



**BOARD OF SUPERVISORS AGENDA ITEM REPORT  
CONTRACTS / AWARDS / GRANTS**

Award  Contract  Grant

Requested Board Meeting Date: 06/12/18

\* = Mandatory, information must be provided

or Procurement Director Award

**\*Contractor/Vendor Name/Grantor (DBA):**

PCL Construction, Inc.

**\*Project Title/Description:**

Construction Manager at Risk Services for Continental Ranch Regional Pump Station Upgrade Project (3CRS05)

**\*Purpose:**

Amendment: Contract No. CT-WWW-17-380, Amendment No. Two (2). This amendment incorporates Guaranteed Maximum Price No. Two (GMP-2) and increases the contract amount by \$4,712,137.00 for a total contract amount of \$9,042,413.00. Administering Department: Regional Wastewater Reclamation.

This amendment incorporates GMP-2 into the contract which allows for acquisition of equipment and construction activities for completion of the pump station facility. A Small Business Enterprise (SBE) goal of 7% is established for GMP-2.

**\*Procurement Method:**

Pursuant to Solicitation for Qualifications No. 247817, on 06/20/17, the Board of Supervisors awarded a contract for pre-construction services for this project in the amount of \$128,048.00 for a contract term of 06/20/17 to 06/19/19. Previous Amendment No. One (1) was approved by the Board of Supervisors to incorporate GMP-1 into the contract.

Attachment: Contract Amendment No. Two (2).

**\*Program Goals/Predicted Outcomes:**

Completion of the rehabilitation process, facilitated by the participation of the Construction Manager at Risk, in accordance/compliance with approved project plans and specifications, regulatory and industry codes, and department standards.

**\*Public Benefit:**

Upgraded Pump Station standards that will allow handling of additional flows at future build out conditions without additional funding requirements for pump station operations.

**\*Metrics Available to Measure Performance:**

Performance will be measured with monthly or bi-weekly activity reports during construction, monthly updates to the Cost to Complete Forecast, and by using the contractor evaluation process as outlined in BOS Policy D29.1.F.III.F.

**\*Retroactive:**

No

To: COB 5-25-18 (1)  
Vers: 6  
PSS: 59

Procure Dept 05/25/18 PM02:02

**Contract / Award Information**

Document Type: \_\_\_\_\_ Department Code: \_\_\_\_\_ Contract Number (i.e., 15-123): \_\_\_\_\_  
Effective Date: \_\_\_\_\_ Termination Date: \_\_\_\_\_ Prior Contract Number (Synergen/CMS): \_\_\_\_\_  
 Expense Amount: \$\* \_\_\_\_\_  Revenue Amount: \$ \_\_\_\_\_

**\*Funding Source(s) required:**

Funding from General Fund?  Yes  No If Yes \$ \_\_\_\_\_ % \_\_\_\_\_

Contract is fully or partially funded with Federal Funds?  Yes  No

\*Is the Contract to a vendor or subrecipient? Vendor

Were insurance or indemnity clauses modified?  Yes  No

If Yes, attach Risk's approval

Vendor is using a Social Security Number?  Yes  No

If Yes, attach the required form per Administrative Procedure 22-73.

**Amendment / Revised Award Information**

Document Type: CT Department Code: WW Contract Number (i.e., 15-123): 17-380

Amendment No.: Two (2) AMS Version No.: Six (6)

Effective Date: 06/12/18 New Termination Date: \_\_\_\_\_

Prior Contract No. (Synergen/CMS): \_\_\_\_\_

Expense or  Revenue  Increase  Decrease Amount This Amendment: \$ 4,712,137.00

Is there revenue included?  Yes  No If Yes \$ \_\_\_\_\_

\*Funding Source(s) required: Regional Wastewater Reclamation Department Obligations

Funding from General Fund?  Yes  No If Yes \$ \_\_\_\_\_ % \_\_\_\_\_

**Grant/Amendment Information (for grants acceptance and awards)**  Award  Amendment

Document Type: \_\_\_\_\_ Department Code: \_\_\_\_\_ Grant Number (i.e., 15-123): \_\_\_\_\_

Effective Date: \_\_\_\_\_ Termination Date: \_\_\_\_\_ Amendment Number: \_\_\_\_\_

Match Amount: \$ \_\_\_\_\_  Revenue Amount: \$ \_\_\_\_\_

**\*All Funding Source(s) required:**

\*Match funding from General Fund?  Yes  No If Yes \$ \_\_\_\_\_ % \_\_\_\_\_

\*Match funding from other sources?  Yes  No If Yes \$ \_\_\_\_\_ % \_\_\_\_\_

\*Funding Source: \_\_\_\_\_

**\*If Federal funds are received, Is funding coming directly from the Federal government or passed through other organization(s)?**

Contact: Keith E. Rogers Keith E. Rogers 5-16-18

Department: Procurement Telephone: 724-3542

Department Director Signature/Date: [Signature] 5/17/18

Deputy County Administrator Signature/Date: [Signature] 5/17/18

County Administrator Signature/Date: [Signature] 5/22/18  
(Required for Board Agenda/Addendum Items)

**PIMA COUNTY REGIONAL WASTEWATER RECLAMATION DEPARTMENT**

**PROJECT:** Construction Manager At Risk Services for Continental Ranch Regional Pump Station Upgrade Project (3CRS05)

**CONTRACTOR:** PCL Construction, Inc.  
1711 W Greentree Dr, Suite 201  
Tempe, Arizona 85284

**CONTRACT NO.:** CT-WW-17-380

**AMENDMENT NO.:** Two (2)

**FUNDING:** Regional Wastewater Reclamation Department Obligations

<b>CONTRACT</b>	
<b>NO.</b>	<u>CT-WW-17-380</u>
<b>AMENDMENT NO.</b>	<u>02</u>
This number must appear on all invoices, correspondence and documents pertaining to this contract.	

<b>CONTRACT TERM:</b> 06/20/2017 - 06/19/2019	<b>ORIGINAL CONTRACT AMOUNT:</b>	\$	128,048.00
<b>TERMINATION PRIOR AMENDMENT:</b> 06/19/2019	<b>PRIOR AMENDMENT(S):</b>	\$	4,202,228.00
<b>TERMINATION THIS AMENDMENT:</b> 06/19/2019	<b>AMOUNT THIS AMENDMENT:</b>	\$	4,712,137.00
	<b>REVISED CONTRACT AMOUNT:</b>	\$	9,042,413.00

**CONSTRUCTION CONTRACT AMENDMENT**

**WHEREAS**, COUNTY and CONTRACTOR have entered into the Contract for the project referenced above; and

**WHEREAS**, construction of the project was anticipated to be conducted in multiple phases; and

**WHEREAS**, Guarantee Maximum Price No. One (GMP-1), for emergency bypass pumping, and acquisition, installation and commissioning of permanent bypass pumping equipment for the pump station (Project Phase 1), was previously incorporated into the contract via Amendment No. One (1); and

**WHEREAS**, Project Phase 2 consists of acquisition of the remaining equipment and all construction activities to complete construction of the pump station facility; and

**WHEREAS**, Guaranteed Maximum Price No. Two (GMP-2) shall pertain to project Phase 2; and

**WHEREAS**, COUNTY and CONTRACTOR, pursuant to Article 2, have agreed to incorporate GMP-2 into the contract; and,

**WHEREAS**, COUNTY's acceptance of GMP-2 is subject to the understanding of the Parties that all other elements of future GMPs, if any, are and remain negotiable; and,

**WHEREAS**, COUNTY and CONTRACTOR pursuant to Article 3 have agreed to increase the Contract amount as identified in GMP-2.

**NOW, THEREFORE**, it is agreed as follows:

**CHANGE:** **ARTICLE 3 – PRE-CONSTRUCTION SERVICES FEE AND GUARANTEED MAXIMUM PRICE**, as amended in Contract Amendment No. One (1):

Insert after second paragraph of Item B:

Guaranteed Maximum Price-2 (GMP-2) for acquisition of equipment and all construction activities as identified in ATTACHMENT ONE (1) TO APPENDIX "F" is Four Million, Seven Hundred and Twelve Thousand, One Hundred Thirty-Seven Dollars and No Cents (\$4,712,137.00). COUNTY reserves the right to negotiate the construction fee, overhead rate, and all other elements of future GMPs, if any.

**ADD:** TO APPENDIX "F," as amended in Contract Amendment No. One (1):

Add, after APPENDIX "F"

ATTACHMENT ONE (1) TO APPENDIX "F": Construction Manager at Risk (CMAR) Services for Continental Ranch Regional Pump Station Rehabilitation (3CRS05) GMP-2, proposal dated April 5, 2018 (49 pages, attached).

This Amendment shall be effective on June 12, 2018.

All other provisions of the Contract, not specifically changed by this amendment, shall remain in effect and be binding upon the parties.


IN WITNESS WHEREOF, the parties have affixed their signatures to this Amendment on the dates written below.


APPROVED:

\_\_\_\_\_  
Chairman, Board of Supervisors

\_\_\_\_\_  
Date

CONTRACTOR:

  
\_\_\_\_\_  
Signature  
Mike McKinney  
President

  
\_\_\_\_\_  
Shawn W. Britton  
Secretary / Treasurer

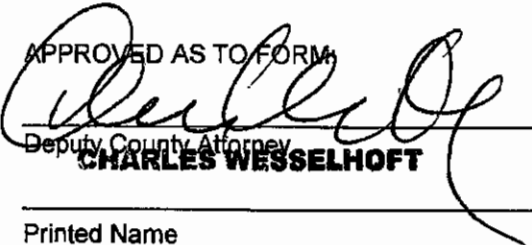
\_\_\_\_\_  
Name and Title (Please Print)

5/21/18  
\_\_\_\_\_  
Date

ATTEST:

\_\_\_\_\_  
Clerk of the Board

APPROVED AS TO FORM

  
\_\_\_\_\_  
Deputy County Attorney  
**CHARLES WESSELHOFT**

Printed Name

**MAY 18 2018**

\_\_\_\_\_  
Date

Continental Ranch Regional Pump Station Upgrades Project -3CRS05  
 GMP 2 Summary



	<b>CONSTRUCTION</b>
	<b>AMOUNT</b>
<b>CONSTRUCTION COSTS- GMP 2</b>	
Cost of Construction	\$ 3,330,866
CMAR Contingency	\$ 100,000
<b>SUBTOTAL DIRECT CONSTRUCTION COSTS</b>	<b>\$ 3,430,866</b>
<b>INDIRECT CONSTRUCTION COSTS</b>	
General Conditions	\$ 289,039
Overhead (6.21%)	\$ 250,962
Insurance	\$ 43,317
Payment & Performance Bonds	\$ 27,073
<b>SUBTOTAL DIRECT CONSTRUCTION COSTS + GC's, OH, Insurance, Bonds</b>	<b>\$ 4,041,257</b>
Construction Fee (8%)	\$ 323,300
<b>SUBTOTAL DIRECT CONSTRUCTION COSTS + GC's, OH, Insurance, Bonds, Fee</b>	<b>\$ 4,364,557</b>
AZ Gross Receipts Tax (MRRA)	\$ 147,580
<b>GMP 1 TOTAL</b>	<b>\$ 4,512,137</b>
<b>OTHER PROJECT COSTS</b>	
County Contingency	\$ 200,000
<b>TOTAL CONTRACT</b>	<b>\$ 4,712,137</b>



Date **April 05, 2018**  
Time **2:13:49 PM**  
BE Number **BE170920**  
Opportunity No  
Owner File No  
Estimator

**PCL Construction, Inc.**  
Water Infrastructure Group

**General Estimate Summary & Item Analysis Sheet**

Project **Continental Ranch Regional Pump Station Upgrade Project (3CRS05)**  
Location **Marana, AZ, USA**  
Owner **Pima County Wastewater Management Dept.**  
Designer **Westland Resources, Inc.**

Bid Closing  
Project Start **May 24, 2018**  
Completion **December 28, 2018**



BE170920  
 Opportunity No  
 Owner File No  
 Project

**PCL Construction, Inc.**  
**Water Infrastructure Group**  
**General Estimate Summary**

Summary Page 1 of 2  
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Continental Ranch Regional Pump Station Upgrad  
 Marana AZ, USA

Sheet Name	Description	Quantity	UOM	Labor		Equipment		Services/Tools/Supplies		Material		Subcontract		Total Cost	
				Hours	Rate	Hours	Total	Unit	Total	Unit	Total	Unit	Total	Unit	Total
<b>CONSTRUCTION COSTS</b>															
<b>COST OF CONSTRUCTION</b>															
DC 1	Division 1	1 EA	723	30.32	21,908	4,912	43,295	59,233	59,233	4,440	4,440	3,600.00	3,600.00	132,475.52	132,476
DC 2	Site Work	1 EA	1,718	38.03	65,329	962	28,865	2,700	2,700	155,838	155,838	1,500.00	1,500.00	254,230.98	254,231
DC 11	Equipment	1 EA	---	---	---	---	---	30,000	30,000	69,084	69,084	15,482.33	15,482.33	114,566.77	114,567
DC 2.1	Paving Bid Package	1 EA	---	---	---	---	---	---	---	885.43	885.43	93,203.30	93,203.30	94,088.73	94,089
DC 2.2	Security Gate Bid Package	1 EA	---	---	---	---	---	---	---	254.48	254.48	18,850.00	18,850.00	19,104.48	19,104
DC 3	Concrete Bid Package	1 EA	693	36.60	25,359	140	2,912	6,409	6,409	8,045	8,045	138,597.00	138,597.00	181,322.69	181,323
DC 4	Masonry Bid Package	1 EA	---	---	---	---	---	673.65	673.65	---	---	49,900.00	49,900.00	50,573.65	50,574
DC 5	Metals Bid Package	1 EA	144	28.83	4,152	72	1,564	2,748	2,748	250	250	81,300.00	81,300.00	90,013.95	90,014
DC 8	Roofing Bid Package	1 EA	---	---	---	---	---	376.25	376.25	---	---	52,870.00	52,870.00	53,246.25	53,246
DC 9	Coatings Bid Package	1 EA	---	---	---	---	---	6,941	6,941	---	---	277,646.00	277,646.00	284,587.25	284,587
DC 10	Tenant Improvement Bid Package	1 EA	56	28.83	1,615	16	251.66	456.18	456.18	2,650	2,650	43,790.75	43,791	48,763.23	48,763
DC 15	Mechanical Bid Package	1 EA	4,842	35.51	171,954	4,716	63,469	21,220	21,220	283,087	283,087	10,800.00	10,800.00	550,530.47	550,530
DC 15.1	HVAC Bid Package	1 EA	---	---	---	---	---	---	---	---	---	335,567.00	335,567.00	335,567.00	335,567
DC 16	Electrical and Security Bid Package	1 EA	123	39.63	4,855	123	3,847	---	---	12,652	12,652	1,100.441	1,100.441	1,121,795.21	1,121,795
<b>COST OF CONSTRUCTION</b>				8,297	35.57	295,171	10,941	144,204	130,757	130,757	537,186	2,223,547	2,223,547	3,330,866.17	3,330,866
CONT	Contractor's Contingency	1 EA	---	---	---	---	---	100,000	100,000	---	---	---	---	100,000.00	100,000
<b>CONSTRUCTION COSTS</b>				8,297	---	295,171	10,941	---	---	---	537,186	---	---	---	3,430,866
<b>INDIRECT CONSTRUCTION COSTS</b>															
GE 17	General Conditions	1 LS	2,947	80.46	237,086	1,211	17,093	---	---	---	---	---	---	---	289,039
GE 7	Overhead	1 LS	---	---	---	---	---	---	---	250,962	250,962	---	---	250,962	250,962
GE 9	Insurance	1 LS	---	---	---	---	---	---	---	---	---	---	---	43,317	43,317
GE 8	Payment and Performance Bonds	1 LS	---	---	---	---	---	---	---	---	---	---	---	27,073	27,073
<b>INDIRECT CONSTRUCTION COSTS</b>				2,947	---	237,086	1,211	---	---	---	250,962	---	---	---	610,398
<b>TOTAL COST</b>				11,244	---	532,258	12,152	---	---	---	788,148	---	---	---	4,041,256

Proprietary and Confidential







**PCL Construction, Inc.**  
**Water Infrastructure Group**  
**Item Analysis Sheet**

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BE Number BE170920  
 Opportunity No  
 Owner File No  
 Project **Continental Ranch Regional Pump Station Upgrade Project**  
 Location Marana, AZ, USA

**DC 1** **Division 1** **1.00 EA**

Proprietary and Confidential

No.	Description	Quantity UOM	Units Per Hours	Months Per Unit	Labor		Equipment		Services/Tools/Supplies		Perm. Material		SubContract		Total Cost	
					Hours	\$/hr	\$/hr	Total	\$/Item/Unit	Total	\$/Item/Unit	Total	\$/Item/Unit	Total	Unit	Total
<b>SWPPP and Dust Control</b>																
	Maintain Construction Entrance 4 HRS/MONTH 7 Months	1 LS														
	Refresh Construction Entrance	28 HR	1.000	1.000	28	28.83	807									28.83 807
	Backho-Ldr Ct 420C 1.0cy	28 HR	1.000	1.000	28	42.85	1,200	608								64.57 1,808
	Trackout Rock	40 TN									15.00	600				15.00 600
	Project Dust Control															
	Tank Trl Water 500 Gal					1.00 LS		1.000								5,675.50 39,728
	Trc Water-TA 2000 Gal-O	7 MO	1.000	1.000				32.81	39,728							5,198.68 10,397
	Water Truck Operator	2 MO	1.000	1.000	347	29.99	10,397									
	<b>SWPPP and Dust Control</b>	1 LS			403	30.81	12,404	40,337				600				53,341
<b>Temporary Utilities</b>																
<b>Remove Site Office</b>																
	Mobilize Additional Site Office	1 EA								1,500.00						1,500.00 1,500
	Furniture	1 LS														2,000
	Setup Office	16 HR	1.000	1.000	16	37.48	600									37.48 600
	Demobilize Site Offices	2 EA								1,500.00						1,500.00 3,000
	Remove Office	2 EA	0.016	64.000	128	28.83	3,691									1,845.31 3,691
	<b>Remove Site Office</b>	1 LS			144	29.79	4,290	6,500								10,790
<b>Temporary Contractors Tool Connex/Trade Shack</b>																
	Setup Connex/Trade Shack (Onsite)	1 LS														
	Remove Connex-Labor	16 HR	1.000	1.000	16	37.48	600									37.48 600
	Drinking Water & Ice	7 MO								200.00						200.00 1,400

**DC 1**

**Division 1**

**1.00**



**PCL Construction, Inc.**  
**Water Infrastructure Group**  
**Item Analysis Sheet**

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BE Number BE170920  
 Opportunity No  
 Owner File No  
 Project Continental Ranch Regional Pump Station Upgrade Project  
 Location Marana, AZ, USA

**DC 1** **Division 1** **1.00** **EA**

Proprietary and Confidential

No.	Description	Quantity UOM	Units Per Hours	ManHrs Per Unit	Labor		Equipment		Services/ Tools/Supplies		Perm. Material		SubContract		Total Cost	
					Hours	\$ / hr	Total	\$ / hr	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	Unit	Total	
	<b>Temporary Contractors Tool Connex/</b>	1 LS				15	37.48	600								2,000
	<b>QC Testing</b>	1 LS														
	OC Testing	1 LS								5,000						5,000
	<b>QC Testing</b>	1 LS								5,000						5,000
	<b>Temporary Site Services</b>	1 LS														
	Site Services; Constr. Operations	7 MO				1.00	LS									
	Garbage Pickup; Onsite Rollaway	7 MO								800.00					800.00	5,600
	Janitorial Services at Site Trailers	7 MO								300.00					300.00	2,100
	<b>Temporary Site Services</b>	1 LS								7,700						7,700
	<b>Temporary Utilities</b>	1 LS				160	30.56	4,890								25,490
	<b>Construction Facilities</b>	1 LS														
	<b>Temporary Construction Equipment; Onsite</b>	1 LS														
	Construction Support Equipment	11,244 MH								0.700000					0.700000	7,871
	Expendables/Consumables	295,171 EA								0.014000					0.014000	4,132
	Safety Supplies	295,171 EA								0.050000					0.050000	14,759
	Small Tools	295,171 EA														

**DC 1** **Division 1** **1.00**

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**PCL Construction, Inc.**  
**Water Infrastructure Group**  
**Item Analysis Sheet**

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BE Number: BE170920  
 Opportunity No:  
 Owner File No:  
 Project: Continental Ranch Regional Pump Station Upgrade Project  
 Location: Marana, AZ, USA

**DC 1**      **Division 1**      **EA**

Proprietary and Confidential

No.	Description	Quantity	UOM	Units Per Hours	Months Per Unit	Labor		Equipment		Services/Tools/Supplies		Perm. Material		SubContract		Total Cost	
						Hours	\$/hr	\$/hr	Total	\$/Item	Unit	Total	\$/Item	Unit	Total	\$/Item	Unit
	<b>Temporary Construction Equipment:</b>	1	LS														26,762
	<b>Construction Facilities</b>	1	LS														26,762
	<b>Testing, Training and Facility Start-Up</b>	1	LS														
	<b>Start-Up Testing/Commissioning</b>	1	LS														
	Startup Labor	40	HR	1.000	1.000	40	28.83	1,153								28.83	1,153
	Testing STS	1	LS							1,500							1,500
	Clean Water Testing Loop	1	LS							4,935							4,935
	3 Clean Water Testing Support	40	HR	1.000	1.000	120	28.83	3,460								86.50	3,460
	Cleaning of Frac Tank STS	1	LS							250							250
	<b>Start-Up Testing/Commissioning</b>	1	LS			160	28.83	4,613			6,685						11,298
	<b>Testing, Training and Facility Start</b>	1	LS			160	28.83	4,613			6,685						11,298
	<b>First Aid and Safety STS</b>	100	%														
	Medical/Drug Testing	5	EA							75.00						75.00	375
	Training & Orientation	5	EA							35.00						35.00	175

**DC 1**

**Division 1**

**1.00**



BE170920

BE Number  
Opportunity No  
Owner File No  
Project  
Location

Continental Ranch Regional Pump Station Upgrade Project  
Marana, AZ, USA

PCL Construction, Inc.  
Water Infrastructure Group

Item Analysis Sheet

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**DC 1 Division 1**

**1.00 EA**

No.	Description	Quantity	UOM	Units Per Hours	Man-Hrs Per Unit	Labor		Equipment		Services/Tools/Supplies		Permi. Material		SubContract		Total Cost	
						Hours	\$/ hr	Total	\$/ hr	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	Unit	Total	Unit
	F.A. & Safety Supplies	11,244	MH							0.120000	1,349					0.120000	1,349
	Fire Protection	11,244	MH							0.070000	787					0.070000	787
	Air Monitors	7	MO	1.000	1.000		0.9263	1,122								160.25	1,122
	Rescue Tripod w/yo yo	7	MO	1.000	1.000		0.9263	1,122								160.25	1,122
	Yo Yo Winch	7	MO	1.000	1.000		0.3906	473								67.57	473
	<b>First Aid and Safety STS</b>	100	%				27.16	2,716		26.86	2,686					54.03	5,403
	<b>Surveying</b>	1	LS			1.00	LS				2,500						2,500
	3d Scanning	1	LS														
	Survey Requirements Licensed Surveyor	24	HR			24.00	HR					160.00	3,840		160.00		3,840
	<b>Surveying</b>	1	LS								2,500		3,840				6,340
	<b>Rebar Scanning</b>	1	LS														3,600
	Rebar Scanning	1	LS														3,600
	Scissor Lift - 32' Electric	1	WK	1.000	1.000		6.03	241								241.17	241
	<b>Rebar Scanning</b>	1	LS					241									3,841
	<b>Division 1</b>	1	EA	0.001	722.666	723	30.32	21,908	43,294.50	43,295	59,233.28	59,233	4,440.00	3,600.00	3,600.00	132,475.52	132,476

DC 1

Division 1

1.00



**PCL Construction, Inc.**  
**Water Infrastructure Group**  
**Item Analysis Sheet**

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BE Number  
 BE170920

Opportunity No  
 Owner File No  
 Project  
 Location

**Continental Ranch Regional Pump Station Upgrade Project**  
 Marana, AZ, USA

**DC 2**

**1.00 EA**

Proprietary and Confidential

No.	Description	Quantity	UOM	Units Per Hours	Months Per Unit	Labor		Equipment		Services/Tools/Supplies		Perm. Material		SubContract		Total Cost		
						Hours	\$ / hr	Total	\$ / hr	Total	\$/Item/Unit	Total	\$/Item/Unit	Total	Unit	Total		
<b>Site Demolition Bid Package</b>																		
<b>Excavate Footing</b>																		
<b>Excavate Footing</b>																		
2	Demo Crew	374	LF	20,000	0.050	374.00	LF	1,346									3.60	1,346
	Bckho 324DL 1.5CY-O	374	LF	20,000	0.050	19	OPZ 42.85	801	53.60	1,002							4.82	1,803
	Bckho-Ldr Ct 420C 1.0cy	374	LF	20,000	0.050	19	OPZ 42.85	801	21.73	406							3.23	1,208
	Haul Off Materials	2	LD								185.00	370					185.00	370
	<b>Excavate Footing</b>	1	LS			75	39.42	2,949		1,409								4,727
<b>Remove Existing Wooden Planter</b>																		
2	Demo Crew	120	LF	30,000	0.033	8	MXS 35.99	288									2.40	288
	Bckho-Ldr Ct 420C 1.0cy	120	LF	30,000	0.033	4	OPZ 42.85	171	21.73	87							2.15	258
	<b>Remove Existing Wooden Planter</b>	1	LS			12	38.28	459		87								546
<b>Demo Buried Piping/Air Vac MH</b>																		
2	Demo Crew	61	LF	5,000	0.200	24	MXS 35.99	878									14.40	878
	Bckho 324DL 1.5CY-O	61	LF	5,000	0.200	12	OPZ 42.85	523	53.60	654							19.29	1,177
	Bckho-Ldr Ct 420C 1.0cy	61	LF	5,000	0.200	12	OPZ 42.85	523	21.73	265							12.91	788
	Trench Box	1	WK								450.00	450					450.00	450
	Haul Off Materials	3	LD								185.00	555					185.00	555
	<b>Demo Buried Piping/Air Vac MH</b>	1	LS			49	39.42	1,924		919								3,848
<b>Demo Existing Bollards</b>																		
2	Demo Crew	7	EA	1,000	1.000	14	MXS 35.99	504									71.98	504

**DC 2**

**Site Work**

**1.00**



**PCL Construction, Inc.**  
**Water Infrastructure Group**  
**Item Analysis Sheet**

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BE Number BE170920  
 Opportunity No  
 Owner File No  
 Project Continental Ranch Regional Pump Station Upgrade Project  
 Location Marana, AZ, USA

Proprietary and Confidential

<b>DC 2</b>	<b>1.00</b>	<b>EA</b>
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No.	Description	Quantity UOM	Units Per Hours	Manhrs Per Unit	Labor		Equipment		Services/ Tools/Supplies		Perm. Material		SubContract		Total Cost	
					Hours	\$ / hr	Total	\$ / hr	Total	\$/Item/Unit	Total	\$/Item/Unit	Total	Unit	Total	
	Bckho-Ldr Ct 420C 1.0cy	7 EA	1.000	1.000	7	OP2 42.85	300	21.73	152	---	---	---	---	---	64.57	452
	Haul Off Materials	1 LD	---	---	---	---	---	---	185.00	185	---	---	---	---	185.00	185
	<b>Demo Existing Bollards</b>	<b>1 LS</b>	---	---	<b>21</b>	<b>38.28</b>	<b>804</b>	<b>152</b>	<b>185</b>	<b>185</b>	---	---	---	---	---	<b>1,141</b>
	<b>Demo Concrete Vault Lids</b>	<b>1 LS</b>	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	Demo Tank and Slab															
	2 Demo Crew	1 EA	0.125	8.000	16	MXS 35.99	576	---	---	---	---	---	---	---	575.87	576
	Bckho 324DL 1.5CY -O	1 EA	0.125	8.000	8	OP2 42.85	343	53.60	429	---	---	---	---	---	771.54	772
	Hammer - 8000lbs/ft 336-349	1 EA	0.125	8.000	---	---	---	54.90	439	---	---	---	---	---	439.18	439
	Bckho-Ldr Ct 420C 1.0cy	1 EA	0.125	8.000	8	OP2 42.85	343	21.73	174	---	---	---	---	---	516.60	517
	Haul Off Materials	2 LD	---	---	---	---	---	---	185.00	370	---	---	---	---	185.00	370
	Sawcut Asphalt Minimum Charge	1 LS	---	---	---	---	---	---	---	150	---	---	---	---	---	150
	<b>Demo Concrete Vault Lids</b>	<b>1 LS</b>	---	---	<b>32</b>	<b>39.42</b>	<b>1,261</b>	<b>1,042</b>	<b>520</b>	<b>520</b>	---	---	---	---	---	<b>2,823</b>
	<b>Remove Existing Tree/Planters</b>	<b>1 LS</b>	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	Remove Existing Tree	3 EA	---	---	---	---	---	---	---	---	---	---	---	500.00	1,500	1,500
	Demo Planters															
	2 Demo Crew	2 EA	0.250	4.000	16	MXS 35.99	576	---	---	---	---	---	---	---	287.94	576
	Bckho 324DL 1.5CY -O	2 EA	0.250	4.000	8	OP2 42.85	343	53.60	429	---	---	---	---	---	385.77	772
	Hammer - 8000lbs/ft 336-349	2 EA	0.250	4.000	---	---	---	54.90	439	---	---	---	---	---	219.59	439
	Bckho-Ldr Ct 420C 1.0cy	2 EA	0.250	4.000	8	OP2 42.85	343	21.73	174	---	---	---	---	---	258.30	517
	Haul Off Materials	2 LD	---	---	---	---	---	---	185.00	370	---	---	---	---	185.00	370
	<b>Remove Existing Tree/Planters</b>	<b>1 LS</b>	---	---	<b>32</b>	<b>39.42</b>	<b>1,261</b>	<b>1,042</b>	<b>370</b>	<b>370</b>	---	---	---	---	---	<b>4,173</b>
	<b>Demo Curb</b>	<b>1 LS</b>	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	2 Demo Crew	1 EA	0.500	2.000	4	MXS 35.99	144	---	---	---	---	---	---	---	143.97	144
	Bckho-Ldr Ct 420C 1.0cy	1 EA	0.500	2.000	2	OP2 42.85	86	21.73	43	---	---	---	---	---	129.15	129
	Saw Cut	1 EA	---	---	---	---	---	---	100.00	100	---	---	---	---	100.00	100
	<b>Demo Curb</b>	<b>1 LS</b>	---	---	<b>6</b>	<b>38.28</b>	<b>230</b>	<b>43</b>	<b>100</b>	<b>100</b>	---	---	---	---	---	<b>373</b>
	<b>Demo Asphalt</b>	<b>3,205 SY</b>	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	2 Demo Crew	3,205 SY	50.000	0.020	128	MXS 35.99	4,614	---	---	---	---	---	---	---	1.44	4,614

<b>DC 2</b>		<b>Site Work</b>		<b>1.00</b>	
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**PCL Construction, Inc.**  
**Water Infrastructure Group**  
**Item Analysis Sheet**

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BE Number BE170920  
 Opportunity No  
 Owner File No  
 Project  
 Location  
**Continental Ranch Regional Pump Station Upgrade Project**  
 Marana, AZ, USA

Proprietary and Confidential

**DC 2      1.00      EA**

**DC 2      Site Work**

No.	Description	Quantity	UOM	Units Per Hours	Months Per Unit	Labor		Equipment		Services Tools/Supplies		Perm. Material		SubContract		Total Cost	
						Hours	\$ / hr	Total	\$ / hr	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	Unit	Total	
	Bckho-Ldr Ct 420C 1.0cy	3,205	SY	50.000	0.020	64	OP2 42.85	2,746	21.73	1,393						1.29	4,139
	Haul Off Asphalt	36	LD									150.00	5,400			150.00	5,400
	Saw Cut	1	EA								150.00					150.00	150
	Demo Asphalt	3,205	SY	16.667	0.060	192	38.28	7,361	0.434568	1,393	0.046802	150	5,400			4.46	14,303
	Site Demolition Bid Package	1	LS			419	36.79	16,248		6,086		2,700	5,400				31,935
	<b>Remove/Replace Scrubber Tanks</b>	<b>1</b>	<b>EA</b>														
2	Remove Tank	1	EA	0.250	4.000	8	MKS 35.99	288								287.94	288
2	Replace Tanks	1	EA	0.125	8.000	16	MKS 35.99	576								575.87	576
	Replacement STS	1	EA									250.00	250			250.00	250
	<b>Remove/Replace Scrubber Tanks</b>	<b>1</b>	<b>EA</b>	<b>0.042</b>	<b>24.000</b>	<b>24</b>	<b>35.99</b>	<b>864</b>				<b>250.00</b>	<b>250</b>			<b>1,113.81</b>	<b>1,114</b>
	<b>Site Cleaning</b>	<b>1</b>	<b>LS</b>														
	Foreman/Gradechecker	4	HR	1.000	1.000	4	PM3 49.99	200								49.99	200
	Ldr 966G RT w/GP-4.5cy -O	4	HR	1.000	1.000	4	OP2 42.85	171	67.53	270						110.37	441
	Grader 14H-215 hp	4	HR	1.000	1.000	4	OP3 54.78	219	78.66	315						133.45	534
	Trc Water-TA 2000 Gal -O	4	HR	1.000	1.000	4	TD3 29.99	120	32.81	131						62.80	251
	Haul Off Brush	1	LS										500				500
	<b>Site Cleaning</b>	<b>1</b>	<b>LS</b>			<b>16</b>	<b>44.40</b>	<b>710</b>		<b>716</b>			<b>500</b>				<b>1,926</b>
	<b>Detail Excavation</b>	<b>16</b>	<b>HR</b>														
	Misc Slabs																
	Foreman/Gradechecker	16	HR	1.000	1.000	16	PM3 49.99	800								49.99	800
2	Exc Labor	16	HR	1.000	1.000	32	LS3 28.83	923								57.67	923
	Bckho 316EL .68cy -O	16	HR	1.000	1.000	16	OP2 42.85	686	34.59	553						77.43	1,239
	Bckho-Ldr Ct 420C 1.0cy	16	HR	1.000	1.000	16	OP2 42.85	686	21.73	348						64.57	1,033
	Trc Water-TA 2000 Gal -O	16	HR	1.000	1.000	16	TD3 29.99	480	32.81	525						62.80	1,005

**DC 2      Site Work**

**1.00**

**EA**



**PCL Construction, Inc.**  
**Water Infrastructure Group**  
**Item Analysis Sheet**

BE Number BE170920  
 Opportunity No  
 Owner File No  
 Project Continental Ranch Regional Pump Station Upgrade Project  
 Location Marana, AZ, USA

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Proprietary and Confidential

No. Description		Quantity UOM	Units Per Hours	Manhrs Per Unit	Labor		Equipment		Services/Tools/Supplies		Perm. Material		SubContract		Total Cost		
					Hours	\$ / hr	Total	\$ / hr	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	Unit	Total		
<b>DC 2 Site Work</b>																	
<b>DC 2 Site Work</b>																	
<b>Detail Excavation</b>																	
	16 HR	16 HR	0.167	6.000	96	37.22	3,573	89.12	1,426						312.46	4,999	
<b>Detail Backfill</b>																	
	1 LS																
	16 HR	16 HR	1.000	1.000	16	PM3 49.99	800								49.99	800	
	16 HR	16 HR	1.000	1.000	16	LS 28.83	461								28.83	461	
	16 HR	16 HR	1.000	1.000	16	OP2 42.85	686	17.50	280						60.34	965	
	16 HR	16 HR	1.000	1.000	16	OP2 42.85	686	16.81	269						59.65	954	
	16 HR	16 HR	1.000	1.000	16	TD3 29.99	480	50.46	807						80.45	1,287	
<b>Detail Backfill</b>																	
	1 LS				80	38.90	3,112		1,356								4,468
<b>Backfill Footings</b>																	
<b>Backfill Footings</b>																	
	1 LS																
	374 HR	374 HR	30.000	0.033	374	PM3 49.99	623								1.67	623	
	374 HR	374 HR	30.000	0.033	25	LS 28.83	719								1.92	719	
	374 HR	374 HR	30.000	0.033	12	OP2 42.85	534	17.50	218						2.01	752	
	374 HR	374 HR	30.000	0.033	12	OP2 42.85	534	16.81	210						1.99	744	
	374 HR	374 HR	30.000	0.033	12	TD3 29.99	374	32.81	409						2.09	783	
<b>Backfill Footings</b>					75	37.22	2,784		837								3,621
<b>Subgrade Prep</b>																	
<b>Subgrade Prep</b>																	
<b>Subgrade Prep</b>																	
	1,163 SY	1,163 SY	100.000	0.010	12	PM2 50.46	587								0.504578	587	
	1,163 SY	1,163 SY	100.000	0.010	12	OP3 54.78	637	64.29	748						1.19	1,385	
	1,163 SY	1,163 SY	100.000	0.010	12	OP2 42.85	498	21.73	253						0.645747	751	
	1,163 SY	1,163 SY	100.000	0.010	12	OP2 42.85	498	24.54	285						0.673842	784	
	1,163 SY	1,163 SY	100.000	0.010	12	TD3 29.99	349	50.46	587						0.804544	936	
	378 TN														12.00	4,536	





**PCL Construction, Inc.**  
**Water Infrastructure Group**  
**Item Analysis Sheet**

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BE Number  
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Opportunity No  
 Owner File No  
 Project  
 Location

Continental Ranch Regional Pump Station Upgrade Project  
 Marana, AZ, USA

**DC 2**      **1.00**      **EA**

**Site Work**

Proprietary and Confidential

No.	Description	Quantity	UOM	Units Per Hours	ManHrs Per Unit	Labor		Equipment		Services/Tools/Supplies		Perm. Material		SubContract		Total Cost	
						Hours	\$ / hr	Total	\$ / hr	Total	\$/Item	Unit	Total	\$/Item	Unit	Total	Unit
	<b>Subgrade Prep</b>	1	LS			58	44.19	2,569	1,873			4,536					8,978
	<b>Place Rip Rap</b>	1	LS														
	Install Rip Rap					114.00	SF										
2	Install Rip Rap	112	SF	20.000	0.050	11	US\$ 28.83	323								2.88	323
	Backho-Ldr-IT Ct 420E BH/L 1.0cy -C	112	SF	20.000	0.050	6	OPZ 42.85	240	105							3.08	345
	Trc Water-TA 2000 Gal-O	112	SF	20.000	0.050	6	TRB 29.99	168	184							3.14	352
	D50-6" - 12" Thick Rip-Rap	8	TN									35.00				35.00	280
	<b>Place Rip Rap</b>	1	LS			22	32.63	731	288			280					1,299
	<b>Uncover Utilities</b>	1	LS														
2	Pothole Crew	5	EA	0.250	4.000	40	MMS 35.99	1,440								287.94	1,440
	Backho 324DL 1.5CY-O	5	EA	0.250	4.000	20	OPZ 42.85	857	1,072							385.77	1,929
	Backho-Ldr Ct 420C 1.0cy	5	EA	0.250	4.000	20	OPZ 42.85	857	435							258.30	1,291
	<b>Uncover Utilities</b>	1	LS			80	39.42	3,154	1,506								4,660
	<b>Underground Utilities</b>	1	LS														
	Pipe Materials	1	LS														
	Pipe Zone Material - PAG Sand	152	TN									137,017					137,017
	<b>20" Force Main</b>	234	LF									12.00				12.00	1,824
	Max Depth 16 FT																
	Dig / Lay / Bury																
2	Yard Pipe Crew (LFM+PLL+2LGS)	234	LF	4.000	0.250	117	MMS 35.99	4,211								18.00	4,211

**DC 2**      **Site Work**

**1.00**



**PCL Construction, Inc.**  
**Water Infrastructure Group**  
**Item Analysis Sheet**

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BE Number BE170920  
 Opportunity No  
 Owner File No  
 Project Continental Ranch Regional Pump Station Upgrade Project  
 Location Marana, AZ, USA

Proprietary and Confidential

**DC 2** **Site Work** **1.00** **EA**

No.	Description	Quantity	UOM	Units Per Hours	Months Per Unit	Labor		Equipment		Services/Tools/Supplies		Permt. Material		SubContract		Total Cost	
						Hours	\$ / hr	Total	\$ / hr	Total	\$/Item/Unit	Total	\$/Item/Unit	Total	\$/Item/Unit	Total	Unit
	Bckho 321DL 1.83cy -O	234	LF	4.000	0.250	59	OP2 42.85	2,507	44.53	2,605	---	---	---	---	---	21.84	5,112
	Bckho-Ldr Ct 420C 1.0cy	234	LF	4.000	0.250	59	OP2 42.85	2,507	21.73	1,271	---	---	---	---	---	16.14	3,778
	Trench Compactor 24"-33"-O	234	LF	4.000	0.250	---	---	---	17.50	1,024	---	---	---	---	---	4.37	1,024
	Trc Water-TA 2000 Gal -O	234	LF	4.000	0.250	59	TD3 29.99	1,755	32.81	1,919	---	---	---	---	---	15.70	3,674
	Trench Box	1	WK	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	2 Speed Shores	1	WK	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	<b>Test</b>	<b>1</b>	<b>EA</b>	<b>0.125</b>	<b>8.000</b>	<b>8</b>	<b>MS2 35.99</b>	<b>288</b>	---	---	---	---	---	---	---	<b>287.94</b>	<b>288</b>
	Yard Pipe Crew (LFM+PLL+2LG5)	1	EA	0.125	8.000	---	---	---	15.73	126	---	---	---	---	---	125.83	126
	Comp 185 CFM Diesel	1	EA	0.125	8.000	---	---	---	125.83	126	---	---	---	---	---	413.77	414
	<b>Test</b>	<b>1</b>	<b>EA</b>	<b>0.125</b>	<b>8.000</b>	<b>8</b>	<b>35.99</b>	<b>288</b>	---	---	---	---	---	---	---	---	---
	<b>20" Force Main</b>	<b>234</b>	<b>LF</b>	<b>0.779</b>	<b>1.284</b>	<b>301</b>	<b>37.49</b>	<b>11,267</b>	<b>29.68</b>	<b>6,945</b>	---	---	<b>4.91</b>	<b>1,150</b>	---	<b>82.74</b>	<b>19,361</b>
	<b>2" Water</b>	<b>198</b>	<b>LF</b>	<b>6.000</b>	<b>0.167</b>	<b>66</b>	<b>MS2 35.99</b>	<b>2,375</b>	---	---	---	---	---	---	---	<b>12.00</b>	<b>2,375</b>
	Yard Pipe Crew (LFM+PLL+2LG5)	198	LF	6.000	0.167	---	---	---	---	---	---	---	---	---	---	---	---
	Bckho-Ldr Ct 420C 1.0cy	198	LF	6.000	0.167	33	OP2 42.85	1,414	21.73	717	---	---	---	---	---	10.76	2,131
	Trench Compactor 24"-33"-O	198	LF	6.000	0.167	---	---	---	17.50	577	---	---	---	---	---	2.92	577
	Trc Water-TA 2000 Gal -O	198	LF	6.000	0.167	33	TD3 29.99	990	32.81	1,083	---	---	---	---	---	10.47	2,072
	<b>Tie in to Existing</b>	<b>2</b>	<b>EA</b>	<b>0.125</b>	<b>8.000</b>	<b>32</b>	<b>MS2 35.99</b>	<b>1,152</b>	---	---	---	---	---	---	---	<b>575.87</b>	<b>1,152</b>
	Yard Pipe Crew (LFM+PLL+2LG5)	2	EA	0.125	8.000	16	OP2 42.85	686	21.73	348	---	---	---	---	---	516.60	1,033
	Bckho-Ldr Ct 420C 1.0cy	2	EA	0.125	8.000	---	---	---	---	---	---	---	---	---	---	---	---
	<b>Tie in to Existing</b>	<b>2</b>	<b>EA</b>	<b>0.042</b>	<b>24.000</b>	<b>48</b>	<b>38.28</b>	<b>1,837</b>	<b>173.83</b>	<b>348</b>	---	---	---	---	---	<b>1,092.47</b>	<b>2,185</b>
	<b>Valve adjustments</b>	<b>1</b>	<b>EA</b>	<b>0.500</b>	<b>2.000</b>	<b>4</b>	<b>MS2 35.99</b>	<b>144</b>	---	---	---	---	---	---	---	<b>143.97</b>	<b>144</b>
	Yard Pipe Crew (LFM+PLL+2LG5)	1	EA	0.500	2.000	---	---	---	---	---	---	---	---	---	---	---	---
	Bckho 321DL 1.83cy -O	1	EA	0.500	2.000	2	OP2 42.85	86	44.53	89	---	---	---	---	---	174.76	175
	Bckho-Ldr Ct 420C 1.0cy	1	EA	0.500	2.000	2	OP2 42.85	86	21.73	43	---	---	---	---	---	129.15	129
	Trench Compactor 24"-33"-O	1	EA	0.500	2.000	2	OP2 42.85	86	17.50	35	---	---	---	---	---	120.69	121
	Trc Water-TA 2000 Gal -O	1	EA	0.500	2.000	2	TD3 29.99	60	32.81	66	---	---	---	---	---	125.60	126
	Concrete	0.50	CY	---	---	---	---	---	---	---	---	---	---	---	---	101.00	51
	<b>Valve adjustments</b>	<b>1</b>	<b>EA</b>	<b>0.083</b>	<b>12.000</b>	<b>12</b>	<b>38.42</b>	<b>461</b>	<b>233.13</b>	<b>233</b>	---	---	---	---	---	<b>744.66</b>	<b>745</b>

**DC 2** **Site Work** **1.00**



**PCL Construction, Inc.**  
**Water Infrastructure Group**  
**Item Analysis Sheet**

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BE Number BE170920  
 Opportunity No  
 Owner File No  
 Project Continental Ranch Regional Pump Station Upgrade Project  
 Location Marana, AZ, USA

**DC 2** **Site Work** **1.00 EA** Proprietary and Confidential

No.	Description	Quantity	UOM	Units Per Hours	Manhrs Per Unit	Labor		Equipment	Services/Tools/Supplies		Perm. Material		SubContract		Total Cost		
						Hours	\$ / hr		Total	\$ / Item	Unit	Total	\$ / Item	Unit	Total	Unit	Total
<b>Test</b>																	
	Yard Pipe Crew (LFM+PLL+2LGS)	1 EA		0.125	8.000	8	MWS 35.99	288							287.94	288	
	Comp 185 CFM Diesel	1 EA		0.125	8.000				126						125.83	126	
<b>Test</b>															413.77	414	
		198 LF		0.990	1.010	200	36.83	7,365	3,084			0.255051	51		53.03	10,500	
	<b>Underground Utilities</b>	1 LS				501	37.23	18,632	10,029							140,042	168,702
<b>Precast</b>																	
	<b>Excavate/Backfill Vaults</b>																
	2 Underground Crew	2 EA		0.063	16.000	64	MWS 35.99	2,303							1,151.75	2,303	
	Backho 324DL 1.5CY -O	2 EA		0.063	16.000	32	OPZ 42.85	1,371	1,715						1,543.08	3,086	
	Backho-Ldr Ct 420C 1.0cy	2 EA		0.063	16.000	32	OPZ 42.85	1,371	695						1,033.19	2,066	
	Trench Compactor 24"-33"	2 EA		0.063	16.000	32	OPZ 42.85	1,371	560						965.49	1,931	
	Trc Water-TA 2000 Gal -O	2 EA		0.063	16.000	32	TDS 29.99	960	1,050						1,004.78	2,010	
	Air Injection Manhole	1 LS											4,580			4,580	
<b>Precast</b>																	
	2 Exposed Pipe Manhours	2 EA		0.010	96.000	192	38.42	7,376	4,920			2,290.00	4,580		7,988.29	15,977	
<b>Exposed Pipe Manhours</b>																	
	Pig Launching Station	1 LS															
	4 Install Exposed Piping	31 HR		1.000	1.000	124	MWS 34.24	4,246							136.96	4,246	
	Forklift RT 8000# Reach	31 HR		1.000	1.000	31	OPZ 42.85	1,328	728						66.32	2,056	

**DC 2** **Site Work** **1.00**



**PCL Construction, Inc.**  
**Water Infrastructure Group**  
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BE Number  
 BE170920

Opportunity No  
 Owner File No  
 Project  
 Location

**Continental Ranch Regional Pump Station Upgrade Project**  
 Marana, AZ, USA

**DC 2 Site Work** **1.00 EA**

Proprietary and Confidential

No.	Description	Quantity	UOM	Units Per Hours	Months Per Unit	Labor		Equipment		Services/Tools/Supplies		Perm. Material		SubContract		Total Cost		
						Hours	\$/hr	Total	\$/hr	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	Unit	Total	Unit	Total
	Anchor STS	1	LS														250	
	<b>Exposed Pipe Manhours</b>	1	LS			155	35.96	5,574	728								250	6,552
	<b>Site Work</b>	1	EA	0.001	1,718	1,718	38.03	65,329	28,864.86	28,865	2,700.00	2,700	155,837.50	155,838	1,500.00	1,500	254,231	



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BE Number: BE170920  
 Opportunity No:  
 Owner File No:  
 Project: **Continental Ranch Regional Pump Station Upgrade Project**  
 Location: Marana, AZ, USA

**DC 11 Equipment 1.00 EA**

Proprietary and Confidential

No.	Description	Quantity	UOM	Units Per Hours	Months Per Unit	Labor		Equipment		Services/Tools/Supplies		Perm. Material		SubContract		Total Cost		
						Hours	\$ / hr	Total	\$ / hr	Total	\$ / Item	Unit	Total	\$ / Item	Unit	Total	\$ / Item	Unit
<b>Mixing Pumps</b>																		
	Installation in Mechanical Bid Package	1 LS																
	Materials	1 LS																
	Purchase Mixers	67,958 EA											67,958					67,958
	Bond												0.013500				0.013500	917
	<b>Mixing Pumps</b>	1 LS											68,875					68,875
<b>Flygt Commissioning Dry Pit Pumps</b>																		
	Vendor Startup and Commissioning Support for 3 EA Dry Pit Pumps	1 LS																
	Startup and Commissioning Support	1 LS											11,596					11,596
	Additional Allowance	1 LS											18,404					18,404
	<b>Flygt Commissioning Dry Pit Pump</b>	1 LS											30,000					30,000
<b>New Rail Beam/Cranes</b>																		
	Sheet 22	1 LS																
	Supply/Install Crane	1 LS																
	Bond	15,482 EA											0.013500				0.013500	209
	<b>New Rail Beam/Cranes</b>	1 LS											209					209
<b>Equipment</b>																		
		1 EA											69,084.44				15,482.33	15,482
													30,000.00					30,000
																		114,567



**PCL Construction, Inc.**  
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BE Number BE170920  
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 Project Continental Ranch Regional Pump Station Upgrade Project  
 Location Marana, AZ, USA

1.00 EA

DC 2.1 Paving Bid Package

Proprietary and Confidential

No.	Description	Quantity UOM	Units Per Hours	ManHrs Per Unit	Labor		Equipment		Services Tools/Supplies		Perm. Material		SubContract		Total Cost	
					Hours	\$ / hr	Total	\$ / hr	Total	\$/Item/Unit	Total	\$/Item/Unit	Total	\$/Item/Unit	Total	Unit
	Paving including striping, handicap ramp, and parking bumpers. All areas that are designated for milling and overlay shall instead receive new pavement.															
	<b>Paving Bid Package</b>	1 LS														87,666
	Paving Bid Package	1 LS														5,537
	Additional Paving at Shade Structure	1,517 SF														3.65
	Bond	93,203 EA														0.009500
	<b>Paving Bid Package</b>	1 LS														93,203
	<b>Paving Bid Package</b>	1 EA														94,089



**PCL Construction, Inc.**  
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BE Number: BE170920  
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 Owner File No:  
 Project: Continental Ranch Regional Pump Station Upgrade Project  
 Location: Marana, AZ, USA

**DC 2.2 Security Gate Bid Package 1.00 EA**

Proprietary and Confidential

No.	Description	Quantity	UOM	Units Per Hours	Months Per Unit	Labor		Equipment		Services/Tools/Supplies		Perm. Material		SubContract		Total Cost		
						Hours	\$ / hr	Total	\$ / hr	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	Unit	Total
	security gate, gate operator, and man gate and coordination with the CMU wall manufacturer,																	
	Security Gate Bid Package	1	LS															18,850
	Bond	18,850	EA									0.013500	254					0.013500 254
	<b>Security Gate Bid Package</b>	<b>1</b>	<b>EA</b>									<b>254.48</b>	<b>254</b>	<b>18,850.00</b>	<b>18,850</b>	<b>19,104.48</b>	<b>19,104</b>	





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 Project Continental Ranch Regional Pump Station Upgrade Project  
 Location Marana, AZ, USA

**DC 3 Concrete Bid Package** **1.00 EA**

Proprietary and Confidential

No.	Description	Quantity	UOM	Units Per Hours	ManHrs Per Unit	Labor		Equipment		Services Tools/Supplies		Perm. Material		SubContract		Total Cost		
						Hours	\$ / hr	Total	\$ / hr	Total	\$/Item/Unit	Total	\$/Item/Unit	Total	\$/Item/Unit	Total	Unit	Total
	<b>Concrete Bid Package</b>	<b>1</b>	<b>LS</b>															
	cast-in-place concrete and reinforcing including placement of dowels, masonry wall footings, rolling gate foundation, gate motor pad, HVAC slab on east side of pump station building, replacement of landing on east side of pump station building that will be demolished for installation of forcemain piping, infill of floor deck openings including temporary shoring required, concrete pipe supports. (Note 19 on Sheet 21), concrete pedestals on sheet 23, drill and dowel of anchor bolts for concrete pedestals, pig launching station slab and supports on sheet 43, card reader stanchion, and light pole foundation.																	
	Concrete Bid Package					1.00 LS								67,840.00				
	Additional Concrete Around HVAC Bond					1.00 LS								8,200.00				
						67,840.00 EA							0.01					
	<b>Concrete Bid Package</b>	<b>1</b>	<b>LS</b>															
	<b>CONCRETE</b>	<b>67</b>	<b>CY</b>															
	<b>Sub Grade Prep</b>	<b>1,283</b>	<b>SF</b>															
	Subgrade Prep	1,283 SF		250.000	0.004	5	LS 28.83	148								0.115332	148	
	Bkko-Ldr Ct 420C 1.0cy	1,283 SF		250.000	0.004	5	OP 42.85	220	21.73	112						0.258299	331	
	Trench Compactor 24"-33"	1,283 SF		250.000	0.004	5	OP 42.85	220	17.50	90						0.241372	310	
	ABC	23.52 TN														12.00	282	
	<b>Sub Grade Prep</b>	<b>1,283</b>	<b>SF</b>			15	38.18	588	0.156900	201						0.220000	282	
	<b>Concrete Formwork</b>	<b>935</b>	<b>SF</b>															
	<b>Fab Formwork</b>	<b>233.75</b>	<b>SF</b>															





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 Project Continental Ranch Regional Pump Station Upgrade Project  
 Location Marana, AZ, USA

**DC 3 Concrete Bid Package 1.00 EA**

No.	Description	Quantity UOM	Units Per Hours	Months Per Unit	Labor		Equipment		Services/Tools/Supplies		Perm. Material		SubContract		Total Cost		
					Hours	\$ / hr	Total	\$ / hr	Total	\$/Item/Unit	Total	\$/Item/Unit	Total	\$/Item/Unit	Total	Unit	Total
	<b>Fab SOG &amp; Ftg Forms</b>	<b>233.75 SF</b>															
	Fab SOG Forms (Stick Built)																
	Fab SOG Forms	233.75 SF	8.000	0.125	233.75	29	37.00	1,081								4.63	1,081
	3/4" Finform Plywood	257.10 SF							1.05	270						1.05	270
	Dimen. Lumber (2x4-2x10)	514.30 BF							0.600000	309						0.600000	309
	Form Hardware	233.80 SF							0.300000	70						0.300000	70
	<b>Fab SOG &amp; Ftg Forms</b>	<b>233.75 SF</b>	<b>8.000</b>	<b>0.125</b>	<b>29</b>	<b>37.00</b>	<b>1,081</b>		<b>2.78</b>	<b>649</b>					<b>7.40</b>	<b>1,730</b>	
	<b>Fab Formwork</b>	<b>233.75 SF</b>	<b>8.000</b>	<b>0.125</b>	<b>29</b>	<b>37.00</b>	<b>1,081</b>		<b>2.78</b>	<b>649</b>					<b>7.40</b>	<b>1,730</b>	
	<b>Erect and Strip Formwork</b>	<b>935 SF</b>															
	Totals Formwork																
	?Form Oil	935 SF			935.00				0.030000	28					0.030000	28	
	Erect and Strip Supplies	935 SF							0.250000	234					0.250000	234	
	SOG	870 SF	3.000	0.333	290	37.00	10,731								12.33	10,731	
	Equipment Slabs	189 SF	1.000	1.000	189	37.00	6,993								37.00	6,993	
	Bulkheads	25 SF	0.500	2.000	50	37.00	1,850								74.00	1,850	
	<b>Erect and Strip Formwork</b>	<b>935 SF</b>	<b>1.767</b>	<b>0.566</b>	<b>529</b>	<b>37.00</b>	<b>19,574</b>		<b>0.280000</b>	<b>262</b>					<b>21.22</b>	<b>19,836</b>	
	<b>Concrete Formwork</b>	<b>935 SF</b>	<b>1.675</b>	<b>0.597</b>	<b>558</b>	<b>37.00</b>	<b>20,655</b>		<b>0.973770</b>	<b>910</b>					<b>23.07</b>	<b>21,566</b>	
	<b>03300 Cast In Place Concrete</b>	<b>65 CY</b>															

**DC 3 Concrete Bid Package 1.00**



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 Project Continental Ranch Regional Pump Station Upgrade Project  
 Location Marana, AZ, USA

**DC 3 Concrete Bid Package 1.00 EA**

Proprietary and Confidential

No.	Description	Quantity UOM	Units Per Hours	ManHrs Per Unit	Labor		Equipment		Services Tools/Supplies		Perm. Material		SubContract		Total Cost			
					Hours	\$ / hr	Total	\$ / hr	Total	\$/Item/Unit	Total	\$/Item/Unit	Total	\$/Item/Unit	Total	Unit	Total	
<b>Concrete Materials</b>																		
	TOTAL CONCRETE	65 CY				65.00 CY						86.00	5,762			86.00	5,762	
	CONC BASE BID					67.00						86.00	576			86.00	576	
	Conc.3000 Psi	67 CY																
	Conc.3000 Psi Waste 10%	6.70 CY																
	Super Plastizer	65 CY							5.00	325						5.00	325	
	Fiber Mesh	67 CY							8.00	536						8.00	536	
	Conc. Placing Supplies	67 CY							0.350000	23						0.350000	23	
	<b>Concrete Materials</b>	65 CY							13.61	884		97.51	6,338			111.12	7,223	
<b>Concrete Placement</b>																		
	Total Concrete CY	67 CY				67.00												
	SOG	67 CY	1.000	1.000		67	36.62										36.62	2,453
	Crane & Bucket					0.00 CY												
	Concrete Pump (SOG & Walls)					67.00 CY												
	120 Ft Boom Pump (.36m)	8 HR								130.00							130.00	1,040
	Conc Pump Charge 92 to 120 ft Boom	8 CY								2.00							2.00	16
	Pump Truck Mob	1 LS																350
	<b>Concrete Placement</b>	67 CY	1.000	1.000		67	36.62			20.99							57.60	3,859
	<b>03300 Cast In Place Concrete</b>	65 CY	0.970	1.031		67	36.62			35.24							170.49	11,082
	<b>03251 Concrete Joints</b>	67 CY																

DC 3 Concrete Bid Package

1.00



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 Opportunity No  
 Owner File No  
 Project Continental Ranch Regional Pump Station Upgrade Project  
 Location Marana, AZ, USA

**DC 3 Concrete Bid Package** **1.00 EA**

Proprietary and Confidential

No.	Description	Quantity	UOM	Units Per Hours	ManHrs Per Unit	Labor		Equipment		Services/Tools/Supplies		Perm. Material		SubContract		Total Cost		
						Hours	\$/hr	Total	\$/hr	Total	\$/Item	Unit	Total	\$/Item	Unit	Total	\$/Item	Unit
	Concrete Joint Qty																	
	Joint Prep	135	SF	15.000	0.067	135.00	9	36.62	330								2.44	330
	<b>03251 Concrete Joints</b>	<b>67</b>	<b>CY</b>	<b>7.444</b>	<b>0.134</b>	<b>9</b>	<b>36.62</b>	<b>330</b>									<b>4.92</b>	<b>330</b>
	<b>Curing</b>	<b>67</b>	<b>CY</b>															
	<b>Curing</b>	<b>2,243</b>	<b>SF</b>															
	Quantities																	
	Curing Labor	2,243	SF	200.000	0.005	2,243.00	11	36.62	411								0.183090	411
	Cure Supplies	2,243	SF							0.100000	224						0.100000	224
	<b>Curing</b>	<b>2,243</b>	<b>SF</b>	<b>200.000</b>	<b>0.005</b>	<b>11</b>	<b>36.62</b>	<b>411</b>		<b>0.100000</b>	<b>224</b>						<b>0.283090</b>	<b>635</b>
	<b>Curing</b>	<b>67</b>	<b>CY</b>	<b>5.974</b>	<b>0.167</b>	<b>11</b>	<b>36.62</b>	<b>411</b>		<b>3.35</b>	<b>224</b>						<b>9.48</b>	<b>635</b>
	<b>03200 Conc Reinforcement</b>	<b>1</b>	<b>LS</b>															
	<b>Rebar Sub: Supply &amp; Install</b>	<b>1</b>	<b>LS</b>															
	Rebar Subcontractor																	
	Concrete Rebar	1	LS															12,187
	<b>Rebar Sub: Supply &amp; Install</b>	<b>1</b>	<b>LS</b>															<b>12,187</b>
	<b>03200 Conc Reinforcement</b>	<b>1</b>	<b>LS</b>															<b>12,187</b>
	<b>Concrete Equipment</b>	<b>1</b>	<b>LS</b>															
	Comp 185 CFM Diesel	0.25	MO	1.000	1.000			15.73	680								2,721.06	680

**DC 3 Concrete Bid Package**

**1.00**



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BE Number BE170920

Opportunity No

Owner File No

Project **Continental Ranch Regional Pump Station Upgrade Project**

Location Marana, AZ, USA

**DC 3 Concrete Bid Package** **1.00 EA**

Proprietary and Confidential

No.	Description	Quantity	Units Per Hours	ManHrs Per Unit	Labor		Equipment		Services Tools/Supplies		Perm. Material		SubContract		Total Cost	
					Hours	\$ / hr	Total	\$ / hr	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	Unit
	Forklift, RT 8000# Reach	0.50 MO	1,000	1,000			23.47	2,031							4,061.05	2,031
	<b>Concrete Equipment</b>	1 LS					2,711									2,711
	Light Pole Foundation	1 EA									850.00	850			850.00	850
	Floor Infills	1 EA									575.00	575			575.00	575
	<b>CONCRETE</b>	67 CY	0.101	9,863	661	36.98	24,437	43.46	2,912	51.12	3,425	8,045	181.90	12,187	761.29	51,007
	<b>Build Up Floor Surface</b>	1 LS														
	Build up Floor Surfaces	1 LS												72,850		72,850
	Bond	72,850 EA								0.013500	983				0.013500	983
	<b>Build Up Floor Surface</b>	1 LS												72,850		73,853
	<b>Trim Doors</b>	2 EA														
	2 Remove Doors	2 EA	0.250	4,000	16	28.83	461								230.66	461
	Machine Cut Doors	2 EA								1,000.00	2,000				1,000.00	2,000
	2 Replace Doors	2 EA	0.250	4,000	16	28.83	461								230.66	461
	<b>Trim Doors</b>	2 EA	0.063	16,000	32	28.83	923			1,000.00	2,000				1,461.33	2,923
	Wet Well Concrete Repairs Allowance (Type 1)	180 SF											267.00	48,060	267.00	48,060
	Stucco Repair Allowance	1 LS												2,500		2,500
	Scaffold Allowance	1 LS												3,000		3,000



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 Owner File No:  
 Project: Continental Ranch Regional Pump Station Upgrade Project  
 Location: Marana, AZ, USA

**DC 3 Concrete Bid Package** **1.00 EA**

Proprietary and Confidential

No.	Description	Quantity	UOM	Units Per Hours	Months Per Unit	Labor		Equipment \$ / hr	Services Tools/Supplies \$/Item/Unit	Permi. Material		SubContract		Total Cost				
						Hours	\$ / hr			Total	Total	\$/Item/Unit	Total	\$/Item/Unit	Total	Unit	Total	
	<b>Concrete Bid Package</b>	1	EA	0.001	692.830	693	36.60	25,359	2,912.09	2,912	6,408.70	6,409	8,045.46	8,045	138,597.00	138,597	181,322.69	181,323

**DC 3 Concrete Bid Package**

**1.00**



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 Location Marana, AZ, USA

**DC 4 Masonry Bid Package** **1.00 EA** **Proprietary and Confidential**

No.	Description	Quantity	UOM	Units Per Hours	Months Per Unit	Labor		Equipment		Services/Tools/Supplies		Perm. Material		SubContract		Total Cost		
						Hours	\$/hr	Total	\$/hr	Total	\$/Item/Unit	Total	\$/Item/Unit	Total	Unit	Total	Unit	Total
	<b>Masonry Bid Package</b>	<b>1</b>	<b>LS</b>															
	masonry scope including new masonry wall to match existing wall, connection to existing wall, masonry rebar, masonry joints including caulking, coordination with gate manufacturer for installation of embeds																	
	Masonry Bid Package	1	LS															
	Bond	49,900	EA							0.013500	674				49,900	0.013500	674	49,900
	<b>Masonry Bid Package</b>	<b>1</b>	<b>LS</b>															
	<b>Masonry Bid Package</b>	<b>1</b>	<b>EA</b>							673.65	674			49,900.00	50,573.65			50,574



**PCL Construction, Inc.**  
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BE Number BE170920  
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 Project Continental Ranch Regional Pump Station Upgrade Project  
 Location Marana, AZ, USA

**DC 5 Metals Bid Package** **1.00 EA** **Proprietary and Confidential**

No.	Description	Quantity	UOM	Units Per Hours	ManHrs Per Unit	Labor		Equipment		Services/ tools/Supplies		Perm. Material		SubContract		Total Cost		
						Hours	\$ / hr	Total	\$ / hr	Total	\$/Item	Unit	Total	\$/Item	Unit	Total	Unit	Total
<b>Metal Bid Package</b>																		
1	LS	1	LS															
	misc metal including bollards, retrofit of existing grating with stainless steel plates (sheet 21 and detail 3 on Sheet 31), RTU support framing (sheet 24 and 32), portable equipment platform (sheet B2), roof deck infill framing, roof opening frame, supply/installation of new hatches shown on sheet M1 and M3, Installation of Overhead Crane																	
	Metals Bid Package - SH	1	LS															
	Bond	81,300	EA															
	Additional Hatch	1	LS															
	<b>Metal Bid Package</b>	1	LS															
	<b>Install Bollards</b>	18	EA															
2	Install Bollards	18	EA	0.250	4,000	144	28.83	4,152										
	Bckho-Ldr Ct 420C 1.0cy	18	EA	0.250	4,000		21.73	1,564										
	STS	1	LS															
	<b>Install Bollards</b>	18	EA	0.125	8,000	144	28.83	4,152	86.91	1,564								
	<b>Metals Bid Package</b>	1	EA	0.007	144,000	144	28.83	4,152	1,564.44	2,747.55	2,748	250.00	81,300.00	81,300.00	250	81,300.00	90,013.95	90,014

**DC 5 Metals Bid Package** **1.00**



**PCL Construction, Inc.**  
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BE Number: BE170920  
 Opportunity No:  
 Owner File No:  
 Project: **Continental Ranch Regional Pump Station Upgrade Project**  
 Location: Marana, AZ, USA

**DC 8 Roofing Bid Package** 1.00 EA

Proprietary and Confidential

No.	Description	Quantity	UOM	Units Per Hours	Manhrs Per Unit	Labor		Equipment		Services Tools/Supplies		Perm. Material		Subcontract		Total Cost		
						Hours	\$ / hr	Total	\$ / hr	Total	\$/Item	Unit	Total	\$/Item	Unit	Total	\$/Item	Unit
	roofing including repair of roof at infill areas, removal of crickets, removal and repair of roof curbs, new gutters, downspouts, splash pan, and splash block, repair roof insulation, roof patching, flashing at roof penetrations, infill at roof curb, roof curb flashing, vent stack flashing,																	
	Roofing Bid Package	1	LS															27,870
	Bond Rate	27,870	EA															376
	Permanent Fall Protection Allowance	1	LS															25,000
	<b>Roofing Bid Package</b>	<b>1</b>	<b>EA</b>															<b>53,246</b>

**DC 8 Roofing Bid Package**

**1.00**





**PCL Construction, Inc.**  
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BE Number: BE170920  
 Opportunity No:  
 Owner File No:  
 Project: Continental Ranch Regional Pump Station Upgrade Project  
 Location: Marana, AZ, USA

**DC 9 Coatings Bid Package** 1.00 EA

Proprietary and Confidential

No.	Description	Quantity	UOM	Units Per Hours	ManHrs Per Unit	Labor		Equipment		Services Tools/Supplies		Perm. Material		SubContract		Total Cost		
						Hours	\$/hr	Total	\$/hr	Total	\$/Item/Unit	Total	\$/Item/Unit	Total	\$/Item/Unit	Total	Unit	Total
	coatings, painting and coatings for exposed piping pumps and process equipment, coating of railings, wire brush and repainting of window frames, cpatings at bathroom remodel, of access ladders (interior and exterior), coating of man-goods and overhead doors, cleaning and recoating of roof, clean and caulk roof and gutter overlap, pressure wash roofing, repaint exterior window frames, coating of existing louvers, coating of existing exterior doors, 3rd party NACE inspections, exposed pipe identification markers/signs/labels. The scope of work also all caulking and sealants.																	
	Coating Bid Package	1	LS												277,646		277,646	
	Bond	1	EA							6,941.25	6,941				6,941.25	6,941		
	<b>Coatings Bid Package</b>	1	EA							6,941.25	6,941			277,646.00	277,646	284,587.25	284,587	



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BE Number BE170920  
Opportunity No  
Owner File No  
Project  
Location Marana, AZ, USA

Continental Ranch Regional Pump Station Upgrade Project  
Marana, AZ, USA

**DC 10 Tenant Improvement Bid Package**

1.00 EA

Proprietary and Confidential

No.	Description	Quantity UOM	Units Per Hours	Man/Hrs Per Unit	Labor		Equipment		Services/Tools/Supplies		Perms./Material		SubContract		Total Cost			
					Hours	\$/hr	\$/hr	Total	\$/Item/Unit	Total	\$/Item/Unit	Total	\$/Item/Unit	Total	Unit	Total		
	Removal and replacement of lavatory doors, new doors and frames, spilar control glazing film including storefront windows at exterior of pump station building, signage, removal of toilets, removal of framed wall, wall insulation, removal of floor tile, sawcut slab and for recess, removal of wall tile and shore fixtures, replacement of all doors, framing, infill, demo, and repair drywall, new tiling, plumbing, toilets, showers, grab bars, ADA shower insert, cobordination with coating, HVAC, and electrical subcontractors, all scbpe shown on sheet 18 of 91.																	
	Tenant Improvement Bid Package	1 LS															33,791	
3	Concrete Saw Cutting and Demo	16 HR	1.000	1.000	48	28.83	1,384									86.50	1,384	
	Comp. 185 CFM Diesel	16 HR	1.000	1.000		15.73	252									15.73	252	
	Sawcutting	1 LS														650	650	
	New Doors	2 EA														3,500.00	7,000	
	Solar Control Glazing	1 LS														3,000	3,000	
	Install Signage	8 HR	1.000	1.000	8	28.83	231									28.83	231	
	Signage	1 LS														500	500	
	Wall Insulation	1 LS														1,500	1,500	
	Bond	33,791 EA														0.013500	456	
																	0.013500	456
	<b>Tenant Improvement Bid Package</b>	<b>1 EA</b>	<b>0.018</b>	<b>56.000</b>	<b>56</b>	<b>28.83</b>	<b>1,615</b>	<b>251.66</b>	<b>252</b>	<b>456.18</b>	<b>2,650.00</b>	<b>43,791</b>	<b>43,791</b>	<b>43,790.75</b>	<b>48,763.23</b>	<b>48,763</b>		



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BE Number BEI70920  
 Opportunity No  
 Owner File No  
 Project Continental Ranch Regional Pump Station Upgrade Project  
 Location Marana, AZ, USA

**DC 15 Mechanical Bid Package** **1.00 EA**

No.	Description	Quantity UOM	Units Per Hours	Months Per Unit	Labor		Equipment	Services/Tools/Supplies		Perm. Material		SubContract		Total Cost	
					Hours	\$/hr		\$/Item/Unit	Total	\$/Item/Unit	Total	\$/Item/Unit	Total	Unit	Total
<b>Mechanical Bid Package</b>															
1	LS mechanical piping and equipment installation including, demolition and removal offsite or salvage of motor pump shaft and supports and hatches, removal of all exposed pipe and disposal offsite, salvage of flow meter and reinstallation, demo of existing duct work, removal of existing thrust supports, removal of existing valves and appurtenances (salvage as required), removal of pump oiler mechanism and supports, modification to wyes on discharge manifold, supply and install all mechanical piping, valves, dismantling joints, link seal, bolt kits, insulation, pipe supports, fittings and appurtenances, core drilling as required for mechanical pipe installation, waterstop and grouting of penetrations, transport and installation of new dry pit submersible pumps, pipe pressure testing, all scope on sheets M6 and M7,	1	LS												
						1.00	LS					994,500.00			
<b>Mechanical Bid Package</b>															
<b>Equipment Demo</b>															
	Demo Pumps	1	LS												
	Remove Beams														
	Remove Pumps/Shafts/Supports Beams	3	EA	0.008	133.000	399	MX\$ 34.24	13,661						4,553.81	13,661
	Demo STS	3	EA						250.00	750				250.00	750
	Scissor Lift - 32' Electric	80	HR	1.000	1.000			6.03	965					12.06	965
	Transport Pumps	8	HR						85.00	680				85.00	680
	Demo Knife Gate														
2	Demo Knife Gate	1	EA	0.125	8.000	16	MX\$ 34.24	548						547.83	548
	Demo STS	1	EA						250.00	250				250.00	250
<b>DC 15 Mechanical Bid Package</b>															
														<b>1.00</b>	



**PCL Construction, Inc.**  
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BE Number BE170920  
 Opportunity No  
 Owner File No  
 Project Continental Ranch Regional Pump Station Upgrade Project  
 Location Marana, AZ, USA

**DC 15 Mechanical Bid Package**

**1.00 EA**

Proprietary and Confidential

No.	Description	Quantity	UOM	Units Per Hours	Plan Hrs Per Unit	Labor		Equipment		Services/Tools/Supplies		Perm. Material		SubContract		Total Cost	
						Hours	\$ / hr	Total	\$ / hr	Total	\$/Item	Unit	Total	\$/Item	Unit	Total	Unit
	<b>Equipment Demo</b>	1	LS				41.5	34.24	14,209	965	1,680						16,854
	<b>Pressure Wash Pump Room</b>	1	LS														
	Pressure Wash Pump Room and Vactor Out																
	Dirty Water																
3	Cleaning Labor	16	HR	1,000	1,000		48	US 28.83	1,384							86.50	1,384
	Vactor Truck	16	HR									175.00				175.00	2,800
	Pressure Washer	1	WK	1,000	1,000				6.75	250						250.00	750
	<b>Pressure Wash Pump Room</b>	1	LS				48	28.83	1,384	250			2,800				4,434
	<b>Install Hatches</b>	1	LS														
	Supply of Hatches in Metals Bid Package																
	Install Hatches																
2	Install Hatches (Notch as Required)	9	EA	0.125	8,000		144	MHS 34.24	4,930							547.83	4,930
	Anchor Bolts/Grout	9	EA									100.00				100.00	900
	Installation STS	9	EA								50.00					50.00	450
	<b>Install Hatches</b>	1	LS				144	34.24	4,930	450			900				6,280
	<b>Install Dry Pit Pumps</b>	1	LS														
	Materials																
	Anchor Bolts	12	EA									15.00				15.00	180
	Epoxy	2	GAL									50.00				50.00	100
	Non Shrink Grout	3	CF									30.00				30.00	90
	Misc Install STS	1	LS										500				500
	Set Equipment on Flatbed and Transport																
2	Load Pumps at Yard and Offload at Site	8	HR	1,000	1,000		16	MHS 34.24	548							68.48	548
	50 Ton Hydraulic Crane OPERATED	8	HR								175.00					175.00	1,400

**DC 15 Mechanical Bid Package**

**1.00**



**PCL Construction, Inc.**  
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BE Number BE170920  
 Opportunity No  
 Owner File No  
 Project **Continental Ranch Regional Pump Station Upgrade Project**  
 Location Marana, AZ, USA

**DC 15 Mechanical Bid Package** **1.00 EA** **Proprietary and Confidential**

No.	Description	Quantity UOM	Units Per Hours	Man-Hrs Per Unit	Labor		Equipment		Services Tools/Supplies		Perm. Material		SubContract		Total Cost	
					Hours	\$ / hr	Total	\$ / hr	Total	\$/Item	Unit	Total	\$/Item	Unit	Total	Unit
	Crane Mobilization	1 EA													550.00	550
	Transport Pumps	8 HR													85.00	680
	<b>Install Pump</b>															
	DeCouple Motor and Utilize Overhead Crane to Set	3 EA	0.017	60.000	180	MW8 34.24	6,163								2,054.35	6,163
	Installation STS	3 EA													150.00	450
	GROUT BASES	3 EA	0.500	2.000	6	MW8 34.24	205								68.48	205
	<b>Install Dry Pit Pumps</b>	1 LS			202	34.24	6,916								870	10,866
	<b>Install New Chopper Pumps</b>	1 LS														
	<b>Materials</b>															
	Anchor Bolts	8 EA													15.00	120
	Epoxy	2 GAL													50.00	100
	Non Shrink Grout	1 CF													30.00	30
	Misc Install STS	1 LS													500	500
	<b>Install Pump</b>															
	Install Pump	2 EA	0.063	16.000	32	MW8 34.24	1,096								547.83	1,096
	Modify Grating	2 EA	0.250	4.000	8	MW8 34.24	274								136.96	274
	Installation STS	2 EA													150.00	300
	GROUT BASES	2 EA	0.500	2.000	4	MW8 34.24	137								68.48	137
	<b>Install New Chopper Pumps</b>	1 LS			44	34.24	1,507								750	2,557
	<b>Purchase Pipe Materials (Exposed)</b>	1 LS														
	<b>Permanent Pipe Materials</b>	1 LS														
	Purchase Pipe Materials	1 LS													206.042	206,042



**PCL Construction, Inc.**  
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BE Number BE170920  
 Opportunity No  
 Owner File No  
 Project Continental Ranch Regional Pump Station Upgrade Project  
 Location Marana, AZ, USA

**DC 15 Mechanical Bid Package** 1.00 EA

Proprietary and Confidential

No.	Description	Quantity	UOM	Units Per Hours	ManHrs Per Unit	Labor		Equipment		Services Tools/Supplies		Perm. Material		SubContract		Total Cost	
						Hours	\$/hr	\$/hr	Total	\$/Item	Unit	Total	\$/Item	Unit	Total	Unit	Total
	Pipe Drawings	1	LS										25,000				25,000
	Pressure Switch - Isolation Rings - 3 EA	1	LS										33,890				33,890
	Additional Flanges/Bolt Kits	6	EA									800.00				800.00	4,800
	<b>Permanent Pipe Materials</b>	1	LS										269,732				269,732
	<b>Temporary Pipe Materials</b>	1	LS														
	STS - Rigging (Exposed)	1	LS									5,000					5,000
	STS - Testing (Exposed)	1	LS									5,000					5,000
	Non-Shrink Grout	11	CF								20.00					220	220
	Waterstop	1	LS													100	100
	Anchor Bolts	116	EA								10.00					1,160	1,160
	<b>Temporary Pipe Materials</b>	1	LS										11,480				11,480
	<b>Purchase Pipe Materials (Exposed)</b>	1	LS										11,480				11,480
	<b>Install Piping (Exposed)</b>	1	LS														
	<b>Direct Manhours</b>	1	LS														
	Upper Wet Well						1,139.00	mhr									
	Pump Room						794.00	mhr									
	Wet Well						63.00	mhr									
	Demo Upper/Pump Room/Wet Well						997.00	Mhr									
	Total Manhours						2,991.00	mhr									
	Process Pipe (1PPPM+1PP+3LG4)	2,991	HR	1.000	1.000		34.24	MHR									102,409

**DC 15 Mechanical Bid Package**

**1.00**



**PCL Construction, Inc.**  
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BE Number BE170920  
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 Owner File No  
 Project Continental Ranch Regional Pump Station Upgrade Project  
 Location Marana, AZ, USA

**DC 15 Mechanical Bid Package**

**1.00 EA**

Proprietary and Confidential

No.	Description	Quantity	UOM	Units Per Hours	Man-Hrs Per Unit	Labor		Equipment		Services/Tools/Supplies		Perms. Material		SubContract		Total Cost	
						Hours	\$/hr	Total	\$/hr	Total	\$/Item/Unit	Total	\$/Item/Unit	Total	\$/Item/Unit	Total	Unit
2	Transport Flow Meter	4	HR														680
	Welding	24	HR							85.00							2,160
	Welder Mob	1	LS							90.00							500
	<b>Direct Manhours</b>	1	LS			2,991	34.24	102,409									105,749
	<b>Pipe Testing</b>	1	LS														
3	Test Pipe Crew	5	EA	0.125	8.000												4,109
	Comp 185 CFM Diesel	5	EA	0.125	8.000				15.73	629							629
	<b>Pipe Testing</b>	1	LS			120	34.24	4,109		629							4,738
	<b>Equipment</b>	1	LS														
	<b>Support Equipment</b>	1	LS														
	Forklift, RT 10,000# Reach	747.75	HR	1.000	1.000	748	42.85	32,038	29.92	22,372							54,410
	Portable 5 Ton Electric Gantry	747.75	HR	1.000	1.000				20.00	14,940							14,940
2	Scissor Lift - 32' Electric	747.75	HR	1.000	1.000				6.03	9,017							9,017
	Comp 185 CFM Diesel	747.75	HR	1.000	1.000				15.73	11,761							11,761
	Rolling Scaffold	4	MO	1.000	1.000				4.62	3,200							3,200
	<b>Support Equipment</b>	1	LS			748	42.85	32,038		61,290							93,328
	<b>Equipment</b>	1	LS														
	<b>Install Piping (Exposed)</b>	1	LS														
	<b>Deck Cutting</b>	1	LS														
	Shoring of Deck					3,859	35.91	138,556		61,919							203,816

**DC 15 Mechanical Bid Package**

**1.00**









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 Owner File No:  
 Project: Continental Ranch Regional Pump Station Upgrade Project  
 Location: Marana, AZ, USA

**DC 15 Mechanical Bid Package** 1.00 EA

Proprietary and Confidential

No.	Description	Quantity	UOM	Units Per Hours	Months Per Unit	Labor		Equipment		Services Trades/Supplies		Perm. Material		SubContract		Total Cost	
						Hours	\$ / hr	Total	\$ / hr	Total	\$/Item/Unit	Total	\$/Item/Unit	Total	\$/Item/Unit	Total	Unit
	<b>Davit Cranes</b>	1	LS			16	34.24	546					7,850				8,396
	<b>Mechanical Bid Package</b>	1	EA		4,842	4,842	35.51	171,954	63,469.41	63,469	21,220.00	21,220	283,087.00	10,800.00	10,800	550,530.47	550,530



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BE Number BE170920  
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 Project Continental Ranch Regional Pump Station Upgrade Project  
 Location Marana, AZ, USA

**DC 15.1 HVAC Bid Package** 1.00 EA

Proprietary and Confidential

No.	Description	Quantity	UOM	Units Per		Labor		Equipment		Services/ Tools/Supplies		Perm. Material		SubContract		Total Cost		
				Hours	Months Per Unit	Hours	\$ / hr	Total	\$ / Item/Unit	Total	\$ / Item/Unit	Total	\$ / Item/Unit	Total	Unit	Total		
	remove and replace & supply and installation of HVAC exhaust fans at remodeled bathrooms, new bathroom exhaust vent openings, duct penetrations, evaporative coolers, removal of exhaust fans on roof, removal of ventilator on roof, ductwork, FRP piping, valves, supports and appurtenances, FRP filter housing, upblast fans, evaporative coolers, mechanical demolition, insulation/jacketing of all ductwork, evaporative cooling lines, low voltage control wiring, all scope detailed on sheet 17 of 91, test and balance as required, all scope as detailed on drawings 41-54,	1	LS															
	HVAC Bid Package	1	LS												328,455		328,455	
	Bond	1	EA												7,112.00	7,112.00	7,112.00	7,112
	<b>HVAC Bid Package</b>	<b>1</b>	<b>LS</b>												<b>335,567</b>		<b>335,567</b>	
	<b>HVAC Bid Package</b>	<b>1</b>	<b>EA</b>												<b>335,567.00</b>	<b>335,567.00</b>	<b>335,567.00</b>	<b>335,567</b>



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Location Marana, AZ, USA

**1.00 EA**

**DC 16 Electrical and Security Bid Package**

Proprietary and Confidential

No.	Description	Quantity	UOM	Units Per Hour	Months Per Unit	Labor		Equipment		Services/Tools/Supplies		Perm. Material		SubContract		Total Cost		
						Hours	\$ / hr	Total	\$ / hr	Total	\$/Item/Unit	Total	\$/Item/Unit	Total	Unit	Total		
	electrical equipment including hoisting, furnish of all instrumentation with installation as applicable, electrical penetrations, saw cutting of existing concrete, identification devices; conduits, wiring, conduit hangers and supports; through wall, slab and roof penetrations as well as sealing of penetrations; installation of all anchorage and embedded items required during the course of construction demolition and haul off of the existing electrical equipment, underground duct bank excavation, encasement and haul off of excess soils, reinforcing and concrete, conduit and; coordination with other trades including but not limited to conduit and terminations of power and control wiring for supplier and other sub-trade provided equipment; identification and layout of required lockouts, penetrations, sleeves, and anchor bolts; disconnect switches not shown but required by code, grouting under base plates and stands; startup; controls, programming, electrical and security scope including but not limited to security safety loop, bathroom remodel electric including all scope shown on sheet 19 of 91, conduit and panels for HVAC units, all security scope shown on drawings 78-91,																	
	Electric Bid Package	1	LS															1,090,441
	Allowance for Code Upgrades	1	LS															10,000
	5HP Commutator Motor - Muffin Monster	2	EA															5,688.42
	Duct Bank																	
	Bckho 324DL 1.5CY -O	245	LF	8,000	0.125	31	OP2 42.85	1,312	53.60	1,641								12.06
	Bckho-Ldr Ct 420C 1.0cy	245	LF	8,000	0.125	31	OP2 42.85	1,312	21.73	665								8.07
	Trench Compactor 24"-33"	245	LF	8,000	0.125	31	OP2 42.85	1,312	17.50	536								7.54
	Trc Water-TA 2000 Gal -O	245	LF	8,000	0.125	31	Trs 29.99	919	32.81	1,005								7.85
	Concrete	15	CY															85.00
	<b>Electrical and Security Bid Package</b>	1	EA	0.008	122.500	123	39.63	4,855	3,847.34	3,847								12,651.84
																		1,100,441
																		1,121,795

**DC 16 Electrical and Security Bid Package**

1.00



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 Location Marana, AZ, USA

**CONT Contractor's Contingency 1.00 EA**

Proprietary and Confidential

No.	Description	Quantity	UOM	Units Per Hours	Months Per Unit	Labor		Equipment		Services/Tools/Supplies		Perm. Material		SubContract		Total Cost		
						Hours	\$/hr	Total	\$/hr	Total	\$/Item	Unit	Total	\$/Item	Unit	Total	Unit	Total
	CMAR Contingency	1	LS															100,000
	<b>Contractor's Contingency</b>	1	EA								100,000.00							100,000



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 Location Marana, AZ, USA

**GE 17**      **General Conditions**      **1.00**      **LS**      Proprietary and Confidential

No.	Description	Quantity	UOM	Units Per Hours	Months Per Unit	Labor		Equipment		Services/Tools/Supplies		Perm. Material		SubContract		Total Cost		
						Hours	\$/hr	Total	\$/hr	Total	\$/Item	Unit	Total	\$/Item	Unit	Total	Unit	Total
<b>General Conditions</b>																		
	Total Project Duration	1	LS				1.00											
	Project Manager	3	MO	1.000	1.000		72.92										12,639.46	37,918
	Project Superintendent/Pickup Truck	7	MO	1.000	1.000		97.02	14.11	17,093								19,258.59	134,810
	Project Engineer	7	MO	1.000	1.000		EN1 67.13										11,635.74	81,450
	Field Engineer						1.00 MO	1.000		EN2								
	Safety Coordinator/Pickup Truck						0.50 MO	1.000		EN2								
	Out of Town Living Expense						18.50 MO											
	Contractor Trailer Rental	7	EA														350.00	2,450
	Tool/Material Connex Rental	7	EA														150.00	1,050
	Office Supplies	7	EA														600.00	4,200
	Office Equipment (Copier, Fax, Printer)	7	EA														670.00	4,690
	Computers/I-Pads	7	EA														300.00	2,100
	FEDEX/Courier	7	EA														60.00	420
	Tel/Cell Billings	7	EA														420.00	2,940
	Internet Billing	7	EA														400.00	2,800
	Power Billing	7	EA														600.00	4,200
	Potable Water Billing	7	EA														200.00	1,400
	Sewer System Billing	7	EA														330.00	2,310
	Portable Toilets	7	EA														300.00	2,100
	Car Allowance	7	EA														600.00	4,200
<b>General Conditions</b>																		
		1	LS				80.46	237,086	17,093								34,860	289,039
<b>General Conditions</b>																		
		1	LS				80.46	237,086	17,093								34,860	289,039



**PCL Construction, Inc.**  
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BE Number: BE170920  
 Opportunity No:  
 Owner File No:  
 Project: Continental Ranch Regional Pump Station Upgrade Project  
 Location: Marana, AZ, USA

**GE 7 Overhead** 1.00 LS

Proprietary and Confidential

No.	Description	Quantity	UOM	Units Per Hours	Manhrs Per Unit	Labor		Equipment		Services/Tools/Supplies		Perma. Material		SubContract		Total Cost	
						Hours	\$/hr	Total	\$/hr	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	Unit	Total	Unit
	Corporate Overhead	4,041,256	EA									0.062100	250,962			0.062100	250,962
	<b>Overhead</b>	1	LS										250,962				250,962



**PCL Construction, Inc.**  
**Water Infrastructure Group**  
**Item Analysis Sheet**

Detail Page 39 of 42  
 Apr 05, 2018  
 2:13:51 PM

BE Number BE170920  
 Opportunity No  
 Owner File No  
 Project Continental Ranch Regional Pump Station Upgrade Project  
 Location Marana, AZ, USA

**GE 9 Insurance** **1.00 LS**

Proprietary and Confidential

No.	Description	Quantity UOM	Units Per Hours	Months Per Unit	Labor		Equipment		Services/Tools/Supplies		Perm. Material		SubContract		Total Cost		
					Hours	\$/hr	Total	\$/hr	Total	\$/Item/Unit	Total	\$/Item/Unit	Total	\$/Item/Unit	Total	Unit	Total
	<b>General Liability</b>	<b>100 %</b>															
	Gen Liab-USA	4,512,137 TB							0.008500	38,353					0.008500	38,353	
	<b>General Liability</b>	<b>100 %</b>							383.53	38,353					383.53	38,353	
	<b>Builders Risk Insurance</b>	<b>100 %</b>															
	Builders Risk	4,512,137 TB							0.001100	4,963					0.001100	4,963	
	<b>Builders Risk Insurance</b>	<b>100 %</b>							49.63	4,963					49.63	4,963	
	<b>Insurance</b>	<b>1 LS</b>								43,317						43,317	





**PCL Construction, Inc.**  
**Water Infrastructure Group**  
**Item Analysis Sheet**

Detail Page 40 of 42  
 Apr 05, 2018  
 2:13:51 PM

BE Number BE170920

Opportunity No

Owner File No

Project

Location

Continental Ranch Regional Pump Station Upgrade Project  
 Marana, AZ, USA

**GE 8 Payment and Performance Bonds**

**1.00 LS**

Proprietary and Confidential

No.	Description	Quantity UOM	Units Per Hours	ManHrs Per Unit	Labor		Equipment		Services/ Tools/Supplies		Perm. Material		SubContract		Total Cost		
					Hours	\$ / hr	Total	\$ / hr	Total	\$/Item/Unit	Total	\$/Item/Unit	Total	\$/Item/Unit	Total	Unit	Total
	<b>US CONTRACT BOND Class B</b>	<b>100 %</b>															
	US CONTRACT BOND Class B	4,512,137 TB							0.006000	27,073					0.006000	27,073	
	<b>US CONTRACT BOND Class B</b>	<b>100 %</b>							270,73	27,073				270,73	27,073		
	<b>Payment and Performance Bonds</b>									27,073						27,073	

**GE 8**

**Payment and Performance Bonds**

**1.00**



**PCL Construction, Inc.**  
**Water Infrastructure Group**  
**Item Analysis Sheet**

Detail Page 41 of 42  
 Apr 05, 2018  
 2:13:51 PM

BE Number: BE170920  
 Opportunity No:  
 Owner File No:  
 Project: Continental Ranch Regional Pump Station Upgrade Project  
 Location: Marana, AZ, USA

**TAX**      **TAX**      **100.00**      **%**

Proprietary and Confidential

No.	Description	Quantity	UOM	Units Per Hours	Months Per Unit	Labor		Equipment		Services/ Tools/Supplies		Perm. Material		SubContract		Total Cost		
						Hours	\$/hr	Total	\$/hr	Total	\$/Item/Unit	Total	\$/Item/Unit	Total	\$/Item/Unit	Total	Unit	Total
	<b>TAXES</b>		<b>100 %</b>															
	MARRA																	
	MRRA Tax	2,169,987	EA							0.086000	186,619					0.086000	186,619	
	Pipe Materials	369,368	EA							-0.086000	-31,766					-0.086000	-31,766	
	Purchase Equipment	84,567	EA							-0.086000	-7,273					-0.086000	-7,273	
	<b>TAXES</b>		<b>100 %</b>							1,475.80	147,580					1,475.80	147,580	
	<b>TAX</b>		<b>100 %</b>							1,475.80	147,580					1,475.80	147,580	



**PCL Construction, Inc.**  
**Water Infrastructure Group**  
**Item Analysis Sheet**

Detail Page 42 of 42  
 Apr 05, 2018  
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BE Number BE170920  
 Opportunity No  
 Owner File No  
 Project Continental Ranch Regional Pump Station Upgrade Project  
 Location Marana, AZ, USA

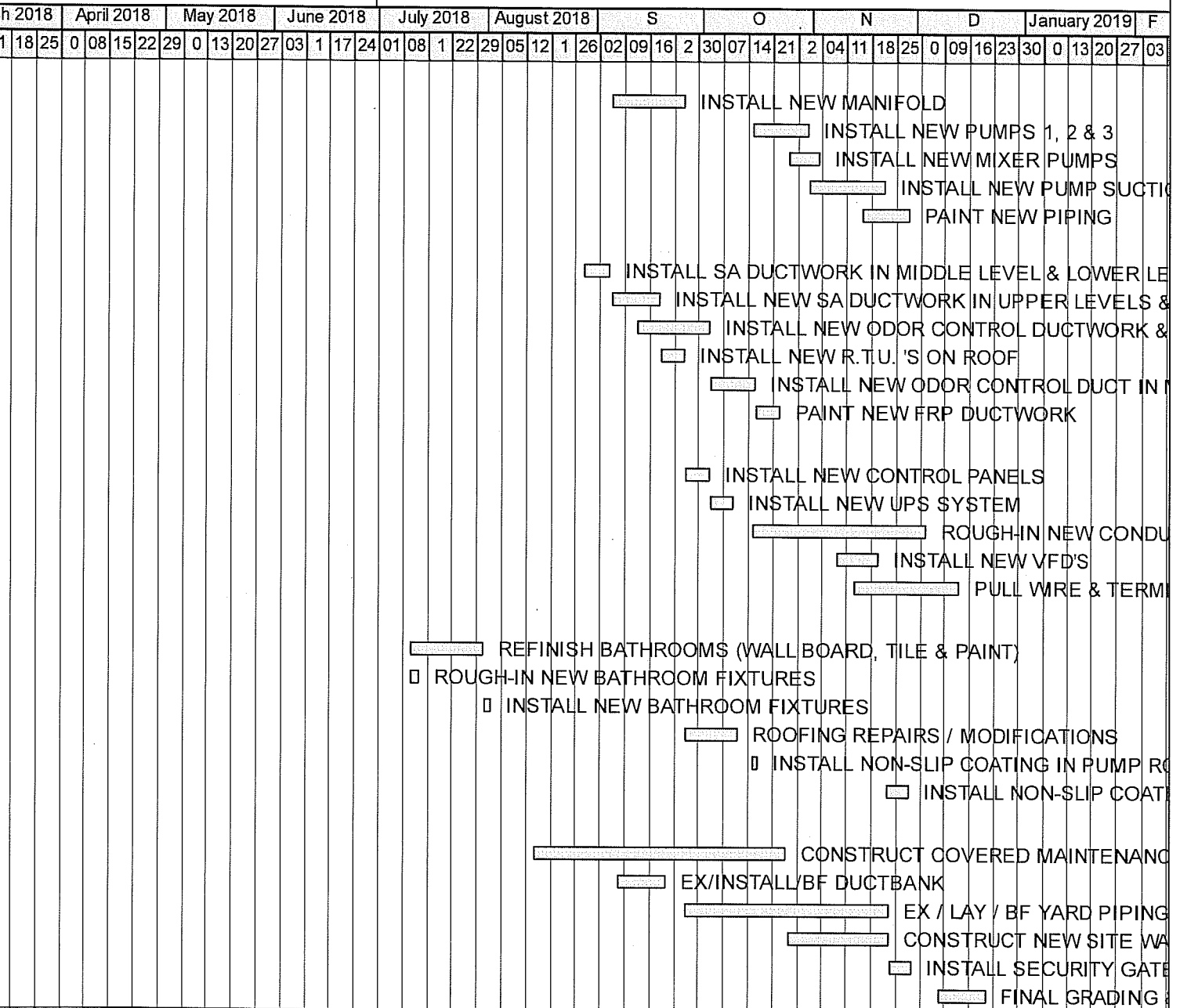
**CON** County Contingency 1.00 LS

Proprietary and Confidential

No.	Description	Quantity	UOM	Units Per Hours	Months Per Unit	Labor		Equipment		Services/Tools/Supplies		Perm. Material		SubContract		Total Cost	
						Hours	\$ / hr	Total	\$ / hr	Total	\$/Item/Unit	Total	\$/Item/Unit	Total	Unit	Total	Unit
	County Contingency	1	LS	---	---	---	---	---	---	---	200,000	---	---	---	---	---	200,000
	<b>County Contingency</b>	1	LS	---	---	---	---	---	---	---	200,000	---	---	---	---	---	200,000

Activity ID	Activity Name	Start	Finish	Original Duration	2018	F	March	
					2	28	04	11
<b>Pumps &amp; Piping</b>					05-Sep-18	28-Nov-18	59	
A1220	INSTALL NEW MANIFOLD	05-Sep-18	25-Sep-18	15				
A1230	INSTALL NEW PUMPS 1, 2 & 3	15-Oct-18	30-Oct-18	12				
A1250	INSTALL NEW MIXER PUMPS	25-Oct-18	02-Nov-18	7				
A1240	INSTALL NEW PUMP SUCTION & DISCHARGE	31-Oct-18	21-Nov-18	15				
A1370	PAINT NEW PIPING	15-Nov-18	28-Nov-18	10				
<b>Air Handling Systems</b>					28-Aug-18	22-Oct-18	38	
A1350	INSTALL SA DUCTWORK IN MIDDLE LEVEL &	28-Aug-18	04-Sep-18	5				
A1340	INSTALL NEW SA DUCTWORK IN UPPER LEV	05-Sep-18	18-Sep-18	10				
A1310	INSTALL NEW ODOR CONTROL DUCTWORK	12-Sep-18	02-Oct-18	15				
A1430	INSTALL NEW R.T.U. 'S ON ROOF	19-Sep-18	25-Sep-18	5				
A1330	INSTALL NEW ODOR CONTROL DUCT IN MID	03-Oct-18	15-Oct-18	8				
A1320	PAINT NEW FRP DUCTWORK	16-Oct-18	22-Oct-18	5				
<b>Electrical Modifications</b>					26-Sep-18	12-Dec-18	54	
A1460	INSTALL NEW CONTROL PANELS	26-Sep-18	02-Oct-18	5				
A1450	INSTALL NEW UPS SYSTEM	03-Oct-18	09-Oct-18	4				
A1470	ROUGH-IN NEW CONDUIT & BOXES	15-Oct-18	03-Dec-18	35				
A1440	INSTALL NEW VFD'S	08-Nov-18	19-Nov-18	7				
A1480	PULL WIRE & TERMINATE	13-Nov-18	12-Dec-18	22				
<b>Architectural Modifications</b>					10-Jul-18	28-Nov-18	96	
A1280	REFINISH BATHROOMS (WALL BOARD, TILE	10-Jul-18	30-Jul-18	15				
A1300	ROUGH-IN NEW BATHROOM FIXTURES	10-Jul-18	12-Jul-18	3				
A1290	INSTALL NEW BATHROOM FIXTURES	31-Jul-18	01-Aug-18	2				
A1640	ROOFING REPAIRS / MODIFICATIONS	26-Sep-18	10-Oct-18	10				
A1420	INSTALL NON-SLIP COATING IN PUMP ROOM	15-Oct-18	16-Oct-18	2				
A1390	INSTALL NON-SLIP COATING IN MIDDLE LEV	22-Nov-18	28-Nov-18	5				
<b>Site Work</b>					14-Aug-18	20-Dec-18	90	
A1590	CONSTRUCT COVERED MAINTENANCE / ST	14-Aug-18	24-Oct-18	50				
A1630	EX/INSTALL/BF DUCTBANK	07-Sep-18	20-Sep-18	10				
A1610	EX / LAY / BF YARD PIPING & MANHOLES &	26-Sep-18	22-Nov-18	40				
A1580	CONSTRUCT NEW SITE WALL	25-Oct-18	22-Nov-18	20				
A1650	INSTALL SECURITY GATE / OPERATOR	23-Nov-18	29-Nov-18	5				
A1600	FINAL GRADING & PAVING	07-Dec-18	20-Dec-18	10				

Remaining Level of Effort
  Actual ...
   
 Actual Level of Effort
  Remaini...



GMP 2 Bid Schedule

Construction

Activity ID	Activity Name	Start	Finish	Original Duration	2018	F	March
					2	28	04
<b>Continental Ranch - Phase 2 Rev 1 Jan-2018</b>		02-Feb-18	30-Jan-19	248			
<b>General Conditions</b>		02-Feb-18	30-Jan-19	248			
A1520	SUBMIT GMP #2	02-Feb-18*		0			◆ SUBMIT GMP #
A1530	CONTRACT NEGOTIATIONS & COUNTY APPI	02-Feb-18	14-May-18	70			
A1090	ISOLATE BUILDING ELECTRICAL & PROCES	29-Jun-18	29-Jun-18	1			
A1110	INSTALL TEMPORARY SAFETY SYSTEMS &	29-Jun-18	03-Jul-18	2			
A1540	NTP	29-Jun-18*		0			
A1100	WASH DOWN & CLEAN WETWELL	04-Jul-18	10-Jul-18	5			
A1490	START-UP & COMMISSION PUMP STATION	13-Dec-18	28-Dec-18	10			
A1550	SUBSTANTIAL COMPLETION		28-Dec-18	0			
A1570	PROJECT CLOSEOUT & DEMOB.	31-Dec-18	30-Jan-19	22			
A1560	FINAL COMPLETION		30-Jan-19	0			
<b>Procurement</b>		01-Jun-18	07-Nov-18	110			
A1170	PROCURE, SUBMIT & DELIVER VFD'S	01-Jun-18	07-Nov-18	110			
A1180	PROCURE, SUBMIT & DELIVER NEW MIXERS	01-Jun-18	24-Oct-18	100			
A1500	PROCURE, SUBMIT & DELIVER NEW FRP DI	01-Jun-18	11-Sep-18	70			
A1510	PROCURE, SUBMIT & DELIVER NEW MANIF	01-Jun-18	04-Sep-18	65			
A1620	PROCURE, SUBMIT & DELIVER YARD PIPING	01-Jun-18	25-Sep-18	80			
<b>Demo</b>		04-Jul-18	13-Aug-18	28			
A1000	DEMO BATHROOM FIXTURES & TILE	04-Jul-18	06-Jul-18	3			
A1030	DEMO ROOFTOP UNITS & VENTS ON SOUTI	04-Jul-18	05-Jul-18	2			
A1160	REMOVE GRATING IN UPPER WET ROOM &	04-Jul-18	06-Jul-18	3			
A1200	DEMO STEEL BEAMS IN MANIFOLD ROOM	04-Jul-18	05-Jul-18	2			
A1270	DEMO EXISTING ODOR CONTROL DUCTWOI	04-Jul-18	12-Jul-18	7			
A1010	DEMO BATHROOM DUCTWORK & FANS	09-Jul-18	09-Jul-18	1			
A1050	DEMO MANIFOLD	09-Jul-18	20-Jul-18	10			
A1070	DEMO AIR DIFFUSERS / PIPING & KNIFE GA	11-Jul-18	17-Jul-18	5			
A1080	DEMO COATINGS & SPALLED CONCRETE IN	18-Jul-18	24-Jul-18	5			
A1020	DEMO EXISTING PUMP PADS	23-Jul-18	25-Jul-18	3			
A1060	DEMO PUMPS 1, 2 & 3 & HATCHES	26-Jul-18	13-Aug-18	12			
<b>Structural Modifications</b>		13-Jul-18	12-Oct-18	63			
A1130	INFILL ROUND FLOOR OPENINGS LEFT FRO	13-Jul-18	17-Jul-18	3			
A1360	INSTALL NEW DAVIT CRANE SOCKETS	18-Jul-18	19-Jul-18	2			
A1260	REPAIR CONCRETE & INSTALL NEW COATIN	25-Jul-18	29-Aug-18	25			
A1190	INSTALL NEW BRIDGE CRANE	14-Aug-18	27-Aug-18	10			
A1210	FRIP NEW MANIFOLD SUPPORTS	14-Aug-18	16-Aug-18	3			
A1400	CUT IN NEW 4'X4' OPENING IN MANIFOLD RC	14-Aug-18	20-Aug-18	5			
A1140	RECONTOUR MANIFOLD ROOM FLOOR TO S	28-Aug-18	04-Sep-18	5			
A1150	RE-INSTALL MODIFIED GRATING IN UPPER	30-Aug-18	04-Sep-18	3			
A1380	REPAIR CONCRETE SURFACES INSIDE UPP	30-Aug-18	13-Sep-18	10			
A1410	RECONTOUR PUMP ROOM FLOOR TO SLOP	26-Sep-18	02-Oct-18	5			
A1120	FRIP NEW PUMP BASES	03-Oct-18	12-Oct-18	7			
<b>Process Mechanical Modifications</b>		28-Aug-18	28-Nov-18	64			

Remaining Level of Effort
  Actual ...
   
 Actual Level of Effort
  Remaini...

3CRS05 - Continental Ranch  
Regional Pump Station Upgrade

2018					2019				
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
1	2	3	4	5	6	7	8	9	10

#2

CONTRACT NEGOTIATIONS & COUNTY APPROVAL

- ▣ ISOLATE BUILDING ELECTRICAL & PROCESS LINES
- ▣ INSTALL TEMPORARY SAFETY SYSTEMS & CONTROLS
- ◆ NTP
- ▣ WASH DOWN & CLEAN WETWELL

- ▣ START-UP & C
- ◆ SUBSTANTIAL
- ▣ PR
- ◆ FI

- ▣ PROCURE, SUBMIT & DELIVER V
- ▣ PROCURE, SUBMIT & DELIVER NEW
- ▣ PROCURE, SUBMIT & DELIVER NEW FRP DUCTWORK
- ▣ PROCURE, SUBMIT & DELIVER NEW MANIFOLD PIPING
- ▣ PROCURE, SUBMIT & DELIVER YARD PIPING

- ▣ DEMO BATHROOM FIXTURES & TILE
- ▣ DEMO ROOFTOP UNITS & VENTS ON SOUTH SIDE
- ▣ REMOVE GRATING IN UPPER WET ROOM & SEND OFF FOR MODIFICATIONS
- ▣ DEMO STEEL BEAMS IN MANIFOLD ROOM
- ▣ DEMO EXISTING ODOR CONTROL DUCTWORK
- ▣ DEMO BATHROOM DUCTWORK & FANS
- ▣ DEMO MANIFOLD
- ▣ DEMO AIR DIFFUSERS / PIPING & KNIFE GATE VALVES
- ▣ DEMO COATINGS & SPALLED CONCRETE IN WET WELL
- ▣ DEMO EXISTING PUMP PADS
- ▣ DEMO PUMPS 1, 2 & 3 & HATCHES

- ▣ INFILL ROUND FLOOR OPENINGS LEFT FROM DEMO'ED DUCTWORK
- ▣ INSTALL NEW DAVIT CRANE SOCKETS
- ▣ REPAIR CONCRETE & INSTALL NEW COATINGS IN WETW
- ▣ INSTALL NEW BRIDGE CRANE
- ▣ FRIP NEW MANIFOLD SUPPORTS
- ▣ CUT IN NEW 4'X4' OPENING IN MANIFOLD ROOM FLOOR
- ▣ RECONTOUR MANIFOLD ROOM FLOOR TO SLOPE TO G
- ▣ RE-INSTALL MODIFIED GRATING IN UPPER WET ROOM
- ▣ REPAIR CONCRETE SURFACES INSIDE UPPER WET
- ▣ RECONTOUR PUMP ROOM FLOOR TO SLOP T
- ▣ FRIP NEW PUMP BASES



**Pima County Water Reclamation Department  
Continental Ranch Regional Pump Station Upgrade Design  
GMP 2 – Assumption List**

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1. The GMP is based on the following documents:
  - Westland Resources 100% Submittal Drawings Dated February 28, 2017
  - Westland Resources 100% Special Provisions Dated March 2017
  - Conformatech Geotechnical Evaluation Dated October 15, 2014
  - Addendums 1-8
2. The GMP assumes a small tools billable rate of 5% of total hourly labor.
3. This GMP assumes a total hourly burden of 26.50% will be acceptable for insurance, holiday/vacation, and 401K. This is lower than the total allowable hourly burdens of 32% in section B-10 of Article 2 – Cost of Work, but may exceed each the individual insurance percentage maximum.
4. The GMP assumes that General Liability rate of .85% will be acceptable for this project as the contract requires a 2 year warranty and a premium rate above .5% will be incurred.
5. The GMP excludes any coating of the interior or exterior of the existing 10,000 Gallon surge tank. The tank is currently half full of liquid and the tank inspection port is likely too small to allow for access to repair any interior coatings.
6. The GMP excludes hazardous remediation including lead or asbestos abatement.
7. The GMP includes pressure washing of the pump room L02. Disinfection/sterilization of the pump room is excluded from our GMP.
8. This GMP assumes that the existing overhead crane is available for our use throughout the duration of the project.
9. The GMP includes VFD harmonic filters enclosures that are separate from the VFD enclosure (similar to VFD 4).
10. An allowance has been included for 10% of the wet well concrete repairs and stucco repairs. For additional repairs, the following unit rates will be drawn from the County's contingency. Units do not include scaffolding and scissor lifts that will be required for access and will be priced separately. For formed concrete repairs an SSD surface condition will be provided in lieu of wet bonding agent.

- Mobilization	\$3034/EA
- Type 1 – Hand Applied w/Exposed Reinforcing	\$267/SF
- Type 2 – Hand Applied w/o Exposed Reinforcing	\$120/SF
- Type 3 – Form and Pour with Exposed Reinforcing	\$217/SF
- Type 4 – Hand Applied w/o Exposed Reinforcing	\$117/SF
- Type 5 – Install Sika Ferrogard 903 -2 Coats	\$12/SF

**R I D E R**

To be attached to and form part of:

Bond Number 106047070,6348861,82451620  
dated 7/26/2017  
issued by the FIDELITY AND DEPOSIT COMPANY OF MARYLAND  
TRAVELERS CASUALTY AND SURETY COMPANY OF AMERICA  
FEDERAL INSURANCE COMPANY  
in the amount of \$4,202,228.00  
on behalf of PCL CONSTRUCTION, INC.  
(Principal)  
and in favor of PIMA COUNTY  
(Obligee)

Now therefore, it is agreed that in consideration of the premium charged, the attached bond shall be amended as follows:

**The bond amount shall be amended:**

**FROM: \$4,202,228.00**

**TO: \$9,042,413.00**

It is further understood and agreed that all other terms and conditions of this bond shall remain unchanged.

This Rider is to be Effective this 23rd day of May, 2018.

Signed, Sealed & Dated this 23rd day of May, 2018.

PCL CONSTRUCTION, INC.  
(Principal)

By: \_\_\_\_\_

**Shawn W. Britton**  
Secretary / Treasurer

FIDELITY AND DEPOSIT COMPANY OF MARYLAND  
TRAVELERS CASUALTY AND SURETY COMPANY OF AMERICA  
FEDERAL INSURANCE COMPANY

(Surety)

By: \_\_\_\_\_

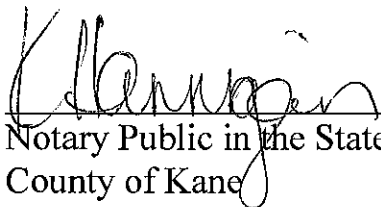
Sandra M. Winsted, Attorney-in-Fact

ACKNOWLEDGEMENT BY SURETY

STATE OF ILLINOIS  
COUNTY OF KANE

On this 23<sup>rd</sup> day of May, 2018 before me, K Hannigan, a Notary Public, within and for said County and State, personally appeared Sandra M. Winsted to me personally known to be the Attorney-in-Fact of and for Fidelity and Deposit Company of Maryland, Travelers Casualty and Surety Company of America, Federal Insurance Company and acknowledged that she executed the said instrument as the free act and deed of said Company.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal, at my office in the aforesaid County, the day and year in this certificate first above written.

  
\_\_\_\_\_  
Notary Public in the State of Illinois  
County of Kane



**ZURICH AMERICAN INSURANCE COMPANY  
COLONIAL AMERICAN CASUALTY AND SURETY COMPANY  
FIDELITY AND DEPOSIT COMPANY OF MARYLAND  
POWER OF ATTORNEY**

KNOW ALL MEN BY THESE PRESENTS: That the ZURICH AMERICAN INSURANCE COMPANY, a corporation of the State of New York, the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY, a corporation of the State of Maryland, and the FIDELITY AND DEPOSIT COMPANY OF MARYLAND a corporation of the State of Maryland (herein collectively called the "Companies"), by **DAVID MCVICKER, Vice President**, in pursuance of authority granted by Article V, Section 8, of the By-Laws of said Companies, which are set forth on the reverse side hereof and are hereby certified to be in full force and effect on the date hereof, do hereby nominate, constitute, and appoint **Sandra M. WINSTED, Susan A. WELSH, Judith A. LUCKY-EFTIMOV, James B. MCTAGGART, Debra J. DOYLE, Sandra M. NOWAK, Melissa L. FORTIER, Jessica B. DEMPSEY, Christina L. SANDOVAL and Diane M. O'LEARY**, all of Chicago, Illinois, EACH its true and lawful agent and Attorney-in-Fact, to make, execute, seal and deliver, for, and on its behalf as surety, and as its act and deed: **any and all bonds and undertakings**, and the execution of such bonds or undertakings in pursuance of these presents, shall be as binding upon said Companies, as fully and amply, to all intents and purposes, as if they had been duly executed and acknowledged by the regularly elected officers of the ZURICH AMERICAN INSURANCE COMPANY at its office in New York, New York, the regularly elected officers of the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY at its office in Owings Mills, Maryland, and the regularly elected officers of the FIDELITY AND DEPOSIT COMPANY OF MARYLAND at its office in Owings Mills, Maryland, in their own proper persons.


The said Vice President does hereby certify that the extract set forth on the reverse side hereof is a true copy of Article V, Section 8, of the By-Laws of said Companies, and is now in force.

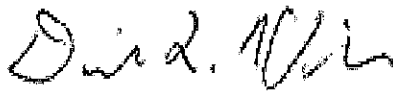
IN WITNESS WHEREOF, the said Vice-President has hereunto subscribed his/her names and affixed the Corporate Seals of the said **ZURICH AMERICAN INSURANCE COMPANY, COLONIAL AMERICAN CASUALTY AND SURETY COMPANY, and FIDELITY AND DEPOSIT COMPANY OF MARYLAND**, this 24th day of August, A.D. 2017.

**ATTEST:**

**ZURICH AMERICAN INSURANCE COMPANY  
COLONIAL AMERICAN CASUALTY AND SURETY COMPANY  
FIDELITY AND DEPOSIT COMPANY OF MARYLAND**



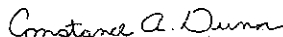
By:   
*Secretary  
Michael McKibben*

  
*Vice President  
David McVicker*

State of Maryland  
County of Baltimore

On this 24th day of August, A.D. 2017, before the subscriber, a Notary Public of the State of Maryland, duly commissioned and qualified, **DAVID MCVICKER, Vice President, and MICHAEL MCKIBBEN, Secretary**, of the Companies, to me personally known to be the individuals and officers described in and who executed the preceding instrument, and acknowledged the execution of same, and being by me duly sworn, depose and saith, that he/she is the said officer of the Company aforesaid, and that the seals affixed to the preceding instrument are the Corporate Seals of said Companies, and that the said Corporate Seals and the signature as such officer were duly affixed and subscribed to the said instrument by the authority and direction of the said Corporations.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed my Official Seal the day and year first above written.



Constance A. Dunn, Notary Public  
My Commission Expires: July 9, 2019



**EXTRACT FROM BY-LAWS OF THE COMPANIES**

"Article V, Section 8, Attorneys-in-Fact. The Chief Executive Officer, the President, or any Executive Vice President or Vice President may, by written instrument under the attested corporate seal, appoint attorneys-in-fact with authority to execute bonds, policies, recognizances, stipulations, undertakings, or other like instruments on behalf of the Company, and may authorize any officer or any such attorney-in-fact to affix the corporate seal thereto; and may with or without cause modify or revoke any such appointment or authority at any time."

**CERTIFICATE**

I, the undersigned, Vice President of the ZURICH AMERICAN INSURANCE COMPANY, the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY, and the FIDELITY AND DEPOSIT COMPANY OF MARYLAND, do hereby certify that the foregoing Power of Attorney is still in full force and effect on the date of this certificate; and I do further certify that Article V, Section 8, of the By-Laws of the Companies is still in force.

This Power of Attorney and Certificate may be signed by facsimile under and by authority of the following resolution of the Board of Directors of the ZURICH AMERICAN INSURANCE COMPANY at a meeting duly called and held on the 15th day of December 1998.

RESOLVED: "That the signature of the President or a Vice President and the attesting signature of a Secretary or an Assistant Secretary and the Seal of the Company may be affixed by facsimile on any Power of Attorney...Any such Power or any certificate thereof bearing such facsimile signature and seal shall be valid and binding on the Company."

This Power of Attorney and Certificate may be signed by facsimile under and by authority of the following resolution of the Board of Directors of the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY at a meeting duly called and held on the 5th day of May, 1994, and the following resolution of the Board of Directors of the FIDELITY AND DEPOSIT COMPANY OF MARYLAND at a meeting duly called and held on the 10th day of May, 1990.

RESOLVED: "That the facsimile or mechanically reproduced seal of the company and facsimile or mechanically reproduced signature of any Vice-President, Secretary, or Assistant Secretary of the Company, whether made heretofore or hereafter, wherever appearing upon a certified copy of any power of attorney issued by the Company, shall be valid and binding upon the Company with the same force and effect as though manually affixed.

IN TESTIMONY WHEREOF, I have hereunto subscribed my name and affixed the corporate seals of the said Companies, this 23 day of May, 2018.



Michael Bond, Vice President

**TO REPORT A CLAIM WITH REGARD TO A SURETY BOND, PLEASE SUBMIT ALL REQUIRED INFORMATION TO:**

Zurich American Insurance Co.  
Attn: Surety Claims  
1299 Zurich Way  
Schaumburg, IL 60196-1056



**Travelers Casualty and Surety Company of America  
Travelers Casualty and Surety Company  
St. Paul Fire and Marine Insurance Company**

**POWER OF ATTORNEY**

**KNOW ALL MEN BY THESE PRESENTS:** That Travelers Casualty and Surety Company of America, Travelers Casualty and Surety Company, and St. Paul Fire and Marine Insurance Company are corporations duly organized under the laws of the State of Connecticut (herein collectively called the "Companies"), and that the Companies do hereby make, constitute and appoint **Sandra M. Winsted** of **Chicago Illinois**, their true and lawful Attorney-in-Fact to sign, execute, seal and acknowledge any and all bonds, recognizances, conditional undertakings and other writings obligatory in the nature thereof on behalf of the Companies in their business of guaranteeing the fidelity of persons, guaranteeing the performance of contracts and executing or guaranteeing bonds and undertakings required or permitted in any actions or proceedings allowed by law.

**IN WITNESS WHEREOF**, the Companies have caused this instrument to be signed, and their corporate seals to be hereto affixed, this **3rd** day of **February**, 2017.



State of Connecticut

City of Hartford ss.

By: *Robert L. Raney*  
Robert L. Raney, Senior Vice President

On this the **3rd** day of **February**, 2017, before me personally appeared **Robert L. Raney**, who acknowledged himself to be the Senior Vice President of Travelers Casualty and Surety Company of America, Travelers Casualty and Surety Company, and St. Paul Fire and Marine Insurance Company, and that he, as such, being authorized so to do, executed the foregoing instrument for the purposes therein contained by signing on behalf of the corporations by himself as a duly authorized officer.

**In Witness Whereof**, I hereunto set my hand and official seal.

My Commission expires the **30th** day of **June**, 2021



*Marie C. Tetreault*  
Marie C. Tetreault, Notary Public

This Power of Attorney is granted under and by the authority of the following resolutions adopted by the Boards of Directors of Travelers Casualty and Surety Company of America, Travelers Casualty and Surety Company, and St. Paul Fire and Marine Insurance Company, which resolutions are now in full force and effect, reading as follows:

**RESOLVED**, that the Chairman, the President, any Vice Chairman, any Executive Vice President, any Senior Vice President, any Vice President, any Second Vice President, the Treasurer, any Assistant Treasurer, the Corporate Secretary or any Assistant Secretary may appoint Attorneys-in-Fact and Agents to act for and on behalf of the Company and may give such appointee such authority as his or her certificate of authority may prescribe to sign with the Company's name and seal with the Company's seal bonds, recognizances, contracts of indemnity, and other writings obligatory in the nature of a bond, recognizance, or conditional undertaking, and any of said officers or the Board of Directors at any time may remove any such appointee and revoke the power given him or her; and it is

**FURTHER RESOLVED**, that the Chairman, the President, any Vice Chairman, any Executive Vice President, any Senior Vice President or any Vice President may delegate all or any part of the foregoing authority to one or more officers or employees of this Company, provided that each such delegation is in writing and a copy thereof is filed in the office of the Secretary; and it is

**FURTHER RESOLVED**, that any bond, recognizance, contract of indemnity, or writing obligatory in the nature of a bond, recognizance, or conditional undertaking shall be valid and binding upon the Company when (a) signed by the President, any Vice Chairman, any Executive Vice President, any Senior Vice President or any Vice President, any Second Vice President, the Treasurer, any Assistant Treasurer, the Corporate Secretary or any Assistant Secretary and duly attested and sealed with the Company's seal by a Secretary or Assistant Secretary; or (b) duly executed (under seal, if required) by one or more Attorneys-in-Fact and Agents pursuant to the power prescribed in his or her certificate or their certificates of authority or by one or more Company officers pursuant to a written delegation of authority; and it is

**FURTHER RESOLVED**, that the signature of each of the following officers: President, any Executive Vice President, any Senior Vice President, any Vice President, any Assistant Vice President, any Secretary, any Assistant Secretary, and the seal of the Company may be affixed by facsimile to any Power of Attorney or to any certificate relating thereto appointing Resident Vice Presidents, Resident Assistant Secretaries or Attorneys-in-Fact for purposes only of executing and attesting bonds and undertakings and other writings obligatory in the nature thereof, and any such Power of Attorney or certificate bearing such facsimile signature or facsimile seal shall be valid and binding upon the Company and any such power so executed and certified by such facsimile signature and facsimile seal shall be valid and binding on the Company in the future with respect to any bond or understanding to which it is attached.

I, **Kevin E. Hughes**, the undersigned, Assistant Secretary of Travelers Casualty and Surety Company of America, Travelers Casualty and Surety Company, and St. Paul Fire and Marine Insurance Company, do hereby certify that the above and foregoing is a true and correct copy of the Power of Attorney executed by said Companies, which remains in full force and effect.

Dated this 23 day of May, 2018



*Kevin E. Hughes*  
Kevin E. Hughes, Assistant Secretary

**To verify the authenticity of this Power of Attorney, please call us at 1-800-421-3880.  
Please refer to the above-named Attorney-in-Fact and the details of the bond to which the power is attached.**

Power of Attorney

Federal Insurance Company | Vigilant Insurance Company | Pacific Indemnity Company

Know All by These Presents, That FEDERAL INSURANCE COMPANY, an Indiana corporation, VIGILANT INSURANCE COMPANY, a New York corporation, and PACIFIC INDEMNITY COMPANY, a Wisconsin corporation, do each hereby constitute and appoint Debra J. Doyle, Derek J. Elston, Jennifer L. Jakaitis, James B. McTaggart, Judith A. Lucky-Eftimov, Ann Mullins, Sandra M. Nowak, Diane M. O'Leary, Christina L. Sandoval, Christopher P. Troha, Aerie Walton, Susan A. Welsh and Sandra M. Winsted of Chicago, Illinois...

In Witness Whereof, said FEDERAL INSURANCE COMPANY, VIGILANT INSURANCE COMPANY, and PACIFIC INDEMNITY COMPANY have each executed and attested these presents and affixed their corporate seals on this 9th day of April, 2018.

Dawn M. Chloros

Dawn M. Chloros, Assistant Secretary

Stephen M. Haney

Stephen M. Haney, Vice President



STATE OF NEW JERSEY

County of Hunterdon

ss.

On this 9th day of April, 2018 before me, a Notary Public of New Jersey, personally came Dawn M. Chloros, to me known to be Assistant Secretary of FEDERAL INSURANCE COMPANY, VIGILANT INSURANCE COMPANY, and PACIFIC INDEMNITY COMPANY, the companies which executed the foregoing Power of Attorney, and the said Dawn M. Chloros, being by me duly sworn, did depose and say that she is Assistant Secretary of FEDERAL INSURANCE COMPANY, VIGILANT INSURANCE COMPANY, and PACIFIC INDEMNITY COMPANY and knows the corporate seals thereof...

Notarial Seal



KATHERINE J. ADELAAR
NOTARY PUBLIC OF NEW JERSEY
No. 2318385
Commission Expires July 18, 2019

[Signature]
Notary Public

CERTIFICATION

Resolutions adopted by the Boards of Directors of FEDERAL INSURANCE COMPANY, VIGILANT INSURANCE COMPANY, and PACIFIC INDEMNITY COMPANY on August 30, 2016:

"RESOLVED, that the following authorizations relate to the execution, for and on behalf of the Company, of bonds, undertakings, recognizances, contracts and other written commitments of the Company entered into in the ordinary course of business (each a "Written Commitment"):

- (1) Each of the Chairman, the President and the Vice Presidents of the Company is hereby authorized to execute any Written Commitment for and on behalf of the Company, under the seal of the Company or otherwise.
(2) Each duly appointed attorney-in-fact of the Company is hereby authorized to execute any Written Commitment for and on behalf of the Company, under the seal of the Company or otherwise, to the extent that such action is authorized by the grant of powers provided for in such person's written appointment as such attorney-in-fact.
(3) Each of the Chairman, the President and the Vice Presidents of the Company is hereby authorized, for and on behalf of the Company, to appoint in writing any person the attorney-in-fact of the Company with full power and authority to execute, for and on behalf of the Company, under the seal of the Company or otherwise, such Written Commitments of the Company as may be specified in such written appointment, which specification may be by general type or class of Written Commitments or by specification of one or more particular Written Commitments.
(4) Each of the Chairman, the President and the Vice Presidents of the Company is hereby authorized, for and on behalf of the Company, to delegate in writing to any other officer of the Company the authority to execute, for and on behalf of the Company, under the Company's seal or otherwise, such Written Commitments of the Company as are specified in such written delegation, which specification may be by general type or class of Written Commitments or by specification of one or more particular Written Commitments.
(5) The signature of any officer or other person executing any Written Commitment or appointment or delegation pursuant to this Resolution, and the seal of the Company, may be affixed by facsimile on such Written Commitment or written appointment or delegation.

FURTHER RESOLVED, that the foregoing Resolution shall not be deemed to be an exclusive statement of the powers and authority of officers, employees and other persons to act for and on behalf of the Company, and such Resolution shall not limit or otherwise affect the exercise of any such power or authority otherwise validly granted or vested."

I, Dawn M. Chloros, Assistant Secretary of FEDERAL INSURANCE COMPANY, VIGILANT INSURANCE COMPANY, and PACIFIC INDEMNITY COMPANY (the "Companies") do hereby certify that

- (i) the foregoing Resolutions adopted by the Board of Directors of the Companies are true, correct and in full force and effect,
(ii) the Companies are duly licensed and authorized to transact surety business in all 50 of the United States of America and the District of Columbia and are authorized by the U.S. Treasury Department; further, Federal and Vigilant are licensed in the U.S. Virgin Islands, and Federal is licensed in Guam, Puerto Rico, and each of the Provinces of Canada except Prince Edward Island; and
(iii) the foregoing Power of Attorney is true, correct and in full force and effect.

Given under my hand and seals of said Companies at Whitehouse Station, NJ, this

5/23/18



Dawn M. Chloros

Dawn M. Chloros, Assistant Secretary

IN THE EVENT YOU WISH TO NOTIFY US OF A CLAIM, VERIFY THE AUTHENTICITY OF THIS BOND OR NOTIFY US OF ANY OTHER MATTER, PLEASE CONTACT US AT:

Telephone (908) 903-3493 Fax (908) 903-3656 e-mail: surety@chubb.com