

OTAY WATER DISTRICT
ENGINEERING, OPERATIONS & WATER RESOURCES COMMITTEE MEETING
and
SPECIAL MEETING OF THE BOARD OF DIRECTORS

2554 SWEETWATER SPRINGS BOULEVARD
SPRING VALLEY, CALIFORNIA
Board Room

WEDNESDAY
July 24, 2013
7:00 A.M.

This is a District Committee meeting. This meeting is being posted as a special meeting in order to comply with the Brown Act (Government Code Section §54954.2) in the event that a quorum of the Board is present. Items will be deliberated, however, no formal board actions will be taken at this meeting. The committee makes recommendations to the full board for its consideration and formal action.

AGENDA

1. ROLL CALL
2. PUBLIC PARTICIPATION – OPPORTUNITY FOR MEMBERS OF THE PUBLIC TO SPEAK TO THE BOARD ON ANY SUBJECT MATTER WITHIN THE BOARD'S JURISDICTION BUT NOT AN ITEM ON TODAY'S AGENDA

DISCUSSION ITEMS

3. APPROVE CHANGE ORDER NO. 3 TO THE EXISTING CONTRACT WITH LAY-FIELD ENVIRONMENTAL SYSTEMS CORPORATION FOR A CREDIT IN THE AMOUNT OF <\$39,618.43> FOR THE 624-1 RESERVOIR FLOATING COVER REPLACEMENT PROJECT (MARTIN) [5 minutes]
4. AWARD A PROFESSIONAL CONTRACT FOR AS-NEEDED PLAN REVIEW, INSPECTION, AND PROJECT MANAGEMENT SERVICES TO AEGIS ENGINEERING MANAGEMENT, INC. FOR DEVELOPER POTABLE AND RECYCLED WATER PROJECTS IN AN AMOUNT NOT-TO-EXCEED \$350,000 FOR A PERIOD OF TWO (2) FISCAL YEARS (FYs 2014 AND 2015) (MARTIN) [5 minutes]
5. APPROVE A PROFESSIONAL COATING INSPECTION SERVICES CONTRACT WITH HARPER & ASSOCIATES ENGINEERING, INC. IN AN AMOUNT NOT-TO-EXCEED \$75,160 FOR A PERIOD OF ONE (1) YEAR (AUGUST 2013 THROUGH JULY 2014) (CAMERON) [5 minutes]
6. APPROVE RECOMMENDATIONS IN THE PUBLIC HEALTH GOAL REPORT (PHG) TO TAKE NO FURTHER ACTION IN REDUCING THE LEVELS OF THE SEVEN

CONSTITUENTS LISTED IN THE REPORT TO LEVELS AT OR BELOW THE PHG's (STALKER) [5 minutes]

7. SAN DIEGO COUNTY WATER AUTHORITY UPDATE (WATTON) [10 minutes]
8. ADJOURNMENT

BOARD MEMBERS ATTENDING:

David Gonzalez, Chair
Jose Lopez

All items appearing on this agenda, whether or not expressly listed for action, may be deliberated and may be subject to action by the Board.

The Agenda, and any attachments containing written information, are available at the District's website at www.otaywater.gov. Written changes to any items to be considered at the open meeting, or to any attachments, will be posted on the District's website. Copies of the Agenda and all attachments are also available through the District Secretary by contacting her at (619) 670-2280.

If you have any disability that would require accommodation in order to enable you to participate in this meeting, please call the District Secretary at 670-2280 at least 24 hours prior to the meeting.

Certification of Posting

I certify that on July 19, 2013 I posted a copy of the foregoing agenda near the regular meeting place of the Board of Directors of Otay Water District, said time being at least 24 hours in advance of the meeting of the Board of Directors (Government Code Section §54954.2).

Executed at Spring Valley, California on July 19, 2013.

/s/ Susan Cruz, District Secretary

AGENDA ITEM 3



STAFF REPORT

TYPE MEETING:	Regular Board	MEETING DATE:	August 7, 2013
SUBMITTED BY:	Dan Martin Engineering Manager	PROJECT:	P2477- DIV. NO. 1 001103
APPROVED BY:	<input checked="" type="checkbox"/> Rod Posada, Chief, Engineering <input checked="" type="checkbox"/> German Alvarez, Assistant General Manager <input checked="" type="checkbox"/> Mark Watton, General Manager		
SUBJECT:	Approve Change Order No. 3 to the Contract with Layfield Environmental Systems Corporation for the 624-1 Reservoir Project		

GENERAL MANAGER'S RECOMMENDATION:

That the Otay Water District (District) Board of Directors (Board) approve Change Order No. 3 to the existing contract with Layfield Environmental Systems Corporation (Layfield) for a credit in the amount of <\$39,618.43> for the Floating Cover Replacement at the 624-1 Reservoir Project (see Exhibit A for Project location).

COMMITTEE ACTION:

Please see Attachment A.

PURPOSE:

To obtain Board authorization for the General Manager to approve Change Order No. 3 (see Exhibit B) to the existing contract with Layfield for a credit in an amount of <\$39,618.43> for the Floating Cover Replacement at the 624-1 Reservoir Project.

ANALYSIS:

At the October 9, 2012 Board Meeting, the Board awarded a construction contract in an amount not-to-exceed of \$497,050 to Layfield to replace the 624-1 Reservoir floating cover and protect, clean, and inspect the existing liner for this 12.0 MG reservoir.

Since the award of the construction contract, two contract change orders have been approved. The Board approved contract change order No. 1 in the amount of \$183,026.00 to replace the existing liner which was found to be unsuitable for reuse during construction. Change Order No. 2 was a no cost change and was approved to reconcile time associated with the liner replacement.

Change Order No. 3 (Exhibit B) which serves as a close-out Change Order for the contract, consists of credit items including reconciling unused allowances associated with Allowance Bid Item 7 "Repair Existing Liner" and Item 8 "Replace rather than reuse BID ITEM #2 components" and a credit for the re-use of existing vent screens determined suitable for re-use. Additionally, Change Order No. 3 provides for a reimbursement of lost water costs associated with a leaking underwater fitting until the Contractor corrected the problem with a diver. A complete breakdown of these credit and reimbursement items is included in Exhibit B.

Change Order No. 3 also adds 3 calendar days due to the weather impacts on the Project's progress. In summary, Change Order No. 3 results in a credit in the amount of <\$39,618.43> and adds 3 days time for a total contract amount of \$640,457.57 with a contract duration of 211 calendar days.

FISCAL IMPACT: Joe Beachem, Chief Financial Officer

The Fiscal Year 2014 budget for CIP P2477 is \$1,000,000. Total expenditures, plus outstanding commitments and forecast, including this contract change order, are \$906,967. See Attachment B for budget detail.

Based on a review of the financial budget, the Project Manager anticipates that these budgets will be sufficient to support the Project.

Finance has determined that 100% of the funding is available from the Replacement Fund for CIP P2477.

STRATEGIC GOAL:

This Project supports the District's Mission statement, "To provide high value water and wastewater services to the customers of the Otay Water District in a professional, effective, and efficient manner" and the General Manager's Vision, "A District that is at the forefront in innovations to provide water services at affordable rates, with a reputation for outstanding customer service."

LEGAL IMPACT:

None.

DM/RP:jf

P:\WORKING\CIP P2477 Reservoir Cover Replacement\Staff Reports\CO #3\BD 8-7-13, Staff Report, 624-1 Res Floating Cvr Repl CO #3.docx

Attachments: Attachment A - Committee Action
Attachment B - Budget Detail
Exhibit A - Location Map
Exhibit B - Change Order No. 3



ATTACHMENT A

SUBJECT/PROJECT: P2477-001103	Approve Change Order No. 3 to the Contract with Layfield Environmental Systems Corporation for the 624-1 Reservoir Project
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COMMITTEE ACTION:

The Engineering, Operations, and Water Resources Committee (Committee) reviewed this item at a meeting held on July 24, 2013. The Committee supported Staff's recommendation.

NOTE:

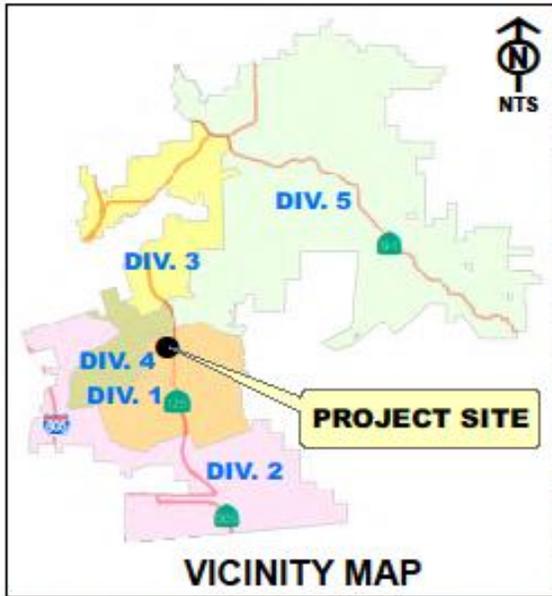
The "Committee Action" is written in anticipation of the Committee moving the item forward for Board approval. This report will be sent to the Board as a Committee approved item, or modified to reflect any discussion or changes as directed from the Committee prior to presentation to the full Board.



ATTACHMENT B – Budget Detail

SUBJECT/PROJECT:	Approve Change Order No. 3 to the Contract with Layfield Environmental Systems Corporation for the 624-1 Reservoir Project
P2477-001103	

Otay Water District					Date Updated: 6/28/2013
p2477-Res - 624-1 Reservoir Cover Replacement					
<i>Budget</i>	<i>Committed</i>	<i>Expenditures</i>	<i>Outstanding Commitment & Forecast</i>	<i>Projected Final Cost</i>	<i>Vendor/Comments</i>
1,000,000					
Planning					
Regulatory Agency Fees	50	50	-	50	PETTY CASH CUSTODIAN
Service Contracts	4,000	4,000	-	4,000	FIRST AMERICAN TITLE CO
Standard Salaries	18,083	18,083	-	18,083	
Total Planning	22,133	22,133	-	22,133	
Design					
Consultant Contracts	70,620	70,620	-	70,620	ATKINS
	1,810	1,810	-	1,810	ALTA LAND SURVEYING INC
Service Contracts	84	84	-	84	SAN DIEGO DAILY TRANSCRIPT
	1,823	1,547	276	1,823	MAYER REPROGRAPHICS INC
	1,062	1,062	-	1,062	LAYFIELD ENVIRONMENTAL SYSTEMS
Standard Salaries	45,175	45,175	-	45,175	
Total Design	120,574	120,298	276	120,574	
Construction					
Consultant Contracts	26,400	6,450	19,950	26,400	ALYSON CONSULTING
	195	195	-	195	ATKINS
Professional Legal Fees	1,883	1,883	-	1,883	STUTZ ARTIANO SHINOFF
Service Contracts	2,000	2,000	-	2,000	DIVE/CORR INC
	696,180	645,010	51,170	696,180	LAYFIELD ENVIRONMENTAL SYSTEMS
	(39,618)		(39,618)	(39,618)	Change Order No. 3
Standard Salaries	77,221	67,221	10,000	77,221	
0	-	-	-	-	0
0	-	-	-	-	0
Total Construction	764,261	722,759	41,502	764,260	
Grand Total	906,967	865,189	41,778	906,967	



P:\WORKING\GIS\PPP\2477_Reservoir_Cover_Replacement\GIS\Map\Exhibits\Exhibit A_Location Map.mxd



OTAY WATER DISTRICT
624-1 RESERVOIR FLOATING COVER REPLACEMENT
LOCATION MAP

CIP P2477

EXHIBIT A

OTAY WATER DISTRICT

2554 SWEETWATER SPRINGS BLVD., SPRING VALLEY, CA. 91978, (619) 670-2222

CONTRACT/P.O. CHANGE ORDER No. 3

PROJECT/ITEM: Reservoir 624-1 Floating Cover Replacement Project

CONTRACTOR/VENDOR: Layfield Environmental Systems **REF.CIP No.:** P2477-001103

APPROVED BY: Board

REF. P.O. No: 716855

DATE: 06/20/13

DESCRIPTION:

See attached page 2 of 2 for continuation.

REASON:

See attached page 2 of 2 for continuation.

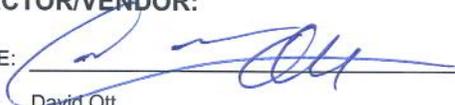
CHANGE P.O. TO READ:

Revise Contract to credit \$39,618.43 and add 3 days time for a total Contract amount of \$640,457.57 with a Contract Duration of 211 Calendar Days.

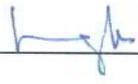
ORIGINAL CONTRACT/P.O. AMOUNT:	\$	497,050.00
ADJUSTED AMOUNT FROM PREVIOUS CHANGE:	\$	183,026.00
TOTAL COST OF THIS CHANGE ORDER:	\$	(39,618.43)
NEW CONTRACT/P.O. AMOUNT IS:	\$	640,457.57
ORIGINAL CONTRACT COMPLETION DATE:		04/05/13
CONTRACT/P.O. TIME AFFECTED BY THIS CHANGE:		Yes
REVISED CONTRACT COMPLETION DATE:		06/15/13

IT IS UNDERSTOOD WITH THE FOLLOWING APPROVALS, THAT THE CONTRACTOR/VENDOR IS AUTHORIZED AND DIRECTED TO MAKE THE HEREIN DESCRIBED CHANGES. IT IS ALSO AGREED THAT THE TOTAL COST FOR THIS CHANGE ORDER CONSTITUTES FULL AND COMPLETE COMPENSATION FOR OBLIGATIONS REQUIRED BY THE CONTRACT/P.O. ALL OTHER PROVISIONS AND REQUIREMENTS OF THE CONTRACT/P.O. REMAIN IN FULL FORCE AND EFFECT.

CONTRACTOR/VENDOR:

SIGNATURE: 
NAME: David Ott
TITLE: Project Manager DATE: 6/25/13
COMPANY & ADDRESS: Layfield Environmental Systems
2500 Sweetwater Springs Blvd
Spring Valley, CA 91978

STAFF APPROVALS:

PROJ. MGR:  DATE: 06/24/2013
DIV. MGR: _____ DATE: _____
CHIEF: _____ DATE: _____
ASST. GM: _____ DATE: _____
DISTRICT APPROVAL:
GEN. MANAGER: _____ DATE: _____

COPIES: FILE (Orig.), CONTRACTOR/VENDOR, CHIEF-ENGINEERING, CHIEF-FINANCE, ENGR. MGR.
 ACCTS PAYABLE, INSPECTION, PROJ. MGR., ENGR. SECRETARY, PURCHASING, PROJECT BINDER

Description of Work

<u>Description</u>	<u>Increase</u>	<u>Decrease</u>	<u>Time</u>
<u>Item No. 1:</u> This Change Order adds 3 calendar days due to weather impacts per Contract Specifications 00700-8.5.	\$0.00	\$0.00	3
<u>Item No. 2:</u> This Change Order decreases the amount allocated for Bid Item 7, Repair Existing Liner Allowance by \$20,000.00 to a new authorized amount of \$0.00.		\$20,000.00	0
<u>Item No. 3:</u> This Change Order decreases the amount allocated for Bid Item 8, Replace rather than reuse BID ITEM NO. 2 components Allowance by \$18,111.20 to a new authorized amount of \$0.00.		\$18,111.20	0
<u>Item No. 4:</u> This Change Order provides a credit for re-use of existing vent screens as identified in Submittal 003.		\$566.05	0
<u>Item No. 5:</u> This Change Order provides for reimbursement of lost water costs associated with a leaking underwater fitting until correction was implemented.		\$941.18	0
Sub Total Amount	\$0.00	\$39,618.43	3
Total Net Change Order Amount	(\$39,618.43)		

Revisions to: BID SCHEDULE

Item #	Description	Quantity	Unit	Unit Price	Amount
7	Repair Existing Liner	1	LS	Allowance	\$0.00
8	Replace rather than reuse BID ITEM NO. 2 components	1	LS	Allowance	\$1,888.80

Reason:

- Item No. 1:
Contract Documents Section 00700-8.5 provides for no cost time extensions due to weather impacts on the project progress. Weather impacted the project three (3) days between April 2013 and June 2013. April 15, 2013 and May 6 and 24, 2013.
- Item No. 2:
The Contract Bid Item No. 7, Repair Existing Liner Allowance, was utilized to the maximum practical extent in the performance of the contract work and is no longer required.
- Item No. 3:
The Contract Bid Item No. 8, Replace rather than reuse BID ITEM #2 components Allowance, was utilized to the maximum practical extent in the performance of the contract work and is no longer required.
- Item No. 4:
Subsequent to demolition it was determined that the existing vent screen material was suitable for reuse as identified during the submittal 003 review process. This discovery resulted in the decision to reuse the existing material and realize a credit to the contract.
- Item No. 5:
Subsequent to reservoir filling it was discovered that an underwater fitting was not secured properly resulting in loss of District provided water until the Contractor corrected the problem with a diver. This change is necessary to allow the District to recover the additional expenditures incurred.

CHANGE ORDER LOG

Reservoir 624-1 Floating Cover Replacement

P2477-001103

C.O.	AMOUNT	APPROVED		DESCRIPTION	TYPE C.O.
		BY	DATE		
1	\$183,026.00	Board	3/7/2013	Replace Existing Liner	
2	\$0.00	Chief	4/19/2013	Time Extension	
3	(\$39,618.43)	Board		Closeout	
4					
5					
6					
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40					

Total C.O.'s To Date: \$143,407.57 28.9%

Original Contract Amount: \$497,050.00

Current Contract Amount: \$640,457.57

Change Order Breakdown for the Month:

Month	Net C.O.\$	Limit	Authorization	Absolute C.O.\$	Absolute C.O. %
6/13	\$0.00	\$5,000/5%	PM/Supervisor	\$0.00	0.0%
		\$10,000/10%	Manager	\$0.00	0.0%
		\$15,000/20%	Chief	\$0.00	0.0%
		\$50,000/30%	GM	\$0.00	0.0%

AGENDA ITEM 4



STAFF REPORT

TYPE MEETING:	Regular Board	MEETING DATE:	August 7, 2013
SUBMITTED BY:	Dan Martin Engineering Manager	PROJECT NO./ SUBPROJECT:	P1438- DIV. NO. ALL 010000
APPROVED BY:	<input checked="" type="checkbox"/> Rod Posada, Chief, Engineering <input checked="" type="checkbox"/> German Alvarez, Assistant General Manager <input checked="" type="checkbox"/> Mark Watton, General Manager		
SUBJECT:	Award of As-Needed Plan Review, Inspection, and Project Management Services for Developer Potable and Recycled Water Projects Contract for Fiscal Years 2014 and 2015		

GENERAL MANAGER'S RECOMMENDATION:

That the Otay Water District (District) Board of Directors (Board) award a professional As-Needed Plan Review, Inspection, and Project Management Services for Developer Potable and Recycled Water Projects contract to Aegis Engineering Management, Inc. (AegisEM) and authorize the General Manager to execute an agreement with AegisEM in an amount not-to-exceed \$350,000, for a period of two (2) fiscal years (FY 2014, FY 2015).

COMMITTEE ACTION:

Please see Attachment A.

PURPOSE:

To obtain Board authorization for the General Manager to enter into a professional As-Needed Plan Review, Inspection, and Project Management Services for Developer Potable and Recycled Water Projects agreement with AegisEM in an amount not-to-exceed \$350,000, for a period of two (2) fiscal years (FY 2014, FY 2015).

ANALYSIS:

The District will require the services of a consulting firm in support of developer projects to provide professional services for Plan Review, Inspection, and Project Management for Developer Potable and Recycled Water Projects. The Consultant assists the Public Services Division of the Engineering Department in processing and performing plan check review, approvals, inspection, and project close-out for both developer and retrofit projects. The inspection services require the Consultant to be a Cross-Connection Control Specialist certified through the American Water Works Association (AWWA) or American Backflow Prevention Association (ABPA). Proof of certification was required at the time of proposal. The inspection services shall coordinate coverage testing as well as cross-connection tests, as mandated by the California Department of Public Health. It is anticipated that the Consultant will review and inspect approximately fifty (50) projects or more. Over the same period, staff estimates the cost to perform this responsibility will not exceed \$350,000.

On February 6, 2013, the District initially solicited for Plan Review Inspection and Project Management Services for Developer Potable and Recycled Water Projects by placing an advertisement on the District's website and several other publications, including the San Diego Daily Transcript. Eleven (11) firms submitted a letter of interest and a statement of qualifications. The Request for Proposal (RFP) for Plan Review, Inspection, and Project Management Services for Developer Potable and Recycled Water Projects was sent to the eleven (11) firms resulting in four (4) proposals received by March 13, 2013 from the following firms:

- AEGIS Engineering Management
- Krazan & Associates
- Brady
- Atkins

The seven (7) firms that chose not to propose are Valley Cooper & Associates, Jacobs, PSOMAS, J.C. Heden & Associates, Nuera Contracting and Consulting, The "G" Crew, and Alyson Consulting. Of the four (4) proposals received, only one (1) was found to be responsive with respect to the District's requirement for AWWA or ABPA cross-connection control specialist certification. The remaining seven (7) declined to propose due to various reasons including expressing difficulty with finding inspectors with AWWA or ABPA certified cross-connection control specialist certifications.

As a result, staff decided to strengthen the procurement outreach and re-advertize.

On April 8, 2013, the District re-solicited Plan Review Inspection and Project Management Services for Developer Potable and Recycled Water Projects by placing an advertisement on the District's website and several other publications, including the East County Gazette and San Diego Daily Transcript. Staff also reached out to firms to notify them of the contracting opportunity. Additionally, the advertisement included notification of the AWWA or ABPA certified cross-connection control specialist certification requirement. Six (6) firms submitted a letter of interest and a statement of qualifications. The Request for Proposal (RFP) for Plan Review, Inspection, and Project Management Services for Developer Potable and Recycled Water Projects was sent to six (6) firms resulting in three (3) proposals received by May 13, 2013 from the following firms:

- AEGIS Engineering Management
- Brady
- Atkins

The three (3) firms that chose not to participate were Wallace and Associates Consulting, Alyson Consulting, and PSOMAS.

In accordance with the District's Policy 21, Staff evaluated and scored all written proposals and interviewed the three (3) firms on June 17 and June 18, 2013. AegisEM received the highest score for their services based on their experience, understanding of the scope of work, proposed method to accomplish the work, and their composite hourly rate. AegisEM was the most qualified with the best overall rating or ranking. A summary of the complete evaluation is shown in Attachment B.

AegisEM submitted the Company Background Questionnaire, as required by the RFP, and staff did not find any significant issues. Staff checked their references and performed an internet search on the company. Staff found the references to be excellent and did not find any outstanding issues with the internet search.

AegisEM's project manager and inspector listed in the proposal are AWWA or ABPA certified cross-connection control specialists and have vast plan checking, inspection, and retrofitting experience.

Staff estimated that an average of \$7,000 will be needed per project to perform the plan check review and inspections. The District recuperates these funds by billing directly to the developer.

FISCAL IMPACT: Joe Beachem, Chief Financial Officer

Plan check and inspection services are an on-going effort provided by the District to developers. This particular expense is completely funded by developer deposits and does not affect the District's operating budget.

STRATEGIC GOAL:

This Project supports the District's Mission statement, "To provide high value water and wastewater services to the customers of the Otay Water District in a professional, effective, and efficient manner" and the General Manager's Vision, "A District that is at the forefront in innovations to provide water services at affordable rates, with a reputation for outstanding customer service."

LEGAL IMPACT:

None.

DM/RP:jf

P:\Public-s\STAFF REPORTS\2013\BD 08-07-13\As-Needed Plan_Inspect_PM for Recycled\BD 08-07-13, Staff Report, Award Contract for Plan Check Inspection (Recy-PoT-Retro).doc

Attachments: Attachment A - Committee Action
Attachment B - Summary of Proposal Rankings



ATTACHMENT A

SUBJECT/PROJECT: P1438-010000	Award of As-Needed Plan Review, Inspection, and Project Management Services for Developer Potable and Recycled Water Projects Contract for Fiscal Years 2014 and 2015
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COMMITTEE ACTION:

The Engineering, Operations, and Water Resources Committee (Committee) reviewed this item at a meeting held on July 24, 2013. The Committee supported Staff's recommendation.

NOTE:

The "Committee Action" is written in anticipation of the Committee moving the item forward for Board approval. This report will be sent to the Board as a Committee approved item, or modified to reflect any discussion or changes as directed from the Committee prior to presentation to the full Board.

ATTACHMENT B

**SUMMARY OF PROPOSAL RANKINGS
AS-NEEDED PLAN REVIEW, INSPECTION, AND PROJECT MANAGEMENT
CONSULTING SERVICES**

	WRITTEN								ORAL				TOTAL SCORE	REFERENCES		
	Qualifications of Team	Responsiveness, Project Understanding	Technical and Management Approach	INDIVIDUAL SUBTOTAL - WRITTEN	AVERAGE SUBTOTAL - WRITTEN	Proposed Rates*	Consultant's Commitment to DBE	AVERAGE TOTAL WRITTEN	Additional Creativity and Insight	Strength of Project Manager	Presentation, Communication Skills	Quality of Response to Questions			INDIVIDUAL TOTAL - ORAL	AVERAGE TOTAL ORAL
MAXIMUM POINTS	30	25	30	85	85	15	Y/N	100	15	15	10	10	50	50	150	Poor/Good/Excellent
Aegis	BOB KENNEDY	27	22	27	76	15	Y	93	14	14	9	9	46	46	139	Excellent
	JEFF MARCHIORO	28	23	28	79				14	14	9	9	46			
	ROGER HOLLY	28	24	28	80				15	14	9	9	47			
	JOSE MARTINEZ	27	23	28	78				14	13	9	8	44			
	BRANDON DIPIETRO	27	24	26	77				15	14	9	9	47			
Brady	BOB KENNEDY	25	20	24	69	8	Y	76	12	12	7	7	38	37	113	
	JEFF MARCHIORO	25	19	25	69				11	11	8	6	36			
	ROGER HOLLY	22	21	22	65				11	11	7	7	36			
	JOSE MARTINEZ	23	21	23	67				11	13	7	5	36			
	BRANDON DIPIETRO	25	22	22	69				12	14	7	7	40			
Atkins	BOB KENNEDY	26	21	26	73	1	Y	73	13	13	8	8	42	41	114	
	JEFF MARCHIORO	27	22	25	74				11	12	9	7	39			
	ROGER HOLLY	24	23	23	70				12	12	7	8	39			
	JOSE MARTINEZ	25	23	25	73				13	12	9	7	41			
	BRANDON DIPIETRO	26	22	23	71				13	14	8	8	43			

RATES SCORING CHART			
Consultant	Proposed Rates	Position	Score
Aegis	\$700	lowest	15
Brady	\$800		8
Atkins	\$900	highest	1

*The fees were evaluated by comparing rates for seven positions. The sum of these seven rates are noted on the table to the left.
Note: The Review Panel does not see or consider rates when scoring other categories. Rates are scored by the PM, who is not on the Review Panel.

AGENDA ITEM 5



STAFF REPORT

TYPE MEETING:	Regular Board	MEETING DATE:	August 7, 2013
SUBMITTED BY:	Kevin Cameron Assistant Civil Engineer II	PROJECT:	P2493-001103 P2535-001103
	Bob Kennedy Engineering Manager	DIV. NOs.:	2, 4
APPROVED BY:	<input checked="" type="checkbox"/> Rod Posada, Chief, Engineering <input checked="" type="checkbox"/> German Alvarez, Assistant General Manager <input checked="" type="checkbox"/> Mark Watton, General Manager		
SUBJECT:	Award a Professional Services Agreement with Harper & Associates Engineering, Inc. for Coating Inspection Services on the 624-2 and 458-2 Reservoir Coating Project		

GENERAL MANAGER'S RECOMMENDATION:

That the Otay Water District (District) Board of Directors (Board) award a professional Coating Inspection Services contract to Harper & Associates Engineering, Inc. (Harper) and to authorize the General Manager to execute an agreement with Harper in an amount not-to-exceed \$75,160 for a period of one (1) year (August 2013 through July 2014) (see Exhibits A-1 & A-2 for Project locations).

COMMITTEE ACTION:

Please see Attachment A.

PURPOSE:

To obtain Board authorization for the General Manager to enter into a professional services agreement with Harper in an amount not-to-exceed \$75,160 for a period of one (1) year (August 2013 through July 2014) for coating inspection services on the 624-2 Reservoir Interior/Exterior Coating (CIP 2493) and the 458-2 Reservoir Interior Coating (CIP P2535) Projects.

ANALYSIS:

In June 2013, the District's corrosion consultant, V&A Consulting Engineers, completed a Corrosion Control Program (CCP) that addressed the installation, maintenance, and monitoring of corrosion protection systems for the District's steel reservoirs and buried metallic piping. The CCP included a reservoir maintenance schedule that showed the 624-2 Reservoir is due to be recoated on both the interior and exterior surfaces, and the 458-2 Reservoir is due to be recoated on the interior only. The exterior coating of the 458-2 was replaced in 2004.

The coating replacement on steel reservoirs requires specialty inspection to ensure the application is applied according to the manufacturer's specifications and complies with state health regulations. In the past, the District has used the as-needed corrosion engineer to perform coating inspection, and many of the corrosion engineers have to sub-contract the work of coating inspection. By contracting directly with the coating inspector, the District is expected to get the best value for each dollar spent.

The District solicited coating inspection services by placing an advertisement on the Otay Water District's website on May 13, 2013 with various other publications including the San Diego Daily Transcript. Eight (8) firms submitted a letter of interest and a statement of qualifications. The Request for Proposal (RFP) for Coating Inspection Services was sent to the eight (8) firms resulting in four (4) proposals received by June 18, 2013 from the following firms:

- Bay Area Coating Consultants, Inc.
- Corrpro Companies, Inc.
- CSI Services
- Harper & Associates Engineering, Inc.

The four (4) firms that chose not to propose were HDR, MCS Inspection Group, Shawn Pablo, and Tank Industry Consultants.

In accordance with the District's Policy 21, staff evaluated and scored all written proposals. Harper received the highest score for their services based on their experience, understanding of the scope of work, proposed method to accomplish the work, and their hourly rate. Harper was the most qualified consultant with the best overall rating or ranking score. A summary of the complete evaluation is shown in Exhibit B.

Harper submitted the Company Background Questionnaire as required by the RFP and staff did not find any outstanding issues. In addition, staff checked their references and performed an internet search on the company. Staff found the references to be excellent and did not find any outstanding issues with the internet search. Staff has worked with Harper on numerous occasions over the last twenty years, and they have performed at a high level.

FISCAL IMPACT: Joe Beachem, Chief Financial Officer

The total budget for CIP P2493, as approved in the FY 2014 budget, is \$1,950,000. Total expenditures, plus outstanding commitments and forecast, are \$1,883,726.

The total budget for CIP P2535, as approved in the FY 2014 budget, is \$425,000. Total expenditures, plus outstanding commitments and forecast, are \$401,434.

Based on a review of the financial budget, the Project Manager anticipates that both budgets are sufficient to support the Project. See Attachment B-1 for the budget detail for CIP P2493 and Attachment B-2 for the budget detail for CIP P2535.

Finance has determined that 100% of the funding is available from the Replacement Fund for both CIP P2493 and CIP P2535.

STRATEGIC GOAL:

This Project supports the District's Mission statement, "To provide high value water and wastewater services to the customers of the Otay Water District in a professional, effective, and efficient manner" and the General Manager's Vision, "A District that is at the forefront in innovations to provide water services at affordable rates, with a reputation for outstanding customer service."

LEGAL IMPACT:

None.

KC/BK:jf

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- Attachments:
- Attachment A - Committee Action
 - Attachment B-1 - Budget Detail for CIP P2493
 - Attachment B-2 - Budget Detail for CIP P2535
 - Exhibit A-1 - Location Map for CIP P2493
 - Exhibit A-2 - Location Map for CIP P2535
 - Exhibit B - Summary of Proposal Rankings



ATTACHMENT A

SUBJECT/PROJECT: P2493-001103 P2535-001103	Award a Professional Services Agreement with Harper & Associates Engineering, Inc. for Coating Inspection Services on the 624-2 and 458-2 Reservoir Coating Project
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COMMITTEE ACTION:

The Engineering, Operations, and Water Resources Committee (Committee) reviewed this item at a meeting held on July 24, 2013. The Committee supported Staff's recommendation.

NOTE:

The "Committee Action" is written in anticipation of the Committee moving the item forward for Board approval. This report will be sent to the Board as a Committee approved item, or modified to reflect any discussion or changes as directed from the Committee prior to presentation to the full Board.



ATTACHMENT B-1 – Budget Detail

SUBJECT/PROJECT: P2493-001103 P2535-001103	Award a Professional Services Agreement with Harper & Associates Engineering, Inc. for Coating Inspection Services on the 624-2 and 458-2 Reservoir Coating Project
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Otay Water District
 P2493-624-2 Reservoir Interior Coating & Upgra

Date Updated: - 7/1/2013

<i>Budget</i>	<i>Committed</i>	<i>Expenditures</i>	<i>Outstanding Commitment & Forecast</i>	<i>Projected Final Cost</i>	<i>Vendor/Comments</i>
1,950,000					
Planning					
Standard Salaries	569	569	-	569	
Total Planning	569	569	-	569	
Design					
Standard Salaries	27,827	7,827	20,000	27,827	
Professional Legal Fees	239	239	-	239	STUTZ ARTIANO SHINOFF
Consultant Contracts	2,743	-	2,743	2,743	CSI SERVICES INC
Total Design	30,809	8,066	22,743	30,809	
Construction					
Standard Salaries	76,416	1,416	75,000	76,416	
Construction Contract	1,600,000	-	1,600,000	1,600,000	CONSTRUCTION CONTRACTOR (ENGR. EST.)
Service Contracts	47	47	-	47	SAN DIEGO DAILY TRANSCRIPT
	50,160	-	50,160	50,160	HARPER & ASSOCIATES
	30,000	-	30,000	30,000	CONSTRUCTION MANAGEMENT
Equipment Rental	725	725	-	725	HORIZON CRANE SERVICE LLC
Project Closeout	15,000	-	15,000	15,000	CLOSEOUT
Project Contingency	80,000	-	80,000	80,000	5% CONTINGENCY
Total Construction	1,852,348	2,188	1,850,160	1,852,348	
Grand Total	1,883,726	10,823	1,872,903	1,883,726	



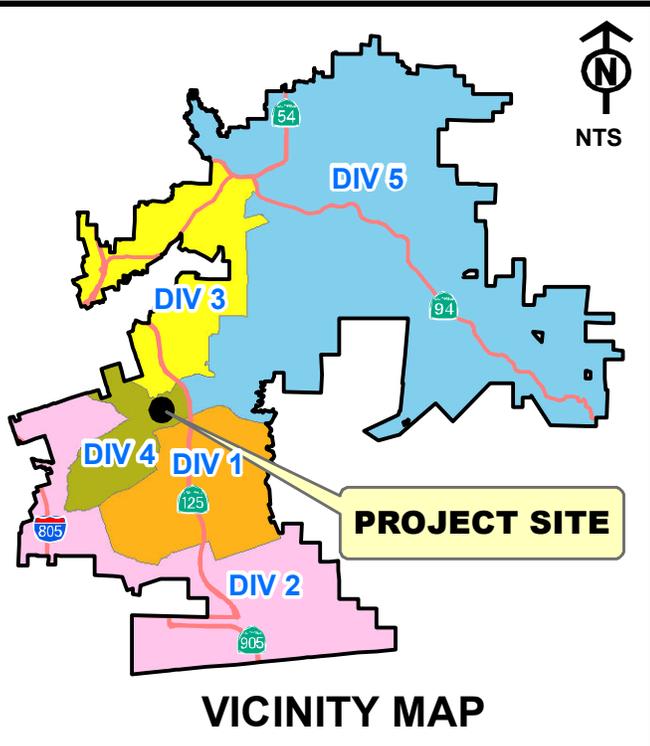
ATTACHMENT B-2 – Budget Detail

SUBJECT/PROJECT:	Award a Professional Services Agreement with Harper & Associates Engineering, Inc. for Coating Inspection Services on the 624-2 and 458-2 Reservoir Coating Project
P2493-001103	
P2535-001103	

Otay Water District
P2535-458-2 Reservoir Interior Coating

Date Updated: - 7/1/2013

<i>Budget</i>	<i>Committed</i>	<i>Expenditures</i>	<i>Outstanding Commitment & Forecast</i>	<i>Projected Final Cost</i>	<i>Vendor/Comments</i>
425,000					
Planning					
Standard Salaries	-	-	-	-	
Total Planning	-	-	-	-	
Design					
Standard Salaries	19,134	4,134	15,000	19,134	
Consultant Contracts	2,743	-	2,743	2,743	CSI SERVICES INC
Total Design	21,877	4,134	17,743	21,877	
Construction					
Standard Salaries	35,760	760	35,000	35,760	
Service Contracts	47	47	-	47	SAN DIEGO DAILY TRANSCRIPT
Construction Contract	275,000	-	275,000	275,000	CONSTRUCTION CONTRACTOR (ENGR. EST.)
	25,000	-	25,000	25,000	HARPER & ASSOCIATES
	15,000	-	15,000	15,000	CONSTRUCTION MANAGEMENT
Project Closeout	15,000	-	15,000	15,000	CLOSEOUT
Project Contingency	13,750	-	13,750	13,750	5% CONTINGENCY
Total Construction	379,557	807	378,750	379,557	
Grand Total	401,434	4,941	396,493	401,434	



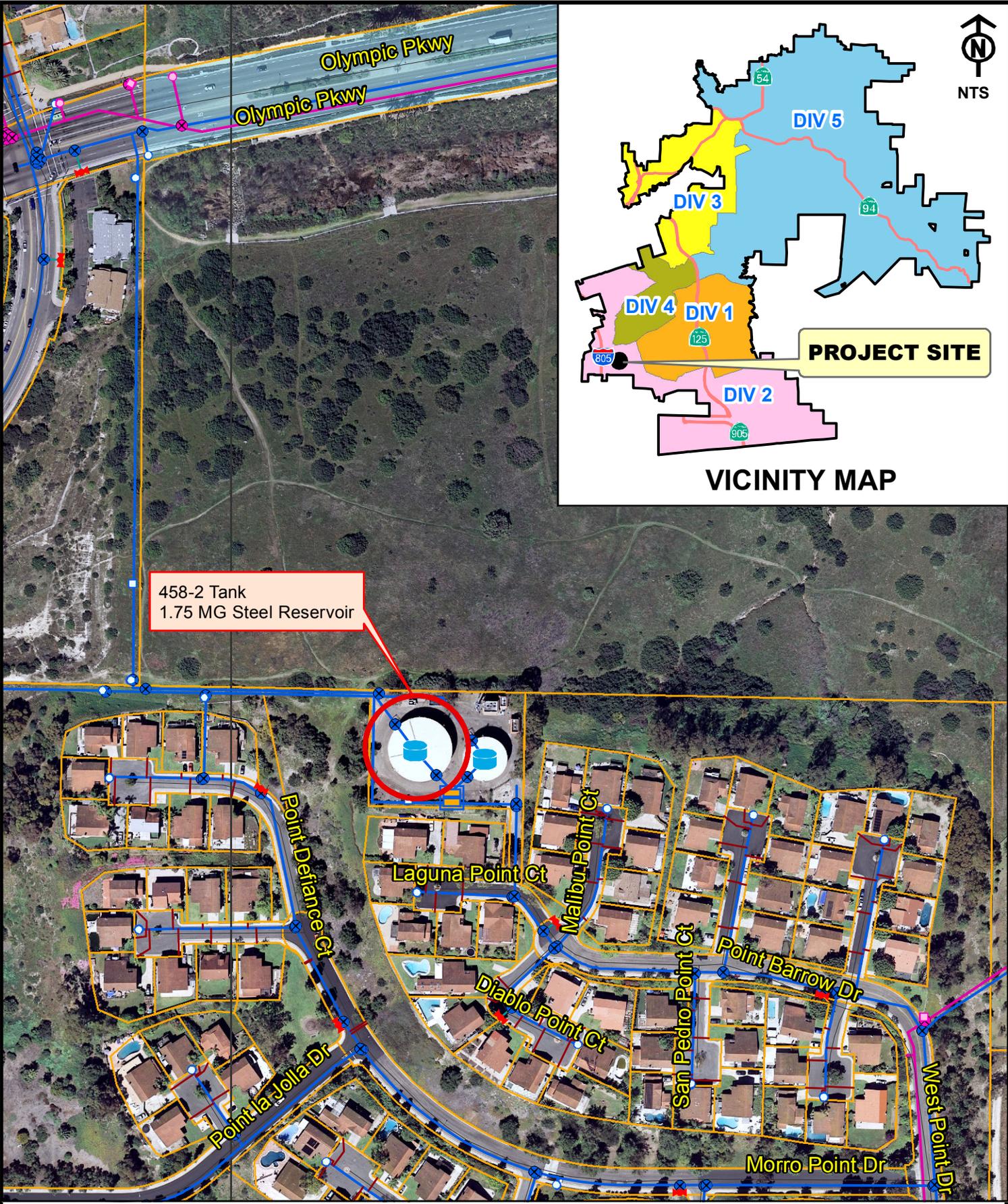
624-2 Tank
8.0 MG Steel Reservoir

OTAY WATER DISTRICT
624-2 Reservoir Interior/Exterior
Coating and Upgrades

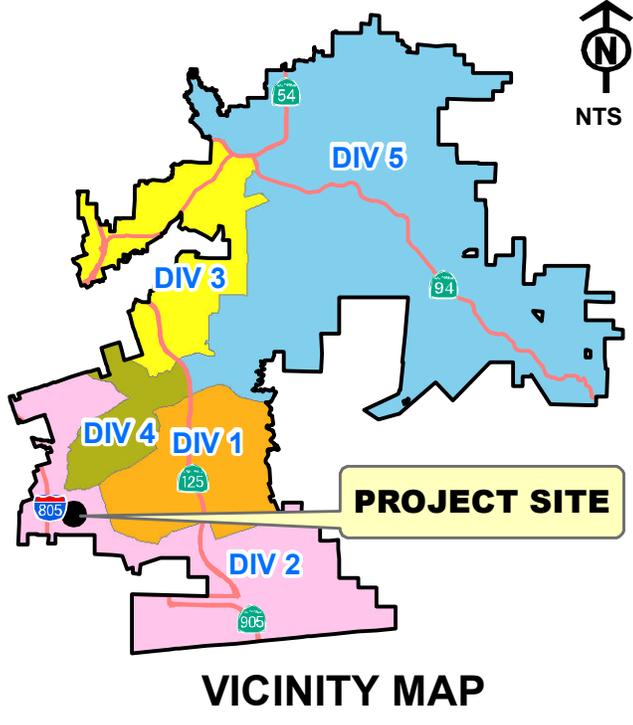


CIP P2493

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458-2 Tank
1.75 MG Steel Reservoir



VICINITY MAP



OTAY WATER DISTRICT

458-2 Reservoir Interior Coating and Upgrades



CIP P2535

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EXHIBIT B
SUMMARY OF PROPOSAL RANKINGS
Coating Inspection Services For the 624-2 & 458-2 Reservoir Coating (P2493 & P2535)

		WRITTEN							REFERENCES	
		Qualifications of Team	Responsiveness and Project Understanding	Technical and Management Approach	INDIVIDUAL SUBTOTAL - WRITTEN	AVERAGE SUBTOTAL - WRITTEN	Proposed Rates*	Consultant's Commitment to DBE		TOTAL SCORE
MAXIMUM POINTS		30	25	30	85	85	15	Y/N	100	Poor/Good/Excellent
Bay Area Coating Consultants	Dan Martin	26	23	28	77	75	1	Y	76	
	Bob Kennedy	26	23	28	77					
	Brandon DiPietro	28	23	26	77					
	Jeff Marchioro	29	20	23	72					
	Kevin Schmidt	24	22	25	71					
Corrpro	Dan Martin	24	22	24	70	69	4	Y	73	
	Bob Kennedy	24	22	25	71					
	Brandon DiPietro	25	22	24	71					
	Jeff Marchioro	26	18	23	67					
	Kevin Schmidt	22	20	23	65					
CSI Services	Dan Martin	25	22	25	72	69	12	Y	81	
	Bob Kennedy	21	20	21	62					
	Brandon DiPietro	25	22	25	72					
	Jeff Marchioro	24	22	26	72					
	Kevin Schmidt	24	21	21	66					
Harper & Associates	Dan Martin	27	23	29	79	76	15	Y	91	
	Bob Kennedy	26	23	28	77					
	Brandon DiPietro	27	23	25	75					
	Jeff Marchioro	27	23	27	77					
	Kevin Schmidt	24	23	26	73					

RATES SCORING CHART			
Consultant	Rate	Position	Score
Bay Area Consultants	\$105.70	highest	1
Corrpro	\$100.00		4
CSI Services	\$86.50		12
Harper & Associates	\$82.00	lowest	15

*The fees were evaluated by comparing hourly rates for NACE Level III Coating Inspector position. The sum of these rates are noted in the above table.

Note: Review Panel does not see or consider rates when scoring other categories. Rates are scored by the PM, who is not on Review Panel.

AGENDA ITEM 6



STAFF REPORT

TYPE MEETING:	Regular Board	MEETING DATE:	August 7, 2013
SUBMITTED BY:	Gary Stalker Water Systems Manager	PROJECT:	DIV. NO. All
APPROVED BY:	<input checked="" type="checkbox"/> Pedro Porras, Chief, Water Operations <input checked="" type="checkbox"/> German Alvarez, Asst. General Manager <input checked="" type="checkbox"/> Mark Watton, General Manager		
SUBJECT:	Approval of Public Health Goal Report Recommendations		

GENERAL MANAGER'S RECOMMENDATION:

That the Otay Water District (District) Board of Directors (Board) approve the recommendations in the Public Health Goal (PHG) Report to take no further action in reducing the levels of the seven constituents listed in the report to levels at or below the PHGs.

COMMITTEE ACTION:

Please see Attachment "A".

PURPOSE:

To present the PHG Report to the Board and to obtain approval for the recommendation that no action be taken to reduce the levels of the seven constituents listed in the report to the PHG or below. The Board meeting will also meet the requirement to have a public hearing to accept and respond to public comment.

ANALYSIS:

California Health and Safety Code §116470 specifies that larger (>10,000 service connections) water utilities prepare a special report by July 1, 2013 if their water quality measurements have exceeded any Public Health Goals (PHGs). PHGs are non-enforceable goals established by the Cal-EPA's Office of Environmental Health Hazard Assessment (OEHHA). The law also requires that where OEHHA has not adopted a PHG for a constituent, the water suppliers are to use the Maximum

Contaminant Level Goals (MCLGs) adopted by USEPA. Only constituents which have a California primary drinking water standard and for which either a PHG or MCLG has been set are to be addressed.

Staff completed this special report before July 1, 2013 (see Attachment B) and staff's recommendation is that no action be taken for the District to install RO treatment or request suppliers to install RO treatment for the following reasons:

- Water served by the District during this three year period met all CDPH and USEPA drinking water standards set to protect public health. CDPH considers water that meets all standards as safe to drink.
- To further reduce the levels of the constituents identified in this report that are already significantly below the health-based MCLs established to provide "safe drinking water", costly treatment processes would be required, translating to an average monthly cost increase of \$26.10 - \$50.18 per District customer.
- The effectiveness of the treatment processes to provide any significant reductions in constituent levels to the PHGs is difficult, if not impossible to determine since the analytical DLR is much higher than the PHG in most cases.
- The health protection benefits of these further hypothetical reductions are not at all clear and may not be quantifiable.

ADDITIONAL INFORMATION:

PHGs are based solely on public health risk considerations. None of the practical risk-management factors that are considered by the USEPA or the California Department of Public Health (CDPH) in setting Maximum Contaminant Levels (MCLs) are considered in setting the PHGs. These factors include analytical detection capability, available treatment technology, benefits and costs. The PHGs are not enforceable and are not required to be met by any public water system. MCLGs are the federal equivalent to PHGs.

If a constituent was detected in the District's distribution system or in the treated water the District purchases from other agencies, between 2010 and 2012, at a level exceeding an applicable PHG or MCLG, the PHG report provides the information required by the regulation. Included is the numerical public health risk associated with the Maximum Contaminant Level (MCL) and the PHG or MCLG, the category or type of risk to health that could be associated with each constituent, the best treatment technology available that could be used to reduce the

constituent level, and an estimate of the cost to install that treatment if it is appropriate and feasible.

The purpose of the report is to provide customers with information on health-related contaminants detected in the water supply, even when detected below the enforceable MCLs, so customers are aware of whatever risks might be posed by the presence of these contaminants. MCLs are set at very conservative levels that provide very low to negligible risk and are considered the regulatory definition of what is "safe". PHGs and MCLGs are set at the theoretical level where there is no health risk. MCLGs are set at zero for many contaminants, such as total coliforms, E. coli, and carcinogens, even though it is understood that zero is an unattainable goal and cannot be measured analytically. Most PHGs and MCLGs are set far below the required Detection Levels for Reporting (DLR) which is the minimum level that CDPH has determined can be accurately reported.

Below is a table summarizing the seven constituents detected above the PHG or MCLG in calendar years 2010, 2011, and/or 2012. More detail for each is provided in the attached PHG Report.

Constituent	Units	MCL	PHG/MCLG	DLR	Levels Detected
Coliforms	% Positive	5.0	0	NA	0 - 1.4
Arsenic	ppb	10	0.004	2	ND - 3.6
Gross Alpha	pCi/L	15	0	3	ND - 9.2
Gross Beta	pCi/L	50	0	4	ND - 8.8
Uranium	pCi/L	20	0.43	1	ND - 4.1
Bromate	ppb	10	0.1	5.0	ND - 6.5
Copper	ppm	1.3	0.3	0.05	0.32 - 0.33

MCL = Maximum Contaminant Level

PHG = Public Health Goal

MCLG = Maximum Contaminant Level Goal

DLR = Detection Limits for Reporting

Levels Detected = Levels detected either in the Otay distribution system (coliforms and copper only) or in water supplied to the District for 2010 through 2012.

NA = Not Applicable

ND = Not Detected at or above the DLR

This table shows that the PHG or MCLG for five out of seven of the constituents is much lower than the DLR. This means that even if additional treatment is performed to reduce the levels of these constituents, the effectiveness of the treatment to reduce the levels to the PHG or MCLG cannot be accurately determined by analytical methods.

The regulation also requires a cost estimate of using the Best Available Technology (BAT) for reducing the level of the constituents to below the PHGs. For coliforms, the BAT is to meet disinfection requirements, which is already done, so no further action is required. For copper, which can leach into the water from plumbing fixtures or copper lines, the BAT is optimized corrosion control, which is also already done, so no further treatment is required.

The BAT for the other five constituents is reverse osmosis (RO). According to the Association of California Water Agencies (ACWA) Cost Estimates for Treatment Technology BAT, it would cost approximately \$1.56 - \$2.99 per 1000 gallons to further remove these constituents using RO treatment. The District's average annual demand for the three year period was 9,964 million gallons per year. Therefore, RO treatment installed and operated by the District or the District's water suppliers to meet the District's water demands would cost from \$15 to \$30 million per year, which translates to an average monthly cost increase of \$26.10 - \$50.18 per District customer (using the July 2012 meter count of 49,493 meters). These estimates include all costs including capital, land, construction, engineering, planning, environmental, contingency and O&M costs for the life of the facilities.

FISCAL IMPACT: Joe Beachem, Chief Financial Officer

None

STRATEGIC GOAL:

To meet the District's Mission of providing high value water and wastewater services to the customers of the Otay Water District, in a professional, effective and efficient manner.

LEGAL IMPACT:

None.

Attachment "A", Committee Action

Attachment "B", Otay Water District Public Health Goals Report
on Water Quality



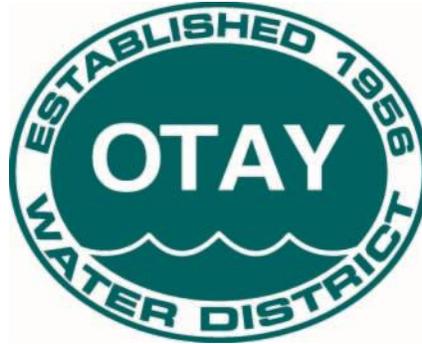
ATTACHMENT A

SUBJECT/PROJECT:	Approval of Public Health Goal Report Recommendations
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COMMITTEE ACTION:

The Engineering, Operations, and Water Resources Committee reviewed this item at a meeting held on July 24, 2013 and the following comments were made:

Following the discussion, the Committee supported staffs' recommendation and presentation to the full board as a consent item.



OTAY WATER DISTRICT
Public Health Goals
Report on Water Quality

June 2013

OTAY WATER DISTRICT

PUBLIC HEALTH GOALS REPORT ON WATER QUALITY

SECTION 1: BACKGROUND INFORMATION3

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SECTION 3: RECOMMENDATIONS FOR FURTHER ACTION9

SECTION 1: BACKGROUND INFORMATION

Background

California Health and Safety Code Health and Safety Code §116470 specifies that larger (>10,000 service connections) water utilities prepare a special report by July 1, 2013 if their water quality measurements have exceeded any Public Health Goals (PHGs). PHGs are non-enforceable goals established by the Cal-EPA's Office of Environmental Health Hazard Assessment (OEHHA). The law also requires that where OEHHA has not adopted a PHG for a constituent, the water suppliers are to use the Maximum Contaminant Level Goals (MCLGs) adopted by USEPA. Only constituents which have a California primary drinking water standard and for which either a PHG or MCLG has been set are to be addressed.

The Association of California Water Agencies (ACWA) formed a workgroup which prepared guidelines for water utilities to use in preparing these required reports. The ACWA guidelines were used in the preparation of our report. No guidance was available from state regulatory agencies.

If a constituent was detected in the Otay Water District's (District's) distribution system or in the treated water the District purchases from other agencies, between 2010 and 2012 at a level exceeding an applicable PHG or MCLG, this report provides the information required by the law. Included is the numerical public health risk associated with the Maximum Contaminant Level (MCL) and the PHG or MCLG, the category or type of risk to health that could be associated with each constituent, the best treatment technology available that could be used to reduce the constituent level, and an estimate of the cost to install that treatment if it is appropriate and feasible.

What Are Public Health Goals

PHGs are set by California OEHHA, which is part of Cal-EPA and are based solely on public health risk considerations. None of the practical risk-management factors that are considered by the USEPA or the California Department of Public Health (CDPH) in setting drinking water standards (MCLs) are considered in setting the PHGs. These factors include analytical detection capability, available treatment technology, benefits and costs. The PHGs are not enforceable and are not required to be met by any public water system. MCLGs are the federal equivalent to PHGs.

Reporting Requirements

The purpose of this report is to inform consumers of District's drinking water PHGs that were exceeded during 2010, 2011 and 2012, pursuant to California Health and Safety Code Section 116470(b). In addition, this report provides information about the cost of achieving a water quality level that does not exceed the PHGs. For

general information about the quality of the water delivered by the District, please refer to the Consumer Confidence Report, also known as the Annual Water Quality Report. An online version of these annual reports can be found at www.otaywater.gov.

Included in this report is information regarding the public health risk associated with the MCL and the PHG, such as the possible type of health risk associated with each constituent, the best available treatment technology that may reduce the constituent level, and an estimate of the cost to install such treatment.

Water Quality Data Considered

All of the water quality data collected by our water system between 2010 and 2012 for purposes of determining compliance with drinking water standards was considered. This data was summarized in our 2010, 2011, and 2012 Consumer Confidence Reports which are mailed to all of our customers annually in June. For each regulated contaminant, DHS establishes Detection Limits for the purposes of Reporting (DLR). DLRs are the minimum levels at which any analytical result must be reported to California Department of Public Health (CDPH). Results indicated below the DLRs cannot be quantified with any certainty. In some cases, PHGs are set below the DLRs. Any contaminant reported below the DLR will be considered zero for the purpose of this report, which is accepted by the California Department of Public Health.

Best Available Treatment Technology and Cost Estimates

Both the USEPA and CDPH adopt what are known as Best Available Technologies (BATs), which are the best methods of reducing contaminant levels to the MCL. Costs can be estimated for such technologies. However, since many PHGs and MCLGs are set much lower than the MCL, it is not always possible nor feasible to determine what treatment is needed to further reduce a constituent downward to or near the PHG or MCLG, many of which are set at zero. Estimating the costs to reduce a constituent to zero is difficult, if not impossible because it is not possible to verify by analytical means that the level has been lowered to zero. In some cases, installing treatment to try and further reduce very low levels of one constituent may have adverse effects on other aspects of water quality.

SECTION 2: CONSTITUENTS DETECTED THAT EXCEED A PHG

The following is a discussion of constituents that were detected in the Districts distribution system, or one or more of our drinking water treated water sources at levels above the PHG, or MCLG (if no PHG has been established).

Arsenic

Arsenic is a naturally occurring element in the earth's crust and is very widely distributed in the environment. All humans are exposed to microgram quantities of arsenic (inorganic and organic) largely from food (25 to 50 µg/day) and to a lesser degree from drinking water and air. In certain geographical areas, natural mineral deposits may contain large quantities of arsenic and this may result in higher levels of arsenic in water. Waste chemical disposal sites may also be a source of arsenic contamination of water supplies. The main commercial use of arsenic in the U.S. is in pesticides, mostly herbicides and in wood preservatives. Misapplication or accidental spills of these materials could result in contamination of nearby water supplies. Arsenic does not have a tendency to accumulate in the body at low environmental exposure levels.

Studies in humans have shown considerable individual variability in arsenic toxicity. The levels of arsenic that most people ingest in food and water (up to 50 µg/day) have not usually been considered to be of health concern for non-cancer effects.

The MCL for arsenic is 10 parts per billion (ppb), the PHG and MCLG for arsenic is 0.0004 ppb. The DLR, which is the lowest level that CDPH has determined can be measured with certainty, is 2 ppb. Arsenic levels in water that the District purchases from other agencies from 2010 – 2013 ranged from <2 ppb – 3.6 ppb. The health risk associated with arsenic, and the reason that a drinking water standard was adopted for it, is that people who drink water containing Arsenic above the MCL throughout their lifetime could experience an increased risk of getting cancer. The PHG of 0.0004 ppb is based on a level that will result in not more than 1 excess cancer in 1 million people who drink 2 liters daily of this water for 70 years. The actual cancer risk may be lower or zero. Because the DLR for arsenic (2 ppb) is greater than the PHG (0.0004 ppb), it would be difficult to assess the effectiveness of RO treatment on reaching the PHG level.

The best available technology (BAT) cited in literature to remove arsenic is reverse osmosis. All costs including capital, land, construction, engineering, planning, environmental, contingency and O&M costs are included but only general assumptions can be made for these items. According to the Association of California Water Agencies (ACWA) Cost Estimates for Treatment Technology BAT, it would cost approximately \$1.56-\$2.99 per 1000 gallons to treat bromate using RO treatment. The District's average annual demand for the three year period was 9,964 million gallons per year. Therefore, RO treatment installed and operated by the District's water suppliers to meet the District's water demands would cost from \$15 to \$30 million per year, which translates to an average monthly cost increase of \$26.10 - \$50.18 per District customer.

Bromate

Bromate in water is formed when water containing naturally occurring bromide is disinfected with ozone. Bromate also has a long history of use as a food additive [at levels up to 75 parts per million (ppm) in flour], where it is largely converted to bromide in the baking process.

The MCL for bromate is 10 ppb, the PHG is 0.1 ppb and the MCLG is zero based on a running annual average (RAA). The DLR is 5 ppb. The RAA of bromate levels in water that the District purchases from other agencies from 2010 – 2013 ranged from <5 ppb to 6.5 ppb.

The CDHS and USEPA have determined that bromate is a health concern at certain levels of exposure. The category of health risk associated with bromate, and the reason that a drinking water standard was adopted for it, is that some people who drink water containing bromate in excess of the MCL over many years may have an increased risk of getting cancer. The numerical health risk for the MCLG of zero mg/L is zero. CDHS and USEPA set the drinking water standard for bromate at 10 mg/L to reduce the risk of cancer or other adverse health effects.

One of the most effective Best Available Treatment (BAT) technologies for bromate reduction is reverse osmosis (RO). RO treatment reduces the natural occurring bromide in source water, therefore reducing bromate formation when ozone is applied. Because the DLR for bromate (5 ppb) is greater than the PHG (0.1ppb), it would be difficult to assess the effectiveness of RO treatment on reaching the PHG level. According to the Association of California Water Agencies (ACWA) Cost Estimates for Treatment Technology BAT, it would cost approximately \$1.56-\$2.99 per 1000 gallons to treat bromate using RO treatment. The District's average annual demands for the three year period were 9,964 million gallons per year. Therefore, RO treatment installed and operated by the District's water suppliers to meet the District's water demands would cost from \$15 to \$30 million per year, which translates to an average monthly cost increase of \$26.10 - \$50.18 per District customer.

Coliform Bacteria

During 2010, 2011, and 2012, the District collected between 132 and 165 samples each month for total coliform analysis. On rare occasions, a sample was found to be positive for coliform bacteria but follow-up check samples were negative. These were not a violation of state standards. A maximum of 0.6% of these samples were positive in any month. Normally the total coliform was zero and it is likely that the positive samples were due to debris entering the sample at the sample station. *E. Coli* was not detected in any samples.

The MCL for coliform is 5% positive samples of all samples per month and the MCLG is zero. The reason for the coliform drinking water standard is to minimize the

possibility of the water containing pathogens which are organisms that cause waterborne disease. Because coliform is only a surrogate indicator of the potential presence of pathogens, it is not possible to state a specific numerical health risk. While USEPA normally sets MCLGs “at a level where no known or anticipated adverse effects on persons would occur”, they indicate that they cannot do so with coliforms.

Coliform bacteria are indicator organisms that are ubiquitous in nature and are not generally considered harmful. They are used because of the ease in monitoring and analysis. If a positive sample is found, it indicates a potential problem that needs to be investigated and follow-up sampling done. It is not at all unusual for a system to have an occasional positive sample. It is difficult, if not impossible to assure that a system will never get a positive sample.

Important measures that we have implemented include: an effective cross-connection control program; maintenance of a disinfectant residual throughout our system; an effective monitoring and surveillance program; maintaining positive pressure in our distribution system; implementation of a rigorous pipeline disinfection procedure for in-line repair and construction; training in proper sampling techniques to prevent false positives; and replacement of system piping to reduce pipe failures. Our system has already taken all of the steps described by California Department of Public Health as “best available technology” for coliform bacteria in Section 64447, Title 22, CCR.

Copper

There is no MCL for copper. Instead the 90th percentile value of all samples from household taps in the distribution system cannot exceed an Action Level of 1.3 part per million (ppm). The PHG for copper is 0.30 ppm and the DLR is 0.05 ppm. The category of health risk for copper is gastrointestinal irritation. Numerical health risk data on copper has not yet been provided by OEHHA, the State agency responsible for providing that information.

Based on extensive sampling of our distribution system in 2011, our 90th percentile value for copper was 0.32 ppm. Our water system is in full compliance with the Federal and State copper regulation and we are deemed by CDHS to have “optimized corrosion control” for our system. In general, optimizing corrosion control is considered to be the best available technology to deal with corrosion issues and with any copper findings.

Since the water distributed by the District meets the “optimized corrosion control” requirements, it is not prudent to initiate additional corrosion control treatment as it involves the addition of other chemicals and there could be additional water quality issues raised. Therefore, no estimate of cost has been included.

Radiological: Gross Alpha & Uranium

Gross alpha particle activity detections are typically due to uranium. Uranium is a naturally-occurring radioactive element that is ubiquitous in the earth's crust. Uranium is found in ground and surface waters due to its natural occurrence in geological formations. The national average uranium concentration in surface, ground and domestic water are 1, 3, and 2 picoCuries per liter (pCi/L), respectively. The requirement for radiological monitoring, including uranium, is four consecutive quarters every four years. The California MCL for uranium is 20 pCi/L. Uranium levels in water that the District purchases from other agencies from 2010 – 2013 ranged from <1 pCi/L – 3.6 pCi/L.

The Public Health Goal for uranium is 0.43 pCi/L and the DLR is 1 pCi/L. The numerical health risk for uranium based on the California PHG is 1×10^{-6} . This means one excess cancer case per million population. The health risk category for uranium is carcinogenicity; chronic toxicity (cancer, human data; kidney toxicity). Carcinogenic risk means capable of producing cancer. Chronic toxicity risk means there may be adverse effects that usually develop gradually from low levels of chemical exposure and that persist for a long time.

The best available technology (BAT) cited in literature to remove gross alpha particle activity and uranium is reverse osmosis. All costs including capital, land, construction, engineering, planning, environmental, contingency and O&M costs are included but only general assumptions can be made for these items. According to the Association of California Water Agencies (ACWA) Cost Estimates for Treatment Technology BAT, it would cost approximately \$1.56-\$2.99 per 1000 gallons to treat Alpha and Uranium using RO treatment. The District's average annual demands for the three year period were 9,964 million gallons per year. Therefore, RO treatment installed and operated by the District's water suppliers to meet the District's water demands would cost from \$15 to \$30 million per year, which translates to an average monthly cost increase of \$26.10 - \$50.18 per District customer.

Gross Beta

Certain minerals are radioactive and may emit a form of radiation known as photons and beta radiation. The MCL is 50 pCi/L and the DLR is 4 pCi/L. There is no PHG for gross beta particle activity and the MCLG is zero pCi/L.

Uranium levels in water that the District purchases from other agencies from 2010 – 2013 ranged from <1 pCi/L – 3.6 pCi/L. The CDPH and USEPA, which set drinking water standards, have determined that gross beta particle activity is a health concern at certain levels of exposure. This radiological constituent is a naturally occurring contaminant in some groundwater and surface water supplies. The category of health risk associated with gross beta particle activity, and the reason that a drinking water standard was adopted for it, is that some people who drink

water containing beta and photon emitters in excess of the MCL over many years may have an increased risk of getting cancer. The numerical health risk for the MCLG of zero pCi/L is zero. CDHS and USEPA set the drinking water standard for gross beta particle activity at 50 pCi/L to reduce the risk of cancer or other adverse health effects.

The Best Available Technologies (BATs) identified to treat gross beta particle activity are ion exchange and reverse osmosis (RO). The most effective method to consistently remove beta and photon emitters to the MCLG is to install RO treatment. All costs including capital, land, construction, engineering, planning, environmental, contingency and O&M costs are included but only general assumptions can be made for these items. According to the Association of California Water Agencies (ACWA) Cost Estimates for Treatment Technology BAT, it would cost approximately \$1.56-\$2.99 per 1000 gallons to treat Gross Beta using RO treatment. The District's average annual demands for the three year period were 9,964 million gallons per year. Therefore, RO treatment installed and operated by the District's water suppliers to meet the District's water demands would cost from \$15 to \$30 million per year, which translates to an average monthly cost increase of \$26.10 - \$50.18 per District customer.

SECTION 3: RECOMMENDATIONS FOR FURTHER ACTION

All water served by the District met all State of California, Department of Public Health and USEPA drinking water standards set to protect public health during this three year period. CDPH considers water that meets all standards as safe to drink. To further reduce the levels of the constituents identified in this report that are already significantly below the health-based Maximum Contaminant Levels established to provide "safe drinking water", additional costly treatment processes would be required, translating to an average monthly cost increase of \$26.10 - \$50.18 per District customer.

The effectiveness of the treatment processes to provide any significant reductions in constituent levels to the PHGs is difficult, if not impossible to determine since the analytical DLR is much higher than the PHG in most cases. The health protection benefits of these further hypothetical reductions are not at all clear and may not be quantifiable. Therefore, no further action is recommended.