

CONTRACT FCD No. 99-44

Glendale/Peoria Area Drainage Master Plan Update

CG9.00-089-5

November 10, 1999

Mr. Michael J. Bonar, P.E.
Entellus
2655 N. 44th Street, Suite 330
Phoenix, AZ 85008-3279

Subject: Notice to Proceed with Contract FCD 99-44,
Glendale/Peoria ADMP Update

Congratulations on award of the subject Contract. This will confirm the verbal notice to proceed with contract performance on November 4, 1999, and complete the contract requirements within 480 calendar days, for a completion date of February 26, 2001. A fully executed original contract document is enclosed.

The following details are provided as a reminder of the contractual requirement:

- This Contract includes a minority goal of six percent (10%). As work progresses, all invoices must be accompanied by the D/M/WBE Participation Report. This form is Attachment 1 in your Contract. When the contract is complete, Entellus will need to submit a final D/M/WBE Participation Report summarizing minority payments for the total contract.
- Maintaining schedule milestones is imperative in meeting the District's planning and future funding goals. Therefore, the District places a great deal of emphasis upon the contract completion date. Your contract completion date is not only a contractual requirement, but is also a commitment on the part of your firm. We expect and anticipate that ASL will treat it with a high degree of importance throughout the term of the contract.
- When contract performance is satisfactorily completed, please complete, notarize and submit the Certificate of Performance, Attachment 3 in the Contract document.

Again, the Flood Control District welcomes your participation as a Consultant to the District and we look forward to a mutually beneficial contract agreement as well as an enjoyable and profitable relationship.

Sincerely,

Dortha Klaahsen
Contracts Specialist

Enclosures

Agenda Activity: Action
 Department: Flood Control District
 Category: Flood Control District
 Contact: Marilyn DeRosa
 Return to: Dortha Klaahsen
 Location: FLOOD CONTROL OFFICE BLDG

Agenda Number: C-69-00-089-5-00
 Phone: 506-4766
 Phone: 506-4433
 Continued from:

Action Requested:

Award Contract FCD 99-44 to Entellus, Inc., for engineering services to be performed in the preparation of the Glendale/Peoria Area Drainage Master Plan Update (PCN 450.02.01). The contract is for a lump sum fee of \$1,019,260 plus an optional fee of \$160,091 for hydraulic and hydrologic analysis, visual analysis and public involvement. The total contract shall not exceed \$1,179,351 and will be effective for a period of 480 days after award.

Complete description of action requested:

The purpose of the Glendale/Peoria ADMP Update is to update the existing Glendale/Peoria ADMP completed in May 1987 by quantifying the extent of flooding problems, incorporating existing drainage structures into the hydrology/hydraulic model and developing alternative solutions to flooding problems. The scope of work will include public coordination, surveying, hydraulics, hydrology, identification of drainage problems, development of alternative solutions, and preparation of preliminary design plans based on a preferred alternative(s). Arizona Revised Statutes Title 48, Chapter 21 requires the Board of Directors to identify flood control problems and plan for the construction of facilities which will eliminate or minimize flooding problems. The major objective of the study is to develop a plan to control runoff to prevent flood damage within the watershed. This study is expected to identify conceptual flood control features for the study area that may be implemented together, individually or not at all, based on scheduling, funding, and cost sharing. This is a qualification-based procurement in accordance with the Maricopa County Procurement Code, Article 5, Paragraph 504.D.5. The project is located in District 4.

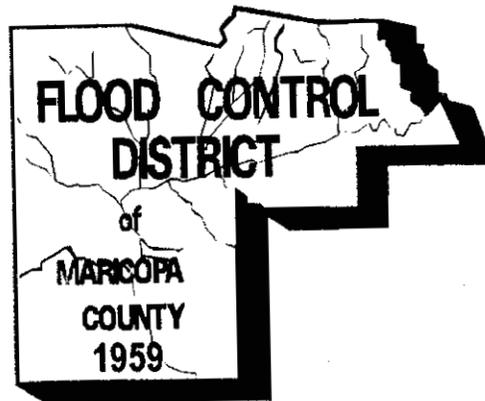
Expenditure Impact by FY(s):

FY99/00 - \$268,000 estimated; FY00/01 - \$911,351 estimated

Routing: Meeting Date: 11/03/1999	
Legend X=Pending A=Approved R=Rejected	
LEGAL	OMB
A	A

83

Property of
Flood Control District of MC Library
Please Return to
2801 W. Durango
Phoenix, AZ 85009



CONTRACT FCD No. 99-44

Glendale/Peoria Area Drainage Master Plan Update

Contract FCD 99-44

Pursuant to the provisions of the Arizona Revised Statutes Section 48-3603, the Board of Directors has the authority to enter into contracts.

The Flood Control District of Maricopa County, Arizona, hereinafter called the District, is desirous of having certain professional services performed in connection with **Contract FCD 99-44, Glendale/Peoria Area Drainage Master Plan Update**, hereinafter called the "Project" and as more fully described in Exhibit A, Scope of Work, and in accordance with Exhibit B, Fee Proposal,

and **Entellus**, hereinafter called "Consultant," with its principal office located at 2255 North 44th Street, Suite 125, Phoenix, Arizona 85008, is desirous of performing said services;

THEREFORE, the parties hereto mutually agree as follows:

SECTION I - SERVICES OF THE CONSULTANT

The Consultant, under the general supervision of the Manager, Planning and Project Management Division shall prepare studies, reports, surveys, plans, drawings, specifications and cost estimates as are necessary for the Project and according to the directions and designated standards of the District and in accordance with Exhibit A. It is understood and agreed that the District's authorized representative shall be the Manager, Planning and Project Management Division, or his duly authorized representative, hereinafter called the "Agent" and that he/she shall be the sole contact for administering this contract.

The Consultant shall meet periodically with the Agent so as to keep the District informed of the progress of the work in accordance with the schedule defined in Exhibit A, Scope of Work.

The Consultant shall promptly advise the Agent of any factors, which may develop during the Project, that would likely result in construction or design costs in excess of budgetary constraints.

SECTION II - PERIOD OF SERVICE

The Consultant shall **complete all work per the schedule provided in Exhibit A, Scope of Work, within four hundred eighty (480) calendar days (including FEMA reviews)** after receipt of the Notice to Proceed. Should extension of this contract period be necessary, and any such extension(s) continue the date of contract performance for a time period of more than one year from the original date of contract expiration, adjustment(s) of the consultant's fee(s) may, upon agreement by both the District and the Consultant, be made in accordance with the Consumer Price Index for Urban Consumers, Western Division published by the U.S. Department of Labor, Bureau of Labor Statistics, using the published edition coinciding with the initial contract expiration date. Any such fee adjustment shall only apply to the extended contract time period.

SECTION III - PAYMENTS TO THE CONSULTANT

For work under this Contract, the Consultant shall be paid a lump sum fee of one million nineteen thousand two hundred sixty dollars (\$1,019,260.00), plus an optional not-to-exceed fee of one hundred sixty thousand ninety-one dollars (\$160,091.00) for tasks as identified below and in accordance with the Exhibit A, Scope of Work, and Exhibit B, Fee Proposal. A written authorization from the District Agent will be required prior to initiating any optional task.

<u>Optional Task</u>	<u>Description</u>	<u>Not-to-Exceed Fee</u>
2.4.5	Additional alternative solutions	11/13/00 \$34,469.92 10,118.32
2.10.6	Arrowhead Ranch Lakes Analysis	6/22/00 71,843.74 1,376.74
2.14.6	Additional Miscellaneous Meetings	11/13/00 34,542.06 28,258.86
2.14.9	Additional Brochures	5,447.50
2.14.11	Additional Newsletters	5,447.50
2.14.13	Establishment of a Voice-mail Hotline	8,340.00
		<u>\$ 58,988.92</u>

The total Contract amount will not exceed one million, one hundred seventy-nine thousand, three hundred fifty-one dollars (\$1,179,351.00), including optional not-to-exceed tasks.

The District shall pay the Consultant upon completion of the work as accepted by the District, except that progress payments may be made as billed by the Consultant based on approved monthly progress reports subject to the limitations set forth in Exhibit A, Scope of Work. Ten percent (10%) of all contract payments made on an interim basis shall be retained by the District as insurance of proper performance of the contract or, at the option of the Consultant, a substitute security may be provided by the Consultant in an authorized form pursuant to procedures established by the District. The Consultant is entitled to all interest from any such substitute security.

When the contract is fifty percent (50%) completed, one-half (1/2) of the amount retained will be paid to the Consultant provided the Consultant is making satisfactory progress on the contract and there is no specific cause or claim requiring a greater amount to be retained. After the contract is fifty percent (50%) completed, no more than five percent (5%) of the amount of any subsequent progress payments shall be retained providing the Consultant is making satisfactory progress on the project, except if at any time the District determines satisfactory progress is not being made, ten percent (10%) retention shall be reinstated for all progress payments made under the contract subsequent to the determination.

If the Consultant desires a partial payment in accordance with the provisions above, the Consultant will complete and forward the enclosed D/M/WBE Participation Report (Attachment 1) indicating payment distribution to Minority/Women-owned Business Enterprise firms with each request for payment. The D/M/WBE participation for this contract has been established as ten percent (10%).

Following approval and acceptance by the District of all work described in Exhibit A, but prior to submittal by the District to FEMA, the Consultant shall submit (1) a "Certificate of Substantial Performance" form (Attachment 1); (2) a Final D/M/WBE Participation Report (Attachment 2) stating the total payments received by the prime as well as total payments the prime has made to D/M/WBE subconsultants, vendors, and suppliers, and (3) a final invoice for release of all monies due the Consultant, except for five percent (5%) retention.

Any retention monies shall be paid or substitute security released, as applicable, to the Consultant within forty-five (45) calendar days after (1) FEMA acceptance/approval of the project, including completion of all final work required by the Consultant in order for the District to receive FEMA acceptance, (2) receipt of a "Certificate of Performance" form (Attachment 3), and (3) an invoice for any sums remaining due and payable under this Contract.

SECTION IV - THE DISTRICT'S RESPONSIBILITIES

The District shall furnish the Consultant, at no cost to the Consultant, the following information or services for this Project:

- A. One copy of on-hand maps, records, survey ties, benchmarks or other data pertinent to the Project. This does not, however, relieve the Consultant of the responsibility of searching records for additional

information, for requesting specific information or for verification of that information provided. The District does not warrant the accuracy or comprehensiveness of any such information.

- B. All available information and data relative to policies, standards, criteria, and studies, etc. impacting the Project as identified by the Consultant.
- C. Availability of staff for consultation with the Consultant during the performance of studies and plan development in order to identify the problems, needs, and other functional aspects of the Project.
- D. Examination of documents submitted by the Consultant and rendering of decisions pertaining thereto promptly, to avoid unreasonable delay in the progress of the work by the Consultant. The District will keep the Consultant advised concerning the progress of the District's review of work.

SECTION V - AMENDMENTS

This Contract may be amended by mutual written agreement of the District and the Consultant. Any alteration in the scope of work that will result in a substantial change in the nature of the Project so as to materially increase or decrease the contract fee will require negotiation of an amendment to the contract to be executed by the District and the Consultant. No work shall commence on the change until the District has approved the contract amendment and the Consultant has been notified to proceed by the Agent. It is distinctly understood and agreed that no claim for extra work done or materials furnished by the Consultant will be allowed by the District except as provided herein, nor shall the Consultant do any work or furnish any materials not covered by this agreement unless such work is first authorized in writing in accordance with the Maricopa County Procurement Code. Any such work or materials furnished by the Consultant without such written authorization first being given shall be at his own risk, cost, and expense, and he hereby agrees that without such written authorization he will make no claim for compensation for such work or materials furnished.

SECTION VI - RECORDS

Records of the Consultant's payroll expense pertaining to this Project and records of accounts between the District and the Consultant shall be kept on a generally recognized accounting basis and shall be available upon request to the District or its authorized representative for audit during normal business hours. The records shall be subject to audit by appropriate grantor agency if the Project is funded all or in part by a grant.

All Consultant and District procurement records shall be retained for a period of one year and disposed of in accordance with the records retention guidelines and schedules approved by the State of Arizona Department of Library, Archives, and Public Records unless applicable Federal regulations require a longer period.

SECTION VII - PROJECT COMPLETION

If during the course of this contract situations arise which prevent completion within the allotted time, the Agent may grant an extension.

SECTION VIII - TERMINATION

The District may terminate this contract at any time upon reimbursement to the Consultant of expenses, which include reasonable charges for time and material for the percentage of work satisfactorily completed and turned over to the District.

The District reserves the right to postpone, terminate or abandon this Project for the Consultant's failure to complete the Project on time, or failure to comply with the provisions of the contract. The District also reserves the right to terminate any or all parts of this contract for its own convenience as the District may determine at its sole discretion.

The District hereby gives notice that pursuant to A.R.S. Section 38-511 "A" this contract may be canceled without penalty or further obligation within three years after execution if any person significantly involved in initiation, negotiation, securing, drafting, or creating this contract on behalf of the District is, at any time while the contract or any extension of the contract is in effect, an employee or agent of any other party to the contract in any capacity or a consultant to any other party of the contract with respect to the subject matter of the contract. Cancellation under this section shall be effective when written notice from the Chief Engineer and General Manager is received by all of the parties of the contract. In addition, the District may recoup any fee or commission paid or due to any person significantly involved in initiation, negotiation, securing, drafting, or creating the contract on behalf of the District from any other party to the contract arising as a result of the contract.

The Consultant may terminate this contract in the event of nonpayment of fees as specified in Section III, PAYMENTS TO THE CONSULTANT.

SECTION IX - OWNERSHIP OF DOCUMENTS

All original documents including, but not limited to studies, reports, tracings, drawings, physical and computer models, estimates, field notes, investigations, design analyses, calculations, computer software, and specifications, prepared in the performance of this Contract are to be and remain the property of the District and are to be delivered to the Agent before final payment is made to the Consultant. The District reserves the right to reuse the documents as it sees fit. However, the District will not reuse, alter, or modify these documents without noting such alterations, modifications, or intent of their reuse, and will hold the Consultant harmless from any claims arising from the reuse, alteration, or modification of the documents. The Consultant may retain reproducible copies of all such documents delivered to the District.

SECTION X - COMPLIANCE WITH LAWS

The Consultant is required to comply with all Federal, State and local laws, local ordinances and regulations. The Consultant's signature on this contract certifies compliance with the provisions of the I-9 requirements of the Immigration Reform and Control Act of 1986 for all personnel that the Consultant and any subconsultants employ to complete this Project. It is understood that the District shall conduct itself in accordance with the provisions of the Maricopa County Procurement Code.

SECTION XI - GENERAL CONSIDERATIONS

- A. Prior to beginning the work, the Consultant shall furnish the District for approval the names of its key employees, and of its sub-consultants and their key employees to be used on this Project. Any subsequent changes are subject to the written approval of the District.

The Consultant in replacing a D/M/WBE subcontractor should attempt to contract with another D/M/WBE.

- B. The failure of either party to enforce any of the provisions of this Contract or to require performance of the other party of any of the provisions hereof shall not be construed to be a waiver of such provisions, nor shall it affect the validity of this Contract or any part thereof, or the right of either party to thereafter enforce each and every provision.

- C. The Consultant shall be responsible for the cost of any additional design, field layout, testing, construction and supervision necessary to correct those errors or omissions attributable to the Consultant and for any damage incurred by the District as a result of additional construction costs caused by such Consultant errors or omissions.
- D. The fact that the District has accepted or approved the Consultant's work shall in no way relieve the Consultant's responsibility.
- E. It is mutually understood and agreed that this Contract shall be governed by the laws of the State of Arizona, both as to interpretation and performance. Any action at law, suit in equity, or judicial proceeding for the enforcement of this Contract, or any provision thereof, shall be instituted only in the courts of the State of Arizona.

SECTION XII - SUCCESSORS AND ASSIGNS

This Contract shall not be assigned by either party without prior written approval of the other except that the Consultant may use in the performance of this Contract without prior approval of the District, personnel or services of its related entities and affiliated companies as if they were an integral part of the Consultant; and it shall extend to and be binding upon the heirs, executors, administrators, successors and assigns of the parties hereto.

SECTION XIII - NO KICK-BACK CERTIFICATION

The Consultant warrants that no person has been employed or retained to solicit or secure this Contract upon any agreement or understanding for a commission, percentage, brokerage, or contingent fee; and that no member of the Board of Directors/Supervisors or any employee of the District has any interest, financially or otherwise, in the Consultant firm.

For breach or violation of this warranty, the District shall have the right to annul this Contract without liability, or at its discretion to deduct from the Contract price or consideration, the full amount of such commission, percentage, brokerage, or contingent fee.

SECTION XIV - ANTI-DISCRIMINATION PROVISION

The Flood Control District of Maricopa County will endeavor to ensure in every way possible that minority and women-owned business enterprises shall have every opportunity to participate in providing professional services, purchased goods, and contractual services to the Flood Control District of Maricopa County without being discriminated against on the grounds of race, religion, sex, age, or national origin.

The Consultant agrees not to discriminate against any employee or applicant for employment because of race, religion, color, sex, national origin, age, or disability and further agrees not to engage in any unlawful employment practices. The Consultant further agrees to insert the foregoing provisions in all subcontracts hereunder.

SECTION XV - INDEMNIFICATION

For Professional Liability:

To the fullest extent permitted by law, the Consultant shall indemnify, and hold harmless the Flood Control District of Maricopa County (District) and Maricopa County (County), their agents, representatives, officers, directors, officials, and employees from and against all claims, damages, losses and expenses, including but not limited to attorney fees, court costs, expert witness fees, and the cost of appellate proceedings, relating to, arising out of, or alleged to have resulted from the Consultant's negligent acts, errors, omissions or mistakes relating to professional services in the performance of this Contract. Consultant's duty to indemnify and hold harmless the District and County, their agents, representatives, officers, directors, officials, and employees shall arise in connection with any claim, damage, loss or expense that is attributable to bodily injury, sickness, disease, death, or injury to, impairment, or destruction of property, including loss of use resulting therefrom, caused by any negligent acts, errors, omissions or mistakes, related to professional services in the performance of this Contract including any person for whose negligent acts, errors, omissions or mistakes, the Consultant may be legally liable.

The amount and type of insurance coverage requirements set forth herein will in no way be construed as limiting the scope of the indemnity in this paragraph.

For all other hazards, liabilities, and exposures:

To the fullest extent permitted by law, the Consultant shall defend, indemnify and hold harmless the District and County, their agents, representatives, officers, directors, officials and employees from and against all claims, damages, losses and expenses (including but not limited to attorney fees, court costs, expert witness fees, and the cost of appellate proceedings), relating to, arising out of or resulting from the Consultant's work or services. Consultant's duty to defend, indemnify and hold harmless the District and the County, their agents, representatives, officers, directors, officials and employees shall arise in connection with any claim, damage, loss or expense that is attributable to bodily injury, sickness, disease, death, injury to, impairment or destruction of property including loss of use resulting therefrom, caused in whole or in part by any act or omission of the Consultant, anyone Consultant directly or indirectly employs or anyone for whose acts Consultant may be liable.

The amount and type of insurance coverage requirements set forth herein will in no way be construed as limiting the scope of the indemnity in this paragraph.

Abrogation of Arizona Revised Statutes Section 34-226:

In the event that A.R.S. § 34-226 shall be repealed or held unconstitutional or otherwise invalid by a court of competent jurisdiction, then this duty of indemnification shall extend to all claims, damages, losses and expenses, including but not limited to attorney fees, court costs, expert witness fees, and the cost of appellate proceedings, relating to, arising out of, or alleged to have resulted therefrom, caused in whole or in part by any negligent acts, errors, or omissions relating to professional work or services in the performance of this Contract by the Consultant, or anyone directly employed by the Consultant or anyone for whose acts Consultant may be liable regardless of whether it is caused by any party indemnified hereunder, including the District or the County.

The amount and type of insurance coverage requirements set forth herein will in no way be construed as limiting the scope of the indemnity in this paragraph.

The scope of this indemnification does not extend to the sole negligence of the District or the County.

SECTION XVI - INSURANCE

General Clauses. The Consultant, at Consultant's own expense, shall purchase and maintain the herein stipulated minimum insurance with companies duly licensed, possessing a current A.M. Best, Inc. Rating of B++6, or approved unlicensed companies in the State of Arizona with policies and forms satisfactory to the District.

Coverage Term. All insurance required herein shall be maintained in full force and effect until all work or service required to be performed under the terms of the Contract is satisfactorily completed and formally accepted. Failure to do so may, at the sole discretion of the District, constitute a material breach of this Contract.

Primary Coverage. The Consultant's insurance shall be primary insurance as respects the District, and any insurance or self-insurance maintained by the District shall not contribute to it.

Waiver. The policies required hereunder, except Workers' Compensation and Professional Liability, shall contain a waiver of transfer of rights of recovery (subrogation) against the District, its agents, representatives, officers, directors, officials and employees.

Claim Reporting. Any failure to comply with the claim reporting provisions of the insurance policies or any breach of an insurance policy warranty shall not affect coverage afforded under the insurance policies to protect the District.

Deductible/Retention. The policies may provide coverage, which contains deductibles or self-insured retentions. Such deductible and/or self insured retentions shall not be applicable with respect to the coverage provided to the District under such policies. The Consultant shall be solely responsible for the deductible and/or self-insured retention and the District, at its option, may require the Consultant to secure payment of such deductibles or self-insured retentions by a surety bond or an irrevocable and unconditional letter of credit.

Copies of Policies. The District reserves the right to request and to receive, within 10 working days, certified copies of any or all of the herein required insurance policies and/or endorsements. The District shall not be obligated, however, to review such policies and/or endorsements, or to advise Consultant of any deficiencies in such policies and endorsements, and such receipt shall not relieve Consultant from, or be deemed a waiver of, the District's right to insist on strict fulfillment of the Consultant's obligations under this Contract.

Other Insureds. The insurance policies required by this Contract, except Workers' Compensation and professional Liability, shall name the District and the County, their agents, representatives, officers, directors, officials and employees as Additional Insureds.

Commercial General Liability. Consultant shall maintain Commercial General Liability insurance with a limit of not less than \$1,000,000 for each occurrence with a \$2,000,000 Products/Completed Operations Aggregate and a \$2,000,000 General Aggregate Limit. The policy shall include coverage for bodily injury, broad form property damage, personal injury, products and completed operations and blanket contractual coverage including, but not limited to, the liability assumed under the indemnification provisions of this Contract which coverage will be at least as broad as Insurance Service Office, Inc. Policy Form CG 00011093 or any replacements thereof. The coverage shall include X, C, U.

The policy shall contain a severability of interest provision, and shall not contain a sunset provision or commutation clause, or any provision, which would serve to limit third party action over claims.

The Commercial General Liability additional insured endorsement shall be at least as broad as the Insurance Service Office, Inc.'s Additional Insured, Form B, CG 20101185, and shall include coverage for Consultant's operations and products and completed operations.

Automobile Liability. Consultant shall maintain Automobile Liability insurance with an individual single limit for bodily injury and property damage of no less than \$1,000,000, each occurrence, with respect to Consultant's vehicles (whether owned, hired, non-owned), assigned to or used in the performance of this Contract.

Workers' Compensation. The Consultant shall carry Workers' Compensation insurance to cover obligations imposed by federal and state statutes having jurisdiction of Consultant's employees engaged in the performance of the work or services, as well as Employer's Liability insurance of not less than \$1,000,000 for each accident, \$1,000,000 disease for each employee, and \$1,000,000 disease policy limit.

In case any work is subcontracted, the Consultant will require the Subconsultant to provide Workers' Compensation and Employer's Liability insurance to at least the same extent as required of the Consultant.

Professional Liability. The Consultant shall maintain Professional Liability insurance covering negligent acts, errors, or omissions arising out of the work or services performed by the Consultant, or any person employed by the Consultant, with a limit of not less than \$1,000,000 each claim.

Certificates of Insurance. Prior to commencing work or services under this Contract, the Consultant shall furnish the District with a Certificate of Insurance, Attachment No. 4, or formal endorsements as required by the Contract, issued by the Consultant's insurer(s), as evidence that policies providing the coverage, conditions and limits required by this Contract are in full force and effect. Such certificates shall identify this Contract number and title, as well as all other information stated on Attachment 4 Insurance Certificate.

In the event any insurance policy(ies) required by this Contract is(are) written on a "claims made" basis, coverage shall extend for two years past completion and acceptance of the work or services and as evidenced by annual Certificates of Insurance.

Cancellation and Expiration Notice. Insurance evidenced by this Certificate shall not expire, be canceled, or materially changed without thirty (30) days prior written notice to the District. If a policy does expire during the life of the contract, a renewal Certificate must be sent to the District at least fifteen (15) days prior to the expiration date.

.....

IN WITNESS WHEREOF, the parties herein have executed this Contract.

ENTEELLUS

Edward A. Adair
Principal (Signature)
Edward A. Adair
Printed Name
President
Title
October 11, 1999
Date
86-0529793
Federal Tax Identification Number

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

RECOMMENDED BY:

115911 10/19/99
Michael S. Ellegood, P.E. Date
Chief Engineer and General Manager

ACCEPTED AND APPROVED:

Phillip Brock NOV 03 1999
Chairman, Board of Directors Date

ATTEST:

Norma Risch
Deputy Clerk of the Board Date

LEGAL REVIEW

Approved as to form and within the powers and authority granted under the laws of the State of Arizona to the Flood Control District of Maricopa County.

Julie M. Lemmon 10/18/99
General Counsel, District Date

CONTRACT ATTACHMENTS

1. Certificate of Substantial Performance
2. Minority/Women-owned Business Enterprises Program Participation Report
3. Certificate of Performance
4. Certificate of Insurance

Attachment 1

CERTIFICATE OF SUBSTANTIAL PERFORMANCE
OF ENGINEERING SERVICES AND PAYMENT OF CLAIMS

_____ hereby certifies to the Flood Control District of Maricopa County
(Name of Signer)
(DISTRICT) that all lawful claims for labor, rental of equipment, material used, and any other claims by
Entellus or its subconsultants in connection with the project described in DISTRICT Contract
FCD 99-44 have been paid through the date of filing this Certificate of Substantial Performance.

Entellus understands that with receipt of payment for any previously invoiced amounts, this is a
settlement of all claims (except for payment of retention) of every nature and kind against the DISTRICT
arising out of the performance of the DISTRICT's Contract FCD 99-44, Glendale/Peoria Area Drainage
Master Plan Update relating to the material, equipment and work covered in and required by the
contract, through the date of filing this Certificate of Substantial Performance.

The undersigned hereby certifies that to his/her knowledge, no contractual disputes exist in regard to this
contract and that he/she has no knowledge of any pending or potential claims in regard to this contract
through the date of filing this Certificate of Substantial Performance.

State of Arizona)
)§
County of Maricopa)

Signed this _____ day of _____, _____

Signature

Title: _____

Subscribed and Sworn to before me this _____ day of _____, _____.

Notary Public

My Commission Expires: _____

Attachment 2

MINORITY/WOMEN-OWNED BUSINESS ENTERPRISES PROGRAM

D/M/WBE PARTICIPATION REPORT
(To be attached with Each Request for Pay)

Date: _____

General Contractor/Prime Consultant: _____
Contact Person: _____
Address: _____
Telephone Number: _____
Fax Number: _____

Project Description: _____
Contract Number: _____
For Pay Period of (indicate dates): _____

D/M/WBE Subcontractor/Subconsultant Name: _____
Contact Person: _____
Address: _____
Telephone Number: _____

Type of Firm: _____
Type of Work performed for this project: _____

Type of Work performed for this project
by this Subconsultant: _____

Total D/M/WBE Subcontract Amount \$ _____
for this Subconsultant:

Amount Paid to this D/M/WBE \$ _____
Subconsultant this invoice:

Total paid to this Subconsultant for the \$ _____
Contract to date:

Total D/M/WBE Participation Goal for all Subconsultants
for this Contract = ___%

Total D/M/WBE Participation by all Subconsultants on this contract
through the current billing = ___%

Send to: The Flood Control District of Maricopa County
Contracts Division
2801 West Durango Street
Phoenix, Arizona 85009

Attachment 3

CERTIFICATE OF PERFORMANCE AND PAYMENT OF ALL CLAIMS

ENGINEERING CONTRACT

_____ hereby certifies to the Flood Control District Of Maricopa County
(Name of Signer)
(District) that all lawful claims for labor, rental of equipment, material used, and any other claims by
Entellus or its subcontractors in connection with the project described in District Contract FCD 99-44, Glendale/Peoria Area Drainage Master Plan Update have been paid.

Entellus understands that with receipt of payment for previously invoiced amounts plus any retained monies, that this is a settlement of all claims of every nature and kind against the District arising out of the performance of the District's Contract FCD 99-44, relating to the material, equipment, and work covered in and required by the contract.

The undersigned hereby certifies that to his/her knowledge, no contractual disputes exist in regard to this contract and that he/she has no knowledge of any pending or potential claims in regard to this contract.

Upon submission of this document and a separate invoice for any retained funds to the District, invoice processing will be completed within forty-five (45) calendar days.

State of Arizona)
) §
County of Maricopa)

Signed this ____ day of _____, 2000.

Signature

Title

SUBSCRIBED AND SWORN TO before me this ____ day of _____, 2000.

Notary Public

My Commission Expires: _____

**FLOOD CONTROL DISTRICT OF MARICOPA COUNTY
CERTIFICATE OF INSURANCE**

CONTRACT FCD1999C

PROJECT TITLE:

NAME AND ADDRESS OF INSURANCE AGENCY	INSURANCE COMPANIES AFFORDING COVERAGES	
	Company Letter	A
	Company Letter	B
	Company Letter	C
	Company Letter	D
	Company Letter	E
NAME AND ADDRESS OF INSURED	Company Letter	F
	Company Letter	
	Company Letter	

This is to certify that policies of insurance listed below have been issued to the insured named above and are in force at this time

CO. LTR	TYPE OF INSURANCE	POLICY NUMBER	EFFECTIVE DATE (MM/DD/YY)	EXPIRATION DATE (MM/DD/YY)	LIMITS
	COMMERCIAL GENERAL				
	<input checked="" type="checkbox"/> LIABILITY FORM				GENERAL LIABILITY EACH OCCURRENCE \$1,000,000
	<input checked="" type="checkbox"/> PREMISES OPERATIONS				PRODUCTS/COMPLETED OPERATIONS AGGREGATE \$2,000,000
	<input checked="" type="checkbox"/> CONTRACTUAL				GENERAL AGGREGATE \$2,000,000
	<input checked="" type="checkbox"/> BROAD FORM PROPERTY DAMAGE				BODILY INJURY AND PROPERTY DAMAGE \$1,000,000
	<input checked="" type="checkbox"/> EXPLOSION & COLLAPSE				PERSONAL INJURY EACH OCCURRENCE \$1,000,000
	<input checked="" type="checkbox"/> PRODUCTS/COMPLETED OPERATIONS HAZARD				\$1,000,000
	<input checked="" type="checkbox"/> UNDERGROUND HAZARD				
	<input checked="" type="checkbox"/> INDEPENDENT CONTRACTORS				
	<input checked="" type="checkbox"/> PERSONAL INJURY				
	COMPREHENSIVE AUTO				
	<input checked="" type="checkbox"/> LIABILITY & NON-OWNED				EACH OCCURRENCE \$1,000,000
	<input type="checkbox"/> EXCESS LIABILITY				NECESSARY IF UNDERLYING NOT ABOVE MINIMUM
	<input checked="" type="checkbox"/> WORKERS' COMPENSATION AND EMPLOYERS' LIABILITY				Each Accident \$1,000,000 Disease - Each Employee \$1,000,000 Disease Policy Limit \$1,000,000
	<input checked="" type="checkbox"/> ENGINEERS PROFESSIONAL LIABILITY				EACH CLAIM AND ANNUAL AGGREGATE \$1,000,000
	<input checked="" type="checkbox"/> OTHER	The Flood Control District of Maricopa County and Maricopa County their agents, representatives, officers, directors, officials, and employees are to be named as additional insured.			

Except for Professional Liability Insurance and Workers' Compensation Insurance, the Flood Control District of Maricopa County is added as an additional insured on those types of policies described herein which are required to be furnished by this contract entered into between the insured and the Flood Control District. To the extent provided in this contract, insured shall hold harmless the Flood Control District of Maricopa County and Maricopa County from liability arising out of any services provided or duty performed by insured as required by statute, law, purchase order or otherwise required, with the exception of liability for loss or damage resulting from the sole negligence of Flood Control District, its agents, employees or indemnities. It is agreed that any insurance available to the named insured shall be primary of other sources that may be available. It is further agreed that no policy shall expire, be cancelled, or materially changed to affect the coverage available to the District without thirty (30) days written notice to the District. **THIS CERTIFICATE IS NOT VALID UNLESS COUNTERSIGNED BY AN AUTHORIZED REPRESENTATIVE OF THE INSURANCE COMPANY.**

FLOOD CONTROL District OF MARICOPA COUNTY 2801 West Durango Street Phoenix, Arizona 85009	DATE ISSUED _____ AUTHORIZED REPRESENTATIVE _____
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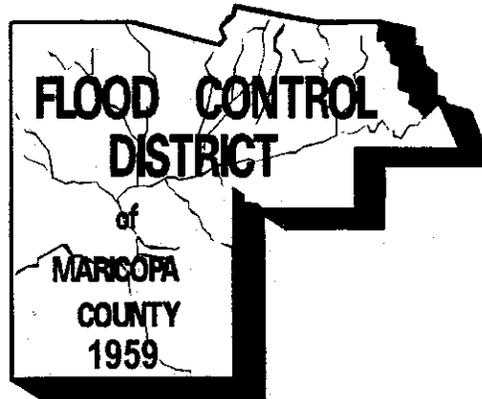


EXHIBIT A

SCOPE OF WORK

**Glendale/Peoria Area Drainage Master Plan Update
FCD No. 99-44**

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1.0 GENERAL DESCRIPTION

1.1 PROJECT DESCRIPTION

1.1.1 This scope-of-work (SOW) is to contract for professional engineering services necessary to update the existing Glendale/Peoria Area Drainage Master Plan (ADMP). Current drainage facilities, provided mainly through private development, often do not meet the requirements as developed in the original ADMP study. Private developers have pursued detailed individual and independent hydrology studies used to make drainage improvements for protection of their specific developments only. In many rural areas drainage has been altered by individual property owners to suit their particular needs. These changes alter overall drainage in the region, resulting in increased downstream liabilities.

The Glendale/Peoria ADMP Update will identify current drainage problems and develop cost-effective solutions to alleviate known and potential flooding problems. Flooding solutions may include storm water collection and disposal systems, drainage design policies, standards and guidelines, or some combination of these.

The SOW will include public coordination, survey and mapping, hydraulics, hydrology, identification of drainage problems, environmental overview, visual resource assessment, development of alternative solutions, and preparation of preliminary design plans based on a preferred alternative(s).

1.2 PURPOSE AND NEED

1.2.1 The purpose of the Glendale/Peoria ADMP Update is to update a portion of the existing Glendale/Peoria ADMP study completed in May 1987, by quantifying the extent of flooding problems and developing alternative solutions to flooding problems. Arizona Revised Statutes Title 48, Chapter 21 requires the Board of Directors to identify flooding problems and plan for the construction of facilities which will eliminate or minimize flooding problems.

1.2.2 There are two major objectives of the study. The first is to quantify selected drainage problems within the study area. The second is to develop a plan to control runoff to prevent flood damage to developments within the study area.

1.2.3 Since current models do not accurately reflect the conditions of the study area, this work is necessary to update the hydrology to meet current DISTRICT standards. Area floodplain managers, municipalities, and developers will use this study as a basis for drainage regulation, improvements and design. This study will impact the floodplain administration for the Agua Fria River at the conceptual level.

1.2.4 The expectation of this study is to identify flooding solutions for the study area that may be implemented together, individually or not at all, based on scheduling, funding and cost sharing.

1.3 LOCATION

1.3.1 The area of study for the Glendale/Peoria ADMP Update is comprised of all the area of the original study north of the Arizona Canal Diversion Channel (ACDC) and Skunk Creek, and west of the New River. The area approximately includes the Skunk Creek drainage area downstream of Adobe Dam and west of 51st Avenue, the New River drainage area downstream of the New River Dam to its confluence with Skunk Creek, the drainage area to the west of New River from its confluence with Skunk Creek to its confluence with the Agua Fria River, the drainage area to the east of the Agua Fria River downstream of the Dynamite Boulevard alignment to its confluence with New River, and a small portion of the ACDC watershed west of 51st Avenue and south of Skunk Creek.

The southern boundary of the study area is formed by the ACDC structure and the New River; the north and easterly boundaries are formed by 51st Avenue, the dams on Skunk Creek and New

River, and the Hedgpeth Hills and East Wing and Ludden Mountains (trending NW-SE between the two structures); the western boundary is formed by the Agua Fria River. The ACDC is tributary to Skunk Creek at approximately 75th Avenue, which is tributary to the New River at approximately 87th Avenue, which is tributary to the Agua Fria River between Bethany Home Road and Camelback Road, forming the southerly extent of the study area. The total study area is approximately 85 square miles.

1.4 PARTICIPANTS

1.4.1 The following project Participants will be receiving copies of project submittals and will act as the agency point-of-contact:

Marilyn DeRosa, R.G.
Planning Project Manager
Flood Control District of Maricopa County
2801 West Durango Street
Phoenix, AZ 85009

Burton R. Charron, P.E.
Civil Engineer, Public Works Department
City of Peoria
8401 West Monroe Street
Peoria, AZ 85345

Daniel A. Sherwood, P.E.
Senior Civil Engineer, Engineering Department
City of Glendale
5850 West Glendale Avenue
Glendale, AZ 85301

1.4.2 The CONSULTANT may be coordinating with the following organizations for information and input in the study:

Flood Control District of Maricopa County
Arizona Department of Transportation
Maricopa County Parks and Recreation Department
Maricopa County Department of Transportation
City of Glendale
City of Peoria
City of Phoenix
Central Arizona Project
Arizona State Land Department

1.5 CONTRACT TIMEFRAME AND SCHEDULE

1.5.1 The CONSULTANT shall complete the ADMP Update within the contract period of 480 calendar days.

1.6 PROJECT REFERENCES

1.6.1 All work under this SOW will be in accordance with the DISTRICT Consultant Guidelines dated October 1998, unless otherwise noted.

1.6.2 General references and standards available are as outlined in Section 20, Consultant Guidelines, October 1, 1998. This section provides general requirements, methodologies, and procedures to be followed in completing work for the DISTRICT. Any specific work tasks described in this SOW should be completed consistent with this SOW. Any variations from this SOW or the Consultant Guidelines document shall not be undertaken without written concurrence

from the DISTRICT.

1.6.3 The DISTRICT will make available to the CONSULTANT, the following project related references and information:

Addendum to Glendale/Peoria ADMP, prepared for the Flood Control District of Maricopa County (FCDMC) by Camp Dresser and McKee, Inc., and James M. Montgomery, Consulting Engineers, Inc., May 1987.

Orangewood Alignment Concept/Routing Study, prepared for FCDMC by Wood, Patel and Associates, November 1995.

ACDC Area Drainage Master Study: 500-foot Swath Drainage Plan, prepared for FCDMC by Kaminski-Hubbard Engineering, Inc., July 1997.

Drainage Report on Union Hills Drive: 27th Avenue to 57th Avenue, Phoenix and Glendale, Arizona, prepared for FCDMC by Erikson and Salmon, Inc., August 1987.

Cactus Road Storm Drain (67th Avenue to the Agua Fria Freeway), prepared for FCDMC by Stanley Franzoy Corey, Engineering Company, dated November 1992.

Storm Drain along Cactus Road: 67th Avenue to Agua Fria Outer Loop Freeway, prepared for FCDMC by Steve Corrales Engineering Corp., September 1990.

Northern/Orangewood Storm Drain Project: Concept/Routing Study prepared for FCDMC by Wood, Patel and Associates, Inc., March 1996.

Northern/Orangewood Storm Drain Project: Location Study, prepared for FCDMC by Wood, Patel and Associates, Inc., March 1996.

Arrowhead Ranch Development, Glendale, Arizona: Specific Area Plan, Storm Drainage Plan, prepared for the City of Glendale, Arizona, April 1992.

City of Glendale, Arizona: Storm Water Management Plan, Capital Improvement Program Summary, prepared for the City of Glendale, Arizona, and FCDMC by Camp Dresser and McKee, Inc., January 1986.

Glendale General Plan Development Guide, DRAFT, prepared by the City of Glendale, Arizona, September 1987.

Hydrology Update on Glendale/Peoria ADMP, DRAFT, prepared by FCDMC, January 1993.

Glendale/Peoria/Sun City Drainage Area No. 1, prepared by FCDMC, January 1995.

Glendale/Peoria/Sun City Drainage Area No. 2, prepared by FCDMC, January 1995.

City of Peoria: Master Plan of Storm Drainage, prepared for the City of Peoria, Arizona, and the FCDMC by James M. Montgomery, Consulting Engineers, Inc., April 1988.

Master Grading and Drainage Plan: Westbrook Village, Section 27, Peoria, Arizona, prepared for UDC Homes by Carter Associates, Inc., revised June 1989.

Westbrook Village East Drainage Study, prepared for the City of Peoria, Arizona, by Goldman, Toy and Associates, Inc., October 1998.

Gila River and Tributaries in Arizona and New Mexico, Flood Damage Report, Storm and Flood of August 16-17, 1963, Glendale/Maryvale Area, prepared for FCDMC by U.S. Army Corps of Engineers, Los Angeles District, June 1964.

City of Glendale, Arizona: Storm Water Management Plan, prepared for the City of Glendale and FCDMC by Camp Dresser and McKee, Inc., January 1986.

City of Peoria, Arizona: Storm Water Master Plan Hydrology Report, prepared for the City of Peoria by James M. Montgomery, Consulting Engineers, Inc., April 1985.

91st Avenue Drain Hydrology Update, DRAFT, prepared by FCDMC, October 1994.

Preliminary Drainage Report for 95th Avenue and Beardsley Road, prepared for Continental Homes by Coe and Van Loo, Consultants, Inc., April 1994.

Preliminary Drainage Report For Intersection Improvements: 99th Avenue, Bell Road to Thunderbird Road, prepared for the Maricopa County Department of Transportation by Hendrich, Eberhart and Associates, Inc., August 1995.

Desert Amethyst Drainage Master Plan: Summary Report prepared for the City of Peoria, Arizona, by Montgomery Watson, July 1997.

Desert Amethyst Drainage Report: Design Documentation Summary for 60 percent Plan Submittal, prepared for the City of Peoria, Arizona, by Wood, Patel and Associates, Inc., May 1999.

Final Drainage Report for Parkridge: 95th Avenue and Beardsley Road, prepared for Continental Homes by Coe and Van Loo, Consultants, Inc., January 1994.

Final Drainage Report for Parkridge II, prepared for Continental Homes by Coe and Van Loo, Consultants, Inc., January 1995.

Marinette Heading Canal Floodplain Removal Request for Conditional Letter of Map Revision for "Parkridge and Parkridge II" (Subdivision Development), prepared for Continental Homes by Coe and Van Loo, Consultants, Inc., September 1995.

Supplement to Marinette Heading Canal Floodplain Removal Request for Conditional Letter of Map Revision for "Parkridge and Parkridge II" (Subdivision Development), prepared for Continental Homes by Coe and Van Loo, Consultants, Inc., March 1995.

Deer Village Units 1, 2, 3 and 4, Final Drainage Report, prepared for Woodside Homes by Coe and Van Loo, Consultants, Inc., revised December 1996.

Deer Village Units 5 and 6, Final Drainage Report prepared for Woodside Homes by Coe and Van Loo, Consultants, Inc., December 1996.

Deer Village Unit 1, Revisions to Final Drainage Report, prepared for the City of Peoria, Arizona, by Coe and Van Loo, Consultants, Inc., March 1997.

Drainage Report for Alta Vista Estates, Units 1 and 2: Peoria, Arizona, prepared for Capital-Deer Valley, L.L.C., by the CMX Group, Inc., revised January 1997.

Drainage Report for Alta Vista Estates, Units 3 and 4: Peoria, Arizona, prepared for Capital-Deer Valley, L.L.C., by the CMX Group, Inc., revised January 1998.

Ironwood-Lake Pleasant Road and Williams Road, Peoria, Arizona, Final Drainage Plan, prepared for Fidelity Properties, L.L.C., by the CMX Group, Inc., revised September 1998.

Final Drainage Report for Eagle Canyon, prepared for A and B Investments, Inc., by American Engineering Company, revised May 1998.

Silverton Drainage Report, prepared for Beazer Homes Holdings Corp. by Sage Engineering Corp., August 1997.

Silverton HEC-RAS, HEC-FDA Summary, prepared for Beazer Homes Holdings Corp. by Sage Engineering Corp., August 1997.

Fletcher Heights, Phase 1: Final Drainage Plan Volume 2 of 2, Appendix F, prepared for Fulton Homes at Fletcher Heights by the CMX Group, Inc., revised March 1997.

Lake Pleasant Road and New River Road Corridor Study, DRAFT, prepared for Maricopa County Department of Transportation by Kirkham Michael Consulting Engineers, May 1999.

Final Drainage Report for Dove Valley Ranch Planned Area Development: Parcels 2, 3 and 5, prepared by Neil/McGill Consultants, Inc., revised October 1998.

Gila River Basin: Phoenix, Arizona, and Vicinity (including New River), Hydrology Part 2: Design Memorandum No. 2, prepared for FCDMC by U.S. Army Corps of Engineers, Los Angeles District, 1982.

Sun City Area Hydrologic Study, DRAFT, prepared by FCDMC, revised September 1998.

ACDC ADMS, Volumes I and II (New River and Skunk Creek areas), prepared for FCDMC by Kaminsky-Hubbard Engineering, Inc., July 1997.

2.0 TASKS

2.1 DATA COLLECTION AND EXISTING CONDITIONS ANALYSIS

2.1.1 The CONSULTANT shall conduct this portion of the study in accordance with Section 14.2, Data Collection and Existing Conditions Analysis, Consultant Guidelines, October 1, 1998.

2.1.2 The CONSULTANT shall review pertinent data from the DISTRICT and other outside sources. Data to be reviewed will include materials relevant to the project such as existing topographic mapping, as-built plans for existing structures, FEMA Flood Hazard Boundary Maps and any Letters of Map Amendment and/or Revisions, drainage reports, site plans and future drainage improvement plans and other pertinent information. Interviews should be arranged with the DISTRICT's On-Call Consultant for Planning and the appropriate agencies for information on drainage problems in the area.

2.1.3 The CONSULTANT shall review the provided list of known flooding problems as well as

identify any additional potential flooding areas. This data collection and existing conditions analysis will result in a preliminary list of problem areas suitable for evaluation during the Level I – Alternatives Formulation/Preliminary Analysis stage of this study. A preliminary list of flooding problem areas is provided in this section.

2.1.3.1 North side of ACDC Canal.

No provisions were made to convey water from subdivisions adjacent to the ACDC to the canal itself. Kaminsky-Hubbard (K-H) did a preliminary study for a 500-foot wide swath along the north side of the ACDC. The CONSULTANT shall review the K-H "500-foot swath" report on the local drainage problems adjacent to the ACDC. The CONSULTANT should verify the K-H sites in the field and investigate whether the problem sites are the same as during the time of the report. Anticipating concept design requirements, while in the field the CONSULTANT should identify locations where spot elevations are needed to support basic design concepts as well as measuring potential corridor locations between houses or buildings.

Given the age of the K-H report and the rapid pace of development in the Valley, the CONSULTANT should note changes in the flooding areas adjacent to the ACDC that may influence the problem sites, as well as changes in the contributing sub-basins west of 51st Avenue that may increase or decrease the volume of water that finds its way to the problem locations.

Results of the CONSULTANT's findings to this point should be conveyed to the Project Manager at the DISTRICT in a memorandum. At that time, there will be an informal prioritization of the problem sites (some may be eliminated). Those sites given high priority will be evaluated further during the Level I – Alternatives Formulation/Preliminary Analysis.

2.1.3.2 Ninety-first Avenue to the New River along Union Hills Drive.

As a partial "ultimate" discharge point, the Union Hills Storm drain (95 percent design plans) will accept the Q100 minus Q10, but the remainder of the 100-year flow will remain in the street. The CONSULTANT shall review the reports which provide background for the site and shall evaluate the hydrology for those contributing sub-basins reflecting any new development.

When the updated hydrology model has been developed the flow into the Union Hills Storm drain should be diverted within the HEC-1 model. The remainder of the flow should be split and routed, as appropriate, either down Union Hills Drive to the New River, or down 91st Avenue to Bell Road, and then east over to the New River or continue south through the existing subdivision to the New River at approximately the alignment of Thunderbird Road. The CONSULTANT shall check the outlet capacity of the channel leading to New River. The proportioning on the flow splits should be according to the street capacity, street slopes and topography at the arterial intersections.

If the arterial streets have sufficient capacity to carry the flows while observing the one drivable lane in each direction requirement, the analysis will be complete. A written summary of the findings should be prepared for the DISTRICT, along with the updated HEC-1 model and supporting documentation. If the streets do not have sufficient capacity, the site will be evaluated further during the Level I – Alternatives Formulation/Preliminary Analysis.

2.1.3.3 Ninety-first Avenue to the Agua Fria River along Beardsley and Bell Roads.

The south part of sub-basin 502 discharges to a channel along Beardsley Road which then flows towards the Agua Fria River. There is significant overflow from the adjacent subdivision lakes. Upon reaching the 115th Avenue channel, these additional and unanticipated flows cause the 115th Avenue channel to overtop. Design of aeration ponds for the adjacent treatment plant did not preserve an adequate corridor to the Agua Fria River for storm water flows. Berms were subsequently constructed to divert water to the south. Local development to the south did not anticipate these diversions and did not design sufficient capacity into the system. A diversion constructed around an adjacent sand and gravel operation exacerbates

the problem. As a result, flows cannot adequately reach the Agua Fria River resulting in flooding problems at and near 115th Avenue and Bell Road. The CONSULTANT shall take into account and assess current plans to design a channel down the Beardsley Road alignment.

2.1.3.4 Eighty-third Avenue to the New River north of Beardsley Road.

Flooding along the northerly reaches of 83rd Avenue is due to piecemeal development coupled with the lack of an overall drainage plan coordinated between Maricopa County and the City of Peoria. There are two types of problems: 1) Concentrated flow around developments that lack an ultimate discharge point. 2) Developments down-gradient of undeveloped areas result in substantial offsite flows impacting the development. Even when a developer "follows all of the rules" and accommodates offsite drainage around or through his development, there will be a discontinuity up and downstream.

2.1.3.5 Rock Springs Creek.

The DISTRICT is currently undertaking a Floodplain Delineation study for Rock Springs Creek (FCD No. 98-47, Stantec Consulting). Historically, the creek flowed south through sub-basins 540, 541, 542 and 553 to join the New River north of Beardsley Road. A field investigation reveals that the Creek has been diverted at a 90-degree angle at one point, diverted into an extended (> ¼ mile) box culvert and forced to travel along various man-made conveyance corridors. The most striking observation from an informal field investigation is the inconsistent sizing along the channel of the stabilization measures.

2.1.3.6 Channel along north side of Grand Avenue.

Flooding occurs along Grand Avenue at various points between the Agua Fria and New Rivers. Sun City was designed prior to most of the current retention policies or hydrologic master planning, resulting in a somewhat inconsistent drainage system. The capacity of the channel and the hydraulic structures along Grand Avenue should be verified.

2.1.3.7 Drainage on west side of Sun City.

Minor drainage channels along the west side of Sun City are undersized. On the uphill side, there is head cutting into the perimeter wall of Sun City. On the downstream side, water flows into the SRP easement north of Grand Avenue.

2.1.3.8 Beardsley Drainage Channel between Lake Pleasant Road and 107th Avenue.

Lakes designed for storm water runoff are kept too full to accommodate storm events. During relatively minor rainstorms the capacity of the lakes is exceeded resulting in overtopping.

2.1.3.9 Pinnacle Peak Road and 67th Avenue.

There have been repeated flooding problems in the subdivision south of Pinnacle Peak Road, east of the New River. Water from the upbasin undeveloped area impacts the subdivision along the northern perimeter. The first row (northern edge) of homes are elevated. However, off-site flows move west along the northern perimeter and are then directed into the subdivision, follow a circuitous route down steeply sloping local streets, including several right angle turns, and finally into a large storm drain in a cul-de-sac along the westerly edge of the sub-division. The storm drain flows west and discharges into a channel at the 75th Avenue alignment. The channel then discharges into New River.

2.1.3.10 Wier Wash.

Much development is currently underway in the Weir Wash area. The CONSULTANT shall identify all current and planned projects and evaluate drainage plans to anticipate potential drainage problems. The CONSULTANT should identify candidate segments of Weir Wash for floodplain delineation under Section 2.2 of this SOW.

2.1.4 The CONSULTANT shall prepare an inventory of drainage facilities that are being planned by other public jurisdictions, irrigation districts or private development.

2.1.5 The CONSULTANT shall develop a comprehensive list of proposed development

planned within the study area.

2.1.6 The CONSULTANT shall prepare an Existing Facilities Exhibit illustrating the location of man-made drainage facilities in the watershed. The condition, type and ownership of man-made facilities will be noted. These facilities will become part of the base map for alternatives. The CONSULTANT shall make maximum use of these facilities, where feasible, as part of the stormwater management plan alternatives. Base mapping will include land ownership, land use types, and soil types available from the DISTRICT. The land ownership maps will indicate whether property is publicly or privately held and the owning agency.

2.1.7 The CONSULTANT shall become familiar and give consideration to existing hydrologic studies and models, and assumptions made to assist with the new hydrologic analysis.

2.1.8 The CONSULTANT shall collect and compile a list of historic flooding information and drainage problem areas in the study area.

2.2 FEMA FLOODPLAIN AND FLOODWAY DELINEATION

2.2.1 This ADMP Update study will include A-Zone floodplain delineation studies and/or Letters of Map Revision (LOMRs), whichever is appropriate, at the following locations for submittal to the Federal Emergency Management Agency (FEMA).

2.2.1.1 Unnamed tributary wash to the Agua Fria River (approximately 4 miles in length) adjacent to Lake Pleasant Road (reference in Loop 303 drainage plan completed by HDR).

2.2.1.2 Unnamed wash flowing south through sub-basins 501 and 502 (approximately 2 miles in length).

2.2.1.3 Unnamed tributary wash to the New River (approximately 2 miles in length) flowing south-southwest through sub-basin 550.

2.2.1.4 Any washes or tributaries identified during the Weir Wash evaluation conducted in Section 2.1.3.10 of the SOW.

2.2.1.5 Unnamed wash flowing south through sub-basins 395, 396 and 397 (approximately 6 miles in length). The wash discharges to Arrowhead Ranch Lakes creating a possible overflow/sediment problem.

2.2.1.6 Small localized floodplains west of 91st Avenue, between Beardsley and Deer Valley Roads. CONSULTANT shall evaluate drainage and submit LOMRs where appropriate.

2.2.2 The CONSULTANT shall prepare Letter of Map Revision (LOMR) submittals in accordance with 44 CRF §65.8 Review of Proposed Projects and 44 CFR §65.6 Revision of Base Flood Elevation Determinations.

2.2.3 The CONSULTANT shall prepare floodplain delineations and FEMA submittals in accordance with Sections 11 and 12, Floodplain Delineation Studies, and FEMA Submittals, Consultant Guidelines, October 1, 1998. The CONSULTANT shall submit the delineations to the DISTRICT for review and approval prior to submittal to FEMA so that the DISTRICT can coordinate with the effected jurisdictions.

2.3 LEVEL I ANALYSIS – ALTERNATIVES FORMULATION/PRELIMINARY ANALYSIS

2.3.1 The CONSULTANT shall prepare the Level I Analysis in accordance with Section 14.3, Level I Analysis – Alternatives Formulation/Preliminary Analysis, Consultant Guidelines, October 1, 1998.

2.3.2 The CONSULTANT shall prepare an existing constraints map based on information

derived from the existing data for presentation at a Brainstorming Meeting of the participants to initiate the Level I Analysis. The presentation shall identify existing flooding problem areas and the results from existing studies in the area. The CONSULTANT will provide several seed ideas for potential solutions and consideration. During the Brainstorming Meeting, the participants shall include any information provided by the Cultural, Environmental, Ecological, Visual and/or other analyses that have been conducted. The CONSULTANT shall document all the possible alternatives identified during the Brainstorming Meeting.

2.3.3 Based on the concepts identified in the Brainstorming Meeting, the CONSULTANT shall identify those alternatives which can be discarded with no or minimal analysis, and eliminated from further consideration.

2.3.4 The CONSULTANT shall identify possible project alternatives for mitigation of flooding and conveyance of storm flows.

2.3.5 The CONSULTANT shall recommend those alternatives to be studied further. The DISTRICT, with input from the study participants, will make the final selection of alternatives.

2.3.6 The CONSULTANT shall submit schematic drawings and a narrative description of the potential alternatives for review (Potential Alternatives Submittal). The purpose is to review and approve the alternatives prior to proceeding with the analysis. The drawings shall be sufficient to describe and compare the project requirements and alignment of the alternative. The narrative shall describe the alternatives and identify the advantages and disadvantages.

2.3.7 The CONSULTANT shall develop evaluation criteria with input from the participating agencies for evaluation of the alternatives and prepare a matrix by which alternatives can be evaluated by assigning scores to each of the evaluation criteria. Socioeconomic, physical and natural environmental, flood safety, and cultural and visual resource impacts are to be included, as applicable, in the evaluation criteria.

2.3.8 The CONSULTANT shall include a No-Action Alternative during development of the alternatives.

2.4 LEVEL II ANALYSIS – ALTERNATIVE ANALYSIS

2.4.1 The CONSULTANT shall prepare the Level II Analysis in accordance with Section 14.4, Level II Analysis – Alternative Analysis, Consultant Guidelines, October 1, 1998.

2.4.2 The CONSULTANT shall evaluate the approved alternatives with respect to potential flood safety issues by evaluating proposed future recreational facilities and develop a summary of potential flood safety needs/constraints for these facilities and identifying potential mitigation techniques such as augmenting the existing DISTRICT Alert System, the use of passive safety devices such as posting evacuation routes, and the role of public education.

2.4.3 The CONSULTANT shall evaluate the approved alternatives to determine the engineering feasibility and approximate costs. Conceptual design of the project features shall be limited to typical sizes and dimensions and shall be sufficient to determine the costs of major project components. Conceptual design will be based on the 100-year/6-hour, existing conditions runoff. Capital cost estimates shall include design, major construction items, rights-of-way, and major utility relocations.

2.4.4 The CONSULTANT shall prepare an Alternatives Summary presenting the alternatives and evaluation criteria to be reviewed by the Participants and used to evaluate the selected alternatives at a comparative level of detail. The CONSULTANT shall prepare a minimum of two (2) alternative solutions per identified problem site. An Alternative Evaluation meeting of the Participants will be held to evaluate the alternatives. The CONSULTANT shall assemble the evaluations and identify the preferred alternative receiving the highest composite score based on the scores assigned by the reviewers. The preferred alternative may be comprised of multiple

features, providing a collective solution.

2.4.5 (OPTIONAL) The CONSULTANT shall prepare up to an additional 12 alternative solutions for consideration by the public and project Participants during the Alternatives Analysis. These additional 12 alternative analyses would be distributed among all problem areas as needed.

2.5 LEVEL III ANALYSIS – PREFERRED ALTERNATIVE ANALYSIS

2.5.1 The CONSULTANT shall prepare the Level III Analysis in accordance with Section 14.5, Level III Analysis – Preferred Alternative Analysis, Consultant Guidelines, October 1, 1998.

2.5.2 The CONSULTANT shall refine the design and cost estimate for the preferred alternative identified in the Alternatives Analysis Report.

2.5.3 The CONSULTANT shall prepare Conceptual Design Plans (15 percent) which will identify the approximate sizes, slopes, profiles, alignments, cross-sections and plan and profile for proposed channels, culverts, basins and/or other features. These plans shall be presented on a 100-scale base drawing, containing available contour, utility, and right-of-way information.

Recreation, cultural, environmental, and/or ecological sites and aesthetic features shall be shown in project drawings where they are contained within the plan view of the drawings.

The landscape conceptual design plans (15 percent) will identify the geographic boundaries of proposed landscape treatment areas. The landscape treatment areas will correspond with the integrated drainage solution selected for each specific problem area. Schematic landscape treatments and cross-sections will be prepared for each problem area as appropriate.

2.5.4 The CONSULTANT shall present the Preferred Alternative to the participant. The Participants shall prioritize the features of the preferred alternative and the CONSULTANT shall include the prioritization in the final report.

2.6 MAINTENANCE PLAN

2.6.1 The CONSULTANT shall estimate maintenance requirements and costs for the preferred alternative on an annual basis. The life cycle to be used in calculations shall be 50 years.

2.6.2 The CONSULTANT shall prepare general maintenance and operation guidelines for operation and maintenance for features of the preferred alternative.

2.7 IMPLEMENTATION PLAN

2.7.1 The CONSULTANT shall prepare an implementation plan for the preferred alternative that shall document the available tools or procedures, including funding mechanisms, for implementing the results of the Project. The CONSULTANT shall prepare the necessary submittals for inclusion of the recommended projects in the DISTRICT's CIP Prioritization Process. Submittals will include addressing the Prioritization Procedure currently accepted by the DISTRICT. The CONSULTANT shall identify tools, such as existing ordinances and regulations, for each jurisdiction within the study area that may be modified or created to encourage development standards that are compatible with the Project.

2.8 FIELD SURVEY AND MAPPING

2.8.1 The CONSULTANT shall evaluate and verify the usefulness of existing aerial and topographic mapping and survey work within the ADMP Update area.

2.8.2 The CONSULTANT shall obtain supplemental field surveys as needed of bridges, culverts, and drainage structures when record drawings or previous survey data is not available.

Benchmark control data shall be provided by the DISTRICT from the control survey established for the aerial mapping to be provided under Task 2.8.4 following herein. At least two recoverable control points, located within one mile of each study area to be surveyed, shall be provided by the DISTRICT for the CONSULTANT'S use in the supplemental survey.

2.8.3 The aerial mapping control survey for Task 2.8.4 herein (and hence all supplemental surveys), shall tie to the Maricopa County Department of Transportation's control system where available. If not available, the control survey shall be referenced to the DISTRICT's Glendale/Peoria structural control for New River and Adobe Dams.

2.8.4 The CONSULTANT shall coordinate with the DISTRICT'S on-call aerial mapping and survey consultants who will prepare aerial photography at a scale of 1:7200 (1 inch = 600 feet) and digital topographic mapping at a scale of 1 inch = 200 feet with a 2-foot contour interval for a half-mile wide band along the points of detailed study (approximately 20 linear miles). The CONSULTANT will work with the DISTRICT to identify the specific limits of mapping. The contour map will be derived from a digital terrain model using break lines and a 50-foot spacing grid of mass points. Planimetric data will be compiled in separate layers to facilitate translation to the DISTRICT's HIS database. Only major landmark buildings will be compiled. Spot elevations shall be placed along roadways, and in road intersections, saddles, depressions, and on significant tops.

2.8.5 The CONSULTANT shall establish five (5) Elevation Reference Markers (ERMs) for the Zone A floodplain delineations of Task 2.2 herein. The final location of the ERMs shall be proposed by the CONSULTANT and approved by the DISTRICT prior to surveying (and possibly setting) the final monumentation. Any new monumentation shall be set in accordance with Section 11.3.4.2, of the Consultant Guidelines, October 1, 1998.

2.9 HYDRAULIC ANALYSIS

2.9.1 The CONSULTANT shall prepare preliminary hydraulic analysis in accordance with Chapter 10, Hydraulics, Consultant Guidelines, October 1, 1998.

2.9.2 The CONSULTANT shall prepare hydraulic analysis for bridge crossings and culverts as applicable.

2.9.3 The CONSULTANT shall prepare digital deliverables in accordance with the DISTRICT's Data Delivery Specifications, Revision 3.1, June 1998. The CONSULTANT will submit the following coverages:

PRJ	Project Boundaries	CP-60
DQ	Data Quality	CP-410
NDXPRJ	Map Sheet Boundaries	CP-40
FPCTLFCD	Elevation Reference Marks	CP-523
FPZNFCD	Floodplain Zones	CP-550

2.10 HYDROLOGIC ANALYSIS

2.10.1 The CONSULTANT shall prepare preliminary hydrologic analysis in accordance with Chapter 9, Hydrology, Consultant Guidelines, October 1, 1998.

2.10.2 The CONSULTANT shall prepare or update the following hydrologic models:

2.10.2.1 South of Skunk Creek, north of the ACDC, west of 51st Avenue, and east of 71st Avenue. Using the Kaminski-Hubbard ACDC ADMS study hydrology as a basis, the CONSULTANT shall develop a more detailed hydrologic analysis by splitting the previously identified sub-basins where needed. The analysis will include an identification of the aerial extent of flooding (i.e., the number of homes potentially flooded).

2.10.2.1.1 The CONSULTANT shall update and refine the current Existing Condition 100-year/24-hour, 100-year/6-hour, and 10-year/6-hour hydrology with sub-basins and points-of-concentration defined as applicable for the model frequency. Updated DDMS files shall be included.

2.10.2.1.2 The CONSULTANT shall update the current Future Condition 100-year/24-hour, 100-year/6-hour, and 10-year/6-hour models with sub-basins and points-of-concentration defined as applicable for the model frequency. The CONSULTANT should assume that 80 percent of retention requirements (100-year/2-hour volume) are met for Future Conditions modeling. A DDMS update shall be included.

2.10.2.1.3 The CONSULTANT shall develop runoff hydrographs for input to the updated models for all areas east of 51st Avenue. These input hydrographs shall be generated using the existing HEC-1 modeling documented in the Kaminski-Hubbard ACDC ADMS. No modifications or updating of data east of 51st Avenue will be performed as part of this project.

2.10.2.2 South of New River Dam, north of Skunk Creek and the Sun Cities, west of the 51st Avenue alignment, and east of the Agua Fria River (the numbered sub-basins as identified in the ACDC hydrologic models prepared by Kaminski-Hubbard).

2.10.2.2.1 The CONSULTANT shall update the Existing Conditions 100-year/24-hour, 100-year/6-hour, and 10-year/6-hour models with sub-basins and points-of-concentration defined as applicable for the model frequency. The CONSULTANT shall update the sub-basin boundaries as needed. A DDMS update shall be included.

2.10.2.2.2 The CONSULTANT shall prepare Future Conditions 100-year/24-hour, 100-year/6-hour, and 10-year/6-hour models with sub-basins and points-of-concentration defined as applicable for the model frequency. The CONSULTANT should assume that 80 percent of retention requirements (100-year/2-hour volume) are met for Future Conditions modeling.

2.10.2.2.3 The CONSULTANT shall modify the northeastern drainage area boundary from approximately Pinnacle Peak Road to the CAP.

2.10.2.3 Sun City north of Grand Avenue (as defined in the Sun City Area Hydrologic Study, DRAFT, prepared by the DISTRICT).

2.10.2.3.1 The CONSULTANT shall verify the input assumptions made for the Sun City Area Hydrologic Study, DRAFT, north of Grand Avenue. The DISTRICT study includes only the Existing Conditions 100-year/6-hour model.

2.10.2.3.2 The CONSULTANT shall incorporate the DISTRICT's Existing Conditions 100-year/6-hour model into the overall model for the ADMP. The CONSULTANT shall prepare the Existing Conditions 100-year/24-hour and 10-year/6-hour models with sub-basins and points-of-concentration defined as applicable for the model frequency.

2.10.2.3.3 The CONSULTANT shall prepare Future Conditions 100-year/24-hour, 100-year/6-hour, and 10-year/6-hour models with sub-basins and points-of-concentration defined as applicable for the model frequency. The CONSULTANT should assume that 80 percent of retention requirements are met (100-year/2-hour volume) for Future Conditions modeling.

2.10.2.4 North of Grand Avenue to the northern ADMP Update study area boundary, west of the Sun City Area Hydrologic Study, and east of the Agua Fria River 100-year floodplain (portions of sub-basins BBB and CCC).

2.10.2.4.1 The CONSULTANT shall prepare Existing Conditions 100-year/24-hour, 100-year/6-hour, and 10-year/6-hour models with sub-basins and points-of-concentration defined as applicable for the model frequency.

2.10.2.4.2 The CONSULTANT shall prepare Future Conditions 100-year/24-hour, 100-year/6-hour, and 10-year/6-hour models with sub-basins and points-of-concentration defined as applicable for the model frequency. The CONSULTANT should assume that 80 percent of retention requirements (100-year/2-hour volume) are met for Future Conditions modeling.

2.10.3 The CONSULTANT shall provide the same hydrology models incorporating the hydrologic effects of the preferred alternative(s) and features once identified through this ADMP Update.

2.10.4 The CONSULTANT shall prepare a package for use by the DISTRICT, Peoria, Glendale, and other designated users that contains the final Hydrology model, the CAD watershed map, and a brief information packet. The information packet will describe the model and main assumptions, the restrictions on use, and will reference people to contact when using or modifying the model. The information packet will be developed and reviewed by the users listed above. The three items listed above will be placed on CD ROM and submitted with an additional hard copy of the information packet at the end of the project.

2.10.5 The CONSULTANT shall prepare digital deliverables in accordance with the DISTRICT's Data Delivery Specifications Rev. 3.1 June 1, 1998. The CONSULTANT will submit the following coverages:

PRJ.REL	Contract Name/ID	CP-430
PRJ	Project Boundaries	CP-60
DQ	Data Quality	CP-410
DRNBSN	Drainage Basin	CP-920
DRNPATH	Drainage Paths	CP-930
LAKE	-----	CP-950
CULVERTS	-----	CP-620

2.10.6 (OPTIONAL) Arrowhead Ranch Lakes Analysis for the Lakes and Legends Communities north of ADOT Loop 101 (Beardsley Road alignment) (Subbasins 397, 398B, and 570).

At the option of the DISTRICT, a detailed hydrologic study will be performed for this area. Currently, most of the runoff from offsite areas and the developed residential communities within this study area drain directly to a series of lakes that are situated internally within the Arrowhead Ranch Lakes and Legends communities. The lakes were primarily designed to provide a source of irrigation water for the adjacent golf courses by storing effluent and/or pumped well water and as an aesthetic feature. Surcharge storage of approximately 3-feet was also designed into the overbank areas of the lake for the attenuation of onsite and offsite area runoff. For its design, the lake system hydrology was modeled for a 100-year/24-hour storm using the NRCS (formerly SCS) TR20 model. Each lake employs a series of weirs that control the operational water surface and the flood flow water surface. Storm flows cascade through the system and ultimately outfall to one of two locations along the perimeter of the study area. The main outfall is located just north of Loop 101 at approximately the 55th Avenue alignment. The second outfall is located at 67th Avenue approximately 0.5 miles south of Deer Valley Road. The system on a whole, has reportedly never been completely as-built and hydrologically analyzed for the as-built conditions. Glendale has received complaints from the community homeowner's associations regarding flooding problems with the lakes. It is requested by the City of Glendale, that the entire lake system be hydrologically updated in detail for the as-built, existing lake conditions to assess the potential operation of the lakes during the design 100-year/24-hour event.

The CONSULTANT shall obtain all available design data for the lakes including design and construction drawings and as-builts, the design report and TR20 models, and any drainage

reports of subdivisions developed within area. The CONSULTANT shall also meet with representatives of the homeowners associations and appropriate maintenance personnel to identify and document their concerns regarding flooding problems, and to identify the current lake operational procedures. The CONSULTANT shall model in detail the lake systems for the 100-year, 24-hour existing and future condition storms. The entire watershed for this study area shall be updated to current County methodology. The CONSULTANT shall perform adequate field surveys of the lake system weirs to establish the as-built conditions and develop stage/discharge rating relations for each lake. The CONSULTANT shall also develop stage/storage and other routing parameters using the 1990 topographic mapping developed for the ACDC ADMP (to be supplied by the DISTRICT).

The CONSULTANT shall summarize the results of the as-built surveys and hydrologic analyses in a report. If problem areas are identified, the CONSULTANT shall also summarize those areas in the report and present the overall findings to the DISTRICT and Glendale for discussion.

Mitigative measures may be formulated to address problem areas identified in the analysis. At the option and direction of the DISTRICT, the CONSULTANT shall conduct Level I, II, and III Alternative Analyses. For viable alternatives, the CONSULTANT shall prepare 15 percent conceptual level design plans of the proposed solution(s). These will be presented in the Alternatives Analysis Report and Recommended Design Report.

2.11 LAND OWNERSHIP, RIGHT-OF-WAY AND EASEMENTS

2.11.1 The CONSULTANT shall review assessor parcel ownership maps and identify which properties will be affected by the preferred alternatives.

2.11.2 The CONSULTANT shall identify permanent and temporary right-of-way and easement requirements necessary for the preferred alternatives. The CONSULTANT will identify the right-of-way in the specific areas of alternatives that are to be given a level II evaluation. The DISTRICT will provide all GIS right-of-way information available to the CONSULTANT. The remaining right-of-way will be researched and drawn on the alternative study area base sheets by the CONSULTANT. Only right-of-way information needed to obtain approximate areas of additional right-of-way or easements necessary to construct the alternatives will be identified.

2.11.3 The CONSULTANT will identify any necessary rights-of-entry within the study area. The DISTRICT will obtain any necessary rights-of-entry for the study area and furnish the CONSULTANT with Right-of-Entry letters.

2.12 ENVIRONMENTAL OVERVIEW

2.12.1 The CONSULTANT shall prepare an Environmental Overview analysis in accordance with Chapter 7, Environmental Requirements, Consultant Guidelines, October 1, 1998. The Environmental Overview shall include a comparative analysis for each of the alternatives identified to include socioeconomic, physical and natural environmental impacts, and cultural aspects of the study area. This comprehensive analysis shall address all of the major environmental disciplines and identify any potential problem areas (fatal flaws) that might exist.

2.12.2 Environmental Permits and Approvals. For the Preferred Alternative, the CONSULTANT shall be responsible for identifying project-specific plan approvals, permits, or licenses from other agencies that will be required. Other agencies may include, but may not be limited to: municipalities, tribal governments, the U.S. Environmental Protection Agency (EPA), the Maricopa County Department of Environmental Services (MCDES), the Arizona Department of Environmental Quality (ADEQ), the Arizona Department of Water Resources (ADWR), the Army Corps of Engineers (ACOE), railroads, utilities, and water districts. The primary emphasis of this task is to identify the Section 404 permit requirements. Requirements for permits shall be documented in the Implementation Plan.

2.12.3 Cultural Resources Assessment.

2.12.3.1 The CONSULTANT shall complete a Class I Survey and an Archeological Assessment to identify any prehistoric and historic resources for the entire study area. The purpose of the archeological inventory is to determine the effects of each proposed alternative on the identified cultural resources.

2.12.3.2 The CONSULTANT shall prepare a report documenting the results of the archeological assessment. The report shall describe the size, features and significance of any identified or known cultural resources (up to and including one mile outside the study boundaries on the north and east sides) and the potential impact of the preliminary project alternatives on the sites based on existing information. The report shall include recommendations for further study and associated costs, including testing or mitigation, if required. In addition, the CONSULTANT shall map (hand draw) the sites on USGS 7.5 minute quad maps and on aerial photos. Aerials to be provided by the DISTRICT. Digital mapping will not be required. The DISTRICT will provide the results of cultural investigations being completed for current projects on the Agua Fria and New Rivers.

2.12.4 Environmental Regulatory Records Review.

2.12.4.1 The CONSULTANT shall conduct a search of the federal, state, and local environmental lists and databases located in the project area and their respective search radius (ASTM 1527 - 97) for each proposed alternative.

2.12.4.2 The CONSULTANT shall document the locations of the regulatory sites on the area map. The CONSULTANT shall include a brief description of the regulatory sites which should include, the descriptive location of the site, the type of regulated substance or waste at the site, the extent of the contamination, the status of the site (i.e. closed or open status), remediation plans of the site, and the named potentially responsible party(s). The CONSULTANT is not expected to conduct extensive file review on the identified regulatory sites to obtain this information.

2.12.4.3 The CONSULTANT shall recommend alternative locations and/or solutions to avoid costly remediation if any of the proposed alternatives appears to require land that is listed as a regulatory site or may be affected by a regulatory site.

2.12.4.4 The CONSULTANT shall make a qualitative estimate of the general cost to investigate and remediate the potential problem resulting from the regulatory sites in terms of relative magnitude, i.e. high, moderate or low. The information will be used in the analysis of the alternatives.

2.12.5 Ecological Assessment.

2.12.5.1 The CONSULTANT shall conduct a non-intensive field survey and use current aerial photographs to identify and map the existing ecological resources within the project area including the riparian vegetation communities (xeric, meso and hydrophytic), wildlife, sensitive species and critical habitat, water resources, and potential wetlands. Upland vegetation communities will not be mapped. The CONSULTANT shall contact the U.S. Fish and Wildlife Service (USFWS) and the Arizona Game and Fish Department (AGFD) to obtain information regarding the presence of listed Threatened and Endangered Species, Wildlife Species of Special Concern, and designated critical habitat in the project area.

2.12.5.2 The CONSULTANT shall determine the effects of each of the proposed alternatives on the identified ecological resources and any identified sensitive species or habitat.

2.12.5.3 The CONSULTANT shall prepare a report summarizing the results of the ecological assessment. The report shall include a description and maps or aerial photographs (scale: 1 inch = 400 feet) depicting the locations of the identified ecological

resources. In addition, the report shall describe the identified effects of each alternative on the ecological resources. The CONSULTANT shall recommend methods to avoid or minimize any negative effects the proposed alternatives may have on the ecological resources. If any of the negative effects can not be avoided or minimized, then the CONSULTANT shall make a qualitative estimate of the general mitigation costs for the negative effects in terms of the relative magnitude, i.e. high, moderate or low. This information will be used in the analysis of the alternatives.

2.12.6 Title VI Environmental Justice Assessment. The CONSULTANT shall document and map the social and economic attributes of the citizens affected by this study using current census data (1995 preferred). The factors prohibited from serving as a basis for action or inaction which discriminates include, race, color, national origin, sex, age, and handicap/disability. Therefore, the efforts to prevent discrimination must address, but not be limited to a program's impacts, access, benefits, participation, treatment, services, contracting opportunities, training opportunities, investigations of complaints, allocations of funds, prioritization of projects and the functions of right-of-way, research, planning and design.

2.13 VISUAL RESOURCES AND MULTIPLE USE OPPORTUNITIES ASSESSMENT

2.13.1 Visual Resources Assessment. The purpose of this assessment is to identify aesthetic features and geographic units of the study area that may be preserved, enhanced, or improved. The units will serve as the basis for establishing landscape design themes and the future desired character for each alternative.

2.13.1.1 The CONSULTANT shall delineate the existing landscape character units within the study area. The units should be delineated based on land use, landforms, spatial enclosure, land marks, and/or vegetation conditions within the study area which give each unit an identifiable character and sense of place. The landscape character units will be mapped and documented with photographs of each unit cross referenced to their location on the map. A brief narrative will be prepared describing each unit.

2.13.1.2 The CONSULTANT shall prepare a visual analysis map and brief narrative that identifies distinct features (cultural or natural), areas of low feature/visual diversity, major viewpoints within and adjacent to the study area, opportunities for aesthetic improvements/restoration, and areas to be preserved because of their inherent aesthetic value (visual diversity).

2.13.1.3 The CONSULTANT shall prepare a map and brief narrative of the existing visual conditions to identify relative levels of intactness of natural and cultural features. This information may be included on the visual analysis map.

2.13.1.4 The CONSULTANT shall assess the extent to which existing flood control facilities and their related features incorporate the aesthetic treatment guidelines contained in the DISTRICT's Policy for the Aesthetic Treatment and Landscaping of Flood Control Projects. In cases where existing flood control facilities are found to be in non-conformance with the DISTRICT's aesthetic treatment policy, the CONSULTANT shall identify possible measures for retrofitting existing facilities to achieve consistency with the policy.

2.13.1.5 The CONSULTANT shall utilize the visual resource assessment to develop the desired landscape character themes (visions) for each alternative that will protect and enhance local community character and create aesthetic value. The CONSULTANT shall prepare graphic exhibits which may include rendered conceptual plans, cross sections, sketches, simulations and/or other media appropriate for public communication that illustrates the desired landscape character and aesthetic features for the recommended alternative for use in future design phases. The CONSULTANT shall identify ways to enhance public landscape viewing opportunities through the location, orientation and design of the recommended alternative.

2.13.2 Multiple-Use Opportunities Assessment. The purpose of this assessment is to serve as a basis for the formulation of alternatives that will provide flood control functions while maximizing opportunities to meet local community needs for recreation, open space, protection and enhancement of natural landscape and local community character, alternative forms of transportation, and/or ground water recharge.

2.13.2.1 The CONSULTANT shall inventory and map existing and future planned land uses, including recreation sites, open spaces, transportation systems and nodes, residential, commercial, educational, and industrial centers within the study area and including the area within one-mile of the study area. The CONSULTANT shall also review the inventory of existing conditions including the natural and/or cultural landscape features. The DISTRICT will provide data and resource mapping prepared by Carter-Burgess for the West Valley Recreation Corridor Study. This information will be illustrated on the site inventory map(s), and a brief narrative explaining the site inventory map will be prepared.

2.13.2.2 The CONSULTANT shall prepare a planning influences map that identifies the opportunities and limitations based on the analysis of the site inventory and visual analysis information. A brief narrative will be prepared to describe the planning influences map.

2.13.2.3 The CONSULTANT will utilize the inventory and analysis information and the planning and design requirements for flood control to identify and describe the types of multi-uses that might be appropriately incorporated into the alternatives developed for flood control management. The CONSULTANT shall briefly describe the benefits associated with integrating the identified multiple-use opportunities into the various alternatives. The multiple-use opportunities will be delineated on a map and briefly described. II

2.13.2.4 The CONSULTANT shall identify and briefly describe, in general, potential partners and funding sources for implementation of multiple-use opportunities for each alternative. III

2.13.2.5 The CONSULTANT shall identify design guidelines for integration of multi-use opportunities with flood control management facilities to guide subsequent design phases for the recommended alternative. III

2.14 PUBLIC INVOLVEMENT

2.14.1 The CONSULTANT will plan and conduct a total of six open houses/public meetings throughout the Update study area in conjunction with this study. Meetings may serve any of the following functions:

2.14.1.1 Open House/Public Meeting to inform the public of the purpose and scope of the study, including the floodplain delineation components of the study, and to receive comments and concerns.

2.14.1.2 Open House/Public Meeting to present project alternatives to be studied and/or to present the results of the floodplain delineation study, and to receive public comments. The purpose of the meeting shall be to request public input regarding the alternatives, their preferences, and any recommendations they may have for other alternatives that need to be evaluated. In addition, the meeting will be to obtain public comment on the floodplain delineation study results. Any public meetings in conjunction with the floodplain delineation component of this study must take place prior to the submittal of floodplain delineation studies to FEMA.

2.14.1.3 Open House/Public Meeting to inform the public and obtain public comment on the study results. The purpose of the meeting is to present the results of the alternative analysis and the recommended alternative.

2.14.2 The CONSULTANT shall be responsible for the preparation of handouts and display boards for open houses and/or public meetings (assume 500 handouts/comments sheets per open house meeting). The CONSULTANT will be responsible for the preparation of all the graphic displays for neighborhood meetings and public agency board meetings. The CONSULTANT will provide, in digital and printed format, an exhibit showing the general project features or project impact area suitable for reproduction or publication.

2.14.3 The CONSULTANT shall chair the meetings as necessary. The CONSULTANT shall participate in the presentation, and respond to questions as required by making formal presentations or by written document addressing the issue.

2.14.4 The CONSULTANT shall provide required refreshments.

2.14.5 The CONSULTANT shall prepare a summary of the open houses and neighborhood meetings, including concerns raised by the public.

2.14.6 (OPTIONAL) The CONSULTANT shall participate with the DISTRICT in up to 20 miscellaneous meetings as requested by the DISTRICT, including any City or Town Council Meetings or Work-Study Sessions to present the study effort purpose, scope and progress to date. It is anticipated that illustration boards and graphics prepared for the open houses will be used to partially fulfill the needs for this task.

2.14.7 The CONSULTANT will provide all public notification and/or placement of the required legal advertising.

2.14.8 At the start of the project the CONSULTANT shall prepare a one-page front and back, tri-color, tri-fold project brochure for distribution to the public (assume 5,000 total), providing the project purpose, background, history, schedule, and points-of-contact. The DISTRICT will provide final review and approval of any document to be sent to the public. The CONSULTANT will mail any documents using a mailing list approved by the DISTRICT.

2.14.9 (OPTIONAL) Up to 7,000 additional brochures will be prepared and distributed as directed by the DISTRICT.

2.14.10 The CONSULTANT shall prepare two project milestone (as defined by the DISTRICT) newsletters/project status updates for distribution to the public (assume 5,000 x 2 distributions), the project participants, and other interested parties. The newsletter/update will provide at a minimum a project update of work conducted during the previous time-period, work to be conducted during the next time-period, upcoming events, questions and answers to questions identified during the study effort, and the project schedule. The DISTRICT will provide final review and approval of any document to be sent to the public. The CONSULTANT will mail any documents.

2.14.11 (OPTIONAL) Up to 7,000 additional newsletters will be prepared and distributed as directed by the DISTRICT.

2.14.12 Early in the project the CONSULTANT shall develop internet webpages for the project to communicate project information and status. Webpages shall be updated at project completion to include project results. Content, format and design of the webpages shall be approved by the DISTRICT. The webpages shall be linked to the DISTRICT website.

2.14.13 (OPTIONAL) The CONSULTANT shall be responsible for the establishment and maintenance of a voice-mail hotline. The hotline will allow the public to leave a voice-mail message which will provide another medium for the public to comment on the project. The hotline will be checked at appropriate intervals, but in no case more than every second day, and the messages will be summarized in a weekly report. If a message requires a verbal or written response, the appropriate DISTRICT or CONSULTANT personnel will be contacted. The message summary will contain information on who and what response was provided to the caller.

2.15 UTILITIES

2.15.1 The CONSULTANT shall identify major existing utilities for the alternatives. Utilities shall be identified within the project construction limits that may impact the project. The alignment of the utilities shall be shown on the alternative sketches and in the Conceptual Design Plans. Estimates of the cost to relocate or realign the utilities shall be included in the project cost estimates as a separate line item. The CONSULTANT shall contact each utility company that has facilities, known or suspected, within the project area, to request the alignment and size of the utility facilities. Record drawings shall be obtained to ascertain all underground utility locations. Where record drawings are not available, blue stake services shall be utilized to locate the horizontal alignment of the underground facilities.

2.15.2 The CONSULTANT shall provide the vertical location of sanitary and storm sewers which will be determined from field surveys as appropriate.

2.16 SITE VISITS

2.16.1 The CONSULTANT shall make site visits as necessary to become familiar with existing conditions.

2.16.2 The DISTRICT will conduct three site visits, generally as follows:

2.16.2.1 Site visit to orient the CONSULTANT and the DISTRICT with the project area, and to determine any initial conflicts or opportunities.

2.16.2.2 Site visit near the end of the Alternatives Analysis. This site visit shall incorporate any environmental, ecological or cultural field review as appropriate.

2.16.2.3 Site visit during the Preferred Alternative Analysis and to verify that the conditions have not significantly changed during the final stages of the project.

2.17 MEETINGS

2.17.1 The CONSULTANT shall meet with the jurisdictions, other affected agencies and utilities as required, generally being held at their offices. The DISTRICT shall be kept informed of all such meetings, and shall attend the meetings whenever possible and as required. The DISTRICT shall be copied on all meeting minutes.

2.17.2 The CONSULTANT is responsible for the minutes of any meetings and shall include copies of minutes of meetings, telephone conversations, and correspondence to the DISTRICT in the Project Administrative Report.

2.17.3 The CONSULTANT shall participate in the following specific meetings, monthly progress meetings and other meetings as dictated by the project. Meetings, when possible, will be generally held at municipality offices or at the CONSULTANT office.

2.17.3.1 Kick Off Meeting. The CONSULTANT shall meet with the DISTRICT to submit the project schedule (completed in Microsoft Project 98 or compatible software) that shall include dates of all proposed submittals and review meetings, and to discuss the schedule and the tasks necessary to accomplish it. The CONSULTANT shall bring the key project team members, including the project checkers, to the meeting to introduce them to the DISTRICT staff who will be working on the project. The DISTRICT will give available aerial topographic mapping to the CONSULTANT at this time.

2.17.3.2 Data Collection Report Review Meeting. The CONSULTANT shall meet with the DISTRICT Project Manager to review the overall project status and to discuss the Data Collection Report review comments which will be provided to the CONSULTANT at the

meeting. The CONSULTANT should be prepared to explain all information and any assumptions made up to this point. Any problems will be identified and discussed.

2.17.3.3 Alternatives Brainstorming Meeting. A brainstorming session with the participants to discuss existing flooding problems, existing studies and to identify potential solutions.

2.17.3.4 Alternative Evaluation Meeting. A meeting with Review Committee members to evaluate the alternatives.

2.17.3.5 Landscaping and Aesthetics Committee Meeting No. 1. A meeting with the DISTRICT's Landscaping and Aesthetics Committee to review landscaping issues.

2.17.3.6 Alternatives Analysis Report Review Meeting. Three weeks after submittal of the Alternatives Analysis Report, the CONSULTANT shall meet with the DISTRICT Project Manager to review the overall project status and to discuss the Alternatives Analysis Report review comments. The CONSULTANT should be prepared to discuss alternative flood mitigation solutions and the preliminary cost estimates.

2.17.3.7 Feature Prioritization Meeting. A meeting with the participants to discuss implementation of the Recommended Plan and develop project priorities and phasing.

2.17.3.8 Landscaping and Aesthetics Committee Meeting No. 2. A meeting with the DISTRICT Landscaping and Aesthetics Committee to review final landscaping issues.

2.17.3.9 Recommended Design Report and Preliminary Plans Submittal Meeting. Three weeks after submittal of the Recommended Design Report and Preliminary Plans, the CONSULTANT shall meet with the DISTRICT Project Manager to review the overall project status and to discuss the Recommended Design Report. The CONSULTANT will be prepared to explain all assumptions and calculations completed up to this point. Any problems will be identified and corrective actions agreed upon at this meeting. The CONSULTANT will make any necessary corrections and provide written responses to all comments and will resubmit the Recommended Design Report Preferred Alternative and Preliminary plans as required to the satisfaction of the DISTRICT.

2.17.3.10 Final (100 percent) Submittal Meeting. The CONSULTANT shall meet with the DISTRICT Project Manager to make the final submittal of the hydrology and hydraulic analyses, the alternative flood mitigation solutions, the cost estimates, and the final recommended solution as revised per the Recommended Design Report review comments. The CONSULTANT shall supply the hydraulic data and plans on 3.5-inch diskettes or CDs. The plans should be in AutoCAD version 13 format. A Final Performance Evaluation will be completed at this time.

3.0 PROJECT ADMINISTRATION

The CONSULTANT shall prepare project schedules and projected billings in accordance with Section 2.0 of the Consultant Guidelines with the following inclusions or exceptions:

3.1 SCHEDULE

3.1.1 The project schedule outline will be consistent with the numbering and tasks defined in this SOW and the fee proposal.

3.1.2 The CONSULTANT shall prepare a significant event calendar in Microsoft Project 98 or compatible software that shows, at a minimum, general timeframes for participant, agency and public meetings, and submittal milestones. The CONSULTANT shall update the calendar as necessary and provide it to the DISTRICT Project Manager, to keep it current.

3.2 INVOICES

3.2.1 The CONSULTANT will submit a projection of monthly project billings within 14 days of Notice to Proceed (NTP). The projected billing will be consistent with the tasking of the SOW, the project schedule and the fee proposal.

3.2.2 The DISTRICT will provide a general format for invoices. The invoices will be consistent with the tasking of the SOW, project schedule, fee proposal and projected billing.

3.2.3 The CONSULTANT shall submit invoices to Accounts Payable, Flood Control District of Maricopa County, 2801 West Durango Street, Phoenix, Arizona 85009. A copy of the invoice will be forwarded to the DISTRICT Project Manager.

3.2.4 The CONSULTANT shall submit progress reports with each invoice reflecting the work completed during the previous pay period. The DISTRICT will provide the CONSULTANT with the desired format.

3.3 PROJECT MANAGEMENT

3.3.1 The CONSULTANT shall appoint a Project Manager who shall be knowledgeable of the progress of each phase of the project. The Project Manager shall be the same person listed in the CONSULTANT Technical Proposal unless otherwise approved by the DISTRICT. The Project Manager shall be the point of contact for the DISTRICT. The CONSULTANT Project Manager shall attend all meetings as required by the DISTRICT. The CONSULTANT Project Manager shall keep the DISTRICT informed of all coordination with outside agencies and other affected parties. The DISTRICT may terminate this agreement if the Project Manager is not available or if the CONSULTANT is unable to provide a replacement Project Manager acceptable to the DISTRICT. The DISTRICT may request replacement of the Project Manager if the DISTRICT determines that this would be in the best interest of the project.

3.4 REPORTS

3.4.1 All reports shall be submitted to the DISTRICT for review in draft form. Upon receipt of review comments, the CONSULTANT shall incorporate appropriate revisions and complete the report.

3.4.2 The CONSULTANT shall provide the DISTRICT, in the project schedule, a three-week review period for each submittal.

3.4.3 Data Collection Report. The Data Collection Report will contain a description of information collected for this project. Other data collected pertinent to the project should also be contained in the Data Collection Report. Existing major natural washes and existing and planned man-made drainage facilities in the watershed should be shown on the Existing Facilities Exhibit to be submitted with the Data Collection Report. The Existing Facilities Exhibit will be prepared in AutoCAD format.

3.4.3.1 The Data Collection Report should include the following as applicable:

- Executive Summary
- Project Description
- Scope of Project
- Data Collection Results
 - Current Conditions
 - Areas of Flooding
 - Existing and Future Development Plans
 - Areas and Locations of Potential Flooding
 - Existing and Future Drainage Facilities
- Environmental Overview

- Environmental Permits and Approvals
- Biological Survey Analysis
- Cultural Resources Analysis
- Environmental Regulatory Records Review
- Visual Resources and Multi-Use Opportunities Assessment
- Land
 - Parcel Ownership
 - Rights-of-Entry Requirements
- Hydrology/Hydraulics Models
 - Summary of Models/Conditions
 - Concerns
- Major Utilities
- Existing Facilities Exhibit
- References/Figures

*Potential Alternatives
Submittal*

3.4.4 Alternative Analysis Report. The Alternative Analysis Report shall be prepared containing narrative descriptions of the alternatives considered and discarded, the alternatives selected for analysis, the results of the analysis of alternatives, and comparative cost estimates. The advantages and disadvantages and general impacts of each alternative shall be identified. The recommended alternative shall be identified in the report.

3.4.4.1 The Alternatives Analysis Report Format should include the following as applicable:

- Summary
- Description of Study Area
- Scope of Project
- Environmental Overview
 - Socioeconomic Environment
 - Physical and Natural Environment
 - Cultural Resources
- Visual Resources and Multi-Use Opportunities Overview
- Alternatives Descriptions/ Sketches
- Alternatives Eliminated
- Cost Estimates
- Evaluation Criteria/Matrix
- Evaluation of Alternatives
- References/Figures

3.4.5 Recommended Design Report. The CONSULTANT shall prepare a Recommended Design Report which will include engineering design guidelines to maintain 100-year conveyance, landscaping, habitat and recreation considerations, cost estimates and Conceptual Design plans.

3.4.5.1 The Recommended Design Report should include the following as applicable:

- Summary
- Description of Study Area
- Scope of Project
- Evaluation Criteria
- Selection of Preferred Alternative
- Recommendations to Regulators
- Environmental Overview Summary
- Visual and Multi-Use Overview Summary
- Costs
- Priority of Features
- Maintenance Plan
- Implementation Plan
- References/Figures
- Disk or CD ROM Copies of applicable hydrologic, hydraulic models

3.4.5.2 Conceptual Design Plans:

- Indicate existing topography.
- Indicate cultural, biological, environmental impact areas.
- Indicate conveyance criteria – approximate size and configuration, invert, typical cross-section.
- Indicate conflicting utilities.

3.4.6 Project Final Submittal. Upon approval of the Recommended Design Report, the CONSULTANT shall incorporate review comments and make any required corrections and changes to the hydrology and/or hydraulic models.

3.4.6.1 The CONSULTANT shall submit a Final Design Submittal with final versions of all reports applicable to the Project including:

- Data Collection Report
- Alternatives Analysis Report
- Recommended Design Report
- Project Survey Report Appendix
- Technical Report Appendix
- Administrative Report Appendix

3.4.6.2 The CONSULTANT shall prepare a separate, reproducible Executive Summary of the Final Design Submittal.

3.4.7 Project Survey Report Appendix. Survey data will be documented in a Project Survey Appendix to the Project Final Submittal. Copies of all survey note books or printout of digital files developed with data collectors will be provided. The horizontal and vertical benchmarks used for the survey shall be documented along with documentation of the datum upon which the benchmark was originally established. Conversion to other datum as required herein shall be documented in the report. A summary table of the ERMs and benchmarks shall be included.

3.4.8 Project Technical Report Appendix. The CONSULTANT shall maintain a technical report throughout the project, which contains documentation of the designs, analysis, and calculations. The report shall be organized to include, but not limited to, the following sections as appropriate to the project:

- Lateral design, configuration, alignment, and feature locations.
- Right-of-way and easement information.
- Special project features, including unusual construction techniques, special materials, and/or conditions.
- Maps, sketches, calculations, and other supporting documentation as required.
- Hydrology and hydraulics.
- Cost estimates.
- Conflicting utilities that are to be relocated and/or protected.
- Preliminary hydrology and hydraulics analysis and calculations.
- Environmental and Permit requirements.

3.4.9 Project Administration Appendix. The Project Administration Appendix shall include copies of all correspondence, minutes of meetings and conversations with the DISTRICT, affected agencies and others as appropriate.

3.5 DELIVERABLES

3.5.1 The CONSULTANT shall submit all items 'sealed' by a registered civil engineer in the State of Arizona. Upon receipt of the final submittal, the DISTRICT shall review the report and preliminary plans for the accurate incorporation of all final comments. If incomplete and/or

incorrect incorporation of those comments is found, the original documents shall be returned to the CONSULTANT for correction and resubmittal.

3.5.2- The CONSULTANT shall submit computer files of the information to the DISTRICT delivered on 3.5-inch diskettes or CDs.

3.5.3 Reports and tables should be in Word 6.0 and/or Excel 97 or DISTRICT acceptable software.

3.5.4 Plans should be in AutoCAD version 13 format (dwg) or MicroStation (dgn) format in accordance with Section 19, CADD Drafting Standards, Consultant Guidelines dated October 1, 1998.

3.5.5 The CONSULTANT shall submit three (3) copies for each DRAFT report, estimates, schedules or drawings to the DISTRICT and one (1) copy for each DRAFT report, estimates, schedules or drawings to each participating agency.

3.5.6 The CONSULTANT shall submit five (5) copies for each FINAL report, estimates, schedules or drawings to the DISTRICT and two (2) copies for each FINAL report, estimates, schedules or drawings to each participating agency.

FEE PROPOSAL
 Glendale/Peoria Area Drainage Master Plan Update
 Contract FCD 99.44

10/4/99
 VERSION 4
 FINAL

Direct Labor Rates

Entellus, Inc.	45	30	23.5	22	15
Pentacore Arizona	34.62	22.8	19.5	26	35.7
LTM Engineering, Inc.	32.73	22.8	19.5	26	35.7
Logan Simpson Design	30	18	16	15	13

[open("\\Entellus\prod1\Manpower\MANPOWER.WB3")]

2.1	DATA COLLECTION & EXISTING CONDITIONS ANALYSIS	124	80	52	80	20	0	356	\$9,454.80	
	Entellus, Inc.	12	40	32	80	20		184	\$4,552.00	
	Pentacore Arizona	20	40					60	\$1,604.40	
	LTM Engineering, Inc.	80						80	\$2,618.40	
	Logan Simpson Design	12	0	20	0	0		32	\$680.00	
2.2	FEMA FLOODPLAIN & FLOODWAY DELINEATION	12	140	220	252	28		652	\$15,874.00	
2.2.1	A-Zone Floodplain Delineation Studies	8	100	160	172	20		460	\$11,204.00	
2.2.2	Letter of Map Revisions (LOMRs)	4	24	20	20	8		76	\$1,930.00	
2.2.3	Floodplain GIS	0	16	40	60			116	\$2,740.00	
2.3	LEVEL I ANALYSIS - ALTERNATIVES FORMULATION/PRELIMINARY ANALYSIS	196	256	370	120	40	0	982	\$25,041.24	
	Entellus, Inc.	52	152	264	120	40		628	\$16,344.00	
2.3.2	Brainstorming Meeting	24		60				84	\$2,490.00	
2.3.4	Identify Possible Project Alternatives for Mitigation	8	60	60				128	\$3,570.00	
2.3.6	Submit Schematic Drawings & Narrative Description	8	60	120	120	32		340	\$8,100.00	
2.3.7	Develop Evaluation Criteria	12	32	24		8		76	\$2,184.00	
	Pentacore Arizona	32	64	70	0	0	0	166	\$3,932.04	
A1	Area 1	20	40	40	0	0	0	100	\$2,384.40	
A9	Area 9	12	24	30	0	0	0	66	\$1,547.64	
	LTM Engineering, Inc.	40						40	\$1,309.20	
	Logan Simpson Design	72	40	36	0	0	0	148	\$3,456.00	
2.3.2	Brainstorming Meeting	40	40	12	0	0		92	\$2,112.00	
2.3.6	Potential Alternative Submittal	24	0	16	0	0		40	\$976.00	
2.3.7	Evaluation Criteria	8	0	8	0	0		16	\$368.00	
2.4	LEVEL II ANALYSIS - ALTERNATIVE ANALYSIS	164	404	374	244	80	0	1266	\$32,094.44	
	Entellus, Inc.	28	340	280	220	80		948	\$24,080.00	
2.4.3	Evaluate Approved Alternatives (Engineering Feasibility/Costs)	20	180	160	100	0		460	\$12,260.00	
2.4.4	Alternatives Summary	8	160	120	120	80		488	\$11,820.00	
2.4.5	Additional Alternative Solutions OPTIONAL	(SEE DIRECT LABOR CLASSIFICATIONS FOR OPTIONAL SERVICES)								
	Pentacore Arizona	32	64	70	0	0	0	166	\$3,932.04	
A1	Area 1	20	40	40	0	0	0	100	\$2,384.40	
A9	Area 9	12	24	30	0	0	0	66	\$1,547.64	
	LTM Engineering, Inc.	80						80	\$2,618.40	
	Logan Simpson Design	24	0	24	24	0		72	\$1,464.00	
2.5	LEVEL III ANALYSIS - PREFERRED ALTERNATIVE ANALYSIS	164	412	690	680	200	0	2146	\$49,196.12	
	Entellus, Inc.	40	340	500	520	120		1520	\$36,990.00	
2.5.2	Design & Cost Estimate	12	100	180	80	40		412	\$10,130.00	
2.5.3	Conceptual Design Plans (15 percent)	16	180	240	280	0		716	\$17,920.00	
2.5.4	Present Preferred Alternative	12	60	80	160	80		392	\$8,940.00	
	Pentacore Arizona	20	64	70	0	0	0	154	\$3,516.60	
	Area 1	12	40	40	0	0	0	92	\$2,107.44	
	Area 9	8	24	30	0	0	0	62	\$1,409.16	
	LTM Engineering, Inc.	24						24	\$785.52	
	Logan Simpson Design	80	8	120	160	80		448	\$7,904.00	
2.6	MAINTENANCE PLAN	48	72	60	0	20	0	200	\$4,992.72	
	Entellus, Inc.	8	48	20		20		96	\$2,570.00	
	Pentacore Arizona	16	16	0	0	0	0	32	\$918.72	
	Area 1	8	8	0	0	0	0	16	\$459.36	
	Area 9	8	8	0	0	0	0	16	\$459.36	
	Logan Simpson Design	24	8	40	0	0		72	\$1,504.00	
2.7	IMPLEMENTATION PLAN	24	40	40	20	24	0	148	\$3,853.92	
	Entellus, Inc.	8	40	40	20	24		132	\$3,300.00	
	Pentacore Arizona	16	0	0	0	0	0	16	\$553.92	
	Area 1	8	0	0	0	0	0	8	\$276.96	
	Area 9	8	0	0	0	0	0	8	\$276.96	
	Logan Simpson Design							0	\$0.00	
2.8	Field Survey/Mapping	20	0	0	48	260	0	448	\$16,622.40	
2.8.4	Aerial Mapping Coordination	120						120	\$5,400.00	
	Pentacore Arizona	20	0	0	48	260	0	328	\$11,222.40	
2.8.1	Data Collection on Existing Controls	4	0	0	4	0		8	\$242.48	
2.8.2	Supplemental field survey (12 locations)	12	0	0	40	240		292	\$10,023.44	
2.8.5	Survey and/or set ERM's (5)	4	0	0	4	20		28	\$956.48	
2.9	HYDRAULIC ANALYSIS	20	96	60	40	20	0	236	\$5,800.72	
	Entellus, Inc.	4	40	60	40	20		164	\$3,970.00	
	Pentacore Arizona	16	56	0	0	0	0	72	\$1,830.72	
	Area 1	8	32	0	0	0	0	40	\$1,006.56	
	Area 9	8	24	0	0	0	0	32	\$824.16	

2.10	HYDROLOGIC ANALYSIS	154	512	596	264	8	0	1534	\$39,103.16
	Entellus, Inc.	16	368	452	264	8	0	1108	\$28,310.00
2.10.2	Update Existing Hydrologic Models (Run 100- and 10-year)	8	280	320	80	0	0	688	\$18,040.00
2.10.3	Hydrologic Model for Preferred Alternatives (see 2.5.1)	4	40	100	16	0	0	160	\$4,082.00
2.10.4	Package)	4	24	0	8	8	0	44	\$1,196.00
2.10.5	Hydrologic GIS	0	24	32	160	0	0	216	\$4,992.00
2.10.6	Arrowhead Ranch Lakes Analysis OPTIONAL	(SEE DIRECT LABOR CLASSIFICATIONS FOR OPTIONAL SERVICES)							
	Pentacore Arizona	98	144	144	0	0	0	386	\$9,483.96
2.10.2.1	ACDC Hydrology Area	40	100	80	0	0	0	220	\$5,224.80
2.10.2.2	New River Hydrology (Review-QA/QC)	40	0	0	0	0	0	40	\$1,384.80
2.10.3	Preferred Alternative	14	28	28	0	0	0	70	\$1,669.08
2.10.5	HIS Deliverables (ACDC)	4	16	36	0	0	0	56	\$1,205.28
	LTM Engineering, Inc.	40	0	0	0	0	0	40	\$1,309.20
2.11	LAND OWNERSHIP, RIGHT-OF-WAY & EASEMENTS	16	56	96	100	0	0	268	\$6,414.64
	Entellus, Inc.	4	32	60	100	0	0	196	\$4,750.00
2.11.2	Land Ownership Map Development	4	24	60	100	0	0	188	\$4,510.00
2.11.3	Identify Rights-of-entry		8					8	\$240.00
	Pentacore Arizona	12	24	36	0	0	0	72	\$1,664.64
	Area 1	8	16	20				44	\$1,031.76
	Area 9	4	8	16				28	\$632.88
2.12	ENVIRONMENTAL OVERVIEW	66	362	106	4	78	0	616	\$11,438.00
	Entellus, Inc.	0	12	0	4	0	0	16	\$448.00
2.12.2	Environmental Permits & Approvals	0	4	0	4	0	0	8	\$208.00
2.12.3	Cultural Resources Assessment	0	4	0	0	0	0	4	\$120.00
2.12.4	Environmental Regulatory Records Review	0	4	0	0	0	0	4	\$120.00
1.12.5	Ecological Assessment	0	0	0	0	0	0	0	\$0.00
12.2.6	Title VI Environmental Justice Assessment	0	0	0	0	0	0	0	\$0.00
	Logan Simpson Design	66	350	106	0	78	0	600	\$10,990.00
2.12.2	Environmental Permits & Approvals	30	0	0	0	0	0	30	\$900.00
2.12.3	Cultural Resources Assessment	10	150	42	0	32	0	234	\$4,088.00
2.12.4	Environmental Regulatory Records Review	8	0	20	0	0	0	28	\$560.00
2.12.5	Ecological Assessment	16	200	20	0	38	0	274	\$4,894.00
2.12.6	Title VI Environmental Justice Assessment	2	0	24	0	8	0	34	\$548.00
2.13	VISUAL RESOURCES & MULTIPLE USE OPPORTUNITIES ASSESSMENT	52	8	360	132	80	0	632	\$10,692.00
	Entellus, Inc.	0	8	0	16	0	0	24	\$592.00
2.13.1	Visual Resources Assessment							0	\$0.00
2.13.2	Multi-Use Opportunities Assessment		8		16			24	\$592.00
	Logan Simpson Design	52	0	360	116	80	0	608	\$10,100.00
2.13.1	Environmental Permits & Approvals	40	0	280	100	40	0	460	\$7,700.00
2.13.2	Multiple-Use opportunities Assessment	12	0	80	16	40	0	148	\$2,400.00
2.14	PUBLIC INVOLVEMENT	208	150	78	752	128	20	1336	\$28,530.20
	Entellus, Inc.	116	92	22	224	116	0	570	\$15,165.00
2.14.1	Open House/Public Meetings (6)	72	40	6	24	24	0	166	\$5,469.00
2.14.2	Preparation of Handouts & Display Boards (27 each)	8	16	16	108			148	\$3,592.00
2.14.3	Chair Meetings							0	\$0.00
2.14.5	Summary of Neighborhood Meetings (6)	8	12			40		60	\$1,320.00
2.14.6	City or Town Council Meetings or Work-Study Sessions (20) OPTIONAL	(SEE DIRECT LABOR CLASSIFICATIONS FOR OPTIONAL SERVICES)							
2.14.7	Public Notification/Legal Advertising	8	8	0	32	32	0	80	\$1,784.00
2.14.8	Brochure Preparation	8	8			4		20	\$660.00
2.14.10	Project Milestone Newsletters/Project Status Updates (2)	8	4			8		20	\$600.00
2.14.12	Internet Web pages	4	4		60	8		76	\$1,740.00
2.14.13	Project Hotline (OPTIONAL)	(SEE DIRECT LABOR CLASSIFICATIONS FOR OPTIONAL SERVICES)							
	Pentacore Arizona	20	16	40	0	0	20	96	\$2,117.20
2.14.1	Open House/Public Meeting (2)	12						12	\$415.44
2.14.2	Meeting Material Preparation (2)	8	16	40			20	84	\$1,701.76
	Logan Simpson Design	72	42	16	528	12	0	670	\$11,248.00
2.14.1	Open House (6)	42	42					84	\$2,016.00
2.14.2	Handouts	2			60			62	\$960.00
2.14.2	Display Boards	8			324	12		344	\$5,256.00
2.14.4	Refreshments	0		16				16	\$256.00
2.14.5	Summary of Meetings	10						10	\$300.00
2.14.8	Brochure (1)	2			56			58	\$900.00
2.14.10	Newsletter (2)	8			80			88	\$1,440.00
2.14.12	Web Site				8			8	\$120.00
2.14.13	Hotline							0	\$0.00
2.15	UTILITIES LOCATION	4	40	72	140	0	0	256	\$5,851.28
	Entellus, Inc.	0	24	36	140	0	0	200	\$4,646.00
	Pentacore Arizona	4	16	36	0	0	0	56	\$1,205.28
	Area 1	2	8	20				30	\$641.64
	Area 9	2	8	16				26	\$563.64
2.16	SITE VISITS	108	116	56	8	0	0	288	\$8,027.44
	Entellus, Inc.	40	40	32	8			120	\$3,928.00
	Pentacore Arizona	28	28	0	0	0	0	56	\$1,607.76
	Area 1	16	16					32	\$918.72
	Area 9	12	12					24	\$689.04
	LTM Engineering, Inc.	16						16	\$523.68
	Logan Simpson Design	24	48	24	0	0		96	\$1,968.00
2.17	MEETINGS/COORDINATION (13 Set, 18 Misc. Mtgs.)	198	102	0	0	0	0	300	\$10,329.36
	Entellus, Inc.	80	60					140	\$5,400.00
	Pentacore Arizona	58	42	0	0	0	0	100	\$2,965.56
12.17.1	Agency and Utility Coordination	12	12					24	\$689.04

2.17.3.1	Kickoff Meeting	6	6					12	\$344.52
2.17.3.2	Data Collection Review Meeting	4						4	\$138.48
2.17.3.3	Alternative Brainstorm Meeting (2)	8	8					16	\$459.36
2.17.3.4	Alternative Evaluation Meeting (2)	8	8					16	\$459.36
2.17.3.6	Alternative Analysis Report Review Meeting	4	4					8	\$229.68
2.17.3.7	Feature Prioritization Meeting	8						8	\$276.96
2.17.3.9	Rcmd Dsgn Rpt and Prelim Plans Review Mtg	4	4					8	\$229.68
2.17.3.10	Final 100% Submittal Meeting	4						4	\$138.48
	LTM Engineering, Inc.	60						60	\$1,963.80
3	PROJECT ADMINISTRATION	918	360	252	60	176	24	1790	\$60,415.08
	Entellus, Inc.	804	292	172	40	176		1484	\$52,502.00
3.1	Schedule	24	12	12	0	16		64	\$1,962.00
3.3	Project Management	600						600	\$27,000.00
3.4	Reports (2 major and 4 minor reports)	180	280	160	40	160		820	\$23,540.00
	Pentacore Arizona	114	68	80	20	0	24	306	\$7,913.08
3.1	Project Administration - Schedule	8						8	\$276.96
3.3	Project Management							0	
3.4	Project Administration - Reports	106	68	80	20	0	24	298	\$7,636.12
3.4.3	Data Collection Report	8	8					16	\$459.36
3.4.4	Alternative Analysis Report	40	20	20				80	\$2,230.80
3.4.5	Recommended Design Report	30	16	20				66	\$1,793.40
3.4.6	Project Final Submittal	8	8	16				32	\$771.36
3.4.7	Project Survey Report Appendix	4		8	20		16	48	\$1,038.48
3.4.8	Project Technical Report Appendix	8	16	16				40	\$953.76
3.4.9	Project Administration Appendix	8					8	16	\$388.96
3.2	Invoices							0	\$0.00
	Sub-Totals by Consultant								
	Entellus, Inc.	1344	2068	2190	2048	652	0	8302	\$228,821.00
	Pentacore Arizona	506	642	546	68	260	44	2066	\$54,468.32
	LTM Engineering, Inc.	340	0	0	0	0	0	340	\$11,128.20
	Logan Simpson Design	426	496	746	828	250	0	2746	\$49,314.00
	Total	2616	3206	3482	2944	1162	44	13454	\$343,731.52

Direct Expenses

	Entellus, Inc.								\$39,137.00
2.1.6	Existing Facilities Exhibit								\$450.00
2.3.6	Schematic Drawings								\$450.00
2.4.4	Alternative Summary								\$1,800.00
2.5.3	Conceptual Design Plans								\$900.00
2.5.4	Preferred Alternative Report								\$4,200.00
2.6	Maintenance Plan								\$0.00
2.7	Implementation Plan								\$0.00
2.10.4	Hydrologic Model for Outside use								\$360.00
2.14.2	Display Boards								\$5,022.00
2.14.9	Public Notification/Legal Advertising								\$6,000.00
	Milage								\$155.00
	Zone A Floodplain Maps								\$500.00
	Reproduction Minutes, Correspondence, etc.								\$500.00
	Reproduction Plans								\$600.00
	Draft and Final Reports								\$18,200.00
	Pentacore Arizona								\$1,100.00
	Display Boards								\$200.00
	Milage								\$200.00
	Reproduction								\$700.00
	LTM Engineering, Inc.								\$476.00
	Milage								\$256.00
	Reproduction								\$50.00
	Telecommunications								\$25.00
	Additional Insured Fees								\$100.00
	Postage/Delivery								\$45.00
	Logan Simpson Design								\$18,565.00
	Milage								\$1,285.00
	Photography								\$380.00
	Refreshments								\$1,750.00
	Reproduction								\$10,400.00
	Postage/Distribution								\$2,100.00
	Misc. (Permits, Maps)								\$2,650.00
	Total Direct Expenses								\$59,278.00

Authorize Services

	Total Labor	Overhead Rate	Overhead	Labor + Overhead	Net Fee	Direct Expenses	Total Fee
Entellus, Inc.	\$228,821	155	\$354,673	\$583,494	\$57,205	\$39,137	\$679,836
Pentacore Arizona	\$54,468	150	\$81,702	\$136,171	\$16,340	\$1,100	\$153,611
LTM Engineering, Inc.	\$11,128	150	\$16,692	\$27,821	\$3,338	\$476	\$31,635
Logan Simpson Design	\$49,314	150	\$73,971	\$123,285	\$12,329	\$18,565	\$154,179

Total Fee for Authorized Services

\$1,019,260.43

Direct Labor (OPTIONAL)

2.4.5	Additional Alternatives (up to 12)	92	140	154	40	34	0	460	\$12,085.40	33,749.92
	Entellus, Inc.	40	100	122	40	10		312	\$8,697.00	24,351.60
	Pentacore Arizona	20	40					60	\$1,604.40	4,492.32
	LTM Engineering, Inc.							0	\$0.00	0
	Logan Simpson Design	32	0	32	0	24		88	\$1,784.00	4,906.00
2.10.6	Arrowhead Ranch Lakes Analysis	240	360	300	24	48	48	1020	\$25,658.48	71,843.74
	Entellus, Inc.	16	48		16	8		88	\$2,632.00	
	Pentacore Arizona	224	312	300	8	40	48	932	\$23,026.48	
	Data Collection	8	16					24	\$641.76	
	Level I Analysis	12	24	40				76	\$1,742.64	
	Level II Analysis	20	40	40				100	\$2,384.40	
	Level III Analysis	8	40	40				88	\$1,968.96	
	Maintenance Plan	8	12					20	\$550.56	
	Implementation Plan	8	8					16	\$459.36	
	Supplemental Field Survey	4			8	40		52	\$1,774.48	
	Hydraulic Analysis	8	20	20				48	\$1,122.96	
	Hydrologic Analysis	40	80	60				180	\$4,378.80	
	Land Ownership, ROW and Easmts	4	8	20				32	\$710.88	
	Public Involvement	16		40				56	\$1,333.92	
	Utilities	4	8	20				32	\$710.88	
	Site Visits	16	16					32	\$918.72	
	Meetings	20	20				20	60	\$1,428.40	
	Project Administration	8					8	16	\$388.96	
	Reports	40	20	20			20	100	\$2,510.80	
2.14.6	Miscellaneous Meetings (up to 20)	148	80	12	120	80	0	440	\$11,432.88	31,862.06
	Entellus, Inc.	24	80	12	120	80		316	\$7,602.00	21,285.60
	Logan Simpson Design	100						100	\$3,000.00	8,250.00
	Pentacore Arizona	24						24	\$830.88	2,326.46
2.14.9	Additional Brochures	0	0	0	4	0	0	4	\$60.00	165.00
	Logan Simpson Design				4			4	\$60.00	
2.14.11	Additional Newsletters	0	0	0	4	0	0	4	\$60.00	165.00
	Logan Simpson Design				4			4	\$60.00	
2.14.13	Hotline	16	16	0	0	100	0	132	\$2,700.00	7,560.00
	Entellus, Inc.	16	16			100		132	\$2,700.00	
	Sub-Totals by Consultant									
	Entellus, Inc.	96	244	134	176	198	0	848	\$21,631.00	
	Pentacore Arizona	268	352	300	8	40	48	1016	\$25,461.76	
	LTM Engineering, Inc.	0	0	0	0	0	0	0	\$0.00	
	Logan Simpson Design	132	0	32	8	24	0	196	\$4,904.00	
	Total	496	596	466	192	262	48	2060	\$51,996.76	145,345.72

Direct Expenses (OPTIONAL)

	Entellus, Inc.								\$6,780.00
2.4.4.5	Alternative Summary								\$720.00
2.14.2.6	Display Boards								\$2,280.00
2.14.8.6	Refreshments								\$0.00
2.14.9	Public Notification/Legal Advertising								\$3,000.00
2.14.13	Hotline (12 months @ \$65/month)								\$780.00
2.14.6	Pentacore Arizona								\$400.00
	Display Boards								\$100.00
	Milage								\$100.00
	Reproduction								\$200.00
	LTM Engineering, Inc.								\$0.00
2.14.9	Logan Simpson Design								\$7,565.00
	Milage								\$315.00
	Photography								\$0.00
	Refreshments								\$0.00
	Reproduction								\$2,250.00
	Postage/Distribution								\$2,000.00
	Misc. (Permits, Maps)								\$3,000.00
	Total Direct Expenses (OPTIONAL)								\$14,745.00

Optional Services

	Total Labor	Overhead Rate	Overhead	Labor + Overhead	Net Fee	Direct Expenses	Total Fee
Entellus, Inc.	\$21,631	155	\$33,528	\$55,159	\$5,408	\$6,780	\$67,347
Pentacore Arizona	\$25,462	150	\$38,193	\$63,654	\$7,639	\$400	\$71,693
LTM Engineering, Inc.	\$0	150	\$0	\$0	\$0	\$0	\$0
Logan Simpson Design	\$4,904	150	\$7,356	\$12,260	\$1,226	\$7,565	\$21,051

Total Fee for Optional Services \$160,090.72

Total Contract including Optional

	Total Labor	Overhead Rate	Overhead	Labor + Overhead	Net Fee	Direct Expenses	Total Fee
Entellus, Inc.	\$250,452	\$310	\$388,201	\$638,653	\$62,613	\$45,917	\$747,182
Pentacore Arizona	\$79,930	\$300	\$119,895	\$199,825	\$23,979	\$1,500	\$225,304
LTM Engineering, Inc.	\$11,128	\$300	\$16,692	\$27,821	\$3,338	\$476	\$31,635
Logan Simpson Design	\$54,218	\$300	\$81,327	\$135,545	\$13,555	\$26,130	\$175,230

Total Contract Fee Including Optional Services \$1,179,351.15

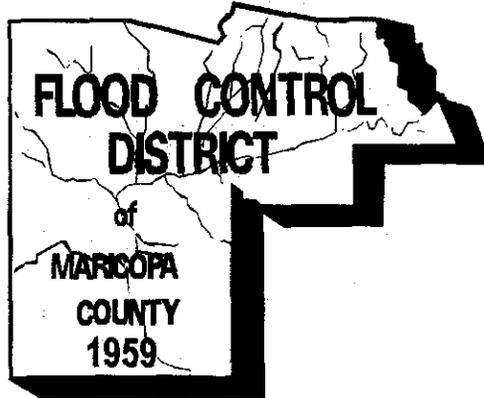


EXHIBIT B

FEE PROPOSAL

**Glendale/Peoria Area Drainage Master Plan Update
FCD No. 99-44**

EXHIBIT B

**FLOOD CONTROL DISTRICT OF MARICOPA COUNTY
CONSULTANT/SUBCONSULTANT COST PROPOSAL SUMMARY**

PRIME CONSULTANT: ENTELLUS, INC.

PROJECT NAME: Glendale/Peoria Area Drainage Master Plan Update

CONTRACT NO.: FCD 99-44

Consultant/ Subconsultant	Labor Hours	Labor Cost*	Direct Expenses	Sub-Total Cost	% of Total Cost
BASIC SERVICES					
Entellus, Inc.	8,302	\$640,699	\$39,137	\$679,836	66.70%
Pentacore	2,066	\$152,511	\$1,100	\$153,611	15.07%
Logan Simpson Design	2,746	\$135,614	\$18,565	\$154,179	15.13%
LTM Engineering	340	\$31,158	\$476	\$31,634	3.10%
SUBTOTAL BASIC SERVICES	13,454	\$959,982	\$59,278	\$1,019,260	100.00%
OPTIONAL SERVICES					
Entellus, Inc.	848	\$60,567	\$6,780	\$67,347	42.07%
Pentacore	1,016	\$71,293	\$400	\$71,693	44.78%
Logan Simpson Design	196	\$13,486	\$7,565	\$21,051	13.15%
LTM Engineering	0	\$0	\$0	\$0	0.00%
SUBTOTAL OPTIONAL SERVICES	2,060	\$145,346	\$14,745	\$160,091	100.00%
TOTAL ALL SERVICES	15,514	\$1,105,328	\$74,023	\$1,179,351	

*includes labor, overhead (salary fringes, g&a overhead), and fee

EXHIBIT B

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY - CONSULTANT/SUBCONSULTANT COST PROPOSAL SUMMARY

CONSULTANT/SUBCONSULTANT: ENTELLUS, INC. *(Prime Consultant)*

PROJECT NAME: Glendale/Peoria Area Drainage Master Plan Update

CONTRACT NO.: FCD 99-44

CHANGE ORDER NO.: N/A

DIRECT LABOR (Basic Services)

<u>Classifications</u>	<u>Manhours</u>	<u>Hourly Rates</u>	<u>Labor Costs</u>
Project Manager	1344	\$ 45.00	\$ 60,480
Project Engineer	2068	30.00	62,040
Design Engineer	2190	23.50	51,465
Technician	2048	22.00	45,056
Clerical	652	15.00	9,780
		Total Labor	\$ 228,821
		OVERHEAD @ 155% (of Labor)	\$ 354,673
		Subtotal	\$ 583,494

DIRECT EXPENSES (Basic Services)

<u>Description</u>	<u>Expense Amount</u>
Existing Facilities Exhibit (2.1.6)	\$450 (1"=200' 15 sheets x 12 sets x \$2.50)
Schematic Drawings (2.3.6)	\$450 (1"=200' 15 sheets x 12 sets x \$2.50)
Alternatives Summary (2.4.4)	\$1,800 (1"=100' 60 sheets x 12 sets x \$2.50)
Conceptual Design Plans (2.5.3)	\$900 (1"=100' 30 sheets x 12 sets x \$2.50)
Preferred Alternative Report (2.5.4)	\$4,200 (12 reports @ \$350)
Hydrologic Model Deliverable to Outside Users (2.10.4)	\$360 (12 sets @ \$30)
Display Boards (2.14.2)	\$5,022 (First Meetings 3 ea. x 1 board x \$114, Second Meetings 3 ea. x 4 alts/mtg x 2 options/alt x \$114, Draft Plots for District Review 3 x 9 x \$72)
Public Notification/Legal Advertisement (2.14.9)	\$6,000 (6 ea. x \$1000 per ad)
Mileage	\$155 (500 miles @ \$0.31/mile)
Zone A Floodplain Maps	\$500 (20 sheets, 3 sets bond/1 set mylar)
Other Project Reproduction: Minutes, Correspondence, etc.	\$500 (5000 copies @ \$0.10)
Other Project Reproduction: Plans	\$600 (1000 prints @ \$0.60)

<u>Description</u>	<u>Expense Amount</u>
Other Project Reproduction: Draft & Final Reports	\$18,200 (Data Collection Report, 12 x \$50; Alternative Analysis Report, 12 x \$500; Recommended Design Report, 12 x \$300; Project Survey Report Appendix, 12 x \$100; Technical Report Appendix, 12 x \$300; Administrative Report Appendix, 12 x \$300)

Subtotal \$ 39,137

SUBCONSULTANTS (Basic Services)

<u>Name</u>	<u>Cost</u>
Pentacore	\$153,611
LTM Engineering	\$ 31,634
Logan Simpson Design	\$154,179
	Subtotal \$ 339,424
	Subtotal Labor (Basic Services) \$ 583,494
	Subtotal Expenses (Basic Services) \$ 39,137
	Subtotal Subconsultants (Basic Services) \$ 339,424
	Total Consultant Cost (Basic Services) \$ 962,055
	Net Fee (Subtotal Labor x <u>9.8039</u> %) \$ 57,205
	TOTAL PROPOSED FEE \$ 1,019,260

ENTELLUS, INC.

BY: Michael G. Pm
Signature

VICE PRESIDENT
Title

OCTOBER 4, 1999
Date

EXHIBIT B

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY CONSULTANT/SUBCONSULTANT SCHEDULED PROJECT MANHOURS

CONSULTANT/SUBCONSULTANT NAME: ENTELLUS, INC. (Prime Consultant)

CONTRACT NO: 94-44

PROJECT NAME: Glendale/Peoria ADMP Update

ENTELLUS PROJECT NO. : 310.017

DATE: September 27, 1999

CONSULTANT MANHOURS	1999		2000												2001		TOTALS
	▼ Notice to Proceed		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	
PROJECT PERSONNEL	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	TOTALS
Project Manager	90	112	140	140	76	76	38	38	38	92	128	64	64	128	64	56	1344
Project Engineer	164	186	186	220	120	120	60	60	60	144	176	130	130	166	130	16	2068
Design Engineer	180	180	210	240	120	120	70	70	70	150	200	120	120	200	100	40	2190
Technician	180	180	204	184	110	110	64	64	64	130	164	120	130	172	140	32	2048
Clerical	64	56	60	80	32	32	18	18	18	44	48	32	30	56	36	28	652
TOTALS	678	714	800	864	458	458	250	250	250	560	716	466	474	722	470	172	8302

EXHIBIT B

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY CONSULTANT/SUBCONSULTANT ESTIMATED MANHOURS AND DIRECT LABOR

CONSULTANT/SUBCONSULTANT NAME: ENTELLUS, INC. (Prime Consultant)

CONTRACT NO.: 99-44

PROJECT NAME: Glendale/Peoria Area Drainage Master Plan Update

ENTELLUS PROJECT NO. 310.017

DATE: September 27, 1999

Page 1 of 5

DIRECT LABOR CLASSIFICATIONS (BASIC SERVICES)

TASK NUMBER & DESCRIPTION	Project Manager	Project Engineer	Design Engineer	Techni- cian	Clerical	TOTAL HOURS	TOTAL LABOR (\$)
	\$45.00	\$30.00	\$23.50	\$22.00	\$15.00		
2.1 DATA COLLECTION & EXISTING CONDITIONS ANALYSIS	12	40	32	80	20	184	\$4,552.00
2.2 FEMA FLOODPLAIN & FLOODWAY DELINEATION	12	140	220	252	28	652	\$15,874.00
2.2.1 A-Zone Floodplain Delineation Studies	8	100	160	172	20	460	\$11,204.00
2.2.2 Letter of Map Revisions (LOMRs)	4	24	20	20	8	76	\$1,930.00
2.2.3 Floodplain GIS	0	16	40	60	0	116	\$2,740.00
2.3 LEVEL I ANALYSIS - ALTERNATIVES FORMULATION/PRELIMINARY ANALYSIS	52	152	264	120	40	628	\$16,344.00
2.3.2 Brainstorming Meeting	24	0	60	0	0	84	\$2,490.00
2.3.4 Identify Possible Project Alternatives for Mitigation	8	60	60	0	0	128	\$3,570.00
2.3.6 Submit Schematic Drawings & Narrative Description	8	60	120	120	32	340	\$8,100.00
2.3.7 Develop Evaluation Criteria	12	32	24	0	8	76	\$2,184.00
2.4 LEVEL II ANALYSIS - ALTERNATIVE ANALYSIS	28	340	280	220	80	948	\$24,080.00
2.4.3 Evaluate Approved Alternatives (Engineering Feasibility/Costs)	20	180	160	100	0	460	\$12,260.00
2.4.4 Alternatives Summary	8	160	120	120	80	488	\$11,820.00
2.4.5 Additional Alternative Solutions OPTIONAL	(SEE DIRECT LABOR CLASSIFICATIONS FOR OPTIONAL SERVICES)						

EXHIBIT B

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY CONSULTANT/SUBCONSULTANT ESTIMATED MANHOURS AND DIRECT LABOR

CONSULTANT/SUBCONSULTANT NAME: ENTELLUS, INC. (Prime Consultant) CONTRACT NO.: 99-44
 PROJECT NAME: Glendale/Peoria Area Drainage Master Plan Update ENTELLUS PROJECT NO. 310.017
 DATE: September 27, 1999 Page 2 of 5

DIRECT LABOR CLASSIFICATIONS (BASIC SERVICES)

TASK NUMBER & DESCRIPTION	Project Manager	Project Engineer	Design Engineer	Technician	Clerical	TOTAL HOURS	TOTAL LABOR (\$)
	\$45.00	\$30.00	\$23.50	\$22.00	\$15.00		
2.5 LEVEL III ANALYSIS - PREFERRED ALTERNATIVE ANALYSIS	40	340	500	520	120	1520	\$36,990.00
2.5.2 Design & Cost Estimate	12	100	180	80	40	412	\$10,130.00
2.5.3 Conceptual Design Plans (15 percent)	16	180	240	280	0	716	\$17,920.00
2.5.4 Present Preferred Alternative	12	60	80	160	80	392	\$8,940.00
2.6 MAINTENANCE PLAN Maintenance Requirements/Costs/Guidelines	8	48	20	0	20	96	\$2,570.00
2.7 IMPLEMENTATION PLAN Available Tools/Funding	8	40	40	20	24	132	\$3,300.00
2.8 FIELD SURVEY/MAPPING Aerial Mapping Coordination	120	0	0	0	0	120	\$5,400.00
2.9 HYDRAULIC ANALYSIS	4	40	60	40	20	164	\$3,970.00
2.10 HYDROLOGIC ANALYSIS	16	368	452	264	8	1108	\$28,310.00
2.10.2 Update Existing Hydrologic Models (Run 100- and 10-year)	8	280	320	80	0	688	\$18,040.00
2.10.3 Hydrologic Model for Preferred Alternatives (see 2.5.1)	4	40	100	16	0	160	\$4,082.00
2.10.4 Develop Hydrologic Model (CD ROM Package)	4	24	0	8	8	44	\$1,196.00
2.10.5 Hydrologic GIS	0	24	32	160	0	216	\$4,992.00
2.10.6 Arrowhead Ranch Lakes Analysis OPTIONAL	(SEE DIRECT LABOR CLASSIFICATIONS FOR OPTIONAL SERVICES)						

EXHIBIT B

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY CONSULTANT/SUBCONSULTANT ESTIMATED MANHOURS AND DIRECT LABOR

CONSULTANT/SUBCONSULTANT NAME: ENTELLUS, INC. (Prime Consultant)

CONTRACT NO.: 99-44

PROJECT NAME: Glendale/Peoria Area Drainage Master Plan Update

ENTELLUS PROJECT NO. 310.017

DATE: September 27, 1999

Page 3 of 5

DIRECT LABOR CLASSIFICATIONS (BASIC SERVICES)

TASK NUMBER & DESCRIPTION	Project Manager	Project Engineer	Design Engineer	Technician	Clerical	TOTAL HOURS	TOTAL LABOR (\$)
	\$45.00	\$30.00	\$23.50	\$22.00	\$15.00		
2.11 LAND OWNERSHIP, RIGHT-OF-WAY & EASEMENTS	4	32	60	100	0	196	\$4,750.00
2.11.2 Land Ownership Map Development	4	24	60	100	0	188	\$4,510.00
2.11.3 Identify Rights-of-Entry	0	8	0	0	0	8	\$240.00
2.12 ENVIRONMENTAL OVERVIEW	0	12	0	4	0	16	\$448.00
2.12.2 Environmental Permits & Approvals	0	4	0	4	0	8	\$208.00
2.12.3 Cultural Resources Assessment	0	4	0	0	0	4	\$120.00
2.12.4 Environmental Regulatory Records Review	0	4	0	0	0	4	\$120.00
2.12.5 Ecological Assessment	0	0	0	0	0	0	\$0.00
2.12.6 Title VI Environmental Justice Assessment	0	0	0	0	0	0	\$0.00
2.13 VISUAL RESOURCES & MULTIPLE USE OPPORTUNITIES ASSESSMENT	0	8	0	16	0	24	\$592.00
2.13.1 Visual Resources Assessment	0	0	0	0	0	0	\$0.00
2.13.2 Multi-Use Opportunities Assessment	0	8	0	16	0	24	\$592.00

EXHIBIT B

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY CONSULTANT/SUBCONSULTANT ESTIMATED MANHOURS AND DIRECT LABOR

CONSULTANT/SUBCONSULTANT NAME: ENTELLUS, INC. (Prime Consultant) CONTRACT NO.: 99-44
 PROJECT NAME: Glendale/Peoria Area Drainage Master Plan Update ENTELLUS PROJECT NO. 310.017
 DATE: September 27, 1999 Page 4 of 5

DIRECT LABOR CLASSIFICATIONS (BASIC SERVICES)

TASK NUMBER & DESCRIPTION	Project Manager	Project Engineer	Design Engineer	Technician	Clerical	TOTAL HOURS	TOTAL LABOR (\$)
	\$45.00	\$30.00	\$23.50	\$22.00	\$15.00		
2.14 PUBLIC INVOLVEMENT	116	92	22	224	116	570	\$15,165.00
2.14.1 Open House/Public Meetings (6)	72	40	6	24	24	166	\$5,469.00
2.14.2 Preparation of Handouts & Display Boards (27 each)	8	16	16	108	0	148	\$3,592.00
2.14.3 Chair Meetings	0	0	0	0	0	0	\$0.00
2.14.5 Summary of Neighborhood Meetings (6)	8	12	0	0	40	60	\$1,320.00
2.14.6 City or Town Council Meetings or Work-Study Sessions (20) OPTIONAL	(SEE DIRECT LABOR CLASSIFICATIONS FOR OPTIONAL SERVICES)						
2.14.7 Public Notification/Legal Advertising	8	8	0	32	32	80	\$1,784.00
2.14.8 Brochure Preparation	8	8	0	0	4	20	\$660.00
2.14.10 Project Milestone Newsletters/Project Status Updates (2)	8	4	0	0	8	20	\$600.00
2.14.12 Internet Webpages	4	4	0	60	8	76	\$1,740.00
2.14.13 Project Hotline OPTIONAL	(SEE DIRECT LABOR CLASSIFICATIONS FOR OPTIONAL SERVICES)						
2.15 UTILITIES LOCATION	0	24	36	140	0	200	\$4,646.00
2.16 SITE VISITS	40	40	32	8	0	120	\$3,928.00

EXHIBIT B

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY CONSULTANT/SUBCONSULTANT ESTIMATED MANHOURS AND DIRECT LABOR

CONSULTANT/SUBCONSULTANT NAME: ENTELLUS, INC. (Prime Consultant)

CONTRACT NO.: 99-44

PROJECT NAME: Glendale/Peoria Area Drainage Master Plan Update

ENTELLUS PROJECT NO. 310.017

DATE: September 27, 1999

Page 5 of 5

DIRECT LABOR CLASSIFICATIONS (BASIC SERVICES)

TASK NUMBER & DESCRIPTION	Project Manager	Project Engineer	Design Engineer	Technician	Clerical	TOTAL HOURS	TOTAL LABOR (\$)
	\$45.00	\$30.00	\$23.50	\$22.00	\$15.00		
2.17 MEETINGS/COORDINATION (13 Set, 18 Misc. Migs.)	80	60	0	0	0	140	\$5,400.00
3.0 PROJECT ADMINISTRATION	804	292	172	40	176	1484	\$52,502.00
3.1 Schedule	24	12	12	0	16	64	\$1,962.00
3.3 Project Management	600	0	0	0	0	600	\$27,000.00
3.4 Reports (2 major and 4 minor reports)	180	280	160	40	160	820	\$23,540.00
TOTAL	1344	2068	2190	2043	652	8302	\$228,821.00

EXHIBIT B - OPTIONAL
FLOOD CONTROL DISTRICT OF MARICOPA COUNTY
CONSULTANT/SUBCONSULTANT COST PROPOSAL SUMMARY

CONSULTANT/SUBCONSULTANT: ENTELLUS, INC. *(Prime Consultant)*

PROJECT NAME: Glendale/Peoria Area Drainage Master Plan Update

CONTRACT NO.: FCD 99-44

CHANGE ORDER NO.: N/A

DIRECT LABOR (Optional Services)

<u>Classifications</u>	<u>Manhours</u>	<u>Hourly Rates</u>	<u>Labor Costs</u>
Project Manager	96	\$ 45.00	\$ 4,320
Project Engineer	244	30.00	7,320
Design Engineer	134	23.50	3,149
Technician	176	22.00	3,872
Clerical	198	15.00	2,970
		Total Labor	\$ 21,631
		OVERHEAD @ <u>155 % (of Labor)</u>	\$33,528
		Subtotal	\$ 55,159

DIRECT EXPENSES (Optional Services)

<u>Description</u>	<u>Expense Amount</u>
Alternatives Summary (2.4.4)	\$720 (1"=100 24 sheets x 3 sets x \$10)
Display Boards (2.14.2)	\$2,280 (20 meetings x \$114)
Public Notification/Legal Advertisement (2.14.9)	\$3,000 (10 x \$300)
Voice-Mail Hotline (2.14.13)	\$780 (12 x \$65)
	Subtotal
	\$ 6,780

SUBCONSULTANTS (Optional Services)

<u>Name</u>	<u>Cost</u>
Pentacore	\$71,693
LTM Engineering	\$0
Logan Simpson Design	\$21,051
	Subtotal
	\$ 92,744

Subtotal Labor (Optional Services)	\$	55,159
Subtotal Expenses (Optional Services)	\$	6,780
Subtotal Subconsultants (Optional Services)	\$	92,744
Total Consultant Cost (Optional Services)	\$	154,683
Net Fee (Subtotal Labor x <u>9.8039</u> %)	\$	5,408
TOTAL PROPOSED FEE	\$	160,091

ENTELLUS, INC.

BY: Michael J. Brun
Signature

VICE PRESIDENT
Title

OCTOBER 4, 1999
Date

EXHIBIT B - OPTIONAL

**FLOOD CONTROL DISTRICT OF MARICOPA COUNTY
CONSULTANT/SUBCONSULTANT ESTIMATED MANHOURS AND DIRECT LABOR**

CONSULTANT/SUBCONSULTANT NAME: ENTELLUS, INC. (*Prime Consultant*)

CONTRACT NO.: 99-44

PROJECT NAME: Glendale/Peoria Area Drainage Master Plan Update

ENTELLUS PROJECT NO. 310.017

DATE: September 27, 1999

Page 1 of 1

DIRECT LABOR CLASSIFICATIONS (OPTIONAL SERVICES)

TASK NUMBER & DESCRIPTION	Project Manager	Project Engineer	Design Engineer	Technician	Clerical	TOTAL HOURS	TOTAL LABOR (\$)
	\$45.00	\$30.00	\$23.50	\$22.00	\$15.00		
2.4.5 Additional Alternatives (<i>Up to 12</i>)	40	100	122	40	10	312	\$8,697.00
2.10.6 Arrowhead Ranch Lakes Analysis	16	48	0	16	8	88	\$2,632.00
2.14.6 Miscellaneous Meetings (<i>Up to 20</i>)	24	80	12	120	80	316	\$7,602.00
2.14.13 Voice-Mail Hotline	16	16	0	0	100	132	\$2,700.00
TOTAL	96	244	134	176	198	848	\$21,631.00

**FLOOD CONTROL DISTRICT OF MARICOPA COUNTY
CONSULTANT/SUBCONSULTANT COST PROPOSAL SUMMARY**

CONSULTANT/SUBCONSULTANT: LOGAN SIMPSON DESIGN

PROJECT NAME: Glendale/Peoria Area Drainage Master Plan Update

CONTRACT NO.: FCD 99-44

CHANGE ORDER NO.: N/A

DIRECT LABOR (Basic Services)

<u>Classifications</u>	<u>Manhours</u>	<u>Hourly Rates</u>	<u>Labor Costs</u>
Project Environmental Planner	394	\$30	\$ 11,820
Senior Landscape Architect	32	30	960
Archaeologist	194	18	3,492
Project Biologist	302	18	5,436
Planner	746	16	11,936
Graphic/Landscape Designer	828	15	12,420
Technician/Draftsman	250	13	3,250

Total Labor	\$	49,314
* OVERHEAD @ 150% (of Labor)	\$	73,971
Subtotal	\$	123,285

*Salary Fringes 50 %
G & A Overhead 100 %

DIRECT EXPENSES (Basic Services)

Description Expense Amount

(See attached Exhibit)

Subtotal \$ 18,565

SUBCONSULTANTS (Basic Services)

Name Cost
NONE

Subtotal \$ 0

Subtotal Labor (Basic Services)	\$	123,285
Subtotal Expenses (Basic Services)	\$	18,565
Subtotal Subconsultants (Basic Services)	\$	0
Total Consultant Cost (Basic Services)	\$	141,850
Net Fee (Subtotal Labor x 10.%)	\$	12,329
TOTAL PROPOSED FEE	\$	154,179

LOGAN SIMPSON DESIGN

BY: M. Wayne Colebank
Signature
Vice President
Title
9/30/99
Date

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY
CONSULTANT/SUBCONSULTANT ESTIMATED PERSONHOURS AND DIRECT LABOR

LOGAN SIMPSON DESIGN INC.
GLENDALE/PEORIA DRAINAGE MASTER PLAN UPDATE
September 29, 1999

CONTRACT NO. FCD 99-1844
CHANGE ORDER NO.

Contract Task/Phase - Authorized Tasks	Project Env. Plan.	Senior Land. Arch.	Archaeo.	Project Biologist	Planner	Graphic/ Land.Des.	Tech/ Draftsman	Total Hours	Total Labor
(\$/HR)	\$82.50	\$82.50	\$49.50	\$49.50	\$44.00	\$41.25	\$35.75		
Task 2.1.2 Data Collection and Existing Conditions Analysis	12				20			32	\$1,870
Task 2.3.2 Brainstorming Meeting	20	20	20	20	12			92	\$5,808
Task 2.3.6 Potential Alternatives Submittal	24				16			40	\$2,684
Task 2.3.7 Evaluation Criteria	8				8			16	\$1,012
Task 2.4.2 Alternatives Analysis/Summary	24				24	24		72	\$4,028
Task 2.5.3 Preferred Alternative/Conceptual Design Plans	68	12		8	120	160	80	448	\$21,736
Task 2.6 Maintenance Plan	24			8	40			72	\$4,136
Task 2.7 Implementation Plans	0				0			0	\$0
Task 2.12.2 Environmental Permits and Approvals	30							30	\$2,475
Task 2.12.3 Cultural Resources Assessment	10		150		42		32	234	\$11,242
Task 2.12.4 Environmental Regulatory Records Review	8				20			28	\$1,540
Task 2.12.5 Ecological Assessment	18			200	20		38	274	\$13,459
Task 2.12.6 Title VI/Env. Justice	2				24		8	34	\$1,507
Task 2.13.1 Visual Analysis	40				280	100	40	460	\$21,175
Task 2.13.2 Multiple-Use Opportunities Assessment	12				80	16	40	148	\$6,600
Task 2.14.1 Open Houses (6)	42			42				84	\$5,544
Task 2.14.2 Handouts	2					60		62	\$2,640
Task 2.14.2 Display Boards	8					324	12	344	\$14,454
Task 2.14.4 Refreshments					16			16	\$704
Task 2.14.5 Summary of Meetings	10							10	\$825
Task 2.14.8 Brochure (1)	2					56		58	\$2,475
Task 2.14.10 Newsletters (2)	8					80		88	\$3,960
Task 2.14.12 Website	0					8		8	\$330
Task 2.14.13 Hotline	0							0	\$0
Task 2.16 Site Visits (3)	24		24	24	24			96	\$5,412
Totals	394	32	194	302	746	828	250	2,746	\$136,614

**FLOOD CONTROL DISTRICT OF MARICOPA COUNTY
CONSULTANT/SUBCONSULTANT COST PROPOSAL SUMMARY**

CONSULTANT/SUBCONSULTANT: LOGAN SIMPSON DESIGN

PROJECT NAME: Glendale/Pcoria Area Drainage Master Plan Update

CONTRACT NO.: FCD 99-44

CHANGE ORDER NO.: N/A

DIRECT LABOR (Optional Services)

<u>Classifications</u>	<u>Manhours</u>	<u>Hourly Rates</u>	<u>Labor Costs</u>
Project Environmental Planner	132	\$30	\$ 3,960
Senior Landscape Architect	0	30	0
Archaeologist	0	18	0
Project Biologist	0	18	0
Planner	32	16	512
Graphic/Landscape Designer	8	15	120
Technician/Draftsman	24	13	312
		Total Labor	\$ 4,904
		* OVERHEAD @ <u>150</u> % (of Labor)	\$ 7,356
		Subtotal	\$ 12,260
*Salary Fringes	<u>50</u> %		
G & A Overhead	<u>100</u> %		

DIRECT EXPENSES (Optional Services)

Description **Expense Amount**

(See attached Exhibit)

Subtotal **\$ 7,565**

SUBCONSULTANTS (Optional Services)

Name **Cost**
NONE

Subtotal **\$ 0**

Subtotal Labor (Optional Services)	\$	12,260
Subtotal Expenses (Basic Services)	\$	7,565
Subtotal Subconsultants (Basic Services)	\$	0
Total Consultant Cost (Basic Services)	\$	19,825
Net Fee (Subtotal Labor x 10%)	\$	1,226
TOTAL PROPOSED FEE	\$	21,051

LOGAN SIMPSON DESIGN

BY: Mr. Wayne Coldbank
Signature
Vice President
Title
9/30/99
Date

**FLOOD CONTROL DISTRICT OF MARICOPA COUNTY
CONSULTANT/SUBCONSULTANT COST PROPOSAL SUMMARY**

CONSULTANT/SUBCONSULTANT: LTM Engineering, Inc.

PROJECT NAME: Glendale/Peoria Area Drainage Master Plan Update

CONTRACT NO.: FCD 99-44

CHANGE ORDER NO.: N/A

DIRECT LABOR (Basic Services)

<u>Classifications</u>	<u>Manhours</u>	<u>Hourly Rates</u>	<u>Labor Costs</u>
Project Manager	340	\$ 32.73	\$ 11,128
Project Engineer	0	0	0
Design Engineer	0	0	0
Technician	0	0	0
Clerical	0	0	0
		Total Labor	\$ 11,128
		* OVERHEAD @ <u>150</u> % (of Labor)	\$ 16,692
		Subtotal	\$ 27,820

*Salary Fringes _____ %
G & A Overhead _____ %

DIRECT EXPENSES (Basic Services)

<u>Description</u>	<u>Expense Amount</u>
Existing Facilities Exhibit (2.1.6)	\$
Schematic Drawings (2.3.6)	\$
Alternatives Summary (2.4.3)	\$
Conceptual Design Plans (2.5.3)	\$
Preferred Alternative Report (2.5.4)	\$
Maintenance Plan (2.6)	\$
Implementation Plan (2.7)	\$
Computer Use/Modeling for Hydraulic (2.9) & Hydrologic (2.10) Analyses	\$
Hydrologic Model Deliverable to Outside Users (2.10.4)	\$
Handouts, Display Boards (2.14.3)	\$
Graphic Display: digital, printed formats (2.14.3)	\$
Refreshments (2.14.5)	\$
Public Notification/Legal Advertisement (2.14.9)	\$
Project Brochure (2.14.10)	\$
Milestone Newsletters/Project Status Updates (2.14.11)	\$
Internet Webpages (2.14.12)	\$

Project Hotline (2.14.13)	\$	
Mileage	\$256	
Other Project Reproduction: Minutes, Correspondence, etc.	\$50	
Other Project Reproduction: Plans	\$	
Other Project Reproduction: Draft & Final Reports	\$	
Telecommunications	\$25	
Additional Insured Fees	\$100	
Postage/Delivery	\$45	
	Subtotal	\$ 476

SUBCONSULTANTS (Basic Services)

<u>Name</u>	<u>Cost</u>		
		Subtotal	\$ 0
		Subtotal Labor (Basic Services)	\$ 27,820
		Subtotal Expenses (Basic Services)	\$ 476
		Subtotal Subconsultants (Basic Services)	\$ 0
		Total Consultant Cost	\$ 28,296
		Net Fee (Subtotal Labor x <u>12</u> %)	\$ 3,338
		TOTAL PROPOSED FEE	\$ 31,634

SUBCONSULTANT NAME

BY: Laurie Miller
Signature

President
Title

September 23, 1999
Date

EXHIBIT e
 FLOOD CONTROL DISTRICT OF MARICOPA COUNTY
 CONSULTANT/SUBCONSULTANT ESTIMATED MAN-HOURS AND DIRECT LABOR

CONSULTANT/SUBCONSULTANT NAME: LTM Engineering, Inc.

CONTRACT NO: 99-44

PROJECT NAME: Glendale/Peoria Area Drainage Master Plan Update

CHANGE ORDER NO:

DATE: September 23, 1999

DIRECT LABOR CLASSIFICATIONS

RATE:	91.64										TOTAL	TOTAL
CONTRACT TASK/PHASE	(\$/HR)	MAN-HOURS	LABOR									
2.1 Data Collection/Exist. Conditions	80										80	\$7,331
2.3 Level I Analysis	40										40	\$3,666
2.4 Level II Analysis	80										80	\$7,331
2.5 Level III Analysis	24										24	\$2,199
2.10 Hydrologic Analysis	40										40	\$3,666
2.16 Site Visits	16										16	\$1,466
2.17 Meetings/Coordination	60										60	\$5,498
3.2 Invoices	0										0	\$0

EXHIBIT B

CONSULTANT/SUBCONSULTANT COST PROPOSAL

CONSULTANT/SUBCONSULTANT: PENTACORE ARIZONA

PROJECT NAME: Glendale/Peoria Area Drainage Master Plan Update

CONTRACT NO.: 99-44

CHANGE ORDER NO.: N/A

DIRECT LABOR (BASIC SERVICES)			
Classification	Manhours	Hourly Rates	Labor Costs
Project Engineer	506	\$34.62	\$17,517.72
Design Engineer	642	\$22.80	\$14,637.60
Design Technician	546	\$19.50	\$10,647.00
Survey Supervisor	68	\$26.00	\$1,768.00
Survey Crew	260	\$35.70	\$9,282.00
Clerical	44	\$14.00	\$616.00

Subtotal Labor \$54,468.32

Overhead @ 150% of Labor \$81,702.48

Total Labor \$136,170.80

Salary Fringes: 100%

G&A Overhead: 50%

DIRECT AND OUTSIDE EXPENSES (BASIC SERVICES)	
Description	Expense Amount
2.14.3 - Handouts, Display Boards, Special Graphics	\$200.00
Mileage	\$200.00
Project Reproduction and Plotting (Plans, Drawings, Correspondence, Reports)	\$700.00

Total Expenses \$1,100.00

EXHIBIT B

CONSULTANT/SUBCONSULTANT COST PROPOSAL

SUBCONSULTANTS		
Description	Task	Cost
N/A		

Total Subconsultants N/A

Total Labor (Basic Services) \$136,170.80

Total Expenses (Basic Services) \$1,100.00

Total Consultant Cost (Basic Services) \$137,270.80

Net Fee (Total Labor x 12%) (Basic Services) \$16,340.50

TOTAL PROPOSE FEE (BASIC SERVICES) \$153,611.30

Vincent L. Smith
Signature

PRESIDENT
Title

9/28/99
Date

**EXHIBIT B
FLOOD CONTROL DISTRICT OF MARICOPA COUNTY
CONSULTANT/SUBCONSULTANT SCHEDULED PROJECT MANHOURS**

CONSULTANT/SUBCONSULTANT NAME: PENTACORE ARIZONA

CONTRACT NO.: 99-44

PROJECT NAME: Glendale/Peoria Area Drainage Master Plan Update

DATE: 2000

CONSULTANT MANHOURS													
PROJECT PERSONNEL	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC	TOTALS
Project Engineer	40	40	36	16	16	16	20	30	40	20	20	20	314
Design Engineer	80	60	60	20	8	8	30	40	60	30	20	6	422
Design Technician	40	40	40	8	8	8	40	80	80	80	40	8	472
Survey Supervisor			20	20	20								60
Survey Crew			120	120									240
Clerical	1	1	1	1	16	1	1	1	1	1	2	12	39
													0
													0
													0
													0
													0
													0
													0
													0
													0
													0
													0
													0
													0
MONTHLY TOTALS	161	141	277	185	68	33	91	151	181	131	82	46	1547

EXHIBIT B
FLOOD CONTROL DISTRICT OF MARICOPA COUNTY
CONSULTANT/SUBCONSULTANT ESTIMATED MANHOURS AND DIRECT LABOR

CONSULTANT/SUBCONSULTANT NAME: PENTACORE ARIZONA CONTRACT NO.: 99-44

PROJECT NAME: Glendale/Peoria Area Drainage Master Plan Update

DATE: 26 August 1999

TASK NUMBER & DESCRIPTION	Project Engineer	Design Engineer	Design Technician	Survey Supervisor	Survey Crew	Clerical	TOTAL HOURS	TOTAL LABOR	
	wso \$34.62	kpk \$22.80	sjy \$19.50	fb \$26.00		so \$14.00			
BASIC SERVICES									
2.1	DATA COLLECTION AND EXISTING CONDITION ANALYSIS							60	\$1,604.40
2.3	LEVEL I ANALYSIS							166	\$3,932.04
	AREA 1 - N. Side of ACDC Canal							100	\$2,384.40
	AREA 9 - Pinnacle Pk Rd and 67th Ave.							66	\$1,547.64
2.4	LEVEL II ANALYSIS							166	\$3,932.04
	AREA 1 - N. Side of ACDC Canal							100	\$2,384.40
	AREA 9 - Pinnacle Pk Rd and 67th Ave.							66	\$1,547.64
2.5	LEVEL III ANALYSIS							154	\$3,516.60
	AREA 1 - N. Side of ACDC Canal							92	\$2,107.44
	AREA 9 - Pinnacle Pk Rd and 67th Ave.							62	\$1,409.16
2.6	MAINTENANCE PLAN							32	\$918.72
	AREA 1 - N. Side of ACDC Canal							16	\$459.36
	AREA 9 - Pinnacle Pk Rd and 67th Ave.							16	\$459.36

EXHIBIT C
FLOOD CONTROL DISTRICT OF MARICOPA COUNTY
CONSULTANT/SUBCONSULTANT ESTIMATED MANHOURS AND DIRECT LABOR

CONSULTANT/SUBCONSULTANT NAME: PENTACORE ARIZONA CONTRACT NO.: 99-44
 PROJECT NAME: Glendale/Peoria Area Drainage Master Plan Update
 DATE: 26 August 1999

TASK NUMBER & DESCRIPTION	Project Engineer	Design Engineer	Design Technician	Survey Supervisor	Survey Crew	Clerical	TOTAL HOURS	TOTAL LABOR
	wso \$34.62	kpk \$22.80	sjy \$19.50	fb \$26.00		so \$14.00		
2.7 IMPLEMENTATION PLAN	16	0	0	0	0	0	16	\$553.92
AREA 1 - N. Side of ACDC Canal	8						8	\$276.96
AREA 9 - Pinnacle Pk Rd and 67th Ave.	8						8	\$276.96
2.8 FIELD SURVEY & MAPPING	20	0	0	48	260	0	328	\$11,222.40
2.8.1 - Data Collection on existing control	4			4			8	\$242.48
2.8.2 - Supplemental Field Survey (12 locations)	12	0	0	40	240	0	292	\$10,023.44
2.8.5 - Survey and/or set ERM's (5)	4	0	0	4	20		28	\$956.48
2.9 HYDRAULIC ANALYSIS	16	56	0	0	0	0	72	\$1,830.72
AREA 1 - N. Side of ACDC Canal	8	32					40	\$1,006.56
AREA 9 - Pinnacle Pk Rd and 67th Ave.	8	24					32	\$824.16
2.10 HYDROLOGIC ANALYSIS	98	144	144	0	0	0	386	\$9,483.96
2.10.2.1 - ACDC Hydrology Area	40	100	80				220	\$5,224.80
2.10.2.2 - New River Hydrology Area (Review - QA/QC)	40						40	\$1,384.80
2.10.3 - Preferred Alternative Model	14	28	28	0	0	0	70	\$1,669.08
AREA 1 - N. Side of ACDC	8	16	16				40	\$953.76
AREA 2 - Pinnacle Pk Rd and 67th Ave.	6	12	12				30	\$713.32
2.10.5 - HIS Deliverables (ACDC Hydrology Area ONLY)	4	16	36	0	0	0	56	\$1,205.28
2.11 LAND OWNERSHIP, ROW, & EASMENTS	12	24	36	0	0	0	72	\$1,664.64
AREA 1 - N. Side of ACDC Canal	8	16	20				44	\$1,031.76
AREA 9 - Pinnacle Pk Rd and 67th Ave.	4	8	16				28	\$632.88

EXHIBIT C
FLOOD CONTROL DISTRICT OF MARICOPA COUNTY
CONSULTANT/SUBCONSULTANT ESTIMATED MANHOURS AND DIRECT LABOR

CONSULTANT/SUBCONSULTANT NAME: PENTACORE ARIZONA CONTRACT NO.: 99-44

PROJECT NAME: Glendale/Peoria Area Drainage Master Plan Update

DATE: 26 August 1999

TASK NUMBER & DESCRIPTION	Project Engineer	Design Engineer	Design Technician	Survey Supervisor	Survey Crew	Clerical	TOTAL HOURS	TOTAL LABOR
	wso \$34.62	kpk \$22.80	sjy \$19.50	fb \$26.00		so \$14.00		
2.14 PUBLIC INVOLVEMENT	20	16	40	0	0	20	96	\$2,117.20
2.14.1 - Open Houses/Public Meetings (2 occurrences)	12						12	\$415.44
2.14.2 - Meeting Material Preparation (2 occurrences)	8	16	40			20	84	\$1,701.76
2.15 UTILITIES	4	16	36	0	0	0	56	\$1,205.28
AREA 1 - N. Side of ACDC Canal	2	8	20				30	\$641.64
AREA 9 - Pinnacle Pk Rd and 67th Ave.	2	8	16				26	\$563.64
2.16 SITE VISITS	28	28	0	0	0	0	56	\$1,607.76
AREA 1 - N. Side of ACDC Canal	16	16					32	\$918.72
AREA 9 - Pinnacle Pk Rd and 67th Ave.	12	12					24	\$689.04
2.17 MEETINGS	58	42	0	0	0	0	100	\$2,965.56
2.17.1 - Agency and Utility Coordination Meetings	12	12					24	\$689.04
2.17.3.1 - Kickoff Meeting	6	6					12	\$344.52
2.17.3.2 - Data Collection Review Meeting	4						4	\$138.48
2.17.3.3 - Alternatives Brainstorming Meeting (2)	8	8					16	\$459.36
2.17.3.4 - Alternative Evaluation Meetings (2)	8	8					16	\$459.36
2.17.3.6 - Alternatives Analysis Report Review Meeting	4	4					8	\$229.68
2.17.3.7 - Feature Prioritization Meeting (2)	8						8	\$276.96
2.17.3.9 - Rcmnd Dsgn Rpt and Prelim Plans Review Mtg	4	4					8	\$229.68
2.17.3.10 - Final 100% Submittal Meeting	4						4	\$138.48

EXHIBIT B
FLOOD CONTROL DISTRICT OF MARICOPA COUNTY
CONSULTANT/SUBCONSULTANT ESTIMATED MANHOURS AND DIRECT LABOR

CONSULTANT/SUBCONSULTANT NAME: PENTACORE ARIZONA CONTRACT NO.: 99-44

PROJECT NAME: Glendale/Peoria Area Drainage Master Plan Update

DATE: 26 August 1999

TASK NUMBER & DESCRIPTION	Project Engineer	Design Engineer	Design Technician	Survey Supervisor	Survey Crew	Clerical	TOTAL HOURS	TOTAL LABOR
	wso \$34.62	kpk \$22.80	sjy \$19.50	fb \$26.00		so \$14.00		
3.1 PROJECT ADMINISTRATION - SCHEDULE	8	0	0	0	0	0	8	\$276.96
3.4 PROJECT ADMINISTRATION - REPORTS (Those portions applicable to work by Pentacore)	106	68	80	20	0	24	298	\$7,636.12
3.4.3 - Data Collection Report	8	8					16	\$459.36
3.4.4 - Alternative Analysis Report	40	20	20				80	\$2,230.80
3.4.5 - Recommended Design Report	30	16	20				66	\$1,793.40
3.4.6 - Project Final Submittal	8	8	16				32	\$771.36
3.4.7 - Project Survey Report Appendix	4		8	20		16	48	\$1,038.48
3.4.8 - Project Technical Report Appendix	8	16	16				40	\$953.76
3.4.9 - Project Administration Appendix	8					8	16	\$388.96

EXHIBIT B

CONSULTANT/SUBCONSULTANT COST PROPOSAL

CONSULTANT/SUBCONSULTANT: PENTACORE ARIZONA

PROJECT NAME: Glendale/Peoria Area Drainage Master Plan Update

CONTRACT NO.: 99-44

CHANGE ORDER NO.: N/A

DIRECT LABOR (OPTIONAL SERVICES)			
Classification	Manhours	Hourly Rates	Labor Costs
Project Engineer	268	\$34.62	\$9,278.16
Design Engineer	352	\$22.80	\$8,025.60
Design Technician	300	\$19.50	\$5,850.00
Survey Supervisor	8	\$26.00	\$208.00
Survey Crew	40	\$35.70	\$1,428.00
Clerical	48	\$14.00	\$672.00

Subtotal Labor \$25,461.76

Overhead @ 150% of Labor \$38,192.64

Total Labor \$63,654.40

Salary Fringes: 100%

G&A Overhead: 50%

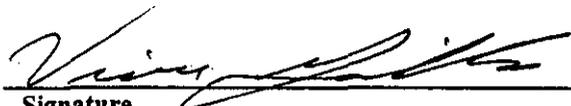
DIRECT AND OUTSIDE EXPENSES (OPTIONAL SERVICES)	
Description	Expense Amount
2.14.3 - Handouts, Display Boards, Special Graphics	\$100.00
Mileage	\$100.00
Project Reproduction and Plotting (Plans, Drawings, Correspondence, Reports)	\$200.00

Total Expenses \$400.00

EXHIBIT B
CONSULTANT/SUBCONSULTANT COST PROPOSAL

SUBCONSULTANTS		
Description	Task	Cost
N/A		

Total Subconsultants	<u>N/A</u>
Total Labor (Optional Services)	<u>\$63,654.40</u>
Total Expenses (Optional Services)	<u>\$400.00</u>
Total Consultant Cost (Optional Services)	<u>\$64,054.40</u>
Net Fee (Total Labor x 12%) (Optional Services)	<u>\$7,638.53</u>
TOTAL PROPOSE FEE (OPTIONAL SERVICES)	<u>\$71,692.93</u>


 Signature

PRESIDENT
 Title

10/1/98
 Date

EXHIBIT C
FLOOD CONTROL DISTRICT OF MARICOPA COUNTY
CONSULTANT/SUBCONSULTANT ESTIMATED MANHOURS AND DIRECT LABOR

CONSULTANT/SUBCONSULTANT NAME: PENTACORE ARIZONA CONTRACT NO.: 99-44

PROJECT NAME: Glendale/Peoria Area Drainage Master Plan Update

DATE: 26 August 1999

TASK NUMBER & DESCRIPTION		Project Engineer	Design Engineer	Design Technician	Survey Supervisor	Survey Crew	Clerical	TOTAL HOURS	TOTAL LABOR
		wso \$34.62	kpk \$22.80	sjy \$19.50	fb \$26.00		so \$14.00		
OPTIONAL SERVICES									
2.4.5	ADDITIONAL ALTERNATIVE SOLUTIONS (OPTION)	20	40	0	0	0	0	60	\$1,604.40
2.10.6	ARROWHEAD RANCH LAKES ANALYSIS (OPTION)	224	312	300	8	40	48	932	\$23,026.48
	Data Collection	8	16					24	\$641.76
	Level I Analysis	12	24	40				76	\$1,742.64
	Level II Analysis	20	40	40				100	\$2,384.40
	Level III Analysis	8	40	40				88	\$1,968.96
	Maintenance Plan	8	12					20	\$550.56
	Implementation Plan	8	8					16	\$459.36
	Supplemental Field Survey	4			8	40		52	\$1,774.48
	Hydraulic Analysis	8	20	20				48	\$1,122.96
	Hydrologic Analysis	40	80	60				180	\$4,378.80
	Land Ownership, ROW, & Easmts	4	8	20				32	\$710.88
	Public Involvement	16		40				56	\$1,333.92
	Utilities	4	8	20				32	\$710.88
	Site Visits	16	16					32	\$918.72
	Meetings	20	20				20	60	\$1,428.40
	Project Administration	8					8	16	\$388.96
	Reports	40	20	20			20	100	\$2,510.80

EXHIBIT B
FLOOD CONTROL DISTRICT OF MARICOPA COUNTY
CONSULTANT/SUBCONSULTANT ESTIMATED MANHOURS AND DIRECT LABOR

CONSULTANT/SUBCONSULTANT NAME: PENTACORE ARIZONA CONTRACT NO.: 99-44

PROJECT NAME: Glendale/Peoria Area Drainage Master Plan Update

DATE: 26 August 1999

TASK NUMBER & DESCRIPTION	Project Engineer	Design Engineer	Design Technician	Survey Supervisor	Survey Crew	Clerical	TOTAL HOURS	TOTAL LABOR
	wso \$34.62	kpk \$22.80	sjy \$19.50	fb \$26.00	\$35.70	so \$14.00		
2.14.6 CITY OR TOWN COUNCIL MTG OR WKSTDY ATTENDANCE (4 occurrences) (OPTION)	24						24	\$830.88
	485	357	300	5	30	187	1165	\$42,617.76

COPY

C.M.D.

CONSULTANT CHANGE ORDER - FCD APPROVAL

Flood Control District of Maricopa County

Date: 8/3/01 Change Order Number: 3 Amount: \$125,968.00 File No: XXXXX

Contract No: FCD 99-44 PCN No: 450.02.31

Consultant Name: Entellus, Inc.

Contract Title: Glendale/Peoria Area Drainage Master Plan Update

Initial Amount: \$1,179,351.00 Contract Award Date: 11/3/99 Total Previous Change Orders: \$35,465.00

By mutual agreement of the parties, the following contract change(s) are incorporated into the above contract. All other contract terms and conditions remain unchanged.

Change order 3 authorizes the development of alternatives to implement drainage improvements while minimizing the impact on residents. This includes 1) Two (2) additional public meetings; 2) Additional alternatives formulation and development; 3) Identification of a preferred drainage alternative with cost estimates and 15 percent design plans; 4) Analysis of Pinnacle Peak Roadway realignment west of 91st Avenue; 5) Incorporation of the preferred alternative into the Level III Report; and 6) Additional monies to cover the additional manhours.

By reason of this proposed change 0 days extension of time will be allowed. The contract completion date is: 11/23/01

The following financial information is submitted:

Initial Contract Amount	\$ 1,179,351.00
Amended Contract Amount w/ previous change orders	\$ 1,214,816.00
Current Change Order Request	\$ 125,968.00
<u>Amended Contract Amount w/ current change order</u>	<u>\$ 1,340,784.00</u>
Change Order Authorization Limit	\$ 97,500.00
Total Requested Change Orders	\$ 35,465.00 161,433.00 smc
Change Order Authorization Remaining	

We, the undersigned Consultant, hereby agree that upon execution of this change order we will perform all services as identified above, and will accept the above specified amount(s) as full payment therefore.

Consultant Name: Entellus, Inc. By: Michael J. Bonar

Consultant Address: 2255 North 44th Street, Suite 125 Printed Name: Michael J. Bonar

Phoenix, AZ 85008 Title: PRESIDENT

Date: 8/2/01

DISTRICT APPROVAL

I certify that this change is required to accomplish the overall task for which this contract is initiated.	Division Concurrence
<u>Kella Sordick</u> pr MDR 8/6/01	<u>[Signature]</u> 8-6-01
Project Manager Date	Division Manager Date
Funds are available to accomplish this Change Order	I certify that this change is within the limits authorized by the County Procurement Code
<u>[Signature]</u> 8/7/01	<u>Barbara C Hummel</u> 8/8/01
Controller Date	Contracts Branch Manager Date
General Manager Approval	Chief Public Works Officer Approval
<u>[Signature]</u> 8/9/01	<u>Thomas R Buick</u> 8-10-01
Chief Engineer & General Manager Date	Chief Public Works Officer Date

Copy to: Contract File, Controller, Division Manager, Project Manager

Marilyn -

Barb wants to
see the invoice
when they bill
for the catering
cost. -

Sharon

July 10, 2001

Ms. Marilyn DeRosa, R.G.
**FLOOD CONTROL DISTRICT
OF MARICOPA COUNTY**
2801 West Durango Street
Phoenix, AZ 85009

Reference: Glendale/Peoria Area Drainage Master Plan Update
FCD 99-44, Entellus Project No. 310.017
Request for Change Order No. 3

Dear Ms. DeRosa:

This letter is written to request approval of Change Order No. 3 for additional services including two additional public meetings and development of three additional alternatives for the drainage system at 83rd Avenue and Pinnacle Peak Road.

The original preferred alternative included acquisition of 19 residential properties on the north side of Pinnacle Peak Road and two residential properties on the west side of 83rd Avenue. The additional alternatives will be developed in an attempt to implement the drainage improvements while minimizing the impact to residents and, whenever possible, avoiding acquisition of any existing residences.

To complete the development of the alternatives, Change Order No. 3 includes:

- 1) Two additional public meetings.
- 2) Additional alternatives formulation and development.
- 3) Identification of a preferred drainage alternative with cost estimates and 15 percent design plans.
- 4) Analysis of Pinnacle Peak Roadway realignment west of 91st Avenue.
- 5) Incorporation of the preferred alternative into the Level III Report.
- 6) Additional monies to cover the additional manhours (\$125,968).

Attachment 1 includes the appropriate Cost Proposal Summary for all work associated with the additional alternatives development (as detailed in Attachment 3, SOW). Attachment 2 displays a more detailed manhour estimate and fee proposal to augment the Cost Proposal Summary. The fee proposal for Change Order No. 3 totals \$125,968.00

ENTELLUS, INC.

Tel 602.244.2566

Fax 602.244.8947

Web www.entellus.com

for *Patrice Miller*
Michael J. Bonar, P.E., MBA
Project Manager

MJB:pmm

Attachments

xc: Contract File



1985-2000

Serving

Arizona for

15 Years

2255 N. 44th Street

Suite 125

Phoenix, Arizona

85008.3279

ATTACHMENT 1
FLOOD CONTROL DISTRICT OF MARICOPA COUNTY
CONSULTANT/SUBCONSULTANT COST PROPOSAL SUMMARY

CONSULTANT/SUBCONSULTANT: ENTELLUS, INC. (*Prime Consultant*)

PROJECT NAME: Glendale/Peoria Area Drainage Master Plan Update

CONTRACT NO.: FCD 99-44

CHANGE ORDER NO.: 3

DIRECT LABOR

<u>Classifications</u>	<u>Manhours</u>	<u>Hourly Rates</u>	<u>Labor Costs</u>
Project Manager	203	\$ 45.00	\$ 9,135
Project Engineer	302	\$ 30.00	\$ 9,060
Design Engineer	388	\$ 23.50	\$ 9,118
Technician	156	\$ 22.00	\$ 3,432
Clerical	246	\$ 15.00	\$ 3,690
		Total Labor	\$ 34,435
		OVERHEAD @ <u>155%</u> (<i>of Labor</i>)	\$ 53,374
		Subtotal	\$ 87,809

DIRECT EXPENSES

First Mailing	300 letters @ \$1.00 each	300
First Meeting Boards	18 boards @ \$200 each	3,600
First Meeting Mileage	400 miles @ \$0.325 per mile	130
Second Mailing	250 letters @ \$1.00 each	250
Second Mailing Material	250 sets (5 color, 4 B/W) @ \$6.00	
Reproduction	each	1,500
Third Mailing	250 letters @ \$1.00 each	250
Third Mailing Material Reproduction	250 sets (2 color, 4 B/W) @ \$3.00	
	each	750
Second Public Meeting Boards	4 boards @ \$200 each	800
Second Public Meeting Mileage	400 miles @ \$0.325 per mile	130
Additional Plan & Profile Sheets	10 @ \$50 each (6 sets)	3,000
Additional Report Reproduction	10 @ \$50 each	500
Field trip / coordinate meetings		
mileage	200 @ \$0.325 per mile	65
Lessons Learned Catering / Facilities		1,000

Subtotal **\$ 12,275**

SUBCONSULTANTS

Logan Simpson Design	\$	11,310	
LTM Engineering	\$	5,965	
Subtotal			\$ 17,275
Subtotal Labor	\$	87,809	
Subtotal Expenses	\$	12,275	
Subtotal Subconsultants	\$	17,275	
Total Consultant Cost	\$	117,359	
Net Fee (Subtotal Labor x 9.8039 %)	\$	8,609	
TOTAL PROPOSED FEE	\$		125,968

ENTELLUS, INC.

BY:

Patrice Miller

Signature

Vice President

Title

Date

7/31/01

ATTACHMENT 2 - FEE PROPOSAL
 Glendale/Peoria Area Drainage Master Plan Update
 Contract FCD 99.44

Direct Labor Rates

Entellus, Inc.	45	30	23.5	22	15
LTM Engineering, Inc.	32.73	22.8	19.5	26	35.7

		100	72	114	60	144	0	190	\$12,113.52
	ADDITIONAL PUBLIC INFORMATION MEETINGS AND MATERIALS								
	Entellus, Inc.	70	72	84	60	96	0	382	\$10,044.00
1.1	First public meeting	30	24	36	24	32		146	\$3,924.00
	Summarize/Respond to public	8	16	8	8	24		64	\$1,564.00
	Second Public meeting	24	24	36	24	24		132	\$3,534.00
	Summarize/Respond to Public	8	8	4	4	16		40	\$1,022.00
								0	\$0.00
	LTM Engineering, Inc.	24	0	0	0	0	0	24	\$785.52
	Additional public meetings (2)	12						12	\$392.76
	Prepare Q&A response	12						12	\$392.76
								0	\$0.00
	First Public Meeting			12		24		36	\$604.00
	Second Public Meeting			16		24		48	\$780.00
								0	\$0.00
	ADDITIONAL ALTERNATIVE FORMULATION								
	Entellus, Inc.	8	16	16	12	4	0	56	\$1,540.00
	Brainstorm Potential Alternatives	4	8	8	8	4		32	\$844.00
	Evaluation/Presenting Alternatives	4	8	8	4			24	\$696.00
								0	\$0.00
	LTM Engineering, Inc.	4	0	0	0	0	0	4	\$130.92
	Evaluate additional alternatives meeting	4						4	\$130.92
								0	\$0.00
	Ecological reevaluation of Alternative	2		4				6	\$124.00
								0	\$0.00
	DEVELOPMENT OF ADDITIONAL ALTERNATIVES								
	Entellus, Inc.	10	48	104	0	8	0	170	\$4,454.00
	Alternative alignment	2	4	4		4		14	\$364.00
	Hydrologic analysis	2	24	40				66	\$1,750.00
	Hydraulic Analysis	2	4	8				14	\$396.00
	Cost estimates	2	8	44				54	\$1,364.00
	Summary of Alternatives	2	8	8		4		22	\$578.00
								0	\$0.00
	LTM Engineering, Inc.	0	0	0	0	0	0	0	\$0.00
								0	\$0.00
								0	\$0.00
	DEVELOPMENT OF PREFERRED ALTERNATIVE								
	Entellus, Inc.	12	24	68	36	4	0	144	\$3,710.00
	Hydrologic modeling	4	8	16				28	\$796.00
	Hydraulic modeling	2	4	16				22	\$586.00
	Cost estimates	4	8	32	4	4		52	\$1,320.00
	Prepare drawings	2	4	4	32			42	\$1,008.00
								0	\$0.00
	LTM Engineering, Inc.	8	0	0	0	0	0	8	\$261.84

	Technical support	8						8	\$261.84
								0	\$0.00
	Landscape Sketches	2	6					10	\$204.00
	Landscape Plan for Preferred Alternative	2		18		2		28	\$460.00
	Revised Cost Estimate for Preferred Al			6				6	\$36.00
								0	\$0.00
VI	ROADWAY ALIGNMENT ANALYSIS		12	4	8	2	0	30	\$840.00
	Entellus, Inc.	4	12	4	8	2	0	30	\$840.00
	Meetings coordination		4			2		6	\$150.00
	Roadway analysis	2	4	4	4			14	\$392.00
	Documentation of results	2	4		4			10	\$298.00
								0	\$0.00
	LTM Engineering, Inc.	0	0	0	0	0	0	0	\$0.00
								0	\$0.00
								0	\$0.00
								0	\$0.00
VI	ADDITIONAL COORDINATION MEETINGS	40	44	24	0	28	0	136	\$4,104.00
	Entellus, Inc.	40	44	24	0	28	0	136	\$4,104.00
	Public meeting debriefing (2)	12	16	8		8		44	\$1,328.00
	Monthly meetings /public meeting coord. (3)	12	16	16		8		52	\$1,516.00
	Peoria Council	12	12			8		8	
	Advisory Board	4				4		8	\$240.00
								0	\$0.00
	LTM Engineering, Inc.	16	0	0	0	0	0	16	\$523.68
	Public meeting debriefing (2)	6						6	\$196.38
	Monthly meetings /coordination (3)	10						10	\$327.30
								0	\$0.00
	Strategy Meetings (3 mtgs)	6		9				15	\$324.00
	Monthly Meetings (2 mtgs)	10						10	\$180.00
								0	\$0.00
VII	LEVEL III REPORT MODIFICATIONS	6	48	80	40	68	0	242	\$5,490.00
	Entellus, Inc.	6	48	80	40	68	0	242	\$5,490.00
	Level III Report modification		32	48		24		104	\$2,448.00
	Drawing preparation	4	8	16	32	8		68	\$1,620.00
	Reproduction coordination	2	8	16	8	36		70	\$1,422.00
								0	\$0.00
	LTM Engineering, Inc.	6	0	0	0	0	0	6	\$196.38
	Technical Review	6						6	\$196.38
								0	\$0.00
	Report Modifications	6						6	\$180.00
								0	\$0.00
VIII	PROJECT MANAGEMENT	40	24	0	0	16	0	80	\$2,885.46
	Entellus, Inc.	40	24	0	0	16	0	80	\$2,760.00
	Project management	40	24			16		80	\$2,760.00
								0	\$0.00
	LTM Engineering, Inc.	2	0	0	0	0	0	2	\$65.46
	Project management	2						2	\$65.46
								0	\$0.00
	Project Management	2						2	\$60.00
								0	\$0.00

VIII	LESSONS LEARNED WORKSHOP	17	18	19	20	21	22	23	24
	Entellus, Inc.	13	14	8	0	20	0	55	\$1,493.00
	Meeting setup	8	8			16		32	\$840.00
	Meeting attendance	4	4	4				12	\$394.00
	Summary of Alternatives	1	2	4		4		11	\$259.00
								0	\$0.00
	LTM Engineering, Inc.	4	0	0	0	0	0	4	\$130.92
	Meeting attendance	4						4	\$130.92
								0	\$0.00
								0	\$0.00
								0	\$0.00
								0	\$0.00
	Entellus, Inc.	203	302	388	156	246	0	1295	\$34,435.00
	LTM Engineering, Inc.	64	0	0	0	0	0	64	\$2,094.72
	Logan Simpson Design	32	8	67	24	52	0	169	\$2,912.00
	Total	299	310	455	160	298	0	1522	\$39,441.72
	Total Check	299	310	455	160	298	0	1506	38931.72

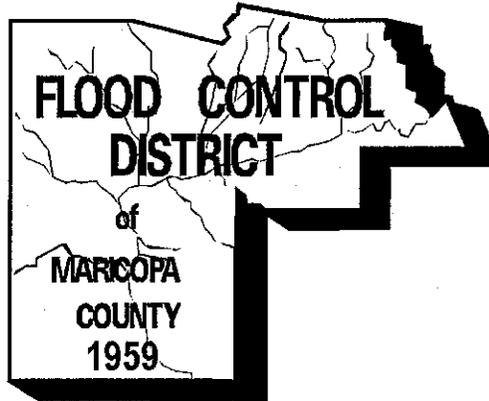
Direct Expenses

Entellus, Inc.		\$12,275.00
First mailing	300 letters @ \$1.00 each	\$300.00
First meeting Boards	18 boards @ 200 each	\$3,600.00
First meeting Mileage	400 miles @ 0.325 /mile	\$130.00
Second Mailing	250 letters @ \$ 1.00	\$250.00
Second Mailing material reproduction	250 sets (5 color,4 B/W) @ \$6.00	\$1,500.00
Third Mailing	250 letters @ \$1.00 each	\$250.00
Third Mailing material reproduction	250 sets (2 color,4 B/W) @ \$3.00	\$750.00
Second Public meeting Boards	4 boards @ \$200 each	\$800.00
Second Public meeting Mileage	400 miles @ 0.325 /mile	\$130.00
Additional Plan and profile sheets	10 @ \$50 (6sets)	\$3,000.00
Additional Report reproduction	10 @ \$50	\$500.00
Field trip / coor. meetings mileage	200 @ 0.325 / mile	\$65.00
Lessons Learn catering/facilities		\$1,000.00
Mileage		\$100.00
First Public Meeting Handout	250 copies matching May 2001 Handout format	\$1,115.00
Second Public Meeting Handout (300 copies)	300 copies matching May 2001 Handout format	\$1,670.00
Refreshments (2 public mtgs)		\$150.00
Mileage		\$67.00
Total Direct Expenses		\$15,677.00

	Total Labor	Overhead Rate	Overhead	Labor + Overhead	Net Fee	Direct Expenses	Total Fee
Entellus, Inc.	\$34,435	155	\$53,374	\$87,809	\$8,609	\$12,275	\$108,693
LTM Engineering, Inc.	\$2,095	150	\$3,142	\$5,237	\$628	\$100	\$5,965
Logan Simpson Design	\$2,912	150	\$4,368	\$7,280	\$728	\$3,502	\$11,310

Total Fee for Authorized Services

\$125,968.20



SCOPE OF WORK

**Glendale/Peoria ADMP Update
Additional Alternatives for 83rd Avenue and
Pinnacle Peak Road Drainage System
FCD No. 99-44, Change Order No. 3**

Attachment 3

FLOOD CONTROL DISTRICT of Maricopa County

1.0 GENERAL DESCRIPTION

1.1 PROJECT DESCRIPTION

1.1.1 This scope-of-work (SOW) is to contract for professional engineering services to provide additional alternatives for the Pinnacle Peak Road drainage system from 83rd Avenue to 91st Avenue. All work for these additional alternatives will be performed in accordance with the original SOW.

The original preferred alternative for this area required the acquisition of 19 homes along the north side of Pinnacle Peak Road and two homes along the west side of 83rd Avenue in order to accommodate an open channel collector. The DISTRICT wishes to explore additional alternatives that would not required the purchase of any residential properties.

These additional alternatives will be developed to consider storm drains instead of open channels and alternative alignments and facilities. The SOW will include public information, development of three additional alternatives, and modification of the Level III Report in order to incorporate the preferred alternative as identified through this Change Order No. 3.

1.2 CONTRACT TIMEFRAME AND SCHEDULE

1.2.1 This additional work will be completed concurrently with the original study.

2.0 TASKS

2.1 ADDITIONAL PUBLIC MEETINGS

2.1.1 The CONSULTANT shall arrange and participate in two public meetings associated with the additional alternatives at Pinnacle Peak Road. In the first meeting, the additional alternatives and cost estimates will be presented and input requested from the public. The second meeting will present the preferred alternative and how this alternative was identified.

2.1.2 The CONSULTANT shall prepare two mailings; one before each public meeting announcing the meeting and providing relevant information. Additionally, a third mailing will be prepared after the first meeting to provide attendees some of the materials presented at the meeting and respond to questions.

2.1.3 The CONSULTANT will summarize the comments and rank the alternatives based on public input as provided in the comment sheets.

2.2 ADDITIONAL ALTERNATIVE FORMULATION (Level I)

2.2.1 The CONSULTANT shall identify several options within the Pinnacle Peak system or upstream watershed that will provide the same level of protection as the current plan but will eliminate the need for acquisition of residential properties. The CONSULTANT shall present these alternatives to the DISTRICT and to the CITY OF PEORIA.

2.3 DEVELOPMENT OF ADDITIONAL ALTERNATIVES (Level II)

2.3.1 The CONSULTANT shall develop three additional alternatives including preliminary hydrology, hydraulic, and cost estimates. The preferred alternative will be identified by the Project Team taking into consideration public input.

2.4 DEVELOPMENT OF PREFERRED ALTERNATIVE (LEVEL III)

2.4.1 The CONSULTANT shall further develop the preferred alternative by refining the cost estimates, engineering design and preparing 15 percent construction plans.

2.5 PINNACLE PEAK ROAD ALIGNMENT

2.5.1 The CONSULTANT shall prepare a roadway alignment analysis along Pinnacle Peak Road from 91st Avenue to 93rd Avenue. This alignment will include the alignment shift from the existing section at 91st Avenue to the newly proposed alignment at 93rd Avenue. The proposed alignment involves shifting the roadway approximately 40 feet to the south to accommodate the drainage channel on the north side of Pinnacle Peak Road.

2.5.2 The CONSULTANT will use standard design criteria to develop the alignment and prepare typical cross sections showing existing and proposed right-of-way, monument line, and centerline of proposed roadway. This information along with background information will be submitted to the DISTRICT.

2.6 ADDITIONAL COORDINATION MEETINGS

2.6.1 The CONSULTANT shall participate on two debriefings one after each of the two public meeting. Also, three other coordination meetings are expected.

2.7 LEVEL III REPORT MODIFICATIONS

2.7.1 The CONSULTANT shall modify the Level III report to include the preferred alternative as described in this SOW and in accordance with the original SOW.

2.8 LESSONS LEARNED WORKSHOP

2.8.1 The CONSULTANT shall arrange and host a four hour "Lessons Learned Workshop" and invite all the stakeholders. The CONSULTANT shall prepare a summary of the discussions.

CONSULTANT CHANGE ORDER - FCD APPROVAL

Flood Control District of Maricopa County

Date:	5/24/01	Change Order Number:	2	File No:	XXXXX
		Amount:	\$ -		
Contract No:	FCD 99-44	PCN No:	450.02.31		
Consultant Name:	Entellus, Inc.				
Contract Title:	Glendale/Peoria Area Drainage Master Plan Update				
Initial Amount:	\$1,179,351.00	Contract Award	11/3/99	Total Previous Change Orders:	\$35,465.00

By mutual agreement of the parties, the following contract change(s) are incorporated into the above contract. All other contract terms and conditions remain unchanged.

Several Zone A Floodplain delineations were completed under this contract, and were recently submitted for FEMA review. To provide adequate time for FEMA review, I am requesting a contract extension of 182 days to November 23, 2001.

By reason of this proposed change 182 days extension of time will be allowed.
The contract completion date is 11/23/01 .

The following financial information is submitted:

Initial Contract Amount	\$ 1,179,351.00
Amended Contract Amount w/ previous change orders	\$ 1,214,816.00
Current Change Order Request	\$ -
<u>Amended Contract Amount w/ current change order</u>	<u>\$ 1,214,816.00</u>
Change Order Authorization Limit	\$ 97,500.00
Total Requested Change Orders	\$ 35,465.00
Change Order Authorization Remaining	\$ 62,035.00

We, the undersigned Consultant, hereby agree that upon execution of this change order we will perform all services as identified above, and will accept the above specified amount(s) as full payment therefore.

Consultant Name:	Entellus, Inc.	By:	
Consultant Address:	2255 North 44th Street, Suite 125	Printed Name:	
	Phoenix, AZ 85008	Title:	
		Date:	

DISTRICT APPROVAL

I certify that this change is required to accomplish the overall task for which this contract is initiated.	Division Concurrence
Project Manager _____ Date _____	Division Manager _____ Date _____
Funds are available to accomplish this Change Order	I certify that this change is within the limits authorized by the County Procurement Code
Controller _____ Date _____	Contracts Branch Manager _____ Date _____
General Manager Approval	Chief Public Works Officer Approval
Chief Engineer & General Manager _____ Date _____	Chief Public Works Officer _____ Date _____

Copy to: Contract File, Controller, Division Manager, Project Manager

Marilyn

COPY

CONSULTANT CHANGE ORDER - FCD APPROVAL

Flood Control District of Maricopa County

Date: 2/1/01 Change Order Number: 1 Amount: \$ 35,465.00 File No: XXXXX

Contract No: FCD 99-44 PCN No: 450.02.31

Consultant Name: Entellus, Inc.

Contract Title: Glendale/Peoria Area Drainage Master Plan Update

Initial Amount: \$1,179,351.00 Contract Award: 11/3/99 Total Previous Change Orders: \$0.00

By mutual agreement of the parties, the following contract change(s) are incorporated into the above contract. All other contract terms and conditions remain unchanged.

Entellus, Inc., has been asked to complete a more detailed study of T4N, R1E, Section 15. This area is a patchwork of Unincorporated County and City of Peoria jurisdiction where homes have been constructed over several decades to meet differing drainage regulations. This has resulted in an incomplete drainage system. The "Section 15 Study" will identify drainage problems and develop solutions for recommendation in the Glendale/Peoria ADMP Update study. The "Section 15 Study" does not require additional Scope-of-Work (SOW) items, but does require additional effort by Entellus. Change Order #1 authorizes: 1) More detailed analyses within the "Section 15 Study" area, 2) Reallocation of \$36,249.00 from optional tasks that are not to be undertaken, to cover a portion of the detailed analysis costs, 3) Additional funds of \$35,465.00 to cover the remaining balance of the detailed analysis costs, and 4) An eighty-eight (88) day time extension to allow for completion of the "Section 15 Study" detailed analysis. The percentage of increase to this contract resulting from this Change Order is 3.01%. Change Order #1 establishes a new contract amount of \$1,214,816.00 and a new completion date of May 25, 2001.

By reason of this proposed change 88 days extension of time will be allowed. The contract completion date is: 5/25/01

The following financial information is submitted:

Initial Contract Amount	\$ 1,179,351.00
Amended Contract Amount w/ previous change orders	\$ 1,179,351.00
Current Change Order Request	\$ 35,465.00
Amended Contract Amount w/ current change order	\$ 1,214,816.00
Change Order Authorization Limit	\$ 97,500.00
Total Requested Change Orders	\$ 35,465.00
Change Order Authorization Remaining	\$ 62,035.00

We, the undersigned Consultant, hereby agree that upon execution of this change order we will perform all services as identified above, and will accept the above specified amount(s) as full payment therefore.

Consultant Name: Entellus, Inc. By: Michael J. Bonar

Consultant Address: 2255 North 44th Street, Suite 125 Printed Name: Michael J. Bonar

Phoenix, AZ 85008 Title: PRESIDENT

Date: 2/1/2001

DISTRICT APPROVAL

I certify that this change is required to accomplish the overall task for which this contract is initiated.	Division Concurrence
<i>[Signature]</i> 02/05/01	<i>[Signature]</i> 1-5-1
Project Manager Date	Division Manager Date
Funds are available to accomplish this Change Order	I certify that this change is within the limits authorized by the County Procurement Code
<i>[Signature]</i> 2/7/01	<i>[Signature]</i> 2/7/01
Controller Date	Contracts Branch Manager Date
General Manager Approval	Chief Public Works Officer Approval
<i>[Signature]</i> 02/09/01	SIGNATURE NOT REQUIRED
Chief Engineer & General Manager Date	Chief Public Works Officer Date

Copy to: Contract File, Controller, Division Manager, Project Manager

Nov. 27, 2000

Ms. Marilyn DeRosa
**FLOOD CONTROL DISTRICT
OF MARICOPA COUNTY**
2801 West Durango Street
Phoenix, AZ 85009

Reference: Glendale/Peoria Area Drainage Master Plan Update
FCD 99-44, Entellus Project No. 310.017
Request for Change Order No. 1

Dear Ms. DeRosa:

This letter is written to request approval of Change Order No. 1 for additional services to complete a detailed study of T4N, R1E, Section 15 of the Glendale/Peoria ADMP Update study area (hereinafter referred to as the *Section 15 Study*), as outlined in the attached Scope-of-Work (SOW) (EXHIBIT A).

This rural area is a patchwork of Unincorporated County and City of Peoria jurisdiction where homes have been constructed over several decades to meet differing, and changing, drainage regulations. This has resulted in an incomplete and poorly functioning drainage system. This Section 15 Study will identify neighborhood specific drainage problems and develop cost-effective solutions for recommendation in the Glendale/Peoria ADMP Update study.

To complete this Section 15 Study, CO 1 includes:

- 1) Modification to the SOW to include new tasks.
- 2) Reallocation of monies from optional tasks not to be undertaken to new tasks (\$36,248.80).
- 3) Additional monies to cover remaining new tasks (\$35,464.80).
- 4) A contract extension to May 25, 2001.

Attachment 1 includes the appropriate Cost Proposal Summary for all work associated with the detailed Section 15 Study (as detailed in the EXHIBIT A, SOW). Attachment 2 displays a more detailed manhour estimate and fee proposal to augment the Cost Proposal Summary. The fee proposal totals \$71,713.60. Entellus proposes funding \$36,248.80 from reallocated optional monies and \$35,464.80 from the District's change order authorization. The following series of tables break down all costs and reallocation proposals.



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2255 N. 44th Street

Suite 125

Phoenix, Arizona

85008.3279

Tel 602.244.2566

Fax 602.244.8947

Web www.entellus.com

TABLE No. 1 - Optional Services Summary

Original Task Item No.	Description	Total Optional Allowance	Previously Authorized	Unauthorized
2.4.5	Additional Alternatives	\$34,469.92	\$ 24,351.6	\$10,118.32
2.10.6	Arrowhead Lakes	\$71,843.74	\$ 70,467.0	\$1,376.74
2.14.6	Miscellaneous Meetings	\$34,542.06	\$ 6,283.2	\$28,258.86
2.14.9	Additional Brochures	\$5,447.50	0.0	\$5,447.50
2.14.11	Additional Newsletters	\$5,447.50	0.0	\$5,447.50
2.14.13	Hotline	\$8,340.00	0.0	\$8,340.00
	TOTAL	\$160,090.72	\$101,101.8	\$58,988.92

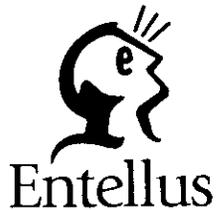


TABLE No. 2 - Tasks to be Paid by Reallocating Optional Funds

New Task Number	Description	Cost
CO 2.1	Data Collection	\$336.00
CO 2.6	Level I Analysis - Alternative formulation	\$11,037.60
CO 2.7	Level II Analysis - Alternative Analysis	\$13,426.00
CO 2.8	Land Ownership, Right-of-way & Easements	\$910.00
CO 3.10	Project Administration	\$10,539.20
	TOTAL	\$36,248.80

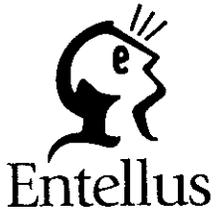
TABLE No. 3 - Reallocation of Funds

Original Task Item No.	Description	Total Available Optional Allowance	Reallocated to Task Nos.	Reallocated Amount	Unauthorized Amount
2.4.5	Additional Alternatives	\$10,118.32	CO 2.6	\$10,118.32	\$0.00
2.10.6	Arrowhead Lakes	\$1,376.74	CO 2.6, CO 2.8	\$1,376.74	\$0.00
2.14.6	Miscellaneous Meetings	\$28,258.86	CO 2.1, CO 2.8, CO 3.10	\$5,518.74	\$22,740.12
2.14.9	Additional Brochures	\$5,447.50	CO 2.7	\$5,447.50	\$0.00
2.14.11	Additional Newsletters	\$5,447.50	CO 3.10	\$5,447.50	\$0.00
2.14.13	Hotline	\$8,340.00	CO 2.7	\$8,340.00	\$0.00
	TOTAL	\$58,988.92		\$36,248.80	\$22,740.12

TABLE No. 4 - Tasks to be Paid using Flood Control District Change Order Authorization
(NOTE: This represents the balance of the new tasks not covered by the reallocation of optional monies)

New Task Number	Description	Cost
CO 2.2	Field Survey/Mapping	\$2,388.40
CO 2.3	Hydrologic Analysis	\$21,999.60
CO 2.4	Hydraulic Analysis	\$9,951.20
CO 2.9	Utilities Location	\$1,125.60
	TOTAL	\$35,464.80

Please review this request and call me if there are any questions. I would be happy to address your questions or provide you with any additional information. Otherwise, I look forward to your approval of this request.



Sincerely,

ENTELLUS, INC.

Michael J. Bonar, P.E., MBA
Project Manager

MJB:pmm

Attachments

xc: Contract File

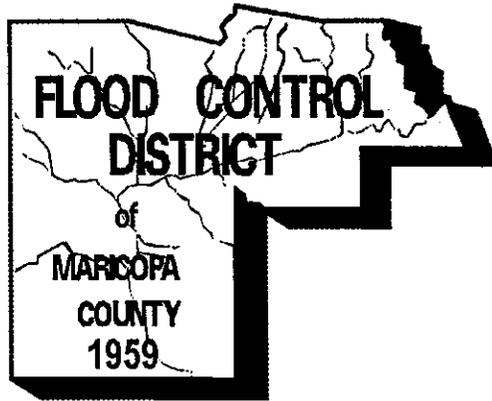


EXHIBIT A

SCOPE OF WORK

**Glendale/Peoria ADMP Update
Detailed Study of T4N, R1E, Section 15
FCD No. 99-44, Change Order No. 1**

FLOOD CONTROL DISTRICT of Maricopa County

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1.0 GENERAL DESCRIPTION

1.1 PROJECT DESCRIPTION

1.1.1 This scope-of-work (SOW) is to contract for professional engineering services to provide a more Detailed Study of Township 4 North, Range 1 East, Section 15 of Maricopa County, Arizona. All work for this Detailed Study will be performed in accordance with the original SOW.

In this rural area, individual property owners and subdivision developers have constructed homes at various times and have altered drainage patterns to suite their particular needs or meet the drainage requirements in effect at the time of construction. This has resulted in an incomplete and poorly functioning drainage system in the area resulting in flooding potential. Additionally, roadway elevations in some parts of the study area prevent runoff from flowing in the natural flowpaths, causing water to pond at certain locations.

The streets within the study area are susceptible to flooding during rainfall events. In particular 85th, 87th, and 89th Avenues at their intersections with Williams Road, Via Montoya, and Deer Valley Road. A lack of drainage facilities within the project area and homes with finished floor elevations below adjacent grades exacerbates flooding problems.

This Detailed Study will identify current drainage problems and develop cost-effective solutions to alleviate known and potential flooding problems. Flooding solutions may include storm water collection and disposal systems, retention, re-grading, drainage design policies, standards and guidelines, or some combination of these.

The SOW will include survey, hydraulics, hydrology, identification of drainage problems, and a development of alternative solutions.

1.2 LOCATION

1.2.1 The area for the detailed study is bounded by Pinnacle Peak Road on the north, Deer Valley Road to the south, 91st Avenue to the west, and 83rd Avenue to the east. The study area is located entirely in Township 4 North, Range 1 East, Section 15. The region is one square mile in area.

1.3 CONTRACT TIMEFRAME AND SCHEDULE

1.3.1 This additional work will be completed concurrently with the original study. The CONSULTANT shall complete all work in the Detailed Study and the overall ADMP Update by May 25, 2001.

2.0 TASKS

2.1 DATA COLLECTION AND EXISTING CONDITIONS ANALYSIS

2.1.1 The CONSULTANT shall review historic and recent information regarding areas of known and/or recurring flooding problems as well as identify any additional potential flooding areas. This data collection and existing conditions analysis will result in a preliminary list of problem areas suitable for evaluation during the Level I – Alternatives Formulation/Preliminary Analysis stage of this study.

2.1.2 The CONSULTANT shall collect and review the Candidate Assessment Report and Design Concept Report for 87th and 89th Avenues (near Williams Road) from MCDOT. The CONSULTANT shall collect and review the grading and drainage plans for subdivisions in the area.

2.2 FIELD SURVEY AND MAPPING

2.2.1 The CONSULTANT shall work with the DISTRICT's survey team to identify and coordinate the survey scope and needs.

2.3 HYDROLOGIC ANALYSIS

2.3.1 The CONSULTANT shall prepare or update the following hydrologic models:

2.3.1.1 Using the ADMP Update study hydrology as a basis, the CONSULTANT shall develop a more detailed hydrologic analysis by splitting the previously identified sub-basins where needed. The analysis will include an identification of the aerial extent of flooding (i.e., the number of homes potentially flooded).

2.3.1.1.1 The CONSULTANT shall generate and refine the Existing Condition 100-year/6-hour and 10-year/6-hour hydrology with sub-basins and points-of-concentration defined as applicable for the model frequency.

2.3.1.1.2 The CONSULTANT shall generate the Future Condition hydrology for the 100-year/6-hour and 10-year/6-hour model storms with sub-basins and points-of-concentration defined as applicable for the model frequency.

2.3.1.1.3 The CONSULTANT shall generate the Existing Condition 100-year/6-hour and the 10-year/6-hour models assuming the capital improvements as recommended in the ADMP Update Study along Pinnacle Peak Road and 83rd Avenue are implemented. The sub-basins and points-of-concentration will be defined as applicable for the model frequency.

2.3.1.1.4 The CONSULTANT shall modify the Existing Condition model to reproduce intensity and frequency of the August 30-31, 2000, storm. This model will be used to calibrate the other models.

2.3.1.2 The CONSULTANT shall modify hydrology models to incorporate the hydrologic effects of the preferred alternatives and features of this Detailed Study for the following models:

2.3.1.2.1 The CONSULTANT shall incorporate the preferred alternative in the Existing Condition 100-year/6-hour without capital improvements and the 10-year/6-hour without capital improvements models.

2.3.1.2.2 The CONSULTANT shall incorporate the preferred alternative in the Future Condition 100-year/6-hour with capital improvements and the 10-year/6-hour with capital improvements models.

2.3.2 The deliverables for the Hydrology package will follow the original SOW Sections 2.10.4 and 2.10.5.

2.3.3 The DISTRICT will be responsible for generating the DDMS input based on basin and landuse properties generated by the CONSULTANT. The CONSULTANT will prepare the basic HEC-1 model for each frequency and condition and the DISTRICT will update the basin data using the DDMS Software. The DISTRICT will provide the CONSULTANT with all DDMS input and output files in a digital form.

2.4 HYDRAULIC ANALYSIS

2.4.1 The CONSULTANT shall prepare a ponding analysis of Deer Valley Road, Williams Road, Pinnacle Peak Road, and Via Montoya Drive. This will be done in conjunction with the development of the hydrology.

2.4.2 The CONSULTANT shall prepare a hydraulic conveyance analysis for 85th, 86th, 87th, 88th, and 89th Avenues. This analysis will be done using normal depth calculations only. No modeling is anticipated.

2.5 SITE VISITS/COORDINATION MEETINGS

2.5.1 The CONSULTANT shall make site visits as necessary to become familiar with existing conditions. The CONSULTANT will conduct three site visits, generally as follows:

2.5.1.1 Site visit to orient the CONSULTANT and the DISTRICT with the project area, and to determine any initial conflicts or opportunities.

2.5.1.2 Site visit near the end of the Alternatives Analysis. This site visit shall incorporate any environmental, ecological or cultural field review as appropriate.

2.5.1.3 Site visit during the Preferred Alternative Analysis and to verify that the conditions have not significantly changed during the final stages of the project.

2.5.2 Coordination Meetings

2.5.2.1 The CONSULTANT shall meet with the jurisdictions, other affected agencies and utilities as required, generally being held at their offices. The DISTRICT shall be kept informed of all such meetings, and shall attend the meetings whenever possible and as required. The DISTRICT shall be copied on all meeting minutes.

2.5.2.2 The CONSULTANT shall participate in progress meetings and other meetings as dictated by the project. Meetings, when possible, will be generally held at municipality offices or at the CONSULTANT office. These meetings will generally coincide with the ADMP monthly progress update meetings.

2.5.2.3 Alternative Evaluation Meeting. A meeting with Project Team members to evaluate the alternatives.

2.5.2.4 Alternatives Analysis Review Meeting. Approximately three weeks after submittal of the Alternatives Analysis for the Detailed Study, the CONSULTANT shall meet with the DISTRICT Project Manager to review the Detailed Study project status and to discuss the Alternatives Analysis review comments. The CONSULTANT should be prepared to discuss alternative flood mitigation solutions and the preliminary cost estimates.

2.5.2.5 Feature Prioritization Meeting. A meeting with the participants to discuss implementation of the recommendations and develop project priorities and phasing.

2.6 LEVEL I ANALYSIS – ALTERNATIVES FORMULATION/PRELIMINARY ANALYSIS

2.6.1 The CONSULTANT shall prepare the Level I Analysis in accordance with the original SOW except as noted within.

2.6.2 Based on the concepts identified in the Alternatives Evaluation Meeting, the CONSULTANT shall identify those alternatives which can be discarded with no or minimal analysis, and eliminated from further consideration.

2.7 LEVEL II ANALYSIS – ALTERNATIVE ANALYSIS

2.7.1 The CONSULTANT shall prepare the Level II Analysis in accordance with the original SOW except where noted within.

2.7.2 The CONSULTANT shall prepare a minimum of three (3) and a maximum of six (6)

Alternative Solutions for the Detailed Study area. The CONSULTANT shall prepare an Alternatives Summary report presenting the alternatives and evaluation criteria to be reviewed by the Project Team. The Alternatives Summary report will be used to evaluate the proposed alternatives at a comparative level of detail.

2.7.3 An Alternatives Analysis Review Meeting of the Project Team (as described in Section 2.5.2.4 of this SOW) will be held to evaluate the alternatives. The CONSULTANT shall assemble the evaluations and identify the preferred alternative receiving the highest composite score based on the scores assigned by the Team members. The preferred alternative may be comprised of multiple features, providing a collective solution.

2.8 LAND OWNERSHIP, RIGHT-OF-WAY AND EASEMENTS

2.8.1 The CONSULTANT shall perform this task in accordance with the original SOW.

2.9 UTILITIES

2.9.1 The CONSULTANT shall perform this task in accordance with the original SOW.

3.0 PROJECT ADMINISTRATION

3.1 SCHEDULE

3.1.1 The schedule for this Detailed Study will be incorporated into the Glendale/Peoria ADMP Update project schedule. To accommodate this additional work, the overall project schedule (for the ADMP Update Study and this Detailed Study) will be extended to May 25, 2001.

3.2 REPORT

3.2.1 The CONSULTANT is not required to submit a separate report for the Detailed Study as a final product. Instead, the analyses shall be included as an Appendix or an additional Section to the Level II report provided in the ADMP Update Final Submittal.

3.2.2 The Appendix or additional Section will be submitted to the DISTRICT for review in draft form. Upon receipt of review comments, the CONSULTANT shall incorporate appropriate revisions and complete the Appendix or Section for inclusion in the ADMP Update Final Submittal. The CONSULTANT shall provide the DISTRICT, in the project schedule, a two-week review period for the draft submittal.

3.2.3 The CONSULTANT will add an Appendix to, or modify, the following ADMP Update submittals to include data and analyses from this Detailed Study:

- Data Collection Report
- Hydrology Report
- Level I Report
- Level II Report

3.2.4 All analyses and submittals provided by the CONSULTANT in this Detailed Study shall:

3.2.4.1 Meet the requirements of the original SOW and be 'sealed' by a registered civil engineer in the State of Arizona.

3.2.4.2 Be completed in accordance with the DISTRICT's Consultant Guideline, October 1, 1998, and Data Delivery Specifications, Revision 3.1, June, 1998.

**ATTACHMENT 1
FLOOD CONTROL DISTRICT OF MARICOPA COUNTY
CONSULTANT/SUBCONSULTANT COST PROPOSAL SUMMARY**

CONSULTANT/SUBCONSULTANT: ENTELLUS, INC. (*Prime Consultant*)
PROJECT NAME: Glendale/Peoria Area Drainage Master Plan Update
CONTRACT NO.: FCD 99-44
CHANGE ORDER NO.: N/A

DIRECT LABOR

<u>Classifications</u>	<u>Manhours</u>	<u>Hourly Rates</u>	<u>Labor Costs</u>
Project Manager	131	\$ 45.00	\$ 5,895
Project Engineer	260	\$ 30.00	\$ 7,800
Design Engineer	250	\$ 23.50	\$ 5,875
Technician	246	\$ 22.00	\$ 5,412
Clerical	42	\$ 15.00	\$ 630
		Total Labor	\$ 25,612
		OVERHEAD @ <u>155 % (of Labor)</u>	\$ 39,699
		SubtotalS	\$ 65,311

DIRECT EXPENSES

NONE

SUBCONSULTANTS

NONE

Subtotal Labor	\$ 65,311
Subtotal Expenses	\$ 0
Subtotal Subconsultants	\$ 0
Total Consultant Cost	\$ 65,311
Net Fee (Subtotal Labor x <u>9.8039 %</u>)	\$ 6,403
TOTAL PROPOSED FEE	\$ 71,714

ENTELLUS, INC.

BY: Michael J. P...
Signature

PRESIDENT
Title

1/8/01
Date

ATTACHMENT No. 2
FEE PROPOSAL, Change Order No. 1, FCD No. 99-44
Glendale/Peoria ADMP Update, Detailed Study of T4N, R1E, Section 15

Direct Labor Rates	Proj Mgr 45	PE 30	Est 23.5	Drafting 22	Clerical 15	Total	Direct Labor	Total	Optional Services Reallocation	Request for CO No1
2.1 Data Collection	0	4	0	0	0	4	\$120.00	\$336.00	\$336.00	
2.1.1 Entellus, Inc.	0	4	0	0	0	4	\$120.00			
2.2 Field Survey/Mapping	4	12	2	8	8	32	\$653.00	\$2,388.40		\$2,388.40
2.2.1 Field Survey Scope	2	8	0	0	4	14	\$390.00			
2.2.1 Coordination w/ Surveyor	2	4	2	8	2	18	\$463.00			
2.3 HYDROLOGIC ANALYSIS	22	122	74	64	4	288	\$7,857.00	\$21,999.60		\$21,999.60
Entellus, Inc.										
2.3.1.1.1 Base Model (Existing)	4	52	32	20	0	108	\$2,932.00			
2.3.1.1.2 Future with Capital Improvements	2	20	6	0	0	28	\$831.00			
2.3.1.1.3 Existing with Capital Improvements	6	28	18	16	0	68	\$1,885.00			
2.3.1.1.4 Calibration Model	10	20	0	8	4	42	\$1,286.00			
2.3.2 Hydrologic GIS	0	2	18	20	0	40	\$923.00			
2.4 HYDRAULIC ANALYSIS	18	26	48	38	0	130	\$3,554.00	\$9,951.20		\$9,951.20
Entellus, Inc.										
2.4.1 Inundation Limit at Deer Valley Rd	2	4	8	8	0	22	\$574.00			
2.4.1 Inundation Limit at Williams Rd	2	4	8	2	0	16	\$442.00			
2.4.1 Inundation Limit at Pinnacle Peak Rd	2	2	4	4	0	12	\$332.00			
2.4.1 Inundation Limit at Villa Montella Dr	2	2	4	4	0	12	\$332.00			
2.4.2 Flooding/Conveyance Analysis at 85th Ave	2	4	6	4	0	16	\$439.00			
2.4.2 Flooding/Conveyance Analysis at 86th Ave	2	2	4	4	0	12	\$332.00			
2.4.2 Flooding/Conveyance Analysis at 87th Ave	2	4	6	4	0	16	\$439.00			
2.4.2 Flooding/Conveyance Analysis at 88th Ave	2	2	4	4	0	12	\$332.00			
2.4.2 Flooding/Conveyance Analysis at 89th Ave	2	2	4	4	0	12	\$332.00			
2.6 LEVEL I ANALYSIS - ALTERNATIVES FORMULATION/PRELIMINARY ANALYSIS	28	20	40	58	0	142	\$3,942.00	\$11,037.60	\$11,037.60	
Entellus, Inc.										
2.6.2 Existing Constraints, recommended alternatives	8	0	12	16	0	36	\$994.00			
2.6.2 Develop Evaluation criteria, decide which alternatives to take to Level II	8	4	4	0	0	16	\$574.00			
2.6.2 Submit Schematic Drawings & Narrative Description	10	16	24	40	0	90	\$2,374.00			
2.7 LEVEL II ANALYSIS - ALTERNATIVE ANALYSIS	16	42	68	52	8	184	\$4,785.00	\$13,426.00	\$13,426.00	
Entellus, Inc.										
2.7.2 Evaluate Approved Alternatives (Engineering Feasibility/Costs)	8	30	42	12	0	92	\$2,511.00			
2.7.3 Alternatives Summary	8	12	24	40	8	92	\$2,284.00			
2.8 LAND OWNERSHIP, RIGHT-OF-WAY & EASEMENTS	1	2	0	10	0	13	\$325.00	\$910.00	\$910.00	
Entellus, Inc.										
2.8.1 Land Ownership Map Development	1	2	0	10	0	13	\$325.00			
2.9 UTILITIES LOCATION	0	0	4	14	0	18	\$402.00	\$1,125.60		\$1,125.60
Entellus, Inc.	0	0	4	14	0	18	\$402.00			
3.10 PROJECT ADMINISTRATION	44	32	18	4	24	120	\$3,764.00	\$10,539.20	\$10,539.20	
Entellus, Inc.										
3.1.1 Schedule	4	0	0	0	0	4	\$180.00			
3.2 Reports (2 major and 4 minor reports)	20	28	16	4	16	84	\$2,444.00			
3.30 Project Management	20	4	0	0	8	32	\$1,140.00			
Sub-Totals by Consultant										
Entellus, Inc.	131	260	250	246	42	929	\$25,612.00	\$71,713.60	\$36,248.80	\$35,464.80
Total	131	260	250	246	42	929	\$25,612.00			

\$71,713.60

Entellus, Inc.	Total Labor	Overhead Rate	Overhead	Labor + Overhead	Net Fee	Direct Expenses	Total Fee
	\$25,612	155	\$39,899	\$65,311	\$6,403	\$0	\$71,713.60