



Big Bear Municipal Water District

Lake Management

Board of Directors

Steve Ludecke – Division 1
Bob Reh fuss – Division 2
Craig Brewster – Division 3
Mark Lee – Division 4
Tom Bradford – Division 5

NOTICE OF REGULAR BOARD MEETING August 15, 2024 A G E N D A

Place: Big Bear Municipal Water District
40524 Lakeview Drive, Big Bear Lake, CA 92315

Next Resolution Number: 2024-05

OPEN SESSION: 1:00 P.M.

1. CALL TO ORDER

2. PLEDGE OF ALLEGIANCE

3. PUBLIC FORUM

(The Board will receive comments from the public on items not on the agenda; no action is permitted on these items. Time set aside not to exceed 30 minutes total by all participants)

4. REPORTS

- A. General Manager
- B. Chief Operations Officer
- C. Committee- the following committee met since the last regular Board meeting:
 - Administrative
 - Operations

5. CONSENT CALENDAR

- A. Minutes of a Regular Meeting on August 1, 2024.
- B. Warrant list dated 8/9/2024 in the amount of \$77,696.84.
- C. Purchase of Suntracker pontoon boat for TMDL replacement (Budget approved item 6/20/2024).

6. BUSINESS

- A. Replenish Big Bear Pilot Program water quality results presentation given by Water Systems Consulting (WSC), **INFORMATION ONLY**.
- B. Administrative Committee (Directors Ludecke & Brewster) recommend Policy 2024-02, "Decontamination Operations Policy" for full Board approval.
- C. Operations Committee (Directors Reh fuss & Brewster) recommend the special event permit from Visit Big Bear regarding the Drone Show on Labor Day be approved by the full Board.

7. ITEMS REMOVED FROM CONSENT AND PLACED ON BUSINESS

8. ANNOUNCEMENTS

9. DIRECTOR COMMENTS

10. ADJOURNMENT

NEXT MEETING: Open Session at 1:00 P.M.
Thursday, September 5, 2024
40524 Lakeview Drive
Big Bear Lake, CA 92315

PLEASE NOTE:

Agenda related writings or documents provided to the Board of Directors are available for public inspection at www.bbmwd.com or in the District office during business hours, 8:00 am – 4:30 pm Monday – Friday.

Five (5) minutes may be allotted to each speaker for an item on the agenda and three (3) minutes may be allotted to each speaker for an item that is not on the agenda up to a maximum of thirty minutes for each subject matter. A speaker who utilizes a translator, except if the speaker uses simultaneous translation equipment, shall receive twice the time allotted for a speaker that does not utilize a translator. (Cal. Gov. Code § 54954.3.)

No disruptive conduct shall be permitted at any Board meeting. Persistence in boisterous or disruptive conduct (including but not limited to what the general public would consider profane, explicit, or obscene language) shall be grounds for a summary termination, by the President, of that person's privilege to address the Board and the President may take such other actions in accordance with the Brown Act including, but not limited to, clearing the room of those willfully interrupting the meeting. (Cal. Gov. Code § 54957.9)

Individuals should contact the General Manager or designee if he/she requires disability-related accommodation or modifications, including auxiliary aids and services, in order to participate in the Board meeting. (Government Code 54954.2)

***MINUTES OF A REGULAR MEETING OF
BIG BEAR MUNICIPAL WATER DISTRICT
HELD ON THURSDAY, August 1, 2024***

1. OPEN SESSION

President Ludecke opened the regularly scheduled Board meeting at 1:00 PM at the Big Bear Municipal Water District located at 40524 Lakeview Drive, Big Bear Lake, CA 92315 on Thursday August 1, 2024.

BOARD MEMBERS PRESENT:

Steve Ludecke, President
Bob Reh fuss, Director
Craig Brewster, Vice President
Mark Lee, Director
Tom Bradford, Director

2. PLEDGE OF ALLEGIANCE

Mark Lee

3. PUBLIC FORUM

Larry Cooke, a resident of Big Bear Lake, requested to be agendized to give an update on how the marinas came to be, and discuss general history of this subject. President Ludecke asked how much time he would need, if that is even appropriate (addressed toward legal counsel Lemieux). Mr. Cooke responded that he would only like 20-30 minutes. President Ludecke requested it be on the next Board meeting. Ms. Lamson reminded the Board the next meeting already has a pretty big agenda with the Replenish pilot program water analysis presentation, so President Ludecke would like to push until the first meeting in September.

4. REPORTS

A. General Manager, Jared Cheek started his report by thanking the Board for the opportunity to serve as the GM. He continued, last week we had an update on the Lakewide EIR program. GEI is still working on the specifics to project location, quantities and off-site storage areas. Spent a lot of time getting orientated with the district. We met with the soroptimist club, the county, Education Trust, again at swim beach. They are now looking at drilling a well, non-potable, and constructing a silt curtain which will slow the water movement out of that area to prolong the useable time swim beach can be open. Vice President Brewster asked what the current depth is over there. Mr. Stephenson responded that it's about 16'. President Ludecke mentioned that he is not really in favor of that effort, but interested to see where it goes and is in full support of the County improving their swim beach area. I attended the BBARWA meeting regarding the water testing from the pilot testing, that is the presentation that will be done here at our next meeting.

Monday July 29th, we had an earthquake, so I got to observe the dam post-earthquake inspection because it was greater than a 2.0, which was a great training exercise. President Ludecke asked to look at google maps and see the comment that's referenced. The Countin' Carp incentive program is still going on, same group catching. Our current environmental document is still active, comments are open until August 10. We would like to bring back the Kool Kids program, later

September, more to come with that. New construction is beginning around our electronic sign, so that will look great.

We have been receiving and have seen some dead fish. It's really minor to moderate, it's been really hot, and they don't do well. June was about 4 degrees hotter than last year, but the nightly low is over 5 degrees hotter than the average. Sustained hotter than normal temperatures is causing this. Our crew is checking every day, so we are saying on top of things.

B. Chief Operations Officer, Mike Stephenson, reported lake is 5' 3" down from full. Surprising how much ground water is still moving, which shows in our lack of loss in the evaporation. Our current release requirement is 1.25 CFS. We have two more wires to install until our new SCADA system is in place. That should be up and running after next week. We will still be testing our 14" and 24" gates on full load, which is required, once we pass this fish issue. Aerator was having some issues, but its back and running great. It's just too hot for these fish. We're not getting the cool down at night like we usually do.

Director Rehfuss asked, do you think that seeing all the sculpin is a good sign? Mr. Stephenson responded it is, because they are actively breeding and the surface survey samplers we built for invasive species monitoring is giving them additional places hang out in a high places and not have to swim all day to cooler water.

Larry Cooke asked if there was any advantage to the extra aeration system? Yes, Mr. Stephenson has already proposed that to the new GM as a future project. It will help.

5. CONSENT CALENDAR

- A.** Minutes of a Regular Meeting on July 18, 2024.
- B.** Warrant list dated 7/24/2024 in the amount of \$57,398.72

Discussion:

No comments were made.

With a motion made by Director Bradford, and seconded by Vice President Brewster, the consent calendar, was approved unanimously:

AYES: Ludecke, Rehfuss, Brewster, Lee, Bradford

NO: -

ABSTAIN: -

6. BUSINESS

N/A

7. ITEMS REMOVED FROM CONSENT CALENDAR

N/A

8. ANNOUNCEMENTS

Director Brewster asked about the video for boater education. Ms. Lamson responded that we are planning an admin and operations committee meeting for next week so that will be discussed then.

9. DIRECTOR COMMENTS

Director Reh fuss wanted to thank Brittany for stepping up and doing a great job and helping out with the transition of bringing Jared on board.

10. ADJOURN

There being no further business, the meeting was adjourned at 1:35 PM.

DATE AND TIME OF NEXT MEETING

Date: August 15, 2024
Location: 40524 Lakeview Drive
Big Bear Lake, CA 92315
Time: 1:00 PM

Brittany Lamson, Assistant General Manager
to the Board of Directors of the
Big Bear Municipal Water District

[SEAL]

DRAFT UNTIL APPROVED BY BOARD

8:59 AM

08/09/24

Big Bear MWD
Warrant List Detail
 July 25 through August 9, 2024

Num	Type	Date	Name	Account	Paid Amount
161631	Bill Pmt -Check	08/08/2024	ACWA AUTO & GEN LIABILITY	1001-01 · Accounts Payable	
O-0001...	Bill	07/05/2024		5508-10 · ADMIN-Insurance	-253.30
				5508-20 · WATER-Insurance	-506.60
				5508-30 · MAINT-Insurance	-1,013.20
				5508-40 · OPS-Insurance	-759.91
16	Bill	07/16/2024		5508-10 · ADMIN-Insurance	-1,544.41
				5508-20 · WATER-Insurance	-3,088.82
				5508-30 · MAINT-Insurance	-6,177.63
				5508-40 · OPS-Insurance	-4,633.22
TOTAL					-17,977.09
161632	Bill Pmt -Check	08/08/2024	AMAZON CAPITAL SERVICES	1001-01 · Accounts Payable	
1NKW-J...	Bill	08/01/2024		5580-41 · OPS-Boat Maintenance-Patrol	-437.07
13KM-P...	Bill	08/02/2024		5541-42 · OPS-Uniform/Sm Equip Seas Empl	-76.94
167X-F...	Bill	08/02/2024		5580-41 · OPS-Boat Maintenance-Patrol	-29.04
14WV-...	Bill	08/04/2024		5630-42 · OPS-Bldg/Fac Mtn/Rep-EAST RAMP	-44.72
13KM-P...	Bill	08/04/2024		5632-01 · MAINT-SS Repairs/Portables	-37.23
TOTAL					-625.00
161633	Bill Pmt -Check	08/08/2024	ATWELL SHAWN (REIMBURSE)	1001-01 · Accounts Payable	
07/30/2...	Bill	08/05/2024		5505-09 · ADMIN-Phone-Employee Reimb	-50.00
TOTAL					-50.00
161634	Bill Pmt -Check	08/08/2024	BEST BEST & KRIEGER LLP	1001-01 · Accounts Payable	
1002460	Bill	08/02/2024		5520-01 · ADMIN-District Counsel	-6,159.00
TOTAL					-6,159.00
161619	Bill Pmt -Check	07/31/2024	BUTCHER'S BLOCK AND BUILDING ...	1001-01 · Accounts Payable	
2407-56...	Bill	07/18/2024		5543-30 · MAINT-Small Tools/Tool Supplies	-88.21
2407-57...	Bill	07/23/2024		5630-42 · OPS-Bldg/Fac Mtn/Rep-EAST RAMP	-89.91
2407-57...	Bill	07/24/2024		5543-30 · MAINT-Small Tools/Tool Supplies	-32.56
2407-57...	Bill	07/25/2024		5630-42 · OPS-Bldg/Fac Mtn/Rep-EAST RAMP	-25.59
2407-57...	Bill	07/26/2024		5630-10 · ADMIN-Bldg/Facility Maint/Rep	-7.11
TOTAL					-243.38
161635	Bill Pmt -Check	08/08/2024	BUTCHER'S BLOCK AND BUILDING ...	1001-01 · Accounts Payable	
2407-57...	Bill	07/30/2024		5630-42 · OPS-Bldg/Fac Mtn/Rep-EAST RAMP	-30.15
TOTAL					-30.15
EFT	Bill Pmt -Check	08/02/2024	BVE (EFT)	1001-01 · Accounts Payable	
072320...	Bill	07/23/2024		5507-22 · WATER-Utilities-Dam	-172.59
072320...	Bill	07/23/2024		5507-21 · WATER-Utilities-Aerator	-911.53
072320...	Bill	07/23/2024		5507-43 · OPS-Utilities-Ramps	-108.00
TOTAL					-1,192.12
161636	Bill Pmt -Check	08/08/2024	CA DEPT OF FISH AND WILDLIFE	1001-01 · Accounts Payable	
08052024	Bill	08/05/2024		5509-20 · WATER-Memberships/Subs/Permits	-739.50
TOTAL					-739.50
161637	Bill Pmt -Check	08/08/2024	COMPUTER VILLAGE	1001-01 · Accounts Payable	
11025	Bill	08/03/2024		5811-00 · District Computer/ Server	-20,496.31
TOTAL					-20,496.31

Big Bear MWD Warrant List Detail July 25 through August 9, 2024

Num	Type	Date	Name	Account	Paid Amount
161620	Bill Pmt -Check	07/31/2024	CONNELLY PUMPING SERVICE	1001-01 · Accounts Payable	
28602	Bill	07/26/2024		5632-02 · MAINT-SS Reliefs Pumping	-300.00
28645	Bill	07/30/2024		5632-03 · MAINT-Portables Pumping/ Rent	-435.01
28637	Bill	07/30/2024		5632-03 · MAINT-Portables Pumping/ Rent	-640.01
TOTAL					-1,375.02
161638	Bill Pmt -Check	08/08/2024	CONNELLY PUMPING SERVICE	1001-01 · Accounts Payable	
28683	Bill	08/02/2024		5632-02 · MAINT-SS Reliefs Pumping	-300.00
TOTAL					-300.00
161621	Bill Pmt -Check	07/31/2024	DIY HOME CENTER	1001-01 · Accounts Payable	
31750	Bill	07/26/2024		5630-42 · OPS-Bldg/Fac Mtn/Rep-EAST RAMP	-10.66
TOTAL					-10.66
161639	Bill Pmt -Check	08/08/2024	DIY HOME CENTER	1001-01 · Accounts Payable	
31847	Bill	07/31/2024		5630-42 · OPS-Bldg/Fac Mtn/Rep-EAST RAMP	-47.95
TOTAL					-47.95
161622	Bill Pmt -Check	07/31/2024	DWP-CITY OF BIG BEAR LAKE	1001-01 · Accounts Payable	
073020...	Bill	07/30/2024		5507-43 · OPS-Utilities-Ramps	-21.36
073020...	Bill	07/30/2024		5507-43 · OPS-Utilities-Ramps	-520.60
073020...	Bill	07/30/2024		5507-41 · OPS-Utilities-Main Office	-122.17
073020...	Bill	07/30/2024		5507-41 · OPS-Utilities-Main Office	-16.01
TOTAL					-680.14
161623	Bill Pmt -Check	07/31/2024	ENVIRO MONITORING SERVICES	1001-01 · Accounts Payable	
243140	Bill	07/24/2024		5900-00 · Contamination Project-BBLM	-8,007.98
TOTAL					-8,007.98
161624	Bill Pmt -Check	07/31/2024	ESRI	1001-01 · Accounts Payable	
94767966	Bill	07/22/2024		5509-03 · ADMIN-Memberships-Subscriptions	-887.36
TOTAL					-887.36
161625	Bill Pmt -Check	07/31/2024	EVERON, LLC	1001-01 · Accounts Payable	
155772...	Bill	07/18/2024		5630-10 · ADMIN-Bldg/Facility Maint/Rep	-75.00
155798...	Bill	07/21/2024		5630-10 · ADMIN-Bldg/Facility Maint/Rep	-255.00
155798...	Bill	07/21/2024		5630-42 · OPS-Bldg/Fac Mtn/Rep-EAST RAMP	-202.00
155798...	Bill	07/21/2024		5630-43 · OPS-Bldg/Fac Mtn/Rep-WEST RAMP	-108.00
155798...	Bill	07/21/2024		5640-02 · WATER-Dam Maintenance	-108.00
TOTAL					-748.00
161640	Bill Pmt -Check	08/08/2024	GALLS LLC	1001-01 · Accounts Payable	
028571...	Bill	07/23/2024		5541-31 · MAINT-Uniform/Sm Equip-Reg Empl	-224.90
028582...	Bill	07/24/2024		5541-01 · ADMIN-Uniforms Employees	-206.51
TOTAL					-431.41
161641	Bill Pmt -Check	08/08/2024	GEI CONSULTANTS INC	1001-01 · Accounts Payable	
003158...	Bill	08/02/2024		6100-02 · Dam Repair- Sluice Gates	-2,070.64
TOTAL					-2,070.64
161626	Bill Pmt -Check	07/31/2024	GEIGER SUPPLY	1001-01 · Accounts Payable	

Big Bear MWD
Warrant List Detail
 July 25 through August 9, 2024

Num	Type	Date	Name	Account	Paid Amount
196172	Bill	07/25/2024		5630-10 · ADMIN-Bldg/Facility Maint/Rep	-93.80
TOTAL					-93.80
161642	Bill Pmt -Check	08/08/2024	GEIGER SUPPLY	1001-01 · Accounts Payable	
196749	Bill	08/05/2024		5630-42 · OPS-Bldg/Fac Mtn/Rep-EAST RAMP	-16.82
TOTAL					-16.82
161643	Bill Pmt -Check	08/08/2024	HOLLOWAYS MARINA	1001-01 · Accounts Payable	
36387CR	Bill	07/19/2024		5590-41 · OPS-Petroleum-VESELS	-11,348.17
TOTAL					-11,348.17
161644	Bill Pmt -Check	08/08/2024	HOOVER BEN (REIMBURSE)	1001-01 · Accounts Payable	
08/22/2...	Bill	08/05/2024		5505-09 · ADMIN-Phone-Employee Reimb	-50.00
TOTAL					-50.00
161627	Bill Pmt -Check	07/31/2024	MOUNTAIN WATER COMPANY	1001-01 · Accounts Payable	
94625-1...	Bill	07/26/2024		5507-43 · OPS-Utilities-Ramps	-185.00
TOTAL					-185.00
161628	Bill Pmt -Check	07/31/2024	MT TROPHY & AWARDS	1001-01 · Accounts Payable	
20240112	Bill	07/24/2024		5503-01 · ADMIN-Office Supplies-Office	-49.57
TOTAL					-49.57
161645	Bill Pmt -Check	08/08/2024	NAPA AUTO PARTS	1001-01 · Accounts Payable	
629346	Bill	06/26/2024		5640-01 · WATER-Aerator Maint	-38.81
TOTAL					-38.81
161646	Bill Pmt -Check	08/08/2024	OWL TELEPHONE EXCHANGE	1001-01 · Accounts Payable	
1534	Bill	09/01/2024		5630-10 · ADMIN-Bldg/Facility Maint/Rep	-200.00
TOTAL					-200.00
161647	Bill Pmt -Check	08/08/2024	PITNEY BOWES SUPPLIES	1001-01 · Accounts Payable	
102581...	Bill	08/01/2024		5501-01 · ADMIN-Post&Ship OFFICE	-98.36
TOTAL					-98.36
EFT	Bill Pmt -Check	07/26/2024	SOUTHWEST GAS (EFT)	1001-01 · Accounts Payable	
071620...	Bill	07/16/2024		5507-41 · OPS-Utilities-Main Office	-100.42
071620...	Bill	07/16/2024		5507-42 · OPS-Utilities-Vacant Lot	-11.00
TOTAL					-111.42
161629	Bill Pmt -Check	07/31/2024	STEPHENSON MIKE (REIMBURSE)	1001-01 · Accounts Payable	
08/01/2...	Bill	08/01/2024		5505-09 · ADMIN-Phone-Employee Reimb	-50.00
TOTAL					-50.00
EFT	Bill Pmt -Check	08/02/2024	VALERO (EFT)	1001-01 · Accounts Payable	
07232024	Bill	07/23/2024		5590-42 · OPS-Petroleum-VEHICLES	-632.47
				5590-41 · OPS-Petroleum-VESELS	-2,141.72

8:59 AM

08/09/24

Big Bear MWD
Warrant List Detail
July 25 through August 9, 2024

<u>Num</u>	<u>Type</u>	<u>Date</u>	<u>Name</u>	<u>Account</u>	<u>Paid Amount</u>
TOTAL					-2,774.19
161630	Bill Pmt -Check	07/31/2024	XEROX CORPORATION	1001-01 · Accounts Payable	
6067875	Bill	07/30/2024		2950-03 · Copier Lease	-494.74
TOTAL					-494.74
161648	Bill Pmt -Check	08/08/2024	YSI INC	1001-01 · Accounts Payable	
1092921	Bill	08/02/2024		5530-22 · WATER-TMDL MAINT/EQUIP	-114.25
TOTAL					-114.25



TMBC, LLC.

7777 VICTORIA GARDENS LANE
 RANCHO CUCAMONGA, CA, 91730
 Phone: 909-922-5480

Date 12 AUG 2024	Stock	SQ # 1426386	Buyers Order and Agreement of Sale		Sales Person Christmas Lento	Customer Number 973084
Buyer JARED CHEEK			Home Phone 909-866-5796	Mobile Phone	Email MKENT@BBMWD.NET	
Address 40524 LAKEVIEW DR				City BIG BEAR LAKE	State CA	Postal 92315
CO-Buyer			Home Phone	Mobile Phone	CO-Buyer Email	

Description of Purchase						
Year 2024	Brand SUNTRACKER	Model FB20	New/Used NEW	Serial #		

Inclusion Description
 Mercury Marine Mercury 90ELPT FourStroke Command Thrust

Manufacturer Options			Dealer Options		Qty	
			VIP	VIP DISCOUNT CARD	1.00	0.00
			PDI	PREDELIVERY INSPECTION	1.00	0.00
			970	2024 FISHIN BARGE 20 (BLUE)	1.00	0.00
			971	MERCURY 90 ELPT 4S	1.00	0.00
			972	TANDEM AXLE TRAILER W/BRAKES	1.00	4,750.00
			973	MOORING COVER	1.00	895.00
Extras			24CLR	2024 CLEARANCE DISCOUNT	1.00	-2,000.00
TF	TIRE FEE	8.75	GET5	MERCURY GET 5 PROMO	1.00	0.00

ALL TRADE VALUES SUBJECT TO ADJUSTMENT IF CONDITION/EQUIPMENT ARE NOT AS REPRESENTED ON TRADE-IN AGREEMENT.

CUSTOMER ADVISED OF DESCRIPTION OF WARRANTY

 Cust. Initials WHEN THIS BOX IS CHECKED, THE UNIT WHICH IS THE SUBJECT OF THIS CONTRACT IS BEING SOLD ON AN "AS IS" BASIS, THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THIS UNIT IS WITH THE PURCHASER

 Cust. Initials WHEN THIS BOX IS CHECKED, THE UNIT HAS A 0% COSMETIC WARRANTY

 Cust. Initials I WOULD LIKE MORE INFORMATION ON ADDITIONAL PRODUCT PROTECTION PLANS

PRICING	
Base Price	32,375.00
Freight & Prep	2,000.00
Options	0.00
Dealer Options	3,645.00
Trade Allowance	0.00
Sales Extras	8.75
PDI	0.00
Sales Price Before TTL	38,028.75
License	48.00
CALIFORNIA STATE TAX	2,901.45
SAN BERNARDINO COUNTY	200.10
Down Payment	0.00
Grand Total	41,178.30

METHOD OF PAYMENT C OSF Finance

I have read the terms and conditions that accompany this agreement and accept all such terms and conditions and agree to be bound by same.

 CUSTOMER APPROVAL DATE

 MANAGER APPROVAL DATE

This agreement is not final and binding on Seller unless approved and signed by a manager of Seller.

***BIG BEAR MUNICIPAL WATER DISTRICT
REPORT TO BOARD OF DIRECTORS***

MEETING DATE: August 15, 2024

AGENDA ITEM: 6A

SUBJECT:

REPLENISH BIG BEAR PILOT PROGRAM WATER QUALITY RESULTS PRESENTATION GIVEN BY WATER SYSTEMS CONSULTING (WSC), INFORMATION ONLY.

RECOMMENDATION:

Information only, no recommendation will be made.

DISCUSSION/FINDINGS:

Water Systems Consulting (WSC) has been a consultant on the Replenish Big Bear project since it's inception roughly eight years ago. They have been conducting most of the water quality testing, project management, and the pilot program for water quality testing. This presentation is the same presentation that was given at the Big Bear Area Regional Wastewater Agency's (BBARWA) board meeting on July 24, 2024. It was important to the partner agencies (BBARWA, BBLDWP, BBCCSD, BBMWD) that all Boards receive the same presentation within their own regular Board meetings.

OTHER AGENCY INVOLVEMENT: None

FINANCING: None

Submitted by: Jared Cheek, General Manager



REPLENISH
— *Big Bear* —

Summary: Preliminary Pilot Facility Water Quality Testing

AUGUST 15, 2024

AGENDA

1. Pilot Water Quality Summary
2. Pilot Purpose & Objectives
3. Background
4. Piloting Sequence
5. Data Collection
6. Results & Findings
7. Next Steps

Pilot Facility Water Quality Summary



REPLENISH
— Big Bear —



REPLENISH
— Big Bear —

Key Treatment System Drivers

Constituent	Units ¹	Drinking Water Objectives for Comparison	Anticipated RBB Permit Objective	Pilot Treatment Results ²
Total Dissolved Solids	ppm	500	175	8
Sodium	ppm	--	20	0.8
Chloride	ppm	250	10	1.1
Sulfate	ppm	250	10	0.1
Total Phosphorus (TP)	ppm as phosphorus	--	0.035	0.013
Total Inorganic Nitrogen (TIN)	ppm as nitrogen	10 for Total Nitrogen	0.15	0.27
Total Organic Carbon (TOC)	ppm	--	0.5	0.16
Total System Recovery	%	--	98% (Target)	98.7%

 DESIGN CHANGES UNDERWAY TO MEET OBJECTIVE

 TREATMENT PROCESS MET TARGETS

¹ ppm = parts per million (mg/L = milligrams per liter)

² Based on CCRO Effluent from Phase Two

Pilot Study Purpose & Objectives





Replenish Big Bear Pilot Study

✓ WHAT IT IS

Small scale test of potential treatment processes using the same water source that would be treated through full-scale system

Opportunity to:

- Collect data to optimize design of final treatment process
- Estimate brine production
- Gain operator experience

✗ WHAT IT ISN'T

- The final Replenish Big Bear treatment process
- An exact report on Replenish Big Bear Program Water quality to be discharged into Stanfield Marsh



Drivers for Replenish Big Bear Pilot Study

Stringent Effluent Water Quality Regulations + Unique Project Needs

- Inform selection of treatment processes needed to meet very low objectives for Big Bear Lake
- Evaluate impacts of winter process temperatures on treatment performance
- Quantify total system recovery and estimate brine to be produced

Background



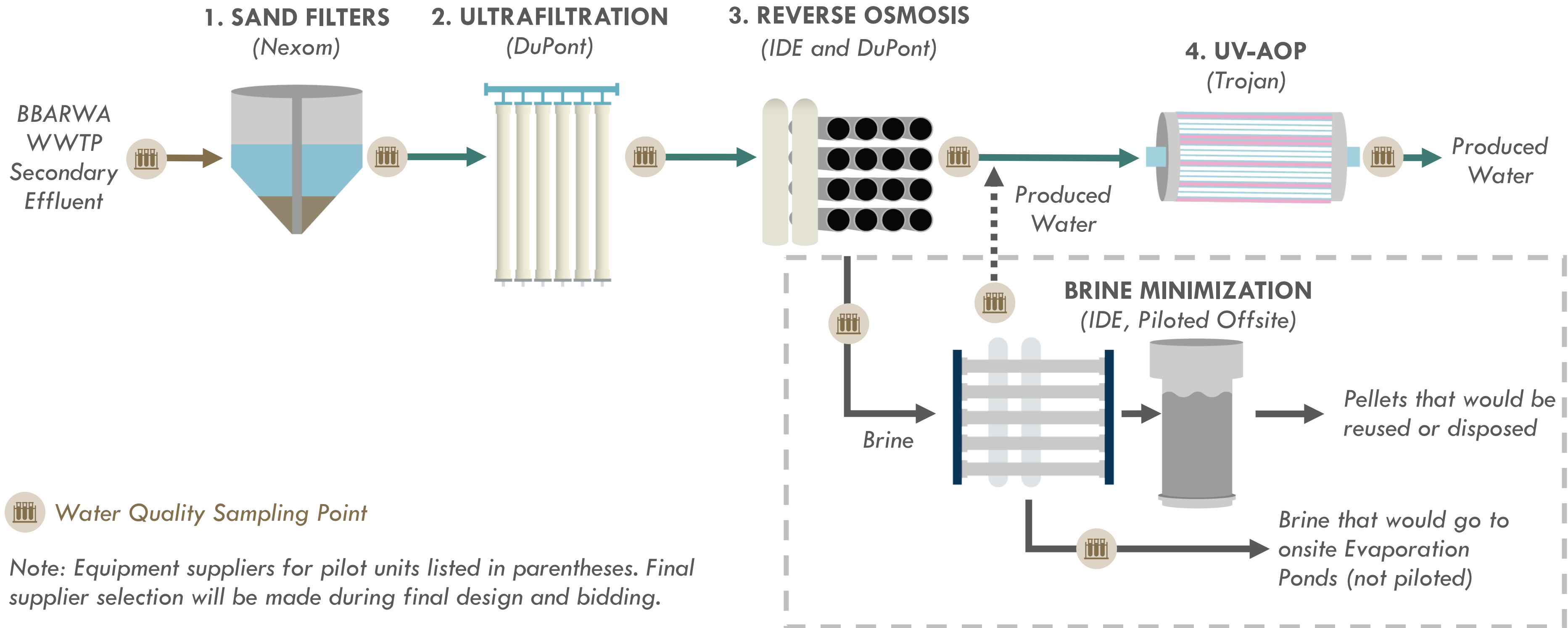
REPLENISH
— Big Bear —



REPLENISH
- Big Bear -

4 Treatment Processes Piloted at BBARWA Site

Pilot ran at ~25 gallons per minute (less than 1% of full-scale flow rate)





Multiple Processes Required for Treatment

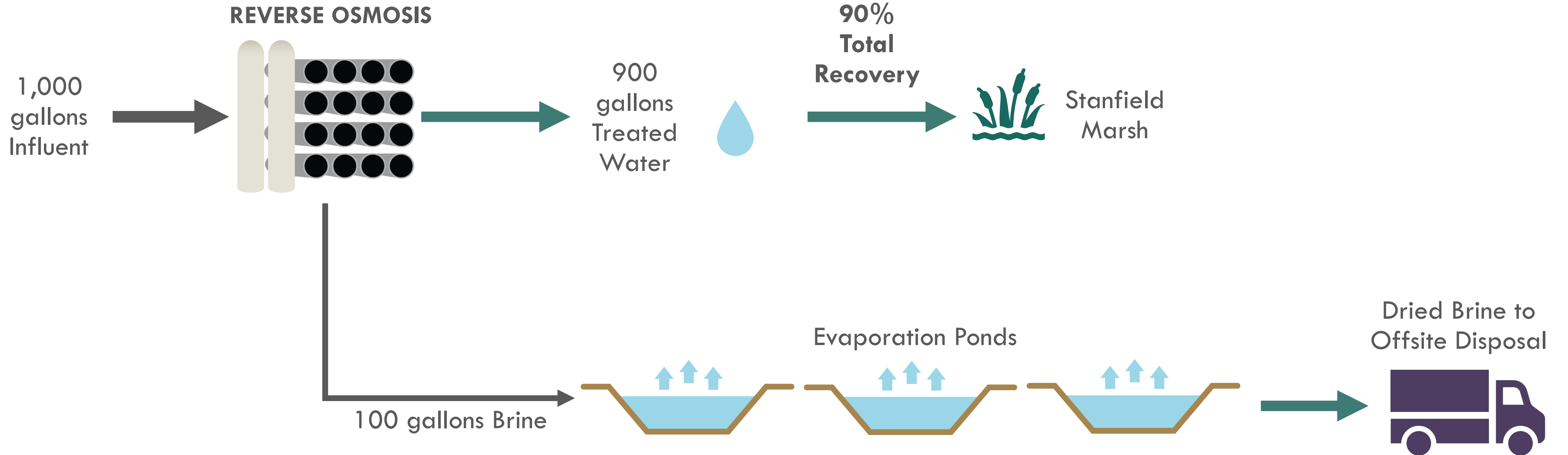
Constituent Targeted	Sand Filter	UF	RO	UV-AOP
Inorganic Nitrogen				
Phosphorus				
Metals				
Solids				
Total Dissolved Solids				
Pathogens				
Organics				
Constituents of Emerging Concern (CECs)				



REPLENISH
- Big Bear -

Why do we need brine minimization?

Without Brine Minimization – Lower Total System Recovery

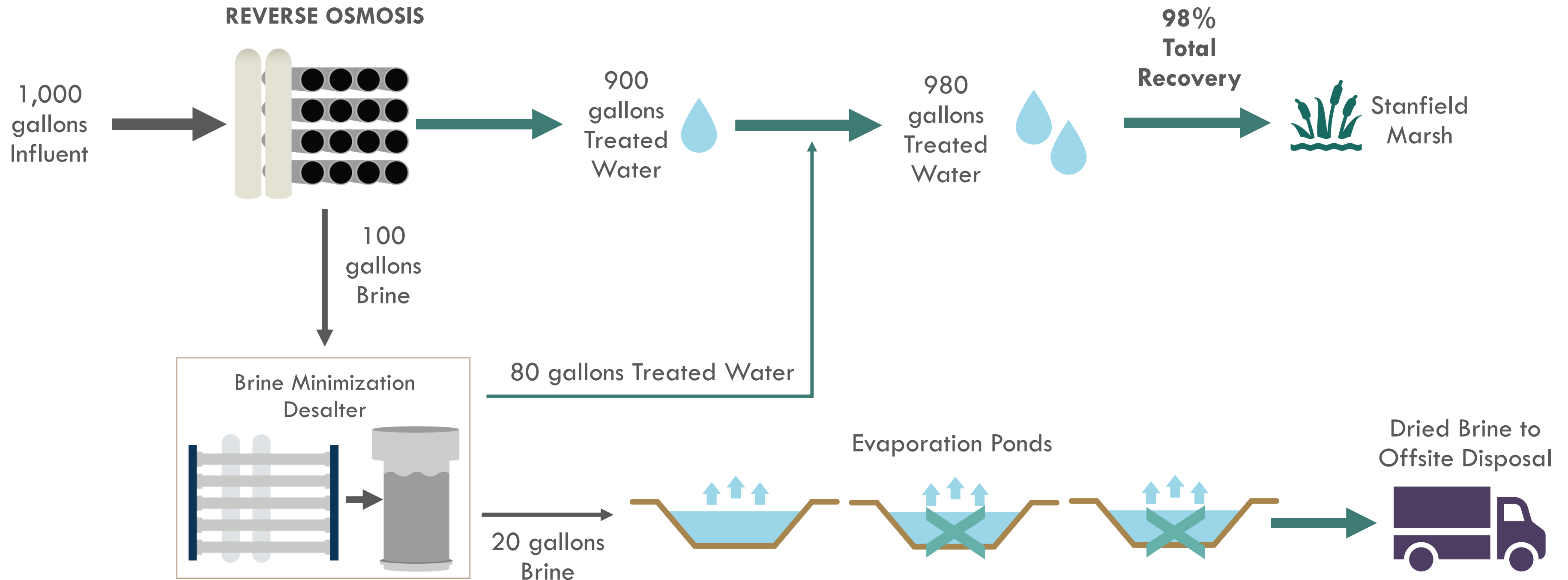




REPLENISH
- Big Bear -

Why do we need brine minimization?

With Brine Minimization – Greater Total System Recovery



Piloting Sequence



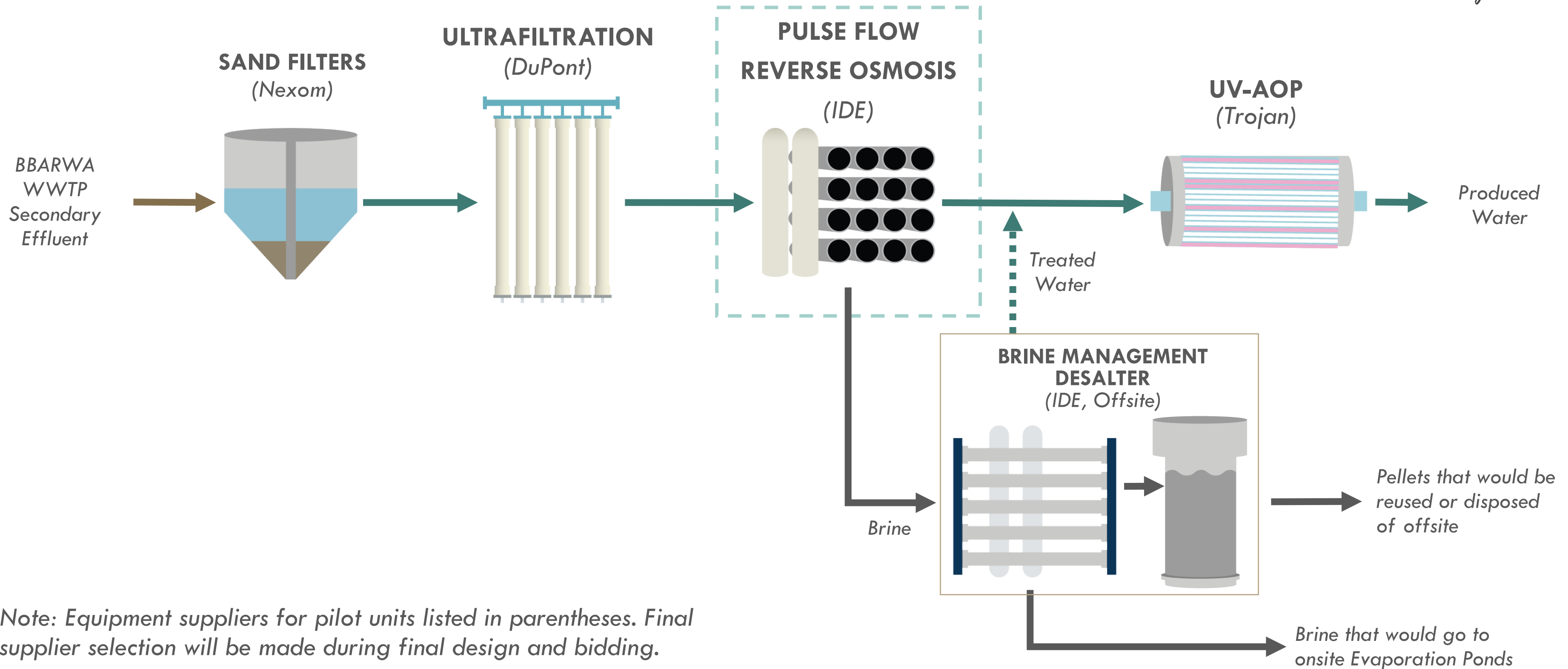
REPLENISH
— Big Bear —

PHASE 1



REPLENISH
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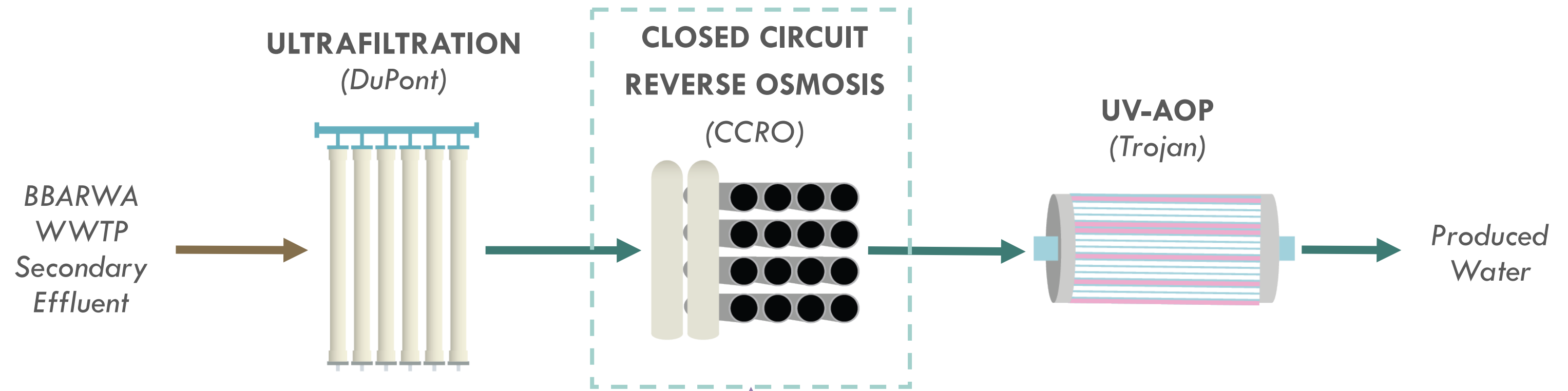
Piloting Sequence



Note: Equipment suppliers for pilot units listed in parentheses. Final supplier selection will be made during final design and bidding.



Piloting Sequence



Pilot Results herein based on CCRO. Pilot Report captures results from both RO systems.

Note: Equipment suppliers for pilot units listed in parentheses. Final supplier selection will be made during final design and bidding.

Data Collection



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Data Collection

- Certified Third-Party Water Quality Testing Lab (Eurofins)
 - *200+ constituents analyzed for Pilot Report*
 - *3,000+ samples analyzed over 5 sample points*
- Certified On-site Water Quality Testing (BBARWA Lab)
- Real-time and Continuous Monitoring of Various Constituents
- Pilot Process Performance Test

Pilot Results & Findings



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Key Treatment System Drivers

Constituent	Units ¹	Drinking Water Objectives for Comparison	Anticipated RBB Permit Objective	Pilot Treatment Results ²
Total Dissolved Solids	ppm	500	175	8
Sodium	ppm	--	20	0.8
Chloride	ppm	250	10	1.1
Sulfate	ppm	250	10	0.1
Total Phosphorus (TP)	ppm as phosphorus	--	0.035	0.013
Total Inorganic Nitrogen (TIN)	ppm as nitrogen	10 for Total Nitrogen	0.15	0.27
Total Organic Carbon (TOC)	ppm	--	0.5	0.16
Total System Recovery	%	--	98% (Target)	98.7%

DESIGN CHANGES UNDERWAY TO MEET OBJECTIVE

TREATMENT PROCESS MET TARGETS

¹ ppm = parts per million (mg/L = milligrams per liter)

² Based on CCRO Effluent from Phase Two



Key Findings From the Pilot

- Nearly all treatment targets were met by the pilot treatment system.
- Sand Filters will not be used in the full-scale system because they did not achieve reliable nitrogen removal in cold weather conditions.
- A different nitrogen removal treatment process will be added after RO instead of the Sand Filters (such as ion exchange).
- The brine minimization technology that was tested can meet the target of 98% recovery.
- Alternative brine minimization technologies are also being evaluated to optimize the approach for full-scale design (+99% total recovery).



Purified Water Quality Monitoring Results

288 Not Detected

16 Detected

304 Constituents Tested

All of the detected constituents were below the most stringent regulatory objective (except TIN, as noted in prior slides)

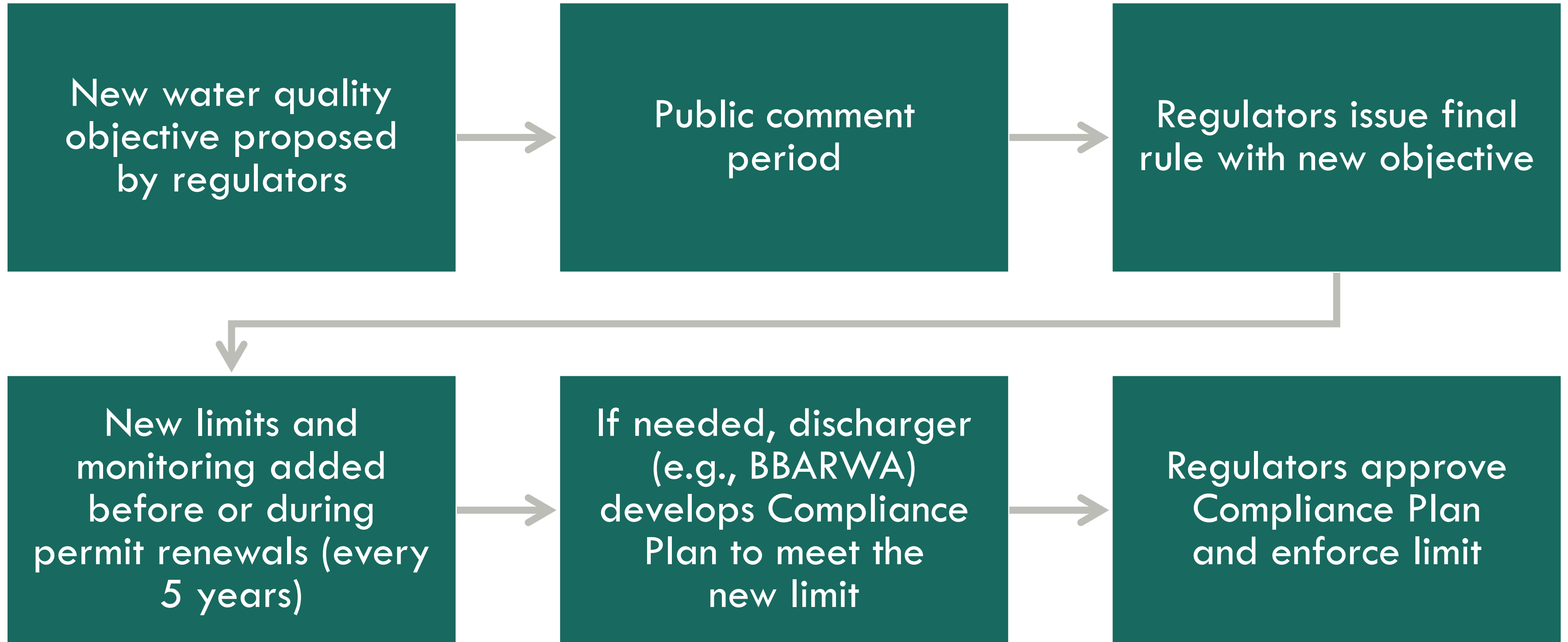


See Appendix D of the **Pilot Report** for full results

www.replenishbigbear.com/documents



Process to Set New Water Quality Objectives



Next Steps



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Pilot Study Follow Up Work

1. Perform process modeling for ion exchange nitrogen removal

(to replace sand filters)

2. Brine Minimization Alternatives Analysis

Bench Scale Testing of Softening Process

- Complete – Results indicated high total system recovery is achievable (+99%)
- Softening process would replace brine minimization desalter

*Results of above analyses will be summarized in Preliminary Design Report (expected Fall 2024)
including a comparison to IDE's Brine Minimization Desalter process that was piloted*



Preliminary Design Report



PART I

- Introduction
- Program Benefits
- Regulatory Analysis

PART II

- Preliminary Engineering Work (original Facility Plan)

PART III

- Recommended Project and Updated Cost Estimate
- Preliminary Design Criteria
- Implementation Plan

Discussion and Questions





See the **Pilot Report** for full results, analysis and discussion of how results will be used to refine the final full-scale treatment process

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***BIG BEAR MUNICIPAL WATER DISTRICT
REPORT TO BOARD OF DIRECTORS***

MEETING DATE: August 15, 2024

AGENDA ITEM: 6B

SUBJECT:

ADMINISTRATIVE COMMITTEE (DIRECTORS LUDECKE & BREWSTER) RECOMMEND POLICY 2024-02, "DECONTAMINATION OPERATIONS POLICY" FOR FULL BOARD APPROVAL.

RECOMMENDATION:

Admin committee recommends policy 2024-02, "Decontamination Operations Policy."

DISCUSSION/FINDINGS:

Since 2020 the District had to start charging for decontamination services provided to wet vessels to launch the same day. The fee was imposed as an effort for boaters to take responsibility for their vessel and dry it out after visiting other lakes. Most vessels, with the exception of boats with ballast tanks (built-in or soft tanks) can get the vessel completely dry. The program has been effective until this year; reducing our decontamination services by roughly 80%.

However, with many lakes within driving distance of Big Bear Lake either banning or having an insurmountable amount of regulations for wakeboard/ boats with ballast tanks, our lake has become one of the very few lakes (without going out of state) where you can come and launch your ballast tank boat the same day. We have experienced an increase in wake related injuries including capsizing boats and making nearby boats become airborne. The increase in ballast tank boats has also reduced the number of constituents we can assist in a day. For these complex vessels, it can take up to four staff members and up to three hours to services some of the larger boats we have seen over this summer. We can perform simple or normal decontaminations services in about 15 – 30, and one staff member for comparative purposes. We would like to take action to reduce this growing issue before it becomes larger by limiting our decontamination services for vessels with all types of ballast to Monday – Friday 8AM – 4PM, still by appointment only, no weekend or holiday times will be granted as of April 1, 2025.

This winter, staff will spend time notifying those who have ballast tank boats that utilized our decontamination services this season, and we will encourage the use of our winter time quarantine banding program.

OTHER AGENCY INVOLVEMENT: None

FINANCING: None

Submitted by: Jared Cheek, General Manager

BIG BEAR MUNICIPAL WATER DISTRICT
Lake Management

Category:	Operations	Policy # 2024-02
Title:	Decontamination Operation Policy	

I. PURPOSE:

Big Bear Municipal Water District (District) provides decontamination services for vessels that either fail inspection or are a boat which houses ballasts tanks and/or including removable soft tanks which cannot be deemed dry as part of our invasive species management program. Decontaminations are provided by the District by appointment only as of 2020.

With the drastic increase in boats which have ballast tanks, this process has been less efficient than previously designed and does not allow the District to provide this service to as many constituents as before. To improve this issue, the District will now only perform decontamination services on boats with ballast systems, including separate soft tanks **Monday through Friday 8AM – 4PM**. No ballast boats will be eligible for decontamination services on weekends or holidays.

This document establishes the policy and responsibility for District staff to recognize the new decontamination policy and scheduling this type of vessel accordingly. This policy does not affect simple or normal decontaminations operations.

II. RESPONSIBILITY

Employees are required to comply with the requirements of this policy and other established procedures regarding decontamination of vessels with ballast tanks systems.

ACKNOWLEDGEMENT

I have read and agree to the requirements and expectations of the new decontamination operations policy. I have received a copy of the policy and agree to abide by the policy and guidelines as a condition of my employment and my continuing employment at the Big Bear Municipal Water District. I understand that if I have questions, at any time, regarding this policy, I will consult with my immediate supervisor or Human Resources Department.

Name (please print)

Signature

Employee Number

Date

Approved by Big Bear Municipal Water District General Manager	Approved by Board on: August 15, 2024 by X - X Board vote Effective April 1, 2025
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**BIG BEAR MUNICIPAL WATER DISTRICT
REPORT TO BOARD OF DIRECTORS**

MEETING DATE: August 15, 2024

AGENDA ITEM: 6C

SUBJECT:

OPERATIONS COMMITTEE (DIRECTORS REHFUSS & BREWSTER) RECOMMEND THE SPECIAL EVENT PERMIT FROM VISIT BIG BEAR REGARDING THE DRONE SHOW ON LABOR DAY BE APPROVED BY THE FULL BOARD.

RECOMMENDATION:

Ops committee recommends the special event permit regarding the drone show on Labor Day weekend.

DISCUSSION/FINDINGS:

The Visit Big Bear group is bringing back the drone show on Labor Day weekend with some changes from the first time. The show will be slightly longer, have almost double the drones, will be taking off from Pine Knot marina and will be held on Sunday night instead of Monday night. LA Drones is the company putting on the show. The show is designed to compliment the Boat Parade of Lights events that is happening the same night, as the boats disperse, the drone show will take off at approximately 9PM. The District has received all necessary paperwork and payments to this point regarding this event.

OTHER AGENCY INVOLVEMENT: None

FINANCING: None

Submitted by: Jared Cheek, General Manager



SPECIAL EVENT PERMIT

Application for Big Bear Lake

Section 1. Event Described

Upon District approval, permittee may conduct only the event described in EXHIBIT A attached hereto and hereby incorporated by this reference. Permittee shall comply with laws, rules and regulations applicable to the event.

Section 2. Fees and Deposits

To begin the event approval process the Permittee shall sign and return the event permit application and pay the District a non-refundable administrative fee (\$100 or \$300) as described in EXHIBIT B. After the event is approved and within 30 days before the event the Permittee shall pay a refundable \$500.00 deposit to the District to cover the cost of clean-up and other added expenses incurred by the District if Permittee fails to comply with this Permit. Any part of the deposit, if any, not used by the District shall be refunded to the Permittee within 30 days after the event. The attached Fee Schedule (Exhibit "B") details additional rates for specific events and special services.

Section 3. Indemnification

- A. Permittee shall indemnify and hold harmless and defend District, its officers, agents, employees and volunteers from and against: cost, liability and damages, including attorney's fees and litigation costs, arising out of any act or omission to, including any negligent act, or omission to act, by Permittee, its officers, agents, employees or volunteers arising out of activities permitted herein.
- B. Permittee shall reimburse District and its directors, officers, employees, agents and/or volunteers, for any and all legal expenses and costs incurred by each of them in connection therewith or in enforcing the indemnity herein provided.

Section 4. Insurance

Permittee shall cause the District, its officers, agents and employees to be named as an additional or co-insurance under policies of commercial general liability insurance as broad as the following:

- A. General Liability - one million dollars (\$1,000,000) per occurrence for bodily injury, personal injury and property damage. If Commercial General Liability Insurance or other form with a general aggregate limit is used, either the general aggregate limit shall apply separately to the project/location (with the ISO CG 2501 or insurer's equivalent endorsement provided to the District) or the general aggregate limit shall be twice the required occurrence limit.
- B. The coverage shall contain no special limitations on the scope of protection afforded to the District, its officers, employees, agents and volunteers.
- C. The permittee's insurance shall be primary insurance as respects the District, its officers, employees, agents and volunteers. Any insurance, pooled coverage or self-insurance maintained by the District, its officers, employees, agents and volunteers shall not contribute to it.
- D. Any failure to comply with reporting or other provisions of the policies including breaches of warranties shall not affect coverage.
- E. The permittee's insurance shall apply separately to each insured against whom claim is made or suit is brought, except with respect to the limits of the insurer's liability.
- F. Such liability insurance shall indemnify the permittee against loss from liability imposed by law upon, or assumed under contract by, the permittee for damages on account of such bodily injury (including death), property damage, personal injury and completed operations and products liability.
- G. Such insurance shall be provided on a policy form written by underwriters through an agency satisfactory to the District which includes a cross-liability clause, and covers bodily injury and property damage liability, blanket contractual liability and completed operations liability.



Big Bear Municipal Water District
Lake Management

- H. Any deductible or self-insured retention must be declared to and approved by the District. At the option of the District, either the insurer shall reduce or eliminate such deductibles or self-insured retentions.
- I. The insurer shall have a current A.M. Best's rating of no less than A-: VII or equivalent.

If applicable, the permittee shall cover or insure under the applicable laws relating to:

- A. Workers' compensation insurance, all of their employees working on or about the event, regardless of whether such coverage or insurance is mandatory or merely elective under the law, and the permittee shall defend, protect and save harmless the District, its officers, employees, agents and volunteers from and against all claims, suits, and actions arising from any failure of the permittee to maintain such insurance. Before beginning work, permittee shall furnish to the District satisfactory proof that he has taken out for the period covered by the event, full compensation insurance for all persons employed directly by him in the event contemplated under this contract, has been obtained in accordance with the Workers' Compensation and Insurance Act.
- B. The permittee shall provide employer's liability insurance in the amount of, at least, \$1,000,000 per accident for bodily injury and disease. Prior to execution of the contract, the permittee shall file with the District evidence of insurance from an insurer or insurers certifying to the coverage of insurance required herein. Such evidence shall include original copies of the ISO CG 2010 (endorsement form or insurer's equivalent) signed by the insurer's representative and certificate of insurance (Accord Form 25-S or equivalent). If such proof is not received 30 days prior to the event, the event may be canceled by the District's General Manager. All evidence of insurance shall be certified by a properly authorized officer, agent or qualified representative of the insurer and shall certify the names of the insured, any additional primary insurers, where appropriate, the type and amount of the insurance, the location and operations to which the insurance applies, the expiration date. The insurer will give by certified mail, written notice to the District at least thirty (30) days prior to the effective date of any cancellation, lapse or material change in the policy.

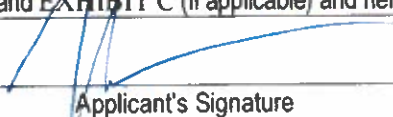
Section 5. Safety Regulations

The Permittee shall conduct the event with due care for the safety and welfare of participants and spectators, and in compliance with all laws, rules and regulations of federal, state, county or local agencies asserting jurisdiction. The Permittee shall attend two meetings with District representatives prior to the event described as follows:

- A. Permit compliance meeting: Permittee shall demonstrate that all permit conditions have been met.
- B. Skipper's and/or Safety meeting: Event organizers and participants shall meet with District representatives to have any questions answered and to receive an update of current conditions on the Lake which may affect event activities.

Section 6. Conditions

The Permittee shall comply with the conditions set forth on EVENT attachment A, EXHIBIT A, EXHIBIT B both attached hereto and EXHIBIT C (if applicable) and hereby incorporated by this reference.

	John Jackson	Visit Big Bear	7/23/24
Applicant's Signature	Printed Name	Representative of	Date

FOR DISTRICT USE ONLY		
Date Event Approved: _____	Accepted by: _____	Title: _____
(511) Admin Fee: _____	Date Received: _____	Check #: _____
(601) Deposit Fee: _____	Date Received: _____	Check #: _____

EVENT attachment A



APPLICATION
Exhibit A

Event Name: Labor Day Drone Show	Date of Application: 7/23/24
Company Name: Visit Big Bear	E-mail: johnj@bigbear.com
Mailing Address: P. O. Box 1936	Primary Contact: John Jackson
Business Phone: 909-866-6190, Ext 234	Cell Phone:

EVENT On-Site Contact Name: John Jackson	EVENT On-Site Contact Cell:
THE PERSON LISTED AS THE EVENT ON-SITE CONTACT MUST BE AVAILABLE BEFORE AND DURING EVENT WITH AUTHORITY TO CONTROL EVENT	

DATE OF EVENT: 9/1/24	LOCATION OF EVENT: Pine Knot Marina
TYPE OF EVENT: <input type="checkbox"/> FISHING <input type="checkbox"/> BOATING <input type="checkbox"/> COMPETITION <input checked="" type="checkbox"/> ENTERTAINMENT <input type="checkbox"/> OTHER:	
START TIME OF EVENT: 9:00 p.m.	END TIME OF EVENT: 9:20 p.m.
Describe Event in Detail: Drone show for Labor Day	
Drone show for Labor Day	
Estimated Number of Participants: N/A	Estimated Number of Spectators: 5K
Method of Limiting Attendance: N/A	Method of Trash Collection and Disposal: N/A Big Bear Disposal
Proposed First-Aid Services: N/A Bear Lake Fire	Proposed Security Services: N/A
Proposed Fire Protection Services: N/A Bear Lake Fire	Proposed Sanitation Services: N/A
Parking Arrangements: N/A	Perimeter Control: N/A
Miscellaneous. Describe any action not previously described. Attach additional sheets if necessary.	
This will be like the previous drone show. Launch will be from Pine Knot Marina in the same area as the 4th of July fireworks.	



FEE SCHEDULE

Exhibit B

All fees are due and payable by cash, check, Visa, or MasterCard, prior to the issuance of the event permit.

Administrative Fee DUE AT TIME OF APPLICATION

Non Commercial Event	\$100.00	Per Event (must provide IRS form 990)
Commercial Event	\$300.00	Per Event

Deposit Fee DUE NO LATER THAN 30 DAYS PRIOR TO EVENT DATE

Deposit	\$500.00	Per Event (refundable less any applicable fees and District expenses)
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Angler Fee DUE UPON RECEIPT OF INVOICE AT CLOSE OF EVENT

Fishing Events	\$15.00	Per Angler or \$500 (whichever is greater)
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Additional Fees billed as needed

*Lake Patrol or Work Boat Services	\$115.00	Per Hour (one hour minimum if boat is needed)
*Each Additional Staff Person	\$30.00	Per Hour
*Other Services	Actual Cost	

*These fees will be deducted from the deposit where it is determined that additional Lake Patrol, weed harvesting, or similar services will be necessary in the interest of health and safety.

GROUP SPECIAL EVENTS

A discounted boat permit fee for approved special events will be available at prevailing fees for the term of the event to those entrants not already having a boat permit. Any entrant participating for less than the full term of the event shall pay the normal daily permit fees. A minimum number of twenty-five special event boat permits shall be issued for the approved event to qualify for this special group rate. A group special event permit shall not be issued for major holidays or holiday weekends.

Permittee shall be responsible for the sale of the special event boat permits. Proper remittance from the sale of these permits must be delivered to the District within three (3) days of the conclusion of the special event. Permittee shall be responsible for all permits including any missing permits. All other special event permit processing fees shall apply. Participants may upgrade the special event discounted boat permit to an annual boat permit by paying the difference between the special event permit fee and the annual permit fee. Upgrades to annual permits shall be handled at the District Administration office only.



Big Bear Municipal Water District
Lake Management

SPECIAL CONDITIONS (IF APPLICABLE)

Exhibit C

EXHIBIT C