

BOARD OF SUPERVISORS AGENDA ITEM SUMMARY

Requested Board Meeting Date: June 17, 2014

ITEM SUMMARY, JUSTIFICATION and/or SPECIAL CONSIDERATIONS:

Amendment # 1 contract # CT-WW-13000000000000000830, WestLand Resources, Inc., Continental Ranch Regional Pump Station Upgrade Design, Funding source: RWRD Obligations, Administering Department: Regional Wastewater Reclamation Department.

On May 17, 2013 the Board approved a contract amount of \$300,000.00 for the design services required to bring the Continental Ranch Regional Pump Station up to current RWRD standards. This effort was to be completed in two phases, the first phase to be the validation of previous engineering studies relative to future flows and previously recommended facility upgrades. Unanticipated effort in flow analysis, equipment sizing, and odor control features was required during this validation phase. Additionally, this facility was lacking in RWRD standard security features and this design effort was the opportune time to include these features into the overall design. This amendment extends the contract expiration date by one-year, adds the required additional engineering design scope to the project, and increases the contract amount by \$421,628.00 to fund the engineering effort of this project through design and final construction.

Effective Date: June 17, 2014

Termination Date: June 30, 2016

Original Contract Amount: \$300,000.00

Previous Amendment(s): \$0.00

Previous Contract Amount: \$300,000.00

This Amount this Amendment: \$421,628.00

Revised Contract Amount: \$721,628.00

Project Manager: Noel Ortiz

Contract Officer: Jerome Rizzo, 724-3245
Procurement Department

Vendor is using a Social Security Number: No

AMS# CT-WW-13000000000000000830 Ver. 3

Please return to Harry Lewis.

Cont #	: CT-WW-1300830-01
Effective:	: 06-17-2014
Term	: 06-30-2016
Cost	: \$421,628.00
Rev	: \$
Tot	: \$421,628.00
NTE	: \$721,628.00
Timex	: Yes
Renewal:	: 03-01-2016
Term	: 06-30-2016

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To: COB - 6-4-14
Agenda 6-17-14
(1)

CLERK OF THE BOARD USE ONLY: BOS MTG. _____

ITEM No. _____

Procure Dept 06/02/14 PM 03:47

Vendor-1
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PIMA COUNTY REGIONAL WASTEWATER RECLAMATION DEPARTMENT

PROJECT: CONTINENTAL RANCH REGIONAL PUMP STATION UPGRADE DESIGN

CONSULTANT: WestLand Resources, Inc.

CONTRACT NO.: CT-WW-1300000000000000830

AMENDMENT NO.: One (1)

FUNDING: RWRD Obligations

CONTRACT

NO. CT-WW-1300000000000000830

AMENDMENT NO. 01

This number must appear on all invoices, correspondence and documents pertaining to this contract.

CONTRACT TERM: 05/07/2013 - 06/30/2015	ORIGINAL CONTRACT AMOUNT:	\$	300,000.00
TERMINATION PRIOR AMENDMENT: N/A	PRIOR AMENDMENT(S):	\$	-
TERMINATION THIS AMENDMENT: 06/30/2016	AMOUNT THIS AMENDMENT:	\$	421,628.00
	REVISED CONTRACT AMOUNT:	\$	721,628.00

CONTRACT AMENDMENT

WHEREAS, COUNTY and CONSULTANT have entered into the Contract referenced above; and

WHEREAS, the project design was to be accomplished in phases the first of which was a validation of various previous studies detailing facility deficiencies and recommendation of facility improvements; and

WHEREAS, as part of this first phase, unanticipated additional engineering work was required to validate current and future wastewater flows into the facility for the purpose of capacity sizing of pumps and a future force main sewer; and

WHEREAS, additional work relative to odor control at the facility was required; and

WHEREAS, as part of this project and in accordance with the RWRD Security Master Plan, COUNTY now wishes to incorporate required facility security improvements into this design process; and

WHEREAS, these security improvements are considered Critical Infrastructure Information (CII); and

WHEREAS, under a separate qualifications based selection process, Kimley-Horne and Associates, Inc. was selected the best qualified consultant to design all CII security improvements at RWRD sub-regional facilities; and

WHEREAS, COUNTY requires CONSULTANT to sub-contract Kimley-Horne and Associates, Inc. to design the required security improvements, and incorporate the security improvements into the overall design of the facility upgrades; and

WHEREAS, this first phase has been completed and the project can now move into the next phase of detail design of facility improvements; and

WHEREAS, given the additional engineering work required to bring this facility up to RWRD standards, the original funding for this contract is insufficient; and

WHEREAS, CONSULTANT has proposed pricing acceptable to COUNTY for these additional design services; and

WHEREAS, the parties agree to extend the term of the contract by one-year.

NOW, THEREFORE, it is agreed as follows:

ADD: To EXHIBIT "A": SCOPE OF WORK, ATTACHMENT 1 to EXHIBIT "A" (16 pages attached)

CHANGE: captioned AMOUNT:

From: NTE \$300,000.00

To: NTE \$721,628.00

CHANGE: ARTICLE I – TERM AND EXTENSION/RENEWAL/CHANGES, first paragraph:

From: "This Contract shall commence upon execution by the Pima County Board of Supervisors, and shall terminate on June 30,2015..."

To: "This Contract shall commence upon execution by the Pima County Board of Supervisors, and shall terminate on June 30,2016..."

CHANGE: ARTICLE III – COMPENSATION AND PAYMENT, first paragraph:

From: "In consideration of the services specified in this Contract, the COUNTY agrees to pay CONSULTANT Not To Exceed Three Hundred Thousand Dollars (\$300,000.00) during the term of the contract..."

To: "In consideration of the services specified in this Contract, the COUNTY agrees to pay CONSULTANT Not To Exceed Seven Hundred Twenty One Thousand Six Hundred Twenty Eight Dollars (\$721,628.00) during the term of the contract..."

This Amendment shall be effective on June 17, 2014.

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:

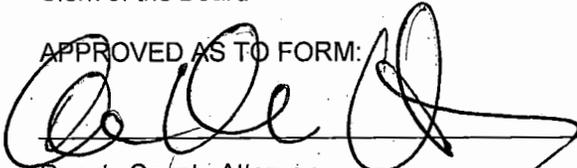
Chair, Board of Supervisors

Date

ATTEST:

Clerk of the Board

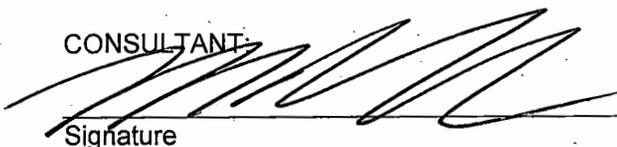
APPROVED AS TO FORM:


Deputy County Attorney
CHARLES WESSELHOFT

Name (Please Print)

Date

CONSULTANT:


Signature

Mark F. Taylor, Vice-President
Name and Title (Please Print)

5-28-14
Date



WestLand Resources, Inc.
Engineering and Environmental Consultants

January 20, 2014

Mr. Noel Ortiz
PIMA COUNTY REGIONAL WASTEWATER
RECLAMATION DEPARTMENT
3355 North Dodge Blvd
Tucson, Arizona 85716

**Re: CONTINENTAL RANCH REGIONAL PUMP STATION (CRRPS)
CHANGE ORDER REQUEST – SECURITY UPGRADES
WESTLAND PROJECT 1398.02 REVISED**

Dear Mr. Ortiz:

The following change order request is in conjunction with the security requirements at the Continental Ranch Regional Pump Station (CRRPS) upgrade project. Pima County Regional Wastewater Reclamation Department (PCRWRD) is currently upgrading the security of their facilities and planned to upgrade the security at the CRRPS. In an effort to consolidate projects at the CRRPS facility, it was requested that WestLand obtain Kimley-Horn and Associates (KH) as a subconsultant to provide design services for security upgrades at the CRRPS. Since WestLand and their subconsultants are completing the future design of the CRRPS, an effort was made to streamline the security design into the site upgrades so that all improvements/changes were made together to avoid any future conflicts, redundancy or difficulties.

WestLand has received a scope of work from KH which was reviewed by PCRWRD, WestLand and their electrical subconsultant, Richard Canney Engineering (RCE). The KH scope of work and fee (attached) requires some additional work to be completed by WestLand and RCE. This change order request includes the fee for KH and additional work associated with the security upgrades to the CRRPS by WestLand and RCE. The scope and fee provided by KH is \$81,103, which includes design, bidding services and construction administration services. The work to be provided by WestLand and RCE in relation to the security requirements are summarized below.

WestLand will attend meetings on the security design requirements with PCRWRD, KH and RCE. WestLand has worked with PCRWRD to determine layout options necessary and met to discuss those options. WestLand will review and process all invoices from KH and include them with our monthly billing report. WestLand will provide KH with any AutoCad base sheets required for their layout of the security system along with a copy of an aerial to be used for design layout purposes. WestLand will utilize existing PDFs for developing the base sheets.

The total fee for the additional tasks performed by WestLand is \$18,230 for Phase 2 services.

RCE will provide the following electrical designs in support of the security requirements. These items are based on the scope provided by KH:

- 120 volt panel to feed power to security system

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- uninterruptable power supply
- Engine-generator and automatic transfer switch (not exceeding 25kVA)

The fee for RCE for these services is \$3,000.

Table 1 provides an overview of tasks and associated fees with the security requirements:

Table 1. Additional Costs for Security Addition

Task	Fee	G & A Fee (10%)	Total
Kimley-Horn and Associates – Security	\$81,103	\$8,110	\$89,213
WestLand Resources, Inc. – Design and Administration services for Security.	\$18,230	N/A	\$18,230
Rick Canney Engineering – Electrical design in support of Security Requirements	\$3,000	\$300	\$3,300
Total Additional Work Pertaining to Security Requirements		Phase 2	\$110,743

In addition to the security efforts, WestLand attended additional meetings and performed additional work associated with determining flows that will be contributing to the CRRPS, which is required to size the pumps for the lift station upgrades. WestLand was supplied the original flow information by PCRWRD, then additional information was provided in an updated report completed by Presidio Engineering. WestLand combined the information for the flows provided by both sources and then verified it with an additional source (study completed for the Town of Marana) for projected flows in the area.

The flows were utilized to provide preliminary sizing of the future force main required to serve the lift station for ultimate flows. This information was required for sizing the future pumps. Once this information had been compared and evaluated, two meetings were held to discuss the flows and to select which areas are to be considered for the future and ultimate flows for the CRRPS.

There was also extra work regarding odor issues as they relate to the NFPA 820 requirements as odor control was not originally part of the scope. In addition, a meeting and associated work were required to discuss issues regarding the odor control at the CRRPS and how it is tied to the future flow management structure that WestLand has developed. Calculations were required for sizing the system to meet NFPA 820 codes as well as considerations for odors being released at the lift station.

The fee associated with the additional work for Phase 1 for the Validation Study is \$12,160.

The Phase 2 portion of the project is for design services. The original contract amount of \$300,000 was to cover the validation study plus design costs for the 2.55 million dollar construction budget set aside for the upgrades. Per discussions with PCRWRD, they are opting to perform all the upgrades outlined in the draft validation study which is estimated to cost \$5,017,871 (this excludes costs for the security improvements). In order to provide design costs, construction services, and record drawings for all the upgrades to be completed, additional design costs will need to be added to this contract. The additional cost for design services for the increased construction budget of \$2,467,871 is \$298,725.

The following table provides a summary of all of the additional costs provided in this Change Order:

Mr. Noel Ortiz
January 20, 2014
Page 3

Table 2. Combined Costs

Additional work for Validation Study - Phase 1	\$12,160
Subtotal	\$12,160
Costs for Security Requirements - Phase 2	\$110,743
Additional design and construction services- Phase 2	\$298,725
Total Change Order for Phases 1 & 2	\$421,628

The total additional costs for the security system design at the CRRPS, additional design and construction services costs, and additional work for the Validation Study is \$421,628.

Attached are revised cash flow projections and fee summaries for Phase 1 and Phase 2. Please note that on the revised cash flow projections, the base design fee for Phase 2 is shown as the remaining fee from the original contract with Phase 1 costs subtracted out (\$300,000 - \$72,838) or \$227,162 plus the additional costs for security design (\$110,743) and additional design and construction services (\$298,725) for a total of \$636,630 for Phase 2.

If you have any questions or require additional information, please do not hesitate to call.

Respectfully,
WestLand Resources, Inc.



Craig Cannizzaro, P.E.
Project Manager

CXC:dm

Attachments: Kimley-Horn Scope and Fee
Revised Cash Flow Projects and Fee Summaries

cc: Mark F. Taylor, P.E., WestLand Resources, Inc.

SCOPE OF SERVICES
(Rev. 12-03-13)

**CONTINENTAL RANCH REGIONAL PUMP STATION UPGRADE DESIGN
SECURITY IMPROVEMENTS**

PCRWRD CONTRACT NO.: CT WW 13000000000000000830

The following services are services to be provided by Kimley-Horn & Associates (Sub-consultant), to WestLand Resources, Inc (Consultant), for the Pima County Regional Wastewater Reclamation Department (Owner) under Contract Number CT WW 13000000000000000830 for the design of the following security improvements within the Continental Ranch Regional Pump Station (project site), also known as CRRPS. The project limits for this scope of services are defined within property lines / right-of-way of the project site.

SECTION 1 Background

Refer to Exhibit "A" – SCOPE OF WORK of the Consultant's contract

SECTION 2 Project Requirements

Section 2 is an attempt to compile all the known Owner requirements that have been identified at the time this scope of services was developed and documents the assumptions for which the Sub-consultants scope of services and fee estimate is based on. The Sub-consultant shall field verify the existing condition of the CRRPS and validate the requirements listed, and recommend additions to the list if warranted. After their evaluation the Consultant shall present to the Owner their final recommendations.

2.1 Security Improvements

2.1.1 Access Control

a. Card readers

- One Card reader shall be installed on an exterior pedestrian door of the main building.
- Card readers shall NOT be installed on large exterior doors (i.e., roll-up type doors)
- Card readers shall NOT be installed on interior building doors
- A card reader shall be installed at the main vehicle gate for accessing the to the CRRPS site
- Some card reader locations may be a card reader with keypad

b. Door Hardware

- New door hardware shall only be provided for building doors receiving new card readers
- New door hardware at the main vehicle gate (swing gate) shall be included, along with any necessary modifications/replacement of the main vehicle gate

c. Gate Operator (swing gate type)

- A gate operator (swing gate type) shall be added to the main vehicle gate to support the new card reader access approach.
- Two (2) new anti-entrapment vehicle detection loops shall be saw cut into the pavement
- One (1) new request to exit vehicle detection loops shall be saw cut into the pavement

d. Emergency Personnel Access

- An emergency vehicle preemption device shall be added per fire department requirements

- Two (2) Knox switch shall be added (1 at the main vehicle gate and 1 at the building main entrance)
- e. Card reader stanchion
- A light pole with integrated card reader stanchion shall be added to the non-secure side of the main vehicle gate
 - An area light fixture with built-in photo-control (day/night sensor) shall be added at the top of the light pole
 - Mounting brackets and cabling for the County Smart Pass system shall be added, but the Smart Pass device/antenna shall be provided by the County
 - The card reader stanchion shall be designed to include a telephone entry system, a card reader with keypad, a window view camera, and a Knox switch;
- f. System Monitoring & Control
- Integration with the Owners access control server is required
 - A security control panel (SCP) is required
 - A security auxiliary power (SAP) supply panel is required

2.1.2 Detection Devices

- a. Door Contacts
- Door contacts shall be installed on the exterior doors of the main building.
 - A door/gate contact shall be added on the main vehicle gate
- b. Request-to-Exit Detectors
- REX devices shall be provided on all building doors receiving card readers
- c. Perimeter Detection
- Site perimeter detection devices (i.e., thermal cameras w/ video analytics) are NOT required
- d. Tamper Switches
- Tamper switches are only required on the SCP and SAP

2.1.3 Video Surveillance System

- a. Cameras
- A window view camera shall be added as part of the card reader stanchion
 - License plate view/reader camera is NOT required
 - A minimum of two (2) outdoor general surveillance PTZ cameras are required
 - An outdoor fixed camera is required for each main building exterior door receiving a card reader
 - Two (2) indoor fixed cameras are required (1 for viewing the main building entryway and 1 for viewing the sump pump area)
- b. System Monitoring & Recording
- A detached storage device will be provided by the Owner
 - A network video recorder (NVR) server will be provided by the Owner

- Integration with the Owners Video Management System (VMS) server is required
- A security workstation within the CRRPS main building will be provided by the Owner

2.1.4 Electrical

a. Electrical Designs Included

- Conduit, pull boxes and conductor call-outs from the security devices identified above to an electrical panel designed by the Consultant (Westland Resources). A separate conduit and pull box system shall be designed by the Consultant
- Breaker quantity, sizes, and anticipated loads needed for the security devices identified above shall be provided to the Consultant by the Subconsultant

b. Electrical Designs NOT Included (i.e., all shall be designed by the Consultant)

- An electrical panel with breaker positions and capacity to support the security devices;
- A centralized UPS supporting/backing-up the electrical panel that the security devices are connected to;
- A back-up site generator and ATS;
- All electrical one-line diagrams and panel schedules/tables;
- All site lighting, except for the light fixture connected to the card reader stanchion pole; and
- All electrical project specifications.

2.1.5 Communications

a. Communications Designs Included

- Fiber Distribution Unit (also known as an LIU) and fiber cables to OSP camera junction boxes
- Ethernet cable cross connects / patch panels and Ethernet cables to security devices
- LAN Block Diagram identifying the Owner provided network switches, port assignments, and connections to the security devices. The security system shall have a separate/dedicated LAN, but will share the same router/WAN switch as the SCADA system.
- A security equipment cabinet to house the LIU, Patch Panels, network switches, NVR, and detached storage devices being provided for the security system shall be included.
- Conduit, pull boxes and cable call-outs from the security devices identified above to the SCP. A separate conduit and pull box system shall be provided by the Consultant.
- Conduit, pull boxes and cable call-outs from the security devices identified above to the Equipment Cabinet housing the WAN Router. A separate conduit and pull box system shall be provided by the Consultant.
- Project Specifications for the equipment included in this section (2.1.5, a.)

b. Communications Designs NOT Included (i.e., designed by others)

- Upgrading the WAN connection
- Network switches shall be provided by the Owner (i.e., specifications not required)
- All site communications designs/specifications that are not needed to support the security devices identified above.

SECTION 3 Scope of Work

3.1 General

All security improvements design work shall adhere to the PCRWRD Security Standards as established through the latest security improvement projects at Green Valley and Corona de Tucson WRF sites. The following functions shall be performed by the Sub-consultant throughout the performance of the Contract:

- a. **Project Management:** The Sub-consultant shall provide a Project Manager (Sub-consultant PM) who shall be in charge of all security design activities of the project. The Sub-consultant PM shall allocate the Sub-consultant's resources, coordinate all work with the RWRD Project Manager (RWRD PM) and Consultant's PM; as well as, establishes all internal staff responsibilities. The both the RWRD PM and the Consultant's PM shall serve as the Sub-consultant PM's primary points of contact.
- b. **Project Communication:** Project communication shall be conducted by e-mail or written correspondence to maintain a clear record of decision. The RWRD PM and Consultant's PM shall be copied on all e-mail correspondence with Owner staff. Only the Consultant's PM shall be copied on correspondence within the Consultant's design team.
- c. **Quality Assurance /Quality Control:** The Sub-consultant shall perform internal quality assurance and quality control (QA/QC) activities. The Sub-consultant shall identify the QA/QC Staff that shall provide guidance on project methodology and criteria, review of project deliverables, and shall perform checks of engineering calculations. QA/QC staff shall consist, as a minimum, an engineer experienced in security improvement planning and design, who are not otherwise involved in the day-to-day project activities.

3.2 Sub-consultant's Professional Services:

The following tasks define the Sub-consultant's scope of services to complete the project requirements as exhibited in Section 2 and in this scope of work. In performing these tasks for each phase, the Sub-consultant shall base its effort upon information provided by RWRD and the Consultant, information developed through structured consultation with RWRD and other County staff, other reliable sources, and the requirements of current RWRD security improvements engineering practice.

3.2.1 Phase – 1: Validate RWRD Requirements

TASK 1.0 MEETINGS & SCHEDULING

The Sub-consultant will not attend any meetings or perform any work related to Phase-1 Validate RWRD Requirements. The Sub-consultants effort related to validating RWRD security improvements requirements shall be performed as part of Phase-2 Design Report effort.

3.2.2 Phase – 2: CRRPS Final Design & Construction

The following tasks define the Sub-consultant's scope of services for the Phase 2 Final Design & Construction portion of work.

TASK 2.0 MEETINGS & SCHEDULING

Subtask 2.1 Progress Meetings, Invoices and Progress Reports

The Sub-consultant shall attend up to two (2) design progress meetings (one to discuss the security improvement design concept exhibits and one meeting to discuss the security improvements identified within the initial 90% design submittal) with the Consultant and RWRD to review the work progress and solicit comments and information. These meetings shall identify efforts and expectations for the remainder of the work. The Sub-consultant shall review the meeting minutes prepared by the Consultant and provide the Consultant with review comments that pertain to the Sub-consultants scope of work.

When the formal Design Submittals are due (the security improvement design concept exhibits and the initial 90% design submittal), Progress meetings shall also function as Submittal Review Meetings. At these progress meetings, following Sub-consultant delivery of draft task items and RWRD review, review comments shall be presented to the Sub-consultant and clarification on the review comments shall be provided by the RWRD reviewer upon request from the Sub-consultant. A formal RWRD Review Comment Transmittal shall be delivered to the Consultant by the RWRD PM and the Consultant shall forward these review comments to the Sub-consultant. The Sub-consultant shall in turn provide a written review comment responses addressing each review comment, pertaining to the Sub-consultants scope of work, to Consultant.

The Sub-consultant shall prepare progress reports for each invoice period, summarizing the primary work accomplishments of the Sub-consultant for the invoice period. Sub-consultant's invoices and progress reports shall be sent electronically to the Consultant on a monthly basis, via email. The Consultant shall pay invoice amounts within 60 days of the date that the invoice is received. Any amounts not paid within this time period shall start to accrue a 1.5% per month carrying charge until the invoice amount and carrying charges are paid in full.

Deliverable 2.1: The Sub-consultant shall prepare Invoices with Progress Reports on a monthly basis.

Subtask 2.2: Scheduling

The Consultant shall provide the Sub-consultant with the RWRD agreed to project schedule; as well as, any subsequent agreed to schedule updates.

Deliverable 2.2: No Sub-consultant deliverable

TASK 3.0 DESIGN REPORT

Subtask 3.1 Design Report

The Sub-consultant shall prepare security improvement design concept exhibits that, when finalized, shall be inserted into an Appendix section of the Final Validation Study/Design Report that the Consultant is providing to the Owner.

The Sub-consultant shall prepare draft design concept exhibits for the Owner to review and comment on. Based upon comments received by the Owner and agreed to comment resolutions, at the Security Design Concepts review meeting with the Owner, the Sub-consultant shall prepare Final Security Design Concept Exhibits.

These design concept exhibits shall consist of the following two exhibits: 1) A general surveillance camera exhibit documenting the number of desired general surveillance PTZ camera, proposed camera mounting locations, camera PTZ coverage area obtained, and proposed home position recorded

coverage area provided; 2) An access control device layout exhibit(s) documenting the desired card reader, door contact, and fixed camera locations within the project site.

Deliverable 3.1: Draft and Final Security Improvements Design Concept Exhibits.

TASK 4.0 FINAL DESIGN

General Design Documentation Requirements

1. Submittals Log: The Sub-consultant shall comply with the Consultant's Submittals Log procedure, as necessary for the security improvement design concept exhibits and the initial 90% design submittal.

2. Agencies/Utilities Coordination and Review: The Sub-consultant shall coordinate the security improvement Construction Documents with the Owner requirements and the Consultant's schedule. The Consultant shall perform all necessary coordination with the Utilities and the Sub-consultant shall provide the Consultant with the utility needs of the Security Improvements, including: 1) electrical circuit and load needs of the security systems; and 2) the communications needs of the security system (telephone and/or WAN connectivity needs).

3. Construction Plan: The Sub-consultant provided Construction Plans shall be as follows:

- A. The sheets shall be thirty-six (36) inches wide by twenty-four (24) inches long.
- B. They shall have the standard Pima County RWRD Logo, and project number along the right margin.

C. The Sub-consultants plan sheets shall be identified as Electrical/Security and sheet numbers will start with ES-001.

D. The Sub-consultants plan sheets shall include the following sheets:

ES-001 - Electrical/Security Legend, Abbreviations, and Notes.

ES-100 - Electrical/Security PTZ CCTV Layout Coverage Plan

ES-150 - Electrical/Security WAN Block Diagram

ES-151 - Electrical/Security LAN Block Diagram with switch port assignments

ES-152 - Electrical/Security Access Control Riser Diagram

ES-153 - Electrical/Security CCTV Riser Diagram

ES-200 - Electrical/Security Building Floor Plans (up to 3 floor plans anticipated)

ES-300 - Electrical/Security Site Plan

ES-400 - Electrical/Security Access Control Device Installation Details (up to 3 sheets of details anticipated)

ES-410 - Electrical/Security Card Reader Stanchion and Foundation Installation Detail sheet

ES-420 - Electrical/Security Camera, Camera Pole and Foundation Installation Details (up to 2 sheets of details anticipated)

ES-430 - Electrical/Security Pull Boxes and Conduit Trench Installation Details (up to 4 sheets of details anticipated)

ES-440 - Electrical/Security Swing Gate, Gate Operator and Loops Installation Details (up to 3 sheets of details anticipated)

ES-500 - Electrical/Security Pole Schedule

ES-501 - Electrical/Security Conduit and Conductor Schedules (up to 3 sheets of tables anticipated)

E. The notes on the plans shall clearly state that all areas disturbed during construction shall be restored in compliance with the Pima County Grading Policy and prevailing NPPO.

4. Construction Specifications: The Sub-consultant shall prepare the following Construction Specifications:

DIVISION 28 – ELECTRONIC SAFETY AND SECURITY

<u>Document</u>	<u>Title</u>
28 08 00	Commissioning of Electronic Security Systems
28 10 00	Electronic Access Control and Intrusion Detection
28 23 00	Video Surveillance

Subtask 4.1 Thirty Percent (30%) Design Submittal

Not included within the Sub-consultants scope of work.

Subtask 4.2 Sixty Percent (60%) Design Submittal

Not included within the Sub-consultants scope of work.

Subtask 4.3 Ninety Percent (90%) Design Submittal

The Sub-consultant shall attend up to two (2) 90% design plan review meetings with the Consultant and Owner to review the direction of the project design at the 90% completion level. The meeting will be to discuss all design items and approaches for the improvements to the CRRPS with RWRD. All discussion and decisions from the meeting will be documented in minutes prepared by the Consultant. The Sub-consultant will review and provide input to the meeting minutes, as it relates to the Sub-consultants security design scope of work. This task includes the following for the security design portions of work:

1. Finalized Opinion of Probable Construction Cost in electronic format to the Consultant
2. 90% Design Drawings, in electronic format to the Consultant, shall be stamped "Preliminary, not for Construction"
3. 90% Project Specifications, in electronic format to the Consultant, shall be stamped "Preliminary, not for Construction."
3. Proposed comment resolutions for Owner comments, as documented in the Owner Review Meeting minutes.

(The Sub-consultant shall assume two (2) RWRD review cycle for all items in this phase and is not to proceed to the final design until RWRD approves the 90% design)

Subtask 4.4 Final Design Submittal

The Sub-consultant shall provide the following for the security design portions of work:

1. One (1) set of Completed Design Drawings, on mylar, to the Consultant.
3. Completed Design Drawings and Specifications, in electronic format, to the Consultant.

TASK 5.0 ENGINEERING SERVICES DURING CONSTRUCTION

Subtask 5.1 Construction Progress Meetings

The Sub-consultant shall attend up to five (5) Construction Progress meetings, as directed by the Consultant.

Subtask 5.2 Submittal Review

The Sub-consultant shall review the Contractors material submittals for the following project specification sections:

<u>Document</u>	<u>Title</u>
28 10 00	Electronic Access Control and Intrusion Detection
28 23 00	Video Surveillance

It is assumed that the Contractor will provide one (1) complete material submittal for each of the above project specification sections. This scope of services is limited to two (2) review cycles (i.e., initial submittal review and a revised submittal review) per each project specification section being reviewed.

Subtask 5.3 Request for Information/Revisions

The Sub-consultant shall provide assistance responding to Contractor's written requests for information (RFI) as that pertain to the Sub-consultants security design. Up to four (4) RFI responses (a maximum of 4 hours each) are included within this scope of work.

Subtask 5.4 Construction Inspections and Testing

The Sub-consultant shall provide up to three (3) site visits to observe the general progress of the security systems installation work.

The Sub-consultant shall provide up to four (4) hours reviewing/responding to Contractor's proposed acceptance testing procedures.

The Sub-consultant shall provide up to two (2) site visits to witness Contractor acceptance testing of the security systems.

TASK 6.0 ENGINEER OF RECORD AND RECORD DRAWINGS (AS BUILTS)

The Sub-consultant shall provide up to one (1) site visit to compare the Contractor provided As-Built red-lines for general conformance with what is observed at the site.

The Sub-consultant will develop the Record Drawings for the security work elements, based on Contractor provided as-builts. The Sub-consultant will provide one (1) hard copy of the Record Drawing, on 11x17 bond paper, and one (1) electronic copy of the record drawings.

SECURITY IMPROVEMENTS DESIGN - HOURS ESTIMATE

Firm: **Kimley-Horn and Associates, Inc.**
 Project: **Continental Ranch Regional Pump Station**

Date: **12/3/2013**
 Contract No. **13000000000000000830**

Task Description	Principal	Sr. Project Manager	Sr. EE / Systems Engineer	Senior Engineer	EE / Systems Engineer	Professional / Engineer	Jr. EE / Systems Engineer	Junior Engineer	Administrator / Junior Professional	Sr. Technical Support	Technical Support	Support Staff
Project Management												
1.0 – Monthly Reports and Invoicing												
Identify tasks completed vs. Budget- Monthly (9 months assumed)			9.0									
Tasks forecast - Monthly (9 months assumed)			9.0									
Prepare and submit invoices - monthly (18 months assumed)			18.0						18.0			
1.2 – Kickoff Meeting												
NO KICK-OFF MEETING INCLUDED												
Subtotal Project Management =	0.0	36.0	0.0	0.0	0.0	0.0	0.0	0.0	18.0	0.0	0.0	0.0
Task 3.0 – Design Concepts												
3.0 – Design Concepts General												
Site visit to gather information about the general effectiveness of the proposed security measurers												
Draft Security Design Concept Floor Plan Figures			3.0		3.0							
Develop draft CCTV Coverage figure			1.0		1.0					1.0		
Identify individual items of work to be estimated			1.0		3.0					1.0		
Contact vendors & contractors to generate estimated cost of each item of work identified			1.0		1.0		1.0	1.0	1.0			
Estimate unit quantities based on draft Design Concept figurers					1.0							
Develop draft Opinion of Probable Cost					1.0							
3.1 – Draft Design Concept Documents												
Produce internal QC set of Design Concept Figurers					1.0					1.0		
Pre-submittal internal QC review			1.0									
Address internal QC review Comments & back check changes			1.0		1.0							
Product PC RWRD Design Concept Figurers Submittal					0.5					0.5		1.0
Internal QC review of draft Opinion of Probable Cost			1.0									
Address internal QC review Comments & back check changes					0.5							
3.2 – Owner Design Concept Review												
Gather Owner comments from each of the Owners and put them into a comment resolution form					1.0				2.0			
Internal meeting to develop draft dispositions for each Owner comment			1.0		1.0							
Comment resolution meeting with the Owner			2.0		2.0							
Document agreed to comment resolutions on the comment resolution form and submit to Owner for concurrence			0.5		0.5							
3.3 – Final Design Concepts Documents												
Produce internal QC set of Design Concept Figurers					1.0					1.0		
Pre-submittal internal QC review			1.0									
Address internal QC review Comments & back check changes			0.5		0.5							
Produce FINAL Design Concept Figurers for Submittal					0.5					0.5		
3.4 – Base Plans Preparation												
Gather CADD base files, set-up CADD layer structure, and cut sheets								4.0		4.0		
Perform minor modification to CADD base files to reflect current site conditions			1.0		1.0					4.0		
Subtotal Task 3.0 – Design Concepts =	0.0	0.0	16.0	0.0	20.5	0.0	1.0	5.0	3.0	13.0	0.0	1.0
Task 4.0 – Final Design												
Design Development — 30% Submittal Development (NOT INCLUDED)												
Submit 30% level Review Package (NOT INCLUDED)												
30% Owner review (NOT INCLUDED)												
Design Development — 60% Submittal Development (NOT INCLUDED)												
Submit 60% DD Review Package (NOT INCLUDED)												
60% Owner review (NOT INCLUDED)												
90% Submittal Development												
Site visit to gather information about the accuracy of as-builts			3.0		3.0							
90% Specifications - 28 08 00 Commissioning of Electronic Security Systems			4.0									
90% Specifications - 28 10 00 Electronic Access Control and Intrusion Detection			8.0		8.0							
90% Specifications - 28 23 00 Video Surveillance			8.0		8.0							

Task Description	Principal	Sr. Project Manager	Sr. EE / Systems Engineer	Senior Engineer	EE / Systems Engineer	Professional / Engineer	Jr. EE / Systems Engineer	Junior Engineer	Administrator / Junior Professional	Sr. Technical Support	Technical Support	Support Staff
90% level Security Legend, Abbreviations, and Notes sheet			0.5							1.0		
90% level Security PTZ CCTV Layout Coverage Plan sheet			1.0		1.0					2.0		
90% level Security Wide Area Network Connectivity Block Diagram sheet					1.0					0.5		
90% level Security Local Area Network Connectivity Block Diagram sheet					1.0					1.0		
90% level Access Control Riser Diagram sheet					1.0					0.5		
90% level CCTV Riser Diagram sheet					1.0					0.5		
90% level Security Building Floor Plans (up to 3 floor plans anticipated)					1.0					0.5		
90% level Security Security Site Plan sheet			1.0		3.0					3.0		
Site visit to identify installation location details			3.0		3.0							
90% level Security Access Control Device Installation Details					1.0					1.0		
90% level Security Card Reader Stanchion and Foundation Installation Detail sheet					0.5					0.5		
90% level Security Camera, Camera Pole and Foundation Installation Details					0.5					0.5		
90% level Security Pull Boxes and Conduit Trench Installation Details					0.5					0.5		
90% level Security Swing Gate, Gate Operator and Loops Installation Details			1.0	3.0	2.0	2.0	2.0			3.0		
90% level Security Pole Schedule					0.5					0.5		
90% level Security Conduit and Conductor Schedules					4.0					4.0		
90% level conduit routing to the plans					1.0					1.0		
Estimate unit quantities based on 90% preliminary plans					1.0		2.0					
Develop draft Opinion of Probable Cost					0.5		0.5					
Identify and Provide Electrical Power Load Requirements to Electrical Designer					2.0		2.0					
90% door and hardware schedule				2.0		2.0			2.0			
Submit 90% DD Review Package												
Site visit to QC preliminary plans			3.0		3.0							
Produce internal QC set of Plans					2.0					2.0		
Pre-submittal internal QC review		3.0										
Address internal QC review Comments & back check changes			1.0		2.0					2.0		
Product PC RWRD 90% level Plans Submittal			0.5		0.5					1.0		
Internal QC review of draft Opinion of Probable Cost			0.5									
Address internal QC review Comments & back check changes			0.5		0.5		0.5					
Product PC RWRD 90% Opinion of Probable Cost Submittal			0.5		0.5							
90% Owner review												
Gather Owner comments from each of the Owners and put them into a comment resolution form		1.0							1.0			
Internal meeting to develop draft dispositions for each Owner comment			1.0		1.0							
Comment resolution meeting with the Owner			2.0		2.0							
Document agreed to comment resolutions on the comment resolution form and submit to Owner for concurrence			0.5		0.5				0.5			
Update 90% Plans Based on Owner Review Comments												
Update 90% Plans Based on Owner Review Comments			2.0	2.0	2.0	2.0	4.0	4.0		4.0		
Produce internal QC set of Plans					2.0					2.0		
Pre-submittal internal QC review		3.0										
Address internal QC review Comments & back check changes			1.0		2.0					2.0		
Product 2nd 90% level Plans Submittal			0.5		0.5					1.0		
Internal QC review of draft Opinion of Probable Cost			0.5									
Address internal QC review Comments & back check changes			0.5		0.5		0.5					
Product 2nd 90% Opinion of Probable Cost Submittal			0.5		0.5							
2nd 90% Submittal Owner review												
Gather Owner comments from each of the Owners and put them into a comment resolution form		1.0							1.0			
Internal meeting to develop draft dispositions for each Owner comment			1.0		1.0							
Comment resolution meeting with the Owner			2.0		2.0							
Document agreed to comment resolutions on the comment resolution form and submit to Owner for concurrence			0.5		0.5				0.5			
Submit Contract Documents												
Final Seal Review of contract documents			3.0									1.0
Address seal review comments					1.0		1.0	1.0				
Produce final bid set of construction documents		1.0										2.0
4.6 - Bid Assistance												
No Bid Assistance Included												
Subtotal Task 4.0 - Final Design =	0.0	9.0	50.5	7.0	68.5	6.0	12.5	6.0	5.0	34.0	0.0	3.0
Task 5.0 - Construction Administration Services												
5.1 - Construction Progress Meetings												
Attend construction progress meetings (Up to 5 meetings included)			15.0	15.0								

Task Description	Principal	Sr. Project Manager	Sr. EE / Systems Engineer	Senior Engineer	EE / Systems Engineer	Professional / Engineer	Jr. EE / Systems Engineer	Junior Engineer	Administrator / Junior Professional	Sr. Technical Support	Technical Support	Support Staff
5.2 - Submittal review and construction administration services												
Review of the submittals (2 submittal packages assumed)			10.0		20.0							
Review of shop drawings (3 shop drawings assumed)			8.0		8.0							
Respond to contractor RFIs (4 RFIs assumed)			8.0		8.0							
Review Acceptance Testing procedures			4.0									
Final Acceptance Testing - Access Control System (1 - site visit)			3.0				3.0					
Final Acceptance Testing - CCTV (1 - site visit)			3.0				3.0					
5.4 - Site Observation												
3 site visits to observe the general progress of the security systems installation work			9.0									
Develop Site Observation Reports (3 assumed)			3.0									
Subtotal Task 5.0 – Construction Administration Services =	0.0	0.0	61.0	15.0	34.0	0.0	6.0	0.0	0.0	0.0	0.0	0.0
Task 6.0 – Engineer of Record and Record Drawings												
1 Site Visit to review Contractor provided As-Builts			3.0		3.0							
Develop Record Drawings, based on Contractor As-Builts					1.0					3.0		
Seal Review of Record Drawings (CRRPS)			2.0									
Subtotal Task 6.0 – Engineer of Record and Record Drawings =	0.0	0.0	5.0	0.0	4.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0
Total Basic Services Hours	0.0	45.0	131.5	22.0	127.0	6.0	19.5	10.0	26.0	50.0	0.0	4.0

SECURITY IMPROVEMENTS DESIGN

BUDGET ESTIMATE SUMMARY

Project: Continental Ranch Regional Pump Station

Contract No. 1300000000000000830

BASIC SERVICES

Estimated Staff Hours

Task Description	Estimated Staff Hours												TOTAL COST
	Principal	Sr. Project Manager	Sr. EE / Systems Engineer	Senior Engineer	EE / Systems Engineer	Professional / Engineer	Jr. EE / Systems Engineer	Junior Engineer	Administrator / Junior Professional	Sr. Technical Support	Technical Support	Support Staff	
Project Management	0.0	36.0	0.0	0.0	0.0	0.0	0.0	0.0	18.0	0.0	0.0	0.0	\$ 9,997
Task 3.0 – Design Concepts	0.0	0.0	15.0	0.0	20.5	0.0	1.0	5.0	3.0	13.0	0.0	1.0	\$ 9,668
Task 4.0 – Final Design	0.0	9.0	50.5	7.0	68.5	6.0	12.5	5.0	5.0	34.0	0.0	3.0	\$ 34,928
Task 5.0 – Construction Administration Services	0.0	0.0	61.0	15.0	34.0	0.0	6.0	0.0	0.0	0.0	0.0	0.0	\$ 23,215
Task 6.0 – Engineer of Record and Record Drawings	0.0	0.0	5.0	0.0	4.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0	\$ 2,184
Total Hours =	0.0	45.0	131.5	22.0	127.0	6.0	19.5	10.0	26.0	50.0	0.0	4.0	441.0
Labor Hourly Rates =>	\$248.23	\$228.04	\$218.45	\$198.59	\$178.72	\$148.93	\$139.02	\$115.85	\$99.29	\$125.78	\$91.02	\$76.13	
Labor Cost = \$	\$ -	\$ 10,262	\$ 28,726	\$ 4,369	\$ 22,697	\$ 894	\$ 2,711	\$ 1,159	\$ 2,582	\$ 6,289	\$ -	\$ 305	\$ 79,992
													Total Labor Cost = \$ 79,992
													Direct Cost of Reproductions & Courier = \$ 89
													Direct Cost of Traveling Expenses (Original Contract Amount Should be sufficient to cover additional sites, so no additional cost added) = \$ 1,022
													TOTAL BASIC SERVICES = \$ 81,103

TOTAL BUDGET (Lump Sum) = \$ 81,103

Date: December 3, 2013