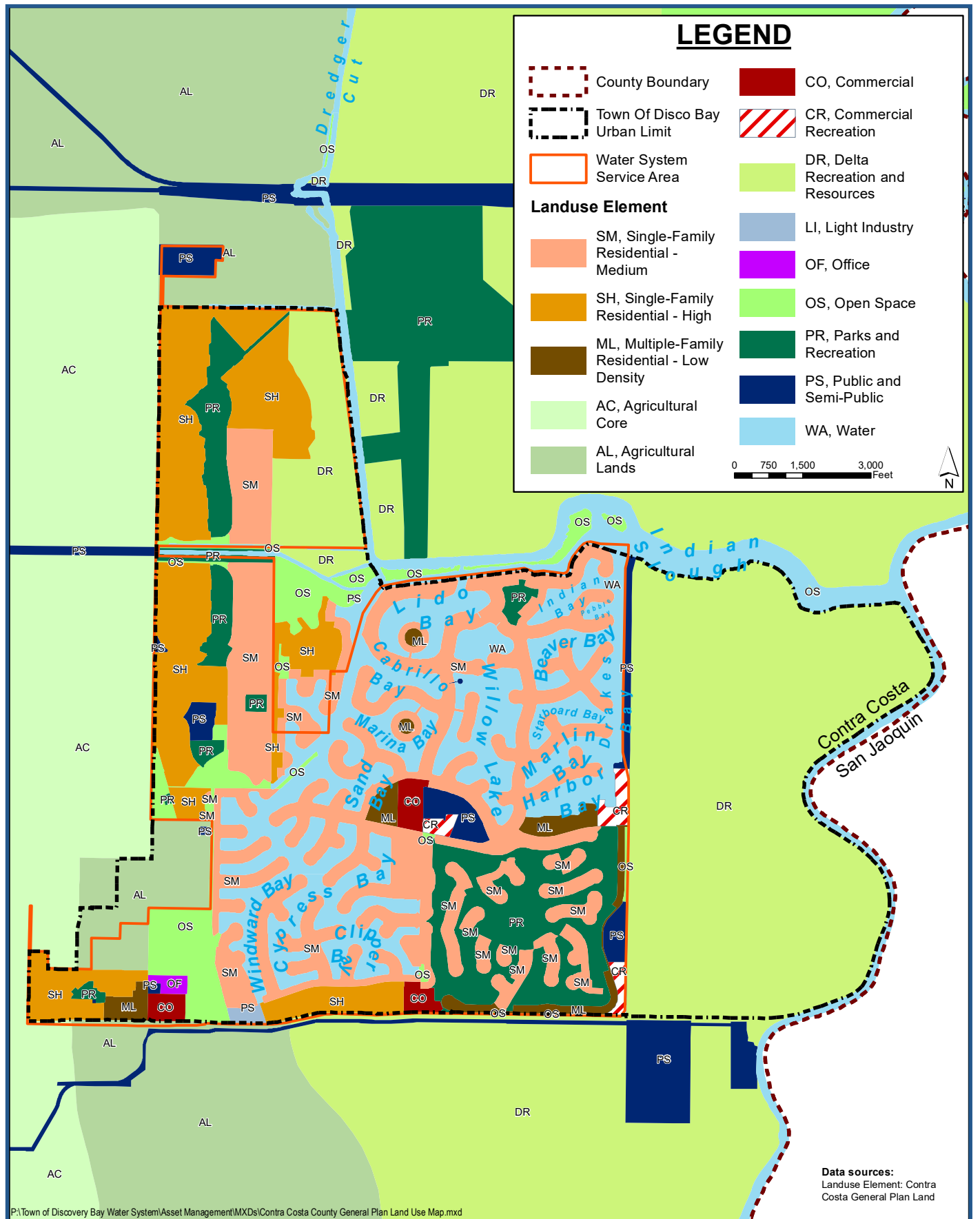


LEGEND

-  Existing District Wells
-  Under Bay Pipes
-  Raw Water Pipes
-  Treated Water Pipes
-  County Boundary
-  Water System Service Area
-  Town Of Disco Bay Urban Limit
-  Future Developments
-  Potential Buildout - Open Space
-  Potential Buildout - Outsid Urban Limit

0 1,000 2,000 Feet







Town of Discovery Bay

"A Community Services District"

STAFF REPORT

Meeting Date

May 5, 2021

Prepared By: Michael R. Davies, General Manager
Submitted By: Michael R. Davies, General Manager

Agenda Title:

Discussion and Possible Action to Approve Community Center Pool Landscape and Hardscape Features.

Recommended Action

Approve improvements to the Community Center landscape and hardscape as represented in Exhibit A in the amount of \$90,000 plus 15% contingency and authorize the General Manager to execute all contracts in connection therewith.

Executive Summary

On April 21, 2021, a Special Park and Recreation Committee ("PRC") was held to discuss whether the Community Center Pool lawn landscaping should be upgraded. The PRC made the following recommendations:

- 1) All green space be artificial turf. Grass requires long term care and watering, and debris blows into the pool.
- 2) The walkway between the community center needs to be widened to improve wheelchair access:
 - a. Move the westside pool fencing inward.
 - b. Widen the cement walking path with additional concrete.
 - c. Reseed grass between the walking path and new fence line.
- 3) Widen the existing ADA pathway with concrete.

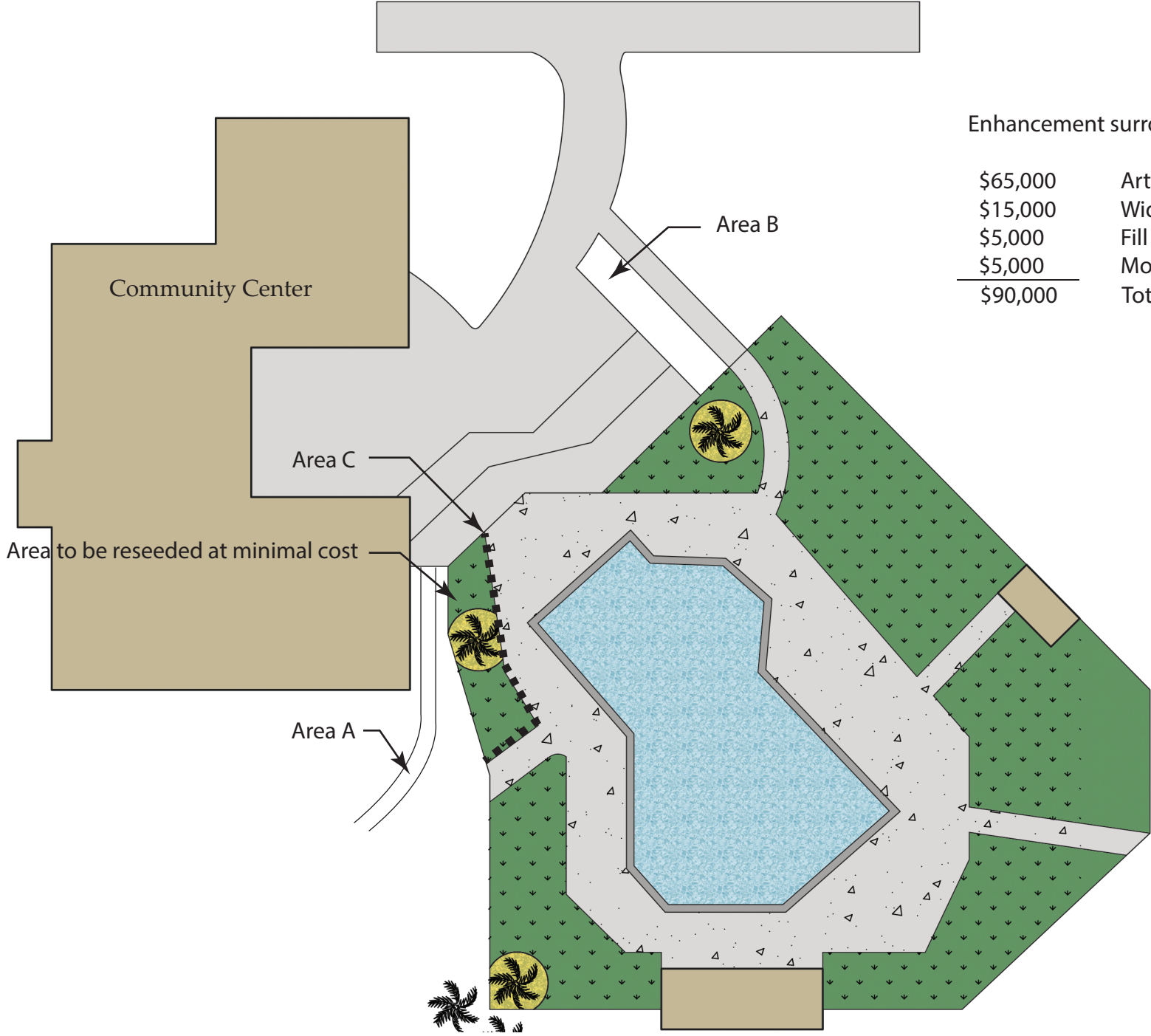
Additional cost to project is \$90,000 plus a 15% contingency for a total of \$103,500.

End.

Attachments

Exhibit A: Pool Landscape and Hardscape Modifications and Associated Costs

AGENDA ITEM: G-2

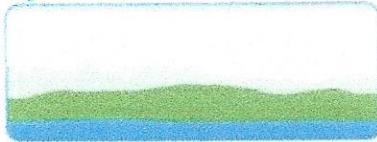


Enhancement surrounding existing decking

\$65,000	Artificial turf (green area)
\$15,000	Widen walk nearest building (Area A)
\$5,000	Fill in area near ADA walk (Area B)
\$5,000	Move fence (Area C)
<hr/>	
\$90,000	Total Project Funding Required

N
1"=30'





Thursday, April 22, 2021
Regular Board Meeting of the Trustees

Byron Union School District
14301 Byron Hwy
Byron, CA 94514

A. CALL MEETING TO ORDER @ 5:30 PM - VIA ZOOM

1. Public Comment VIA ZOOM Meeting: The public may address the Board regarding any item within the jurisdiction of the Board of Trustees of the Byron Union School District that is not on this agenda.

B. ADJOURN TO CLOSED SESSION @ 5:30 PM-VIA ZOOM MEETING

- 1. Conference with Labor Negotiator (Govt. Code, § 54957.6)
- 2. Public Employee Performance Evaluation (Gov. Code, § 54957(b)(1))

C. RECONVENE TO PUBLIC SESSION @ 6:30 PM-VIA ZOOM MEETING

- 1. Call to Order the Regular Meeting of the Board of Trustees via ZOOM Meeting
- 2. Roll Call & Pledge of Allegiance
- 3. Approval of Meeting Agenda
- 4. Report out From Closed Session - *No action taken -*

D. PUBLIC PARTICIPATION

1. Public Comment VIA ZOOM Meeting: The public may address the Board regarding any item within the jurisdiction of the Board of Trustees of the Byron Union School District that is not on this agenda.

E. STAFF REPORTS/HUMAN RESOURCES

- ✓ 1. 2021-2022 School Year Planning (Full Reopening) *The County, - smaller Assembly*
- ✓ 2. Second Reading of the BUSD Recommendations for Board Policy Revisions (December 2020) *Discouraging that most of County*
- ✓ 3. Byron Governance Handbook - Updated April 2021
- ✓ 4. Facilitation of Superintendent Evaluation Proposal
- ✓ 5. New Job Descriptions
- ✓ 6. BTA Presentation
- ✓ 7. Committee/Liaison Reports *Communication: Public w/ parents & challenge*

F. FINANCE & FACILITIES

- ✓ 1. Salary Schedules - Confidential and Management
- ✓ 2. BUSD 19/20 Financial Audit - *Have shareholders - concern finding report 2.8 mil?*

3. Community Donations

G. CONSENT AGENDA

✓1. Warrants and Checks

✓2. Board Minutes for March 11, 2021

H. GOVERNING BOARD COMMUNICATIONS

✓1. Communications and Comments from the Board

I. SUPERINTENDENT COMMUNICATIONS

✓1. Communications and Comments from the Superintendent

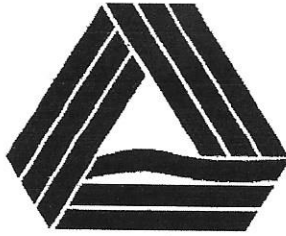
*Summer school
Referenda Bonds
Summer Work*

J. FUTURE MEETINGS

✓1. May 13, 2021

*8:04
Adjourn*

K. ADJOURNMENT



TRI DELTA TRANSIT

Eastern Contra Costa Transit Authority
801 Wilbur Avenue • Antioch, California 94509
Phone 925.754.6622 Fax 925.757.2530

Board of Directors Meeting Agenda

Wednesday April 28, 2021

4:00pm

ECCTA Boardroom

801 Wilbur Avenue, Antioch, CA 94509

Available online: www.trideltatransit.com

Please see the last page of this agenda for:

- Public comment guidelines
- Agenda, staff report, and document availability
- Americans with Disabilities Act information
- Limited English Proficiency (LEP) information
- Anticipated action by the Board of Directors

- ✓ 1. **Call to Order:** Chair Shanelle Scales-Preston *J.D.*
a. **Roll Call**

- ✓ 2. **Pledge of Allegiance**

- ✓ 3. **Public Comment**

While public comments are encouraged and taken very seriously, State law prevents the Board of Directors from discussing items that are not on the meeting agenda. If appropriate, staff will follow up on public comments. Please see Public Comment Guidelines on Page 3 of this agenda.

- ✓ 4. **Chair's Report:** Chair Shanelle Scales-Preston

- ✓ 5. **Consent Calendar (ACTION ITEM):** Minutes, Financial Report, and Marketing Activities Report *(see attachment: tab #1)*

- a. Minutes of the Board of Directors meeting of March 24, 2021
b. Financial Report
c. Marketing and Customer Service Activities Report

Requested Action: Approve items 5a, 5b, and 5c

- ✓ 6. **CEO's Report:** Jeanne Krieg
a. **Operations Report** *(see attachment: tab #2)*

*Landscaping
Clippings Card
Retirement*

Board of Directors:

City of Antioch

Lamar Thorpe ✓
Monica Wilson ✓

City of Brentwood

Joel Bryant ✓
Barbara Guise ✓

City of Oakley

Sue Higgins ✓
Anissa Williams ✓

City of Pittsburg

Merl Craft ✓
Shanelle Scales-Preston* ✓

Contra Costa County

Diane Burgis ✓
Federal Glover ✓

Member-at-Large

Ken Gray** ✓

* Chair: FY 2020-21

** Vice-chair: FY 2020-21

East County City mgr
→ file transit Authority
Shudchilbert

**Board of Directors Meeting Agenda
Wednesday April 28, 2021**

✓ 7. **ACTION and DISCUSSION ITEMS**

- a. **ACTION ITEM:** Authorization to File Funding Application
(see attachment: tab #3)

pass

Requested Action: Adopt Resolution #210428A which authorizes the Chief Executive Officer or her designee to file an application with the Metropolitan Transportation Commission for the FY2021-2022 allocation of Transportation Development Act and State Transit Assistance funds.

pass

- b. **ACTION ITEM:** Disposal of Buses and Miscellaneous Equipment
(see attachment: tab #4)

Requested Action: Adopt Resolution #210428B authorizing the addition of a set of four Rotary screw-type post lifts, fifteen solar panels, and other miscellaneous equipment to the upcoming disposal auction and supersede previously adopted Resolution #201028B.

Shots -
1700-4001 - want
PDI not J & J UCCIR

✓ 8. **Board of Directors Comments**

Under this item, Directors are limited to providing information, asking clarifying questions about matters not on the agenda, responding to public comment, referring matters to staff, or requesting a report be made at another meeting.

9. **Adjourn**

4:38

Next Meeting: May 26, 2021 at 4:00pm, 801 Wilbur Avenue, Antioch, CA 94509