AGENDA

IRVINE RANCH WATER DISTRICT
ENGINEERING AND OPERATIONS COMMITTEE
TUESDAY, JUNE 16, 2015

CALL TO ORDER 7:00 a.m., Operations Center, First Floor Committee Room
3512 Michelson, Irvine, California

ATTENDANCE Committee Chair: Douglas Reinhart ____ Committee Member: John Withers ____

ALSO PRESENT

Paul Cook	____	Kelly Lew	____
Patrick Sheilds	____	Kevin Burton	____
Ken Drake	____	Steve Malloy	____
Malcolm Cortez	____	Mike Hoolihan	____
Rich Mori	____	Paul Weghorst	____
Randy Lee	____	Jacob Moeder	____
Lars Oldewage	____	Tom Roberts	____
Eric Akiyoshi	____	Arseny Kalinsky	____
Ian Swift	____	Scott Toland	____
Harry Cho	____	Kellie Welch	____
Bruce Newell	____	Ken Pfister	____
Ray Bennett	____	Kelly Welch	____

COMMUNICATIONS

1. Notes: Burton
2. Public Comments
3. Determine the need to discuss and/or take action on item(s) introduced that came to the attention of the District subsequent to the agenda being posted.
4. Determine which items may be approved without discussion.

INFORMATION

5. SCE DIRECT ACCESS PROGRAM OVERVIEW– WEGHORST

   Recommendation: Receive and file.

ACTION

6. MICHELSON WATER RECYCLING PLANT BIOSOLIDS AND ENERGY RECOVERY FACILITIES CONTRACT CHANGE ORDER – STEWART/ MALLOY/BURTON

   Recommendation: That the Board approve Contract Change Order No. 29 in the amount of $225,971.77 for foul air pipe supports and a secondary circuit breaker with Filanc/Balfour-Beatty for the Michelson Water Recycling Plant Biosolids and Energy Recovery Facilities, Project 21146 (4286).

OTHER BUSINESS

7. A. Directors' Comments

B. Adjourn

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Availability of agenda materials: Agenda exhibits and other writings that are disclosable public records distributed to all or a majority of the members of the above-named Committee in connection with a matter subject to discussion or consideration at an open meeting of the Committee are available for public inspection in the District's office, 15600 Sand Canyon Avenue, Irvine, California ("District Office"). If such writings are distributed to members of the Committee less than 72 hours prior to the meeting, they will be available from the District Secretary of the District Office at the same time as they are distributed to Committee Members, except that if such writings are distributed one hour prior to, or during, the meeting, they will be available at the entrance of the meeting room at the District's Operation's Committee Room at 3512 Michelson, Irvine, California. The Irvine Ranch Water District's Committee Room is wheelchair accessible. If you require any special disability-related accommodations (e.g., access to an amplified sound system, etc.), please contact the District Secretary at (949) 453-5312 during business hours at least seventy-two (72) hours prior to the scheduled meeting.

June 16, 2015
Submitted by: P. Weghorst PAW
Approved by: Paul Cook

ENGINEERING AND OPERATIONS COMMITTEE

SCE DIRECT ACCESS PROGRAM OVERVIEW

SUMMARY:

Direct Access electric service programs have been established so non-residential customers can purchase electricity from a competitive Electric Service Provider (ESP) instead of an electric utility, such as Southern California Edison (SCE). An ESP is a non-utility entity that sells electricity to its eligible customers. Where electricity is purchased through a Direct Access program, the utility is still responsible for delivering the electricity purchased from an ESP to the ESP's customers through the utility's distribution system.

The California Public Utilities Commission (CPUC) regulates the Direct Access programs of each electric utility for the purpose of increasing the competitiveness of rates offered to eligible customers. The opportunity to participate in SCE's Direct Access program could result in significant cost savings in IRWD's annual electricity purchases. Staff will provide the Committee an overview of the SCE Direct Access program and its non-binding lottery process for participation in the program. Additionally, staff will provide a description of a recommended process to prequalify ESPs through an evaluation and review process as well as next steps for IRWD's potential participation in the program.

BACKGROUND:

SCE has implemented a Direct Access electric service program that provides an option for eligible non-residential customers to elect to purchase electricity from an independent ESP instead of from SCE. An ESP is responsible for generating or arranging for an adequate supply of electricity to meet its customer's needs. SCE delivers the electricity that customers purchase from ESPs over SCE's transmission and distribution system. Exhibit "A" provides a graphical overview of the Direct Access program.

CPUC Approval of Direct Access:

SB 695 requires the CPUC allow individual non-residential customers to purchase electricity from providers other than the electrical utility. The intent of SB 695 was to increase the competitiveness of electricity rates offered to non-residential customers. SCE's Direct Access program was implemented consistent with SB 695 and a CPUC decision issued on March 11, 2010 that approved limited Direct Access for non-residential customers.

The CPUC determines the amount of Direct Access electricity available in California and the portions to be allocated to the SCE service area. In recent years, only a small amount of new SCE Direct Access capacity has been available, and, due to the high level of interest in the program, the selection of entities to be offered available capacity is determined by a lottery. Legislation is currently pending that could increase the amount of energy that will be available through Direct Access in 2016.

Benefits of Direct Access:

Participation in SCE's Direct Access program could provide IRWD significant cost savings in its annual electricity purchases. These savings would be dependent on ESP Direct Access energy rates, avoided SCE charges and actual usage. Participation could also provide a hedge against potential increases in electricity rates at SCE. Purchasing electricity through the program would be consistent with IRWD's Energy and Greenhouse Gas Master Plan that calls for implementing cost-effective programs and projects that reduce the District's future energy costs. IRWD's participation in the program would not negatively impact the operational reliability of the District's facilities.

Direct Access Participation Process:

On June 8, 2015, IRWD provided SCE a non-binding Notice of Intent to participate in SCE's lottery process for the Direct Access program. If Direct Access electricity is available in the SCE service area and IRWD is selected through the random lottery process, IRWD would have the option to purchase electricity from a selected ESP beginning sometime in 2016. In the non-binding Notice of Intent, staff indicated interest in the transfer of IRWD's four largest electrical accounts to the Direct Access program in 2016. These accounts include the Michelson Water Recycling Plant, the Los Alisos Water Recycling Plant, the Deep Aquifer Treatment System and the Potable Treatment Plant which combined consumed approximately 50,000 MWh in 2014, representing approximately 40% of IRWD's total electricity use.

The Direct Access lottery process has multiple steps to finalize participation in the Direct Access program, summarized as follows:

Direct Access Selection Process for 2016

Date	Description
June 8, 2015	IRWD submit advanced Notice of Intent to transfer accounts to Direct Access service.
August 11, 2015	SCE lottery to determines the 2016 wait list ranking
Last business day of each month in 2016	SCE announces availability under its Direct Access load cap, notifies the first customer on the wait list, and issues a Direct Access Service Request due date.
Date of Eligibility Plus 15 days	IRWD (if successful) accepts or rejects offer to enter into the Direct Access program.
Date of Eligibility Plus 45 days	Direct Access Service Requests for each account are due to SCE and submitted by the ESP selected by IRWD.

In order to enter the lottery within the required deadline, IRWD submitted its advanced Notice of Intent to transfer accounts to Direct Access by June 8, 2015. If IRWD becomes eligible for Direct Access at any time in 2016, IRWD will be notified that it has 15 days to accept or reject the opportunity to participate in the program. Additionally, IRWD would receive this notification at least 45 days prior to the earliest possible date to transfer said accounts to Direct Access. The Direct Access Service Request is made by IRWD's selected ESP and submitted to SCE, whereupon IRWD's identified accounts are enrolled into the Direct Access service program. The earliest that IRWD could be eligible to switch to Direct Access would be January 31, 2016.

Energy Service Provider Qualifications:

Staff issued a Request for Qualification (RFQ) on May 15, 2015 to five licensed ESPs. The RFQ requested that each firm provide an overview of experience, financial standing, indicative pricing, contract terms, and any other facts deemed relevant to providing Direct Access electricity to IRWD. Staff has received multiple qualification statements as a result of the RFQ process. Because ESP contract terms are expected to be relatively unique and complex, staff recommends that each ESP's contract terms be evaluated and reviewed with the assistance of legal and/or specialized consulting services and that the ESPs be pre-qualified to submit their best pricing in the event that IRWD is selected as eligible to participate in the Direct Access program. In the evaluation process, the consultant will assist IRWD in evaluating any risks and uncertainties related to participation in the program as well as preparing a financial analysis model that can be used when evaluating ESP pricing. With the assistance of the consultant, staff will also develop a standard bid form for each qualified ESP to submit its best and final energy pricing.

Next Steps:

Staff will submit an item to the Committee in August with information related to the evaluation and review of ESP contract terms as well as program risks and uncertainties. At that time, staff will provide the list of pre-qualified ESP providers, a draft customized bid form for each account and recommendations for a process to solicit competitive final Direct Access energy pricing from each qualified ESP. A workshop with the full Board of Directors will be scheduled for September to provide an overview of the program and to solicit input. Staff will also present to the Board recommendations for an approval process related to proceeding with a final competitive bid process, performing bid evaluations, making the decision to accept SCE's offer to participate in the program and ESP contract execution should IRWD be selected as eligible to participate in the Direct Access program in 2016.

FISCAL IMPACTS:

Should the District be selected to participate in the Direct Access program and the District receives favorable final bids under acceptable ESP contract terms, staff anticipates an opportunity to reduce the District's annual electricity costs. The amount of the cost reductions cannot be determined at this time and will be dependent on final ESP Direct Access energy rates, avoided SCE charges and usage. Such estimates would be made at the time that final competitive bids are received.

ENVIRONMENTAL COMPLIANCE:

Not applicable.

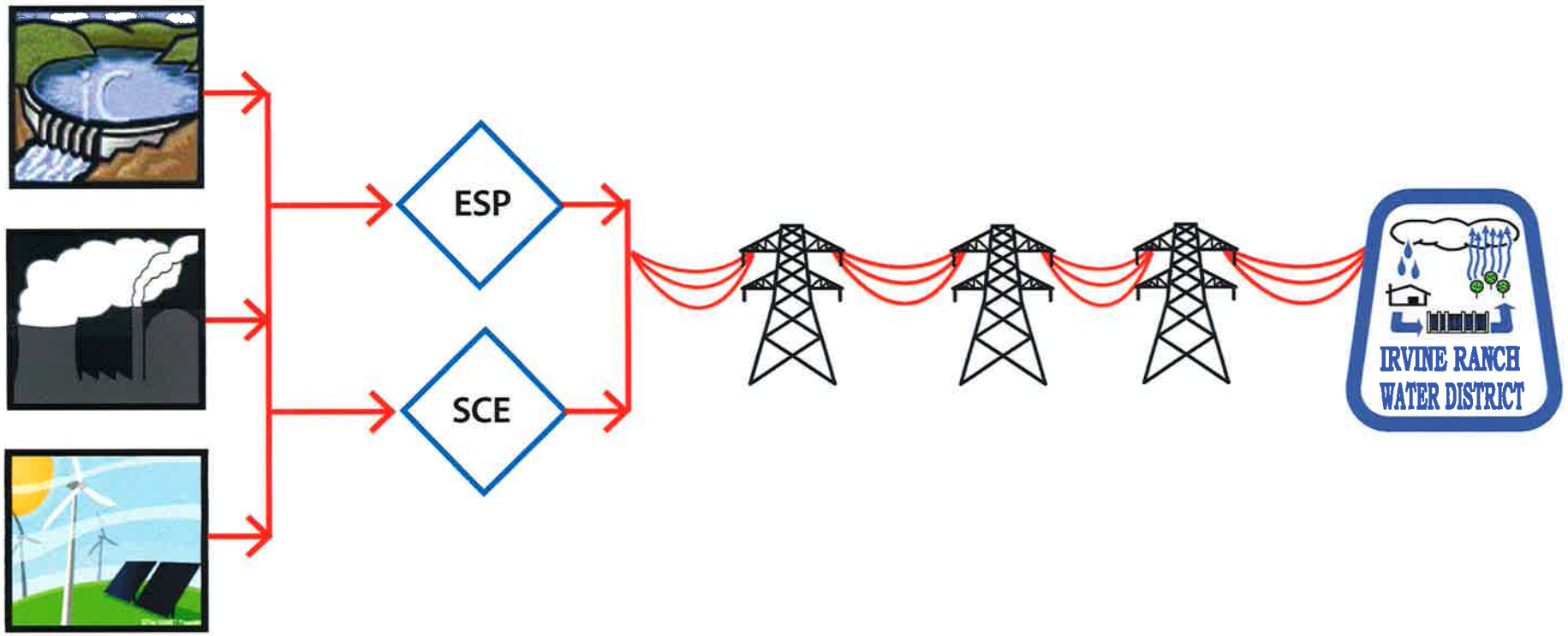
RECOMMENDATION:

Receive and file.

LIST OF EXHIBITS:

Exhibit "A" – Graphical Overview of SCE's Direct Access Program

Exhibit "A"
SCE Direct Access Program
(Power Purchase Alternatives for IRWD)



Power Generation
Various Sources

Energy Supplier
Southern California Edison (SCE)
or an Energy Service Provider (ESP)

Power Distribution and Transmission
Southern California Edison

Power Use
Irvine Ranch
Water District
(IRWD)

June 16, 2015
Prepared by: B. Stewart/S. Malloy
Submitted by: K. Burton KLB
Approved by: Paul Cook

ENGINEERING AND OPERATIONS COMMITTEE

MICHELSON WATER RECYCLING PLANT
BIOSOLIDS AND ENERGY RECOVERY FACILITIES
CONTRACT CHANGE ORDER

SUMMARY:

Filanc/Balfour-Beatty (FBB) is constructing the Michelson Water Recycling Plant (MWRP) Biosolids and Energy Recovery Facilities (Biosolids Project). Contract Change Order (CCO) No. 29 will provide foul air pipe supports and a secondary circuit breaker for the switchgear handling the seven centrifuges located at the Solids Handling Building and two motor control centers. Staff recommends that the Board approve CCO No. 29 in the amount of $225,971.77 with FBB for the Biosolids Project.

BACKGROUND:

Construction of the Biosolids Project was awarded to FBB in March 2013 in the amount of $163,513,307. The Biosolids Project will provide biosolids digestion, dewatering, energy production, and on-site sludge drying. The project includes excavation for subsurface structures; installation of 3,009 foundation piles; three egg-shaped digesters; a state-of-the-art odor control system; a biogas conditioning system and power generation using micro-turbines; a fats, oil and grease receiving station; and new utility services. These facilities are being constructed on the land north of IRWD's existing Operations Center, maintenance shops, water quality laboratory, and warehouse.

CCO No. 29:

Staff negotiated with FBB to resolve two items contained in CCO No. 29. The two items are as follows:

Foul Air Pipe Supports in the Solids Handling Building Basement: During submittal review, it was discovered that the large foul air piping in the basement of the Solids Handling Building required 24 additional pipe supports which were not indicated in the Contract Documents. The supports will hold foul air pipes in various sizes from 16 to 60 inches. This item is for the labor and materials to install the foul air pipe supports and is in the amount of $119,937.87.

Secondary Circuit Breaker for Transformer T-14: The Contract Documents require that FBB complete an arc flash hazard calculation based on all of the final electrical equipment provided during construction. The arc flash hazard calculation provided by FBB indicates a dangerous level of electrical energy can be released during a faulted condition when the Switchgear-14 main breaker doors are open. The switchgear is for the electrical loads located in the Solids Handling Building. The electrical loads are from the seven centrifuges located in the Solids Handling

Building and two motor control centers. Based on the arc flash calculation, a secondary circuit breaker was recommended. Staff determined that the addition of a 480-volt secondary circuit breaker at Transformer T-14 would enhance safety for staff when accessing the downstream 480-volt switchgear while it is energized.

CCO No. 29 includes the installation of a new 480-volt, 4,000-amp circuit breaker in an outdoor, weatherproof enclosure, a 4,000-amp bus duct between Transformer T-14 and the T-14 secondary breaker, and extension of the T-14 transformer concrete housekeeping pad to support the addition of the T-14 secondary breaker. The cost for this item is in the amount of $106,033.90.

Staff is reviewing the arc flash study for the remaining portions of the Biosolids project and anticipates that additional breakers will be required. Once the number, size, and cost of these circuit breakers are finalized, a subsequent change order will be submitted to the Board for approval.

Staff recommends that the Board approve CCO No. 29 in the amount of $224,971.77, which is attached as Exhibit "A". The Construction Change Order Summary is attached as Exhibit "B". CCO No. 29 does not extend any of the milestone completion dates.

FISCAL IMPACTS:

The MWRP Biosolids and Energy Recovery Facilities Project 21146 (4286) is included in the FY 2015-16 Capital Budget. The existing budget is sufficient to fund CCO No. 29.

ENVIRONMENTAL COMPLIANCE:

The MWRP Biosolids and Energy Recovery Facilities is subject to the California Environmental Quality Act (CEQA) and in conformance with the California Code of Regulations Title 14, Chapter 3, Article 7, a Supplemental Environmental Impact Report (SEIR), SCH # 2011031091, was certified by IRWD at its October 22, 2012 meeting. The City of Irvine Planning Commission approved a conditional use permit for the IRWD Biosolids Project at its December 6, 2012 meeting.

RECOMMENDATION:

That the Board approve Contract Change Order No. 29 in the amount of $225,971.77 for foul air pipe supports and a secondary circuit breaker with Filanc/Balfour-Beatty for the Michelson Water Recycling Plant Biosolids and Energy Recovery Facilities, Project 21146 (4286).

LIST OF EXHIBITS:

Exhibit "A" – Contract Change Order No. 29 with FBB
Exhibit "B" – Construction Change Order Summary

EXHIBIT "A"

CONTRACT CHANGE ORDER

IRVINE RANCH WATER DISTRICT
15600 Sand Canyon Avenue
Irvine, California 92618
(949) 453-5300
MWRP Biosolids and Energy Recovery Facilities
Project Title

C.O. No. 29
☐ Final

Project No. 21146 (4286)

Date: June 9, 2015

THE FOLLOWING CHANGE TO CONTRACT, DRAWINGS AND SPECIFICATIONS IS PROPOSED.	$ ADDITIONS	$ DELETIONS	DAYS ±
1. Foul Air Pipe Supports in the Solids Handling Building Basement (CR-106) PR 21146 (4286) Task 3520	$119,937.87	$0.00	0
2. Secondary Circuit Breaker for Transformer T-14 (CR-185) PR 21146 (4286) Task 3510	$106,033.90	$0.00	0
Notes: 1. The project completion date of October 28, 2016 is unchanged by this Change Order.			
TOTAL	$225,971.77	$0.00	0

			DAYS +
1. NET AMOUNT THIS CHANGE ORDER	=	$225,971.77	0
2. ORIGINAL CONTRACT AMOUNT	=	$163,465,940.00	1,278
3. TOTAL PREVIOUS CHANGE ORDERS	=	$3,147,152.63	0
4. TOTAL BEFORE THIS CHANGE ORDER (2+ 3)	=	$166,613,092.63	1,278
5. PROPOSED REVISED CONTRACT AMOUNT TO DATE (1+4)	=	$166,839,064.40	1,278

We hereby agree to make the above change subject to the terms of this change order for the sum of: ----------Two Hundred Twenty-Five Thousand Nine Hundred Seventy-One and 77/100----------Dollars

6/10/2015
Date

Filanc/Balfour Beatty, JV
Contractor

By: Chris Rutherford, Sponsor HRREYS.COM

SIGNATURE	DATE	APPROVAL LEVEL REQUIRED	
IRWD Engineer or Consulting Engineer	Date	Department Director Approval Required	☐
Principal Engineer – MWRP Construction	6/10/15 Date	Executive Department Director Approval Required	☐
		General Manager Approval Required	☐
		Board Approval Required	X
Executive Director of Engineering and Water Quality	Date	By	Date
General Manager	Date	Purchase Order No.	

NOTE: The documents supporting this Change Order, including any drawings and estimates of cost, if required are attached hereto and made a part hereof. This Change Order shall not be considered as such until it has been signed by the Owner and the Contractor. Upon final approval, distribution of copies will be made as required. The parties mutually agree the pricing set forth in this Change Order are complete and fair compensation for the entirety of the work authorized under this Change Order and that no additional compensation is warranted nor shall it be allowed.

CHANGES: All workmanship and materials called for by this Order shall be fully in accord with the original Contract Documents insofar as the same may be applied without conflict to the conditions set forth by this Order. The time for completing the contract will not be extended unless expressly provided for in this Change Order.

Rev. 8/2008

EXHIBIT "B"

MWRP Biosolids and Energy Recovery Facilities
PR 21146 (4286)
Construction Change Order Summary

Contractor: Filanc/Balfour-Beatty
Design Engine Black & Veatch

Change Order		Description	Category	IRWD or FBB	Contract Amount: Change Order Line Item Amount	Contract Amount: Change Order Amount	Contract Amount: Previous Change Orders	Contract Amount: Cumulative Total of Change Orders	Contract Amount: % of Original Contract Amount	Contract Amount: Revised Contract Amount	Contract Days: Change Order Days	Contract Days: Previous Change Orders	Contract Days: Cum. Total C.O. days	Contract Days: Revised Total Contract Days	Original Completion Date: Revised Completion Date
					Original Contract Amount: $163,465,940.00						Original Days: 1,278				10/28/2016
1		Approved by Exe. Director of Engineering and Water Quality Approved on October 24, 2013				$20,202.42	$0.00	$20,202.42	0.01%	$163,486,142.42	0	0	0	1,278	10/28/2016
	1.1	Modifications to Road to Development Area - Delete AC to Triangle, add AB to Michelson (CR-004)	A	IRWD	$ 20,202.42						0				
2		Approved by Exe. Director of Engineering and Water Quality Approved on November 13, 2013				$12,475.08	$20,202.42	$32,677.50	0.02%	$163,498,617.50	0	0	0	1,278	10/28/2016
	2.1	Street Light Conduit Modifications (CR-007)	B	IRWD	$ 12,475.08						0				
3		Approved by Board of Directors Approved on March 10, 2014				$745,503.00	$32,677.50	$778,180.50	0.48%	$164,244,120.50	0	0	0	1,278	10/28/2016
	3.1	Bid Quantity Adjustment of Bid Item 8.6 Pre-Drill	B	FBB	$ 745,503.00						0				
4		Approved by Exe Dir of Eng & Water Quality Approved on March 14, 2014				$23,029.22	$778,180.50	$801,209.72	0.49%	$164,267,149.72	0	0	0	1,278	10/28/2016
	4.1	Installation of Five Additional Groundwater Wells and Monitoring – (CR-006) PR 21146 (4286) Task 3505	A	IRWD	$11,047.81						0				
	4.2	Brace Bay Modifications at the FOG Station – (CR-015) PR 21146 (4286) Task 3505	C	FBB	$2,977.81						0				
	4.3	Grounding Extension at Nitrogen and Mineral Oil System (CR-025) PR 21146 (4286) Task 3510	C	IRWD	$9,003.60						0				
5		Approved by Exe Dir of Eng & Water Quality Approved on March 14, 2014				$24,851.73	$801,209.72	$826,061.45	0.51%	$164,292,001.45	0	0	0	1,278	10/28/2016
	5.1	Unidentified Utility - Meter Shop Discharge (CR-008) PR 21146 (4286) Task 3505	B	IRWD	$15,225.75						0				
	5.2	Connection Beam Modifications at Solids Handling Facility (CR-014) PR 21146 (4286) Task 3235	C	FBB	$8,270.86						0				
	5.3	Increased Grating Thickness at Solids Handling Facility (CR-041) PR 21146 (4286) Task 3505	C	FBB	$1,355.12						0				
6		Approved by General Manager Approved on March 20, 2014				$31,815.00	$826,061.45	$857,876.45	0.52%	$164,323,816.45	0	0	0	1,278	10/28/2016
	6.1	Additional Costs to Install Piles to the Design Tip (CR-033) PR 21146 (4286) Task 3505	B	FBB	$31,815.00						0				
7		Approved by Exe Dir of Eng & Water Quality Approved on April 21, 2014				$24,725.00	$857,876.45	$882,601.45	0.54%	$164,348,541.45	0	0	0	1,278	10/28/2016
	7.1	Meter Shop Discharge Pipe Leak Investigation and Repair (CR-013) PR 21146 (4286) Task 3505	B	IRWD	$2,542.00						0				
	7.2	Additional Reinforcement and Lifting Eyes for Removable Slabs at Solids Handling Building (CR-021) PR 21146 (4286) Task 3505	C	FBB	$14,059.00						0				
	7.3	Increased Grating Thickness at Solids Handling Facility (CR-041) PR 21146 (4286) Task 3505Additional Conductance Probe Materials for Relay Level Switches for Various Sumps Located at the Microturbine Area PR 21146 (4286) Task 3510	C	FBB	$8,124.00						0				

MWRP Biosolids and Energy Recovery Facilities
PR 21146 (4286)
Construction Change Order Summary

Contractor: Filanc/Balfour-Beatty
Design Engine Black & Veatch

					Contract Amount						Contract Days				Original Completion Date:
								Original Contract Amount:		$163,465,940.00			Original Days:	1,278	10/28/2016
Change Order		Description	Category	IRWD or FBB	Change Order Line Item Amount	Change Order Amount	Previous Change Orders	Cumulative Total of Change Orders	% of Original Contract Amount	Revised Contract Amount	Change Order Days	Previous Change Orders	Cum. Total C.O. days	Revised Total Contract Days	Revised Completion Date
8		Approved by General Manager Approved on April 21, 2014				($49,990.00)	$882,601.45	$832,611.45	0.51%	$164,298,551.45	0	0	0	1,278	10/28/2016
	8.1	Cost Sharing for Project Partnering	A	IRWD	($14,611.00)						0				
		Credit for Primavera 7.0 Project Portfolio Management Software (CR-002)	A	IRWD	($2,700.00)						0				
	8.2	PR 21146 (4286) Task 3235													
	8.3	Deletion of Concrete Pad near Development Area (CR-004A) PR 21146 (4286) Task 3235	A	IRWD	($3,865.00)						0				
	8.4	Deletion of Ground Test Device (CR-034) PR 21146 (4286) Task 3210	A	IRWD	($15,579.00)						0				
	8.5	Deletion of Existing T-4 Switchgear Level Indicating Switch (CR-035) PR 21146 (4286) Task 3210	A	IRWD	($9,167.00)						0				
	8.6	Change to NEMA 4X Panels and Modification to NEMA 4X Bar Graph Display (CR-046) PR 21146 (4286) Task 3210	A	IRWD	($4,068.00)						0				
9		Approved by Exe. Director of Eng. & Water Quality Approved on May 31, 2014				$24,840.17	$832,611.45	$857,451.62	0.52%	$164,323,391.62	0	0	0	1,278	10/28/2016
	9.1	Additional Circuits for Gas Monitors and Re-route of Conduits in Solids Handling Facility (CR-028) PR 21146 (4286) Task 3510	C	FBB	$1,187.49						0				
	9.2	Cantilevered Beam Support Modifications in the Solids Handling Facility (CR-049) PR 21146 (4286) Task 3505	C	FBB	$4,605.30						0				
	9.3	Additional Ethernet Switches (CR-062) PR 21146 (4286) Task 3510	C	IRWD	$19,047.38						0				
10		Approved by Exe. Director of Eng. & Water Quality Approved on May 31, 2014				$21,398.99	$857,451.62	$878,850.61	0.54%	$164,344,790.61	0	0	0	1,278	10/28/2016
	10.1	Additional Grace Ports for Various PLCs (CR-030) PR 21146 (4286) Task 3510	C	IRWD	$8,580.62						0				
	10.2	Provide H-20 Rated Hatches at WAS Pump Station and Valve Vault (CR-061) PR 21146 (4286) Task 3505	C	IRWD	$12,818.37						0				
11		Approved by Exe. Director of Eng. & Water Quality Approved on June 4, 2014				$24,739.76	$878,850.61	$903,590.37	0.55%	$164,369,530.37	#REF!	0	#REF!	#REF!	10/28/2016
	11.1	Waste Activated Sludge (WAS) Pump Station Structural Modifications (CR-023) PR 21146 (4286) Task 3505	C	IRWD	$12,905.49						0				
	11.2	Removable Slab Modifications on the Second Floor of Solids Handling Building (CR-064) PR 21146 (4286) Task 3505	C	IRWD	$11,834.27						0				

MWRP Biosolids and Energy Recovery Facilities
PR 21146 (4286)
Construction Change Order Summary

Contractor: Filanc/Balfour-Beatty
Design Engine Black & Veatch

					Contract Amount						Contract Days				Original Completion Date:
								Original Contract Amount:		$163,465,940.00			Original Days:	1,278	10/28/2016
Change Order		Description	Category	IRWD or FBB	Change Order Line Item Amount	Change Order Amount	Previous Change Orders	Cumulative Total of Change Orders	% of Original Contract Amount	Revised Contract Amount	Change Order Days	Previous Change Orders	Cum. Total C.O. days	Revised Total Contract Days	Revised Completion Date
12		Approved by Board of Directors Approved on July 21, 2014				$156,580.22	$903,590.37	$1,060,170.59	0.65%	$164,526,110.59	0	0	0	1,278	10/28/2016
	12.1	Final Bid Quantity Adjustment for Bid Item No. 5.2 – Undocumented Fill (suitable) – Remedial Grading – Remove and Re-compact a net increase of 8,104.7 CY from 51,700 CY to 59,804.7 CY at $5/CY. PR 21146 (4286) Task 3505	B	N/A	$40,523.37						0				
	12.2	Final Bid Quantity Adjustment for Bid Item No. 5.5 - Undocumented Fill (not suitable) - Remedial Grading - Remove and Export Offsite, a net increase of 60 CY, from 1,800 CY to 1,860 CY at $25 /CY. PR 21146 (4286) Task 3505	B	N/A	$1,500.00						0				
	12.3	Final Bid Quantity Adjustment for Bid Item No. 5.6 - Geotextile Fabric - Remedial Grading, a net decrease of 5,414 SF, from 181,500 SF to 176,086 SF at $0.40/SF. PR 21146 (4286) Task 3505	B	N/A	($2,165.60)						0				
	12.4	Final Bid Quantity Adjustment for Bid Item No. 5.6 - Geotextile Fabric - Remedial Grading, a net decrease of 5,414 SF, from 181,500 SF to 176,086 SF at $0.40/SF. PR 21146 (4286) Task 3505	B	N/A	($6,523.33)						0				
	12.5	Final Bid Quantity Adjustment for Bid Item No. 5.8 - Undocumented Fill - Deep Foundations – Removal, a net increase of 966 CY, from 21,650 CY to 22,616 CY at $5.50/CY. PR 21146 (4286) Task 3505	B	N/A	$5,313.00						0				
	12.6	Final Bid Quantity Adjustment for Bid Item No. 5.9 - Alluvium - Remedial Grading - Removal and Export Offsite, a net increase of 2,076 CY, from 28,154 CY to 30,230 CY at $35/CY. PR 21146 (4286) Task 3505	B	N/A	$72,665.98						0				
	12.7	Final Bid Quantity Adjustment for Bid Item No. 5.10 - Undocumented Fill Deep Foundations - Compaction of stockpiled materials, a net increase of 3,117 CY, from 11,400 CY to 14,517 CY at $15/CY. PR 21146 (4286) Task 3505	B	N/A	$46,755.00						0				
	12.8	Final Bid Quantity Adjustment for Bid Item No. 5.11 - Undocumented Fill - Deep Foundations - Export excess offsite a net decrease of 2,151 CY, from 10,250 CY to 8,099 CY PR 21146 (4286) Task 3505	B	N/A	($30,114.00)						0				
	12.9	Final Bid Quantity Adjustment for Bid Item No. 5.12 - Geotextile Fabric - Deep Foundations, a net increase of 9,218 SF, from 51,500 SF to 60,718 SF at $0.60/SF. PR 21146 (4286) Task 3505	B	N/A	$5,530.80						0				
	12.10	Final Bid Quantity Adjustment for Bid Item No. 5.13 - Aggregate Base - Deep Foundations, a net increase of 513.2 CY, from 2,860 CY to 3,373.2CY at $45/CY. PR 21146 (4286) Task 3505	B	N/A	$23,095.00						0				
13		Approved by Exec. Director of Engineering & Water Quality Approved on July 10, 2014				$10,129.18	$1,060,170.59	$1,070,299.77	0.65%	$164,536,239.77	0	0	0	1,278	10/28/2016
	13.1	Modifications to Switchgear 16 (CR-070) PR 21146 (4286) Task 3510	A	FBB	$10,129.18						0				
14		Approved by General Manager Approved on June 24, 2014				$44,543.19	$1,070,299.77	$1,114,842.96	0.68%	$164,580,782.96	0	0	0	1,278	10/28/2016
	14.1	Slide Gates Clarification Regarding Actuators (CR-039) PR 21146 (4286) Task 3520	A	IRWD	$44,543.19						0				

MWRP Biosolids and Energy Recovery Facilities
PR 21146 (4286)
Construction Change Order Summary

Contractor: Filanc/Balfour-Beatty
Design Engine Black & Veatch

					Contract Amount						Contract Days				Original Completion Date:
								Original Contract Amount:		$163,465,940.00			Original Days:	1,278	10/28/2016
Change Order		Description	Category	IRWD or FBB	Change Order Line Item Amount	Change Order Amount	Previous Change Orders	Cumulative Total of Change Orders	% of Original Contract Amount	Revised Contract Amount	Change Order Days	Previous Change Orders	Cum. Total C.O. days	Revised Total Contract Days	Revised Completion Date
15		Approved by General Manager Approval on July 31, 2014				$45,214.40	$1,114,842.96	$1,160,057.36	0.71%	$164,625,997.36	0	0	0	1,278	10/28/2016
	15.1	Provide Masonry Shelf Angle at Digester Control Building (CR-031) PR 21146 (4286) Task 3505	C	FBB	$27,543.19						0				
	15.2	Beam Size Increase for Monorail Runway in Solids Handling Building - (CR-074) PR 21146 (4286) Task 3505	C	FBB	$1,200.47						0				
	15.3	Upsize Odor Control Circulation Pump Motor Disconnects (CR-082) PR 21146 (4286) Task 3510	B	FBB	$1,184.83						0				
	15.4	Additional Deck Support for the Solids Handling Building Roof (CR-044) PR 21146 (4286) Task 3505	C	FBB	$15,285.91						0				
16		Approved by E&O Committee Approved on August 19, 2014				$62,037.10	$1,160,057.36	$1,222,094.46	0.75%	$164,688,034.46	0	0	0	1,278	10/28/2016
	16.1	Installation of Level 3 Diesel Particulate Filter (DPF) on the Standby Generator - (CR-073) PR 21146 (4286) Task 3520	B	IRWD	$62,037.10						0				
17		Approved by Board of Directors Approved on August 25, 2014				($106,241.99)	$1,222,094.46	$1,115,852.47	0.68%	$164,581,792.47	0	0	0	1,278	10/28/2016
	17.1	Modifications to Switchgear 16 (CR-070A) PR 21146 (4286) Task 3510	A	FBB	($106,241.99)						0				
18		Approved by Board of Directors Approved on August 25, 2014				$108,087.55	$1,115,852.47	$1,223,940.02	0.75%	$164,689,880.02	0	0	0	1,278	10/28/2016
	18.1	Stormwater Drainage System Modification (CR-017) PR 21146 (4286)	A	IRWD	$108,087.55						0				
19		Approved by Executive Director of Engineering & Water Quality Approved on September 30, 2014				$72,572.86	$1,223,940.02	$1,296,512.88	0.79%	$164,762,452.88	0	0	0	1,278	10/28/2016
	19.1	Modification to Switchgear 16 (CR-070B) PR 21146 (4286) Task 3510	A	IRWD	$1,125.75						0				
	19.2	Alluvium Removal Due to 36-inch Storm Drain Installation (CR-085) PR 21146 (4286) Task 3520	B	N/A	$14,140.00						0				
	19.3	Additional Structural Support for Fats, Oils, and Grease (FOG) Grinders (CR-081) PR 21146 (4286) Task 3505	C	FBB	$8,323.99						0				
	19.4	Portable Lift Truck for 480V ABB Breakers (CR-108) PR 21146 (4286) Task 3510	A	IRWD	$2,625.12						0				
	19.5	Retaining Wall North and West of Biosolids Site (CR-010) PR 21146 (4286) Task 3505	B	IRWD	$46,358.00						0				
20		Approved by Executive Director of Engineering & Water Quality Approved on November 19, 2014				$54,485.63	$1,296,512.88	$1,350,998.51	0.83%	$164,816,938.51	0	0	0	1,278	10/28/2016
	20.1	Nitrogen Slab Modifications (CR-052) PR 21146 (4286) Task 3505	A	IRWD	$24,855.80						0				
	20.2	Additional Conduits and Circuits for the Access Control Systems for the Solids Handling Building and the Digester Control Building (CR-082) PR	A	IRWD	$3,412.13						0				
	20.3	Digital Power Meters Change for SWGR-14 and SWGR-15 (CR-109) PR 21146 (4286) Task 3510	A	IRWD	$3,863.22						0				
	20.4	Truck Unloading Panel Modifications (CR-115) PR 21146 (4286) Task 3510	A	IRWD	$12,843.50						0				
	20.5	Switchgear SWGR-14 Modifications (CR-116) PR 21146 (4286) Task 3510	A	IRWD	$9,510.98						0				
21		Approved by General Manager Approved on January 30, 2015				$ 98,506.19	$1,350,998.51	$1,449,504.70	0.89%	$164,915,444.70	0	0	0	1,278	10/28/2016
	21.1	Additional Anchorage for Methane Digesters (CR-051A) PR 21146 (4286) Task 3520	B	FBB	$92,367.44						0				
	21.2	Additional Input/Outputs Review of Master I/O List (CR-136) PR 21146 (4286) Task 3510	C	FBB	$6,138.75						0				

MWRP Biosolids and Energy Recovery Facilities
PR 21146 (4286)
Construction Change Order Summary

Contractor: Filanc/Balfour-Beatty
Design Engine Black & Veatch

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								Original Contract Amount:		$163,465,940.00			Original Days:	1,278	10/28/2016
Change Order		Description	Category	IRWD or FBB	Change Order Line Item Amount	Change Order Amount	Previous Change Orders	Cumulative Total of Change Orders	% of Original Contract Amount	Revised Contract Amount	Change Order Days	Previous Change Orders	Cum. Total C.O. days	Revised Total Contract Days	Revised Completion Date
22		Approved by Board of Directors Approved on February 9, 2015				$964,324.51	$1,449,504.70	$2,413,829.21	1.48%	$165,879,769.21	0	0	0	1,278	10/28/2016
	22.1	Electrical Conduit Overfill (CR-055) PR 21146 (4286) Task 3510	C	FBB	$485,250.28						0				
	22.2	Heat Dryer Equipment Escalation Costs (CR-057) PR 21146 (4286) Task 3520	B	FBB	$333,477.50						0				
	22.3	Glass-lining Sludge Density Meters (CR-067) PR 21146 (4286) Task 3510	A	IRWD	$71,010.74						0				
	22.4	Switchgear-16 Enclosure (CR-040) PR 21146 (4286) Task 3510	C	FBB	$56,882.30						0				
	22.5	Propane Gas Tank Foundation Demolition (CR-084) PR 21146 (4286) Task 3505	C	IRWD	$2,004.98						0				
	22.6	Credit for travel costs related to inspection of centrifuges in Germany (CR-091) PR 21146 (4286) Task 3520	A	IRWD	($5,573.42)						0				
	22.7	Deletion of MMC Switchgear-14 Breaker (CR-092) PR 21146 (4286) Task 3510	A	IRWD	($5,032.00)						0				
	22.8	Increase of Fiber Optic Conduit Size (CR-097) PR 21146 (4286) Task 3510	C	IRWD	$23,269.61						0				
	22.9	Overtime to perform work in the Solids Handling electrical room (CR-103) PR 21146 (4286) Task 3510	A	IRWD	$1,384.47						0				
	22.10	Credit for modification to the Uninterruptible Power System (CR-118) PR 21146 (4286) Task 3510	A	IRWD	($9,771.72)						0				
	22.11	Addition of Low Voltage Compartment in SCE Switch "C" (CR-160) PR 21146 (4286) Task 3510	A	IRWD	$2,156.20						0				
	22.12	Addition of input/output points relating to sump pumps located at the Solids Handling Building (CR-161) PR 21146 (4286) Task 3510	A	FBB	$9,265.57						0				
23		Approved by General Manager Approved on February 26, 2015				$97,005.10	$2,413,829.21	$2,510,834.31	1.54%	$165,976,774.31	0	0	0	1,278	10/28/2016
	23.1	Additional Steel Reinforcement the Pellet Storage Silos Anchor Bolts (CR-094) PR 21146 (4286) Task 3505	B	FBB	$5,514.57						0				
	23.2	Differential Pressure Transmitter (CR-094) PR 21146 (4286) Task 3510	A	IRWD	$2,535.33						0				
	23.3	Additional Aluminum Trench Grating in Digester Control Building (CR-107) PR 21146 (4286) Task 3520	A	IRWD	$7,552.11						0				
	23.4	Light Weight Concrete for Electrical Conduits Underneath the Solids Handling Building Electrical Room (CR-113) PR 21146 (4286) Task 3510	A	IRWD	$30,535.94						0				
	23.5	Adding Energyjets Weir Plates to Dewatering Centrifuges – (CR-124) PR 21146 (4286) Task 3520	A	IRWD	$11,139.25						0				
	23.6	Provide Angle Supports for the Removable Slabs at the Solids Handling Building – (CR-137) PR 21146 (4286) Task 3520	A	IRWD	$20,671.61						0				
	23.7	Structural Modification at Solids Handling Building – (CR-140) PR 21146 (4286) Task 3520	C	FBB	$1,109.42						0				
	23.8	Increase of Fiber Optic Conduit Size (CR-097) PR 21146 (4286) Task 3510	A	IRWD	$5,516.45						0				
	23.9	Steel Joist Framing Modifications at Digester Control Building – (CR-151) PR 21146 (4286) Task 3505	C	FBB	$2,286.29						0				
	23.10	WAS Valve Vault and Piping Modifications (CR-100) PR 21146 (4286) Task 3520	A	IRWD	$10,144.13						0				
24		Approved by General Manager Approved on March 6, 2015				$99,122.95	$2,510,834.31	$2,609,957.26	1.60%	$166,075,897.26	0	0	0	1,278	10/28/2016
	24.1	Coating of WAS/Primary Sludge Pump Stations & Sludge Wetwells per RFI-0612A (CR-127) PR 21146 (4286) Task 3505	A	FBB	$99,122.95						0				

MWRP Biosolids and Energy Recovery Facilities
PR 21146 (4286)
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Contractor: Filanc/Balfour-Beatty
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									Original Contract Amount:	$163,465,940.00			Original Days:	1,278	10/28/2016
Change Order		Description	Category	IRWD or FBB	Change Order Line Item Amount	Change Order Amount	Previous Change Orders	Cumulative Total of Change Orders	% of Original Contract Amount	Revised Contract Amount	Change Order Days	Previous Change Orders	Cum Total C.O. days	Revised Total Contract Days	Revised Completion Date
25		Approved by Board of Directors Approved on March 23, 2015				$280,575.97	$2,609,957.26	$2,890,533.23	1.77%	$166,356,473.23	0	0	0	1,278	10/28/2016
	25.1	Lightning Protection for the Methane Digesters (CR-121) PR 21146 (4286) Task 3505	C	FBB	$158,259.68						0				
	25.2	Deflagration Quench Tubes outside of the Dryer Room (CR-143) PR 21146 (4286) Task 3505	B	FBB	$122,316.29						0				
26		Approved by Exe. Dir. Of Engineering & Water Quality Approved on April 14, 2015				$74,815.79	$2,890,533.23	$2,965,349.02	1.81%	$166,431,289.02	0	0	0	1,278	10/28/2016
	26.1	UPS and Power Fail Alarms per RFI 357 (CR-056) PR 21146 (4286) Task	C	FBB	$3,646.82						0				
	26.2	I/O Points for Methane Digester Sump Pumps per RFI-356 (CR-077) PR 21146 (4286) Task 3510	C	FBB	$6,489.00						0				
	26.3	Loss of Power Alarms to the SCADA Network per RFI-0393B (CR-093)	A	FBB	$20,297.16						0				
	26.4	FOG Flushing and Rock Trap Modifications per RFI-0534 (CR-101) PR	A	IRWD	$18,093.61						0				
	26.5	Install Grounding Pig Tails in Solids Handling Building Area Electrical Room per RFI 0594 (CR-105) PR 21146 (4286) Task 3510	A	IRWD	$1,593.10						0				
	26.6	Additional Pushbuttons, Light and Relays for the FOG Receiving Control Panel (CR-114) PR 21146 (4286) Task 3510	A	IRWD	$6,892.40						0				
	26.7	Changes to the HMI Enclosures at the Sludge Receiving Area (CR-133) PR 21146 (4286) Task 3510	A	IRWD	$7,114.17						0				
	26.8	Provide Storage Shelf for Keyboard and Mouse to the HMI Enclosures at the Sludge Receiving Area (CR-135) PR 21146 (4286) Task 3510	A	IRWD	$1,163.26						0				
	26.9	Dewatering Feed Pump Station Guardrail Additions (CR-142) PR 21146 (4286) Task 3520	C	FBB	$4,204.00						0				
	26.10	Additional I/O Points for PLC-4300 (CR-156) PR 21146 (4286) Task 3510	C	FBB	$3,035.28						0				
	26.11	Shoring Revision to Roof Slab of Dewatering Feed Pump Station (CR-189) PR 21146 (4286) Task 3510	B	FBB	$1,286.99						0				
	26.12	Coating of the Sludge Receiving Bins (CR-199) PR 21146 (4286) Task 3520	A	FBB	$1,000.00						0				

MWRP Biosolids and Energy Recovery Facilities
PR 21146 (4286)
Construction Change Order Summary

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Design Engine Black & Veatch

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					Original Contract Amount:					$163,465,940.00	Original Days:			1,278	10/28/2016
27		Approved by Board of Directors Approved on April 27, 2015				$107,253.26	$2,965,349.02	$3,072,602.28	1.88%	$166,538,542.28	0	0	0	1,278	10/28/2016
	27.1	Modifications to Human-Machine Interface (HMI) for the Microturbine Area (CR-078) PR 21146 (4286) Task 3510	A	IRWD	$29,744.43						0				
	27.2	Modifications to the Piping and Automation Features at Fats, Oils, and Grease (FOG) Facility (CR-129) PR 21146 (4286) Task 3510	A	IRWD	$35,771.81						0				
	27.3	Structural Support to the Monorail at the Dewatering Feed Pump Station (CR-152) PR 21146 (4286) Task 3505	C	FBB	$13,697.51						0				
	27.4	Two Additional Magnetic Flowmeters at Polymer Feed System (CR-158) PR 21146 (4286) Task 3510	A	IRWD	$9,522.81						0				
	27.5	Modifications to PLCs at Sludge Receiving Area (CR-180) PR 21146 (4286) Task 3510	A	IRWD	$18,516.70						0				
28		Approved by Exe. Dir. Of Eng, & Water Quality Approved on May 15, 2015				$74,550.35	$3,072,602.28	$3,147,152.63	1.93%	$166,613,092.63	0	0	0	1,278	10/28/2016
	28.1	Decanter Control Panel Modifications (CR-215) Task 3520	C	FBB	$22,451.01						0				
	28.2	Additional Structural Support in the Solids Handling Building (CR-075) Task 3505	C	FBB	$12,028.44						0				
	28.3	Additional Sump Pump Drain Line in the Bulk Polymer Storage Area (CR-119) Task 3520	C	FBB	$1,433.86						0				
	28.4	Install Three 5-inch conduits on Southwest Side of the Biosolids Site (CR-120) Task 3510	C	FBB	$16,033.58						0				
	28.5	Provide Power to Several Instruments Located at the Solids Handling Building and Digester Control Building (CR-154) Task 3520	C	FBB	$3,454.91						0				
	28.6	Install Foam Separator Drain at Digester Control Building (CR-167) Task 3520	C	FBB	$11,013.75						0				
	28.7	Install Support for 14-inch Plug Valve at Centrate Treatment Wetwell (CR-197) Task 3520	C	FBB	$1,715.20						0				
	28.8	Trench Modifications at the Sludge Cake Load-Out Area of the Solids Handling Building (CR-123) Task 3505	C	FBB	$6,419.60						0				
29		Pending approval by Exe. Dir. Of Eng, & Water Quality Pending approval on May 15, 2015				$225,971.77	$3,147,152.63	$3,373,124.40	2.06%	$166,839,064.40	0	0	0	1,278	10/28/2016
	29.1	Foul Air Pipe Supports in the Solids Handling Building Basement (CR-106) PR 21146 (4286) Task 3520	C	FBB	$119,937.87						0				
	29.2	Secondary Circuit Breaker for Transformer T-14 (CR-185) PR 21146 (4286)) Task 3510	A	IRWD	$106,033.90						0				

Category	Total Amount	% of Original Contract
A - District Convenience/Initiation - Project Related	$ 602,415.62	0.37%
B - Differing Site Conditions	$ 1,642,823.77	1.00%
C - Design Oversight	$ 1,127,885.01	0.69%
D - District Convenience/Initiation - Non-Project Related	$ -	0.00%
E - Contractor Conveniece/Initiation	$ -	0.00%
TOTAL (A + B + C + D)	$ 3,373,124.40	2.06%

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							Original Contract Amount:		$163,465,940.00			Original Days:	1,278	10/28/2016
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Category	Total Amount	% of Original Contract
IRWD-Initiation/Driven	$ 806,945.00	0.49%
FBB-Initiation/Driven	$ 2,395,459.18	1.47%
Not applicable	$ 170,720.22	0.10%
TOTAL	$ 3,373,124.40	2.06%