CHANNEL ISLANDS BEACH
COMMUNITY SERVICES DISTRICT

Board of Directors

MARCIA MARCUS, President
SUSIE KOESTERER, Vice President
KEITH MOORE, Director
R.V. "Jim" ESTOMO, Director
ELLEN SPIEGEL, Director

JARED BOUCHARD
General Manager

353 Santa Monica Drive • Channel Islands Beach, CA 93035-4473 • (805) 985-6021 • FAX (805) 985-7156
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BOARD OF DIRECTORS REGULAR BOARD MEETING NOTICE & AGENDA

NOTICE IS HEREBY GIVEN that the Board of Directors of the Channel Islands Beach Community Services District will hold A Regular Meeting beginning at 7:00 PM on Tuesday, January 10, 2017. The Meeting will be held at the **District Office Conference Room, 353 Santa Monica Drive, Channel Islands Beach, CA. 93035.** The Agenda is as follows:

A. CALL TO ORDER, ROLL CALL, PLEDGE OF ALLEGIANCE:

B. PUBLIC COMMENTS: Opportunity for members of the public to address the Board on matters under the purview of the District and which are not on the agenda. (Time limit 3 minutes per speaker)

C. CONSENT CALENDAR:

1. Approve the Agenda Order
2. Financial Reports:
    a. Cash Disbursal & Receipt Report –December 2016
3. Operations & Maintenance Report –
    a. December 2016
4. Minutes
    a. November 10, 2016
    b. December 7, 2016
    c. December 13, 2016
5. Authorize customer request for relief from water charges due to leaks on the property consistent with Resolution 16-06
    a. Account # 04860-03 $132.76
    b. Account # 11210-03 $489.63
    c. Account # 09320-03 $147.07
    d. Account # 07980-01 $320.52

D. ACTION CALENDAR

1. Elect Board President and Vice President for calendar year 2017
   Recommendation: Individual votes for President and Vice President.

2. District Board Appointments for calendar year 2017
   Recommendation: Appoint members of the Board to represent the District for calendar year 2017

3. Review of **Draft staff reports** for the December 19, 2016 Port Hueneme Water Agency Agenda Packet
   Recommendation: Review Draft Staff Reports for the PHWA Board Packet

4. Consider and discuss Director Nast's request to United Water Conservation District for Base Line Water Testing.
   Recommendation: Await formal response to Director Nast form United and bring the item back at that time for Board consideration of supporting the request.

E. INFORMATION CALENDAR

1. Presentation from the General Manager on overview of District and Board roles and policies.

2. Report from Board Members of any meeting or conference where compensation from the District for attendance was received.

G. BOARD MEMBER COMMENTS

H. GENERAL COUNSEL & GENERAL MANAGER COMMENTS

AGENDA POSTING CERTIFICATION

This agenda was posted Friday, January 6, 2017 by 5:00 PM. The agenda is posted at the District Office and three public notice bulletin boards, which are accessible 24 hours per day. The locations include: Hollywood Beach School, 4000 Sunset, Corner Store, 2425 Roosevelt Blvd. and the District Office, 353 Santa Monica Drive, Channel Islands Beach, CA 93035.

Jared Bouchard
General Manager

REQUESTS FOR DISABILITY-RELATED MODIFICATION OR ACCOMMODATION, INCLUDING AUXILIARY AIDS OR SERVICES, IN ORDER TO ATTEND OR PARTICIPATE IN A MEETING, SHOULD BE MADE TO THE SECRETARY OF THE BOARD IN ADVANCE OF THE MEETING TO ENSURE THE AVAILABILITY OF REQUESTED SERVICE OR ACCOMODATION. NOTICES, AGENDAS AND PUBLIC DOCUMENTS RELATED TO THE BOARD MEETINGS CAN BE MADE AVAILABLE IN ALTERNATIVE FORMAT UPON REQUEST.

Register: 1000 - First CA Bank - Checking
From 12/01/2016 through 12/31/2016
Sorted by: Date, Type, Number/Ref

Date	Number	Payee	Account	Memo	Payment	C	Deposit	Balance
12/02/2016	DEP	DEPOSIT	1200 - Accounts Recei...	Dep 12/2			1,130.00	381,987.70
12/06/2016		QuickBooks Payroll ...	-split-	Created by Pay...	20,560.60			361,427.10
12/07/2016	2999	A to Z Law, LLP	2000 - Accounts Payable		2,222.00			359,205.10
12/07/2016	3000	Aflac	2000 - Accounts Payable		581.04			358,624.06
12/07/2016	3001	Alert Communications	2000 - Accounts Payable	A3134C	133.63			358,490.43
12/07/2016	3002	American Water Wor...	2000 - Accounts Payable		420.00			358,070.43
12/07/2016	3003	Arco	2000 - Accounts Payable		1,009.36			357,061.07
12/07/2016	3004	Cardmember Service	2000 - Accounts Payable		7,502.86			349,558.21
12/07/2016	3005	County of Ventura - ...	2000 - Accounts Payable		400.00			349,158.21
12/07/2016	3006	Dial Security	2000 - Accounts Payable		210.00			348,948.21
12/07/2016	3007	Document Systems, I...	2000 - Accounts Payable	ricoh 4000	105.06			348,843.15
12/07/2016	3008	Elecsys Corporation	2000 - Accounts Payable		223.50			348,619.65
12/07/2016	3009	FGL Environmental I...	2000 - Accounts Payable		594.00			348,025.65
12/07/2016	3010	Frontier	2000 - Accounts Payable		188.28			347,837.37
12/07/2016	3011	Hollister & Brace	2000 - Accounts Payable		5,075.00			342,762.37
12/07/2016	3012	KEH & Associates, I...	2000 - Accounts Payable	Engineer services	3,660.00			339,102.37
12/07/2016	3013	Mission Linen & Uni...	2000 - Accounts Payable		168.78			338,933.59
12/07/2016	3014	Mycol, Inc.	2000 - Accounts Payable	pirkle park	120.00			338,813.59
12/07/2016	3015	Nationwide Retirement	2000 - Accounts Payable	pr pd 11/19/16 ...	3,237.52			335,576.07
12/07/2016	3016	PETER OILL	2000 - Accounts Payable	CUSTOMER ...	825.12			334,750.95
12/07/2016	3017	Philip's Janitorial Ser...	2000 - Accounts Payable		185.00			334,565.95
12/07/2016	3018	Pitney Bowes Inc.	2000 - Accounts Payable		144.16			334,421.79
12/07/2016	3019	Port Hueneme Marin...	2000 - Accounts Payable		42.91			334,378.88
12/07/2016	3020	Proven Print Services	2000 - Accounts Payable	Re-run of state...	1,536.18			332,842.70
12/07/2016	3021	Smogies Smog Shop	2000 - Accounts Payable	2- Ford F-350's...	131.25			332,711.45
12/07/2016	3022	Spectrum	2000 - Accounts Payable	cable	37.18			332,674.27
12/07/2016	3023	Underground Service...	2000 - Accounts Payable		7.50			332,666.77
12/07/2016	3024	VCSDA	2000 - Accounts Payable	Estomo dinner	20.00			332,646.77
12/07/2016	To Print	Carol J Dillon	-split-	Direct Deposit		X		332,646.77
12/07/2016	To Print	E.D. Brock	-split-	Direct Deposit		X		332,646.77
12/07/2016	To Print	Erika F Davis	-split-	Direct Deposit		X		332,646.77
12/07/2016	To Print	Jared Bouchard	-split-	Direct Deposit		X		332,646.77
12/07/2016	To Print	Jeff W Spieler	-split-	Direct Deposit		X		332,646.77
12/07/2016	To Print	Joseph C. Mathein	-split-	Direct Deposit		X		332,646.77
12/07/2016	To Print	Lupe C Lopez	-split-	Direct Deposit		X		332,646.77
12/07/2016	To Print	Mark A Espinosa	-split-	Direct Deposit		X		332,646.77
12/09/2016	DEP	DEPOSIT	-split-	Deposit Dep 1...			16,803.50	349,450.27
12/09/2016	DEP	DEPOSIT	1200 - Accounts Recei...	Dep 12/8			4,410.81	353,861.08
12/09/2016	DEP	DEPOSIT	2050 - Customer Depo...	Dep 12/8			150.00	354,011.08
12/09/2016	DEP	DEPOSIT	1200 - Accounts Recei...	Dep 12/5			282.08	354,293.16

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From 12/01/2016 through 12/31/2016
Sorted by: Date, Type, Number/Ref

Date	Number	Payee	Account	Memo	Payment	C	Deposit	Balance
12/09/2016	DEP	DEPOSIT	1200 - Accounts Recei...	Dep 12/8			9,253.57	363,546.73
12/09/2016	DEP	DEPOSIT	1200 - Accounts Recei...	Dep 12/5			20.01	363,566.74
12/09/2016	DEP	DEPOSIT	1200 - Accounts Recei...	Dep 12/7			3,656.08	367,222.82
12/09/2016	DEP	DEPOSIT	2050 - Customer Depo...	Dep 12/5			150.00	367,372.82
12/09/2016	DEP	DEPOSIT	2050 - Customer Depo...	Dep 12/5			150.00	367,522.82
12/09/2016	DEP	DEPOSIT	1200 - Accounts Recei...	Dep 12/2			2,264.95	369,787.77
12/09/2016	DEP	DEPOSIT	1200 - Accounts Recei...	Dep 12/5			5,449.33	375,237.10
12/09/2016	DEP	DEPOSIT	3110 - Water Revenues...	Dep 12/8 water...			6,064.00	381,301.10
12/09/2016	DEP	DEPOSIT	Union Bank	Dep 12/7 refun...			64.45	381,365.55
12/09/2016	EDEP	DEPOSIT	1200 - Accounts Recei...	e-checks			25,866.86	407,232.41
12/14/2016	DEP	DEPOSIT	1200 - Accounts Recei...	Dep 12/5			954.58	408,186.99
12/14/2016	DEP	DEPOSIT	1200 - Accounts Recei...	Dep 12/13			972.09	409,159.08
12/14/2016	DEP	DEPOSIT	1200 - Accounts Recei...	Dep 12/12			1,133.90	410,292.98
12/14/2016	DEP	DEPOSIT	1200 - Accounts Recei...	Dep 12/9			12,344.60	422,637.58
12/14/2016	DEP	DEPOSIT	1200 - Accounts Recei...	Dep 12/12			7,462.93	430,100.51
12/14/2016	DEP	DEPOSIT	1200 - Accounts Recei...	Dep 12/12			10,386.87	440,487.38
12/14/2016	DEP	DEPOSIT	2050 - Customer Depo...	Dep 12/12			150.00	440,637.38
12/14/2016	DEP	DEPOSIT	2050 - Customer Depo...	Dep 12/13			150.00	440,787.38
12/14/2016	DEP	DEPOSIT	1200 - Accounts Recei...	Dep 12/13			8,076.10	448,863.48
12/16/2016	DEP	DEPOSIT	2050 - Customer Depo...	Dep 12/16			150.00	449,013.48
12/16/2016	DEP	DEPOSIT	1200 - Accounts Recei...	Dep 12/15			11,077.92	460,091.40
12/16/2016	DEP	DEPOSIT	1200 - Accounts Recei...	Dep 12/16			624.39	460,715.79
12/16/2016	DEP	DEPOSIT	1200 - Accounts Recei...	Dep 12/15			43,943.01	504,658.80
12/20/2016		QuickBooks Payroll ...	-split-	Created by Pay...	21,784.35			482,874.45
12/21/2016	3025	Ellen S Spiegel	-split-		369.40			482,505.05
12/21/2016	3026	Keith Moore	-split-		369.40			482,135.65
12/21/2016	3027	Marcia L Marcus	-split-		277.05			481,858.60
12/21/2016	3028	Rosario Estomo	-split-		1.00			481,857.60
12/21/2016	3029	Susan Koesterer	-split-		369.40			481,488.20
12/21/2016	To Print	Jared Bouchard	-split-	Direct Deposit		X		481,488.20
12/21/2016	To Print	Carol J Dillon	-split-	Direct Deposit		X		481,488.20
12/21/2016	To Print	E.D. Brock	-split-	Direct Deposit		X		481,488.20
12/21/2016	To Print	Erika F Davis	-split-	Direct Deposit		X		481,488.20
12/21/2016	To Print	Jeff W Spieler	-split-	Direct Deposit		X		481,488.20
12/21/2016	To Print	Joseph C. Mathein	-split-	Direct Deposit		X		481,488.20
12/21/2016	To Print	Lupe C Lopez	-split-	Direct Deposit		X		481,488.20
12/21/2016	To Print	Mark A Espinosa	-split-	Direct Deposit		X		481,488.20
12/22/2016	EDEP	DEPOSIT	1200 - Accounts Recei...	e-checks			76,552.14	558,040.34
12/27/2016	3030	ACWA/JPIA Health ...	2000 - Accounts Payable		1,095.58			556,944.76
12/27/2016	3031	AT & T	2000 - Accounts Payable		673.68			556,271.08

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Sorted by: Date, Type, Number/Ref

Date	Number	Payee	Account	Memo	Payment	C	Deposit	Balance
12/27/2016	3032	Base Auto Parts	2000 - Accounts Payable		173.57			556,097.51
12/27/2016	3033	CalPers	2000 - Accounts Payable		10,154.21			545,943.30
12/27/2016	3034	CASA	2000 - Accounts Payable		1,607.00			544,336.30
12/27/2016	3035	County of Ventura - ...	2000 - Accounts Payable	annual permit	1,210.00			543,126.30
12/27/2016	3036	Document Systems, I...	2000 - Accounts Payable	office HP	54.19			543,072.11
12/27/2016	3037	EJ Harrison & Sons, ...	2000 - Accounts Payable	pr pd 10/16/16 ...	40,215.95			502,856.16
12/27/2016	3038	FGL Environmental I...	2000 - Accounts Payable		419.00			502,437.16
12/27/2016	3039	Frontier	2000 - Accounts Payable		669.72			501,767.44
12/27/2016	3040	Frontier-Office	2000 - Accounts Payable		412.27			501,355.17
12/27/2016	3041	Jim Estomo	2000 - Accounts Payable	MILEAGE REI...	96.12			501,259.05
12/27/2016	3042	Measurement Contro...	2000 - Accounts Payable		2,340.72			498,918.33
12/27/2016	3043	MELANIE M. SHA...	2000 - Accounts Payable	CUSTOMER ...	123.56			498,794.77
12/27/2016	3044	Pacific Couriers	2000 - Accounts Payable		179.74			498,615.03
12/27/2016	3045	PHWA	2000 - Accounts Payable		52,488.70			446,126.33
12/27/2016	3046	Prime Masonry Mate...	2000 - Accounts Payable		220.32			445,906.01
12/27/2016	3047	So. California Edison...	2000 - Accounts Payable		1,227.92			444,678.09
12/27/2016	3048	Soares, Sandall, Bern...	2000 - Accounts Payable		1,275.00			443,403.09
12/27/2016	3049	Streamline	2000 - Accounts Payable		200.00			443,203.09
12/27/2016	3050	SWRCB	2000 - Accounts Payable		2,421.00			440,782.09
12/27/2016	3051	United States Postal ...	2000 - Accounts Payable		1,000.00			439,782.09
12/28/2016	DEP	DEPOSIT	2050 - Customer Depo...	Dep 12/19			150.00	439,932.09
12/28/2016	DEP	DEPOSIT	1200 - Accounts Recei...	Dep 12/22			19,218.61	459,150.70
12/28/2016	DEP	DEPOSIT	1200 - Accounts Recei...	Dep 12/19			15,819.39	474,970.09
12/28/2016	DEP	DEPOSIT	1200 - Accounts Recei...	Dep 12/27			579.08	475,549.17
12/28/2016	DEP	DEPOSIT	1200 - Accounts Recei...	Dep 12/28			3,761.89	479,311.06
12/28/2016	DEP	DEPOSIT	1200 - Accounts Recei...	Dep 12/23			3,601.55	482,912.61
12/28/2016	DEP	DEPOSIT	1200 - Accounts Recei...	Dep 12/20			2,741.71	485,654.32
12/28/2016	DEP	DEPOSIT	1200 - Accounts Recei...	Dep 12/22			417.25	486,071.57
12/28/2016	DEP	DEPOSIT	1200 - Accounts Recei...	Dep 12/20			606.68	486,678.25
12/28/2016	DEP	DEPOSIT	1200 - Accounts Recei...	Dep 12/20			14,346.46	501,024.71
12/28/2016	DEP	DEPOSIT	2050 - Customer Depo...	Dep 12/27			150.00	501,174.71
12/28/2016	DEP	DEPOSIT	2050 - Customer Depo...	Dep 12/27			150.00	501,324.71
12/28/2016		QuickBooks Payroll ...	-split-	Created by Pay...	1,239.73			500,084.98
12/28/2016	3052	Jeff W Spieler	-split-		4,699.51			495,385.47
12/31/2016	1216-01		2050 - Customer Depo...	Void Ck# 2901...			39.25	495,424.72

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Regular Board Meeting January 10, 2017

To: Board of Directors

From: Operations Manager

Subject: December 2016 Operations Report,
Agenda Item C- 3

Water System Repairs, Installations and Maintenance Tasks:

a) District staff prepared many of the temporary patches for permanent patching. The District contracted with Sam Hill & Sons to complete the permanent patching. District staff assisted with the patching and completed all road patches which were approved, and the pending permits closed by the County's Encroachment Permit Inspector.

b) District staff replaced 3 meters and relocated a service line at 145 Burbank Ave.

c) District staff opened 11 meter accounts and closed 19 meter accounts.

d) SWRCB monthly reports were emailed December 12, 2016.

e) Water Consumption December 2016:

- 31.7 Ac/Ft = 10,331,000 gallons Dec 2016
- 448.34 Ac/Ft Calendar Year-to-date 2016

f) Meter reading, maintenance, rereads, disconnects, and additional customer service activities are listed on the attached monthly stat sheet.

g) The District continues to be in a Stage II water supply shortage. This is in compliance with the State Drought Emergency regulation.

Waste Water System Repairs, Installations and Maintenance Tasks:

a) District Staff filed a No Spill report Dec 7, 2016.

b) District staff coordinated hot spot and wet well cleaning with the COPH sanitation crews.

c) District staff has initiated GPS mapping of the District's water and sewer mains as well as the valves, hydrants and manholes associated with those mains. This process will enable the District to update information regarding those facilities and provide a higher level of accuracy and detail.

d) Routine Preventive Maintenance and Inspections were performed throughout the month as well as minor troubleshooting and repairs.

Miscellaneous Tasks in Support of District Operations:

a) District staff continues encouraging District customers to use water wisely. Customers who are creating runoff from irrigation or washing down of hard surfaces are contacted and asked to eliminate any waste of water.

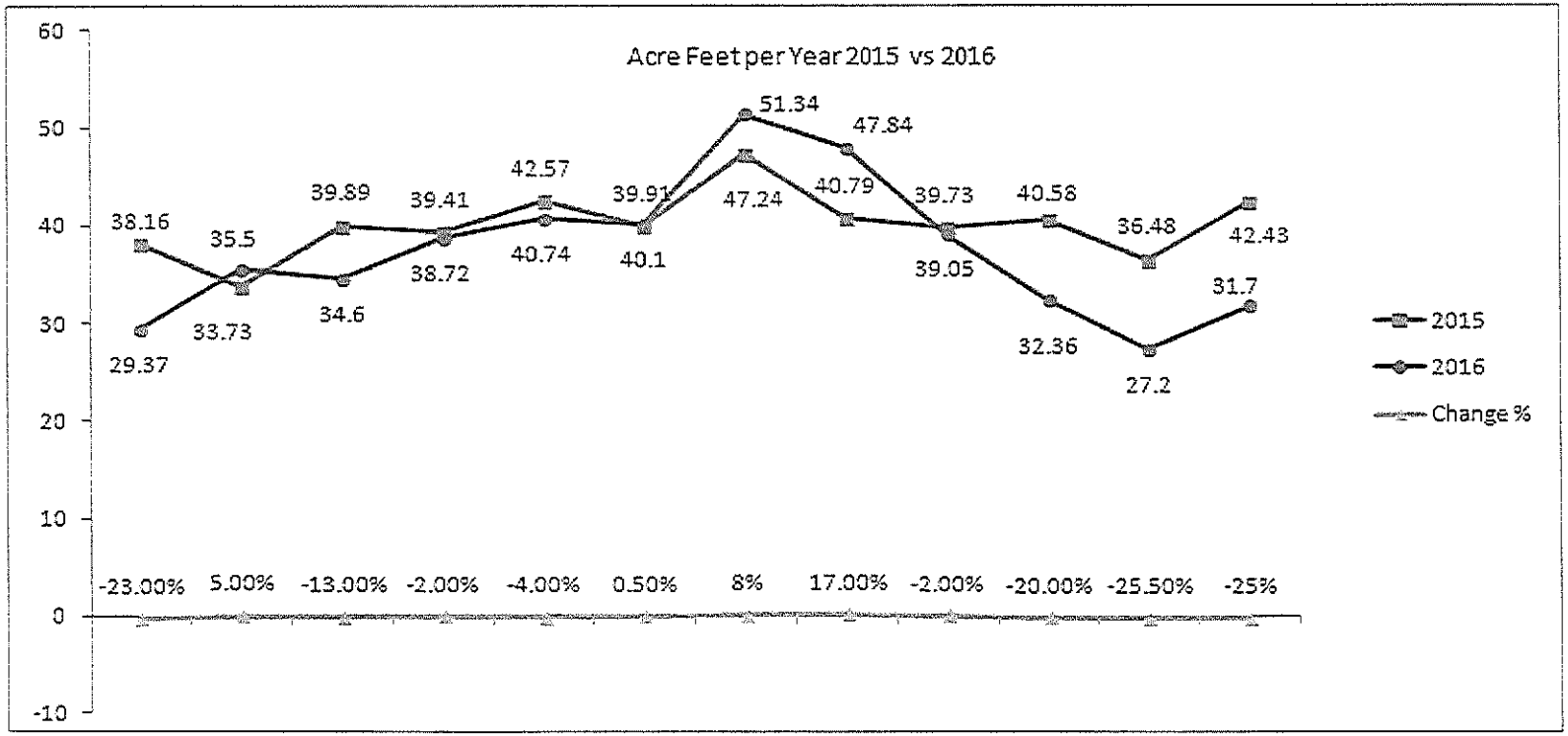
Operations & Maintenance Monthly Statistics Totals
December 2016

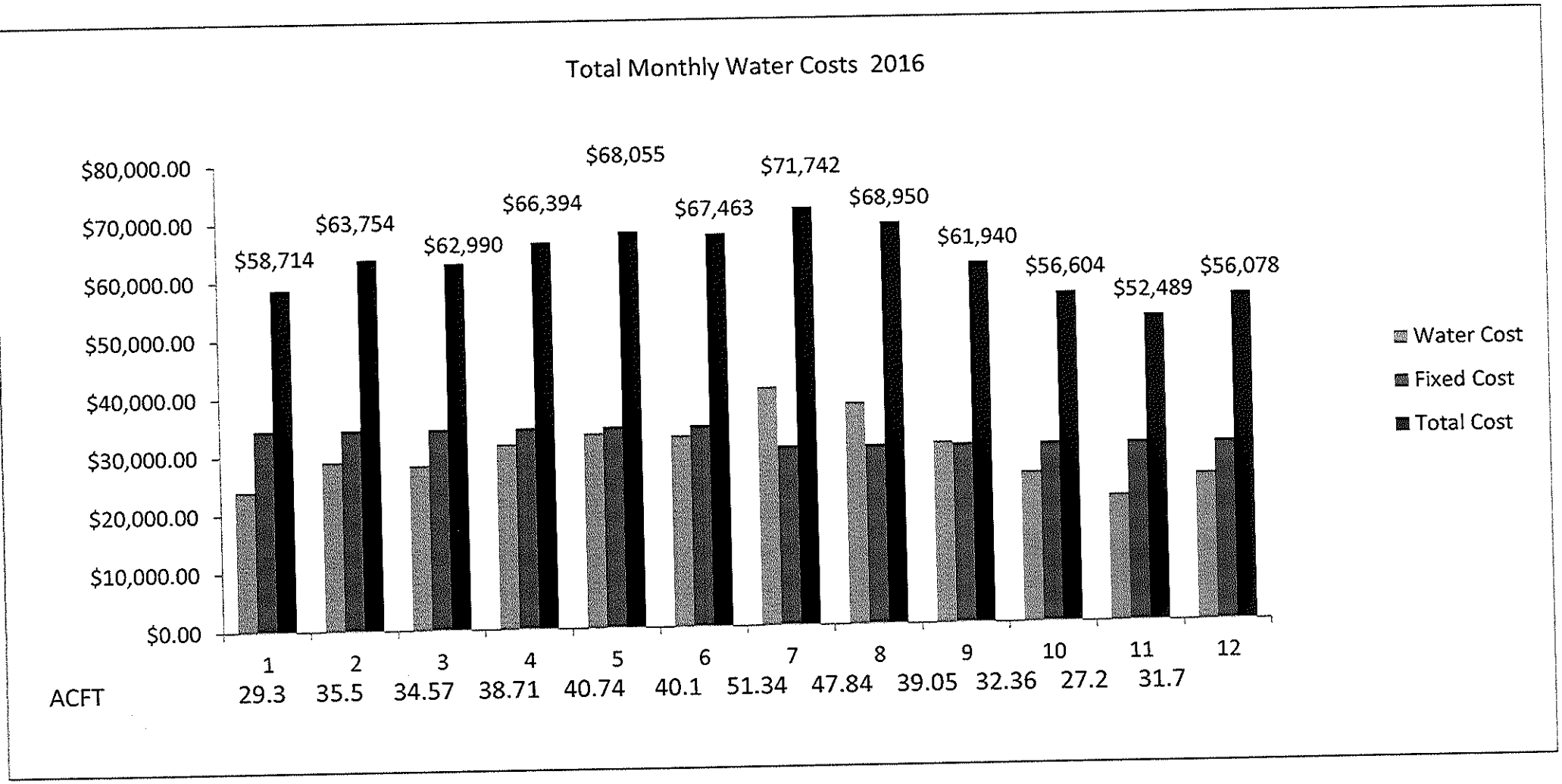
WATER: MAINTENANCE & REPAIRS	Quantity
Emergency Turn Offs	0
Fire Hydrant Service / Flushing	0
Main or Service Line Repairs/Installation	0
Meter Installation (new or construction)	0
Fire Meter / Manifold Installations	0
Meters Replaced	3
Meter Trims/Box/ Covers	2
Meter Relocate (service lines)	1
USA Markings	5
Sampling / Residuals	8
Valve Maintenance/ Exercising Program	0
WATER: CUSTOMER SERVICE	
Door Hangers	68
Re-Reads	43
Meter Reads	1918
Pressure Checks/WaterQuality	1
Disconnect Non-Payment	5
Meter Reconnects/Open	11
Closed Accounts/Final reads	19
Check Meter for Leaks/Repair	14
WASTEWATER: MAINTENANCE AND REPAIRS	
Inspections/Cleaning	19
Preventive Maintenance	14
Repairs/Improvements	0
RUBBISH RELATED TASKS	
Barrel Removals	3
Trash P/U/ Miscellaneous	1
Deliver Trash/Recycle Barrels	3
COMMUNITY SERVICE	
Hand Deliveries	5
Public Notice Postings	5
Miscellaneous	3

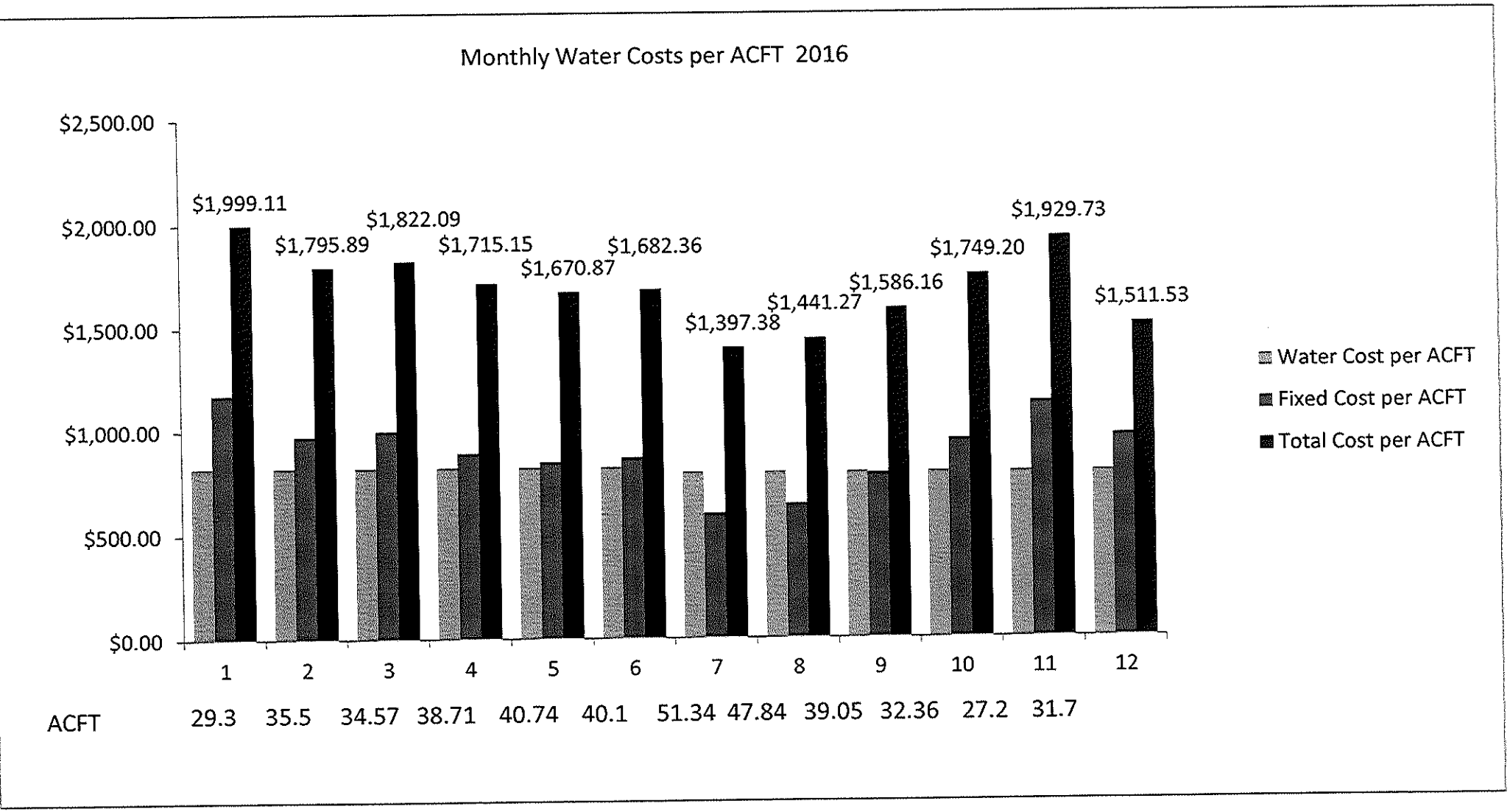
	2015	2016	
	AC/FT	AC/FT	% difference
Jan	38.16	29.37	**-23.00%**
Feb	33.73	35.5	**5.00%**
Mar	39.89	34.6	**-13.00%**
April	39.41	38.72	**-2.00%**
May	42.57	40.74	**-4.00%**
Jun	39.91	40.1	**0.50%**
July	47.24	51.34	**8%**
Aug	40.79	47.84	**17.00%**
Sept	39.73	39.05	**-2.00%**
Oct	40.58	32.36	**-20.00%**
Nov	36.48	27.2	**-25.50%**
Dec	42.43	31.7	**-25%**
Total	**480.92**	**448.52**	

	2013	2016	
	AC/FT	AC/FT	% difference
Jan	41.17	29.37	**-29%**
Feb	37.45	35.5	**-5%**
Mar	43.70	34.6	**-21%**
April	41.59	38.72	**-7%**
May	46.07	40.74	**-11%**
Jun	51.28	40.1	**-23%**
July	53.40	51.34	**-4%**
Aug	51.35	47.84	**-7%**
Sept	50.07	39.05	**22%**
Oct	45.31	32.36	**-28%**
Nov	40.21	27.2	**-32%**
Dec	41.39	31.7	**-24%**
total	**542.97**	**448.52**	

2015		2016		Difference
Gal/day/person		Gal/day/person		G/D/P
Jan	**44.7**	Jan	**34.4**	**-10.3**
Feb	**39.5**	Feb	**41.6**	**2.1**
Mar	**46.7**	Mar	**40.5**	**-6.2**
April	**46.1**	April	**45.3**	**-0.8**
May	**49.8**	May	**47.7**	**-2.1**
Jun	**46.7**	Jun	**46.6**	**-0.1**
July	**55.3**	July	**60.1**	**4.8**
Aug	**47.8**	Aug	**56.0**	**8.2**
Sept	**46.5**	Sept	**45.8**	**0.7**
Oct	**47.5**	Oct	**37.9**	**-9.6**
Nov	**42.7**	Nov	**31.9**	**-10.8**
Dec	**49.7**	Dec	**37.1**	**-12.6**




Total Monthly Water Costs 2016
$80,000.00
$70,000.00
$60,000.00
$50,000.00
$40,000.00
$30,000.00
$20,000.00
$10,000.00
$0.00
$58,714
$63,754
$62,990
$66,394
$68,055
$67,463
$71,742
$68,950
$61,940
$56,604
$52,489
$56,078
1 2 3 4 5 6 7 8 9 10 11 12
ACFT
29.3 35.5 34.57 38.71 40.74 40.1 51.34 47.84 39.05 32.36 27.2 31.7
Water Cost
Fixed Cost
Total Cost


Monthly Water Costs per ACFT 2016
$2,500.00
$2,000.00
$1,500.00
$1,000.00
$500.00
$0.00
$1,999.11
$1,795.89
$1,822.09
$1,715.15
$1,670.87
$1,682.36
$1,397.38
$1,441.27
$1,586.16
$1,749.20
$1,929.73
$1,511.53
1 2 3 4 5 6 7 8 9 10 11 12
ACFT 29.3 35.5 34.57 38.71 40.74 40.1 51.34 47.84 39.05 32.36 27.2 31.7
Water Cost per ACFT
Fixed Cost per ACFT
Total Cost per ACFT

MINUTES OF THE

CHANNEL ISLANDS BEACH COMMUNITY SERVICES DISTRICT

SPECIAL BOARD MEETING, November 10, 2016

A. CALL TO ORDER, ROLL CALL, AND PLEDGE OF ALLEGIANCE:

Director Estomo called the meeting to order at 6:00 PM and led everyone in attendance in the Pledge of Allegiance. In attendance, Director Moore, Director Estomo, Director Spiegel, General Counsel, John Mathews, General Manager, Jared Bouchard, Office Manager, CJ Dillon.

President Marcus was absent and Vice President Koesterer was not at the start of the meeting.

B. PUBLIC COMMENTS:

Mr. Nast said he asked PHWA where the District's water came from. He was told 90% of it comes from deep water wells and he asked **the record to show** that we should be looking for and going for baseline testing.

General Manager Bouchard asked **the record to show**, that based on the e-mails between Mr. Nast and the District, that the question was never asked of this Staff and he could have answered it for Mr. Nast.

C. CONSENT CALENDAR:

Mr. Bouchard asked that the Board pull Item C5. Those items will be approved with the discussion and possible passing of Item D-4. Item C-5 will be heard after D-4. The General Manager asked the Item D-2 be remove until all 5 Board Members can be available.

Director Estomo moved to approve the Consent Calendar with the modifications proposed by the General Manager. Director Spiegel seconded the motion and the motion passed unanimously.

Moore, Estomo and Spiegel 3 - Yes 0 - No

D. ACTION CALENDAR

1. Board Study session and report from District Engineer, KEH Engineering on ongoing District Water Strategic Planning development

The Board has met several times to discuss water alternatives with KEH Engineers, Tonight they are returning with a water supply alternative analysis. In the workshops the Board identified goals and alternatives going forward. Mr. Bouchard noted that the presentation is lengthy and he suggested that they schedule another workshop to go over the results in depth. Ryan Gallaher and Frank Dodge from KEH gave the presentation. See attached.

6:20 PM Vice President Koesterer Joined the Meeting.

The following projects were presented to the Board.
Alt. #1 Brackish Water Desalination at District Yard, Alt. #2 Direct Potable Reuse - PHWA, District Lead, Alt. #3 Oxnard BS#1 Desalter Optimization - District Independent Project, Alt. #4 Buy Ventura/Casitas SWP Allocation, Alt. #5 Direct Potable Reuse - District Only.

There was a lengthy discussion after the presentation.

Vice President Koesterer complimented Mr. Gallagher and Mr. Dodge for explaining complicated information so that the average person could understand it.

2. Strategic Planning discussion specific to the role of the District in non core functions related to community outreach and ancillary issues that may affect the beach communities

Deferred

3. CONSIDER "FIRST AMENDMENT TO AGREEMENT FOR WASTEWATER TRANSPORTATION AND TREATMENT AGREEMENT #7864

The General Manager explained that this was a simple temporary agreement through December 31, 2018. Our current agreement expires December 2016. The additional 2 years gives the City time to have necessary meetings and gather data for a more permanent agreement in the future.

Director Moore moved to Approve the amendment and authorize District Counsel and the General Manager to make non-financial and minor non-substantive changes as may be required. Director Spiegel seconded the motion and the motion passed unanimously.

Koesterer, Estomo, Moore and Spiegel 4 - Yes 0 - No

4. Consider Resolution 16-06: A RESOLUTION OF THE BOARD OF DIRECTORS OF THE CHANNEL ISLANDS BEACH COMMUNITY SERVICES DISTRICT TO ADOPT A POLICY REGARDING THE REDUCTION OF WATER CONSUMPTION AND WASTE WATER USAGE CHARGES UNDER CERTAIN SPECIFIC CIRCUMSTANCES

This Resolution replaces resolution 07-01, regarding waiving water usage charges from leaks. The new Resolution includes relief from water and waste water as well as limiting the customer to 2 consecutive months per 12 month period. The General Manager told the Board that we had to include waste water fee reductions since our new rates include a charge for waste water directly related to water usage.

Director Moore moved Approve and Adopt Resolution 16-06. Director Estomo seconded the motion and the motion passed unanimously.

Koesterer, Estomo, Moore and Spiegel 4 - Yes 0 - No

5. Review of Draft staff reports for the Port Hueneme Water Agency Agenda Packet.

None Available

6. Consider $200 donation to the Pat Forrest Scholarship Fund

In September 2016, the District lost Pat Forrest, a long time resident, previous Board of Director and volunteer for the beach community. Mr. Bouchard asked the Board for a $200.00 donation for the Scholarship Fund created in memory of Mr. Forrest instead of flowers for his service.

Director Spiegel moved to authorize a $200.00 donation to the Scholarship Fund. Director Estomo seconded the motion and the motion passed unanimously.

Koesterer, Estomo, Moore and Spiegel 4 - Yes 0 - No

7. Consider casting ballot in Run off election for the LAFCO Special District Alternate Member

Mr. Bouchard told the Board that the previous election for Alternate Member has resulted in a tie. There are 3 nominees to choose from. The Board previously voted for Mike Mishler.

Director Estomo moved to cast a vote for Mike Mishler in the LAFCO run-off election. Director Spiegel seconded the motion and the motion passed unanimously.

Koesterer, Estomo, Moore and Spiegel 4 - Yes 0 - No

8. Consider waiver of specific application of Ordinance 85, Section 4.9 subsection C - iii for parcel number 209-0-146-340

General Manager Bouchard asked the Board to consider crediting the amount a resident who previously paid his construction fees (1988) to the current fees. This would result in the resident paying the difference of today's capital fees less the amount he previously paid. Ordinance 85 states that if no structure is built within 10 years of capital costs paid, the fees will have to paid again.

Director Moore moved to authorize the credit of connection fee paid on 12-28-88 in the Amount of $4,390.50 and order that the credit be deducted from the now current connection fees charges due on the property for construction of a new single family dwelling. Director Spiegel seconded the motion and the motion passed unanimously.

Koesterer, Estomo, Moore and Spiegel 4 - Yes 0 - No

E. INFORMATION CALENDAR

1. Report from Board Members of any meeting or conference where compensation from the District for attendance was received.

Director Estomo attended the annual update from the California division of drinking water. He said we will see more regulations.

F. BOARD MEMBER COMMENTS

None

G. GENERAL COUNSEL & GENERAL MANAGER COMMENTS:

General Manager announced a stake holder meeting November 15, 2016.

H. CLOSED SESSION :CONFERENCE WITH LEGAL COUNSEL - ANTICIPATED LITIGATION

Significant exposure to litigation matter pursuant to paragraph (2) of subdivision (d) of Government Code Section 54956.9. one case.

General Manager Bouchard announced there was no need for the Closed Session Item.

The Board Meeting adjourned at 8:12 PM.

Susie Koesterer, Board Vice President

CHANNEL ISLANDS BEACH COMMUNITY SERVICES DISTRICT

Water Supply Alternatives Analysis

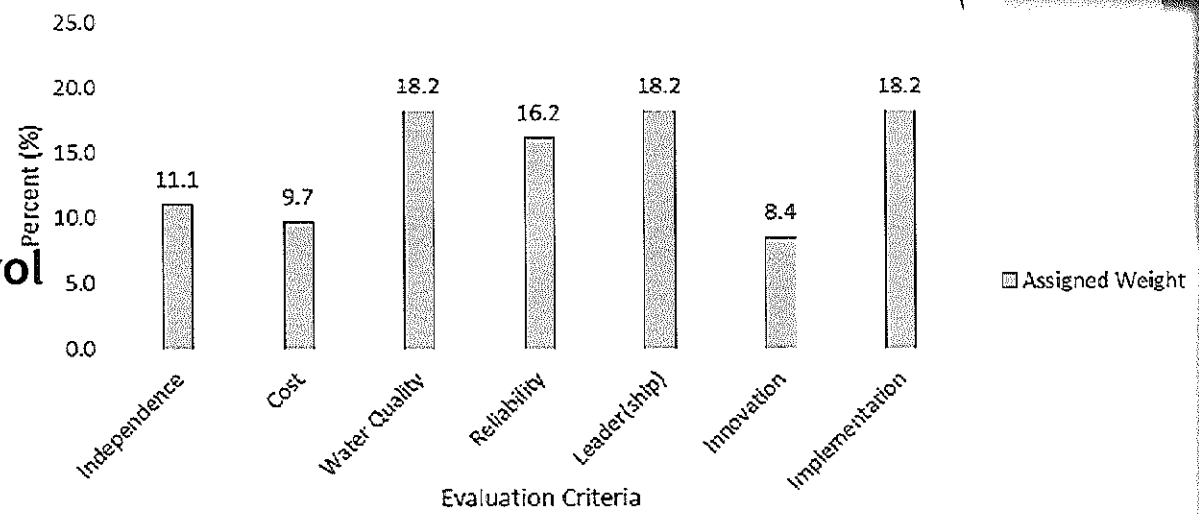
November 2016

What Has Been Done

- Water Workshop with Board Members (9-20-16)
  - Presented system background, issues, etc.
  - Administered 50+ question survey and inquired the importance of 7 evaluation criteria
  - Board meeting water presentation and board survey results incorporated into Alternatives Analysis Memo
- Developed Alternative Analysis and Ranking System
  - For each 7 criteria, determine weight (% of final alternative score based on surveyed values)
- Developed List of 29 Alternatives
- Analyzed Alternatives (10-4-16)
  - Assigned scores to alternatives in each evaluation criteria category
- Summed Scores and Ranked Alternatives
  - Memo "Water Supply Alternatives Analysis" dated 11-4-16
  - Developed high level cost estimates for top-ranked alternatives

Evaluation Criteria

1. Water Quality
2. Leader
3. Implementation
4. Reliability
5. Independence/Control
6. Cost
7. Innovation



Alternatives Analysis

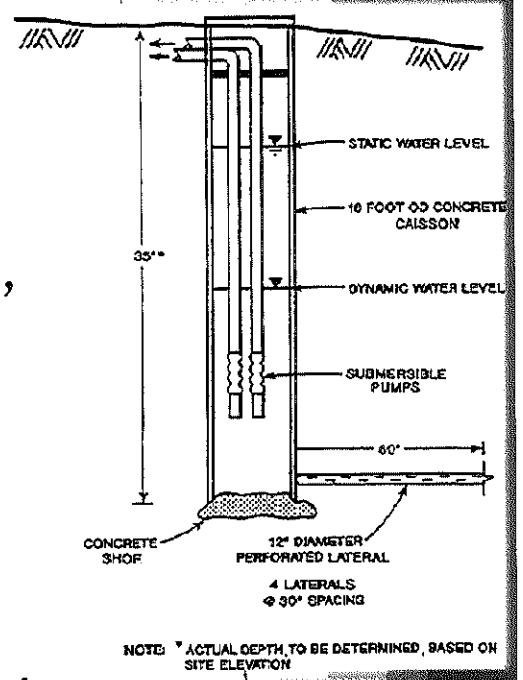
Alt #	Alternatives
1	Seawater Desalination, Independent Project
2	Seawater Desalination, Regional Solution w/ District Lead
3	Seawater Desalination, Regional Solution w/ District Buy-in
4	Brackish Water Desalination at District Yard
5	Brackish Water Desal. at Oxnard BS#1 Desalter, increase recovery on existing units - independent
6	Brackish Water Desal. at Oxnard BS#1 Desalter, increase recovery on existing units w/ PHWA partne
7	Brackish Water Desalination at Oxnard BS#1, relocate PHWA equipment
8	Brackish Water Desalination at Oxnard BS#1, expand system (as PHWA)
9	Join with the City of Oxnard
10	100% CMWD
11	Blend CMWD/UWCD @ Cross Base Pipeline, District only
12	Blend CMWD/UWCD @ Cross Base Pipeline, all PHWA
13	Recycled water for District Irrigation, reduce demand
14	Recycled water for Port Hueneme or Navy Base, transfer supply to District
15	Water Conservation program
16	DPR - join Ventura
17	DPR - join with Oxnard
18	DPR - District only
19	DPR - PHWA
20	DPR - PHWA, District lead
21	Innovative Technology/Approach - create water supply elsewhere, and transfer to District
22	Innovative Technology/Approach - Blue Dolphin
23	Innovative Technology/Approach - Navy Seawater Desal
24	Innovative Technology/Alternative - Zero Liquid Discharge @ PHWA
25	District optimizing PHWA at own cost
26	PHWA Optimization with Current Structure
27	Buy Ventura/Casitas SWP Allocation, deliver thru El Rio Spreading Grounds & pump out
28	Energy Production and Desal Combo System
29	Staying with PHWA

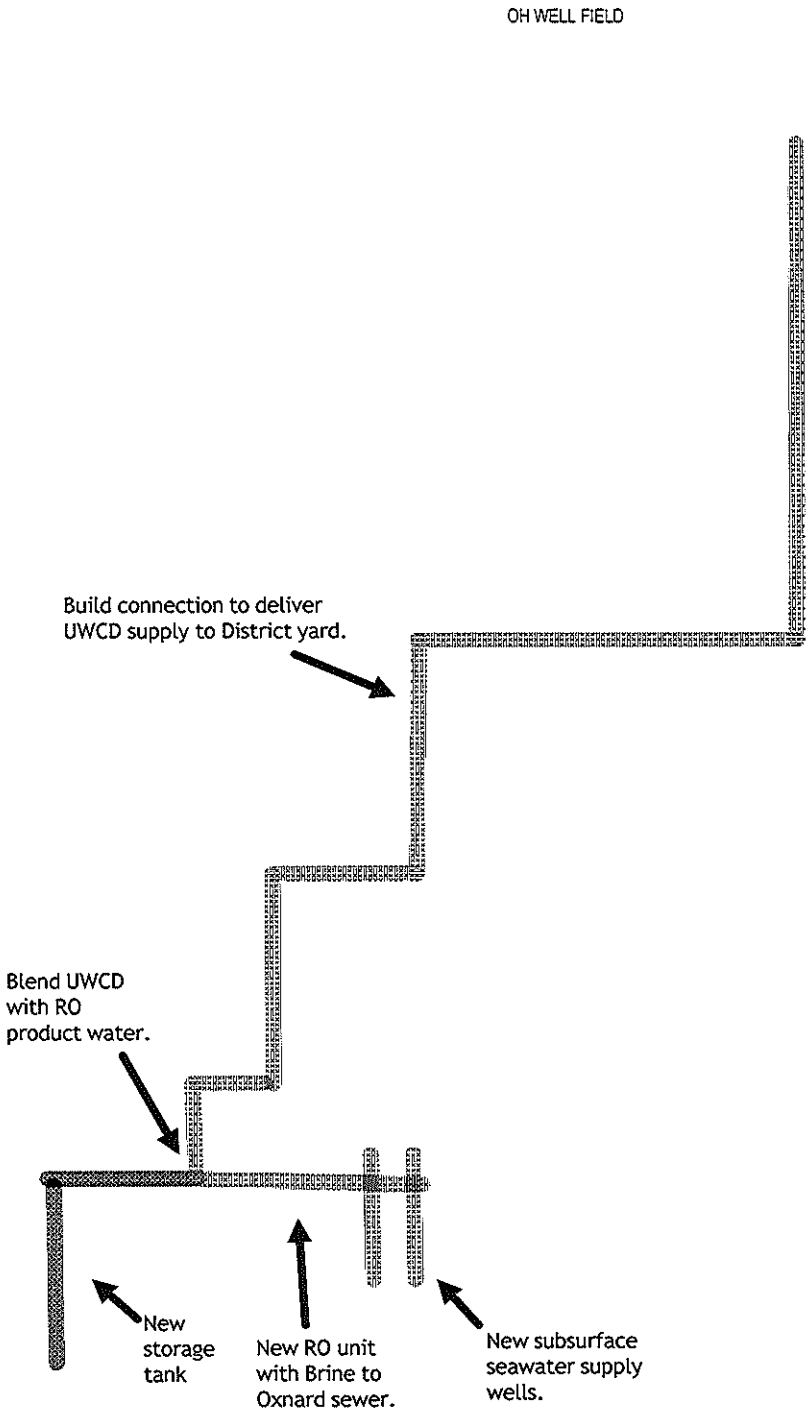
TOP 5

1. Brackish Water Desalination at District Yard
2. Direct Potable Reuse - PHWA, District Lead
3. Brackish Water Desalination at Oxnard BS#1 Desalter, increase recovery on existing units - District Independent Project
4. Buy Ventura/Casitas SWP Allocation, deliver through El Rio Spreading Grounds and pump out
5. Direct Potable Reuse - District Only

Alt#1 Brackish Water Desalination at District Yard

- Seawater will be drawn through subsurface wells. (Feasibility study for Saline GW Intake/Disposal System, Dec. 1992.)
- A new RO unit at the District yard will treat the water and store it in a new tank.
- A new pipeline will connect the existing OH pipeline to the District's Cross Base pipeline.
- The RO water will be blended with the groundwater and distributed to the District customers.





High Quality Stream

Low Quality Stream

Combined Stream

Alt#1 Brackish Water Desalination at District Yard

Alt#1 Brackish Water Desalination at District Yard

DESCRIPTION	NOTES		COST
200,000 gallon storage	$2/gallon	$	400,000
Collector Wells	2 wells at 0.3 MGD, piping, property, controls	$	2,500,000
RO Skid	two, packaged 0.2 MGD systems	$	900,000
Chemical Systems	placeholder	$	200,000
Structures	placeholder	$	200,000
OH Pipeline to Cross Base	4,000 feet at 12-inch, $20/in-ft	$	960,000
Electrical and Instrumentation	10%	$	516,000
	Subtotal	$	5,676,000
	Contingency (50%)	$	2,838,000
	Construction Subtotal	$	8,514,000
	Plan and Env. (10%)	*$*	*851,400*
	Design (10%)	$	851,400
	Construction Management (5%)	$	425,700
	Engineering Services During Construction (5%)	$	425,700
	Total Project Cost	**$**	**11,070,000**
	Cost of PHWA Water for 600 AFY	$	1,140,000
	Cost of New Blended Supply for 600 AFY	$	410,000
	20 Year O&M Savings 600 AFY	**$**	**14,600,000**

NOTES:

Wells are sized for 50% recovery RO process

Ranney Well Cost - http://www.swrcb.ca.gov/rwqcb9/press_room/announcements/carlsbad_desalination/updates_3_13_09/item_12_a.pdf

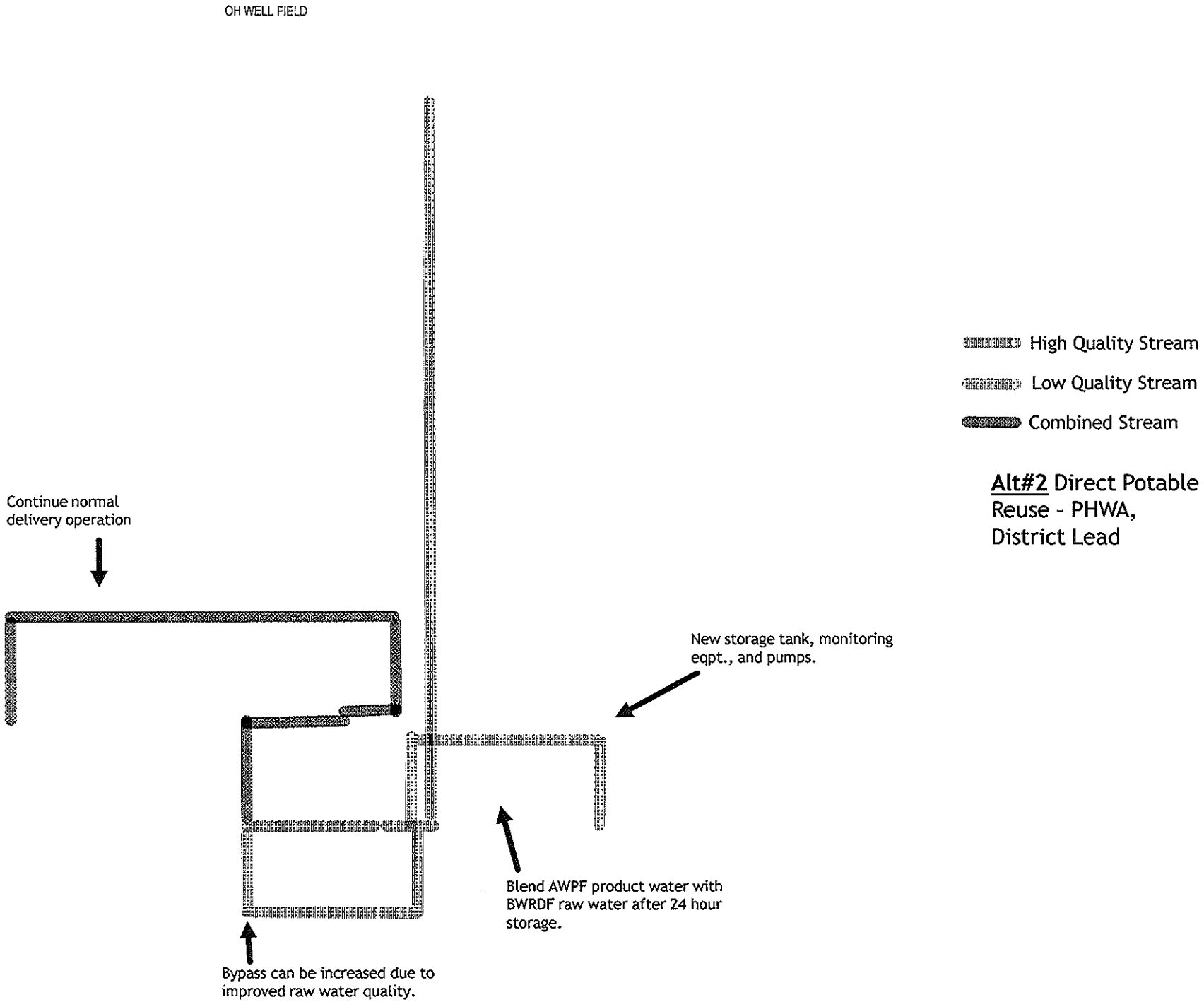
Cost of New Water - No pump fee, $200/AF brine fees, $750AF to treat, $300AF new operator = $1250/AF

Blended Water Cost - 400 AFY @ $400 UWCD and 200 AFY @ $1250/AF New Water Cost

Cost of PHWA Water - assume $1,400/AF average cost + $500/AF avg for imported or GW overdraft penalty

Alt#2 Direct Potable Reuse - PHWA, District Lead

- A new 0.5 MG tank would receive advanced treated recycled water from the Oxnard AWPF.
  - The water would stay in the tank for 24 hours and then be tested.
  - Once quality is confirmed, it would be pumped into the influent of the PHWA BWRDF.
- The BWRDF would filter the blended water, as it currently does with influent UWCD.
  - The AWPF product water would increase the influent water quality and increase the amount of water that can bypass this system.
- No current regulation exists for permitting, although recent reports indicate 5 years based on recently released confirmation of technical feasibility.
- May require an air gap.


OH WELL FIELD
High Quality Stream
Low Quality Stream
Combined Stream
Alt#2 Direct Potable Reuse - PHWA, District Lead
Continue normal delivery operation
New storage tank, monitoring eqpt., and pumps.
Blend AWPF product water with BWRDF raw water after 24 hour storage.
Bypass can be increased due to improved raw water quality.

Alt#2 Direct Potable Reuse - PHWA, District Lead

DESCRIPTION	NOTES		COST
Eng Storage - 0.5 MG	Assume bifercated with 0.25 MG/per side, $2/gallon	$	1,000,000
Piping	2,000 feet of 8-inch, $20/in-ft (~125 gpm @ 24/7)	$	320,000
Pumps	3 pumps	$	150,000
Control valves and equipment	placeholder	$	200,000
Monitoring Equipment	placeholder	$	200,000
Electrical and Instrumentation	10%	$	187,000
	Subtotal	$	2,057,000
	Contingency (50%)	$	1,028,500
	Construction Subtotal	$	3,085,500
	SPECIAL STUDIES FOR DDW - PLACEHOLDER	***$***	***750,000***
	Plan and Env. (5%)	$	154,275
	Design (10%)	$	308,550
	Construction Management (5%)	$	154,275
	Engineering Services During Construction (5%)	$	154,275
	Total Project Cost	**$**	**4,610,000**
	Cost of PHWA Water for 600 AFY	$	1,140,000
	Cost of New Blended Supply for 600 AFY	$	720,000
	20 Year O&M Savings 600 AFY	**$**	**8,400,000**

NOTES:

Increased influent water quality may increase bypass and decrease costs

Cost of PHWA Water - assume $1,400/AF average cost + $500/AF avg for imported or GW overdraft penalty

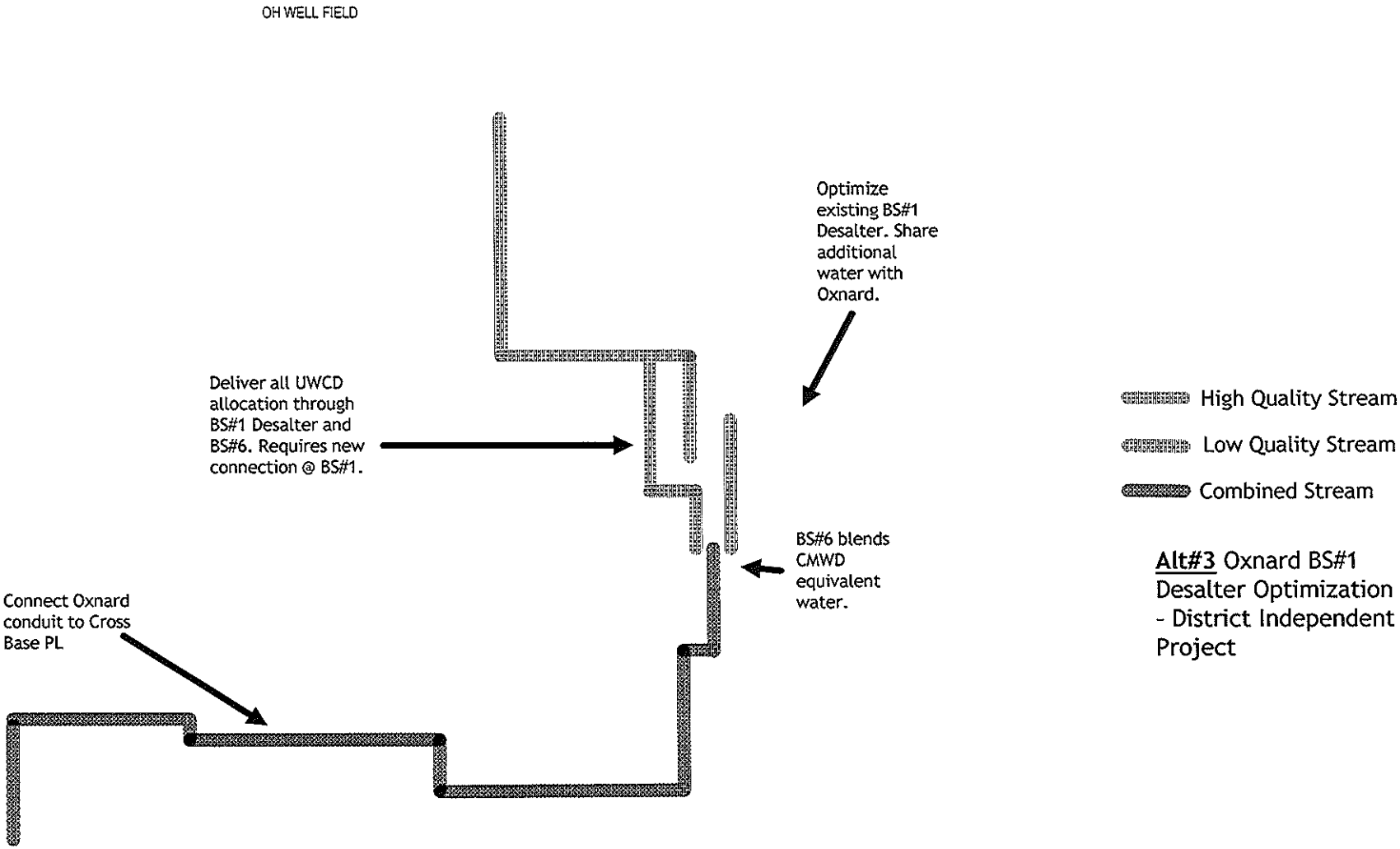
600 AFY demand is presumed to be worst case; currently 500 AFY demand

New Water Costs - 400 AF at $1400 and 200 AF at $500/AF Oxnard fee +$300/AF treatment

200 AFY equates to 0.18 MGD

Alt#3 Oxnard BS#1 Desalter Optimization – District Independent Project

- The District will pay for the addition of a third stage to the City of Oxnard's BS#1 Desalter.
  - The 2.5 MGD skid will produce an additional 140 AFY with the third stage.
  - Two of the three units will be upgraded for a total additional capacity of 240 AFY.
- The City will use BS#6 to produce a CMWD equivalent water and deliver to the District via the existing Oxnard Conduit, which is currently used to deliver CMWD supply to PHWA's BWRDF.
- A new pipeline will be constructed to deliver this CMWD equivalent water from the Oxnard Conduit to the Cross Base Pipeline.


OH WELL FIELD
Optimize existing BS#1 Desalter. Share additional water with Oxnard.
Deliver all UWCD allocation through BS#1 Desalter and BS#6. Requires new connection @ BS#1.
BS#6 blends CMWD equivalent water.
Connect Oxnard conduit to Cross Base PL
High Quality Stream
Low Quality Stream
Combined Stream
Alt#3 Oxnard BS#1 Desalter Optimization - District Independent Project

Alt#3 Oxnard BS#1 Desalter Optimization – District Independent Project

DESCRIPTION	NOTES		COST
Add 3rd Stage to BS#1	Assume two units for 140 AFY each (split new water with Oxnard)	$	2,000,000
UWCD inlet modification at BS#1	placeholder	$	400,000
New Pump Station @ BS6	placeholder	$	400,000
Pipeline from Cross Base to BS#5	*21,000 feet at 12-inch, $20/in-ft*	$	*5,040,000*
Electrical and Instrumentation	10%	$	784,000
	Subtotal	$	8,624,000
	Contingency (30%)	$	*2,587,200*
	Construction Subtotal	$	11,211,200
	Plan and Env. (5%)	$	560,560
	Design (10%)	$	1,121,120
	Construction Management (5%)	$	560,560
	Engineering Services During Construction (5%)	$	560,560
	Total Project Cost	**$**	**14,010,000**
	Cost of PHWA Water for 600 AFY	$	1,140,000
	Cost of New Blended Supply for 600 AFY	$	240,000
	20 Year O&M Savings 600 AFY	**$**	**18,000,000**

NOTES:

New Water Supply Cost - 400 AFY UWCD@ $400 and 200 AFY CMWD Equivalent @ $400 for treatment

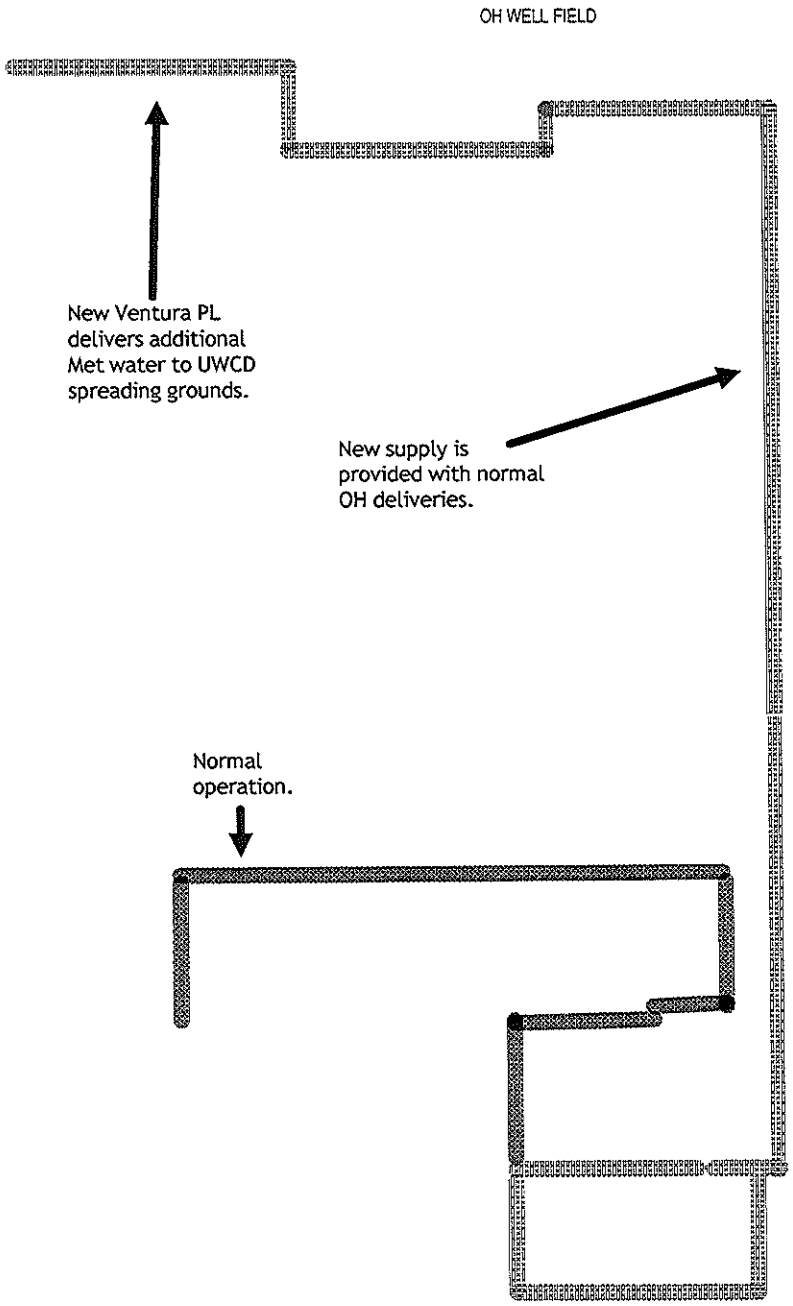
Cost of PHWA Water - assume $1,400/AF average cost + $500/AF avg for imported or GW overdraft penalty

600 AFY demand is presumed to be worst case; currently 500 AFY demand

Contingency lowered since capital costs can be more easily defined

Alt#4 Buy Ventura/Casitas SWP Allocation (deliver through El Rio Spreading Grounds and pump out)

- Ventura is building a new connection to CMWD so that existing MWD allocation can be delivered to Ventura.
- The District will participate in the construction of this pipeline and pay for imported water to be delivered to UWCD's forebay for spreading and storage.
- UWCD will store the water, pump and deliver to PHWA via the OH pipeline.



High Quality Stream

Low Quality Stream

Combined Stream

Alt#4 Buy
Ventura/Casitas
SWP Allocation

Alt#4 Buy Ventura/Casitas SWP Allocation

DESCRIPTION	NOTES		COST
Capital Participation	Placeholder	$	500,000
	Subtotal	$	500,000
	Contingency (50%)	$	250,000
	Construction Subtotal	$	750,000
	Plan and Env. (5%)	$	37,500
	Design (10%)	$	75,000
	Construction Management (5%)	$	37,500
	Engineering Services During Construction (5%)	$	37,500
	Total Project Cost	**$**	**940,000**
	Cost of PHWA Water for 600 AFY	$	1,140,000
	Cost of New Blended Supply for 600 AFY	$	1,080,000
	20 Year O&M Savings 600 AFY	**$**	**1,200,000**

NOTES:

Cost of PHWA Water - assume $1,400/AF average cost + $500/AF avg for imported or GW overdraft penalty

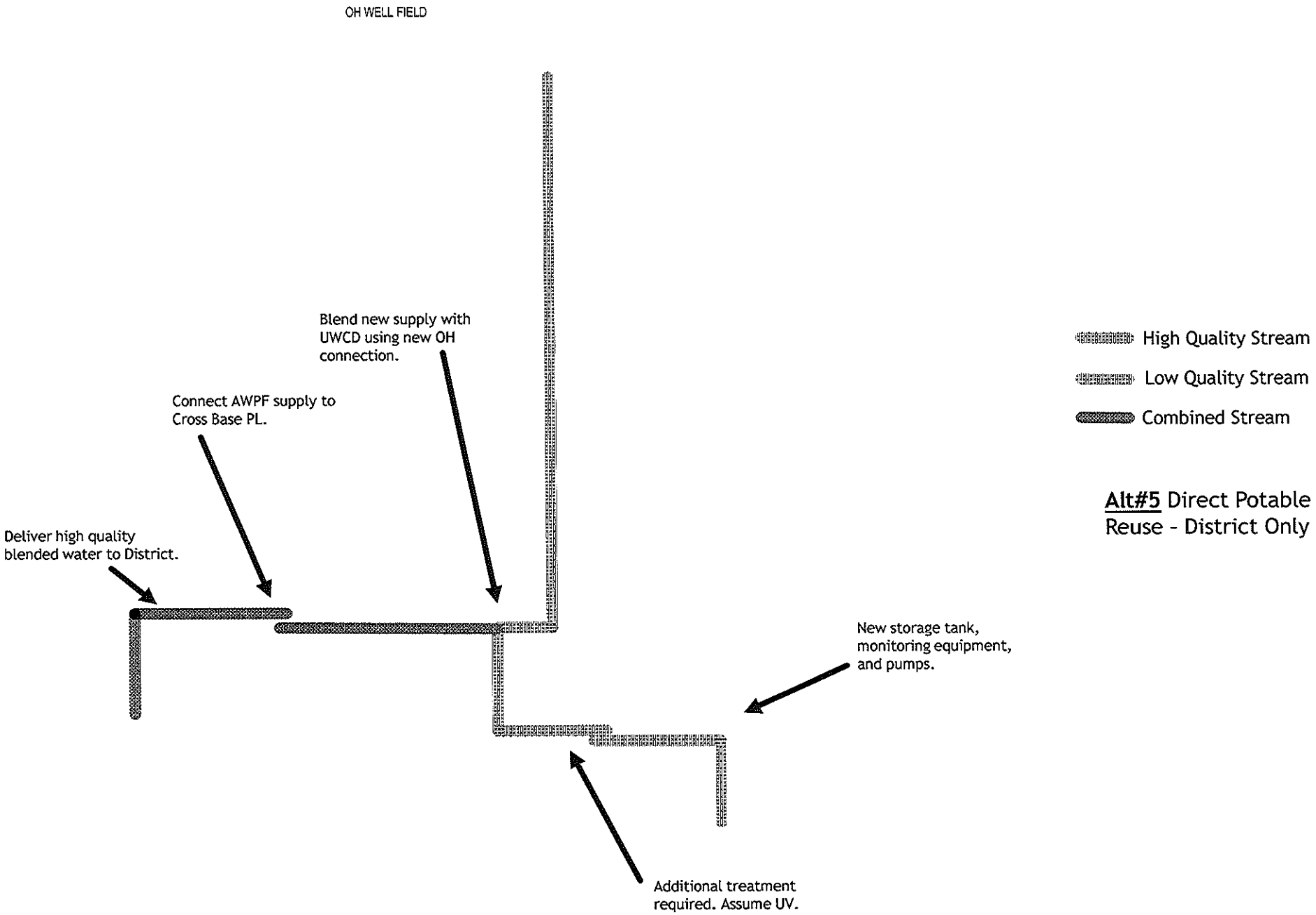
600 AFY demand is presumed to be worst case; currently 500 AFY demand

Blended Water Costs - assume 400 AFY at $1,400 (PHWA costs) and 200 AFY at $2,600 (New Water)

New Water Costs - $1,200 imported water costs + $1,400 PHWA Costs

Alt#5 Direct Potable Reuse - District Only

- A new 0.25 MG tank would receive advanced treated recycled water from the Oxnard AWPF.
  - The water would stay in the tank for 24 hours and then be tested.
  - Once quality is confirmed, it would be pumped into the influent of the PHWA BWRDF.
  - Additional treatment will be required.
- A new pipeline would be required to connect the new source and the Cross Base Pipeline.
- No current regulation exists for permitting although recent reports indicate 5 years based on recently released confirmation of technical feasibility.


OH WELL FIELD
Blend new supply with UWCD using new OH connection.
Connect AWPF supply to Cross Base PL.
Deliver high quality blended water to District.
New storage tank, monitoring equipment, and pumps.
Additional treatment required. Assume UV.
High Quality Stream
Low Quality Stream
Combined Stream
Alt#5 Direct Potable Reuse - District Only

Alt#5 Direct Potable Reuse – District Only

DESCRIPTION	NOTES		COST
Eng Storage - 0.25 MG	$2/gallon	$	500,000
Additional Treatment	TBD - assume UV	$	250,000
Pipeline from Cross Base to AWPF	21,000 feet at 12-inch, $20/in-ft	$	5,040,000
UWCD Blending and PS	connect to OH	$	400,000
Control valves and equipment	placeholder	$	200,000
Monitoring Equipment	placeholder	$	200,000
Electrical and Instrumentation	10% (not including pipeline)	$	155,000
	Subtotal	$	6,745,000
	Contingency (50%)	$	3,372,500
	Construction Subtotal	$	10,117,500
	SPECIAL STUDIES FOR DDW - PLACEHOLDER	***$***	***750,000***
	Plan and Env. (5%)	$	505,875
	Design (10%)	$	1,011,750
	Construction Management (5%)	$	505,875
	Engineering Services During Construction (5%)	$	505,875
	Total Project Cost	**$**	**13,400,000**
	Cost of PHWA Water for 600 AFY	$	1,140,000
	Cost of New Blended Supply for 600 AFY	$	265,000
	20 Year O&M Savings 600 AFY	**$**	**17,500,000**

NOTES:

Cost of PHWA Water - assume $1,400/AF average cost + $500/AF avg for imported or GW overdraft penalty

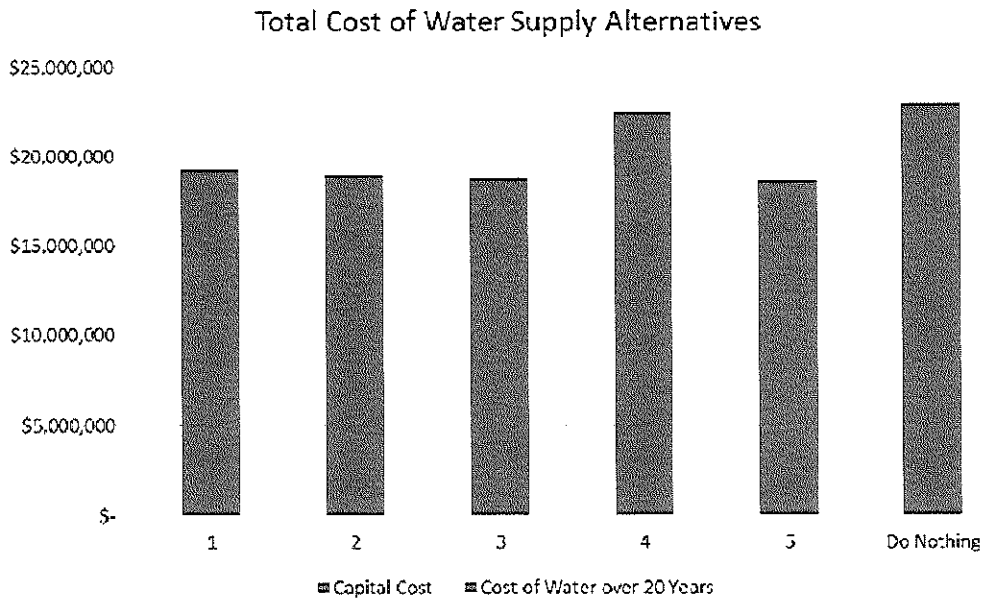
600 AFY demand is presumed to be worst case; currently 500 AFY demand

Blended Water Costs - 500 AFY at $400 (UWCD) and 100 AFY at $650 AFY product water

New Water Costs - $500 AF to purchase product water + $150 AF treatment and pumping

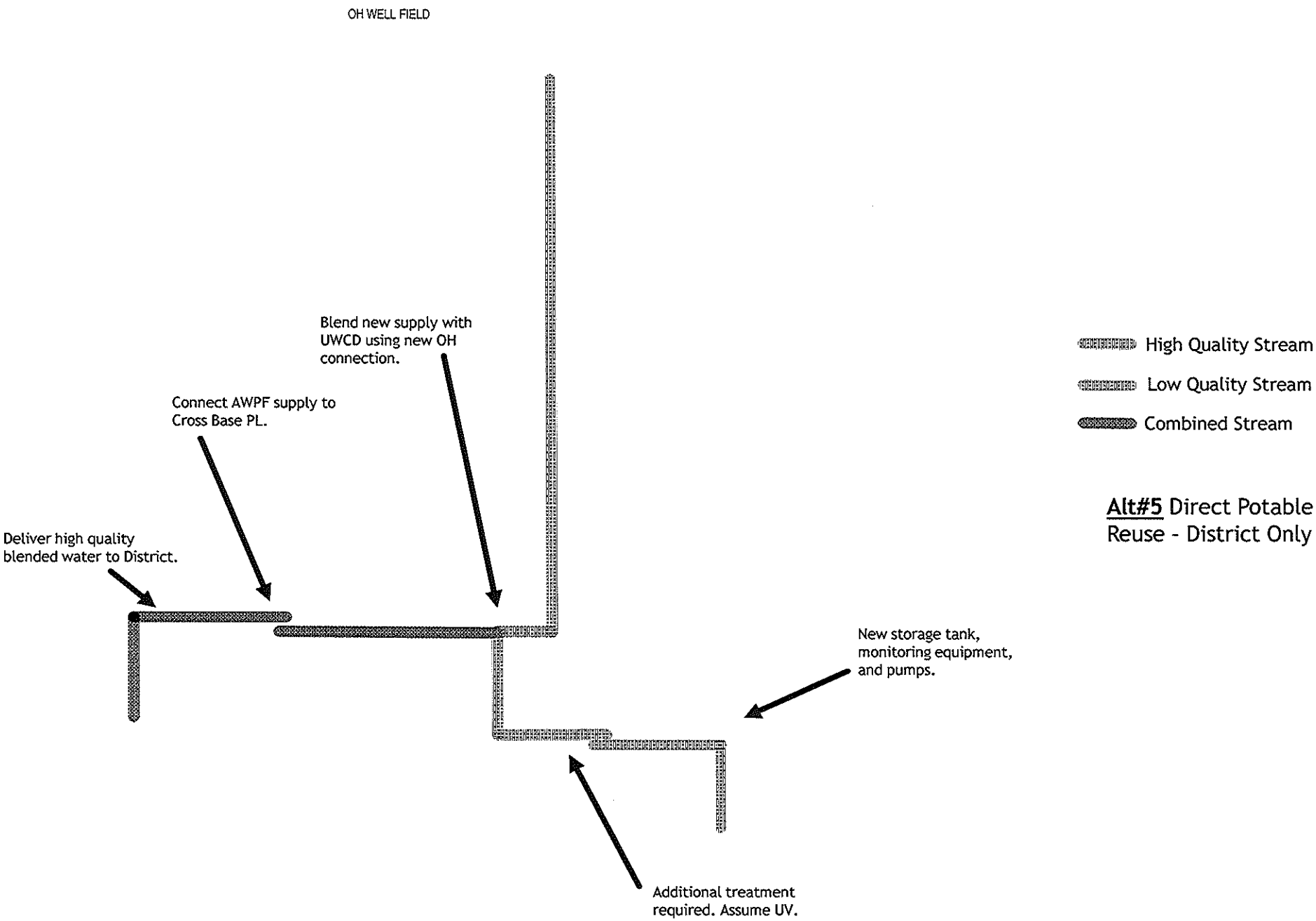
Costs Comparison

Alternative	Capital Cost	Cost of Water over 20 Years	Total Cost of Water	Independence	Water Quality
1	$ 11,070,000	$ 8,200,000	$ 19,270,000	Yes (#1)	Yes
2	$ 4,610,000	$ 14,400,000	$ 19,010,000	No	Maybe
3	$ 14,010,000	$ 4,800,000	$ 18,810,000	Yes (#3)	Maybe
4	$ 940,000	$ 21,600,000	$ 22,540,000	No	Maybe
5	$ 13,400,000	$ 5,300,000	$ 18,700,000	Yes (#2)	Yes
Do Nothing	$ *250,000*	$ 22,800,000	$ 23,050,000	No	Maybe



Next Steps

- Step 1 - Q4 2016
  - Distill the discussion on Goals and Values into evaluation criteria (assign weights) *COMPLETE* 9/16
  - Apply the evaluation criteria to the Potential Solutions *COMPLETE* 10/16
- Step 2 - Q1 2017
  - Prepare presentation on Top 5 and overview of process *COMPLETE* 10/16
- Step 3 - Q2 2017
  - Shortlist to Top 3 during Workshop #2 (11-10-16)
  - Board to provide direction to further evaluation of Top 3


OH WELL FIELD
Blend new supply with UWCD using new OH connection.
Connect AWPF supply to Cross Base PL.
Deliver high quality blended water to District.
New storage tank, monitoring equipment, and pumps.
Additional treatment required. Assume UV.
High Quality Stream
Low Quality Stream
Combined Stream
Alt#5 Direct Potable Reuse - District Only

Alt#5 Direct Potable Reuse – District Only

DESCRIPTION	NOTES		COST
Eng Storage - 0.25 MG	$2/gallon	$	500,000
Additional Treatment	TBD - assume UV	$	250,000
Pipeline from Cross Base to AWPF	21,000 feet at 12-inch, $20/in-ft	$	5,040,000
UWCD Blending and PS	connect to OH	$	400,000
Control valves and equipment	placeholder	$	200,000
Monitoring Equipment	placeholder	$	200,000
Electrical and Instrumentation	10% (not including pipeline)	$	155,000
	Subtotal	$	6,745,000
	Contingency (50%)	$	3,372,500
	Construction Subtotal	$	10,117,500
	SPECIAL STUDIES FOR DDW - PLACEHOLDER	***$***	***750,000***
	Plan and Env. (5%)	$	505,875
	Design (10%)	$	1,011,750
	Construction Management (5%)	$	505,875
	Engineering Services During Construction (5%)	$	505,875
	Total Project Cost	**$**	**13,400,000**
	Cost of PHWA Water for 600 AFY	$	1,140,000
	Cost of New Blended Supply for 600 AFY	$	265,000
	20 Year O&M Savings 600 AFY	**$**	**17,500,000**

NOTES:

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Blended Water Costs - 500 AFY at $400 (UWCD) and 100 AFY at $650 AFY product water

New Water Costs - $500 AF to purchase product water + $150 AF treatment and pumping

Costs Comparison

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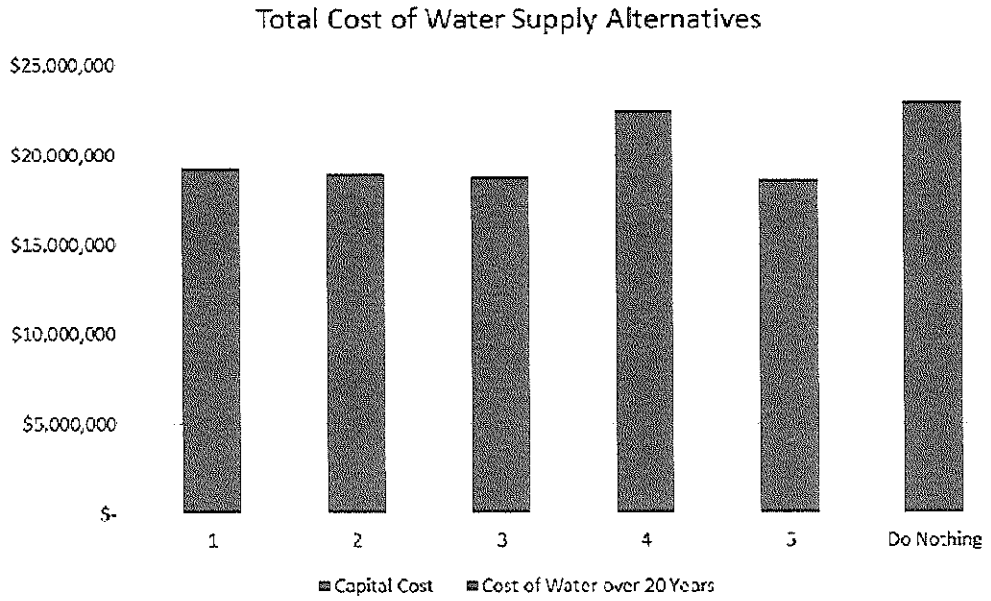
1	$ 11,070,000	$ 8,200,000	$ 19,270,000	Yes (#1)	Yes
2	$ 4,610,000	$ 14,400,000	$ 19,010,000	No	Maybe
3	$ 14,010,000	$ 4,800,000	$ 18,810,000	Yes (#3)	Maybe
4	$ 940,000	$ 21,600,000	$ 22,540,000	No	Maybe
5	$ 13,400,000	$ 5,300,000	$ 18,700,000	Yes (#2)	Yes
Do Nothing	*$ 250,000*	$ 22,800,000	$ 23,050,000	No	Maybe



Next Steps

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  - Distill the discussion on Goals and Values into evaluation criteria (assign weights) *COMPLETE* 9/16
  - Apply the evaluation criteria to the Potential Solutions *COMPLETE* 10/16
- Step 2 - Q1 2017
  - Prepare presentation on Top 5 and overview of process *COMPLETE* 10/16
- Step 3 - Q2 2017
  - Shortlist to Top 3 during Workshop #2 (11-10-16)
  - Board to provide direction to further evaluation of Top 3

Alt#5 Direct Potable Reuse - District Only

DESCRIPTION	NOTES		COST
Eng Storage - 0.25 MG	$2/gallon	$	500,000
Additional Treatment	TBD - assume UV	$	250,000
Pipeline from Cross Base to AWPF	21,000 feet at 12-inch, $20/in-ft	$	5,040,000
UWCD Blending and PS	connect to OH	$	400,000
Control valves and equipment	placeholder	$	200,000
Monitoring Equipment	placeholder	$	200,000
Electrical and Instrumentation	10% (not including pipeline)	$	155,000
	Subtotal	$	6,745,000
	Contingency (50%)	$	3,372,500
	Construction Subtotal	$	10,117,500
	SPECIAL STUDIES FOR DDW - PLACEHOLDER	***$***	***750,000***
	Plan and Env. (5%)	$	505,875
	Design (10%)	$	1,011,750
	Construction Management (5%)	$	505,875
	Engineering Services During Construction (5%)	$	505,875
	Total Project Cost	**$**	**13,400,000**
	Cost of PHWA Water for 600 AFY	$	1,140,000
	Cost of New Blended Supply for 600 AFY	$	265,000
	20 Year O&M Savings 600 AFY	**$**	**17,500,000**

NOTES:

Cost of PHWA Water - assume $1,400/AF average cost + $500/AF avg for imported or GW overdraft penalty

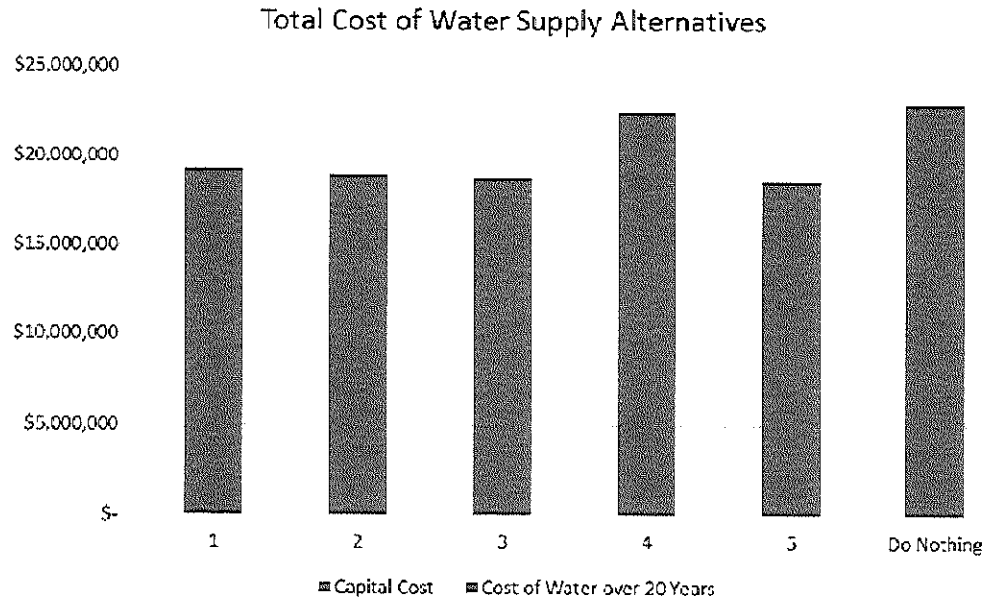
600 AFY demand is presumed to be worst case; currently 500 AFY demand

Blended Water Costs - 500 AFY at $400 (UWCD) and 100 AFY at $650 AFY product water

New Water Costs - $500 AF to purchase product water + $150 AF treatment and pumping

Costs Comparison

Alternative	Capital Cost	Cost of Water over 20 Years	Total Cost of Water	Independence	Water Quality
1	$ 11,070,000	$ 8,200,000	$ 19,270,000	Yes (#1)	Yes
2	$ 4,610,000	$ 14,400,000	$ 19,010,000	No	Maybe
3	$ 14,010,000	$ 4,800,000	$ 18,810,000	Yes (#3)	Maybe
4	$ 940,000	$ 21,600,000	$ 22,540,000	No	Maybe
5	$ 13,400,000	$ 5,300,000	$ 18,700,000	Yes (#2)	Yes
Do Nothing	*$ 250,000*	$ 22,800,000	$ 23,050,000	No	Maybe



Next Steps

- Step 1 - Q4 2016
  - Distill the discussion on Goals and Values into evaluation criteria (assign weights) *COMPLETE* 9/16
  - Apply the evaluation criteria to the Potential Solutions *COMPLETE* 10/16
- Step 2 - Q1 2017
  - Prepare presentation on Top 5 and overview of process *COMPLETE* 10/16
- Step 3 - Q2 2017
  - Shortlist to Top 3 during Workshop #2 (11-10-16)
  - Board to provide direction to further evaluation of Top 3

MINUTES OF THE

CHANNEL ISLANDS BEACH COMMUNITY SERVICES DISTRICT

SPECIAL BOARD MEETING, December 7, 2016

A. CALL TO ORDER, ROLL CALL, AND PLEDGE OF ALLEGIANCE:

President Marcus called the meeting to order at 10:10 AM and led everyone in attendance in the Pledge of Allegiance. In attendance, Director Moore, Director Estomo, Director Spiegel, General Counsel, John Mathews, General Manager, Jared Bouchard.

Vice President Koesterer was absent.

B. PUBLIC COMMENTS:

Bob Nast said he attended a meeting regarding water desalination and found it interesting.

C. CONSENT CALENDAR:

Director Moore moved to approve the Consent Calendar as presented. Director Spiegel seconded the motion and the motion passed unanimously.

Marcus, Moore, Estomo and Spiegel 4 - Yes 0 - No

D. ACTION CALENDAR

1. Board Study Session of November 10, 2016 report from District Engineer, KEH Engineering on ongoing District Water Strategic Planning development.

General Manager Bouchard told the Board that this is a follow up workshop to the November 10, 2016 Board meeting. The Board was given a presentation from the KEH Engineering representatives regarding the future of water for the District taking in to consideration the contractual obligations with surrounding cities.

One challenge is the land that the PHWA sits on is owned by the City of Oxnard and only leased to the City of Port Hueneme. That lease has expired and the new lease has a cost of $188,000.00 a year. Currently the PHWA pays $1.00. Oxnard is currently offering a short term lease. Currently the PHWA isn't operating due to higher levels of Iron and Manganese from deep wells.

There was a lengthy discussion that included ground water supply, state water, OH pipeline, desalination, the future of the PHWA and understanding the overall ancillary issues that will affect any discussion regarding future water supplies. The Board also discussed financing possibilities such as grants and bonds for future projects. The General Manager said the biggest hurdle the District will face will be approval from the State Water Board.

Please see presentation.

The Board took no action.

2. Strategic Planning discussion specific to the role of the District in non core functions related to community outreach and ancillary issues that may affect the beach.

This item was not discussed. The Board felt the Item had been discussed during Item D-1.

3. Consider Resolution 16-07

The General Manager read Resolution 16-07: A RESOLUTION OF THE BOARD OF DIRECTORS OF CHANNEL ISLANDS BEACH COMMUNITY SERVICES DISTRICT RECOGNIZING THE OUTSTANDING PUBLIC SERVICE OF KEITH MOORE TO THE CHANNEL ISLANDS BEACH COMMUNITY

Director Spiegel moved to approve Resolution 16-07. Director Estomo seconded the motion and the motion passed unanimously.

Marcus, Estomo and Spiegel 3 - Yes 0 - No Director Moore - abstain

General Manager then read Resolution 16-07 in its entirety and thanked Director Moore for the years of service to the Community. He presented Director Moore with a plaque containing Resolution 16-07.

The Board Meeting adjourned at 1:50 PM.

_____

Marcia Marcus, Board President

CHANNEL ISLANDS BEACH COMMUNITY SERVICES DISTRICT

Water Supply Alternatives Analysis

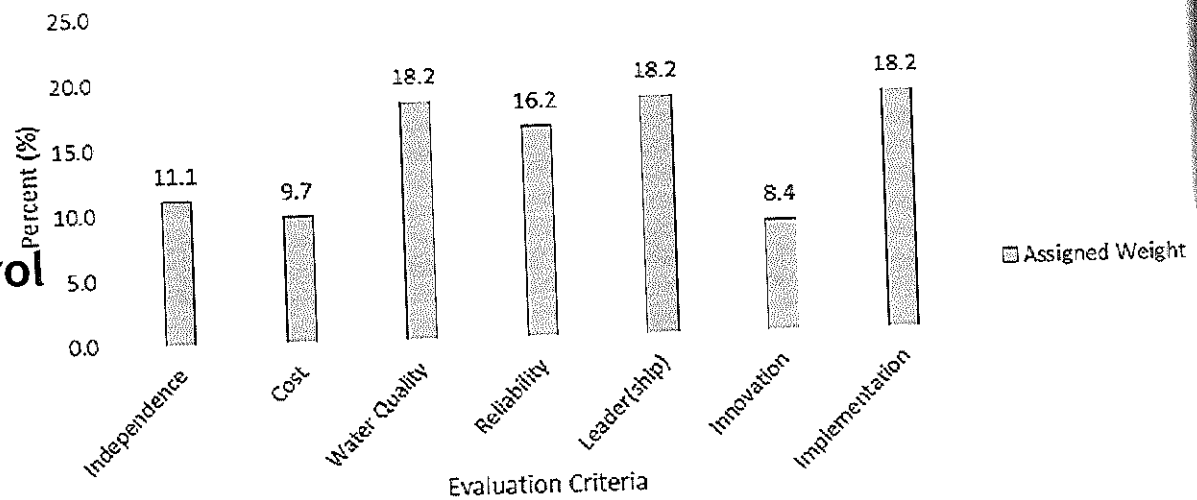
November 2016

What Has Been Done

- Water Workshop with Board Members (9-20-16)
  - Presented system background, issues, etc.
  - Administered 50+ question survey and inquired the importance of 7 evaluation criteria
  - Board meeting water presentation and board survey results incorporated into Alternatives Analysis Memo
- Developed Alternative Analysis and Ranking System
  - For each 7 criteria, determine weight (% of final alternative score based on surveyed values)
- Developed List of 29 Alternatives
- Analyzed Alternatives (10-4-16)
  - Assigned scores to alternatives in each evaluation criteria category
- Summed Scores and Ranked Alternatives
  - Memo "Water Supply Alternatives Analysis" dated 11-4-16
  - Developed high level cost estimates for top-ranked alternatives

Evaluation Criteria

1. Water Quality
2. Leader
3. Implementation
4. Reliability
5. Independence/Control
6. Cost
7. Innovation



Alternatives Analysis

Alt #	Alternatives
1	Seawater Desalination, Independent Project
2	Seawater Desalination, Regional Solution w/ District Lead
3	Seawater Desalination, Regional Solution w/ District Buy-in
4	Brackish Water Desalination at District Yard
5	Brackish Water Desal. at Oxnard BS#1 Desalter, increase recovery on existing units - independent
6	Brackish Water Desal. at Oxnard BS#1 Desalter, increase recovery on existing units w/ PHWA partne
7	Brackish Water Desalination at Oxnard BS#1, relocate PHWA equipment
8	Brackish Water Desalination at Oxnard BS#1, expand system (as PHWA)
9	Join with the City of Oxnard
10	100% CMWD
11	Blend CMWD/UWCD @ Cross Base Pipeline, District only
12	Blend CMWD/UWCD @ Cross Base Pipeline, all PHWA
13	Recycled water for District Irrigation, reduce demand
14	Recycled water for Port Hueneme or Navy Base, transfer supply to District
15	Water Conservation program
16	DPR - join Ventura
17	DPR - join with Oxnard
18	DPR - District only
19	DPR - PHWA
20	DPR - PHWA, District lead
21	Innovative Technology/Approach - create water supply elsewhere, and transfer to District
22	Innovative Technology/Approach - Blue Dolphin
23	Innovative Technology/Approach - Navy Seawater Desal
24	Innovative Technology/Alternative - Zero Liquid Discharge @ PHWA
25	District optimizing PHWA at own cost
26	PHWA Optimization with Current Structure
27	Buy Ventura/Casitas SWP Allocation, deliver thru El Rio Spreading Grounds & pump out
28	Energy Production and Desal Combo System
29	Staying with PHWA

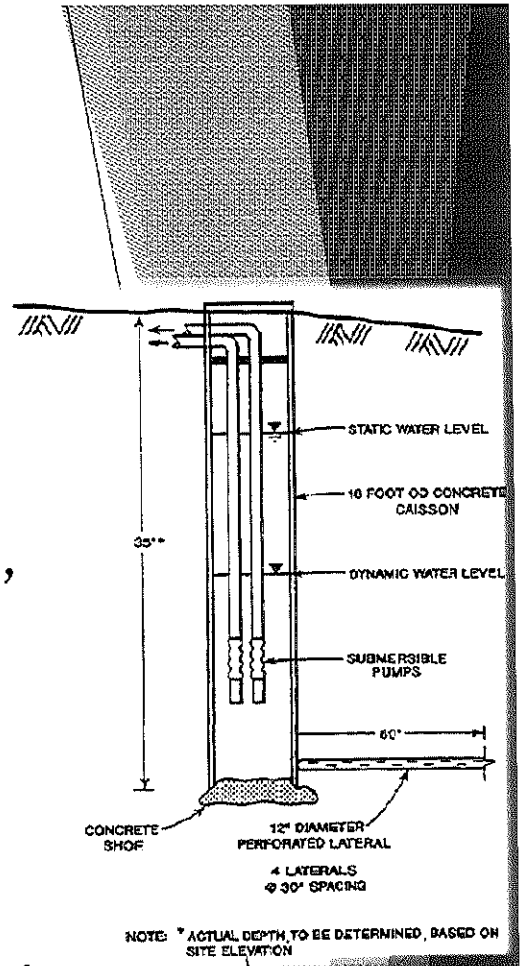
TOP 5

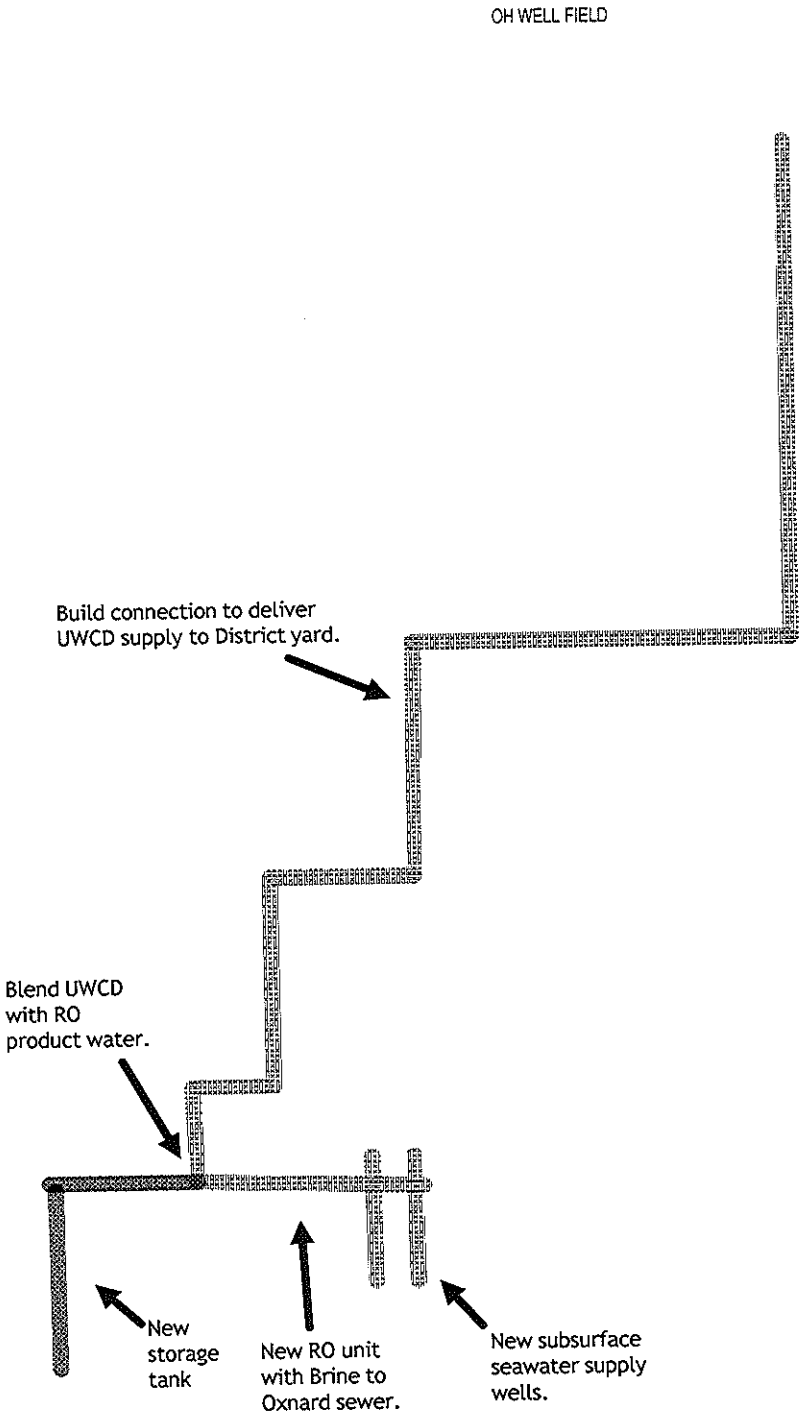
1. Brackish Water Desalination at District Yard
2. Direct Potable Reuse - PHWA, District Lead
3. Brackish Water Desalination at Oxnard BS#1 Desalter, increase recovery on existing units - District Independent Project
4. Buy Ventura/Casitas SWP Allocation, deliver through El Rio Spreading Grounds and pump out
5. Direct Potable Reuse - District Only

OH WELL FIELD

Alt#1 Brackish Water Desalination at District Yard

- Seawater will be drawn through subsurface wells. (Feasibility study for Saline GW Intake/Disposal System, Dec. 1992.)
- A new RO unit at the District yard will treat the water and store it in a new tank.
- A new pipeline will connect the existing OH pipeline to the District's Cross Base pipeline.
- The RO water will be blended with the groundwater and distributed to the District customers.





High Quality Stream

Low Quality Stream

Combined Stream

Alt#1 Brackish Water Desalination at District Yard

Alt#1 Brackish Water Desalination at District Yard

DESCRIPTION	NOTES		COST
200,000 gallon storage	$2/gallon	$	400,000
Collector Wells	2 wells at 0.3 MGD, piping, property, controls	$	2,500,000
RO Skid	two, packaged 0.2 MGD systems	$	900,000
Chemical Systems	placeholder	$	200,000
Structures	placeholder	$	200,000
OH Pipeline to Cross Base	4,000 feet at 12-inch, $20/in-ft	$	960,000
Electrical and Instrumentation	10%	$	516,000
	Subtotal	$	5,676,000
	Contingency (50%)	$	2,838,000
	Construction Subtotal	$	8,514,000
	Plan and Env. (10%)	$	*851,400*
	Design (10%)	$	851,400
	Construction Management (5%)	$	425,700
	Engineering Services During Construction (5%)	$	425,700
	Total Project Cost	**$**	**11,070,000**
	Cost of PHWA Water for 600 AFY	$	1,140,000
	Cost of New Blended Supply for 600 AFY	$	410,000
	20 Year O&M Savings 600 AFY	**$**	**14,600,000**

NOTES:

Wells are sized for 50% recovery RO process

Ranney Well Cost - http://www.swrcb.ca.gov/rwqcb9/press_room/announcements/carlsbad_desalination/updates_3_13_09/item_12_a.pdf

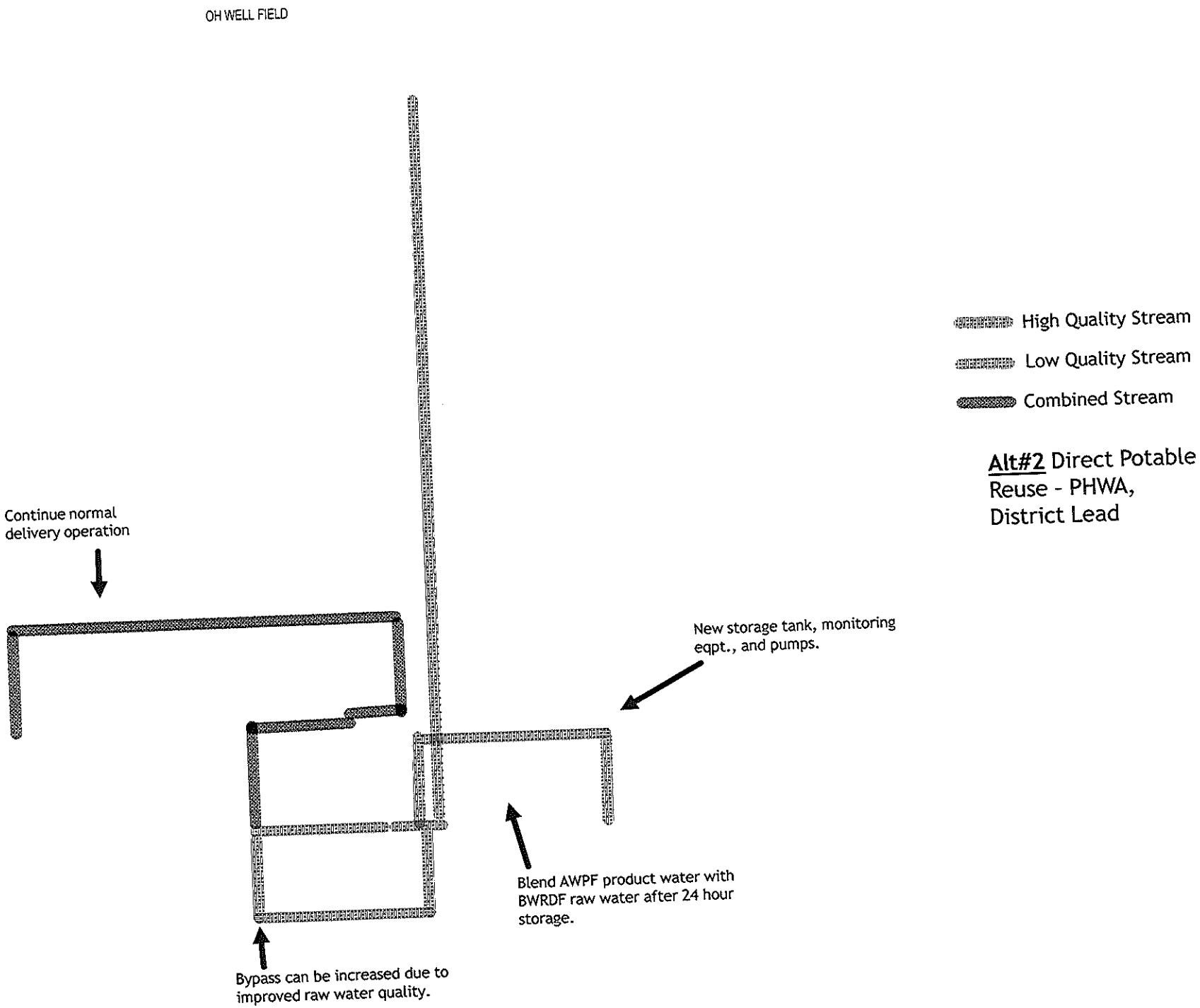
Cost of New Water - No pump fee, $200/AF brine fees, $750AF to treat, $300AF new operator = $1250/AF

Blended Water Cost - 400 AFY @ $400 UWCD and 200 AFY @ $1250/AF New Water Cost

Cost of PHWA Water - assume $1,400/AF average cost + $500/AF avg for imported or GW overdraft penalty

Alt#2 Direct Potable Reuse - PHWA, District Lead

- A new 0.5 MG tank would receive advanced treated recycled water from the Oxnard AWPF.
  - The water would stay in the tank for 24 hours and then be tested.
  - Once quality is confirmed, it would be pumped into the influent of the PHWA BWRDF.
- The BWRDF would filter the blended water, as it currently does with influent UWCD.
  - The AWPF product water would increase the influent water quality and increase the amount of water that can bypass this system.
- No current regulation exists for permitting, although recent reports indicate 5 years based on recently released confirmation of technical feasibility.
- May require an air gap.


OH WELL FIELD
High Quality Stream
Low Quality Stream
Combined Stream
Alt#2 Direct Potable Reuse - PHWA, District Lead
Continue normal delivery operation
New storage tank, monitoring eqpt., and pumps.
Blend AWPF product water with BWRDF raw water after 24 hour storage.
Bypass can be increased due to improved raw water quality.

Alt#2 Direct Potable Reuse - PHWA, District Lead

DESCRIPTION	NOTES		COST
Eng Storage - 0.5 MG	Assume bifercated with 0.25 MG/per side, $2/gallon	$	1,000,000
Piping	2,000 feet of 8-inch, $20/in-ft (~125 gpm @ 24/7)	$	320,000
Pumps	3 pumps	$	150,000
Control valves and equipment	placeholder	$	200,000
Monitoring Equipment	placeholder	$	200,000
Electrical and Instrumentation	10%	$	187,000
	Subtotal	$	2,057,000
	Contingency (50%)	$	1,028,500
	Construction Subtotal	$	3,085,500
	SPECIAL STUDIES FOR DDW - PLACEHOLDER	***$***	***750,000***
	Plan and Env. (5%)	$	154,275
	Design (10%)	$	308,550
	Construction Management (5%)	$	154,275
	Engineering Services During Construction (5%)	$	154,275
	Total Project Cost	**$**	**4,610,000**
	Cost of PHWA Water for 600 AFY	$	1,140,000
	Cost of New Blended Supply for 600 AFY	$	720,000
	20 Year O&M Savings 600 AFY	**$**	**8,400,000**

NOTES:

Increased influent water quality may increase bypass and decrease costs

Cost of PHWA Water - assume $1,400/AF average cost + $500/AF avg for imported or GW overdraft penalty

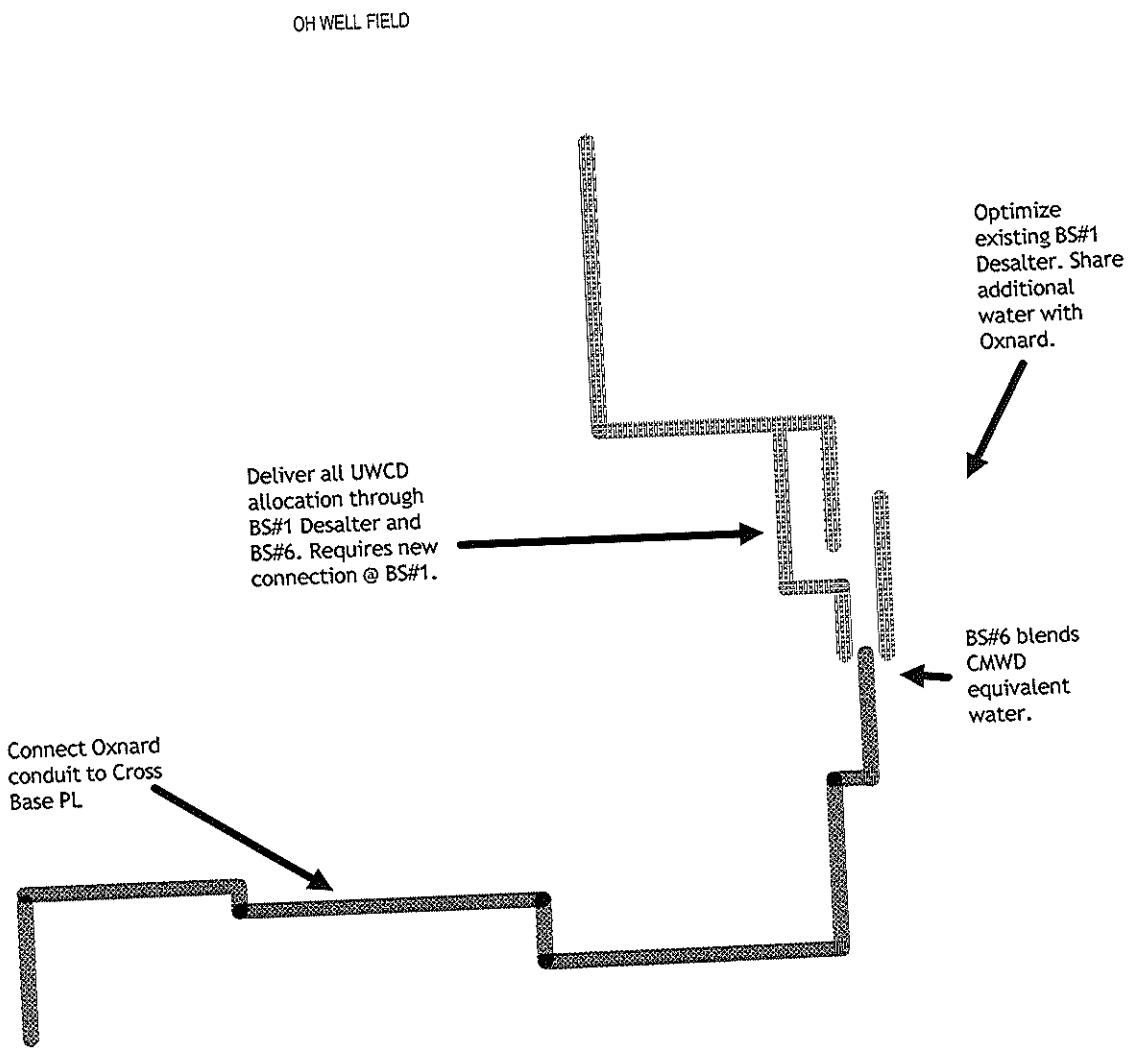
600 AFY demand is presumed to be worst case; currently 500 AFY demand

New Water Costs - 400 AF at $1400 and 200 AF at $500/AF Oxnard fee +$300/AF treatment

200 AFY equates to 0.18 MGD

Alt#3 Oxnard BS#1 Desalter Optimization - District Independent Project

- The District will pay for the addition of a third stage to the City of Oxnard's BS#1 Desalter.
  - The 2.5 MGD skid will produce an additional 140 AFY with the third stage.
  - Two of the three units will be upgraded for a total additional capacity of 240 AFY.
- The City will use BS#6 to produce a CMWD equivalent water and deliver to the District via the existing Oxnard Conduit, which is currently used to deliver CMWD supply to PHWA's BWRDF.
- A new pipeline will be constructed to deliver this CMWD equivalent water from the Oxnard Conduit to the Cross Base Pipeline.



High Quality Stream

Low Quality Stream

Combined Stream

Alt#3 Oxnard BS#1 Desalter Optimization - District Independent Project

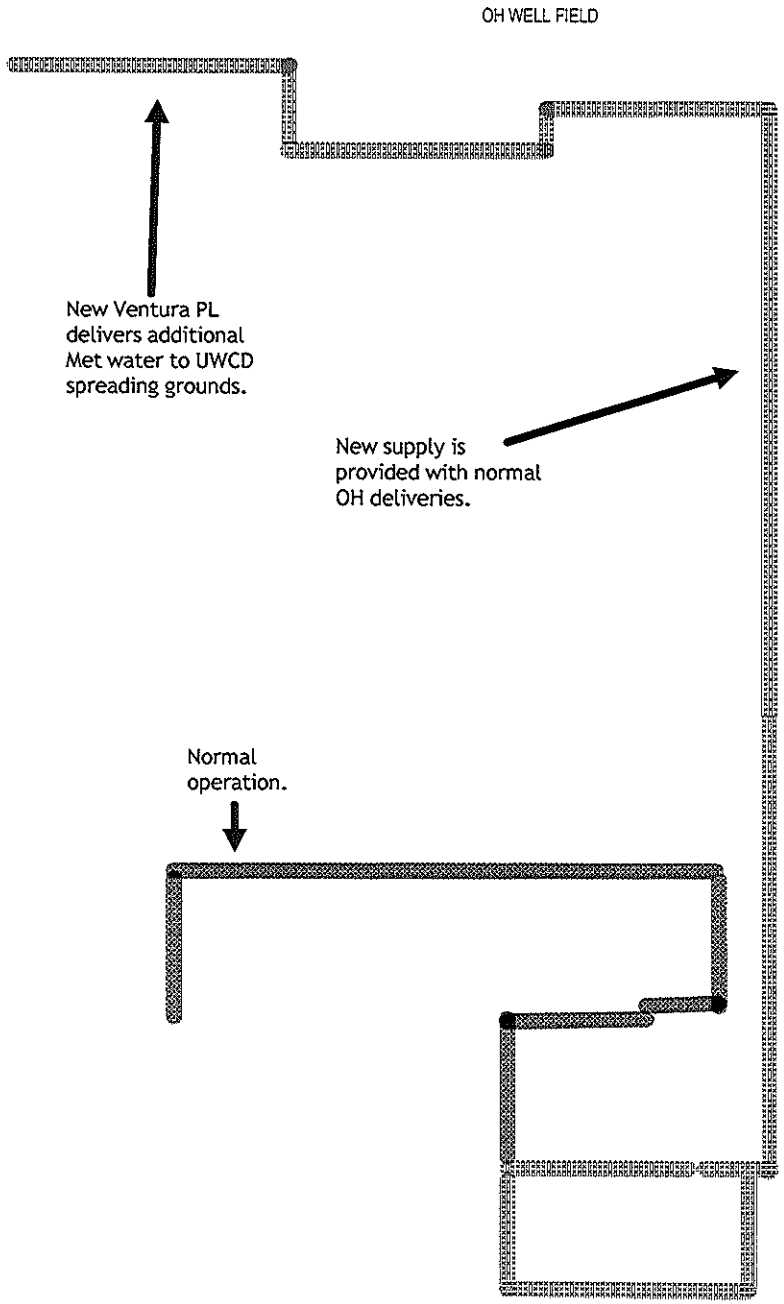
Alt#3 Oxnard BS#1 Desalter Optimization - District Independent Project

DESCRIPTION	NOTES		COST
Add 3rd Stage to BS#1	Assume two units for 140 AFY each (split new water with Oxnard)	$	2,000,000
UWCD inlet modification at BS#1	placeholder	$	400,000
New Pump Station @ BS6	placeholder	$	400,000
Pipeline from Cross Base to BS#5	*21,000 feet at 12-inch, $20/in-ft*	$	*5,040,000*
Electrical and Instrumentation	10%	$	784,000
	Subtotal	$	8,624,000
	Contingency (30%)	$	*2,587,200*
	Construction Subtotal	$	11,211,200
	Plan and Env. (5%)	$	560,560
	Design (10%)	$	1,121,120
	Construction Management (5%)	$	560,560
	Engineering Services During Construction (5%)	$	560,560
	Total Project Cost	**$**	**14,010,000**
	Cost of PHWA Water for 600 AFY	$	1,140,000
	Cost of New Blended Supply for 600 AFY	$	240,000
	20 Year O&M Savings 600 AFY	**$**	**18,000,000**

NOTES:
New Water Supply Cost - 400 AFY UWCD@ $400 and 200 AFY CMWD Equivalent @ $400 for treatment
Cost of PHWA Water - assume $1,400/AF average cost + $500/AF avg for imported or GW overdraft penalty
600 AFY demand is presumed to be worst case; currently 500 AFY demand
Contingency lowered since capital costs can be more easily defined

Alt#4 Buy Ventura/Casitas SWP Allocation (deliver through El Rio Spreading Grounds and pump out)

- Ventura is building a new connection to CMWD so that existing MWD allocation can be delivered to Ventura.
- The District will participate in the construction of this pipeline and pay for imported water to be delivered to UWCD's forebay for spreading and storage.
- UWCD will store the water, pump and deliver to PHWA via the OH pipeline.



High Quality Stream

Low Quality Stream

Combined Stream

Alt#4 Buy
Ventura/Casitas
SWP Allocation

Alt#4 Buy Ventura/Casitas SWP Allocation

DESCRIPTION	NOTES		COST
Capital Participation	Placeholder	$	500,000
	Subtotal	$	500,000
	Contingency (50%)	$	250,000
	Construction Subtotal	$	750,000
	Plan and Env. (5%)	$	37,500
	Design (10%)	$	75,000
	Construction Management (5%)	$	37,500
	Engineering Services During Construction (5%)	$	37,500
	Total Project Cost	**$**	**940,000**
	Cost of PHWA Water for 600 AFY	$	1,140,000
	Cost of New Blended Supply for 600 AFY	$	1,080,000
	20 Year O&M Savings 600 AFY	**$**	**1,200,000**

NOTES:

Cost of PHWA Water - assume $1,400/AF average cost + $500/AF avg for imported or GW overdraft penalty

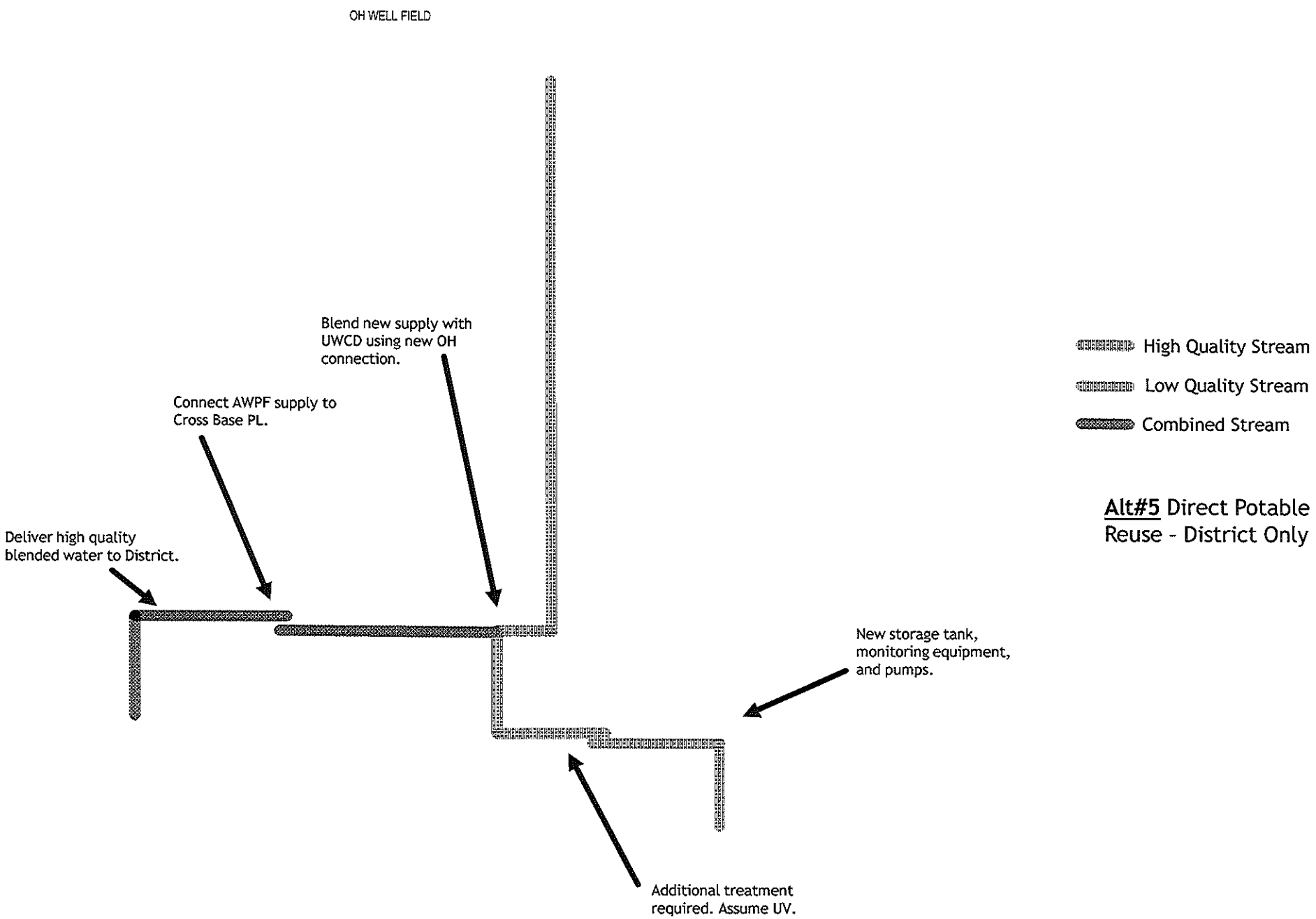
600 AFY demand is presumed to be worst case; currently 500 AFY demand

Blended Water Costs - assume 400 AFY at $1,400 (PHWA costs) and 200 AFY at $2,600 (New Water)

New Water Costs - $1,200 imported water costs + $1,400 PHWA Costs

Alt#5 Direct Potable Reuse - District Only

- A new 0.25 MG tank would receive advanced treated recycled water from the Oxnard AWPF.
  - The water would stay in the tank for 24 hours and then be tested.
  - Once quality is confirmed, it would be pumped into the influent of the PHWA BWRDF.
  - Additional treatment will be required.
- A new pipeline would be required to connect the new source and the Cross Base Pipeline.
- No current regulation exists for permitting although recent reports indicate 5 years based on recently released confirmation of technical feasibility.


OH WELL FIELD
Blend new supply with UWCD using new OH connection.
Connect AWPF supply to Cross Base PL.
Deliver high quality blended water to District.
New storage tank, monitoring equipment, and pumps.
Additional treatment required. Assume UV.
High Quality Stream
Low Quality Stream
Combined Stream
Alt#5 Direct Potable Reuse - District Only

Alt#5 Direct Potable Reuse - District Only

DESCRIPTION	NOTES		COST
Eng Storage - 0.25 MG	$2/gallon	$	500,000
Additional Treatment	TBD - assume UV	$	250,000
Pipeline from Cross Base to AWPF	21,000 feet at 12-inch, $20/in-ft	$	5,040,000
UWCD Blending and PS	connect to OH	$	400,000
Control valves and equipment	placeholder	$	200,000
Monitoring Equipment	placeholder	$	200,000
Electrical and Instrumentation	10% (not including pipeline)	$	155,000
	Subtotal	$	6,745,000
	Contingency (50%)	$	3,372,500
	Construction Subtotal	$	10,117,500
	SPECIAL STUDIES FOR DDW - PLACEHOLDER	***$***	***750,000***
	Plan and Env. (5%)	$	505,875
	Design (10%)	$	1,011,750
	Construction Management (5%)	$	505,875
	Engineering Services During Construction (5%)	$	505,875
	Total Project Cost	**$**	**13,400,000**
	Cost of PHWA Water for 600 AFY	$	1,140,000
	Cost of New Blended Supply for 600 AFY	$	265,000
	20 Year O&M Savings 600 AFY	**$**	**17,500,000**

NOTES:

Cost of PHWA Water - assume $1,400/AF average cost + $500/AF avg for imported or GW overdraft penalty

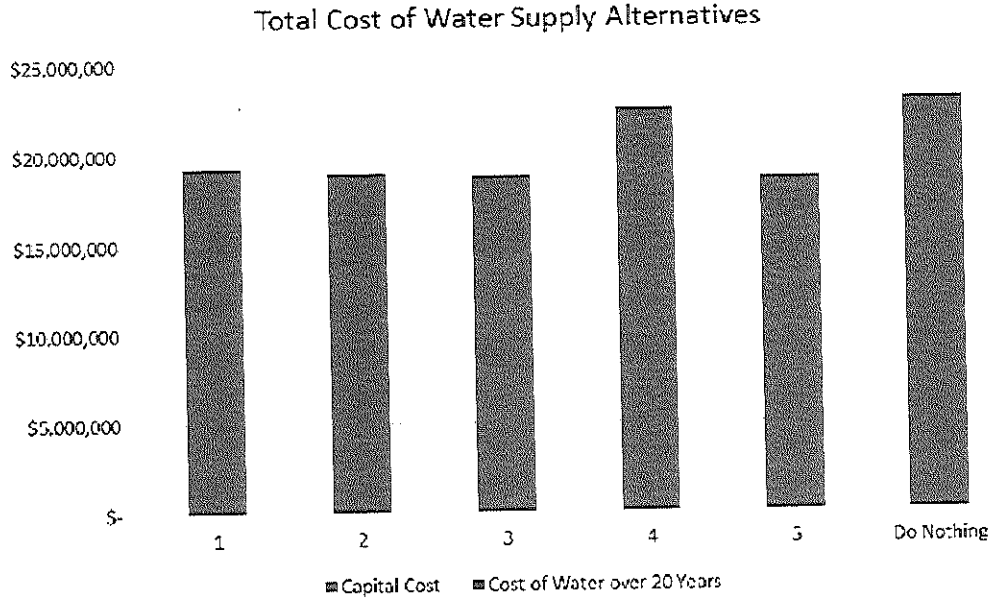
600 AFY demand is presumed to be worst case; currently 500 AFY demand

Blended Water Costs - 500 AFY at $400 (UWCD) and 100 AFY at $650 AFY product water

New Water Costs - $500 AF to purchase product water + $150 AF treatment and pumping

Costs Comparison

Alternative	Capital Cost	Cost of Water over 20 Years	Total Cost of Water	Independence	Water Quality
1	$ 11,070,000	$ 8,200,000	$ 19,270,000	Yes (#1)	Yes
2	$ 4,610,000	$ 14,400,000	$ 19,010,000	No	Maybe
3	$ 14,010,000	$ 4,800,000	$ 18,810,000	Yes (#3)	Maybe
4	$ 940,000	$ 21,600,000	$ 22,540,000	No	Maybe
5	$ 13,400,000	$ 5,300,000	$ 18,700,000	Yes (#2)	Yes
Do Nothing	$ *250,000*	$ 22,800,000	$ 23,050,000	No	Maybe



Next Steps

- Step 1 - Q4 2016
  - Distill the discussion on Goals and Values into evaluation criteria (assign weights) *COMPLETE* 9/16
  - Apply the evaluation criteria to the Potential Solutions *COMPLETE* 10/16
- Step 2 - Q1 2017
  - Prepare presentation on Top 5 and overview of process *COMPLETE* 10/16
- Step 3 - Q2 2017
  - Shortlist to Top 3 during Workshop #2 (11-10-16)
  - Board to provide direction to further evaluation of Top 3

MINUTES OF THE

CHANNEL ISLANDS BEACH COMMUNITY SERVICES DISTRICT

REGULAR BOARD MEETING, December 13, 2016

A. CALL TO ORDER, ROLL CALL, AND PLEDGE OF ALLEGIANCE:

President Marcus called the meeting to order at 7:00 PM and led everyone in attendance in the Pledge of Allegiance. In attendance, Vice President Koesterer, Director Spiegel, Director Estomo, Director Moore, General Counsel, John Mathews, General Manager, Jared Bouchard.

B. PUBLIC COMMENTS:

Bob Nast asked if everyone received a copy of his response to United Water requesting they conduct baseline water testing.

C. CONSENT CALENDAR:

Director Spiegel moved to approve the Consent Calendar with amendments to the minutes. Director Moore seconded the motion and the motion passed unanimously.

Marcus, Koesterer, Spiegel, Moore and Estomo 5 - Yes 0 - No

D. ACTION CALENDAR

1. Consider request for CPI based 1.78% increase in fees to District for contracted services (Solid Waste and Recycling) with EJ Harrison and Sons Inc. to go into effect on July 15, 2017.

General Manager Bouchard explained to the Board that this request is in agreement with the contract the District has with EJ Harrison to allow pass through increases. In agreement with section 9.2 of the agreement, EJ Harrison is requesting a 1.78% increase to go into effect July 15, 2017.

Director Moore moved to find that EJ Harrison has made the request for increase in accordance with Section 9.2 of the agreement and award a 1.78% CPI based increase in fees.. Director Spiegel seconded the motion and the motion passed unanimously.

Marcus, Koesterer, Spiegel, Moore and Estomo 5 - Yes 0 - No

2. District Annual Meeting and Holiday Schedule for calendar year 2017

Mr. Bouchard told the Board the District's Board meeting schedule has several months with 2 Board Meetings to accommodate budget workshops. He noted that there were two days in the Holiday Schedule that have the office closed and the employees using their vacation time for those days. Those days were Monday, July 3rd and Tuesday, December 26, 2017.

After a short discussion, Director Estomo moved to approve the 2017 Holiday Schedule and Board Meeting Dates. Vice President Koesterer seconded the motion and the motion passed unanimously.

Marcus, Koesterer, Spiegel, Moore and Estomo 5 - Yes 0 - No

3. Review of Draft Staff Reports for the December 19, 2016 Port Hueneme Water Agency Agenda Packet.

General Manager gave a short explanation of the Agenda items. The Board had a short discussion regarding the iron and manganese in the water. Item D was discussed and the decline in employees familiar with the PHWA.

4. Consider Resolution 16-08

General Manager Bouchard presented Director Estomo a plaque commemorating his years of service to the District. He read the Resolution 16-08 out loud and personally thanked him for his dedication to the residents of this community.

Vice President Koesterer moved to adopt Resolution 16-08 and Director Spiegel seconded the motion. The motion passed 4-0, with Director Estomo abstaining.

Marcus, Koesterer, Spiegel, and Moore - Yes (4) Director Estomo - Abstain (1)

E. INFORMATION CALENDAR:

1. Report from Board Members of any meeting or Conference where compensation from the District for Attendance was received.

NONE

F. BOARD MEMBER COMMENTS:

Director Moore gave a report on his work with Students from Oxnard High School District and the work on their Science Fair.

Director Estomo announced that before he came to the meeting he was informed that the Oxnard City Council was hearing comments from the Public regarding the Urban Village at Fisherman's Wharf.

President Marcus announced there was a hearing regarding the short term rentals. She wished everyone a happy holiday.

G. GENERAL COUNSEL & GENERAL MANAGER COMMENTS:

General Counsel, John Mathews, wished everyone happy holidays and safe New Year. He thanked Director Estomo for his years of service on this Board.

General Manager Bouchard told the Board that long time employee, Jeff Spieler, is leaving the District for Texas. He said the Staff will miss him, but wish him well in achieving his dream.

Mr. Bouchard announced that part time rentals have been approved to exist in the beach community. The Supervisors will be drafting regulations for the rentals.

The GM wished everyone happy holidays and a Happy New Year. He asked Director Estomo and Director Moore to please stay involved. The knowledge and expertise they both have will be helpful in moving the District forward. He added they will both be missed.

H. CLOSED SESSIONS – NONE

The Board Meeting adjourned at 7:55 PM.

_____

Marcia Marcus, Board President

CHANNEL ISLANDS BEACH
COMMUNITY SERVICES DISTRICT

Board of Directors

MARCIA MARCUS, President
SUSIE KOESTERER, Vice President
KEITH MOORE, Director
R.V. "Jim" ESTOMO, Director
ELLEN SPIEGEL, Director

JARED BOUCHARD
General Manager

353 Santa Monica Drive • Channel Islands Beach, CA 93035-4473 • (805) 985-6021 • FAX (805) 985-7156
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Regular Board Meeting January 10, 2017

To: **Board of Directors**

From: **General Manager**

Subject: Elect Board Officers for calendar year 2017
Agenda Item D-1

As part of the Boards Annual Reorganization Meeting the Board appoints a new President and Vice President to serve for calendar year 2017

Recommendation:

Individual votes for President and Vice President.

CHANNEL ISLANDS BEACH
COMMUNITY SERVICES DISTRICT

Board of Directors

MARCIA MARCUS, President
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Regular Board Meeting January 10, 2017

To: **Board of Directors**

From: **General Manager**

Subject: District Board Appointments for calendar year 2017
Agenda Item D-2

Attached for Board reference is the list of Board appointments for calendar year 2017. As part of the Board's annual Reorganization Meeting the Board makes appointments of its members to these Boards, Commissions, Agencies and Committees where District representation is requested or required.

Recommendation:

Appoint members of the Board to represent the District for calendar year 2017

Channel Islands Beach C. S. D
Board Member Assignments Calendar Year 2016

District Representatives to Member Organizations:

Organization	Member	Alternate
ACWA/JPIA Board Of Directors (Joint Powers Insurance Authority	**Marcia Marcus**	**Susie Koesterer**
ACWA Region 8 Council (Water Agency Regional Council)	**Marcia Marcus**	**Ellen Spiegel**
PHWA, Board of Directors (Joint Powers Authority)	**Keith Moore** **Jim Estomo**	**Marcia Marcus**
Water Rate Review Committee (WURRC, District/County Harbor	**President**	**Vice President**
VCSDA, Board of Directors (V.C. Special Districts Assoc.)	**Ellen Spiegel**	**Keith Moore**
VRSD & Committee (VRSD Designated Directors)	**Jim Estomo**	
CSDA	**Jim Estomo**	
CASA	**Jim Estomo**	

REPRESENTATIVES TO DISTRICT COMMITTEES

Facilities Committee	**Jim Estomo & Keith Moore**
Financial Committee	**Susie Koesterer & Marcia Marcus**

CHANNEL ISLANDS BEACH
COMMUNITY SERVICES DISTRICT

Board of Directors

MARCIA MARCUS, President
SUSIE KOESTERER, Vice President
KEITH MOORE, Director
R.V. "Jim" ESTOMO, Director
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Regular Board Meeting January 10, 2017

To: **Board of Directors**

From: **General Manager**

Subject: Review of **Draft staff reports** for the January 17, 2017 Port Hueneme Water Agency Agenda Packet

Agenda Item D-3

The Board routinely reviews information for upcoming PHWA Meetings. If items are of particular importance to the Board, a Board majority may wish to support or reject certain items on the agenda and Direct it's representative to support the District position.

Recommendation:

No Action Required Board Discretion.

Port Hueneme Water Agency

250 North Ventura Road • Port Hueneme, CA 93041 • (805) 986-6563

AGENCY AGENDA STAFF REPORT

TO: PHWA Board

FROM: Fred Camarillo, Interim Deputy Public Works Director

SUBJECT: NOMINATION FOR CHAIR AND VICE CHAIR OF THE PORT HUENEME WATER AGENCY

DATE: January 17, 2017

RECOMMENDATION:

It is recommended the Board nominate and select its Chair (from CITY) and it's Vice Chair (from DISTRICT) to serve for a one-year term.

BACKGROUND/ANALYSIS:

The "Agreement for Formation of A Joint Powers Agency" dated July 20, 1994 sets the procedures for the election of the PHWA Chair and Vice Chair as they are listed below.

Section 8. Governing Board Procedures

k. Election of Chair and Vice Chair

(1) Annually at its first regular meeting of a calendar year, the Governing Board shall select one of its regular directors to hold the position of Chair of the Governing Board, and a second regular director to hold the position of Vice Chair of the Governing Board. The Chair shall conduct all meetings of the Governing Board and perform such other duties and functions as required of such person by this Agreement, the Bylaws or the Governing Board. The Vice Chair shall serve as Chair in the absence of the Chair and shall perform such duties as may be required by this Agreement, by the Chair, the Governing Board or the Bylaws.

(2) At the first organizational meeting of the Governing Board, a regular director designated by the City pursuant to Section 5.a. shall be elected as Chair of the Governing Board and a regular director designated by the District pursuant to Section 5.a. shall be elected as Vice Chair of the Governing

Board, for terms expiring on the date of the first regular meeting of the Governing Board held in 1996.

(3) Thereafter, the Chair and Vice Chair positions on the Governing Board shall be rotated on an annual basis between regular directors from the City and District, respectively. Following the initial period, the parties agree that the position of Chair of the Governing Board shall be filled by a regular director from the City in odd-numbered calendar years beginning in 1997 (1997, 1999, etc.), and by a regular director from the District in even-numbered calendar years beginning in 1996 (1996, 1998, etc.). Conversely, the Vice Chair position shall be filled by a regular director from the City in even-numbered calendar years beginning in 1996 (1996, 1998, etc.) and by a regular director from the District in odd-numbered calendar years beginning in 1997 (1997, 1999, etc.).

(4) If there is a vacancy, for any reason, in the position of Chair or Vice Chair, the Governing Board shall forthwith conduct an election and fill such vacancy for the unexpired term of such prior incumbent, from either the regular directors of City or District depending on the year of vacancy.

FISCAL IMPACT:

The fiscal effect of this action, if taken as recommended, is none.

Port Hueneme Water Agency
250 North Ventura Road • Port Hueneme, CA 93041 • (805) 986-6563

AGENCY AGENDA STAFF REPORT

TO: PHWA Board

FROM: Fred Camarillo, Interim Deputy Public Works Director

SUBJECT: BRACKISH WATER RECLAMATION DEMONSTRATION FACILITY - OPERATIONAL REPORT

DATE: January 17, 2017

RECOMMENDATION:

It is recommended the Board receive and file this report.

BACKGROUND/ANALYSIS:

This report presents an update on the operational status of the Brackish Water Reclamation Demonstration Facility (BWRDF) from November 30, 2016 to December 31, 2016.

During this operational reporting period, the overall Port Hueneme Water Agency (PHWA) demand averaged 2.6 MGD which is equal to the previous reporting period. The United Water Conservation District (United) supplied 90 percent and Calleguas Municipal Water District (Calleguas) supplied 10 percent of the demand during this reporting period. There were no interruptions of service. PHWA's water continues to meet all State and Federal regulatory standards.

The Silt Density Index (sampled twice a day) averaged 4.6, which is an indication that high levels of iron and manganese are entering the system. The BWRDF was in operation, however the membrane treatment process was by-passed during this report period. High levels of Iron and Manganese will damage the membranes to an irreversible condition. Operations staff will continue to monitor United's water quality to determine when this source is permissible for membrane treatment. While in membrane by-pass mode, a blend of United water with Calleguas water will be dictated by system demand periods and source water availability to maximize our take of United water supply.

SUMMARY OF OPERATING COMMITTEE MEETING:

The Operating Committee met on December 7, 2016 and had discussions on the following topics:

- Groundwater Credits – Staff is in final review of transfer amounts for each member agency
- United and PHWA's water quality – no change due to California's drought
- Mike Ellis from United presented general information related to their water distribution system for the member agencies in attendance.
- OH Pipeline Agreement - Update
- PHWA Land Lease Agreement – Update
- OPV Group progress
    - Sustainable Groundwater Management Act (SGMA)
    - Groundwater Sustainability Agency (GSA)
    - Groundwater Sustainability Plan (GSP)

WATER SUPPLY/ALLOCATION UPDATE:

United Water Supply:
Emergency Ordinance E sets PHWA's Temporary Emergency Allocation (TEA)
Current TEA allocation = 3,470af/yr.

Calleguas Water Supply:
State Water Project Allocation = 60% of 1,850af/yr. or 1,110af/yr.
Water Supply Allocation Plan (WSAP) = No additional restriction

(On May 10, 2016, Metropolitan Water District of Southern California declared a Water Supply Condition 2 - Water Supply calling for member agencies (Calleguas) to implement extraordinary conservation to mitigate use of storage reserves and suspended implementation of its Water Supply Allocation Plan. On May 18, 2016, Calleguas Municipal Water District by resolution declared a Stage 3 Shortage and suspended enforcement of member purveyor supply allocations).

At this time staff does not anticipate a shortage of water supply for PHWA. However, once the Fox Canyon Groundwater Management Agency implements the new Groundwater Sustainability Plan (GSP), it is anticipated that the groundwater allocation available to PHWA will be reduced from the current allocation of 3470af/yr. The amount of reduction has not been determined at this time. The amount of reduction will be determined once the GSP has been completed and the "Safe Yield" of the basin has been identified.

CURRENT WORKING ISSUES - UPDATE:

It was recommended by Butch Britt, (the recently departed) Interim Public Works Director, that this item be place in the operations report and presented by staff (See Attachment A). Staff attends all the meetings related to these current working issues along with Lynn Takaichi of Water Consultancy, who is currently assisting staff with negotiations under Professional Services Agreement PHWA 15-001. Allowing staff to present the updates as needed will free up the consultants time and reduce billable hours to the agency.

NEXT PHWA BOARD MEETING:

The next PHWA Board meeting is scheduled for Tuesday February 21, 2017 at 4:00 p.m. (Due to Monday being a Holiday).

FISCAL IMPACT:

The action, if taken as recommended, will not have a fiscal impact.

ATTACHMENTS:

Attachment A – Current Working Issues

PHWA

Current Working Issues

Items in RED are new entries.

Attachment A

No.	Category	Agency	Short Description	Status/Update
1	General	Fox Canyon GMA	Temporary Emergency Allocations (TEA)	Monitor actions and provide input as necessary to protect City's water allocation rights as FCGMA develops Groundwater Management Plan (GMP) Attended the OPV large group meeting (Ag and M&I) to provide input to the GSA on the development of the GSP. Discussion circled around pumping allocations for each group.
2	General	Fox Canyon GMA	Groundwater Sustainability Plan (GSP)	*See #1 Above*
3	General	Fox Canyon GMA	Future water allocation reductions (If Implemented)	*See #1 Above*
4	Water Supply	UWCD	Current Water Allocation	3,470 AF/Yr. - Current FCGMA TEA allocation
5	Water Supply	Calleguas MWD	Current Water Allocation	1,850 AF/Yr. - Current MWD Allocation is 60% (1,110AF/yr.) No Water Supply Shortage Program restrictions
6	Alternate Water Supply	Navy	Navy Desalination Plant - EX-WIC(?)	Working with NBVC staff on costs, availability and operational data.
7	Alternate Water Supply	City/ Oxnard, Calleguas, UWCD		Participating in working sessions with other purveyors, i.e. City of Oxnard, UWCD and Calleguas regarding potential other water sources. Some of these alternatives are largely dependent on whether the State Water Fix initiative is successful in November. Desalination is also being considered as a potential long term option, but costs and feasibility are not there yet. Staff recently attended briefing on Calleguas potential West County Connection facilities. The potential connection exists for a connection between Calleguas West County Connection Pipeline and UWCD pumping fields, which has strong potential to improve ground water quality and reliability for PHWA. Staff will monitor, participate as appropriate and advise PHWA Board.

Updated 1/02/2017

Items in RED are new entries.

PHWA

Current Working Issues

8	Agreement Negotiations	PHWA/Oxnard	Land lease agreement at City Filtration Plant	PHWA Plant is on City of Oxnard Property. Oxnard does not want to extend original agreement at current rate of $1 per year, and has indicated that they may eventually need the property for future water or wastewater improvements/expansion. Currently staff has conceptually agreed to agreement to extend lease for 5 years with 5 one year optional extensions (10 years total) pending review and approval by legal counsel, then agreement will be presented to governing bodies for approval. Staff met with Oxnard on 10/25/16 and received unexplained and unanticipated conditions that doubled the monthly rate to the land lease agreement. PHWA Executive Director will be handling the negotiations with the City of Oxnard. Per the direction of the Board.
9	Agreement Negotiations	UWCD, PHWA, CIBCSD, City of Oxnard, et al	Renegotiating amendment to Water Supply Agreement with UWCD, PHWA, City of Oxnard and others	Extension of existing agreement with amendments for 40 years. Revised agreement substantially complete at staff level. UWCD has made substantial concessions, one more round of negotiations at staff level contemplated. Completion date for staff review is end of September. Legal review completion scheduled for end of November and Board approval(s) by late 2016 - early 2017. Increased participation by Oxnard staff in technical review at recent meeting held 10/10/16 was productive and bodes well toward finalization of amendment by end of 2016. Ongoing negotiations with all members listed in Colum "D"

Updated 1/02/2017

PHWA

Items in RED are new entries.

Current Working Issues

10	Water Quality Improvement	UWCD, PHWA, CIBCSD, City of Oxnard, et al	UWCD plans to build Iron and Manganese Treatment Plant in El Rio	Estimated PHWA share of cost $2.2 million. Cost will be amortized over future life of agreement and potentially reduced by state grants. Technical Initial test runs by UWCD have been very good. UWCD's plan to proceed with Iron and Manganese Treatment plant contingent on long year extension of current O/H pipeline agreement. UWCD may still be required to blend water from upper and lower aquifer wells to reduce nitrate levels to acceptable levels, but water quality should be improved to point where the PHWA will be able to restart the City's treatment plant, and restore water quality to pre-drought levels. Nevertheless, it will require 2-4 years for UWCD to construct a new treatment facility. On December 19, 2017 PHWA Board requested that SWRCB issue UWCD a one year waiver for Fe and Mg MCL.
11	Water Quality Improvement	UWCD, PHWA, CIBCSD, City of Oxnard, et al	UWCD plans to build solar array field near Piru	Estimated PHWA share of cost $2.1 million. Project does not improve water quality, but will reduce cost of pumping in O/H pipeline. Environmental documents underway. Cost will be amortized over future life of agreement. UWCD is also optimistic that grant funding will reduce project costs. Project also expected to self fund in 1-2 years.
12	General	CIBCSD	Water Supply Feasibility Study	CIBCSD plans to undertake a water supply feasibility study in FY 2016/17 to consider potential alternative supplies to augment or offset loss of groundwater pumping allocations. First phase of study will be to develop potential projects and identify District Board goals and rate the projects taking into account those District Board established goals i.e. Pricing, quality, sustainability, reliability etc. PHWA staff will work cooperatively with CIBCSD staff as appropriate.

Updated 1/02/2017

PHWA

Items in RED are new entries.

Current Working Issues

20	Water Supply	Navy	Water Supply Agreement	Negotiate new water supply agreement. Currently working with Southwest Command on new 10 year Water Supply Agreement. The current agreement expired in April 2016. Currently waiting on SW command to provide draft water supply agreement per standard government contract language.

Updated 1/02/2017

Port Hueneme Water Agency

250 North Ventura Road • Port Hueneme, CA 93041 • (805) 986-6563

AGENCY AGENDA STAFF REPORT

TO: PHWA Board

FROM: Fred Camarillo, Interim Deputy Public Works Director

SUBJECT: APPROVAL OF A BUDGET AUGMENTATION FOR TASK ORDER NO. 2 ISSUED UNDER AGREEMENT NO. 15-001 WITH WATER CONSULTANCY FOR PROFESSIONAL SERVICES ASSOCIATED WITH THE PHWA WATER SUPPLY STRATEGY

DATE: January 17, 2017

RECOMMENDATION:

It is recommended the Board approve a budget augmentation for Task Order No. 2 to Agreement 15-001 with Water Consultancy in the not to exceed amount of $35,000.

BACKGROUND/ANALYSIS:

On February 2, 2015, the Board entered into Agreement No. 15-001 with Water Consultancy. The Executive Director issued Task Order No. 2 (Attachment A) on June 10, 2015 to develop a water strategy and to negotiate amendments to current agreements. As Mr. Takaichi attended meetings with multiple agencies, he quickly began to develop ideas for a strategy for PHWA. These ideas were shared with the Board over time, and monthly reports on the progress of those meetings have also been provided.

Mr. Takaichi has expended the original $30,000 that was approved under Task Order No. 2. PHWA staff met with Mr. Takaichi to discuss how much time and involvement would be needed to bring closure to the current and ongoing negotiations. Because the activities are dependent on others, a definitive schedule is difficult to determine. Accordingly, the schedule will be determined by PHWA staff on an as-requested basis.

Amendments to PHWA's existing water supply agreements have been initiated. To assist PHWA with completing these negotiations, Task Order No. 2 budget augmentation will authorize the following services by Water Consultancy:

1. Attend meetings with other utilities on an as-requested basis (estimated 10 meetings).
2. Prepare monthly status reports and attend meetings with PHWA Board on an as-requested basis (estimated 12 meetings).
3. Assist PHWA with negotiation assistance to modify existing water supply agreements.
4. Continue to develop and refine PHWA water supply strategy.
5. Assist PHWA with participation in developing a long-term regional water supply solution for the Oxnard Plain.

Mr. Takaichi has made tremendous progress in identifying and addressing many of the challenges currently facing the PHWA; however, there is still much work ahead. Mr. Takaichi is uniquely qualified to assist the PHWA due to his past history with the agency and his recent experience in developing the PHWA Water Supply Strategy. It would be in the best interest of the PHWA for the Board to approve Task Order No. 2 budget augmentation to avoid losing momentum on the PHWA Water Supply Strategy.

If approved, Task Order No. 2 would have an original expended budget of $30,000 and a total budget of $65,000.

FISCAL IMPACT:

The action, if taken as recommended, will have a fiscal impact of up to $35,000. Funds to cover this increase are allocated in the approved FY 2016/2017 budget.

ATTACHMENTS:

1.) Attachment A: PHWA Agreement 15-001 Task Order No. 2
2.) Attachment B: Water Consultancy Proposed Scope, Schedule, and Fee Estimate

Attachment A

Port Hueneme Water Agency
250 North Ventura Road, Port Hueneme, CA 93041
Telephone: (805) 986-6568

TASK ORDER NO. 2 – CONSULTANT SERVICES

Date:	July 9, 2015
Contractor:	Water Consultancy, Inc. 3585 Maple Street, Suite 250 Ventura, CA 93003
Blanket Agreement No.	PHWA 15-001
Project Name:	PHWA Water Supply Strategy Implementation
City Contact:	Chris Theisen
Scope of Work:	Work shall be done pursuant to PHWA Blanket Agreement No. 15-001 and the attached Scope of Services and Schedule.
Compensation:	$29,980

Work Authorized By:* Cynthia Haas, Executive Director — 7-9-15 Date

Attachments:

- Scope of Services
- Proposal Fee Estimate
- Schedule

*Approved by the PHWA Board on July 8, 2015.

Scope of Services

One of the elements of PHWA's recommended water supply strategy is to build relationships with key water utilities in Ventura County so that a long term regional water supply plan can be developed through a collaborative process. To assist PHWA with achieving this objective, the following scope of services has been developed:

1. Attend meetings with other utilities on an as requested basis. (20 meetings assumed)
2. Attend meetings with regulatory agencies on an as requested basis. (3 meetings assumed)
3. Attend meetings with PHWA Board and committees on an as requested basis. (6 meetings assumed)
4. Assist PHWA with negotiation assistance to modify existing water supply agreements.
5. Continue to develop and refine PHWA water supply strategy.
6. Assist PHWA with participation in developing a long term regional water supply solution for the Oxnard Plain.

Proposal Fee Estimate

Water Consultancy

CLIENT Name: PHWA
PROJECT Description: Strategy Support Activities
Proposal/Job Number:

July 1, 2014 Rates	Principal	Associate	Research Assistant	Admin. Assist.	Total	WC	Sub	WC	WC	WC	Total	Total	Total	Total Labor + Subs + Expenses
Classification:						Labor		Sub-Markup	ODCs	ODCs Markup	Labor	Subs	Expenses	Fees
Hourly Rate:	$260	$175	$140	$85	Hours	Fees	Fees	10%	Fees	10%				
Task 1-Metings with Other Utilities	40				40	$10,400		$0		$0	$10,400	$0		$10,400
Task 2-Meetings with Regulatory Agencies	9				9	$2,340		$0		$0	$2,340	$0		$2,340
Task 3-Board and Committee Meetings	12				12	$3,120		$0		$0	$3,120	$0		$3,120
Task 4- Negotiation Assistance	24			8	32	$6,920		$0	$400	$40	$6,920	$0	$440	$7,360
Task 5- Water Supply Strategies	10				10	$2,600		$0		$0	$2,600	$0		$2,600
Task 6- Regional Solution	16				16	$4,160		$0		$0	$4,160	$0		$4,160
Total	111	0	0	8	119	$29,540	$0	$0	$400	$40	$29,540	$0	$440	$29,980

Schedule

Because the activities are dependent on others, a definitive schedule id difficult to determine; however, the following schedule objectives have been developed:

1. Modified water supply agreements for approval - December 31, 2015
2. Updated PHWA water supply strategy - September 30, 2015
3. Long term regional water supply solution for the Oxnard Plain - TBD

Attachment B

Scope of Services

Amendments to PHWA's existing water supply agreements have been initiated. To assist PHWA with completing these negotiations, the following scope of services has been developed:

1. Attend meetings with other utilities on an as requested basis. (10 meetings assumed)
2. Prepare monthly status reports and attend meetings with PHWA Board on an as requested basis. (12 meetings assumed)
3. Assist PHWA with negotiation assistance to modify existing water supply agreements.
4. Continue to develop and refine PHWA water supply strategy.
5. Assist PHWA with participation in developing a long term regional water supply solution for the Oxnard Plain.

Schedule

Because the activities are dependent on others, a definitive schedule is difficult to determine. Accordingly, the schedule will be determined by PHWA staff on an as requested basis.

CLIENT Name: PHWA
PROJECT Description: Strategy Support Activities
Proposal/Job Number:

July 1, 2016 Rates Classification:	Principal	Associate	Research Assistant	Admin. Assist.	Total	WC Labor	Sub	WC Sub-Markup	WC ODCs	WC ODCs Markup	Total Labor	Total Subs	Total Expenses	Total Labor + Subs + Expenses
Hourly Rate:	$280	$175	$140	$85	Hours	Fees	Fees	10%	Fees	10%				Fees
Task 1-Metings with Other Utilities	20				20	$5,600		$0		$0	$5,600	$0		$5,600
Task 2-Status Reports and Board Meetings	24				24	$6,720		$0		$0	$6,720	$0		$6,720
Task 3- Negotiation Assistance	40			8	48	$11,880		$0		$0	$11,880	$0		$11,880
Task 4- Water Supply Strategies	8				8	$2,240		$0		$0	$2,240	$0		$2,240
Task 5- Regional Solution	16				16	$4,480		$0		$0	$4,480	$0		$4,480
Total	108	0	0	8	116	$30,920	$0	$0	$0	$0	$30,920	$0	$0	$30,920

CHANNEL ISLANDS BEACH
COMMUNITY SERVICES DISTRICT

Board of Directors

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Regular Board Meeting January 10, 2017

To: **Board of Directors**

From: **General Manager**

Subject: Consider and discuss Director Nast's request to United Water Conservation District for Base Line Water Testing.

Agenda Item D-4

At the Boards September 13, 2016 meeting the attached (attachment 1) information was presented to the Board to consider a similar request to United Water Conservation District (UWCD). At that time based on the response form United the Board chose not to take action but rather only receive and file the report.

On or around December 12, 2016 then Director elect Nast, sent the attached (attachment 2) letter to UWCD again documenting his position in support of baseline water testing. In addition Director Nast had requested formal endorsement for this letter from the District Board President. At the Districts December 13, 2016 Regular Meeting President Marcus requested that the item be placed on the Board agenda for discussion.

At this time it is staffs understanding that UWCD is preparing a response to Director Nast's request. Based on this the Board could choose to await that response and review prior to endorsement or take action tonight without reviewing the UWCD response that is forthcoming.

Recommendation: Await formal response to Director Nast from United and, bring the item back at that time for Board consideration of supporting the request.

Regular Meeting 1-10-17
Agenda Item D-4
ATTACHMENT 1

September 13, 2016 Regular Board Meeting

To: Board of Directors

From: General Manager

Subject: Board review of response from United Water Conservation District regarding the appropriateness of baseline water testing and the relative risk associated with hydraulic fracking within the Oxnard Plain.

Agenda Item D-1

At the Boards August 9, 2016 meeting the Board directed the General Manager to include an item on this agenda to consider and discuss the request from Mr. Nast that, the CIBCSD Board make a formal request to United Water Conservation District that they conduct baseline water well testing on drinking water wells within the Oxnard plain that are under their control.

At the time the General Manager received the direction to agendize the matter, the General Manager said he would reach out to United for a response on the matter. Below is the text of the email response to the General Managers request to United Water Conservation District (UWCD).

In short UWCD Supervising Hydrogeologist has considered the fracking activity , locations, gradients of water movement within the basin, current and historical water sample data and finds that the risk is very low and therefore they do not believe at this time baseline is necessary.

Jared,

Good talking with you last week. On Tuesday I called the DOGGR branch office in Ventura and had an informative conversation with Associate Oil and Gas Engineer David Ortiz. He explained fracking techniques, which basically employ bursts of high pressure to create small fractures in reservoir rock surrounding the perforated portions of an oil or gas well. Sand or other proppants, suspended by a gel of long-chain polymers, are forced into the fractures by the pressure bursts. Chemical treatments then break down the polymers, and these compounds are pumped to the surface for containment and disposal. The fracturing and propping of cracks in the formation near the well allows enhanced oil recovery as flow towards the well is improved. These methods are most commonly employed in new wells in hard reservoir rock such as sandstone. The migration of fracking chemicals away from the well is

unlikely, as fluid flow is towards (not away) from the well when it is put into production. Fracking pressures are always well below the rated bursting pressure for the well casing.

The engineer also said fracking is rarely used on the Oxnard Plain, as the reservoir rock at the common target depths on the Oxnard Plain (~ 5,000 – 8,000 feet) is not a sandstone that responds well to these methods. I've spent some time looking at the oil well files for southern Ventura County (GIS files downloaded from the DOGGR website) and records show that on the Oxnard Plain and in the Oxnard Forebay only six oil wells (of 614 historic wells) are noted to have used hydraulic fracturing. These wells all lie south of Highway 101 and east of the City of Oxnard, where the groundwater flow direction in the Lower Aquifer System is consistently towards the pumping depression that commonly straddles the Oxnard Plain/Pleasant Valley basin. If fracking fluids were able to migrate up to the base of the fresh water aquifers of the Oxnard Plain, which we think is unlikely, they would migrate away from the public supply wells operated by United, the cities of Oxnard and Port Hueneme, and CIBCSD. Fracking is much more common at other Ventura County locations, such as the oil fields north of Fillmore and in Upper Ojai.

Some historic occurrences of water well contamination have been attributed to poor fluid handling practices at the surface, and not the migration of contaminants from depth. We are unaware of such an occurrence in Ventura County, at least recently. Surface disposal of oilfield brines did however result in chloride contamination in the Piru basin prior to the passage of the Clean Water Act.

Boron concentrations in United's El Rio wells are similar to others throughout the lower Santa Clara River Valley. The observed concentrations are not indicative of impacts from fracking activities. DOGGR records do not document any oil well fracking activity in the Oxnard Forebay. We have also reviewed Total Organic Carbon (TOC) concentrations in the Department of Drinking Water's water quality database. Elevated TOC concentrations in deep wells might be used as an indicator of hydrocarbons migrating from deeper units into fresh water aquifers. Available TOC records from Ventura County wells, including wells in our El Rio well field, and do not show elevated TOC levels that might suggest the migration of fluids from deeper environments enriched with hydrocarbons.

I hope these comments are helpful Jared. We are aware there have been events in the United States where fracking has contaminated drinking water wells. Our opinion is that fracking activities appear to be adequately regulated in Ventura County, and the fresh groundwater supply of the Oxnard Plain is an area of low risk for potential contamination from fracking.

Sincerely,

Dan Detmer, PG, CHG
Supervising Hydrogeologist
United Water Conservation District

Regular Mtg 1-10-17
Agenda Item D-4
ATTACHMENT 2

12 Dec. 2016

Subj: Request That United Water Conservation District (UWCD) Facilitates Baseline Testing

Dear Board Members,

The reason for this letter is to request the UWCD re-consider facilitating baseline testing of my public drinking water. As you will read, baseline water data are essential to properly monitor water quality testing; your attention is invited to: https://www.nrdc.org/experts/amy-mall/baseline-water-testing-what-it-and-why-it-important and http://www.communityscience.org/gas-wells/baseline-testing/faq-baseline-testing/.

Baseline testing should not to be confused with the myriad (some might say exhaustive) quality tests currently conducted by UWCD in accordance with local, state, and federal regulations. Baseline testing is considered a necessary, prudent, and an inexpensive onetime test. Looking forward, it will prove to be a best-value insurance policy for your company, as well as, your customers.

Since my original request, some additional reasons for baseline testing are: (1) We shall all anticipate, due to a new Administration's rolling back of restrictions on the production of energy coupled with an increase in the price of crude, that Ventura County (VC) will be experiencing a significant resumption in both conventional and unconventional (fracking/acidizing) activity. Note: VC is the third largest producer of crude oil in a state that is ranked third in the country for oil exploration and production. (2) Baseline water testing is rapidly becoming a hot button issue for California's public drinking water consumer.[i] (3) UWCD's original response (please see Attachment A) relied on review of incomplete and questionable [ii] CA Division of Oil, Gas, and Geothermal Resources (DOGGR) Geographic Information System (GIS) files [iii] and an interview with a DOGGR District 2 Associate Engineer; and (4) it failed to address and assess 'other' possible threats to UWCD's El Rio Wellfield, which currently supplies 90% of the public drinking water to Channel Islands Beach Community Services District (CIBCSD) customers.

I do not represent the CIBCSD in this regard. I'm currently one of your public water customers, concerned with where my water comes from and how much it costs. However, I did recently win election to the CIBCSD (by a substantial margin) and assume my duties the beginning of next year. I know I speak for many of my new constituents (your customers) when I request baseline testing of their water. My major 'campaign promise was the conduct of baseline testing, should I become elected.' That campaign promise resonated with most of your voting CIBCSD customers. I trust that with your help I will be able to fulfill that promise.

UWCD's response to my original request, was prompt and professional, but unfortunately missing the point. True, my original request was unduly circumspect and asked that UWCD facilitate a onetime inexpensive baseline water test of the sources of our drinking water in

response to the documented threats posed by fracking/acidizing. In retrospect, I should have added…"and conventional oil exploration and production and other documented human activities known to pose a threat to our groundwater". I'm writing this letter to correct my error.

To reiterate, baseline testing is not designed to indicate early impacts to groundwater by oil well stimulation practices (or other threats) but rather to characterize baseline water quality conditions.[iv]

It should be clearly understood by anyone reading this letter that public drinking water consumers owe a vote of thanks to a vast number of government and private sector organizations and individuals, like Mr. Detmer and UWCD, for continuing to insure we all benefit from clean and affordable water. As far as I know, UWCD is completely safe to drink; there are minor quality issues with too much iron and manganese, which UWCD is addressing.

However, Mr. Detmer's comment that we have little to fear from fracking on the Oxnard Plain, rests mainly on the validity and completeness of CA's Division of Oil and Gas Resources (DOGGR's) data. That is problematic. To anyone familiar with this 'dysfunctional' and conflicted state oil regulator, Mr. Detmer's unquestioning reliance on DOGGR for sources of fracking oil well information is imprudent and ill-advised; please see below.

At a time when most informed citizens question the efficacy and integrity of their local, state, and federal governments regarding energy production as it negative impacts on our environment and climate, why would a private sector water purveyor choose to depend solely upon DOGGR's information[v] ? These private sector water purveyors are the first (and perhaps few remaining) lines of defense.

In defense of DOGGR, the Division has been subjected to constant and chronic underfunding, understaffing, under training, and conflicted by high level leadership[vi] with regards to regulating oil exploration and production. Also, DOGGR has been operationally restrained by a counter-productive and an ineffective fracking regulation, SB4[vii] . Essentially, SB4 green lighted/rubberstamped fracking while not going far enough with regards to distances required for baseline testing (e.g. 0.5 miles' radius from a fracked well).

I don't question Mr. Detmer when he wrote…" only six oil wells (of 614 historic wells) are noted (by DOGGR's records) to have used hydraulic fracturing." However, I do question the accuracy of DOGGR's record keeping that he was quoting.

As the drought continues, baseline water testing will prove to be both **prudent and cost effective** for all concerned.[viii] It will help you reduce your operational liabilities and support any future court action against a presumptive polluting industry or activity suspected of having contaminated your El Rio Wellfield. As you may know, California is a non-presumptive state, meaning the onus of proving pollution is on the aggrieved party. There is likewise a possibility that baseline testing will reduce your operating costs through ongoing reductions in your business insurance premiums.

Using a different calculus, baseline testing 'also' presents a strong line of defense for the more responsible oil and Ag water users in VC. The value of baseline testing doesn't need to be a mutually exclusive test favoring the interests of one customer over another. "Pre-drill [baseline] testing is not just an administrative checkbox; rather, it potentially can provide an [oil] operator with a shield from liability or leave it vulnerable and exposed."[ix]

As mentioned, there are other documented human activities that present ***potential risks*** to the availability and quality of our underground sources of drinking water here on the Oxnard Plain and Oxnard Forebay. Separately, or cumulatively, these concerns warrant baseline testing. Some of these other potential threats include but are not limited to:

- Conventional oil well production and (mis)handling of oil field waste fluids, please see (https://www.vcreporter.com/2016/11/16/45876/). Surface leaks or spills from just a few of 614 oil wells on the Oxnard plain that are upgradient of your El Rio Wellfield can and should be considered potential threats. Contributing to these potential threats has been DOGGR's mismanagement of deep disposal injection wells project, which it currently has primacy over.[x] The two Anterra Wells located on the Oxnard Plain (the intersection of Wooley Rd. and Rose Ave.) have already proven problematic (ref. the above VC Reporter article). Also, the less than effective process by which Ventura County permitted oil wells in the county, which significantly multiplied the risk to our underground sources of drinking water and highlighted the gap in our local, state, and federal governments regulatory effectiveness. This shortfall in providing adequate oversight of oil exploration and production in VC is viewed as a growing concern.[xi]
- Land use (e.g. agricultural runoff; fertilizers, herbicides[xii], pesticides[xiii]) and chemicals leaking from underground storage tanks. For example, pollution of our underground sources of drinking water is possible from toxic chemicals like Methyl Tertiary Butyl Ether (MTBE) (a former gasoline additive which has since been banned). "Cleaning up the MTBE, which leaked before 1998 from a Poole Oil Co. underground fuel storage tank on Vineyard Avenue (El Rio), was already on a fast-track list with work set to begin in September. But United Water Conservation District officials sent a letter last week to the state water board urging quicker action."[xiv] In general, leaking underground storage tanks are problematic. [xv] In addition, agricultural runoff is a potential contaminate. Also, another source of nitrate contamination is from septic tanks. "The majority of residences on septic tanks, situated in the Oxnard Forebay area, are located within the unincorporated community of El Rio. Septic tanks contaminate shallow aquifers due to the high nitrogen and pathogen content."[xvi]

- Omnipresent threat of even a minor earth quake (e.g. magnitude 3.2 or >) damaging the physical integrity of the 614 historic oil wells mentioned in the Attachment A response.[xvii]

- Recent overdraft of oil and ground water causing land subsidence/aquifer compaction issues and possibly threatening the physical integrity of oil (and water) wells (as well as the quality of the water).

> How much has UWCD over-drafted in recent years? "The overdraft conditions eventually expanded into adjacent Pleasant Valley groundwater basins and resulted in a 2.6 feet of permanent land subsidence (Hanson et al, 2003). Overdraft conditions in the Oxnard Plain and Forebay groundwater basins continue today with the annual overdraft amount estimated to be 20,000 to 25,000 acre feet/year (UWCD 2013)."[xviii] "The influence of reservoir compaction and surface subsidence on oil well casing damage, including compression, buckling, shear, and bending failure mechanisms. Casing damage from shear stresses within the overburden is identified as a primary failure mode for many reservoir conditions. This is consistent with several field observations."[xix]

In closing, thank you very much for your patience and valuable time.

For the record, any baseline testing results would be made a matter of public record and the tests results co-owned by UWCD and its wholesale and retail customers.

I look forward to working with you in the future; especially where the interests of your customers, your business, and my constituents coincide as mutually fulfilling requirements, as in the case of baseline testing.

I understand it is a Holiday; however, I would appreciate a written response to my request by 10 January, 2016. Please enjoy a safe and happy Holidays.

Best Regards,

Bob Nast … "Know where your water comes from and your trash goes."

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[i] https://www.morganlewis.com/pubs/~/media/files/publication/outside%20publication/article/looking-under-frackings-surface-part-1.ashx "Ultimately, neither Ohio nor California [emphasis added] has pushed hard on pre-drill testing. Not only do they require pre-drill testing or post-drill testing only under limited circumstances, they also impose **no presumption** [emphasis added] of contamination [making it almost impossible to successfully sue a polluting oil operator]. For these states, **there may be much to gain** [emphasis added] by creating a reasonable and practical regulatory environment for the oil and gas industry."

[ii] "The DOGGR is aware that their dataset is not complete in terms of identifying all wells that have been hydraulically fractured." Ref. https://www.fractracker.org/map/us/california/ca-shale-viewer/. DOGGR, by their own admission, is working on remedying this unsatisfactory situation, which is..."inconsistent permitting, monitoring and enforcement of well construction and operation." Ref. http://www.isssource.com/ca-oil-well-oversight-inconsistent/; "It may be the case that operators are not reporting the full extent of activities to DOGGR. Or, it may be that DOGGR is only posting a subset of reports that are submitted."

"Implications of Missing Information- The discrepancy between the information provided by (South Coast Air Quality Management District) SCAQMD and the lack of records on DOGGR's website is evidence of a systemic problem with DOGGR's reporting regime that must be rectified immediately. If DOGGR is failing to disclose documented acidizing and gravel packing events in Los Angeles and Orange Counties, it is likely that DOGGR is also

failing to report on well stimulation events in other parts of the state [such as Ventura County]. We can be certain that some information is missing from DOGGR's website. But we cannot be sure how many instances of well stimulation are unreported. While some instances of acidizing have been reported in Kern County, this may not represent the true extent of acidizing or other well stimulation activity in Kern County." Ref. https://www.biologicaldiversity.org/campaigns/california_fracking/pdfs/14_3_25_Letter_to_Gov_Brown.pdf

[iv] http://www.waterboards.ca.gov/water_issues/programs/groundwater/sb4/docs/model_criteria_final_070715.pdf CA Water Boards' MODEL CRITERIA FOR GROUNDWATER MONITORING IN AREAS OF OIL AND GAS WELL STIMULATION ADOPTED JULY 7, 2015 -STATE WATER RESOURCES CONTROL BOARD- "Most well stimulation is conducted where extensive oil and gas exploration has already been conducted. Depending on location and depth, the existing "baseline" will be a combination of natural constituents mixed with variable legacy impacts from a variety of oil and gas activities...**The methods described herein, do not apply to groundwater monitoring plans that were approved in connection with permits issued by DOGGR for well stimulation prior to the adoption of these Model Criteria** [July 7, 2015- emphasis added] ... 2. At a minimum, one upgradient and two downgradient monitoring wells will be required for each aquifer to be monitored. Monitoring wells completed in each aquifer shall be constructed in similar zones of the aquifer, with similar construction details. Groundwater monitoring wells shall be located within 0.5 mile of the surface projection of the zone(s) of stimulation for a well or within 0.5 mile of the perimeter of the surface projection of the zone(s) of stimulation for a group of wells...The State Water Board supports monitoring approaches that leverage the use of groundwater monitoring wells from other regulatory programs, such as the Irrigated Lands Regulatory Program and the Sustainable Groundwater Management Act."

Unfortunately, CA state distance requirements (0.5miles radius from a fracked well) for baseline testing are seriously inadequate. However inadequate, baseline testing in accordance with SB4 and sponsored testing by the State Water Board is beginning to indicate quality problems with our underground sources of drinking water, as revealed in a recent VC Reporter article and referenced in the letter's text.

[v] http://www.allgov.com/usa/ca/news/appointments-and-resignations/state-department-of-conservation-director-quits-days-after-oil-drilling-rico-suit-is-filed-150608?news=856671

[vi] http://public-accountability.org/2015/12/jerry-browns-ties-to-the-oil-and-gas-industry/"Brown's oversight of oil and gas production in the state has come under scrutiny in recent months due to allegations of significant impropriety. In November, the Associated Press reported that Brown had taken the unusual step of directing state regulators to research the "potential for future oil and gas activity" on his private land. The state's top oil and gas regulator stepped down amid the ensuing controversy over the misuse of state resources on the governor's behalf. And in August, a lawsuit and press reports alleged that Brown had fired oil and gas regulators under pressure from Occidental Petroleum due to their unwillingness to expedite the issuance of drilling permits.
The industry has secured other favorable stances from Brown, including his resistance to pressure from environmental groups to ban the practice of fracking and other drilling techniques."

[vii] http://www.ewg.org/release/californians-risk-fracking-pollution-because-new-fracking-law "The agency has been rubberstamping oil and gas drilling activity without doing environmental review at all, or by issuing "negative declarations" that such activity will have "no significant effect" on the environment, without any study or mention of the potential impacts from fracking. The emergency regulations go a step further and require the agency to blindly approve fracking.

"When California legislators voted for SB 4, we don't think they knew that they were voting for the elimination of environmental review of fracking," said Bill Allayaud, California director of Government Affairs for the Environmental Working Group. "This situation makes it more important than ever that Governor Brown step in, institute a moratorium, and allow good science to be developed."

Until a February 2012 investigation by Mr. Allayaud and others with Environmental Working Group, most residents of California were not aware that fracking was a widespread practice in the extraction of oil and natural gas by energy companies in the state.

"This ruling demonstrates that the emergency regulations under S.B. 4 are an attempt to greenlight fracking throughout California with no protection for the environment or public health," said Hollin Kretzmann, a staff attorney with one plaintiff, the Center for Biological Diversity. "Governor Brown needs to halt fracking immediately before it causes irrevocable damage to our state."

[viii] **'Estimated' Cost:** The author based the total 'estimated' cost of <$10K to baseline test UWCD's 9 El Rio water wells on actual historical baseline water testing costs for his two private water wells in Harvey's Lake PA; following a protocol testing Tiers 1-3 (as recommended by PA State University Guidelines, which were not inclusive, due to the proprietary nature of fracking toxins, in my view); date 1 Sept. 2010. The total cost for both wells was $1790. Placing those testing details into a larger concept, I fully expect the cost will be somewhat more (TBD) because of the differences between end of pipe testing of a residential property vs. your nine (9) commercial water wells in El Rio and additional analytes requiring testing dependant on Subject Matter Expert input and current baseline testing protocols for CA and in particular the aquifer(s) (i.e. Oxnard Plain and in the Oxnard Forebay- upper and lower aquifer systems which are connected) being threatened (e.g. adding boron and MTBE to the testing analytes). [Note: Copies of what compounds, brines, and chemicals that were tested on the author's two private water wells are available upon request.]

Some suggestions for paying for the tests are: (1) pass on the modest one-time cost onto me and your other customers and we would accept it as a best-value insurance policy under-writing our health and financial well-being providing UWCD and its customers with the ability to mount a successful class action suit [assuming UWCD makes the test results available to it customers and shares the data rights of those test results with those same customers] [2] ask you insurance carrier to consider a commensurate premium reduction based on the significant reduction of your future liabilities. **[Note: CA is not a pollution presumptive state. That is, you must prove an oil driller or an agriculture corporation contaminated your wells; the onus of proof is on you not the potential polluter.]** Baseline testing will prove to be invaluable, if and when (more likely when) you must go to court in order make you and your customers whole again after 'our' sources of underground water are contaminated by Oil or Ag activities. Note: After listening to my 'elevator speech' to some of UWCD Board and General Manager at a recent Assoc. of Water Agencies (AWA) an insurance broker confided (to me personally) that the cost of the baseline test would probably be amortized by significant reductions in UWCD's annual insurance premiums (something worth exploring, in my view).(3) ask the State Water Board to help you fund the cost of baseline testing; and (4) ask the oil companies in the area to help fund the cost, as in their best interests; with the data rights equally owned by the oil operators, UWCD and its customers. Ref. http://apps.americanbar.org/litigation/committees/environmental/articles/winter2015-0215-fracking-debate-importance-pre-drill-water-quality-testing.html

Definition: A baseline water test documents water quality under current conditions. Who does the testing? Certification – a laboratory that has been certified by the state of CA or through a National Certification Process (NELAC). The laboratory should be "Independent" from the Oil Company or Water Purveyor, i.e., it cannot be a sister company or a subsidiary. Chain-of-Custody – this is the process that should be used to ensure the data that is generated is valid and *can be used in a legal proceeding*. Third-party Sampler – either an employee of the certified laboratory or other professional with no vested interest in the results. This cannot be a friend, relative, or an employee of oil or water purveyor company, but it could be a paid consultant. (ref. http://www.wvsoro.org/resources/advice/baseline-testing-wv.pdf)

The oil industry and hydraulic fracturing technology present two general types of risk to water: Catastrophic contamination events caused by industrial accidents or **earthquakes** (I bolded that) and gradual contamination as

oil wells proliferate and small impacts accumulate. Contamination can affect groundwater, surface water or both. A pre-drilling baseline test is a form of insurance in case contamination occurs. Without baseline water testing, there is no way of **proving pre-drilling water quality** (emphasis added) in a court of law.

The baseline test screens for "signature chemicals" that is typically associated with oil well activity, including waste fluids (or Agritoxins in the case of Ag runoff). If later water tests show significantly increased levels of these "signature chemicals" after drilling occurs, the changes would provide evidence that contamination had resulted from drilling or agricultural activities. Definitions:
Static Water Level – the depth to water during non-pumping conditions in a water well. This should be measured, before the well is pumped. Dynamic Water Level-the depth to water in the well when the well is pumping for some period of time. This should be measured after the well has been pumped and baseline water sample collected. Drawdown – the Difference between the static water level and dynamic water level. Conductivity – the ability of the water to carry a charge. The greater the conductivity the more substances are dissolved in the water. (Measure in the field) BTEX – Benzene, Toluene, Ethylbenzene, and Xylene – Components of coal tar, petroleum products, inks, paints, insecticides, solvents, and other fuels. MTBE - Methyl Tertiary Butyl Ether - was an additive in gasoline. ORP- Oxidation Reduction Potential measured in millivolts and the value can be positive or negative. The more positive, the chemical reactions in the water or oxidizing. The more negative, the chemical reactions are more reducing. This should be measured in the field during the sampling process. Positive Oxidizing Conditions – may be associated with discolored water Negative Oxidizing Conditions – may be associated with odors and higher methane concentrations. http://www.communityscience.org/

[ix] http://apps.americanbar.org/litigation/committees/environmental/articles/winter2015-0215-fracking-debate-importance-pre-drill-water-quality-testing.html

[x] DOGGR has been mismanaging and misinterpreting the federal regulations concerning the protection of aquifers in the state. When it comes to 'effectively and objectively' regulating fracking and underground injection wells in CA, DOGGR has proven itself to be marginal and counter-productive on numerous occasions. The U.S.EPA is considering taking back primacy (the federal government allows certain states to maintain primary oversight) of the Class II Underground Injection Control (UIC) disposal wells. Good case in point is the two Class II Anterra Wells located on the Oxnard Plain. "In the intervening months, the true extent of the problem has slowly come to light. It was revealed in February (2015) that regulators at California's Division of Oil, Gas, and Geothermal Resources (DOGGR) wrongfully issued permits for close to 500 wells to inject oil industry wastewater into aquifers containing water that is useable or could be made useable—water that is badly needed in drought-stricken California and should have been protected under the federal Safe Drinking Water Act." Ref.
https://www.desmogblog.com/2015/03/12/legislators-call-out-california-regulators-corrupt-inept-management-underground-injection-program **[Author's Note:** The Division (DOGGR) has proven itself to be a highly unreliable regulator of fracking/acidizing in CA. In various joint workshops and meetings with the oil industry's representatives, the public, and DOGGR, it's been difficult to tell the difference between the regulator and the regulated; literally. DOGGR is hardly a good source of verifiable and validated information to be quoted without caveat or question by UWCD, in my view.}
"Later, in a letter to the U.S. Environmental Protection Agency, which first discovered the problems with DOGGR's oversight of California's Underground Injection Control Program back in 2011, the state regulators said that they were investigating as many as 2,000 wells that had been permitted to inject fluids from "enhanced oil recovery techniques" **like acidization, cyclic steam injection and fracking** into protected aquifers.

The bad news for Californians just keeps on coming. Ahead of this week's state senate hearing, which also included officials from the California Department of Conservation and the state Water Resources Control Board in the hot seat, DOGGR released documents that show permitting wastewater injection into protected aquifers is not the only ongoing violation of the public trust it has committed.

According to the Center for Biological Diversity, "California's troubled oil agency routinely approves high-pressure steam injections into oil wells that fracture rock formations, violating the law and increasing the risk of water pollution and deadly sinkhole accidents like a 2011 incident that killed a Kern County oil worker."

"Gov. Brown's oil regulators are rubberstamping high-pressure steam injections that can pollute our water and cause horrific accidents," Kassie Siegel of the Center for Biological Diversity said in a statement. "This shows once again that state officials have ignored the law and haven't protected California's precious aquifers from toxic oil waste."

Half of all new wells in California use fracking as an oil recovery technique, so it's especially worrisome that dangerously high levels of toxic and cancer-causing chemicals like benzene, toluene and chromium-6 have been found in fracking flowback, a fluid that rises to the top of fracked wells and is becoming an increasingly prevalent component of oil industry wastewater."
Note: ..." Oxnard, California is home to an active tar sands field located in a large field of farmland. The Oxnard oil field **has both wells drilling** to the Monterey Shale and cyclical steaming wells to attract bitumen, also known as tar sands. In 2011 tar sands drilling destroyed a field of broccoli. Ref:
http://www.sourcewatch.org/index.php/California_and_fracking#Ventura_County

[xi] http://www.environmentaldefensecenter.org/programs_post_type/climate-energy/ventura-county-fracking-acidizing/ ... "The County allowed this unregulated drilling because the wells operate under old, "antiquated" permits that were in many cases first issued in the 1940s, 50s, and 60s! Due to an opinion issued by County Counsel finding that oil companies have "vested rights," the County has neglected to apply environmental or land use laws to regulate these wells, which are in both densely populated urban areas and largely undisturbed natural areas.

This County policy has in essence permitted oil companies to drill as many wells as they want, wherever they want, in perpetuity, without additional discretionary review. EDC submitted a letter to the county asserting that they are greatly overstating the scope of vested rights held by the oil companies, and unconstitutionally delegating the County's duty to protect the health and safety of local residents.

Although EDC hopes that its letter will prompt a proactive response from the County, we are exploring judicial avenues for compelling much stronger local oversight of oil production in Ventura County. EDC has provided the County with a series of recommendations for how to amend this process but is prepared to take legal action if insufficient changes are made."
[xii] https://www.scientificamerican.com/article/widely-used-herbicide-linked-to-cancer/
[xiii] http://groundwater.ucdavis.edu/files/136268.pdf

[xiv] http://articles.latimes.com/2002/jun/21/local/me-mtbesub21 "State Takes Over Cleanup
Oxnard: Regulators assume control after officials warn that the toxic gasoline additive MTBE could eventually reach water wells that service 200,000. June 21, 2002|KARIN GRENNAN | SPECIAL TO THE TIMES. State regulators Thursday assumed control of a groundwater contamination cleanup in Oxnard after local water officials warned of possible "catastrophic" results if immediate action was not taken to remove pollutants that may cause cancer.

If an underground plume of MTBE, a toxic gasoline additive, changed direction it could eventually reach water wells that supply 200,000 customers in Oxnard and Port Hueneme, water officials said.

"Our main intention is ... to protect the drinking water supply," said Dennis Dickerson of the California Regional Water Quality Control Board. [Note: MTBE is of special concerns for multiple reasons: it is colorless and odorless and make an aquifer unpotable with just small concentrations. It also travels 7 times faster than benzene underground.]

[xv] Ibid. "Contaminants present in these surface waters can contribute contamination to the ground water system. Some wells rely on artificial recharge to increase the amount of water infiltrating an aquifer, often using water

from storm runoff, **irrigation, industrial processes,** or treated sewage. In several cases, this practice has resulted in increased concentrations of **nitrates,** metals, microbes, or **synthetic chemicals** in the water."

Approximately 4 million underground storage tanks (see El Rio-MTBE plume above) exist in the United States and, over the years, the contents of many of these tanks have leaked and spilled into the environment. If an underground storage tank develops a leak, which commonly occurs as the tank ages and corrodes, its contents can migrate through the soil and reach the ground water. Tanks that meet federal/state standards for new and upgraded systems are less likely to fail, but they are not foolproof. Abandoned underground tanks pose another problem because their location is often unknown. Aboveground storage tanks can also pose a threat to ground water if a spill or leak occurs and adequate barriers are not in place. "

[xvi] http://vcportal.ventura.org/GDJ/docs/reports/1996-97/report_cssd_nitrateContaminationOxnardGroundwater.pdf "UWCD was reorganized in 1950 to continue maintaining the quantity and quality of underground water in the Oxnard Plain. The process was initiated by the issuance of bonds for the construction of Santa Felicia Dam, three water spreading grounds and distribution facilities, which were needed to repel seawater intrusion. The Freeman Diversion Dam, completed in 1991, has diverted over 500,000 acre feet of Santa Clara River water to spreading ponds for recharging groundwater aquifers."

[xvii] "Possible sources of groundwater contamination are failure of the cement casing surrounding the well bore, migration through unforeseen rock fractures acerbated by Ventura County faults and linkages of known and unknown connecting faults. Earthquakes can have long lasting repercussions. "DOGGR records show that a 3.1 magnitude earthquake on the San Cayetano fault (capable of a 7.0 magnitude quake) occurred at noon on that day, about nine miles northwest of Fillmore, at about nine miles below the surface." Ref. That "minor" quake caused a major oil well blowout lasting over 3 months and totally over 9,000 gallons coming to the surface across the street from the Ojai Summit Elementary school in 2006. Unfortunately, we will probably suffer future earthquakes here in Ventura County of similar or greater magnitude given the current use of the Anterra deep disposal wells to disposition fracking wastewater.

Expected earthquake damage in California in the next 10 years exceed $30 billion."
Source: http://www.conservation.ca.gov/cgs/information/publications/ms/documents/ms48_revised.pdf , ftp://ftp.consrv.ca.gov/pub/dmg/rgmp/ . Note: It is unknown whether the $30B estimate includes life-cycle costs resulting from the permanent loss of underground sources of drinking water.

[xviii] http://www.unitedwater.org/images/stories/reports/GW-Conditions-Reports/GW_and_SW_Conditions_Report_-%202011.pdf

[xix] https://www.researchgate.net/publication/245548848_Subsidence-Induced_Well_Failure Also see (if you can get access?) Wilmington oil field subsidence ... "damage to wharves, pipelines, buildings, streets, bridges and oil wells necessitating costly repairs and remedial work, including the raising of land surface areas to prevent ... Subsidence in the Wilmington oilfield, Long Beach, California, U. S. A. .... Severe shear forces were imposed on the oil well casings by the earth." Subsidence in the Wilmington oil field - Save Ballona Wetlands **www.saveballona.org/gasoilfields/WilmSubGC.pdf**