

BIG BEAR AREA REGIONAL WASTEWATER AGENCY

Regular Board Meeting of
September 25, 2019

At

5:00 p.m.

121 Palomino Drive
Big Bear City, California

1. **CALL TO ORDER**
2. **PLEDGE OF ALLEGIANCE**
3. **PRESENTATION AND INTRODUCTION**
4. **APPROVAL OF AGENDA**
5. **CONSENT CALENDAR** – All matters listed on the Consent Calendar will be enacted by one motion at the appropriate time. There will be no separate discussion of these items. If a detailed discussion is necessary, any Board Member may request that an item be removed from the Consent Calendar and considered separately.
 - 5.A. Minutes of Regular Meeting on August 28, 2019 – Approve
 - 5.B. Monthly Expenses – Informational
 - 5.C. Governing Board Member Reimbursement – Approve
 - 5.D. Investment Report – Informational
 - 5.E. Operations and Connections Report – Informational
 - 5.F. Sieve Analysis Test Results and the Weep Hole Investigation Technical Memorandum for the North and South Horseshoe Ponds Project – Informational
6. **ITEMS REMOVED FROM CONSENT CALENDAR**
7. **PUBLIC FORUM RESPONSE** – None

8. **PUBLIC FORUM** – The Public Forum portion of the meeting is an opportunity for members of the public to directly address the Governing Board on matters within the jurisdiction of this Agency. Ordinance No. 57 limits individual public testimony to three minutes or less. The cumulative time that an individual may provide public testimony during a meeting is fifteen minutes, and the public testimony shall be limited to thirty minutes for all speakers. Whenever a group of persons wishes to address the Governing Board on the same item, the Chair or the Governing Board by majority vote may request a spokesperson be chosen for the group or limit the number of such persons addressing the Governing Board. Since the discussion of an item not on the posted agenda is not allowed, these concerns may be addressed in a future meeting under “Public Forum Response.”

9. **OLD BUSINESS**

10. **NEW BUSINESS**

10.A. Resolution No. R. 11-2019, A Resolution of the Governing Board of the Big Bear Area Regional Wastewater Agency Adopting the Santa Ana Watershed Project Authority One Water One Watershed Plan Update 2018, the Integrated Regional Water Management Plan for the Santa Ana River Watershed – Discussion and Adoption

11. **CLOSED SESSION**

11.A. Public Employee Performance Evaluation
Pursuant to Government Code Section 54957(b)(1)
Title: General Manager

12. **INFORMATION/COMMITTEE REPORTS**

12.A. Plant Manager Update on the Emergency Work for the Oxidation Ditch Splitter Box Gates and Splitter Box Repair Project

12.B. Administrative Committee Meeting Update

13. **ADJOURNMENT**

In compliance with the Americans with Disabilities Act and Government Code Section 54954.2, if you need special assistance to participate in an Agency meeting or other services offered by the Agency, please contact Kimberly Booth, Administrative Assistant at (909) 584-4018. Notification at least 48 hours prior to the meeting or time when services are needed will assist the Agency staff in assuring that reasonable arrangements can be made to provide accessibility to the meeting or service.

Copies of staff reports or other written documentation relating to each item of business referred to on this agenda are on file in the office of the Big Bear Area Regional Wastewater Agency and are available for public inspection during normal business hours.

Visit www.bbarwa.org to view and/or print the Agenda Package

BIG BEAR AREA REGIONAL WASTEWATER AGENCY
REGULAR BOARD MEETING MINUTES
August 28, 2019

1. CALL TO ORDER

A Regular Meeting of the Governing Board of the Big Bear Area Regional Wastewater Agency was called to order by Chair Caretto at 5:00 p.m. on August 28, 2019, at 121 Palomino Drive, Big Bear City, California 92314.

BOARD MEMBERS PRESENT

David Caretto, Chair
John Green, Vice Chair
Karyn Oxandaboure, Secretary
Rick Herrick, Director
Jim Miller, Director

BOARD MEMBERS ABSENT

None

STAFF MEMBERS PRESENT

David Lawrence, General Manager
Jennifer McCullar, Finance Manager
John Shimmin, Plant Manager
Bridgette Burton, Management Analyst
Kim Booth, Administrative Assistant
Ryan Connelly, Plant Operator

2. PLEDGE OF ALLEGIANCE

Vice Chair Green

3. PRESENTATIONS AND INTRODUCTIONS

4. APPROVAL OF THE AGENDA

Upon motion made by Vice Chair Green, seconded by Secretary Oxandaboure and carried, the Governing Board approved the agenda as presented.

Ayes: Caretto, Green, Oxandaboure, Herrick, Miller
Noes: None
Absent: None
Abstain: None

5. CONSENT CALENDAR

5.A. Minutes of Regular Meeting on July 24, 2019

5.B. Monthly Expenses

5.C. Governing Board Member Reimbursement

5.D. Investment Report

5.E. Operations and Connections Report

5.F. Resolution No. R. 09-2019, A Resolution of the Governing Board of the Big Bear Area Regional Wastewater Agency Adopting the Annual Statement of Investment Policy

5.G. Accept as Complete – Emergency Repair at the Lucerne Valley Reuse Facility

5.H. Carryover Appropriations

Upon motion by Director Miller, seconded by Vice Chair Green and carried, the Governing Board approved the Consent Calendar as presented.

Ayes: Caretto, Green, Oxandaboure, Herrick, Miller
Noes: None
Absent: None
Abstain: None

6. ITEMS REMOVED FROM THE CONSENT CALENDAR

None

7. PUBLIC FORUM RESPONSE

None

8. PUBLIC FORUM

No comments

9. OLD BUSINESS

9.A. Second Read and Adoption of Ordinance No. O. 01-2019, An Ordinance of the Big Bear Area Regional Wastewater Agency Superseding Ordinance No. 03-2001 Establishing a Policy for Potential Refund of Connection Fees and Replacing with Board Policy Connection Fee: Reduction or Refund

Mr. Lawrence clarified that counsel reviewed the Ordinance, approved the removal of the word “waiver” and advised that the second read and approval may proceed. Discussion ensued between the Governing Board and staff.

Upon motion by Secretary Oxandaboure, seconded by Director Herrick and carried, the Governing Board approved to introduce Ordinance No. O. 01-2019 by title only.

Ayes: Caretto, Green, Oxandaboure, Herrick, Miller
Noes: None
Absent: None
Abstain: None

Upon motion by Vice Chair Green, seconded by Director Herrick and carried, the Governing Board adopted Ordinance No. O. 01-2019.

Ayes: Caretto, Green, Oxandaboure, Herrick, Miller
Noes: None
Absent: None
Abstain: None

10. NEW BUSINESS

10.A. Resolution No. R. 10-2019, A Resolution of the Governing Board of the Big Bear Area Regional Wastewater Agency Adopting and Amending the Distribution Policy of Tickets and/or Passes to Conform with the Regulations of the Fair Political Practices Commission

Ms. Burton presented the amended policy and Resolution regarding the distribution of tickets and/or passes to conform with Regulation 18944.1. Discussion ensued between the Governing Board and staff.

Upon motion by Director Herrick, seconded by Director Miller and carried, the Governing Board adopted Resolution No. R. 10-2019.

Ayes: Caretto, Green, Oxandaboure, Herrick, Miller
Noes: None
Absent: None
Abstain: None

11. CLOSED SESSION

Entered closed session at 5:18 p.m. with one closed session item to be reviewed.

**11.A. Conference with Real Property Negotiation
(Pursuant to Government Code Section 54956.8)
Property: 122 Palomino Dr., Big Bear City, Ca 92314
Agency Negotiator: David Lawrence
Negotiating Parties: Bear Valley Electric
Under Negotiation: Price and Terms**

Chair Caretto reconvened open session at 5:52 p.m. with no reportable action.

12. INFORMATION/COMMITTEE REPORTS

**12.A. Plant Manager Update on the Emergency Work for the Oxidation Ditch Splitter
Box Gates and Splitter Box Repair Project**
Mr. Shimmin provided an update on the project. Installation is expected to begin in
September.

13. ADJOURNMENT

With no further business to come before the Governing Board, Chair Caretto adjourned the
meeting at 5:53 p.m.

ATTEST: _____
Karyn Oxandaboure, Secretary of the Governing
Board of the Big Bear Area Regional Wastewater
Agency

Kim Booth, Administrative Assistant
Big Bear Area Regional Wastewater
Agency



Big Bear Area Regional

Wastewater Agency

David Caretto – Chair

John Green – Vice Chair

Karyn Oxandaboure – Secretary

Rick Herrick – Director

Jim Miller – Director

AGENDA ITEM: 5.B.

MEETING DATE: September 25, 2019

TO: Governing Board of the Big Bear Area Regional Wastewater Agency

FROM: David Lawrence, P.E., General Manager 

PREPARED BY: Jennifer McCullar, Finance Manager 

SUBJECT: Monthly Expenses

BACKGROUND:

Attached is the Agency's August check register which reflects accounts paid during the period.

FINANCIAL IMPACT:

There is no financial impact. The funds have been previously appropriated.

RECOMMENDATION:

Informational

Moved: _____ Second: _____ Ayes: _____ Noes: _____ Abstain/Absent: _____

Approved Date: _____ Witness: _____

Secretary of the Governing Board

Big Bear Area Regional Wastewater Agency
Check Register
For the Period From Aug 1, 2019 to Aug 31, 2019

Filter Criteria includes: 1) Accounts Payable only. Report order is by Date.

Check #	Date	Payee	Cash Account	Amount
CASH 22044	8/2/19	PAYA	1000-20	19.99
CASH 22045	8/2/19	CALPERS HEALTH	1000-20	25,441.20
CASH 22046	8/5/19	VISION SERVICE PLAN	1000-20	323.40
CASH 22047	8/5/19	LINCOLN NATIONAL LIFE INSURANCE C	1000-20	1,233.98
19642	8/7/19	MACLEOD WATTS, INC.	1000-20	900.00
19643	8/7/19	SULZER	1000-20	864.11
19644	8/7/19	WATER SYSTEMS CONSULTING, INC.	1000-20	73,973.21
19645	8/7/19	DAVID A. CARETTO	1000-20	150.00
19646	8/7/19	JOHN GREEN	1000-20	150.00
19647	8/7/19	RICHARD T. HERRICK	1000-20	150.00
19648	8/7/19	JAMES J. MILLER	1000-20	150.00
19649	8/7/19	NANCY SANTILLAN	1000-20	225.00
19650	8/7/19	AG TECH LLC	1000-20	25,587.82
19651	8/7/19	TOTAL SAFETY U.S., INC.	1000-20	676.16
19652	8/7/19	AMAZON CAPITAL SERVICES	1000-20	728.68
19653	8/7/19	A PLUMBING & HEATING, INC.	1000-20	215.00
19654	8/7/19	ARAMARK UNIFORM SERVICES	1000-20	1,336.30
19655	8/7/19	RICK M. BOWERS	1000-20	461.71
19656	8/7/19	BIG BEAR CITY COMMUNITY SERVICES	1000-20	567.25
19657	8/7/19	BIG BEAR LAKE BOTTLED WATER CO	1000-20	200.00
19658	8/7/19	BIG BEAR PAINT CENTER	1000-20	231.73
19659	8/7/19	BUTCHER'S BLOCK & BUILDING	1000-20	260.16
19660	8/7/19	BEAR VALLEY ELECTRIC	1000-20	8,234.18
19661	8/7/19	CAR QUEST OF BIG BEAR	1000-20	1,209.89
19662	8/7/19	CWEA TCP/MEMBERSHIP	1000-20	175.00
19663	8/7/19	DAP ELECTRIC INC.	1000-20	17,800.00
19664	8/7/19	UNDERGROUND SERVICE ALERT	1000-20	172.30
19665	8/7/19	DIY HOME CENTER-BIG BEAR	1000-20	191.39
19666	8/7/19	DIRECT TV	1000-20	31.99
19667	8/7/19	DEPARTMENT OF WATER & POWER	1000-20	59.08
19668	8/7/19	ENVIRONMENTAL OUTSOURCE, INC.	1000-20	950.00
19669	8/7/19	EVANTEC CORPORATION	1000-20	608.23
19670	8/7/19	FEDEX	1000-20	19.59

Big Bear Area Regional Wastewater Agency
Check Register
For the Period From Aug 1, 2019 to Aug 31, 2019

Filter Criteria includes: 1) Accounts Payable only. Report order is by Date.

Check #	Date	Payee	Cash Account	Amount
19671	8/7/19	FERGUSON ENTERPRISES, INC.	1000-20	13,250.15
19672	8/7/19	FLYERS ENERGY	1000-20	1,205.79
19673	8/7/19	FRONTIER COMMUNICATIONS	1000-20	723.08
19674	8/7/19	GRAINGER	1000-20	60.96
19675	8/7/19	HUGHESNET	1000-20	102.33
19676	8/7/19	J.G. TUCKER & SON, INC.	1000-20	2,071.95
19677	8/7/19	NAPA AUTO PARTS	1000-20	318.52
19678	8/7/19	NATIVESCAPES INC	1000-20	350.00
19679	8/7/19	CONSTANCE M. ALVARADO	1000-20	55.00
19680	8/7/19	PETTY CASH	1000-20	468.29
19681	8/7/19	QUILL	1000-20	345.05
19682	8/7/19	CHRIS SANTILLAN	1000-20	398.45
19683	8/7/19	SAN BERNARDINO COUNTY FIRE PROT	1000-20	1,260.00
19684	8/7/19	SOUTH COAST AQMD	1000-20	924.15
19685	8/7/19	SPECTRUM BUSINESS	1000-20	1,328.24
19686	8/7/19	SUPPORT PRODUCT SERVICES, INC.	1000-20	1,478.59
19687	8/7/19	USA BLUEBOOK	1000-20	214.71
19688	8/7/19	WINZER CORP	1000-20	423.49
19689	8/7/19	BRIDGETTE BURTON	1000-20	50.00
19690	8/7/19	DAVID LAWRENCE	1000-20	50.00
19691	8/7/19	JENNIFER MCCULLAR	1000-20	50.00
19692	8/7/19	JOHN SHIMMIN	1000-20	50.00
CASH 22048	8/7/19	PRINCIPAL FINANCIAL GROUP	1000-20	2,507.23
CASH 22049	8/8/19	THE LINCOLN NAT'L LIFE INS CO	1000-20	3,629.29
CASH 22050	8/12/19	CALIFORNIA STATE DISBURSEMENT UN	1000-20	126.00
CASH 22051	8/12/19	AMERICAN FIDELITY ASSURANCE CO	1000-20	634.98
CASH 22052	8/12/19	CALPERS RETIREMENT	1000-20	2,578.93
CASH 22053	8/12/19	CA PERS 457 PROGRAM	1000-20	2,764.61
CASH 22054	8/12/19	CALPERS RETIREMENT	1000-20	7,409.51
CASH 22055	8/13/19	EMPLOYMENT DEVELOPMENT DEPART	1000-20	2,020.55
CASH 22056	8/13/19	INTERNAL REVENUE SERVICE	1000-20	6,549.88
19672V	8/15/19	FLYERS ENERGY	1000-20	-1,205.79
19665V	8/15/19	DIY HOME CENTER-BIG BEAR	1000-20	-191.39

**Big Bear Area Regional Wastewater Agency
Check Register
For the Period From Aug 1, 2019 to Aug 31, 2019**

Filter Criteria includes: 1) Accounts Payable only. Report order is by Date.

Check #	Date	Payee	Cash Account	Amount
19693	8/15/19	DIY HOME CENTER-BIG BEAR	1000-20	221.39
19694	8/15/19	FLYERS ENERGY	1000-20	1,230.79
19649V	8/16/19	NANCY SANTILLAN	1000-20	-225.00
19652V	8/22/19	AMAZON CAPITAL SERVICES	1000-20	-728.68
19654V	8/22/19	ARAMARK UNIFORM SERVICES	1000-20	-1,336.30
19663V	8/22/19	DAP ELECTRIC INC.	1000-20	-17,800.0
19671V	8/22/19	FERGUSON ENTERPRISES, INC.	1000-20	-13,250.1
19679V	8/22/19	CONSTANCE M. ALVARADO	1000-20	-55.00
19689V	8/22/19	BRIDGETTE BURTON	1000-20	-50.00
19690V	8/22/19	DAVID LAWRENCE	1000-20	-50.00
19695	8/22/19	AMAZON CAPITAL SERVICES	1000-20	813.46
19696	8/22/19	ARAMARK UNIFORM SERVICES	1000-20	1,336.30
19697	8/22/19	ARROWHEAD	1000-20	165.57
19698	8/22/19	RICK M. BOWERS	1000-20	10.00
19699	8/22/19	BEST BEST & KRIEGER	1000-20	2,740.74
19700	8/22/19	BUSINESS CARD	1000-20	8,115.85
19701	8/22/19	BRIDGETTE BURTON	1000-20	50.00
19702	8/22/19	CLINICAL LAB OF SAN BERNARDINO	1000-20	3,625.00
19703	8/22/19	COUNTY OF SAN BERNARDINO SOLID	1000-20	163.64
19704	8/22/19	CWEA-DAMS	1000-20	175.00
19705	8/22/19	DAP ELECTRIC INC.	1000-20	17,800.00
19706	8/22/19	DEPARTMENT OF CONSUMER AFFAIRS	1000-20	115.00
19707	8/22/19	EVANTEC CORPORATION	1000-20	1,114.90
19708	8/22/19	FERGUSON ENTERPRISES, INC.	1000-20	13,250.15
19709	8/22/19	BRUCE R. FROST	1000-20	62,490.00
19710	8/22/19	GRAINGER	1000-20	815.51
19711	8/22/19	HAZ MAT TRANS, INC.	1000-20	1,122.83
19712	8/22/19	INTEGRATED TECHNOLOGY	1000-20	1,053.88
19713	8/22/19	JUST ENERGY SOLUTIONS INC.	1000-20	17,601.38
19714	8/22/19	DAVID LAWRENCE	1000-20	70.00
19715	8/22/19	MCMASTER-CARR SUPPLY COMPANY	1000-20	749.00
19716	8/22/19	RANDY J. SPITZ	1000-20	119.00
19717	8/22/19	NATIONAL FILTER MEDIA/FILTER BELTS	1000-20	1,437.02

Big Bear Area Regional Wastewater Agency
Check Register
For the Period From Aug 1, 2019 to Aug 31, 2019

Filter Criteria includes: 1) Accounts Payable only. Report order is by Date.

Check #	Date	Payee	Cash Account	Amount
19718	8/22/19	CONSTANCE M. ALVARADO	1000-20	55.00
19719	8/22/19	QUILL	1000-20	581.34
19720	8/22/19	SOUTHERN CALIFORNIA EDISON	1000-20	33.17
19721	8/22/19	RYAN R. ABELN	1000-20	12,982.50
19722	8/22/19	SOUTHWEST GAS CORP	1000-20	16,984.98
19723	8/22/19	SOUTHWEST GAS	1000-20	47.96
19724	8/22/19	NANCY R. BOHL, INC.	1000-20	300.00
19725	8/22/19	VERIZON WIRELESS	1000-20	290.45
19726	8/22/19	KEN WILLIS CONSTRUCTION	1000-20	461.38
19727	8/22/19	WINZER CORP	1000-20	16.89
19728	8/22/19	WATER SYSTEMS CONSULTING, INC.	1000-20	12,678.75
19729	8/22/19	DAVID A. CARETTO	1000-20	6.00
19730	8/22/19	SERVICEMASTER 360 PREMIER CLEANI	1000-20	649.53
19673V	8/23/19	FRONTIER COMMUNICATIONS	1000-20	-723.08
CASH 22057	8/26/19	CALIFORNIA STATE DISBURSEMENT UN	1000-20	126.00
CASH 22058	8/26/19	CALPERS RETIREMENT	1000-20	2,578.93
CASH 22059	8/26/19	CA PERS 457 PROGRAM	1000-20	2,772.35
CASH 22060	8/26/19	THE LINCOLN NAT'L LIFE INS CO	1000-20	3,629.29
CASH 22061	8/26/19	CALPERS RETIREMENT	1000-20	7,428.39
CASH 22069	8/26/19	AMERICAN FIDELITY ASSURANCE CO	1000-20	634.98
CASH 22062	8/27/19	LEGALSHIELD	1000-20	127.60
CASH 22063	8/27/19	TEXAS LIFE INSURANCE COMPANY	1000-20	232.75
CASH 22064	8/27/19	AMERICAN FIDELITY ASSURANCE CO	1000-20	591.14
CASH 22065	8/27/19	EMPLOYMENT DEVELOPMENT DEPART	1000-20	2,014.61
CASH 22066	8/27/19	INTERNAL REVENUE SERVICE	1000-20	6,619.54
CASH 22067	8/27/19	PAYA	1000-20	10,783.00
CASH 22068	8/28/19	PAYA	1000-20	1.50
Total				<u>400,096.1</u>



Big Bear Area Regional
Wastewater Agency
David Caretto – Chair
John Green – Vice Chair
Karyn Oxandaboure – Secretary
Rick Herrick – Director
Jim Miller – Director

AGENDA ITEM: 5.C.

MEETING DATE: September 25, 2019

TO: Governing Board of the Big Bear Area Regional Wastewater Agency

FROM: David Lawrence, P.E., General Manager *DL*

PREPARED BY: Jennifer McCullar, Finance Manager *JM*

SUBJECT: Governing Board Member Reimbursement

BACKGROUND:

Attached are the August meeting records for each Governing Board Member and represent eligible compensation at a rate of \$150 per regular or special meeting pursuant to the Agency's Administrative and Personnel Policy, Board Member Reimbursement.

FINANCIAL IMPACT:

There is no financial impact. The funds have been previously appropriated.

RECOMMENDATION:

Approve

Moved: _____ Second: _____ Ayes: _____ Noes: _____ Abstain/Absent: _____

Approved Date: _____ Witness: _____

Secretary of the Governing Board

BIG BEAR AREA REGIONAL WASTEWATER AGENCY

REPORT OF MEETINGS ATTENDED

Governing Board Member: David Caretto

Date Submitted: 8/28/19

Month Covered: August 2019

BBARWA Regular Meeting Attended: _____ Date: 8/28/19 **Compensation** \$ 150.00

PURPOSE

BBARWA Special Meeting Attended: _____ Date: _____ \$ _____

BBARWA Special Meeting Attended: _____ Date: _____ \$ _____

BBARWA Special Meeting Attended: _____ Date: _____ \$ _____

PURPOSE

BBARWA Committee Meeting Attended: _____ Date: _____ \$ _____

BBARWA Committee Meeting Attended: _____ Date: _____ \$ _____

BBARWA Committee Meeting Attended: _____ Date: _____ \$ _____

PURPOSE

Other Governing Board Approved Meetings:

_____ Date: _____ \$ _____

_____ Date: _____ \$ _____

TOTAL ENTITLED MONTHLY STIPEND (limited to 6 days per calendar month) \$ 150.00

Other Governing Board Approved Expenses (Governing Board Approved)

Mileage: _____ Date: _____ \$ _____

Lodging: _____ Date: _____ \$ _____

Registration: _____ Date: _____ \$ _____

Tuition: _____ Date: _____ \$ _____

Meals: _____ Date: _____ \$ _____

Note: Other Governing Board approved expenses receipts must be accompanied with the travel expense form "EXHIBIT B" and forwarded to Finance Manager or designee for reimbursement

TOTAL OTHER EXPENSE REIMBURSEMENT: \$ _____

Uncompensated Meetings Attended:

PURPOSE

_____ Date: _____

_____ Date: _____

Total Amount Paid \$ 150.00

RATES & CALCS	_____	CODING	_____	AMOUNT	_____
OPER. REVIEW	_____				
EXPEN. APP.	_____	_____			_____
FIN. REVIEW	_____	_____			_____

BIG BEAR AREA REGIONAL WASTEWATER AGENCY

REPORT OF MEETINGS ATTENDED

Governing Board Member: John Green

Date Submitted: 8/28/19

Month Covered: ~~SEP~~ August KB

BBARWA Regular Meeting Attended: _____ Date: 8/28/19 Compensation \$ 150
PURPOSE

BBARWA Special Meeting Attended: _____ Date: _____ \$ _____

BBARWA Special Meeting Attended: _____ Date: _____ \$ _____

BBARWA Special Meeting Attended: _____ Date: _____ \$ _____

PURPOSE

BBARWA Committee Meeting Attended: _____ Date: _____ \$ _____

BBARWA Committee Meeting Attended: _____ Date: _____ \$ _____

BBARWA Committee Meeting Attended: _____ Date: _____ \$ _____

PURPOSE

Other Governing Board Approved Meetings:

_____ Date: _____ \$ _____

_____ Date: _____ \$ _____

TOTAL ENTITLED MONTHLY STIPEND (limited to 6 days per calendar month) \$ 150⁰⁰

Other Governing Board Approved Expenses (Governing Board Approved)

Milcage: _____ Date: _____ \$ _____

Lodging: _____ Date: _____ \$ _____

Registration: _____ Date: _____ \$ _____

Tuition: _____ Date: _____ \$ _____

Meals: _____ Date: _____ \$ _____

Note: Other Governing Board approved expenses receipts must be accompanied with the travel expense form "EXHIBIT B" and forwarded to Finance Manager or designee for reimbursement

TOTAL OTHER EXPENSE REIMBURSEMENT: \$ _____

Uncompensated Meetings Attended:

PURPOSE

_____ Date: _____

_____ Date: _____

Total Amount Paid \$ 150

RATES & CALCS	CODING	AMOUNT
OPER. REVIEW	_____	_____
EXPEN. APP.	_____	_____
FIN. REVIEW	_____	_____

BIG BEAR AREA REGIONAL WASTEWATER AGENCY

REPORT OF MEETINGS ATTENDED

Governing Board Member: Karyn Oxandaboure *Karyn Oxandaboure*

Date Submitted: 8-28-19

Month Covered: August

BBARWA Regular Meeting Attended: _____ Date: 8-28-19 Compensation \$ 150⁰⁰

PURPOSE

BBARWA Special Meeting Attended: _____ Date: _____ \$ _____

BBARWA Special Meeting Attended: _____ Date: _____ \$ _____

BBARWA Special Meeting Attended: _____ Date: _____ \$ _____

PURPOSE

BBARWA Committee Meeting Attended: _____ Date: _____ \$ _____

BBARWA Committee Meeting Attended: _____ Date: _____ \$ _____

BBARWA Committee Meeting Attended: _____ Date: _____ \$ _____

PURPOSE

Other Governing Board Approved Meetings:

_____ Date: _____ \$ _____

_____ Date: _____ \$ _____

TOTAL ENTITLED MONTHLY STIPEND (limited to 6 days per calendar month) \$ 150⁰⁰

Other Governing Board Approved Expenses (Governing Board Approved)

Mileage: _____ Date: _____ \$ _____

Lodging: _____ Date: _____ \$ _____

Registration: _____ Date: _____ \$ _____

Tuition: _____ Date: _____ \$ _____

Meals: _____ Date: _____ \$ _____

Note: Other Governing Board approved expenses receipts must be accompanied with the travel expense form "EXHIBIT B" and forwarded to Finance Manager or designee for reimbursement

TOTAL OTHER EXPENSE REIMBURSEMENT: \$ _____

Uncompensated Meetings Attended:

PURPOSE

_____ Date: _____

_____ Date: _____

Total Amount Paid \$ 150⁰⁰

RATES & CALCS	_____	CODING	AMOUNT
OPER. REVIEW	_____		
EXPEN. APP.	_____	_____	_____
FIN. REVIEW	_____	_____	_____

BIG BEAR AREA REGIONAL WASTEWATER AGENCY

REPORT OF MEETINGS ATTENDED

Governing Board Member: Rick Herrick _____

Date Submitted: _____

Month Covered: _____

BBARWA Regular Meeting Attended: _____ Date: 2/28/16 Compensation \$ 150.-

PURPOSE

BBARWA Special Meeting Attended: _____ Date: _____ \$ _____

BBARWA Special Meeting Attended: _____ Date: _____ \$ _____

BBARWA Special Meeting Attended: _____ Date: _____ \$ _____

PURPOSE

BBARWA Committee Meeting Attended: _____ Date: _____ \$ _____

BBARWA Committee Meeting Attended: _____ Date: _____ \$ _____

BBARWA Committee Meeting Attended: _____ Date: _____ \$ _____

PURPOSE

Other Governing Board Approved Meetings:

_____ Date: _____ \$ _____

_____ Date: _____ \$ _____

TOTAL ENTITLED MONTHLY STIPEND (limited to 6 days per calendar month) \$ 150⁰⁰

Other Governing Board Approved Expenses (Governing Board Approved)

Mileage: _____ Date: _____ \$ _____

Lodging: _____ Date: _____ \$ _____

Registration: _____ Date: _____ \$ _____

Tuition: _____ Date: _____ \$ _____

Meals: _____ Date: _____ \$ _____

Note: Other Governing Board approved expenses receipts must be accompanied with the travel expense form "EXHIBIT B" and forwarded to Finance Manager or designee for reimbursement

TOTAL OTHER EXPENSE REIMBURSEMENT: \$ _____

Uncompensated Meetings Attended:

PURPOSE

_____ Date: _____

_____ Date: _____

Total Amount Paid \$ 150⁰⁰

RATES & CALCS		CODING	AMOUNT
OPER. REVIEW	_____		
EXPEN. APP.	_____	_____	_____
FIN. REVIEW	_____	_____	_____

BIG BEAR AREA REGIONAL WASTEWATER AGENCY

REPORT OF MEETINGS ATTENDED

Governing Board Member: Jim Miller

Date Submitted: 8-29-19

Month Covered: AUGUST

BBARWA Regular Meeting Attended: _____ Date: 8-28-19 Compensation \$ 150

PURPOSE

BBARWA Special Meeting Attended: _____ Date: _____ \$ _____

BBARWA Special Meeting Attended: _____ Date: _____ \$ _____

BBARWA Special Meeting Attended: _____ Date: _____ \$ _____

PURPOSE

BBARWA Committee Meeting Attended: _____ Date: _____ \$ _____

BBARWA Committee Meeting Attended: _____ Date: _____ \$ _____

BBARWA Committee Meeting Attended: _____ Date: _____ \$ _____

PURPOSE

Other Governing Board Approved Meetings:

_____ Date: _____ \$ _____

_____ Date: _____ \$ _____

TOTAL ENTITLED MONTHLY STIPEND (limited to 6 days per calendar month) \$ 150

Other Governing Board Approved Expenses (Governing Board Approved)

Mileage: _____ Date: _____ \$ _____

Lodging: _____ Date: _____ \$ _____

Registration: _____ Date: _____ \$ _____

Tuition: _____ Date: _____ \$ _____

Meals: _____ Date: _____ \$ _____

Note: Other Governing Board approved expenses receipts must be accompanied with the travel expense form "EXHIBIT B" and forwarded to Finance Manager or designee for reimbursement

TOTAL OTHER EXPENSE REIMBURSEMENT: \$ _____

Uncompensated Meetings Attended:

PURPOSE

_____ Date: _____

_____ Date: _____

Total Amount Paid \$ 150

RATES & CALCS		CODING	AMOUNT
OPER. REVIEW	_____		
EXPEN. APP.	_____	_____	_____
FIN. REVIEW	_____	_____	_____



Big Bear Area Regional
Wastewater Agency
David Caretto – Chair
John Green – Vice Chair
Karyn Oxandaboure – Secretary
Rick Herrick – Director
Jim Miller – Director

AGENDA ITEM: 5.D.

MEETING DATE: September 25, 2019

TO: Governing Board of the Big Bear Area Regional Wastewater Agency

FROM: David Lawrence, P.E., General Manager 

PREPARED BY: Jennifer McCullar, Finance Manager 

SUBJECT: Investment Report

BACKGROUND:

Attached is the August Monthly Investment Report pursuant to the Agency's Investment Policy.

FINANCIAL IMPACT:

No financial impact.

RECOMMENDATION:

Approve

Moved: _____ Second: _____ Ayes: _____ Noes: _____ Abstain/Absent: _____

Approved Date: _____ Witness: _____

Secretary of the Governing Board

BBARWA
 Monthly Investment Report
 August 2019

<u>INVESTMENT TYPE</u>	<u>COST</u>	<u>FAIR MARKET VALUE (1)</u>	<u>YEAR TO DATE INTEREST(2)</u>	<u>INTEREST RATE</u>	<u>MATURITY DATE</u>
LOCAL AGENCY INVESTMENT FUND	\$ 6,098,540	\$ 6,108,979	43,304	2.341%	DAILY
TOTAL	\$ 6,098,540	\$ 6,108,979	43,304		

The Investment Portfolio of the Big Bear Area Regional Wastewater Agency is in compliance with the investment policy approved in August 2019. The Agency will be able to meet its expenditure requirements for the next six months.

(1) LOCAL AGENCY INVESTMENT FUND (LAIF) IS A STATE-RUN INVESTMENT POOL PROVIDED FOR PUBLIC AGENCIES. THE LAIF MARKET VALUE SHOWN ON THIS TREASURER'S REPORT REPRESENTS BBARWA'S SHARE OF THE LIQUID VALUE OF LAIF'S PORTFOLIO IF IT WAS LIQUIDATED AS OF THE END OF THE REPORTED MONTH. THIS NUMBER SERVES AS AN INDICATOR OF WHETHER OR NOT THE MARKET VALUE OF LAIF'S INVESTMENTS IS ABOVE OR BELOW THE COST OF THOSE INVESTMENTS.

(2) Interest paid quarterly on LAIF investment. Amount reflects interest income received at the reporting date during FY 2020 and excludes accrued interest.

Attachment (s): Monthly LAIF Statement

California State Treasurer
Fiona Ma, CPA



Local Agency Investment Fund
 P.O. Box 942809
 Sacramento, CA 94209-0001
 (916) 653-3001

September 17, 2019

[LAIF Home](#)
[PMIA Average Monthly Yields](#)

BIG BEAR AREA REGIONAL WASTEWATER AGENCY

FINANCE MANAGER
 P.O. BOX 517
 BIG BEAR CITY, CA 92314

[Tran Type Definitions](#)

Account Number:

August 2019 Statement

Effective Date	Transaction Date	Tran Type	Confirm Number	Authorized Caller	Amount
8/8/2019	8/7/2019	RW	1614803	JENNIFER MCCULLAR	-500,000.00

Account Summary

Total Deposit:	0.00	Beginning Balance:	6,598,539.70
Total Withdrawal:	-500,000.00	Ending Balance:	6,098,539.70



Big Bear Area Regional
Wastewater Agency
David Caretto – Chair
John Green – Vice Chair
Karyn Oxandaboure – Secretary
Rick Herrick – Director
Jim Miller – Director

AGENDA ITEM: 5.E.

MEETING DATE: September 25, 2019

TO: Governing Board of the Big Bear Area Regional Wastewater Agency

FROM: David Lawrence, P.E., General Manager *DL*

PREPARED BY: John Shimmin, Plant Manager; and Jennifer McCullar, Finance Manager *JMS*

SUBJECT: Operations and Connections Report

OPERATIONS:

2019 Treatment Plant Data

	June	July	August
Total Influent Flow (MG)	52.692	58.139	52.869
Average Daily Influent Flow (MGD)	1.70	1.88	1.71
City of Big Bear Lake	51.58%	51.41%	49.32%
Big Bear City	43.55%	43.73%	46.19%
County of San Bernardino	4.88%	4.86%	4.49%
Average Influent BOD (mg/L)	317	417	357
Average Effluent BOD (mg/L)	12	6	8
BOD Removal Efficiency (%)	96.2%	98.6%	97.8%
Precipitation (inch)	0.08	0.71	0.18

August 2019 - There were no reportable violations during this period.

Moved: _____ Second: _____ Ayes: _____ Noes: _____ Abstain/Absent: _____

Approved Date: _____ Witness: _____

Secretary of the Governing Board

CONNECTIONS:

MONTH	FYE 6/30/2020									
	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	CITY-BBL	CSD	CSA-53B
July	4	4	8	3	4	3	7	5	2	0
August	4	6	5	12	6	10	2	1	1	0
September	4	5	6	4	6	3	0	0	0	0
October	6	14	10	9	8	3	0	0	0	0
November	13	8	6	5	11	5	0	0	0	0
December	0	23	8	4	2	3	0	0	0	0
January	2	3	1	0	0	1	0	0	0	0
February	2	1	0	1	0	0	0	0	0	0
March	2	2	3	2	0	3	0	0	0	0
April	5	1	10	3	0	3	0	0	0	0
May	2	5	10	4	0	5	0	0	0	0
June	1	12	2	16	0	6	0	0	0	0
TOTAL	45	84	69	63	37	45	9	6	3	0

FINANCIAL IMPACT:

There is no financial impact.

RECOMMENDATION:

Informational



Big Bear Area Regional
Wastewater Agency
David Caretto – Chair
John Green – Vice Chair
Karyn Oxandaboure – Secretary
Rick Herrick – Director
Jim Miller – Director

AGENDA ITEM: 5.F.

MEETING DATE: September 25, 2019

TO: Governing Board of the Big Bear Area Regional Wastewater Agency

FROM: David Lawrence, P.E., General Manager *DL*

PREPARED BY: Bridgette Burton, Management Analyst *BB*

SUBJECT: Sieve Analysis Test Results and the Weep Hole Investigation Technical Memorandum for the North and South Horseshoe Ponds Project

BACKGROUND:

Attached is the Sieve Analysis Test Results prepared by LOR Geotechnical Group Inc., and the Weep Hole Investigation Technical Memorandum prepared by Water Systems Consulting, Inc. for the North and South Horseshoe Ponds Project.

FINANCIAL IMPACT:

No financial impact.

RECOMMENDATION:

Informational

ATTACHMENTS:

- Sieve Analysis Test Results
- Weep Hole Investigation Technical Memorandum

Moved: _____ Second: _____ Ayes: _____ Noes: _____ Abstain/Absent: _____

Approved Date: _____ Witness: _____

Secretary of the Governing Board

August 22, 2019

Big Bear Area Regional Wastewater Agency
121 Palomino Drive
Big Bear, California 92314

Project No. 63296.8

Attention: Mr. David Lawrence, P.E.

Subject: Sieve Analysis Test Results, Big Bear Area Regional Wastewater Agency (BBARWA), North Horseshoe Pond, Big Bear, California.

As requested by you, we have completed sieve analysis/hydrometer testing of seven soil samples retrieved from the northerly of two ponds (referred to as the 'horseshoe' ponds) located within the western portion of the BBARWA site. The tests were conducted in order to determine the soil classification of each sample. The initial four samples were retrieved from a depth of approximately 2 to 6 inches on July 31, 2019. Three additional samples were retrieved from a depth of approximately 6 to 12 inches on August 9, 2019. The sample locations are approximately located on Figure 1 while the test results are presented on the Gradation Curves, Enclosures A-1 and A-2, within Appendix A.

In general, the site soils are relatively fine grained. Since they contain a high percentage of fines, including an average of 20 to 25 percent clay, these soils are considered to be impermeable and characterized by very slow percolation and poor infiltration rates.

We trust that this information addresses your needs at the present time. If you should have any questions or comments, please do not hesitate to contact the undersigned.

Respectfully submitted,
LOR Geotechnical Group, Inc.

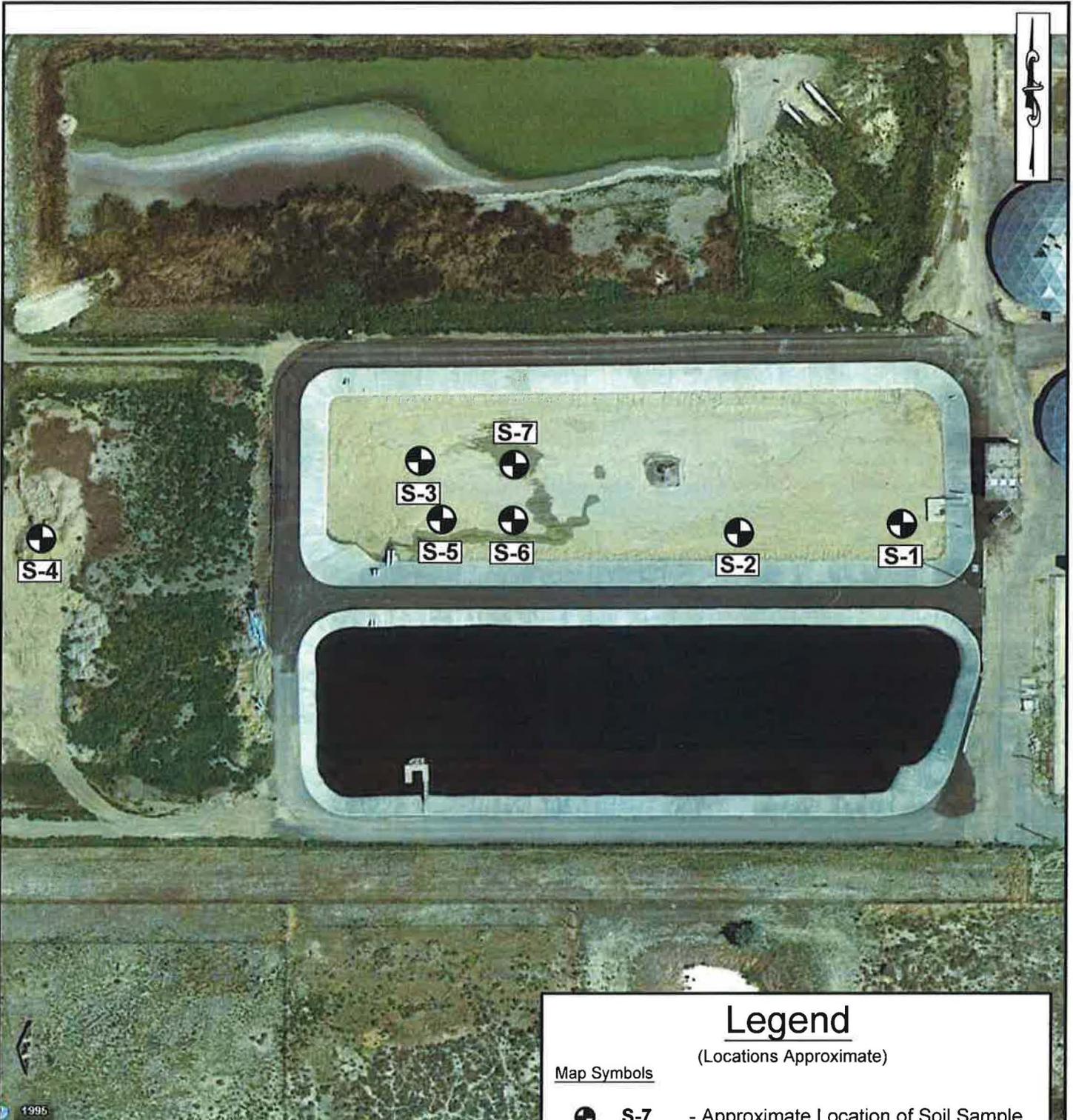

John P. Leuer, GE 2030
President

RMM/JPL/ss



Enclosures: Figure 1, Sample Location Map, Enclosures A-1 and A-2 Gradation Curves

Distribution: Addressee (2) and via Email: dlawrence@bbarwa.org



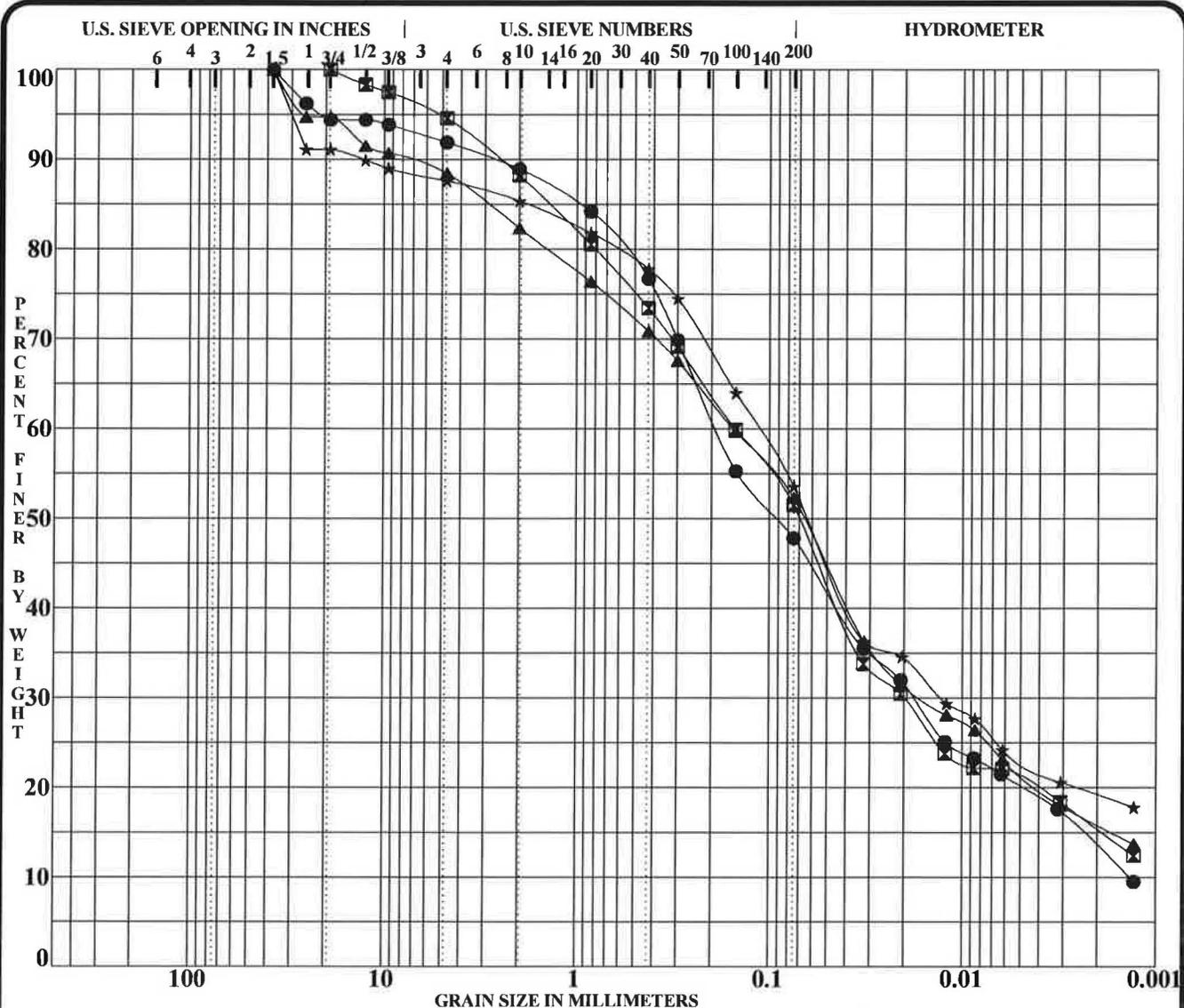
Legend
(Locations Approximate)

Map Symbols


S-7 - Approximate Location of Soil Sample

SAMPLE LOCATION MAP

PROJECT:	NORTH HORSESHOE POND, BIG BEAR, CALIFORNIA	PROJECT NO:	63296.8
CLIENT:	BBARWA	FIGURE:	1
LOR Geotechnical Group, Inc.		DATE:	AUGUST 2019
		SCALE:	1" = 90'



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

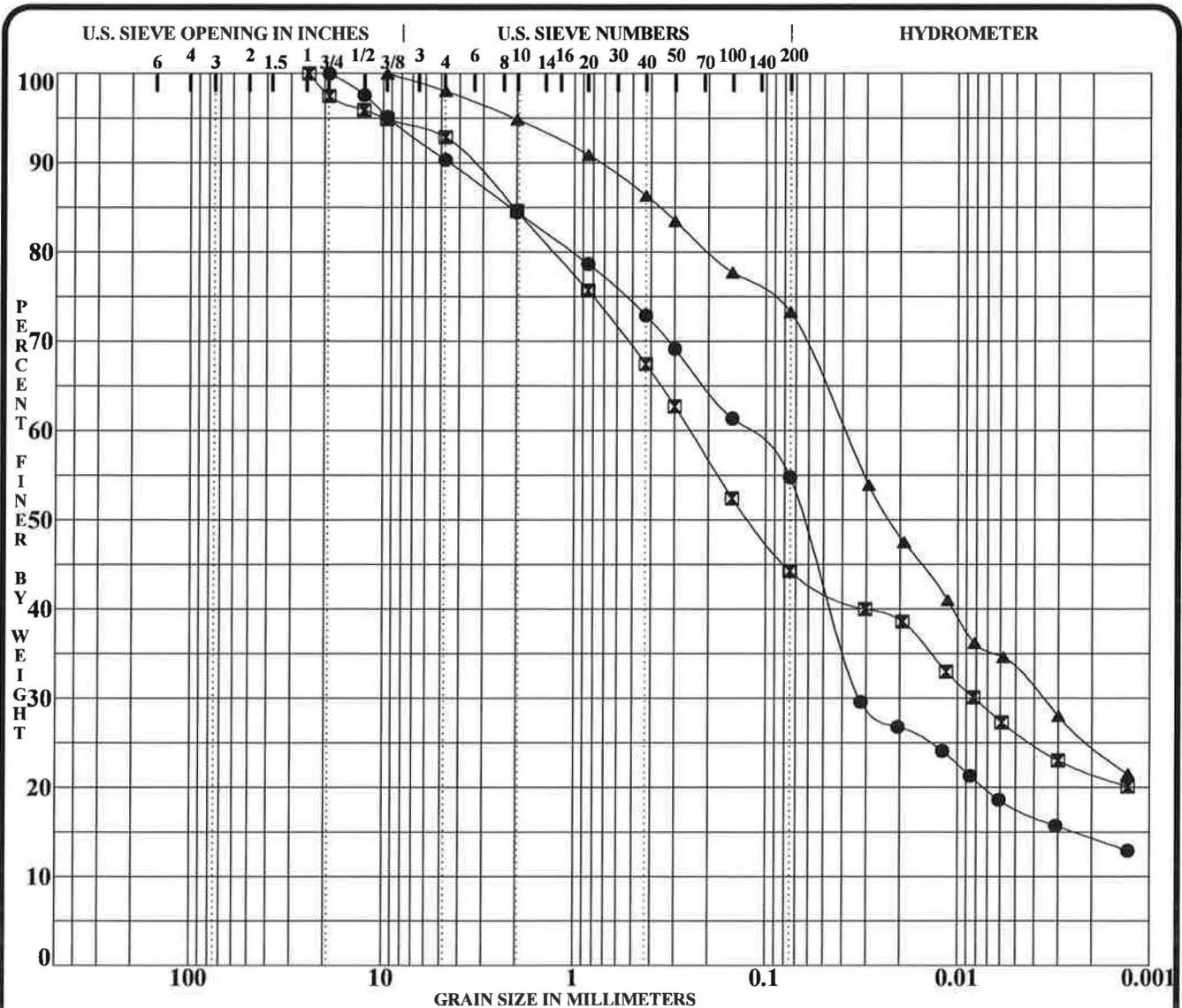
Specimen Identification	Soil Classification	SE	RV	PL	PI	Cc	Cu
● 1 @ 2-6"	(SM) Silty Sand with Clay	--	--			1.24	136.6
◻ 2 @ 2-6"	(ML) Sandy Silt with Clay	--	--				
▲ 3 @ 2-6"	(ML) Sandy Silt with Clay	--	--				
★ 4 @ 2-6"	(ML) Sandy Silt with Clay	--	--				

Specimen Identification	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
● 1 @ 2-6"	37.50	0.19	0.018	0.0014	8.1	44.1	27.7	20.2
◻ 2 @ 2-6"	19.00	0.15	0.020		5.4	43.1	30.6	21.0
▲ 3 @ 2-6"	37.50	0.15	0.016		11.6	36.1	30.8	21.5
★ 4 @ 2-6"	37.50	0.11	0.013		12.4	34.0	30.5	23.1

PROJECT Horseshoe Ponds Rehabilitation PROJECT NO. 63296.8
 DATE 8/19/19

GRADATION CURVES
 LOR Geotechnical Group, Inc.

ENCLOSURE A-1



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Specimen Identification	Soil Classification	SE	RV	PL	PI	Cc	Cu
● 5 @ 6-12"	(ML) Sandy Silt with Clay	--	--				
☒ 6 @ 6-12"	(SC) Clayey Sand with Silt	--	--				
▲ 7 @ 6-12"	(ML) Clayey Silt with Sand	--	--				

Specimen Identification	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
● 5 @ 6-12"	19.00	0.13	0.032		9.7	35.5	37.0	17.7
☒ 6 @ 6-12"	24.30	0.25	0.008		7.1	48.6	18.0	26.2
▲ 7 @ 6-12"	9.50	0.04	0.004		2.0	24.7	40.2	33.1

PROJECT Horseshoe Ponds Rehabilitation PROJECT NO. 63296.8
 DATE 8/19/19

GRADATION CURVES
 LOR Geotechnical Group, Inc.

ENCLOSURE A-2

Technical Memorandum



Date: 9/17/2019

To: David Lawrence
Big Bear Area Regional Wastewater Agency

CC: Laine Carlson, P.E.

Prepared by: Jasmine Diaz, P.E., Grade V WWTPO

Reviewed by: Laine Carlson, P.E.

Project: Operational Review

SUBJECT: HORSESHOE POND WEEP HOLE INVESTIGATION

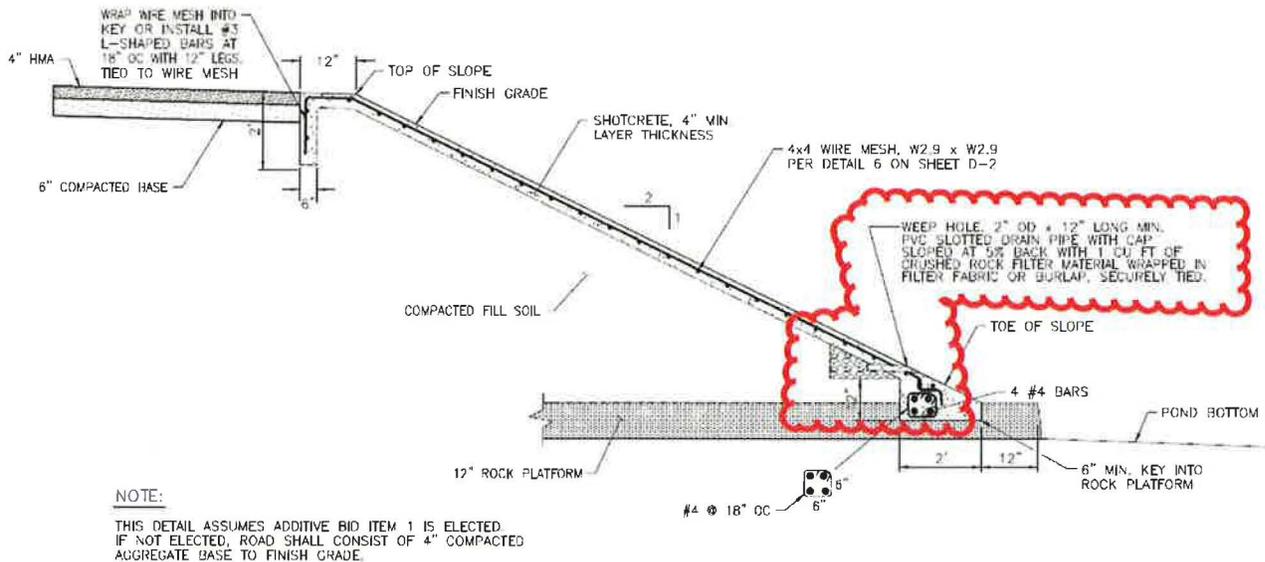
The Big Bear Area Regional Wastewater Agency (BBARWA) manages a wastewater treatment facility that treats an average of 2.2 million gallons per day (MGD) of wastewater. The wastewater is treated to secondary treatment standards, stored in the North and South Horseshoe Ponds (Horseshoe Ponds) and then discharged to the Lucerne Valley. The banks of the Horseshoe Ponds were rehabilitated in 2017-18 due to significant erosion in some areas. The banks were stabilized with shotcrete to protect the slopes from future erosion and weepholes were installed to relieve any hydrostatic pressure buildup behind the shotcrete. Following construction, a concern was raised by a BBARWA staff member that the weep holes create a mechanism for illicit discharges of treated wastewater from the Ponds into a non-permitted discharge location. The purpose of this memo is to provide additional information on the pond rehabilitation construction and summarize feedback received from the Santa Ana Regional Water Quality Control Board (Regional Board) stating that there is no compliance concern regarding the shotcrete bank stabilization or weephole installation.

1 Horseshoe Ponds Rehabilitation Background and Construction

In 2016, BBARWA initiated a project to rehabilitate the Horseshoe Ponds at BBARWA's wastewater treatment plant because the earthen banks were deteriorating and needed to be reconstructed and stabilized to prolong their life. The Horseshoe Ponds were originally lined with clay on the bottom with earthen banks and were not intended to be impermeable. The rehabilitation project was a maintenance project and did not intend to change the character of the Horseshoe Ponds; therefore, impermeability was not a design criterion. Note that a previous hydrogeologic study of the area surrounding the Horseshoe Ponds determined that the lake deposits underlying the area consist of impermeable clay and that the potential for seepage losses to the deeper aquifer is unlikely (1).

The purpose of the rehabilitation work was to clean out material that had settled on the bottom of the ponds and to reconstruct and stabilize the pond banks from future erosion. Shotcrete was selected as the bank stabilization material due to its superior erosion protection and long service life. The clay liner on the pond bottoms was maintained. Weep holes were incorporated into the shotcrete banks to relieve any hydrostatic pressure buildup behind the shotcrete, such as from local infiltration of rainfall.

The rehabilitation of the North and South Horseshoe Pond were completed in 2018 and 2017, respectively. Figure 1 and Figure 2 are cross-sectional details of the slope stabilization and weep hole design for both Horseshoe Ponds.



SHOTCRETE SLOPE STABILIZATION DETAIL

Figure 1. Profile Drawing of Pond Bank and Weep Hole Detail

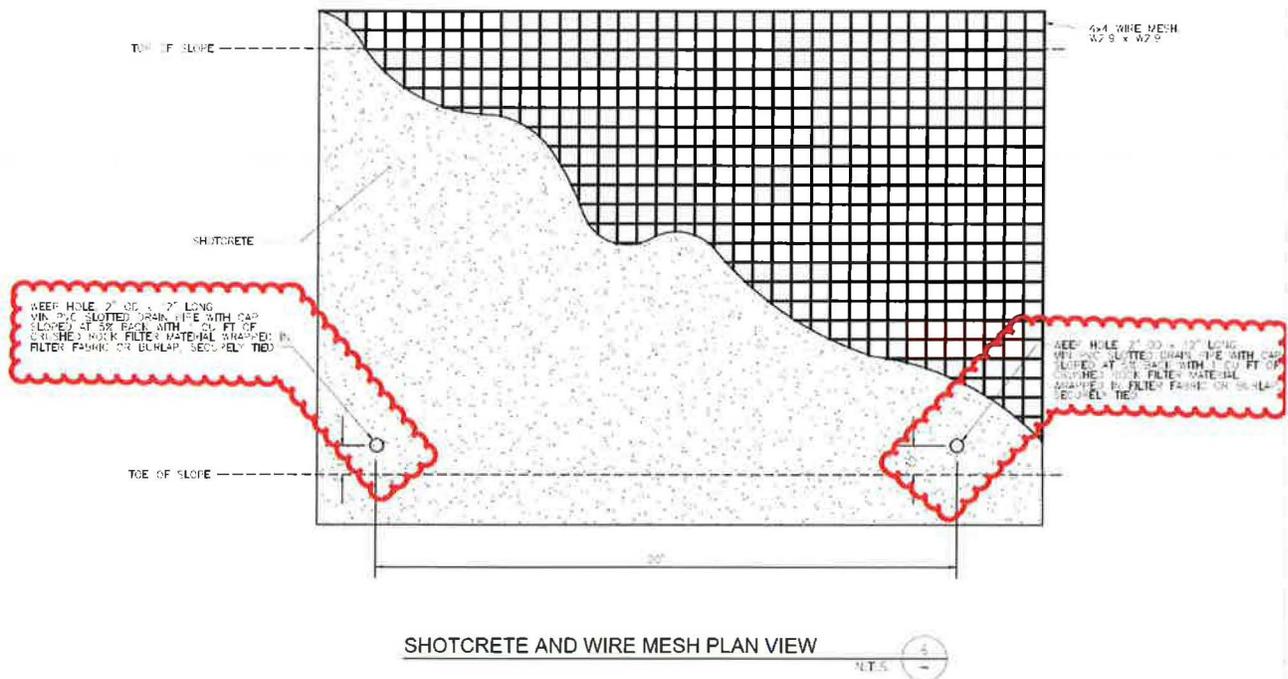


Figure 2. Crosssection View of Weep Holes and Details

2 Regional Board Regulatory Assessment

The BBARWA wastewater treatment facility is regulated by Waste Discharge and Producer/User Water Recycling Requirements (WDR) permit (R8-2005-0044) that details water quality requirements for discharge into specified locations. The Regional Board is responsible for enforcing the requirements within BBARWA's WDR permit. If any water is discharged to a location not authorized by the WDR, that discharge could be considered an illicit discharge.

On December 4th, 2018, WSC and BBARWA's General Manager, David Lawrence, contacted BBARWA's Regional Board representative by phone to discuss the Horseshoe Pond rehabilitation and understand whether the Regional Board had any concerns with the weepholes posing a risk of illicit discharges from the Horseshoe Ponds. The Regional Board representative responded to the inquiry in writing stating the following:

"There are no compliance issues for the Regional Board regarding the shotcrete pond wall maintenance or weep holes at this time. Just a reminder that Regional Board notification for any material changes made to the plant is required per your permit. The lining of the ponds are a maintenance project and are not a material change to the facility. The ponds were unlined and remain unlined so the weep holes do not change the character or intent of the ponds."

The full email text is included in Appendix A. The Regional Board confirmed that the rehabilitation of the Horseshoe Ponds is not a material change to the character or intent of the ponds and that they are not required to be impermeable.

3 Conclusion

Written confirmation from the Regional Board confirmed that the Horseshoe Ponds are not required to be impermeable; therefore, the inclusion of weep holes does not pose a compliance risk to BBARWA.

4 References

1. **Glenn A. Brown and Associates.** *Supplemental Hydrogeologic Study, Results of Test Drilling, Baldwin Lake Evaporation Pond.* 1975.

Appendix A. Email Correspondence with Regional Board Representative

Laine Carlson

From: Harris, Ryan@Waterboards <Ryan.Harris@Waterboards.ca.gov>
Sent: Tuesday, December 4, 2018 10:59 AM
To: Laine Carlson
Cc: 'David Lawrence'
Subject: RE: BBARWA Effluent Storage Ponds

Laine (David and potential Board Members).

I checked your permit and spoke with both Najah Amin and Jayne Joy about this. My earlier thoughts during our phone call were correct.

There are no compliance issues for the Regional Board regarding the shotcrete pond wall maintenance or weep holes at this time.

Just a reminder that Regional Board notification for any material changes made to the plant is required per your permit.

The lining of the ponds are a maintenance project and are not a material change to the facility. The ponds were unlined and remain unlined so the weep holes do not change the character or intent of the ponds.

Please feel free to let me know if you have any further questions on this or other matters.

Ryan Harris
SARWQCB

From: Laine Carlson <lcarlson@wsc-inc.com>
Sent: Tuesday, December 4, 2018 10:34 AM
To: Harris, Ryan@Waterboards <Ryan.Harris@Waterboards.ca.gov>
Cc: 'David Lawrence' <dlawrence@bbarwa.org>
Subject: BBARWA Effluent Storage Ponds

Hi Ryan,

Thank you for your time on the phone today; this email is to confirm our conversation regarding the effluent ponds at the Big Bear Area Regional Wastewater Agency Treatment Plant in Big Bear.

The treated effluent from the plant is stored in two earthen ponds on the BBARWA site prior to being discharged to the Lucerne Valley, per the approved Waste Discharge Requirements for the facility (R8-2005-0044). The banks of both storage ponds were badly eroded so BBARWA recently undertook a maintenance project to reconstruct the pond banks and line them with shotcrete to protect them from future erosion. Weep holes were incorporated into the shotcrete banks to relieve any hydrostatic pressure buildup behind the shotcrete. The shotcrete was intended only to protect the pond banks from erosion and not as an impermeable liner, although the banks are now less permeable than the previous earthen banks. The bottoms of the ponds were not lined with shotcrete. The project Notice of Completion will be filed this month and the 2018 annual report to the Regional Board will include a description of this project.

Per our conversation, we understand that the Regional Board does not have any concern with the inclusion of weep holes in the shotcrete on the pond banks and that the banks are not required to be impermeable. Please respond to confirm.

Please let us know if you need any additional information on this topic. Thanks again Ryan,

Laine Carlson, P.E.

lcarlson@wsc-inc.com

Phone: (909) 483-3200 ext. 201

Cell: (661) 904-1870

Fax: (909) 354-3482





Glenn A. Brown and Associates
CONSULTING GEOLOGISTS
A Division of LaRoy Crandall and Associates

November 11, 1975

Big Bear City Community Services District
c/o C. M. Engineering Associates
234 North Arrowhead Avenue
San Bernardino, California 92408

Project No. 73119-B

Gentlemen:

Supplemental Hydrogeologic Study
Results of Test Drilling
Baldwin Lake Evaporation Pond
N.P.D.E.S. Permit
San Bernardino County, California

This report supplements our letter report, dated March 13, 1975, to the California Regional Water Quality Control Board, Santa Ana Region. This supplemental study presents the results of test drilling and laboratory permeability tests of lake bottom sediments and two observation wells drilled to obtain water level and water quality data.. This data was requested by the Department of Water Resources in a memorandum to the California Regional Water Quality Control Board in January, 1975.

The basic plan including the location of the test holes was formulated in February 1975, however, due to inclement weather the drilling programs were deferred until summer. Arrangements were made in June 1975 with Pioneer Drilling Co. to drill six borings to test the clay materials beneath the Baldwin Lake Evaporation Pond. Two observation wells about 150 feet in depth were also drilled in the vicinity of the topographic divide

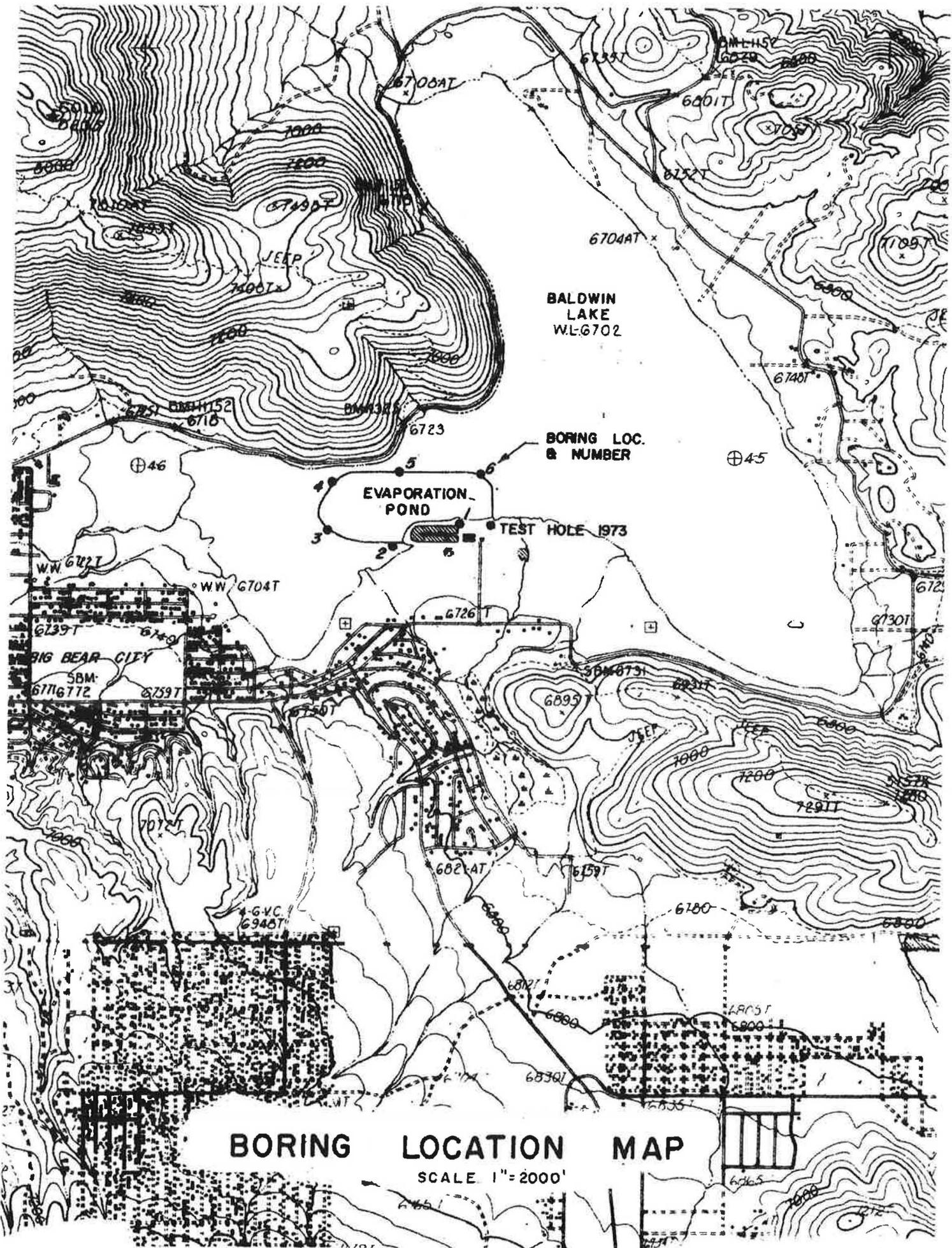
between Baldwin and Bear Lake. The two deep observation wells BB-1 and BB-2 were drilled and cased between late June to mid-July 1975.

PERMEABILITY OF LAKE BOTTOM SEDIMENTS

In order to evaluate the permeability of lake bottom sediments in the vicinity of the Baldwin Lake Evaporation Pond, six holes were drilled in the pond embankment. The locations of the borings are shown on Plate 1 and the logs are presented in Appendix A. The borings were drilled with a flight auger drill rig by Pioneer Drilling Co. Undisturbed drive samples were tested by Pioneer Consultants.

The results of the test drilling and laboratory testing of the lake bottom sediments indicate that the upper 30 feet of lake bottom sediments, which were penetrated by the drill holes, consist of impermeable organic clay and peat. Laboratory permeability tests indicate that the permeability ranges from 3.8×10^{-6} to 2.1×10^{-8} cm/sec. The laboratory test results are appended as Appendix B.

Two of the test holes B-3 and B-6 were cased with plastic pipe to serve as a source for continuing water level and water quality data. Water level measurements indicate that the water level beneath the embankment is about the same as pond level. No seepage can be observed through the embankment. Water samples obtained from the two cased holes indicate that the water quality is variable but is poorer quality than that in the evaporation pond. The chemical analyses are attached as Appendix C. The distribution



BALDWIN LAKE
WL 6702

BORING LOC.
& NUMBER

EVAPORATION
POND

TEST HOLE 1973

BORING LOCATION MAP

SCALE 1" = 2000'

of mineral constituents is more nearly that of water which is present periodically in Baldwin Lake than that in the evaporation ponds.

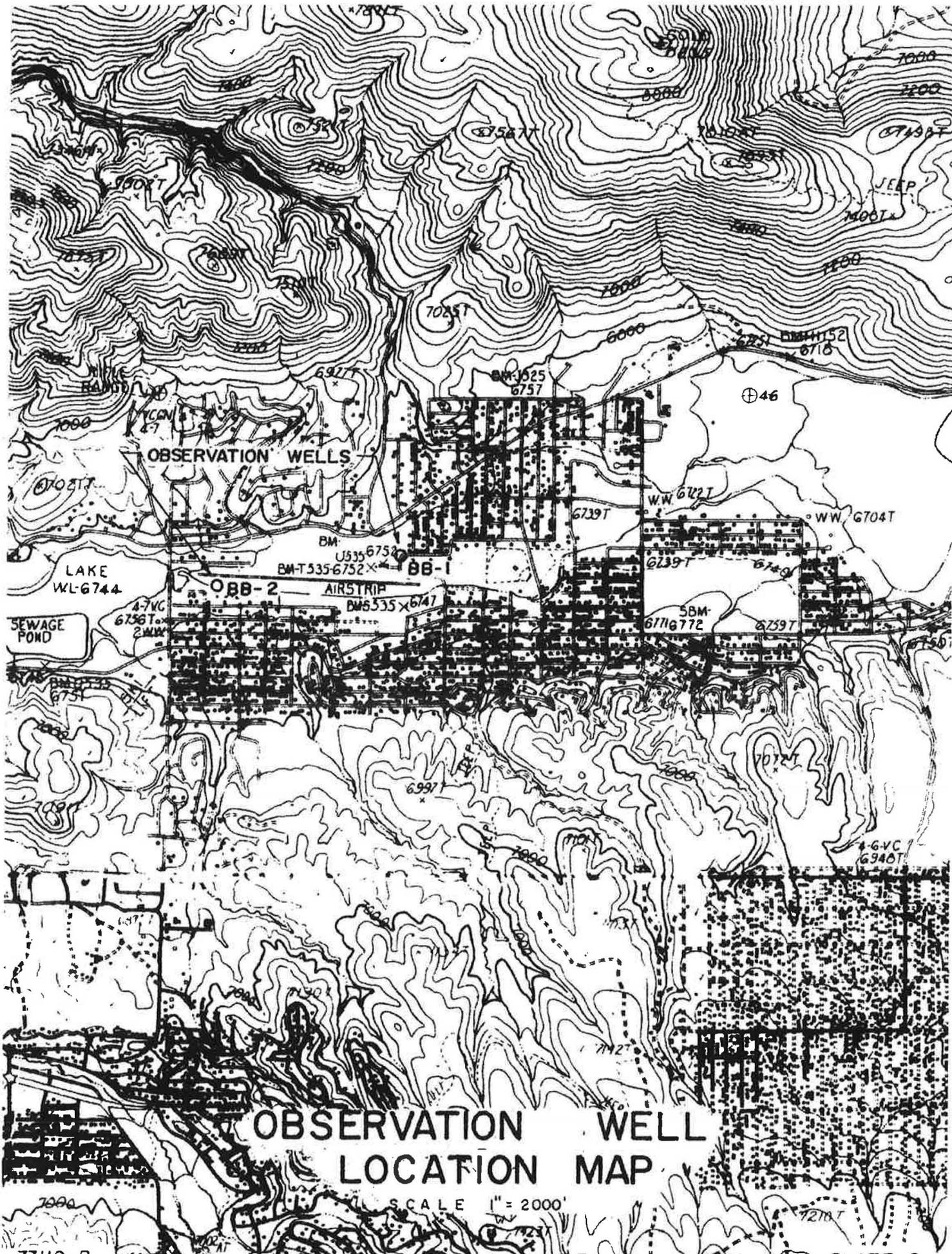
OBSERVATION WELLS

Two observation wells BB-1 and BB-2 were drilled in the vicinity of the Big Bear Airport to obtain ground water level information and ground water samples for chemical analyses.

The location of these observation wells are shown on Plate 2. The driller's logs with construction details are attached as Appendix D. Ground water level measurements obtained since completion of the observation wells are presented in Appendix E. Analyses of water samples taken from the observation wells are presented in Appendix F.

The ground water levels in observation wells BB-1 and BB-2 are higher in elevation than present water levels at Big Bear Lake and at Baldwin Lake. The ground water levels at BB-1 are generally two to five feet higher than at BB-2. A Stevens F type water level recorder was placed on BB-2 from September 11 through October 31, 1975. The water levels in BB-2 have a direct response to the pumping of the Division Wells situated about 1,000 feet westerly. The general decline in water levels in BB-2 (2,390 feet in 114 days) is attributed to the pumpage from the Division Wells.

The recorder was moved to BB-1 (a distance of about 4,000 feet easterly of the Division Wells) on October 31, 1975, where it will be



OBSERVATION WELL LOCATION MAP

SCALE 1" = 2000'

maintained for about 30 days. Attempts will be made to determine if pump-
age by Big Bear City Community Services District can be monitored at BB-1.
The distance between BB-1 and Big Bear Community Services District Well
Number 1 is about 4,300 feet.

In conclusion, the results of the test drilling at the evaporation
pond and permeability testing of the lake sediments indicate that the lake
deposits underlying the evaporation pond consist of impermeable clay and
organic deposits. The potential for seepage losses from the evaporation
pond to the deeper aquifers is unlikely.

Data from observation wells indicates that there is a mound in the
ground water surface between Big Bear and Baldwin Lakes. Heavy pumping by
Southern California Water Company at the Division Wells has caused a gen-
eral decline in the ground water surface at the west end of Big Bear Air-
port. Water levels have also declined at well BB-1 suggesting that the
cone of influence at the Division Wells extends about 4,000 feet eastward
to BB-1. This pumping is shifting the ground water divide eastward.

Respectfully submitted,

GLENN A. BROWN AND ASSOCIATES

by



Glenn A. Brown
Registered Geologist No. 4
Certified Engineering Geologist No. 3
Director of Geological Services

GAB:js
Attachments
(5 copies submitted)

APPENDIX A

**LOGS OF TEST HOLES
BALDWIN LAKE EVAPORATION POND**

BORING B-1

DATE DRILLED: June 23, 1975
 EQUIPMENT USED: 8"-Diameter Flight Auger

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

ELEVATION (ft.)	DEPTH (ft.)	MOISTURE (% of dry wt.)	DRY DENSITY (lbs./cu. ft.)	BLOWS *	SAMPLE	ELEVATION	
						SM	FILL - SILTY SAND - grey-brown, silt balls
	5					CH	FILL - CLAY - grey, dry Damp, few cobbles to 3"
						CH	CLAY - blue-grey, plastic, wet
	10						
	15	25.0	98.3	14/24		SM	SILTY SAND - blue-grey, wet
						CH	CLAY - blue-grey
	20			9/12			
	25	33.1	92.1	13/16			Slightly silty
	30					SM	SILTY SAND - grey *First number refers to first six inches of driving; second number refers to second six inches of driving.
	35					CL	SILTY CLAY - dark grey, moist
	40						

NOTE: Total depth = 37 feet. Sloughing. Water at 17.7 feet; backfilled.

Laboratory tests by Pioneer Consultants.

LOG OF BORING

BORING B-2

DATE DRILLED: June 23, 1975
EQUIPMENT USED: 8"-Diameter Flight Auger

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

ELEVATION (ft.)	DEPTH (ft.)	MOISTURE (% of dry wt.)	DRY DENSITY (lbs./cu. ft.)	BLOWS	SAMPLE	ELEVATION	DESCRIPTION
						CH	FILL - CLAY - light grey, damp
						CH	CLAY - dark grey, moist Silty, brown, cemented Sand nodules
	5	28.1	91.4	6/13			
						ML	SANDY SILT - grey, wet
	10	34.0	88.9	12/18		CH	CLAY - dark grey, plastic, brown Silt lenses
						ML	SILT - grey, moist, lenses of grey Clay
	15						
						CL CH	CLAYEY SILT and CLAY - grey and grey-brown
	20						
	25						
	30						
	35						

NOTE: Total depth = 35 feet. Unable to sample due to fill in auger. Water at 5'; backfilled.

LOG OF BORING

BORING B-3

DATE DRILLED: June 24, 1975
EQUIPMENT USED: 8"-Diameter Flight Auger

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

ELEVATION (ft.)	DEPTH (ft.)	MOISTURE (% of dry wt.)	DRY DENSITY (lbs./cu ft.)	BLOWS	SAMPLE	ELEVATION	DESCRIPTION
						CH	FILL - CLAY - dark grey, plastic
	5					CH	CLAY - dark grey, plastic, damp
	10	39.9	81.8	6/9			
	15			5/5			Dark brown, wet, jointed
	20	171.2	28.7	4/5		Pt	PEAT - dark brown, moist, soft
	25	308.8	17.9	4/5			Dark grey
	30	276.5	19.3	3/3			Grey
	35	190.7	25.8	3/3			Dark brown

NOTE: Total depth = 35 feet. Cased with 35 feet of 2" PVC; perforated from 25' to 35'. Water level 10' below ground surface. Water level 5.43' below ground surface on 6/27/75.

LOG OF BORING

BORING B-4

DATE DRILLED: June 23, 1975
 EQUIPMENT USED: 8"-Diameter Flight Auger

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

ELEVATION (ft.)	DEPTH (ft.)	MOISTURE (% of dry wt.)	DRY DENSITY (lbs./cu ft.)	BLOWS	SAMPLE	ELEVATION
						CH FILL - CLAY - grey, damp
5						
						Pt PEAT - dark grey-brown, slightly Silty
10						
15	115.1	42.0	5/7			
20	211.9	21.6	4/5			Moist
25						
30	61.2	48.9	3/3			

NOTE: Total depth = 30 feet. No water; backfilled.

LOG OF BORING

GLENN A. BROWN AND ASSOCIATES

BORING B-5

DATE DRILLED: June 23, 1975
EQUIPMENT USED: 8"-Diameter Flight Auger

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

ELEVATION (ft.)	DEPTH (ft.)	MOISTURE (% of dry wt)	DRY DENSITY (lbs./cu. ft.)	BLOWS	SAMPLE	ELEVATION
						CH FILL - CLAY - dark grey, plastic, damp
	5					Pt PEAT - dark grey, plastic damp
	10					
	15	41.0	79.1	6/6		
	20	151.9	31.2	3/5		
	25	189.1	26.5	3/4		Dark brown, moist
	30					
	35	205.0	45.6	3/4		

NOTE: Total depth = 35 feet. Water at 20 feet; backfilled.

LOG OF BORING

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

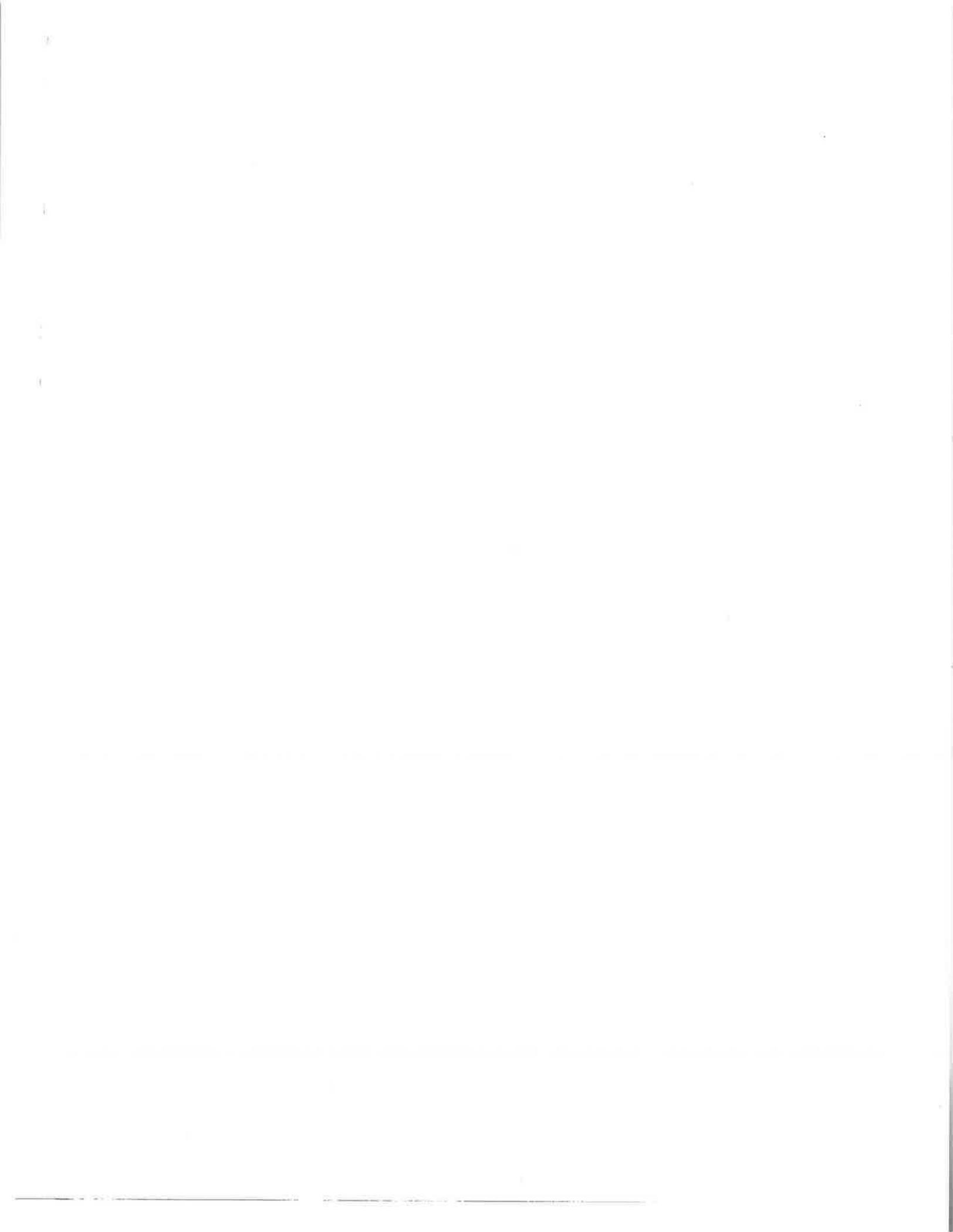
		ELEVATION (ft.)	DEPTH (ft.)	MOISTURE (% of dry wt.)	DRY DENSITY (lbs./cu ft.)	BLOWS	SAMPLE	ELEVATION	
								CH	FILL - CLAY - grey, damp
	5							CH	CLAY - grey, damp
	10								
	15	45.2	77.2	8/10					Brown and blue-green
	20	224.7	22.8	2/3				Pt	PEAT - brown, wet jointed, soft
	25	175.0	98	2/3					Clay
	30								
	35	236.3	21.0	3/5					

NOTE: Total depth = 35 feet. Set 35 feet of 2" PVC; perforated from 25' to 35'. Water at 4.05 feet below ground surface on 6/24/75. Water at 3.53 feet below ground surface on 6/27/75.

LOG OF BORING

BORING B-6

DATE DRILLED: June 24, 1975
EQUIPMENT USED: 8"-Diameter Flight Auger



APPENDIX B

**BALDWIN LAKE EVAPORATION POND
LABORATORY RESULTS
BY
PIONEER CONSULTANTS**

pioneer consultants

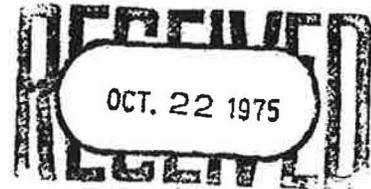
251 TENNESSEE STREET • REDLANDS, CALIFORNIA 92373 (714)889-8506
(714)793-2691



October 17, 1975

Big Bear Community Services District
Post Office Box 278
Big Bear City, California 92315

Re: Baldwin Lake Evaporation Pond
Laboratory Testing



Gentlemen:

This is to report the results of laboratory tests performed for your use in determining the permeability of the lake bottom for the referenced project. Laboratory testing obtained from six exploratory borings included unit weight and moisture content determinations and permeability testing. Tests were performed on samples as designated by a representative of LeRoy Crandall and Associates.

Permeability tests were performed using triaxial test apparatus. Samples were weighed and measured prior to testing. They were then set into the triaxial apparatus. Water was then introduced as a confining pressure fluid.

In order to increase the percent of saturation of the test specimens, elevated pore pressures were used. The pressure of water entering the sample at the base was 60 pounds per square inch, while the pressure of the water leaving the sample was between 55 and 59 pounds per square inch. A confining pressure of 62 pounds per square inch was used.

Because of the sensitive nature of the soil being tested, the confining pressure and pore pressures were raised very slowly in increments of 5 pounds per square inch. The pressure at each increment was held for a sufficient time for pore pressures to come to equilibrium within the sample. This time ranged between 24 and 48 hours for each of the first few pressure increments. With each increase in cell and pore pressure, the pore pressures came to equilibrium more readily, indicating an increase in the saturation of the test specimen.

Permeability tests were performed using a constant head method. As indicated, 60 pounds per square inch were applied to the water entering at the base of the specimen, while a lower pressure was applied at the top. The difference in these pressures was taken as the head loss through the sample.

The results of our permeability tests accompany this report. The coefficient of permeability (k) is expressed in centimeters per second, and is independent of the head loss. In addition to the

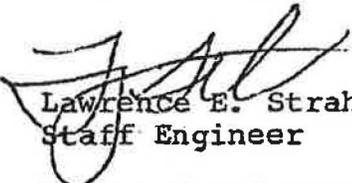
October 17, 1975

Page Two

permeability test results, the unit dry weights and moisture contents of undisturbed samples returned to our laboratory are presented.

We hope that this information is sufficient for your present needs. However, should you have any questions, please contact this office.

Respectfully,


Lawrence E. Strahm
Staff Engineer

Reviewed and approved by:


David W. Turner, P. E.

LES:DWT:mf
J.N. 657-010
Attachments
Addressee (2)

cc: (2) Glen Brown Associates



October, 1975

SUMMARY OF RING DENSITY DATA

<u>Boring No.</u>	<u>Depth - Feet</u>	<u>Dry Density P.C.F.</u>	<u>Moisture Content Percent</u>
BH-1	25.5 - 26.0	92.1	33.1
	29.5 - 30.0	98.1	29.4
BH-2	4.5 - 5.0	91.4	28.1
BH-3	9.5 - 10.0	81.8	39.9
	19.5 - 20.0	28.7	171.2
	24.5 - 25.0	17.9	308.8
	29.5 - 30.0	19.3	276.5
	34.5 - 35.0	25.8	190.7
BH-4	14.5 - 15.0	42.0	115.1
	29.5 - 30.0	48.9	61.2
BH-5	14.5 - 15.0	79.1	41.0
	19.5 - 20.0	31.2	151.9
	24.5 - 25.0	26.5	189.1
	34.5 - 35.0	45.6	205.0
BH-6	19.5 - 20.0	22.8	224.7
	34.5 - 35.0	21.0	236.3



SUMMARY OF PERMEABILITY TESTING

<u>Sample</u>	<u>Boring No.</u>	<u>Depth Feet</u>	<u>Unit Dry Weight P.C.F.</u>	<u>Moisture Content Percent</u>	<u>Percent Saturation</u>	<u>Coefficient of Permeability cm/sec</u>
1	BH-1	15.0	98.3	25.0	100	3.8×10^{-6}
2	BH-2	9.0	88.9	34.0	100	1.8×10^{-6}
3	BH-4	19.0	21.6	211.9	87	2.4×10^{-7}
4	BH-5	19.0	30.4	151.8	94	2.1×10^{-8}
5	BH-6	14.0	77.2	45.4	100	5.3×10^{-7}
6	BH-6	24.0	28.0	175.0	98	7.2×10^{-8}



APPENDIX C

**BALDWIN LAKE EVAPORATION POND
WATER ANALYSES
FROM BORINGS B-3 AND B-6
BY
POMEROY, JOHNSTON & BAILEY**

August 4, 1975

ANALYSIS OF WATER SAMPLE FROM THE
GLENN A. BROWN & ASSOCIATES

Project 73119B
B-3 Baldwin Lake
Date Collected: 6-27-75
Time: 10:00

Sample taken by your staff
and brought to our laboratory
on June 30, 1975

pH 7.9 @ 23.5°C
pHs 6.8 @ 60°F (15.6°C)
pHs 6.1 @ 140°F (60°C)

Conductivity: 3322 u mhos/cm

	<u>Milligrams per liter (ppm)</u>	<u>Milli-equivalents per liter</u>	
<u>Cations determined:</u>			
Calcium, Ca	97	4.86	
Magnesium, Mg	115	9.46	
Sodium, Na	543	23.61	
Potassium, K	16.5	0.42	
	Total		38.35
<u>Anions determined:</u>			
Bicarbonate, as HCO ₃	878	14.39	
Chloride, Cl	320	9.02	
Sulfate, SO ₄	818	17.04	
Fluoride, F ⁻	4.9	0.26	
Nitrate, as N	1.3	0.09	
	Total		40.80
Carbon dioxide, CO ₂ , calc.	15		
Hardness, as CaCO ₃	716		
Silica, SiO ₂	46		
Iron, Fe	0.10		
Manganese, Mn	0.14		
Total Dissolved Minerals, (by addition: HCO ₃ + CO ₃)	2398		

Respectfully submitted,

Cordelia J. Hwang
Cordelia J. Hwang
Asst. Laboratory Director

CJH:tf

August 4, 1975

ANALYSIS OF WATER SAMPLE FROM THE
GLENN A. BROWN & ASSOCIATES

Project 73119B
B-6 Baldwin Lake
Date Collected: 6-27-75
Time: 1015

Sample taken by your staff
and brought to our laboratory
on June 30, 1975

pH 7.6 @ 23.5°C
pHs 7.0 @ 60°F (15.6°C)
pHs 6.4 @ 140°F (60°C)

Conductivity: 1283 u mhos/cm

	<u>Milligrams per liter (ppm)</u>	<u>Milli-equivalents per liter</u>
<u>Cations determined:</u>		
Calcium, Ca	66	3.31
Magnesium, Mg	39.5	3.25
Sodium, Na	177	7.70
Potassium, K	8.5	0.22
	Total	14.48
<u>Anions determined:</u>		
Bicarbonate, as HCO ₃	559	9.17
Chloride, Cl	156	4.40
Sulfate, SO ₄	32	0.66
Fluoride, F	2.8	0.15
Nitrate, as N	1.3	0.09
	Total	14.47
Hardness, as CaCO ₃	328	
Silica, SiO ₂	47	
Iron, Fe	0.02	
Manganese, Mn	0.40	
Total Dissolved Minerals, (by addition: HCO ₃ → CO ₃)	810	

Respectfully submitted,

Cordelia J. Hwang
Cordelia J. Hwang
Asst. Laboratory Director

CJH:tf

APPENDIX D

**LOGS OF OBSERVATION WELLS
NEAR
BIG BEAR AIRPORT**

DRILL LOG

Client BCCSD JOB No. 73119-B Hole No. BB-2
 Location South side of Airport - North End of Hillendale Drive Ground Elev. 6748.67 Type of Drill Mobile
 Start 7/7/75 Finished 7/9/75 Total Depth 150 Attitude Vertical
 Water Table 6721.51 (8/15/75) Contractor Pioneer Logged by Daniels

Field Sample No.					
Type Sample					
Depth					

DEPTH	CORE REC.	LOG	CLASSIFICATION AND DESCRIPTION	DRILLING INFORMATION	SAMPLE NO.	PENETR. METHOD
			Clay, silty, dark grey, some fine Sand			5-7/8"
10			Sand, brown, fine to medium, some Clay			Tri-Cor
20			Sand, brown, with gravel and cobbles			
30			Cobbles and boulders	Very slow drilling (6 ft/hour)		
40			Sand, brown, fine, silty			
50			Cobbles and boulders			
60			Sand, brown, fine to medium			
			Cobbles and boulders			
70			Sand, brown, fine to medium, some Clay	Firm drilling		

DEPTH	CORE REC.	LOG	CLASSIFICATION AND DESCRIPTION	DRILLING INFORMATION	SAMPLE NO.	PENETRA METHOD
80			Sand, brown, cemented			
90						
100			Sand, brown, fine to medium			
110			Sand, brown, cemented			
			Sand, brown, fine to coarse			
120			Sand, brown, cemented			
130			Sand, brown, fine to medium Cemented 130'-131'	Easy drilling		
				Hard drilling		
140			Sand and Gravel, brown, with cobbles			
			Sand, brown	Hard drilling		
			Total Depth 150 ft. Set 114 ft. 4" PVC casing. Set 5 ft of 8" surface casing. Top casing 1.76 ft. above ground surface.			

DRILL LOG

Client BBCGSD JOB No. 73119-8 Hole No. BB-1
 Location North side of Airport - West Ground Elev. 6754.81 Type of Drill Mobile
End of Meadow Grove
 Start 6/24/75 Finished 7/17/75 Total Depth 156 ft. Attitude Verticle
 Water Table 6726.38 (8/16/76) Contractor Pioneer Drilling Logged by M. Johnson

Field Sample No.					
Type Sample					
Depth					

DEPTH	CORE REC.	LOG	CLASSIFICATION AND DESCRIPTION	DRILLING INFORMATION	SAMPLE NO.	PENETRA METHOD
			Silty Sand, brown medium Sand	Using clear water Return brown		6-3/4" Tri-Con
10			Cobbles at 9' and 11'			
			Sand, brown, fine to very fine, clayey	Return brown		
20			Grading coarser Boulders at 16', 17', 25', 27'			
30			Clayey Sand, brown, fine to medium Sand Quartz boulders 37.3; 6-8"			NX Core
40	402		Clayey Sand, brown, stiff, few boulders			
50			Sandy Clay, brown, some cobbles			6-3/4" Tri-Con
60			Clayey Sand, brown, w/cobbles			
70						

DEPTH	CORE REC.	LOG	CLASSIFICATION AND DESCRIPTION	DRILLING INFORMATION	SAMPLE NO.	PENETI METHC
			Clayey Sand, grey-brown, some cobbles and boulders			
80						
90						
100						
110						
			Boulder			
120			Boulder	Return grey		
130						
140						
150			Total Depth 156 ft. Set 156 ft. 4" PVC casing			

APPENDIX E

**GROUND WATER LEVEL MEASUREMENTS
OBSERVATION WELLS BB-1 AND BB-2**

BIG BEAR CITY COMMUNITY SERVICES DISTRICT

OBSERVATION WELL

OBSERVATION WELL BB-1

LOCATION: North side of Airport, west end of Meadow Lane

REFERENCE POINT: Top of 4 inch casing

REFERENCE POINT ELEVATION: 6756.08

MEASUREMENTS

<u>Date</u>	<u>Time</u>	<u>Depth to Water</u>	<u>Water Surface Elevation</u>
7/17/75		13.5 below ground surface	6741.31
8/16/75	0920	29.70	6726.38
8/31/75	0950	30.61	6725.47
9/10/75	1430	31.59	6724.49
10/ 2/75	1020	32.67	6723.41
10/31/75	0945	33.25	6722.83

BIG BEAR CITY COMMUNITY SERVICES DISTRICT

OBSERVATION WELL

OBSERVATION WELL BB-2

LOCATION: South side of Airport at end of Hillendale Drive

REFERENCE POINT: Top of 4 inch casing

REFERENCE POINT ELEVATION: 6750.03

MEASUREMENTS

<u>Date</u>	<u>Time</u>	<u>Depth to Water</u>	<u>Water Surface Elevation</u>
7/ 9/75		9 feet below ground surface	6739.67
8/15/75	1650	28.52	6721.51
8/16/75	0900	28.60	6721.43
8/16/75	1650	28.62	6721.41
8/19/75	1545	29.00	6721.03
8/31/75	0930	30.31	6719.72
8/31/75	1725	30.32	6719.71
9/10/75	1120	30.98	6719.05
9/11/75	0800	29.98	6720.05
10/ 2/75	1000	31.93	6718.10
10/31/75	0915	34.26	6715.77

APPENDIX F

**GROUND WATER ANALYSES
FROM
OBSERVATION WELLS BB-1 AND BB-2
BY
DAYLIN LABORATORIES**



Account

GLENN A. BROWN & ASSOCIATES
 Div. of Leroy Crandall & Assoc.
 711 N. Alvarado Street
 Los Angeles, Calif. 90026
 Attn: Mr. Johnson

Laboratory No. L 09668

Reported 9/11/75

Sampled

Received 9/4/75

Water Sample

Marks: Project No. E 73119B, Source BB-1, Time 0950,
 8/31/75.

Based on Sample As submitted

Specific Conductance ... 460 micromhos/cm pH ... 7.5

	<u>epm</u>	<u>mg/liter</u>
Calcium (Ca)	1.94	39
Magnesium (Mg)	1.48	18
Sodium (Na)	1.16	27
Potassium (K)	0.046	1.8
Total Cations	4.63	-----
Carbonate (CO ₃)	-----	-----
Bicarbonate (HCO ₃)	3.64	222
Sulfate (SO ₄)	0.64	31
Chloride (Cl)	0.28	10
Nitrate (NO ₃)	0.04	2.5
Fluoride (F)	-----	1.65
Total Anions	4.60	-----
Boron (B)	-----	0.70
Silica (SiO ₂)	-----	18.
Nitrite (NO ₂)	-----	-----
Iron (Fe)	-----	-----
Manganese (Mn)	-----	-----
Total Dissolved Solids	-----	337
Hardness (as CaCO ₃)	-----	171
Sodium, % of Total Cations	-----	25 %

ANALYTICAL & CONSULTING CHEMISTS & BACTERIOLOGISTS
 HENRY M. ESPINOZA

HENRY M. ESPINOZA

* ----- Not Measured

FA

ANALYTICAL & CONSULTING CHEMISTS & BACTERIOLOGISTS



Account **GLENN A. BROWN & ASSOCIATES**
 Div. of Leroy Crandall & Asspc.
 711 N. Alvarado Street
 Los Angeles, Calif. 90026
 Attn: Mr. Johnson

Laboratory No. **L 09667**
 Reported **9/10/75**
 Sampled
 Received **9/4/75**

Water Sample

Marks: **Project No. E-73119B, Source BB-2, Time 0930**
8/31/75

Based on Sample **As submitted**

Specific Conductance ... **350** micromhos/cm pH ... **7.1**

	<u>epm</u>	<u>mg/liter</u>
Calcium (Ca)	1.85	37
Magnesium (Mg)	1.08	13
Sodium (Na)	0.45	10
Potassium (K)	0.028	1.1
Total Cations	3.41	-----
Carbonate (CO ₃)	-----	-----
Bicarbonate (HCO ₃)	2.51	153
Sulfate (SO ₄)	0.22	11
Chloride (Cl)	0.46	17
Nitrate (NO ₃)	0.13	8.0
Fluoride (F)	-----	0.12
Total Anions	3.32	-----
Boron (B)	----	0.74
Silica (SiO ₂)	----	15
Nitrite (NO ₂)	----	-----
Iron (Fe)	----	-----
Manganese (Mn)	----	-----
Total Dissolved Solids	----	248
Hardness (as CaCO ₃)	----	147
Sodium, % of Total Cations	----	13 %

DALIN LABORATORIES, INC:

HENRY M. ESFOY

* ----- Not Measured

FA



Big Bear Area Regional
Wastewater Agency
David Caretto – Chair
John Green – Vice Chair
Karyn Oxandaboure – Secretary
Rick Herrick – Director
Jim Miller – Director

AGENDA ITEM: 10.A.

MEETING DATE: September 25, 2019

TO: Governing Board of the Big Bear Area Regional Wastewater Agency

FROM: David Lawrence, P.E., General Manager *DL*

PREPARED BY: Bridgette Burton, Management Analyst *BB*

REVIEWED BY: Jennifer McCullar, Finance Manager *JM*

SUBJECT: Resolution No. R. 11-2019, A Resolution of the Governing Board of the Big Bear Area Regional Wastewater Agency Adopting the Santa Ana Watershed Project Authority One Water One Watershed Plan Update 2018, the Integrated Regional Water Management Plan for the Santa Ana River Watershed

BACKGROUND & DISCUSSION:

The One Water One Watershed (OWOW) Plan Update 2018 (the Plan Update) is the Integrated Regional Water Management (IRWM) Plan for the Santa Ana River Watershed, which includes the Replenish Big Bear Project. The adoption of the Plan Update is required as part of the grant application process for IRWM grant funding.

The Replenish Big Bear Phase I engineering scope of work included participation in the Santa Ana Watershed Project Authority (SAWPA) stakeholder process to identify projects to be included in the Santa Ana Region Prop 1 IRWM Grant Application to the California Department of Water Resources (DWR). This process identified Replenish Big Bear as the #1 large project in the upper Santa Ana River Watershed and SAWPA recommended a proposed grant award of \$4,563,338. The Prop 1 IRWM grant application will be submitted to the DWR in mid-October with an expected award date prior to December 31, 2019.

FINANCIAL IMPACT:

Grant proceeds will be used to offset the Replenish Big Bear Project costs.

Moved: _____ Second: _____ Ayes: _____ Noes: _____ Abstain/Absent: _____

Approved Date: _____ Witness: _____

Secretary of the Governing Board

RECOMMENDATION:

Approve

ATTACHMENT:

- Resolution R. 11-2019

RESOLUTION NO. R. 11-2019

**A RESOLUTION OF THE GOVERNING BOARD OF THE
BIG BEAR AREA REGIONAL WASTEWATER AGENCY
ADOPTING THE SANTA ANA WATERSHED PROJECT
AUTHORITY ONE WATER ONE WATERSHED PLAN
UPDATE 2018, THE INTEGRATED REGIONAL WATER
MANAGEMENT PLAN FOR THE SANTA ANA RIVER
WATERSHED**

WHEREAS, the Big Bear Area Regional Wastewater Agency is a partner on the Replenish Big Bear Project and is pursuing grant funding through the California Department of Water Resources (DWR) Integrated Regional Water Management (IRWM) Implementation Grant Program.

WHEREAS, the Santa Ana Watershed Project Authority (SAWPA) is the Santa Ana River Watershed IRWM Regional Water Management Group which has the responsibility for developing and implementing the IRWM Plan; and applying for regional funding through the DWR IRWM Program.

WHEREAS, the Big Bear Area Regional Wastewater Agency staff participated in the development of the IRWM Plan through stakeholder meetings held by SAWPA.

WHEREAS, Replenish Big Bear was ranked as the number one project based on the IRWM Plan Scoring Criteria and is eligible to apply for approximately \$4,500,000 in IRWM Implementation Grant from Proposition 1, Round 1 funding.

WHEREAS, as a condition of the grant funding, the DWR requires that all project sponsors adopt their regional IRWM Plan. The One Water One Watershed (OWOW) Plan Update 2018 is the IRWM Plan for the Santa Ana River Watershed. The OWOW Plan is the planning document that outlines a sustainable water future for the region over a 20-year time horizon. On February 19, 2019, the SAWPA Board of Commissioners adopted the OWOW Plan Update 2018.

NOW, THEREFORE, the Governing Board of the Big Bear Area Regional Wastewater Agency does hereby adopt the current SAWPA OWOW Plan Update 2018 Integrated Regional Water Management Plan.

PASSED, APPROVED, AND ADOPTED this 25th day of September 2019.

David Caretto, Chair of the Governing Board
of the Big Bear Area Regional Wastewater Agency

I, Karyn Oxandaboure, Secretary of the Governing Board of the Big Bear Area Regional Wastewater Agency, DO HEREBY CERTIFY that the foregoing Resolution of the Governing Board of the Big Bear Area Regional Wastewater Agency Adopting the Santa Ana Watershed Project Authority One Water One Watershed Plan Update 2018, the Integrated Regional Water Management Plan for the Santa Ana River Watershed, being Resolution No. R. 11-2019 was adopted at a regular meeting on September 25, 2019, of said Agency by the following vote:

AYES:

NOES:

ABSENT:

ABSTAIN:

ATTEST:

Karyn Oxandaboure, Secretary of the Governing Board
of the Big Bear Area Regional Wastewater Agency