



**PURCHASING ITEM  
FOR  
COUNCIL AGENDA  
Memo No. CP16-194**

**1. Agenda Item Number:** # 11  
**2. Council Meeting Date:** April 14, 2016

**TO: MAYOR & COUNCIL**

**3. Date Prepared:** March 29, 2016

**THROUGH: CITY MANAGER**

**4. Requesting Department:** Airport

**5. SUBJECT:** Project Agreement with Dibble Engineering for Design Services for the Airport Storm Drainage and Grading Improvements

**6. RECOMMENDATION:** Staff recommends that City Council award a project agreement to Dibble Engineering for Design Services for Airport Storm Drainage & Grading Improvements Project AI1607.201, pursuant to Annual Airport Facilities & Infrastructure Design Services Contract No. EN1005.101, in an amount not to exceed \$181,718.

**7. BACKGROUND/DISCUSSION:** This project improves the Runway and Taxiway Safety Areas to meet FAA grading and drainage criteria; mitigates storm water runoff to eliminate ponding in the subject areas per the Airport Storm Drain Master Plan; and anticipates future airfield improvements to minimize reconstruction including sizing drainage structures appropriately and performing earthwork/grading. Ninety percent of project costs will be funded by an Arizona Department of Transportation airport improvement grant.

Dibble Engineering and its sub-consultants shall prepare studies, design plans, special provisions, specifications, quantities, cost estimating, and bid assistance services for the construction of grading and drainage improvements for "Storm Water Management Area 2" at Chandler Municipal Airport as identified in the 2005 Airport Storm Drain Master Plan and the Airport's Capital Improvement Program. "Area 2" encompasses the majority of the airfield generally bounded by Taxiways 'H', 'Q', 'A' and 'C' as indicated in the Location Map

A Contract Amendment with Dibble Engineering, pursuant to Annual Contract EN1005.101, to increase the annual limit of the annual Contract from \$325,000 to \$550,000 is also scheduled for this Council meeting.

**8. EVALUATION:** This project is being performed under the On-call Airport Facilities and Infrastructure Design Services Contract No. EN1005.101, to Dibble Engineering. The project costs proposal has been evaluated by Staff and is determined to be reasonable. The contract completion time is 210 calendar days following Notice to Proceed.

**9. FINANCIAL IMPLICATIONS:**

Cost: \$181,718.00

Savings:

Long Term Costs:

Fund Source:

<u>Account No.:</u>	<u>Fund Name:</u>	<u>Program Name:</u>	<u>CIP Funded:</u>	<u>Amount:</u>
417.4110.6910.0.6AI713	Airport Capital Grant	Airport Storm Drainage & Grading Improvements	Yes	\$163,546.20
635.4110.6910.0.6AI712	Airport Capital	Airport Storm Drainage & Grading Improvements	Yes	\$18,171.80

**10. PROPOSED MOTION:** Move that City Council award a project agreement to Dibble Engineering, for the Design Services for Airport Storm Drainage and Grading Improvements Project AI1607.201, pursuant to On-call Airport Facilities and Infrastructure Design Services Contract No. EN1005.101, in an amount not to exceed \$181,718.00.

**ATTACHMENTS:** Location Map, Project Agreement

**APPROVALS**

**11. Requesting Department**

Chris Andres, Airport Administrator

**13. Department Head**

Marsha Reed, Assistant City Manager

**12. Transportation & Development**

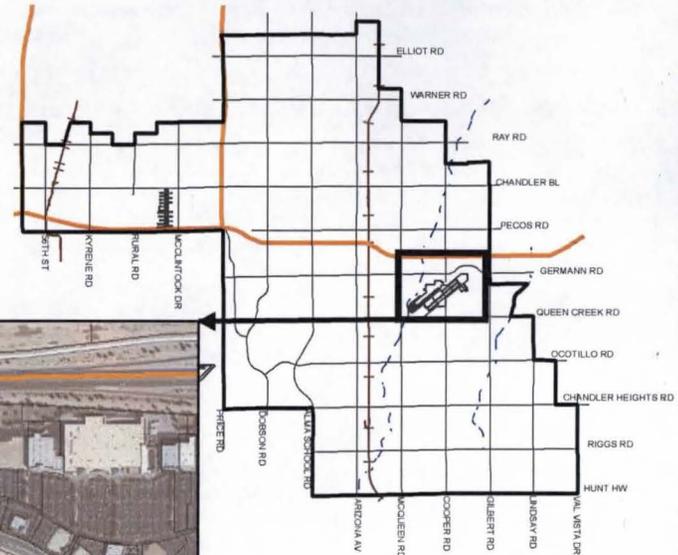
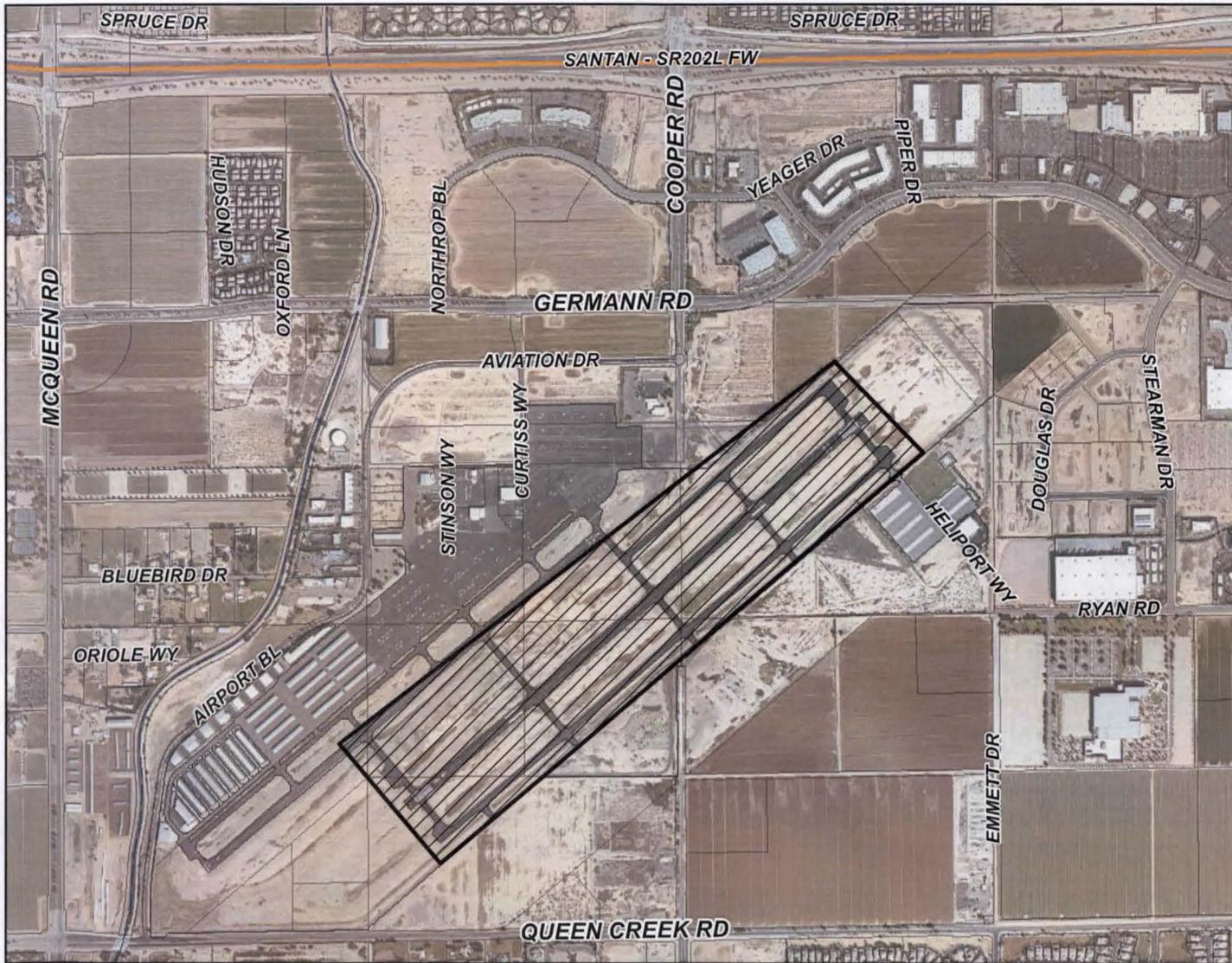
Bob Fortier, Capital Projects Manager

**14. Acting City Manager**

Marsha Reed



# AIRPORT STORM DRAINAGE AND GRADING IMPROVEMENTS PROJECT NO. AI1607.201



MEMO NO. CP16-194

 PROJECT SITE



**PROJECT AGREEMENT  
PURSUANT TO ANNUAL CONTRACT NO. EN1005.101**

**PROJECT AGREEMENT NO: AI1607.201**

This PROJECT AGREEMENT is made this \_\_\_\_ day of \_\_\_\_\_, 2016, by and between the City of Chandler, a municipal corporation (hereinafter referred to as "CITY") and Dibble & Associates Consulting Engineers, Inc. an Arizona corporation doing business as Dibble Engineering, Inc., (hereinafter referred to as "Annual Consultant") and is a project agreement entered into pursuant to Annual Contract No. EN1005.101.

CITY and Dibble Engineering, in consideration of the mutual covenants herein set forth, agree as follows:

**ARTICLE 1 - DESCRIPTION OF WORK:**

This project is Airport Storm Drainage and Grading Improvements, Project Number AI1607.201. The scope of work consists of preparing studies, design plans, special provisions, specifications, quantities, cost estimating, and bid assistance services for the construction of grading and drainage improvements for Storm Water Management Area 2 at Chandler Municipal Airport, all as more particularly set forth in Exhibit A attached hereto and incorporated herein by reference.

The Annual Consultant shall not accept any change of scope, or change in contract provisions, unless issued in writing, as a contract amendment and signed by the Contract Administrator.

**ARTICLE 2 - CONTRACT PRICE:**

CITY shall pay Annual Consultant for completion of the Work in accordance with the Contract Documents a fee not to exceed One Hundred Eighty One Thousand Seven Hundred Eighteen Dollars (\$181,718) determined and payable as set forth in Annual Contract EN1005.101 and Exhibit B attached hereto and made a part hereof by reference.

**ARTICLE 3 - CONTRACT TIME:**

The contract time is Two Hundred Ten calendar days and Annual Consultant agrees to complete all work within Two Hundred Ten (210) calendar days of the date CITY issues a Notice to Proceed.

**ARTICLE 4 – GENERAL:**

This Project Agreement is entered into pursuant to Annual Contract No. EN1005.101 and the terms and conditions contained therein are incorporated herein by reference as if set forth in full.

IN WITNESS WHEREOF, the parties hereto have executed this Project Agreement on the day and year first written above.

This Project Agreement will be effective on this \_\_\_\_\_ day of \_\_\_\_\_, 2016.

CITY OF CHANDLER

FOR THE ANNUAL:

\_\_\_\_\_  
MAYOR DATE:

By: Steven E. Rex  
Title: COO

ADDRESS FOR NOTICE  
City of Chandler  
P.O. Box 4008, Mail Stop 407  
Chandler, AZ 85244-4008  
480-782-3307

ADDRESS FOR NOTICE  
Mr. Steve Rex  
Dibble Engineering  
7500 N. Dreamy Draw Dr., Ste. 200  
Phoenix, AZ 85020

APPROVED AS TO FORM:

Phone: 602-957-1155

\_\_\_\_\_  
City Attorney By: [Signature]

ATTEST:

\_\_\_\_\_  
City Clerk

## EXHIBIT A SCOPE OF WORK

ANNUAL CONSULTANT, in conjunction with its subconsultants, shall prepare studies, design plans, special provisions, specifications, quantities, cost estimating, and bid assistance services for the construction of grading and drainage improvements for "Storm Water Management Area 2" at Chandler Municipal Airport as identified in the 2005 Airport Storm Drain Master Plan and the Airport's Capital Improvement Program. Area 2 encompasses the majority of the Air Operations Area generally bounded by Taxiway 'H' on the west, Taxiway 'Q' on the east, Taxiway 'A' on the north, and Taxiway 'C' on the south – as shown in Exhibit (Figure 10) from the Airport Storm Drain Master Plan.

This project is intended to address the following items in accordance with FAA Standards and the Airport Storm Drain Master Plan:

1. Verify existing conditions and improve the Runway and Taxiway Safety Areas (RSA's/TSA's) to meet FAA grading and drainage criteria for Safety Areas;
2. Mitigate, through various improvements in the project area, the storm water runoff such that no ponding water remains in the subject area(s) after 36 hours of a 100-year, 2-hour storm;
3. Anticipate future improvements so that re-work/reconstruction is minimized to the extent possible. This includes sizing drainage structures appropriately and including earthwork/grading for anticipated on-airfield improvements (such as the future Taxiway 'B' extension).

ANNUAL CONSULTANT shall provide the following specific services for this project:

### A. Data Collection

1. Record Information: Gather and review all available as-built drawings, utility drawings, design drawings, studies, reports and plans relevant to the project.
2. Site Visit: Perform a site visit with Airport staff in order to verify existing conditions and features, key constraints, and areas of noticeable or significant concern that may require additional considerations.

### B. Topographical Survey & Utility Mapping (Allowance)

1. This item is provided to supplement the topographic survey that ANNUAL CONSULTANT may already have from completing various projects at Chandler Municipal Airport. Supplemental survey may be ground topographic or aerial mapping, or a combination of both.
  - a. Topographic Survey: If topographic survey is required and performed, the survey will be based on existing City of Chandler Vertical Datum (NAVD 88) based on Chandler Benchmarks #40A, 41A, 42 and existing Airport control. For horizontal control, Dibble will use the Arizona State Plane Coordinate System, Central Zone, US Survey feet with a Combined Scale Factor of 0.9998468 to facilitate the topographic survey effort. Global Positioning Systems (GPS), conventional and differential leveling will all be utilized to establish any required temporary control. Mapping shall be published at ground values.

All topographic features will be located with an accuracy of 0.05' ( $\pm$ ), with a confidence rating of 95%.

No new permanent control will be established with this project. The survey will include horizontal and vertical locations of existing pavements, facilities, utilities and manhole invert elevations impacted by this project. A 50-foot grid will be utilized for interior shots to assist with grade control during design. All existing storm drain manholes and inlets will be opened, pipe sizes confirmed and invert flow lines measured, compared and confirmed from record drawings.

- b. Aerial Mapping: Any aerial photogrammetry requested will be provided by Kenney Aerial Mapping, Inc. for the general project area for the purposes of mass earthwork and grading design. Aerial photogrammetry will be provided at no more than a 0.5-foot contour interval. ANNUAL CONSULTANT will set aerial targets to facilitate the aerial mapping.
2. Base Mapping: ANNUAL CONSULTANT will gather and review available as-built drawings, utility drawings, design drawings, studies, reports and past projects relevant to the project. Utility information relevant to this project will be evaluated and included as needed.

A base map shall be drawn in AutoCad Civil 3D 2013 showing all visible existing features and utilities based on field observations and available record data.

### **C. Geotechnical Investigations (Allowance – Speedie & Associates)**

1. Geotechnical Investigations & Earthwork Recommendations: Depending on the location and extents of the proposed grading improvements, perform geotechnical borings in the proposed excavation and embankment areas to confirm existing soil conditions and provide recommendations for earthwork specifications/requirements.
2. Existing Pavement Investigations: Where new culverts will cross existing pavement(s), perform pavement coring and subsurface investigations to confirm pavement thickness and section materials.

### **D. Environmental Coordination and Species Investigations (SWCA Environmental Consultants)**

The proposed project area includes known habitats for burrowing owls, a species protected by the Migratory Bird Treaty Act.

1. Categorical Exclusion: SWCA will prepare coordinate with ADOT's Environmental Planning Group for the development of a Categorical Exclusion request with the applicable/necessary supporting documentation. Refer to SWCA's attached Scope of Work for more detailed information on this item.
2. Burrowing Owl Surveys, Relocation and Permitting: In order to avoid delays during construction, SWCA will survey the project area for western burrowing owls, locate the nests, and relocate the owls (using a state-approved species relocation vendor) to new habitats outside of Airport property in accordance with National, State and Local laws and guidelines. Refer to SWCA's attached Scope of Work for more detailed information on this item.

### **E. Hydrology and Hydraulics Analysis**

1. Hydrology: An existing conditions hydrologic analysis was performed with HEC-1 as part of the 2005 Airport Storm Drain Master Plan (SDMP). For this project, new drainage boundaries, land use changes and rainfall updates are all anticipated to be necessary in order to evaluate

the existing and proposed drainage facilities to reflect the changes due to the incorporation of the new NOAA 14 rainfall data. This will be done for all 14 existing culverts and 4 proposed culverts within the project area. The proposed hydrologic update will be prepared using the Rational Method which is the approved methodology for design of culverts and storm drain systems by the City and the FAA. The Flood Control District of Maricopa County (FCDMC) Drainage Design Management System (DDMS) pre-processor program will be used to prepare the Rational Method calculations and report the results. The program is set up to follow the County drainage standards for runoff coefficients, time of concentration calculations and NOAA 14 rainfall values.

2. Hydraulics: A hydraulic analysis will be performed to evaluate the 14 existing culverts, as well as the channels located within the study area using the Rational Method results for the 5-year and 10-year design storms as required by the FAA Advisory Circular for Airport Drainage. Where necessary, new culverts will be designed using the Federal Highway Administration's Culvert Hydraulic Analysis Program, HY-8. No existing storm drains exist within the project area and no new storm drains are anticipated at this time. New conveyance ditches or channels will be evaluated and designed using the Bentley Flowmaster program. Design criteria for new drainage structures will be based on the guidelines provided in the SDMP for all new culverts, channels and storm drains.

Based on a review of the SDMP Existing Facilities Map, 14 culverts exist within the project boundary and approximately 4 additional culverts will be required. Damaged structures will be evaluated for replacement using sizes and materials that meet the SDMP and FAA standards and accommodate the FAA design flow requirements.

Infield areas currently flow to a swale which drains to an outlet culvert under the surrounding taxiway or runway. A collection channel flows to the southwest along the south side of the Taxiway 'C' which collects most of the infield areas and conveys flows into the airport regional basin located at the southwest corner of the airport. This channel capacity will be evaluated for compliance with FAA standards.

No existing storage facilities are anticipated within the project limits and no new storage basin designs are anticipated.

See Section 'H' of this Scope of Work for information regarding the Draft and Final Hydrology and Hydraulics reports/memoranda.

## **F. Civil Design**

Prepare civil construction drawings, specifications and EOPCC's for the following:

- Project location/site plan; Contractor staging, stockpile and borrow locations; and Contractor site access;
- Construction phasing and detouring;
- Grading and drainage plans;
- Culvert plans and profiles;
- Pavement cut/trench plans and details;
- Pavement marking plans and details;
- Civil construction details;
- Storm Water Pollution Prevention Plan (SWPPP) and details.

## G. FAA Documentation

1. Construction 7460's: Prepare the FAA Form 7460 "Notice of Proposed Construction or Alteration" identifying specific locations, durations, and heights of proposed equipment necessary for construction activities, as well as the permanent construction. 7460 documentation will be provided to the Airport Administrator for submittal to the FAA, or ANNUAL CONSULTANT may perform this on the Airport Administrator's behalf, if desired by the Airport Administrator.
2. Construction Safety and Phasing Plan (CSPP): Although this project is not FAA funded, Draft and Final Construction Safety and Phasing Plans will be developed in accordance with FAA Advisory Circular 150/5370-2F *Operational Safety on Airport During Construction*. The Draft CSPP will be provided at about the 60% stage of design for Airport staff review and comment; the Final CSPP will be provided with bid-ready submittal to be included in the Contract Documents.

## H. Engineer's Reports

Prepare Draft and Final Engineer's Reports documenting design calculations and confirming conformance with FAA and City of Chandler design standards, as appropriate. The Engineer's Reports will include the basis of design, identification of standards, any modifications to standards, Estimated Quantities, and Engineer's Opinion of Probable Construction Costs (EOPCC). The Engineer's Reports will include Draft and Final Hydrology and Hydraulics reports/memorandums as well.

## I. Specifications

1. Technical Specifications: Prepare Technical Specifications based on FAA, ADOT and MAG (as amended by the City of Chandler) requirements for all elements of the work.
2. Special Provisions/Front End Documents: Prepare ADOT Aeronautics funding-based project Contract Documents/Special Provisions based on the City of Chandler's most current template for Airport construction projects.

## J. Bid-Phase Services

Bid-Phase Services: Engineering services during the bid-phase will be provided, including assistance with advertising preparations, attending the Pre-Bid meeting, responding to contractor questions, issuing addenda to the contract documents, and assisting City and Airport staff as necessary in evaluation of bids, including preparation of a Bid Tabulation, and making a recommendation for a construction contractor, if requested.

## K. Design Meetings and Coordination

1. Project Meetings: ANNUAL CONSULTANT's key staff will be available, along with sub-consultant staff as necessary, for meetings with City, Airport and ADOT staff at the following stages of the design process:
  - Project Kick-Off Meeting/Initial Site Visit (at Chandler Municipal Airport)
  - Post-30% Submittal (at Airport or ADOT Aeronautics offices)
  - Post-30% Plan-in-Hand Review (at Airport)
  - Post-60% Submittal Comment Resolution (at Airport or City Capital Projects offices)
  - Post-60% Plan-in-Hand Review (at Airport)
  - Post-95% Submittal Comment Resolution (at Airport or City Capital Projects offices)

2. Project Coordination: ANNUAL CONSULTANT will provide management of and coordination of the design team, and will provide coordination between design team members, City of Chandler/Chandler Municipal Airport staff, ADOT, and other interested stakeholders as necessary.

#### **L. Potholing/Utility Locating (Allowance – RT Underground)**

ANNUAL CONSULTANT shall secure the services of a licensed utility locator on an as-needed basis to confirm the locations and depths of known utilities if such information has not been provided on as-built or record drawings. Location information shall be provided to the ANNUAL CONSULTANT in AutoCAD 2013 format.

#### **M. Miscellaneous**

1. This proposal is based on a seven-month design schedule from about December 2015 through July 2016.

The following are the anticipated submittal stages and items for each submittal:

##### 30% Submittal

- One (1) full-size (24"x36") set of plans;
- Six (6) half-size (11"x17") sets of plans;
- Two (2) Draft Engineer's Reports with outline specifications, quantities and EOPCC;
- One (1) CD of PDF's of each of these submittal items.

##### 60% Submittal

- One (1) full-size (24"x36") set of plans;
- Six (6) half-size (11"x17") sets of plans;
- Six (6) sets of draft specifications and contract documents;
- One (1) CD of PDF's of each of these submittal items.

##### 95% Pre-Final Submittal

- Six (6) full-size sets of sealed plans (for final review by Capital Projects);
- Six (6) half-size sets of sealed plans;
- Six (6) sets of sealed specifications (for final review by Capital Projects);
- Six (6) sealed Final Engineer's Reports with quantities and EOPCC (for final review by Capital Projects)
- One (1) CD of PDF's of each of these submittal items.

##### 100% Bid-Set Submittal

- Three (3) full-size sets of sealed plans with one (1) mylar cover sheet;
  - Six (6) half-size sets of sealed plans;
  - Two (2) sets of sealed specifications and contract documents;
  - Two (2) sealed Final Engineer's Reports with quantities and EOPCC;
  - One (1) CD of PDF's of each of these submittal items.
2. All plans are to be prepared in AutoCAD Civil 3D 2013 (or current version used by City of Chandler). All work will be prepared in conformance to FAA and MAG standards (as amended by the City of Chandler).
  3. Design Quality Control/Quality Assurance: ANNUAL CONSULTANT will perform quality control reviews of their own work prior to each submittal utilizing standard checking processes

plus separate review of project documents by the ANNUAL CONSULTANT's Quality Control Director.

4. ANNUAL CONSULTANT will make monthly "Design and Progress Reports", including invoicing, to the City of Chandler in a format acceptable to the City.

**EXHIBIT B  
FEE SCHEDULE**

		PRINCIPAL	SR. PROJ. MGR.	PROJ. MGR.	SR. ENG.	ENG. (P.E.)	ASST. ENG. (E.I.T.)	TECH.	ADMIN. ASST.	TOTAL HOURS
<b>DESIGN PHASE SERVICES</b>										
<b><i>Engineering Design &amp; Production</i></b>										
1	Project Management and Admin.		56		16				12	84
2	Record Information Review					2	8			10
3	Kick-Off Meeting/Initial Site Visit		4			4		4		12
4	Topographic Survey Coordination				2	8				10
5	Project Base Mapping					8		16		24
6	Geotechnical Coordination		2			6				8
7	Environmental Coordination		4			8	4			16
8	30% Plans		8			24	32	60	2	126
9	Draft Engineer's Report		2			16	8	4	2	32
10	30% Quantities and EOPCC		2		4		8	8		22
11	30% Submittal QA/QC				12					12
12	30% Design Review Meeting (ADOT)		4			4				8
13	Post-30% Plan-in-Hand Review					6	6			12
14	60% Plans		8			32	48	100	2	190
15	60% Quantities & EOPCC		2		4		8	8	2	24
16	Draft Specifications and Contract Doc's		8		8	24			2	42
17	60% Submittal QA/QC				16					16
18	Post-60% Comment Resolution Meeting		4			4				8
19	Post-60% Plan-in-Hand Field Review					6	6			12
20	95% Pre-Final Plans		8			24	32	60	2	126
21	95% Pre-Final Spec's and Contract Doc's		6		8	16			2	32
22	Final Engineer's Report		2			16	8	4	2	32
23	95% Quantities and EOPCC		2		4		8	8		22
24	95% Submittal QA/QC				16					16
25	Post-95% Comment Resolution Meeting		4			4				8
26	100% Bid-Ready Plans		4			16		40	2	62
27	100% Bid-Ready Spec's and Contract Doc's		4		4	8			2	18
28	100% Bid Quantities and EOPCC		2		2		4	4		12
29	100% Submittal QA/QC				8					8
30	Bid Phase Services		8			24	4	4		40
<b><i>Hydrology and Hydraulics Analysis</i></b>										
31	Existing Conditions Rational Method Model					8				8

32	Model existing (14) culverts					16				16
33	Model existing outfall channel					8				8
34	Design new culverts needed (*assumes 4)					16				16
35	Design new channel(s)					8				8
36	Prepare Draft Drainage Report				4	24				28
37	Prepare Final Drainage Report		4		4	12				20
<b>TOTAL LABOR HOURS</b>		<b>0</b>	<b>148</b>	<b>0</b>	<b>112</b>	<b>352</b>	<b>184</b>	<b>320</b>	<b>32</b>	<b>1148</b>

<b>LABOR FEE BY TASK</b>		\$154	\$146	\$137	\$126	\$121	\$95	\$82	\$49	
		PRINCIPAL	SR. PROJ. MGR.	PROJ. MGR.	SR. ENG.	ENG. (P.E.)	ASST. ENG. (E.I.T.)	TECH.	ADMIN. ASST.	TOTAL TASK FEE
<b>DESIGN PHASE SERVICES</b>										
<i>Engineering Design &amp; Production</i>										
1	Project Management and Admin.		\$8,176		\$2,016				\$588	\$10,780
2	Record Information Review					\$242	\$760			\$1,002
3	Kick-Off Meeting/Initial Site Visit		\$584			\$484		\$328		\$1,396
4	Topographic Survey Coordination				\$252	\$968				\$1,220
5	Project Base Mapping					\$968		\$1,312		\$2,280
6	Geotechnical Coordination		\$292			\$726				\$1,018
7	Environmental Coordination		\$584			\$968	\$380			\$1,932
8	30% Plans		\$1,168			\$2,904	\$3,040	\$4,920	\$98	\$12,130
9	Draft Engineer's Report		\$292			\$1,936	\$760	\$328	\$98	\$3,414
10	30% Quantities and EOPCC		\$292		\$504		\$760	\$656		\$2,212
11	30% Submittal QA/QC				\$1,512					\$1,512
12	30% Design Review Meeting (ADOT)		\$584			\$484				\$1,068
13	Post-30% Plan-in-Hand Review					\$726	\$570			\$1,296
14	60% Plans		\$1,168			\$3,872	\$4,560	\$8,200	\$98	\$17,898
15	60% Quantities & EOPCC		\$292		\$504		\$760	\$656	\$98	\$2,310
16	Draft Specifications and Contract Doc's		\$1,168		\$1,008	\$2,904			\$98	\$5,178
17	60% Submittal QA/QC				\$2,016					\$2,016
18	Post-60% Comment Resolution Meeting		\$584			\$484				\$1,068
19	Post-60% Plan-in-Hand Field Review					\$726	\$570			\$1,296
20	95% Pre-Final Plans		\$1,168			\$2,904	\$3,040	\$4,920	\$98	\$12,130
21	95% Pre-Final Spec's and Contract Doc's		\$876		\$1,008	\$1,936			\$98	\$3,918
22	Final Engineer's Report		\$292			\$1,936	\$760	\$328	\$98	\$3,414
23	95% Quantities and EOPCC		\$292		\$504		\$760	\$656		\$2,212
24	95% Submittal QA/QC				\$2,016					\$2,016

25	Post-95% Comment Resolution Meeting		\$584			\$484			\$1,068		
26	100% Bid-Ready Plans		\$584			\$1,936		\$3,280	\$98	\$5,898	
27	100% Bid-Ready Spec's and Contract Doc's		\$584		\$504	\$968			\$98	\$2,154	
28	100% Bid Quantities and EOPCC		\$292		\$252		\$380	\$328		\$1,252	
29	100% Submittal QA/QC				\$1,008					\$1,008	
30	Bid Phase Service		\$1,168			\$2,904	\$380	\$328		\$4,780	
<b><i>Hydrology and Hydraulics Analysis</i></b>											
31	Existing Conditions Rational Method Model					\$968				\$968	
32	Model existing (14) culverts					\$1,936				\$1,936	
33	Model existing outfall channel					\$968				\$968	
34	Design new culverts needed (*assumes 4)					\$1,936				\$1,936	
35	Design new channel(s)					\$968				\$968	
36	Prepare Draft Drainage Report				\$504	\$2,904				\$3,408	
37	Prepare Final Drainage Report		\$584		\$504	\$1,452				\$2,540	
<b>TOTAL LABOR FEE</b>			<b>\$0.00</b>	<b>\$21,608</b>	<b>\$0.00</b>	<b>\$14,112</b>	<b>\$42,592</b>	<b>\$17,480</b>	<b>\$26,240</b>	<b>\$1,568</b>	<b>\$123,600</b>

<b>DIRECT COSTS</b>		
<b>DESIGN PHASE SERVICES</b>		
1.	Submittal Printing	\$3,500
2.	Mileage	\$150
<b>Total - Design Phase Services</b>		<b>\$3,650</b>

<b>ALLOWANCE &amp; SUB-CONSULTANT COSTS</b>		
<b>DESIGN PHASE SERVICES</b>		
1.	Topographic and/or Aerial Survey (Dibble and/or Kenney Aerial)	\$8,000
2.	Soils Investigations (Speedie and Associates - Allowance)	\$4,000
3.	Environmental Coordination & Species Investigations (SWCA)	\$30,968
4.	Potholing/Utility Locating (RT Underground - Allowance)	\$1,500
5.	Owner's Allowance	\$10,000
<b>Total - Design Phase Services</b>		<b>\$54,468</b>

<b>FEE SUMMARY</b>	
Design Services Labor Fee	\$123,600
Direct Costs	\$3,650
Allowance (Sub-Consultant) Costs	\$54,468
<b>TOTAL CONTRACT AMOUNT</b>	<b>\$181,718</b>