AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT

1. CONTRACT ID CODE	PAGE OF PAGES

2. AMENDMENT/MODIFICATION NO.	3. EFFECTIVE DATE	4. REQUISITION/PURCHASE REQ. NO.	5. PROJECT NO. *(If applicable)*
0002	18 September 2003		

6. ISSUED BY CODE

Department of the Army
Corps of Engineers, Los Angeles
P.O. Box 532711
Los Angeles, CA 90053-2325

7. ADMINISTERED BY *(If other than Item 6)* CODE

8. NAME AND ADDRESS OF CONTRACTOR *(No., street, county, State and ZIP Code)*

CODE FACILITY CODE

(√)	
X	9A. AMENDMENT OF SOLICITATION NO. DACW09-B-03-0012
	9B. DATED *(SEE ITEM 11)* 24 September 2003 (Bid Opening)
	10A. MODIFICATION OF CONTRACTS/ORDER NO.
	10B. DATED *(SEE ITEM 13)*

11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS

☒ The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offers ☒ is extended, ☐ is not extended.

Offers must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended, by one of the following methods:

(a) By completing Items 8 and 15, and returning 0 copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

12. ACCOUNTING AND APPROPRIATION DATA *(If required)*
N/A

13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS, IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.

(√)	A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: *(Specify authority)* THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.
	B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES *(such as changes in paying office, appropriation date, etc.)* SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(b).
	C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:
	D. OTHER *(Specify type of modification and authority)*

E. IMPORTANT: Contractor ☐ is not, ☐ is required to sign this document and return _____ copies to the issuing office.

14. DESCRIPTION OF AMENDMENT/MODIFICATION *(Organized by UCF section headings, including solicitation/contract subject matter where feasible.)*

RIO SALADO - PHOENIX REACH, PHASE 1B/2, Phoenix, AZ

The Bid Opening date is hereby changed to 24 September 2003.

REPLACE Section 00010, BID SCHEDULE AND NOTES
REPLACE Section 01270, MEASUREMENT AND PAYMENT
ADD PUMP DATA SHEETS to the end of Section 11214, SUPPLY WELL PUMPS

Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.

15A. NAME AND TITLE OF SIGNER *(Type or print)*		16A. NAME AND TITLE OF CONTRACTING OFFICER *(Type or print)*	
15B. CONTRACTOR/OFFEROR *(Signature of person authorized to sign)*	15C. DATE SIGNED	16B. UNITED STATES OF AMERICA BY *(Signature of Contracting Officer)*	16C. DATE SIGNED

SECTION 00010

BID SCHEDULE

PART 1 GENERAL

1.1 ENVIRONMENTAL RESTORATION

1.1.1 Earthwork and Drainage

Item	Description	Quantity	Unit	Unit Price	Amount
0001	CLEARING, GRUBBING, AND DEMOLITION	1	Job	LS	_____.__
0002	GENERAL SITE EXCAVATION FOR PROJECT FACILITIES				
A	FIRST 8,800 CUBIC YARDS	8,800	CY	____.__	____.__
B	OVER 8,800 CUBIC YARDS	2,200	CY	____.__	____.__
0003	GENERAL SITE FILLS AND EMBANKMENTS FOR PROJECT FACILITIES				
A	FIRST 21,000 CUBIC YARDS	21,000	CY	____.__	____.__
B	OVER 21,000 CUBIC YARDS	5,200	CY	____.__	____.__
0004	EXCAVATION AND DISPOSAL OF CONSTRUCTION DEBRIS, HOUSEHOLD WASTE, INERT MATERIAL, TIRES, AND NON-SEGREGATED MIXED WASTE.				
A	FIRST 400 TONS OF CONSTRUCTION DEBRIS	400	Tons	____.__	____.__
B	OVER 400 TONS OF CONSTRUCTION DEBRIS	100	Tons	____.__	____.__
C	FIRST 70 TONS OF HOUSEHOLD WASTE	70	Tons	____.__	____.__
D	OVER 70 TONS OF HOUSEHOLD WASTE	30	Tons	____.__	____.__
E	FIRST 70 TONS OF INERT MATERIAL	70	Tons	____.__	____.__
F	OVER 70 TONS OF INERT MATERIAL	30	Tons	____.__	____.__
G	FIRST 15 TONS OF TIRES	15	Tons	____.__	____.__
H	OVER 15 TONS OF TIRES	10	Tons	____.__	____.__
I	FIRST 400 TONS OF NON-SEGREGATED MIXED WASTE	400	Tons	____.__	_ __.__
J	OVER 400 TONS OF NON-SEGREGATED MIXED WASTE	100	Tons	____.__	____.__
0005	STORM DRAIN PIPING AND STRUCTURES	1	Job	LS	_____.__
0006	ARCHITECTURAL FENCE AND GATES	2,700	LF	____.__	____.__

1.2 WATER SUPPLY AND DISTRIBUTION

1.2.1 Pressurized Water Distribution System

0007	WELL RSSW NO. 3	1	Job	LS _____.__	
0008	WELL RSSW NO. 4	1	Job	LS _____.__	
0009	WELL RSSW NO. 5	1	Job	LS _____.__	
0010	WELL RSSW NO. 6	1	Job	LS _____.__	

1.3 HABITAT

1.3.1 Other Habitat

0011	AQUATIC/WETLAND/RESERVOIR SEEDING	2,400	SF	____.__	____.__
0012	PRIORITY 1 SEEDING	3,570,000	SF	____.__	____.__
0013	TRANSPLANTING OF NATIVE TREES	20	Each	____.__	____.__

1.3.2 Owner Furnished Plants

0014	PLANTING OF 1 GALLON PLANTS	33,000	Each	____.__	____.__
0015	PLANTING OF 15 GALLON PLANTS	253	Each	____.__	____.__
0016	PLANTING OF 24" BOX PLANTS	167	Each	____.__	____.__

1.3.3 Irrigation

0017	OVERBANK PERMANENT DRIP IRRIGATION SYSTEM	1	Job	LS _____.__	
0018	TERRACE AND SLOPE TEMPORARY DRIP IRRIGATION SYSTEM	1	Job	LS _____.__	
0019	PLANT ESTABLISHMENT (12 MONTHS DURATION)	1	Job	LS _____.__	

1.3.4 Staging Area

0020	SW 7TH AVE STAGING AREA SITEWORK	1	Job	LS _____.__	
0021	SE 7TH ST STAGING AREA SITEWORK	1	Job	LS _____.__	
0022	SE 16TH ST STAGING AREA SITEWORK	1	Job	LS _____.__	

1.3.5 Roads

0023	MAINTENANCE ROAD (BY OTHERS) ASPHALTIC CONCRETE FINAL LIFT	45,000	SY	____.__	____.__
0024	TERRACE ROAD	53,000	SY	____.__	____.__
0025	ACCESS ROAD ASPHALTIC CONCRETE	2,000	SY	____.__	____.__

1.4 RECREATION

1.4.1 Hardscape

0026	SOFT SURFACE TRAILS	800	SY	____.__	____.__
0027	STAGING AREA ACCESS CONTROL GATE	5	Each	____.__	____.__
0028	MAINTENANCE ROAD ACCESS CONTROL GATE	15	Each	____.__	____.__
0029	TERRACE ROAD ACCESS CONTROL GATE	7	Each	____.__	____.__

1.4.2 Facilities

0030	PEDESTRIAN NODE A	1	Job	LS	_____.__
0031	PEDESTRIAN NODE B	1	Job	LS	_____.__
0032	PEDESTRIAN **NODE D**	1	Job	LS	_____.__
0033	PEDESTRIAN **NODE E**	1	Job	LS	_____.__
0034	PEDESTRIAN **NODE F**	1	Job	LS	_____.__
0035	SEWER SYSTEM	1	Job	LS	_____.__
0036	PORTABLE WATER SYSTEM	1	Job	LS	_____.__
0037	OVERLOOK A	1	Job	LS	_____.__
0038	OVERLOOK B	1	Job	LS	_____.__
0039	OVERLOOK C	1	Job	LS	_____.__
0040	WATERFALL	1	Job	LS	_____.__

1.5 OPTION ITEMS

1.5.1 Landscape

0041	PRIORITY 2 SEEDING	4,270,000	SF	____.__	____.__
0042	SOUTH OVERBANK (CENTRAL AVE TO 16TH STREET) PLANTING	1	Job	LS	_____.__
0043	SOUTH OVERBANK (CENTRAL AVE TO 16TH STREET) IRRIGATION	1	Job	LS	_____.__
0044	ADDITIONAL PLANT ESTABLISHMENT PERIOD	12	Months	____.__	____.__

TOTAL ESTIMATED AMOUNT **$**_____._____

Abbreviations:
LF = Linear Foot
SF = Square Feet
CY = Cubic Yard
LS = lump sum
SY = Square Yard

NOTE: Section 00010 - Solicitation Contract Form

CLAUSES INCORPORATED BY FULL TEXT

1. All extensions of the unit prices shown will be subject to verification by the Government. In case of variation between the unit price and the extension, the unit price will be considered to be the bid.

2. If a modification to a bid based on unit prices is submitted which provides for a lump sum adjustment to the total estimated amount, the application of the lump sum adjustment to each unit price in the Price Schedule must be stated. If it is not stated, the bidder agrees that the lump sum adjustment shall be applied on a pro rata basis to every unit price in the Price Schedule.

3. For the purpose of initial evaluation of bids, the following will be utilized in resolving arithmetic discrepancies found on the face of the Price Schedule as submitted by the bidder:

a. Obviously misplaced decimal points will be corrected;
b. In case of discrepancy between the unit price and the extended price, the unit price will govern;
c. Apparent errors in extensions of unit prices will be corrected;
d. Apparent errors in addition of lump sum and extended prices will be corrected.

4. For the purpose of bid evaluation, the Government will proceed on the assumption that the bidder intends the bid to be evaluated on the basis of unit prices the totals arrived at by the resolution of arithmetic discrepancies as provided above and the bid will be so reflected on the abstract of bids.

5. The lump sum "LS" line items in the Price Schedule are not "Estimated Quantity" line items and are not subject to the "Variation in Estimated Quantity" contract clause.

6. The Contract Clause 52.232-27, "Prompt Payment for Construction Contracts" requires that the name and address of the contractor official, to whom payment is to be sent, be the same as that in the contract or in a proper Notice of Assignment.

7. Principal Contracting Officer. The Contracting Officer who signs this contract will be the Principal Contracting Officer for this contract. However, any Contracting Officer assigned to the Los Angeles District, contracting within his authority, may take formal action on this contract when the Principal Contracting Officer is unavailable and the action needs to be taken.

8. Amounts and prices shall be indicated in either words or figures, NOT BOTH.

9. Payment of Electronic Funds Transfer (EFT) is the mandatory method of payment. The Contractors attention is directed to Contract Clause No. 52.232-33 "Mandatory Information for Electronic Funds Transfer" located in Section 00800.

10. The bidder shall distribute his indirect costs (overhead, profit, bond, etc.,) over all items in the Price Schedule. The Government will

review all submitted Price Schedules for any unbalancing of the items. Any submitted Price Schedule determined to be unbalanced may be considered non-responsive and cause the bidder to be ineligible for contract award.

11. The bidder shall furnish labor, material, equipment, etc., necessary to perform all work in strict accordance with the terms and conditions set forth in the contract in include all attachments thereto.

12. Some quantities are ESTIMATED, the bidders prices MUST BE FIRM.

13. Bidder is cautioned to check his Price Schedule carefully prior to submission. If the Price Schedule contains unit prices, they should be rounded off to the second decimal point only NOT EXTENDED FUTHER.

14. At the formal bid opening for this solicitation, all hand carried bids submitted prior to 12:45 p.m. on the bid opening date will be accepted in Room 980 by available personnel. For the time period 12:30p.m. to 1:00 p.m., bids must be submitted to Room 980, to the bid-opening officer only. Bids will not be accepted by any other personnel or at any other location. No bid will be accepted after 1:00 p.m. The official bid opening time will be called by the Bid Opening Officer.

15. Contractor is required to fill in Cage code (Reference Section 00600, entitled "Required Central Contractor Registration" Mar 1998) and DUNS Number (Reference Section 00600, entitled, "Data Universal Numbering System (DUNS) Number" Jun1999) in Block No. 15 on Standard Form 1442, Name and Address Block (Cage Code under Code and DUNS No. under Facility Code respectively).

16. Bidders are to submit prices on all line items in the Base Bid (0001 through 0040). In addition, bidders must submit prices on Options (0041-0044). The Government contemplates award of one contract to the responsive, responsible bidder who submits the lowest bid for the Base Bid and Options.

17. The Government contemplates award on one contract to the responsive, responsible bidder who submits the low bid for the total of all the items in the Price Schedule.

CERTIFICATE OF CORPORATE PRINCIPAL

1) IF THE OFFEROR IS A JOINT VENTURE, COMPLETE THE FOLLOWING:

_____	_____	_____
(Company Name)	(Signature)	(Title)
_____	_____	_____
(Company Name)	(Signature)	(Title)
_____	_____	_____
(Company Name)	(Signature)	(Title)

2) IF THE OFFEROR IS PARTNERSHIP, LIST FULL NAME OF ALL PARTNERS:

_____	_____	_____
(Company Name)	(Signature)	(Title)
_____	_____	_____
(Company Name)	(Signature)	(Title)
_____	_____	_____
(Company Name)	(Signature)	(Title)

3) IF THE OFFEROR IS A CORPORATION, THE FOLLOWING CERTIFICATION SHOULD BE COMPLETED:

CERTIFICATION AS TO CORPORATE PRINCIPAL

I, _____, certify that I am the Secretary of the corporation named as principal in the within

contract; that _____ , who signed the said contract on behalf of the principal, was the

_____ of the corporation; that I know his signature and that his signature is genuine; and that said contract was duly signed, sealed and attested for in behalf of said corporation by authority of its governing body.

_____
CORPORATE PRINCIPAL

CORPORATE SEAL

_____
SECRETARY

PART 2 PRODUCTS (Not Used)

PART 3 EXECUTION (Not Used)

-- End of Section --

SECTION TABLE OF CONTENTS

DIVISION 01 - GENERAL REQUIREMENTS

SECTION 01270

MEASUREMENT AND PAYMENT

-- End of Section Table of Contents --

SECTION 01270

MEASUREMENT AND PAYMENT

PART 1 GENERAL

1.1 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-03 Product Data

Weight Certificates; G, RE

Submit certified weight certificates for construction debris, household waste, inert material, tires, mixed waste, and Maintenance Roads Asphaltic Concrete.

1.2 LUMP SUM PAYMENT ITEMS

Payment items for the work of this contract for which contract lump sum payments will be made are listed in the BIDDING SCHEDULE and described below. All costs for items of work, which are not specifically mentioned to be included in a particular lump sum or unit price payment item, shall be included in the listed lump sum item most closely associated with the work involved. The lump sum price and payment made for each item listed shall constitute full compensation for furnishing all plant, labor, materials, and equipment, and performing any associated Contractor quality control, and performing any associated Contractor quality control reports, mobilization, demobilization, obtaining bonds, insurance, and permits, providing temporary facilities and utilities, payment for usage of utilities, furnishing and installing project and safety signs, furnishing, installing, and maintaining the Government field office, scheduling, providing submittals, attending meetings, preparing as-built Drawings, providing traffic control, environmental protection, meeting safety requirements, tests and reports, and for performing all work required for which separate payment is not otherwise provided.

1.2.1 Item No. 1, Clearing, Grubbing, and Demolition

1.2.1.1 Payment

Payment includes all labor and equipment required for clearing, grubbing, demolition of any specified structures, and protection of all other structures, and disposal of waste identified within the project limits.

1.2.1.2 Unit of Measure

Unit of Measure: Lump sum.

1.2.2 Item No. 5, Storm Drain Piping and Structures

1.2.2.1 Payment

Payment includes all labor and equipment for the excavation, backfilling, compacting surface restoration, furnishing and placement of stormwater outfall headwalls, catch basins, culverts, end sections, rip rap and trash racks.

1.2.2.2 Unit of Measure

Unit of Measure: Lump sum.

1.2.3 Item No. 7, Well RSSW No. 3

1.2.3.1 Payment

Payment includes all excavation, grading, compacting, surface restoration, hydrostatic pressure testing, and the furnishing and placing of backfill, structural fill, vertical turbine pump and motor, welded steel piping, fittings, and appurtenances, magnetic flowmeter, butterfly valve, air pressure/vacuum relief valve, check valve, concrete, pipe supports, reinforcing steel, concrete blocks, electrical, instrumentation and control, and all other miscellaneous items required to complete Production Well RSSW No. 3 site as shown on the Drawings and as specified.

1.2.4.1 Unit of Measure

Unit of Measure: Lump sum.

1.2.4 Item No. 8, Well RSSW No. 4

1.2.4.1 Payment

Payment includes all excavation, grading, compacting, surface restoration, hydrostatic pressure testing, and the furnishing and placing of backfill, structural fill, vertical turbine pump and motor, welded steel piping, fittings, and appurtenances, magnetic flowmeter, butterfly valve, air pressure/vacuum relief valve, check valve, concrete, pipe supports, reinforcing steel, concrete blocks, electrical, instrumentation and control, and all other miscellaneous items required to complete Well RSSW No. 4 site as shown on the Drawings and as specified.

1.2.4.2 Unit of Measure

Unit of Measure: Lump sum.

1.2.5 Item No. 9, Well RSSW No. 5

1.2.5.1 Payment

Payment includes all excavation, grading, compacting, surface restoration, hydrostatic pressure testing, and the furnishing and placing of backfill, structural fill, vertical turbine pump and motor, welded steel piping, fittings, and appurtenances, magnetic flowmeter, butterfly valve, air pressure/vacuum relief valve, check valve, concrete, pipe supports, reinforcing steel, chain link fencing, electrical, instrumentation and control, and all other miscellaneous items required to complete Well RSSW No. 5 site as shown on the Drawings and as specified.

1.2.5.2 Unit of Measure

Unit of Measure: Lump sum.

1.2.6 Item No. 10, Production Well RSSW No. 6

1.2.6.1 Payment

Payment includes all excavation, grading, compacting, surface restoration, hydrostatic pressure testing, and the furnishing and placing of backfill, structural fill, welded steel piping, fittings, and appurtenances, magnetic flowmeter, butterfly valve, air pressure/vacuum relief valve, check valve, concrete, pipe supports, reinforcing steel, concrete blocks, electrical, instrumentation and control, and all other miscellaneous items required to complete Well RSSW No. 6 site as shown on the Drawings and as specified.

1.2.6.2 Unit of Measure

Unit of Measure: Lump sum.

1.2.7 Item No. 17, Overbank Permanent Drip Irrigation System

1.2.7.1 Payment

Payment includes all labor and equipment required for excavation, backfill, and the furnishing and placement of the pipe and tubing, fittings, valve assemblies, spray sprinklers, drip emitters, controller assemblies, wire, testing, electrical, and maintenance, and all miscellaneous items required for the Overbank permanent drip irrigation system, as shown on the Drawings. In addition, the lump sum bid price shall include all of the Contractor's costs for furnishing, transporting and installing the mainline pipe and fittings, and control system wire for the Temporary Drip Irrigation System that is installed in the Overbank areas according to the Drawings and Specifications.

1.2.7.2 Unit of Measure

Unit of Measure: Lump sum.

1.2.8 Item No. 18, Terrace and Slope Drip Irrigation System

1.2.8.1 Payment

Payment includes all labor and equipment required for excavation and backfill, and the furnishing and placement of all pipe, fittings, valve assemblies, drip emitters, testing, electrical, and maintenance; and all miscellaneous items required for the terrace and slopes drip irrigation system, as shown on the Drawings.

1.2.8.2 Unit of Measure

Unit of Measure: Lump sum.

1.2.9 Item No. 19, Plant Establishment

1.2.9.1 Payment

Payment includes all labor and equipment required to operate and maintain

the landscaping and irrigation system (Base bid Landscaping/Irrigation only)for a 12 month period starting at substantial completion of the project. As the plants establish themselves, the Contractor will keep the newly planted areas free from undesirable weed growth as specified in the Contract documents. If plantings do not meet the specified coverage and survival criteria during the plant maintenance period, the Contractor will replace the vegetation and replant as necessary until satisfactory stands of vegetation are realized by the Contracting Officer.

1.2.9.2 Unit of Measure

Unit of Measure: Lump sum.

1.2.10 Item No. 20, SW 7th Avenue Staging Area Sitework

1.2.10.1 Payment

Payment includes all labor and equipment required for excavation, backfill, grading, and the furnishing and placement of all aggregate base course, asphalt concrete pavement, concrete, reinforcing, striping, and signage required to complete the parking lot, curb, curb and gutter, sidewalks, cast concrete seat walls, handrails, gabion baskets, salvaged ruin benches, trash and ash receptacles, sidewalk curbramp, accessible parking lots, tire treadle, drinking fountain and leach field lighting and all miscellaneous items required for the staging area sitework, as shown on the Drawings.

1.2.10.2 Unit of Measure

Unit of Measure: Lump sum.

1.2.11 Item No. 21, SE 7th Street Staging Area Sitework

1.2.11.1 Payment

Payment includes all labor and equipment required for excavation, backfill, grading, and the furnishing and placement of all aggregate base course, asphalt concrete pavement, concrete, reinforcing, striping, and signage required to complete the parking lot, curb, curb and gutter, valley gutter, cast concrete seat walls, street connection to 7th Street, sidewalks, sidewalk curbramp, accessible parking lots, tire treadle, maintenance road, salvaged ruin benches, trash and ash receptacles, lighting and all miscellaneous items required for the staging area sitework, as shown on the Drawings.

1.2.11.2 Unit of Measure

Unit of Measure: Lump sum.

1.2.12 Item No. 22, SE 16th Street Staging Area Sitework

1.2.12.1 Payment

Payment includes all labor and equipment required for excavation, backfill, grading, and the furnishing and placement of all aggregate base course, asphalt concrete pavement, concrete, reinforcing, striping, and signage required to complete the parking lot, curb, curb and gutter, salvaged ruin benches, seating node, river ruin picnic table, trash and ash receptacles, cast concrete seat walls, handrails, sidwalks, sidewalk curbramp, drinking fountain and leach field,accessible parking lots, tire treadle, staging

area, lighting and all miscellaneous items required for the staging area sitework, as shown on the Drawings.

1.2.12.2 Unit of Measure

Unit of Measure: Lump sum.

1.2.13 Item No. 30, Pedestrian Node A

1.2.13.1 Payment

Payment includes all labor and equipment required for the excavation, backfilling, compacting, and grading, gabion baskets, and the furnishing and placement of the salvaged concrete benches, concrete tree wells, concrete, decomposed granite, removal and replacement of existing sidewalk, and all miscellaneous items required for a complete pedestrian node area as shown on the Drawings.

1.2.13.2 Unit of Measure

Unit of Measure: Lump sum.

1.2.14 Item No. 31, Pedestrian Node B

1.2.14.1 Payment

Payment includes all labor and equipment required for the excavation, gabion baskets, backfilling, compacting, and grading, and the furnishing and placement of the salvaged concrete benches, concrete tree wells, concrete, decomposed granite, removal and replacement of existing sidewalk, and all miscellaneous items required for a complete pedestrian node area as shown on the Drawings.

1.2.14.2 Unit of Measure

Unit of Measure: Lump sum.

1.2.15 Item No. 32, Pedestrian **Node D**

1.2.15.1 Payment

Payment includes all labor and equipment required for the excavation, gabion baskets, backfilling, compacting, and grading, and the furnishing and placement of the salvaged concrete benches, concrete tree wells, concrete, decomposed granite, removal and replacement of existing sidewalk, and all miscellaneous items required for a complete pedestrian node area as shown on the Drawings.

1.2.15.2 Unit of Measure

Unit of Measure: Lump sum.

1.2.16 Item No. 33, Pedestrian **Node E**

1.2.16.1 Payment

Payment includes all labor and equipment required for the excavation, gabion baskets, backfilling, compacting, and grading, and the furnishing and placement of the salvaged concrete benches, concrete tree wells,

concrete, decomposed granite, removal and replacement of existing sidewalk, and all miscellaneous items required for a complete pedestrian node area as shown on the Drawings.

1.2.16.2 Unit of Measure

Unit of Measure: Lump sum.

1.2.17 Item No. 34, Pedestrian **Node F**

1.2.17.1 Payment

Payment includes all labor and equipment required for the excavation, gabion baskets, backfilling, compacting, and grading, and the furnishing and placement of the salvaged concrete benches, concrete tree wells, concrete, decomposed granite, removal and replacement of existing sidewalk,and all miscellaneous items required for a complete pedestrian node area as shown on the Drawings.

1.2.17.2 Unit of Measure

Unit of Measure: Lump sum.

1.2.18 Item No. 35, Sewer System

1.2.18.1 Payment

Payment includes all labor and equipment required for trench and structure excavation, processing of on-site material or importing material required for backfill, grading, surface restoration, compacting, and connecting to the existing City of Phoenix Sewer, and the furnishing and placing of concrete, reinforcing steel, clean outs, backfill, HDPE pipe and appurtenances, pipe zone material, and all other miscellaneous items required to complete the Sewer System as shown on the Drawings and as specified.

1.2.18.2 Unit of Measure

Unit of Measure: Lump sum.

1.2.19 Item No. 36, Potable Water System

1.2.19.1 Payment

Payment includes all labor and equipment required for trench and structure excavation, processing of on-site material or importing material required for backfill, grading, surface restoration, compacting, and connecting to the existing pipe, and the furnishing and placing of concrete, reinforcing steel, backfill, ductile iron pipe and appurtenances, valves, valve boxes, fire hydrant assembly, water service connection, water meter box, backflow preventer assembly, pipe zone material, thrust blocks, and all other miscellaneous items required to complete the Potable Water System at 7th Street, 7th Avenue and 16th Street as shown on the Drawings and as specified.

1.2.19.2 Unit of Measure

Unit of Measure: Lump sum.

1.2.20 Item No. 37, Overlook A

1.2.20.1 Payment

Payment includes all labor and equipment required for the excavation, backfilling, compacting and grading, and the furnishing and placement of the gabion retaining wall, cast concrete seatwall, trash receptacle, salvaged concrete header, concrete walk, Ramada, and all miscellaneous items required for a complete Overlook A as shown on the Drawings and as specified.

1.2.20.2 Unit of Measure

Unit of Measure: Lump sum.

1.2.21 Item No. 38, Overlook B

1.2.21.1 Payment

Payment includes all labor and equipment required for the excavation, backfilling, compacting and grading, and the furnishing and placement of the gabion retaining wall, cast concrete seatwall, trash receptacle, safety handrail, salvaged concrete header, concrete walk, Ramada, and all miscellaneous items required for a complete Overlook B as shown on the Drawings and as specified.

1.2.21.2 Unit of Measure

Unit of Measure: Lump sum.

1.2.22 Item No. 39, Overlook C

1.2.22.1 Payment

Payment includes all labor and equipment required for the excavation, backfilling, compacting and grading, and the furnishing and placement of the gabion retaining wall, cast concrete seatwall, trash receptacle, salvaged concrete header, concrete walk, Ramada, and all miscellaneous items required for a complete Overlook C as shown on the Drawings and as specified.

1.2.22.2 Unit of Measure

Unit of Measure: Lump sum.

1.2.23 Item No. 40, Waterfall

1.2.23.1 Payment

Payment includes all labor and equipment required for the excavation, backfilling, grading, and the furnishing and placement of the shotcrete, structural backfill, river rock, broken concrete river ruin blocks and all miscellaneous items required for a complete waterfall as shown on the Drawings.

1.2.23.2 Unit of Measure

Unit of Measure: Lump sum.

1.2.24 Item No. 42, Option No. 7 South Overbank (Central Avenue to 16th Street) Planting

1.2.24.1 Payment

The contractor will be required for soil testing, excavation, backfilling, staking, grading, and the placement of the fertilizer, soil additives, and Owner-Furnished planting material. Once the soils are ready for planting and the project's irrigation system(s) has been tested and is deemed functional, the plant contractor will be given control of the wetland water levels for plant installation and during the plant maintenance period (180 days). The contractor will install the plants per the construction drawings and specifications as well as provide a warranty. The accepted quantities of trees, shrubs and plants measured as described above will be paid for at the contract unit price bid for each for the pay items designated in the bidding schedule complete and in place. No measurement or direct payment will be made for plants selected for inspection and not planted or for the watering, care and protection of trees, shrubs and plants prior to the beginning of the landscape establishment period, tree stakes, rubber hose, wire, protective cages, pre-emergent herbicide and grass and weed removal, the cost being considered as included in the price of the contract bid items.

1.2.24.2 Unit of Measure

Unit of Measure: Lump sum.

1.2.25 Item No. 43, Option No. 8 South Overbank (Central Avenue to 16th Street) Irrigation

1.2.25.1 Payment

Payment includes all labor and equipment required for excavation and backfill, and the furnishing and placement of all pipe, fittings, valve assemblies, drip emitters, testing, electrical, and maintenance; and all miscellaneous items required for the terrace and slopes drip irrigation system, as shown on the Drawings.

1.2.25.2 Unit of Measure

Unit of Measure: Lump sum.

1.3 UNIT PRICE PAYMENT ITEMS

Payment items for the work of this contract on which the contract unit price payments will be made are listed in the BIDDING SCHEDULE and described below. The unit price and payment made for each item listed shall constitute full compensation for furnishing all plant, labor, materials, and equipment, and performing any associated Contractor quality control, environmental protection, meeting safety requirements, tests and reports, and for performing all work required for each of the unit price items.

1.3.1 Items No. 2a and 2b, General Site Excavation for Project Facilities

1.3.1.1 Payment

Payment includes all labor and equipment, including excavation and disposition of excess excavated material and unsuitable material, required

for terrace roads, maintenance roads, staging areas and other features on the project site. Specifically excluded from this item is any excavation below finish grade required to install piping, structures, and conduits.

1.3.1.2 Measurement

The total quantity of excavated material for which payment will be made will be the theoretical quantity between the ground surface as determined by a survey and the grade and slope of the theoretical cross sections indicated. No allowance will be made for overdepth excavation or for the removal of any material outside the required slope lines unless authorized.

1.3.1.3 Unit of Measure

Unit of measure: Cubic yard.

1.3.2 Items No. 3a and 3b, General Site Fills and Embankments for Project Facilities

1.3.2.1 Payment

Payment includes all labor and equipment required for processing of on-site material, placement of fill, compacting, grading, and water required for the furnishing and placement of any fills and embankments for the terrace roads, maintenance roads, staging areas and other features on the project site. Excluded from this item is any fill associated with the waterfall.

1.3.2.2 Measurement

The total quantity of fill material for which payment will be made will be the theoretical quantity between the ground surface as determined by a survey and the grade and slope of the theoretical cross sections indicated. No allowance will be made for additional fill provided outside the required slope lines unless authorized.

1.3.2.3 Unit of Measure

Unit of measure: Cubic yard.

1.3.3 Items No. 4a through 4j, Excavation and Disposal of Construction Debris, Household Waste, Tires, Inert Material, and, Non-segregated Mixed Wastee

1.3.3.1 Payment

Payment includes all labor and equipment required for excavation, segregation (unless non-segregation disposal is authorized) and disposition of all construction debris, household waste, inert material, tires, and mixed waste.

1.3.3.2 Measurement

The total quantity of excavated material for which payment will be made will be based on the weight measured at the disposal facility of segregated construction debris, household waste, inert material, tires, and mixed waste that has been segregated from the tires and other excavated material.

1.3.3.3 Unit of Measure

Unit of measure: Tons.

1.3.4 Item No. 6, Architectural Fence and Gates

1.3.4.1 Payment

Payment includes all labor and equipment required for the excavation, backfilling, and grading and the furnishing and placement of the architectural fencing and gates.

1.3.4.2 Measurement

Measurement of Architectural Fence will be by the linear foot, measured from end to end, of fencing installed as shown on the drawings.

1.3.5 Items No. 11, Aquatic/Wetland/Reservoir Seeding

1.3.5.1 Payment

Payment includes all labor and equipment required for soil testing, and grading, and the furnishing and placement of the fertilizer, soil additives, and planting material. When the soils are ready for planting and the project's irrigation system(s) has been tested and is deemed functional, the plant contractor will be given control of the reservoir water levels for plant installation and during the plant maintenance period (180 days). The contractor will install the plants per the construction drawings and specifications as well as provide a warranty. As the reservoir plants establish themselves, the contractor will also keep the newly planted areas free from undesirable weed growth as specified in the projects construction documents. If plantings to not meet the specified coverage and survival criteria at the end of the plant maintenance period, the plant contractor will replace the vegetation and replant the reservoir as necessary until satisfactory stands of reservoir vegetation are realized.

1.3.5.2 Measurement

Reservoir Plantings for different habitats will be measured based on the number of square feet of each habitat type planted in the accepted work.

1.3.5.3 Unit of Measure

Unit of measure: Square foot.

1.3.6 Item No. 12, Priority 1 Seeding

1.3.6.1 Payment

Payment will include all labor and equipment required for soil testing, grading, and the furnishing and placement of the fertilizer, soil additives, and seeds in the designated areas.

1.3.6.2 Measurement

Seeding will be measured based on the amount of seeding applied in the accepted work.

1.3.6.3 Unit of Measure

Unit of Measure: Square foot.

1.3.7 Items No. 13, Transplanting of Trees

1.3.7.1 Payment

Payment will include all labor and equipment required for preparation of transplanting plan, excavating, backfilling, soil testing, root pruning, furnishing and placement of top soil, soil amendments, mulch, soil conditioners, staking, and flagging required for the salvaging, maintaining and transplanting.

1.3.7.2 Measurement

Transplanting of trees will be measured based on the number of trees transplanted.

1.3.7.3 Unit of Measure

Unit of Measure: Each.

1.3.8 Item No. 14 through 16, Planting of Government Furnished Plants

1.3.8.1 Payment

The contractor will be required for soil testing, excavation, backfilling, staking, grading, and the placement of the fertilizer, soil additives, and Owner-Furnished planting material. Once the soils are ready for planting and the project's irrigation system(s) has been tested and is deemed functional, the plant contractor will be given control of the wetland water levels for plant installation and during the plant maintenance period (180 days). The contractor will install the plants per the construction drawings and specifications as well as provide a warranty. The accepted quantities of trees, shrubs and plants measured as described above will be paid for at the contract unit price bid for each for the pay items designated in the bidding schedule complete and in place. No measurement or direct payment will be made for plants selected for inspection and not planted or for the watering, care and protection of trees, shrubs and plants prior to the beginning of the landscape establishment period, tree stakes, rubber hose, wire, protective cages, pre-emergent herbicide and grass and weed removal, the cost being considered as included in the price of the contract bid items.

1.3.8.2 Measurement

Planting of Government Furnished Plants will be measured based on the number of plants of each type planted in the accepted work.

1.3.8.3 Unit of Measure

Unit of measure: Each.

1.3.9 Item No. 23, Maintenance Roads (by others) Asphaltic Concrete Final Lift

1.3.9.1 Payment

Payment includes all labor and equipment required for preparation and placement of tack coat and for preparation of the hot mix, compaction, grading, testing, and furnishing and placing the final pavement lift.

1.3.9.2 Measurement

Maintenance Roads will be measured based on the amount of surface installed in the accepted work.

1.3.9.3 Unit of Measure

Unit of measure: Square yard.

1.3.10 Item No. 24, Terrace Roads

1.3.10.1 Payment

Payment includes all labor and equipment required for the excavation, backfilling, compacting, and grading the Terrace Roads.

1.3.10.2 Measurement

Terrace roads will be measured based on the amount of surfacing installed in the accepted work.

1.3.10.3 Unit of Measure

Unit of Measure: Square yard.

1.3.11 Item No. 25, Access Road Asphaltic Concrete

1.3.11.1 Payment

Payment includes all labor and equipment required preparation of the hot mix, compaction, grading, testing, and furnishing and placing the aggregate, asphalt cement, joints for the access road.

1.3.11.2 Measurement

Access Road Asphaltic Concrete will be measured based on the amount of suracing installed in the accepted work.

1.3.11.3 Unit of Measure

Unit of measure: Square yard.

1.3.12 Item No. 26, Soft Surface Trails

1.3.12.1 Payment

Payment includes all labor and equipment required for the excavation, backfilling, compacting, and grading the soft surface trail.

1.3.12.2 Measurement

Soft surface trail will be measured based on the amount of soft surface trail installed in the accepted work.

1.3.12.3 Unit of Measure

Unit of Measure: Square yard.

1.3.13 Item No. 27, Staging Area Access Control Gates

1.3.13.1 Payment

Payment includes all labor and equipment required for the excavation, backfilling, compacting, grading, and the furnishing and placement of the concrete, steel pipe, gabions, river rock, steel plate, I-Beam, logo, and lettering and all miscellaneous items required for complete Staging Area Access Control Gates, as shown on the Drawings.

1.3.13.2 Measurement

Staging Area Access Control Gates will be measured based on the number of Staging Area Access Control Gates constructed in the accepted work.

1.3.13.3 Unit of Measure

Unit of measure: Each.

1.3.14 Item No. 28 Maintenance Road Access Control Gate

1.3.14.1 Payment

Payment includes all labor and equipment required for the excavation, backfilling compacting, grading and the furnishing and placement of the concrete, steel pipe, gabions, river rock, steel plate, I-beam, logo and lettering and all miscellaneous items required for complete Maintenance Road Access Control Gates as shown on the Drawings.

1.3.14.2 Measurement

Maintenance Road Access Control Gates will be measured based on the number of Maintenance Road Access Control Gates constructed in the accepted work.

1.3.14.3 Unit of Measure

Unit of Measure: Each

1.3.15 Item No. 29 Terrace Road Access Control Gates

1.3.15.1 Payment

Payment includes all labor and equipment required for the excavation, backfilling compacting, grading and the furnishing and placement of the concrete, steel pipe, gabions, river rock, steel plate, I-beam, logo and lettering and all miscellaneous items required for complete Terrace Road Access Control Gates as shown on the Drawings.

1.3.15.2 Measurement

Terrace Road Access Control Gates will be measured based on the number of Terrace Road Access Control Gates constructed in the accepted work.

1.3.15.3 Unit of Measure

Unit of Measure: Each

1.3.16 Item No. 41, Option 5 Priority 2 Seeding

1.3.16.1 Payment

Payment will include all labor and equipment required for soil testing, grading, and the furnishing and placement of the fertilizer, soil additives, and seeds in the designated areas.

1.3.16.2 Measurement

Seeding will be measured based on the amount of seeding applied in the accepted work.

1.3.16.3 Unit of Measure

Unit of Measure: Square foot.

1.3.17 Item No. 44, Option No. 9: Additional 12 months of Plant Establishment Period

1.3.17.1 Payment

Payment includes all labor and equipment required to operate and maintain the landscaping and irrigation system for an additional plant establishment period starting at the end of the required initial 12 month plant establishment period as outlined in Article 1.2.9. As the plants establish themselves, the Contractor will keep the planted areas free from undesirable weed grown as specified in the Construction Documents. If plantings do not meet the specified coverage and survival criteria during the plant establishment period, the Contractor will replace the vegetation and replant as necessary until satisfactory stands of vegetation are realized.

1.3.17.2 Measurement

Plant establishment will be measured based on the number of months which services are provided.

1.3.17.3 Unit of Measure

Unit of measure: Months.

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION (Not Applicable)

-- End of Section --

PUMP DATA SHEET
SUPPLY WELL PUMPS NO. P-10-3

Project: Rio Salado Environmental Restoration Project
Owner: City of Phoenix, Arizona
Service: Production Well Water Supply
Pump Name: Rio Salado Supply Well Pump 3
Equip. Tag Number(s): P-10-3

Pump Mfr.:
Size & Type:
No. Stages: 2
Serial No.:
Model No.:

No. Pumps Required: 1

Drive Type: ☒ Constant ☐ Adjustable

LIQUID	OPERATING CONDITIONS	SERVICE CONDITIONS
Name: Raw Well Water	Capacity (U.S. gpm):	Temp (°F): Max 125 Min 20
Pumping Temperature (°F):	Normal 1500 Rated .	Rel. Hum (%): Max 100 Min 30
Normal 75 Max 90 Min 68	Total Dynamic Head (ft): 150	Altitude (ft): 1070
Specific Gravity @ 68 °F: 1.0	Suction Lift (psig):	☐ Indoor ☐ Heated
Vapor Pressure (psia): 0.34	Max N/A Rated N/A	☒ Outdoor ☐ Unheated
Viscosity (CP) @ 68 °F: 1.0	Submergence (min. ft.):	Will Pump be Submerged?
pH: 6.5-8.0	NPSH Available (ft):	☒Yes ☐No
Corrosion/Erosion/Abrasion Caused by:		Area Classification: unclassified
Groundwater contaminants		Other:
Remarks:	Remarks:	Remarks:

PERFORMANCE REQUIREMENTS (manufacturer to supply missing data)

Proposal Curve No.:	Min. Continuous Flow (gpm):	NPSH Required (ft water): 16
Pump Speed Range (rpm): 1,770 /	Max. Head (ft): 200	3% Head Drop
Efficiency (%): 80 (min.)	Max. Power (BHP): 75	Suction Specific Speed:
Rated Power (BHP):		Factory Testing:
		☒Required ☐Not Required

Remarks:

Equipment Tag Number(s): P-10-3

PUMP CONSTRUCTION DETAILS (manufacturer to supply missing data)

Nozzles

	Size	Rating	Facing	Location
Suction	N/A			
Discharge	10”	125 lb	Flat	Discharge

Miscellaneous Connections

	Size	Location
Drain		
Vent		
Pres. Gauge		
Warm Up	1 1/2”	Discharge

Casing Mount:

☒ Vertical Well

☐ Vertical Barrel

Max. Allowable Pressure (psig):

At 60°F: _____

At Norm. Pump. Temp.: _____

Pump Shaft Dia. (In.): _____

Column Size (In.): 10” Threaded

Lineshaft Type:

☒ Open ☐ Enclosed

Lineshaft Size (In.): 1 7/16" (min.)

Hydro Test Pressure (psig): _____

Field Testing: ☐ Not required

☒ Required, functional and performance

Impeller Type:

☐ Semiopen

☒ Open ☐ Closed

Impeller Diameter (in.):

Rated _____ Max _____ Min _____

Bowl Size (in.) _____

No. of Stages: 2

Packing Mfr: _____

Type _____

Size/No. Rings _____

API Class Code _____

Manufacturer _____

Model _____

Manufacturer Code _____

Bearings (Type/No.):

Bowl _____

Lineshaft _____ Pump Shaft _____

Intermediate _____ Guide _____

Head Shaft: _____

Lubrication Type:

☐ Grease ☒ Pre-Lube

☒ Pumped Liquid

Coupling:

Manufacturer _____

Type _____ Model _____

Driver Half-Coupling Mounted by:

☐ Pump Mfr. ☐ Driver Mfr.

☐ Purchaser

Gland Type/Material: _____

Gland Plate Taps Required:

☐ Quench ☐ Flush
☐ Drain ☐ Vent

MATERIALS (manufacturer to supply missing data)

Bowl: Cast Iron

Bowl Wear Rings: _____

Column: Steel

Remarks: _____

Impeller: Bronze

Impeller Wear Rings: _____

Bowl Bearing: _____

Head Shaft Bearing: _____

Lineshaft Bearing: Rubber

Shaft: 416 Stainless Steel

Shaft Sleeve: N/A

Discharge Head:

Type _____

Material Cast Iron

ADDITIONAL REQUIREMENTS

Sole Plate and Cone Suction Strainer shall be provided for each pump.

Column pipe length shall be 180 ft.

Provide pre-lubrication connection at discharge head that leads from discharge head to appropriate lubrication points at shaft

INDUCTION MOTOR DATA SHEET

Project: Rio Salado Environmental Restoration Project

Owner: City of Phoenix, Arizona

Equipment Name: Rio Salado Supply Well Pump 3

Equipment Tag Number(s): P-10-3

Type: Squirrel-cage induction meeting requirements of NEMA MG 1

Manufacturer: For multiple units of the same type of equipment, furnish motors and accessories of a single manufacturer

Hazardous Location: ☐ Furnish motors for hazardous (classified) locations that conform to UL 674 and have an applied UL listing mark

Motor Horsepower: 100

Voltage: 460

Phase: 3

Frequency: 60 Hz

Synchronous Speed: 1800 rpm

☐ Multispeed, Two-Speed:

_____ / _____ rpm

☐ Constant Horsepower

☒ Variable Torque

☐ Constant Torque

Winding: ☒ One ☐ Two

Guaranteed Minimum Efficiency at Full Load: _____ percent

Guaranteed Minimum Power Factor at Full Load: _____ percent

Service Factor (@ rated max. amb. temp.): ☐ 1.0 ☒ 1.15

Enclosure Type: TEFC

Mounting Type: ☐ Horizontal ☒ Vertical

☒ Vertical Shaft: ☐ Solid ☒ Hollow

☒ Vertical Thrust Capacity (lb): Up _____ Down _____.

☐ Adjustable Speed Drive:

Operating Speed Range: 100 to 70% of Rated Speed

☒ Thermal Protection: Thermistors

☒ Space Heater: 120 volts, single phase

☐ Oversize main terminal (conduit) box for motors

☒ Terminal for connection of equipment grounding wire in each terminal box

Additional Motor Requirements: ☒ See Section 16405, AC INDUCTION MOTORS

Special Features:

PUMP DATA SHEET
SUPPLY WELL PUMP NO. P-10-4

Project: Rio Salado Environmental Restoration Project

Owner: City of Phoenix, Arizona

Service: Production Well Water Supply

Pump Name: Rio Salado Supply Well Pump 4

Equip. Tag Number(s): P-10-4

Pump Mfr.:

Size & Type:

No. Stages: 2

Serial No.:

Model No.:

No. Pumps Required: 1

Drive Type: ☒ Constant ☐ Adjustable

LIQUID	OPERATING CONDITIONS	SERVICE CONDITIONS
Name: Raw Well Water	Capacity (U.S. gpm):	Temp (°F): Max 125 Min 20
Pumping Temperature (°F):	Normal 1500 Rated .	Rel. Hum (%): Max 100 Min 30
Normal 75 Max 90 Min 68	Total Dynamic Head (ft): 140	Altitude (ft): 1070
Specific Gravity @ 68 °F: 1.0	Suction Lift (psig):	☐ Indoor ☐ Heated
Vapor Pressure (psia): 0.34	Max N/A Rated N/A	☒ Outdoor ☐ Unheated
Viscosity (CP) @ 68 °F: 1.0	Submergence (min. ft.):	Will Pump be Submerged?
pH: 6.5-8.0	NPSH Available (ft):	☒Yes ☐No
Corrosion/Erosion/Abrasion Caused by:		Area Classification: unclassified
Groundwater contaminants		Other:
Remarks:	Remarks:	Remarks:

PERFORMANCE REQUIREMENTS (manufacturer to supply missing data)

Proposal Curve No.:	Min. Continuous Flow (gpm):	NPSH Required (ft water): 16.1
Pump Speed Range (rpm): 1,770 /	Max. Head (ft): 191	3% Head Drop
Efficiency (%): 80 (min.)	Max. Power (BHP): 70	Suction Specific Speed:
Rated Power (BHP):		Factory Testing:
		☒Required ☐Not Required

Remarks:

Equipment Tag Number(s): P-10-4

PUMP CONSTRUCTION DETAILS (manufacturer to supply missing data)

Nozzles

	Size	Rating	Facing	Location
Suction	N/A			
Discharge	10”			

Miscellaneous Connections

	Size	Location
Drain		
Vent		
Pres. Gauge		
Warm Up	1 1/2”	Discharge

Casing Mount:

☒ Vertical Well

☐ Vertical Barrel

Max. Allowable Pressure (psig):

At 60°F: _____

At Norm. Pump. Temp.: _____

Pump Shaft Dia. (In.): _____

Column Size (In.): 10” Threaded

Lineshaft Type:

☒ Open ☐ Enclosed

Lineshaft Size (In.): 1 7/16" (min.)

Hydro Test Pressure (psig): _____

Field Testing: ☐ Not required

☒ Required, functional and performance

Impeller Type:

☐ Semiopen

☒ Open ☐ Closed

Impeller Diameter (in.):

Rated _____ Max _____ Min _____

Bowl Size (in.) _____

No. of Stages: 2

Packing Mfr: _____

Type _____

Size/No. Rings _____

API Class Code _____

Manufacturer _____

Model _____

Manufacturer Code _____

Bearings (Type/No.):

Bowl _____

Lineshaft _____ Pump Shaft _____

Intermediate _____ Guide _____

Head Shaft: _____

Lubrication Type:

☐ Grease ☒ Pre-Lube

☒ Pumped Liquid

Coupling:

Manufacturer _____

Type _____ Model _____

Driver Half-Coupling Mounted by:

☐ Pump Mfr. ☐ Driver Mfr.

☐ Purchaser

Gland Type/Material: _____

Gland Plate Taps Required:

☐ Quench ☐ Flush
☐ Drain ☐ Vent

MATERIALS (manufacturer to supply missing data)

Bowl: Cast Iron

Bowl Wear Rings: _____

Column: Steel

Remarks: _____

Impeller: Bronze

Impeller Wear Rings: _____

Bowl Bearing: _____

Head Shaft Bearing: _____

Lineshaft Bearing: Rubber

Shaft: 416 Stainless Steel

Shaft Sleeve: N/A

Discharge Head:

Type _____

Material Cast Iron

ADDITIONAL REQUIREMENTS

Sole Plate and Cone Suction Strainer shall be provided for each pump.

Column pipe length shall be 200 ft.

Provide pre-lubrication connection at discharge head.

INDUCTION MOTOR DATA SHEET

Project: Rio Salado Environmental Restoration Project

Owner: City of Phoenix, Arizona

Equipment Name: Rio Salado Supply Well Pump 4

Equipment Tag Number(s): P-10-4

Type: Squirrel-cage induction meeting requirements of NEMA MG 1

Manufacturer: For multiple units of the same type of equipment, furnish motors and accessories of a single manufacturer

Hazardous Location: ☐ Furnish motors for hazardous (classified) locations that conform to UL 674 and have an applied UL listing mark

Motor Horsepower: 100

Voltage: 460

Phase: 3

Frequency: 60 Hz

Synchronous Speed: 1800 rpm

☐ Multispeed, Two-Speed:

_____ / _____ rpm

☐ Constant Horsepower

☒ Variable Torque

☐ Constant Torque

Winding: ☒ One ☐ Two

Guaranteed Minimum Efficiency at Full Load: _____ percent

Guaranteed Minimum Power Factor at Full Load: _____ percent

Service Factor (@ rated max. amb. temp.): ☐ 1.0 ☒ 1.15

Enclosure Type: TEFC

Mounting Type: ☐ Horizontal ☒ Vertical

☒ Vertical Shaft: ☐ Solid ☒ Hollow

☒ Vertical Thrust Capacity (lb): Up _____ Down _____.

☐ Adjustable Speed Drive:

Operating Speed Range: 100 to 70% of Rated Speed

☒ Thermal Protection: Thermistors

☒ Space Heater: 120 volts, single phase

☐ Oversize main terminal (conduit) box for motors

☒ Terminal for connection of equipment grounding wire in each terminal box

Additional Motor Requirements: ☒ See Section 16405, AC INDUCTION MOTORS

Special Features:

PUMP DATA SHEET
SUPPLY WELL PUMPS NOS. P-10-5

Project: Rio Salado Environmental Restoration Project
Owner: City of Phoenix, Arizona
Service: Production Well Water Supply
Pump Name: Rio Salado Supply Well Pump 5
Equip. Tag Number(s): P-10-5

Pump Mfr.:
Size & Type:
No. Stages: 2
Serial No.:
Model No.:

No. Pumps Required: 1

Drive Type: ☐ Constant ☒ Adjustable

LIQUID	OPERATING CONDITIONS	SERVICE CONDITIONS
Name: Raw Well Water	Capacity (U.S. gpm):	Temp (°F): Max 125 Min 20
Pumping Temperature (°F):	Normal 1570 Rated .	Rel. Hum (%): Max 100 Min 30
Normal 75 Max 90 Min 68	Total Dynamic Head (ft): 150	Altitude (ft): 1070
Specific Gravity @ 68 °F: 1.0	Suction Lift (psig):	☐ Indoor ☐ Heated
Vapor Pressure (psia): 0.34	Max N/A Rated N/A	☒ Outdoor ☐ Unheated
Viscosity (CP) @ 68 °F: 1.0	Submergence (min. ft.):	Will Pump be Submerged?
pH: 6.5-8.0	NPSH Available (ft):	☒ Yes ☐ No
Corrosion/Erosion/Abrasion Caused by:		Area Classification: unclassified
Groundwater contaminants		Other:
Remarks:	Remarks:	Remarks:

PERFORMANCE REQUIREMENTS (manufacturer to supply missing data)

Proposal Curve No.:	Min. Continuous Flow (gpm):	NPSH Required (ft water): 16
Pump Speed Range (rpm): 1,770 /	Max. Head (ft): 200	3% Head Drop
Efficiency (%): 80	Max. Power (BHP): 80	Suction Specific Speed:
Rated Power (BHP):		Factory Testing:
		☒ Required ☐ Not Required

Remarks:

Equipment Tag Number(s): P-10-5

PUMP CONSTRUCTION DETAILS (manufacturer to supply missing data)

Nozzles

	Size	Rating	Facing	Location
Suction	N/A			
Discharge	10”	125 lb	Flat	Discharge

Miscellaneous Connections

	Size	Location
Drain		
Vent		
Pres. Gauge		
Warm Up	1 ½”	Discharge

Casing Mount:

☒ Vertical Well

☐ Vertical Barrel

Max. Allowable Pressure (psig):

At 60°F: _____

At Norm. Pump. Temp.: _____

Pump Shaft Dia. (In.): _____

Column Size (In.): 10” Threaded

Lineshaft Type:

☒ Open ☐ Enclosed

Lineshaft Size (In.): 1 7/16" (min.).

Hydro Test Pressure (psig): _____

Field Testing: ☐ Not required

☒ Required, functional and performance

Impeller Type:

☐ Semiopen

☒ Open ☐ Closed

Impeller Diameter (in.):

Rated _____ Max _____ Min _____

Bowl Size (in.) 13.63

No. of Stages: 2

Packing Mfr: _____

Type _____

Size/No. Rings _____

API Class Code _____

Manufacturer _____

Model _____

Manufacturer Code _____

Bearings (Type/No.):

Bowl _____

Lineshaft _____ Pump Shaft _____

Intermediate _____ Guide _____

Head Shaft: _____

Lubrication Type:

☐ Grease ☒ Pre-Lube

☒ Pumped Liquid

Coupling:

Manufacturer _____

Type _____ Model _____

Driver Half-Coupling Mounted by:

☐ Pump Mfr. ☐ Driver Mfr.

☐ Purchaser

Gland Type/Material: _____

Gland Plate Taps Required:

☐ Quench ☐ Flush
☐ Drain ☐ Vent

MATERIALS (manufacturer to supply missing data)

Bowl: Cast Iron

Bowl Wear Rings: _____

Column: Steel

Remarks: _____

Impeller: Bronze

Impeller Wear Rings: _____

Bowl Bearing: _____

Head Shaft Bearing: _____

Lineshaft Bearing: Rubber

Shaft: 416 Stainless Steel

Shaft Sleeve: N/A

Discharge Head:

Type _____

Material Cast Iron

ADDITIONAL REQUIREMENTS

Sole Plate and Cone Suction Strainer shall be provided for each pump.

Column pipe length shall be 210 ft.

Provide pre-lubrication connection at discharge head that leads from discharge head to appropriate lubrication points at shaft

INDUCTION MOTOR DATA SHEET

Project: Rio Salado Environmental Restoration Project

Owner: City of Phoenix, Arizona

Equipment Name: Rio Salado Supply Well Pump 5

Equipment Tag Number(s): P-10-5

Type: Squirrel-cage induction meeting requirements of NEMA MG 1

Manufacturer: For multiple units of the same type of equipment, furnish motors and accessories of a single manufacturer

Hazardous Location: ☐ Furnish motors for hazardous (classified) locations that conform to UL 674 and have an applied UL listing mark

Motor Horsepower: 100

Voltage: 460

Phase: 3

Frequency: 60 Hz

Synchronous Speed: 1800 rpm

☐ Multispeed, Two-Speed:

_____ / _____ rpm

☐ Constant Horsepower

☒ Variable Torque

☐ Constant Torque

Winding: ☒ One ☐ Two

Guaranteed Minimum Efficiency at Full Load: _____ percent

Guaranteed Minimum Power Factor at Full Load: _____ percent

Service Factor (@ rated max. amb. temp.): ☐ 1.0 ☒ 1.15

Enclosure Type: _____

Mounting Type: ☐ Horizontal ☒ Vertical

☒ Vertical Shaft: ☐ Solid ☒ Hollow

☒ Vertical Thrust Capacity (lb): Up _____ Down _____.

☒ Adjustable Speed Drive: See Section 16485, ADJUSTABLE FREQUENCY DRIVE SYSTEMS.

Operating Speed Range: 100 to 70% of Rated Speed

☒ Thermal Protection: Thermistors

☒ Space Heater: 120 volts, single phase

☐ Oversize main terminal (conduit) box for motors

☒ Terminal for connection of equipment grounding wire in each terminal box

Additional Motor Requirements: ☒ See Section 16405, AC INDUCTION MOTORS.

Special Features: Motor shall be inverter duty.

PUMP DATA SHEET
SUPPLY WELL PUMPS NOS. P-10-6

Project: Rio Salado Environmental Restoration Project
Owner: City of Phoenix, Arizona
Service: Production Well Water Supply
Pump Name: Rio Salado Supply Well Pump 6
Equip. Tag Number(s): P-10-6

Pump Mfr.:
Size & Type:
No. Stages: 2
Serial No.:
Model No.:

No. Pumps Required: 1

Drive Type: ☒ Constant ☐ Adjustable

LIQUID	OPERATING CONDITIONS	SERVICE CONDITIONS
Name: Raw Well Water	Capacity (U.S. gpm):	Temp (°F): Max 125 Min 20
Pumping Temperature (°F):	Normal 1570 Rated .	Rel. Hum (%): Max 100 Min 30
Normal 75 Max 90 Min 68	Total Dynamic Head (ft): 140	Altitude (ft): 1070
Specific Gravity @ 68 °F: 1.0	Suction Lift (psig):	☐ Indoor ☐ Heated
Vapor Pressure (psia): 0.34	Max N/A Rated N/A	☒ Outdoor ☐ Unheated
Viscosity (CP) @ 68 °F: 1.0	Submergence (min. ft.):	Will Pump be Submerged?
pH: 6.5-8.0	NPSH Available (ft):	☒Yes ☐No
Corrosion/Erosion/Abrasion Caused by:		Area Classification: unclassified
Groundwater contaminants		Other:
Remarks:	Remarks:	Remarks:

PERFORMANCE REQUIREMENTS (manufacturer to supply missing data)

Proposal Curve No.:	Min. Continuous Flow (gpm):	NPSH Required (ft water): 16
Pump Speed Range (rpm): 1,770 /	Max. Head (ft): 200	3% Head Drop
Efficiency (%): 80 (min.)	Max. Power (BHP): 80	Suction Specific Speed:
Rated Power (BHP):		Factory Testing:
		☒Required ☐Not Required

Remarks:

Equipment Tag Number(s): P-10-6

PUMP CONSTRUCTION DETAILS (manufacturer to supply missing data)

Nozzles

	Size	Rating	Facing	Location
Suction	N/A			
Discharge	10”	125 lb	Flat	Discharge

Miscellaneous Connections

	Size	Location
Drain		
Vent		
Pres. Gauge		
Warm Up	1 1/2”	Discharge

Casing Mount:

☒ Vertical Well

☐ Vertical Barrel

Max. Allowable Pressure (psig):

At 60°F: _____

At Norm. Pump. Temp.: _____

Pump Shaft Dia. (In.): _____

Column Size (In.): 10” Threaded

Lineshaft Type:

☒ Open ☐ Enclosed

Lineshaft Size (In.): 1 7/16" (min.)

Hydro Test Pressure (psig): _____

Field Testing: ☐ Not required

☒ Required, functional and performance

Impeller Type:

☐ Semiopen

☒ Open ☐ Closed

Impeller Diameter (in.):

Rated _____ Max _____ Min _____

Bowl Size (in.) 13.63

No. of Stages: 2

Packing Mfr: _____

Type _____

Size/No. Rings _____

API Class Code _____

Manufacturer _____

Model _____

Manufacturer Code _____

Bearings (Type/No.):

Bowl _____

Lineshaft _____ Pump Shaft _____

Intermediate _____ Guide _____

Head Shaft: _____

Lubrication Type:

☐ Grease ☒ Pre-Lube

☒ Pumped Liquid

Coupling:

Manufacturer _____

Type _____ Model _____

Driver Half-Coupling Mounted by:

☐ Pump Mfr. ☐ Driver Mfr.

☐ Purchaser

Gland Type/Material: _____

Gland Plate Taps Required:

☐ Quench ☐ Flush

☐ Drain ☐ Vent

MATERIALS (manufacturer to supply missing data)

Bowl: Cast Iron

Bowl Wear Rings: _____

Column: Steel

Remarks: _____

Impeller: Bronze

Impeller Wear Rings: _____

Bowl Bearing: _____

Head Shaft Bearing: _____

Lineshaft Bearing: Rubber

Shaft: 416 Stainless Steel

Shaft Sleeve: N/A

Discharge Head:

Type _____

Material Cast Iron

ADDITIONAL REQUIREMENTS

Sole Plate and Cone Suction Strainer shall be provided for each pump.

Column pipe length shall be 210 ft.

Provide pre-lubrication connection at discharge head that leads from discharge head to appropriate lubrication points at shaft

INDUCTION MOTOR DATA SHEET

Project: Rio Salado Environmental Restoration Project

Owner: City of Phoenix, Arizona

Equipment Name: Rio Salado Supply Well Pump 6

Equipment Tag Number(s): P-10-6

Type: Squirrel-cage induction meeting requirements of NEMA MG 1

Manufacturer: For multiple units of the same type of equipment, furnish motors and accessories of a single manufacturer

Hazardous Location: ☐ Furnish motors for hazardous (classified) locations that conform to UL 674 and have an applied UL listing mark

Motor Horsepower: 100

Voltage: 460

Phase: 3

Frequency: 60 Hz

Synchronous Speed: 1800 rpm

☐ Multispeed, Two-Speed:

_____ / _____ rpm

☐ Constant Horsepower

☒ Variable Torque

☐ Constant Torque

Winding: ☒ One ☐ Two

Guaranteed Minimum Efficiency at Full Load: _____ percent

Guaranteed Minimum Power Factor at Full Load: _____ percent

Service Factor (@ rated max. amb. temp.): ☐ 1.0 ☒ 1.15

Enclosure Type: _____

Mounting Type: ☐ Horizontal ☒ Vertical

☒ Vertical Shaft: ☐ Solid ☒ Hollow

☒ Vertical Thrust Capacity (lb): Up _____ Down _____.

☐ Adjustable Speed Drive:

Operating Speed Range: 100 to 70% of Rated Speed

☒ Thermal Protection: Thermistors

☒ Space Heater: 120 volts, single phase

☐ Oversize main terminal (conduit) box for motors

☒ Terminal for connection of equipment grounding wire in each terminal box

Additional Motor Requirements: ☒ See Section 16405, AC INDUCTION MOTORS.

Special Features: