Cochise County
Board of Supervisors

Public Programs…Personal Service
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AGENDA FOR FLOOD CONTROL DISTRICT MEETING
Tuesday, September 12, 2017 at 10:00 a.m.
BOARD OF SUPERVISORS HEARING ROOM
1415 MELODY LANE, BUILDING G, BISBEE, AZ 85603

ANY ITEM ON THIS AGENDA IS OPEN FOR DISCUSSION AND POSSIBLE ACTION

ROLL CALL
Members of the Cochise County Board of Supervisors will attend either in person or by telephone, video or internet conferencing.

The Board may permit public comment during the discussion of any item on this agenda. If you wish to be heard on a specific item, please sign up to be heard using the 'Specific Item' on the speaker form provided, and please list the item about which you wish to be heard. Persons will be permitted three minutes to speak.

CALL TO THE PUBLIC

This is the time for the public to comment. Members of the Board may not discuss items that are not specifically identified on the agenda.

CONSENT

Board of Supervisors

1. Approve the Minutes of the Flood Control District meeting for July 10, 2017.

ACTION

Community Development

2. Approve Amendment No. 2 to the Bella Vista Ranch Phase II Contract PSA-17-09-HFP-04 with JE Fuller Hydrology & Geomorphology, Inc. to add $38,977 to include further studies to be conducted for recharge investigation with contract period extended through March 31, 2018.

Pursuant to the Americans with Disabilities Act (ADA), Cochise County does not, by reason of a disability, exclude from participation in or deny benefits or services, programs or activities or discriminate against any qualified person with a disability. Inquiries regarding compliance with ADA provisions, accessibility or accommodations can be directed to Chris Mullinax, Safety/Loss Control Analyst at (520) 432-9720, FAX (520) 432-9716, TDD (520) 432-8360, 1415 Melody Lane, Building F, Bisbee, Arizona 85603.

Consent 1.

Flood Control District Meeting **Board of Supervisors**

Meeting Date: 09/12/2017

Minutes

Submitted By: Kim Lemons, Board of Supervisors

Department: Board of Supervisors

Presentation: No A/V Presentation **Recommendation:**

Document Signatures: **# of ORIGINALS Submitted for Signature:**

NAME of PRESENTER: n/a **TITLE of PRESENTER:** n/a

Mandated Function?: **Source of Mandate or Basis for Support?:**

Information

Agenda Item Text:

Approve the Minutes of the Flood Control District meeting for July 10, 2017.

Background:

n/a

Department's Next Steps (if approved):

n/a

Impact of NOT Approving/Alternatives:

n/a

To BOS Staff: Document Disposition/Follow-Up:

Scan approved minutes & file.

Budget Information

Information about available funds

Budgeted: ☐ **Funds Available:** ☐ **Amount Available:**

Unbudgeted: ☐ **Funds NOT Available:** ☐ **Amendment:** ☐

Account Code(s) for Available Funds

1:

Fund Transfers

Attachments

Minutes

PROCEEDINGS OF THE COCHISE COUNTY FLOOD CONTROL DISTRICT
MEETING HELD ON
Monday, July 10, 2017

A meeting of the Cochise County Flood Control District was held on Monday, July 10, 2017 at 10:00 a.m. in the Board of Supervisors' Hearing Room, 1415 Melody Lane, Building G, Bisbee, Arizona.

Present:	Ann English, Chairman; Patrick G. Call, Vice-Chairman; Peggy Judd, Director
Staff Present:	Edward T. Gilligan, County Administrator
	Lynette Nowlan, Finance Director
	Arlethe G. Rios, Clerk of the Board

Chairman English called the meeting to order at 10:08 a.m.

ANY ITEM ON THIS AGENDA IS OPEN FOR DISCUSSION AND POSSIBLE ACTION

PLEDGE OF ALLEGIANCE

THE ORDER OR DELETION OF ANY ITEM ON THIS AGENDA IS SUBJECT TO MODIFICATION AT THE MEETING

CONSENT

Board of Supervisors

1. Approve the Minutes of the Flood Control District meeting for June 27, 2017.

   Vice-Chairman Call moved to approve item 1 on the consent agenda. Director Judd seconded the motion and it carried unanimously.

PUBLIC HEARINGS

Board of Supervisors

2. Adopt the Final Budget of the Flood Control District for fiscal year 2017-2018 in the amount of $5,492,097.

   Mr. Gilligan said that there had been no changes since the tentative budget approval.

   Chairman Enlgish opened the public hearing.

   No one chose to speak and Chairman English closed the public hearing.

   Director Judd moved to adopt the Final Budget of the Flood Control District for fiscal year 2017-2018 in the amount of $5,492,097. Vice-Chairman Call seconded the motion.

Chairman English called for the vote and it was approved 3-0.

Chairman English adjourned the meeting at 10:10 a.m.

APPROVED:

_____
Ann English, Chairman

ATTEST:

_____
Arlethe G. Rios, Clerk of the Board

Action 2.

Flood Control District Meeting **Community Development**

Meeting Date: 09/12/2017

Bella Vista Phase II Contract amendment

Submitted By:	Teresa Vasquez, Community Development		
Department:	Community Development	**Division:**	Floodplain
Presentation:	No A/V Presentation	**Recommendation:**	Approve
Document Signatures:	BOS Signature NOT Required	**# of ORIGINALS Submitted for Signature:**	2
NAME of PRESENTER:	Joaquin Solis	**TITLE of PRESENTER:**	Floodplain Engineer
Mandated Function?:	Not Mandated	**Source of Mandate or Basis for Support?:**	

Docket Number (If applicable):

Information

Agenda Item Text:

Approve Amendment No. 2 to the Bella Vista Ranch Phase II Contract PSA-17-09-HFP-04 with JE Fuller Hydrology & Geomorphology, Inc. to add $38,977 to include further studies to be conducted for recharge investigation with contract period extended through March 31, 2018.

Background:

The initial contract amount ($223,323) for Bella Vista Ranch Phase II Recharge Feasibility Studies Contract was approved by the Flood Control District (the Board) on September 27, 2016. The District is now looking to add an additional $38,977 to the contract amount for additional studies as recommended by CCRN and as described in the Scope of Work attached to this agenda item.

Department's Next Steps (if approved):

Staff will coordinate with the CCRN to continue Ephemeral Streamflow Monitoring, and Groundwater Monitoring.

Impact of NOT Approving/Alternatives:

If not approved, the FCD will not be able to continue monitoring the recharge projects

To BOS Staff: Document Disposition/Follow-Up:

Please forward all signed documents to Teresa Garcia.

Budget Information

Information about available funds

Budgeted: ○ **Funds Available:** ◉ **Amount Available:** 38977

Unbudgeted: ○ **Funds NOT Available:** ○ **Amendment:** ☐

Account Code(s) for Available Funds

1:

2: 258-4100-421.000

3: 261-4110-9-421.900

Fund Transfers

Fiscal Year: 17/18

One-time Fixed Costs? ($$$): 38977

Ongoing Costs? ($$$):

County Match Required? ($$$):

A-87 Overhead Amt? (Co. Cost Allocation $$$):

Source of Funding?: FCD/TNC

Fiscal Impact & Funding Sources (if known):

Funding Source:	258-4100-421.000	($23,985)
	261-4110-9-421.900	($14,992)
	Total:	$38,977

Attachments

Amendment No. 2

COCHISE COUNTY PROCUREMENT DEPARTMENT
1415 Melody Lane, Building C, Bisbee, AZ 85603
Phone: (520) 432-8390 Fax: (520) 432-8397

AMENDMENT NO.2

Project Description	**Professional Services Agreement – Bella Vista Ranch Recharge Investigation – Phase II**
Administering Agency:	**Cochise County Highway & Floodplain Division**
Agreement No.	**PSA 17-09-HFP-04**

THIS AGREEMENT, originally entered into on September 27, 2016, by and between the **County of Cochise** (County) and **JE Fuller Hydrology & Geomorphology**, **Inc. (**Consultant), is amended as follows:

- This agreement shall be extended through March 31, 2018.
- Additional Scope of Work as Attachment A-1 in the amount of $38,977.00

With the exception of the above, all other provisions of this agreement shall remain in full force and effect.

Approved By:

Cochise County

_____
Ann English, Chairman
Board of Supervisor

Date: _____

JE Fuller Hydrology & Geomorphology, Inc.

_____
Cyrus D. Miller, P.E., CFM
Vice President

Date: _____

Attest:

_____
Arlethe Rios, Clerk of the Board

Approved as to Form:

_____
Britt Hanson, County Attorney

Attachment "A-1" Scope of Work

Professional Services Agreement
Bella Vista Ranch Recharge Investigation - Phase II
PSA 17-09-HFP-04

Amendment No. 2

The tasks listed below are the identified elements to this SOW.

Introduction

A feasibility study for aquifer recharge facilities on the 2,984-acre Bella Vista Ranch property is currently underway, in Phase 2 of project development. The project focus has centered on the reach of Coyote Wash located in the southeast portion of the property (project site).

Phase 2 of project development involves assessment of hydrogeological and geotechnical conditions along the Coyote Wash corridor, with the goal of planning for an aquifer recharge facility intended to increase the frequency and/or magnitude of baseflows in the San Pedro River to the maximum extent possible. The source of water to be used for aquifer recharge is intended to be urban-enhanced runoff (UER).

This Additional Services #1 scope of work is intended to refine the surface water hydrologic modeling provided under Phase 1 of the project, and evaluate stormwater capture and recharge project concepts.

Scope of Work Outline

The tasks listed below are the proposed elements to this Scope of Work (SOW) for Phase 2 Additional Services #1. During the performance of this SOW, the Consultant may suggest to the Project Team additional modifications to this SOW along with justification for those suggested modifications. Where needed, tasks may be performed in the sequence shown below, concurrently, or out of the sequence indicated below. All SOW modifications, including budget modifications (if any) will require approval by Cochise County.

The Consultant shall:

Task 4A-1: Meet with Agricultural Research Service Staff

Consultants will meet with Dave Goodrich (and/or others from ARS) to review these proposed scope additions. Any proposed changes to Tasks 4A-2 through 4A-6 below will require Cochise County approval prior to work beginning on them.

Task 4A-2: Precipitation Data Development

Develop a range of precipitation input data for several representative annual (five 1-year) type events and 2, 5, 10, 25, 50, and 100-year flood return interval/precipitation events with varying storm durations and intensities. Annual events will be scaled up based on NOAA Atlas 14 predicted recurrence interval precipitation depths.

Task 4A-3: Surface Water Hydrologic Modeling

Use Coyote Wash HEC-1 and CWR models developed under Phase 1 to predict flow volumes, discharges, and stages at the project site under pre-development and post-development/UER conditions for the precipitation events developed in Task 4A-2.

Revise the Coyote Wash HEC-1 model as follows:

1. Analyze (input) the precipitation patterns developed in Task 4A-2 above.
2. Implement channel infiltration in hydrograph routing reaches and municipal detention basins using physical parameters developed by the City of Sierra Vista or used in the original Coyote Wash Model, or provided by the 2014 Arizona Department of Transportation (ADOT) Highway Drainage Design Manual. Channel Loss calculations will be performed using 'RL' record in the hydrograph routing portions of the HEC-1 model developed under Phase 1.
3. Impervious cover will be revised to 0% to reflect presumed pre-development conditions.
4. Time of Concentration calculations will be revised to reflect presumed pre-development conditions.

Following the performance of Task 4A-3, the CCRN Technical Team will meet to determine the need to perform the following Optional Tasks:

Optional Task 4A-3b: Extension of Hydrologic Modeling to San Pedro River

Modify HEC-1 and CWR models to predict flow volumes, discharges, and stages at the Coyote Wash – San Pedro River confluence under pre-development and post-development/UER conditions for the precipitation events developed in Task 4A-2, reflecting model modifications performed by Task 4A-3 above. The hydrologic contribution of sub-basins and routing reaches downstream from the project site will be added to the modeling.

Optional Task 4A-3c: FLO-2D Modeling to San Pedro River

Using the FLO-2D program, assess the channel transmission losses along the 2.4 miles of Coyote Wash main stem, between the proposed project site and the main stem of the San Pedro River. The initial FLO-2D computational domain would be developed as a 1,000 foot offset of the Coyote Wash main stem measures (approximately 670 acres), and initial model grid resolution is estimated to be 10 feet (square). Infiltration will be modeled using Green & Ampt infiltration parameters, as developed in Task 4A-3 abovel

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Hydrograph input for the FLO-2D model will taken from the HEC-1 modeling, and the FLO-2D analysis will **not** account for the hydrologic contribution of subareas downstream from the project site.

Task 4A-4: Stormwater Capture and Recharge Design Concept Evaluation

Evaluate two conceptual design scenarios at the project site to estimate the potential amount of stormwater capture volumes under post-development/UER conditions for each of the precipitation events developed in Task 4A-2. Compare the predicted capture volumes to the predicted UER volume at the project site for each storm event and over an annualized basis.

Communicate with Lacher Hydrology groundwater modeling to compare estimated recharge volumes with required volume targets for baseflow change in San Pedro River, to ensure estimated recharge volumes meet minimum amounts to positively affect baseflow change.

Task 4A-5: CCRN Technical Team Meeting

The Cochise Conservation and Recharge Network (CCRN) Technical Team will meet and determine from the results at this stage, what additional concepts, or storm events to test in the next step.

Deliverable 4A: Technical Memorandum discussing the results of the Tasks above, including maps, calculation input/output, meeting notes as attachments.

Optional Task 4A-6: With-Concept Modeling Revisions

Repeat analysis with two chosen 10% conceptual stormwater capture and facility designs in place at the project site, given the outcome of Tasks 4A-4 and 4A-5 and revisions as requested by the CCRN Technical team.

Schedule

The Consultant shall work closely with the County's project manager to develop a schedule for review and approval by the Project Team within 10 days of contract amendment award. This Scope of Work must be completed prior to the approved extension date of March 31, 2018

Professional Services Agreement
PSA 17-09-HFP-04 -- Amendment No. 2

Task 4A - Summary Fee Estimate Sheet for the Bella Vista Phase 2 Additional Service #1 SOW

Task	Title	Description/Deliverable (see SOW for task details)	Costs		
			JE Fuller	GSA	TOTAL
4A-1	Meet with Agricultural Research Service Staff	Meet with D. Goodrich and others Assume: Tucson location	$639	$585	$1,224
4A-2	Precipitation Data Development	Annual rainfall events (5 total) of varying durations and frequencies Scale up to 2-, 5-, 10-, 25-, 50-, 100-year events based on predicted NOAA 14 depths No Analysis of spatial distribution	$1,048	$660	$1,708
4A-3	Surface Water Hydrologic Modeling	Revisions to Coyote Wash HEC-1: Precipitation patterns (Task 4A-2), Channel infiltration in routing reaches, 0% impervious condition, Time of concentration for 0% impervious condition Use CWR Model to analyze precipitation events (Task 4A-2)	$6,568	$2,750	$9,318
4A-4	Stormwater Capture and Recharge Design Concept Evaluation	Input two concept scenarios into Task 4A-3 HEC-1 and CWR models and estimate stormwater capture volumes	$2,741	$2,020	$4,761
4A-5	CCRN Technical Team Meeting	Meet with CCRN Technical Team to discuss results and required next steps Assume: Tucson location Deliverable 4A: Technical Memorandum discussing the results of Task 4A	$753	$655	$1,408
		ADDITIONAL SERVICE #1 BASE TOTALS	**$11,749**	**$6,670**	**$18,419**
Option 4A-3b	Extension of Hydrologic Modeling to San Pedro River	Extend Task 4A-3 modeling to confluence with San Pedro River	$4,810	$4,205	$9,015
Option 4A-3c	FLO-2D Modeling to San Pedro River	FLO-2D model of Coyote Wash reach downstream from project site to confluence with San Pedro River, HEC-1 hydrograph input at upstream limit of model domain	$7,077	$145	$7,222
Option 4A-6	With-Concept Modeling Revisions	Repeat Task 4A-4 with revisions to 2 concept designs requested during Task 4A-5	$2,301	$2,020	$4,321
		ADDITIONAL SERVICE #1 OPTIONAL TOTALS	**$14,189**	**$6,370**	**$20,559**
		SUM ADDITIONAL SERVICE #1 TOTALS	**$25,937**	**$13,040**	**$38,977**

Notes:
5.00% Subconsultant markup included in JEF Cost
All fee estimates are approximate.
The total fee is a not-to-exceed (NTE) amount and individual task fees may vary within the total NTE.
Where needed tasks may be performed concurrently or out of the sequence indicated above.
Water rights legal consulting and groundwater modeling are to be provided by The Nature Conservancy and are excluded from this cost estimate

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Task	Title	Description/Deliverable (see SOW for task details)	JEF Hours		JEF Labor Cost	JEF Direct Costs	JEF Total Cost
			PM II	PE II			
			$135.00	$110.00			
4A-1	Meet with Agricultural Research Service Staff	Meet with D. Goodrich and others Assume: Tucson location	2	3	$600	$10	$610
4A-2	Precipitation Data Development	Annual rainfall events (5 total) of varying durations and frequencies Scale up to 2-, 5-, 10-, 25-, 50-, 100-year events based on predicted NOAA 14 depths No Analysis of spatial distribution	1	8	$1,015	$0	$1,015
4A-3	Surface Water Hydrologic Modeling	Revisions to Coyote Wash HEC-1: Precipitation patterns (Task 4A-2), Channel infiltration in routing reaches, 0% impervious condition, Time of concentration for 0% impervious condition Use CWR Model to analyze precipitation events (Task 4A-2)	2	56	$6,430	$0	$6,430
4A-4	Stormwater Capture and Recharge Design Concept Evaluation	Input two concept scenarios into Task 4A-3 HEC-1 and CWR models and estimate stormwater capture volumes	0	24	$2,640	$0	$2,640
4A-5	CCRN Technical Team Meeting	Meet with CCRN Technical Team to discuss results and required next steps Assume: Tucson location Deliverable 4A: Technical Memorandum discussing the results of Task 4A	2	4	$710	$10	$720
		ADDITIONAL SERVICE #1 BASE TOTALS	**7**	**95**	**$11,395**	**$20**	**$11,415**
Option 4A-3b	Extension of Hydrologic Modeling to San Pedro River	Extend Task 4A-3 modeling to confluence with San Pedro River	0	40	$4,400	$200	$4,600
Option 4A-3c	FLO-2D Modeling to San Pedro River	FLO-2D model of Coyote Wash reach downstream from project site to confluence with San Pedro River, HEC-1 hydrograph input at upstream limit of model domain	2	60	$6,870	$200	$7,070
Option 4A-6	With-Concept Modeling Revisions	Repeat Task 4A-4 with revisions to 2 concept designs requested during Task 4A-5	0	20	$2,200	$0	$2,200
		ADDITIONAL SERVICE #1 OPTIONAL TOTALS	**2**	**120**	**$13,470**	**$400**	**$13,870**
		SUM ADDITIONAL SERVICE #1 TOTALS	**9**	**215**	**$24,865**	**$420**	**$25,285**

Notes:
All fee estimates are approximate.
The total fee is a not-to-exceed (NTE) amount and individual task fees may vary within the total NTE.
Where needed tasks may be performed concurrently or out of the sequence indicated above.
Rates in accordance with hourly rate schedule submitted May 4, 2016 (RFQ 16-04-HFP-04)

Professional Services Agreement
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Task	Title	Description/Deliverable (see SOW for task details)	GSA Manhours PM $145.00	SH $90.00	Admin $60.00	GSA Labor Cost	GSA Direct Costs	GSA Total Cost
4A-1	Meet with Agricultural Research Service Staff	Assume Tucson	4	0	0	$ 580	$ 5	$ 585
4A-2	Precipitation Data Development	Assume review of precip record and selection. No Analysis of spatial distribution	2	4	0	$ 650	$ 10	$ 660
4A-3	Surface Water Hydrologic Modeling	Assume HEC-1 and CW models will be run and compared with tech memo	4	24	0	$ 2,740	$ 10	$ 2,750
4A-4	Stormwater Capture and Recharge Design Concept Evaluation	Assume CW model will be run to evaluate efficacy of capture system	4	16	0	$ 2,020	$ -	$ 2,020
4A-5	CCRN Technical Team Meeting	Assume Tucson	2	4	0	$ 650	$ 5	$ 655
		PHASE II TOTALS	**16**	**48**	**0**	**$ 6,640**	**$ 30**	**$ 6,670**
Option 4A-3b	Extension of Hydrologic Modeling to San Pedro River		4	40	0	$ 4,180	$ 25	$ 4,205
Option 4A-3c	FLO-2D Modeling to San Pedro River		1	0	0	$ 145	$ -	$ 145
Option 4A-6	With-Concept Modeling Revisions		4	16	0	$ 2,020	$ -	$ 2,020
		PHASE II OPTIONAL TOTALS	**9**	**56**	**0**	**$ 6,345**	**$ 25**	**$ 6,370**

Notes:
All fee estimates are approximate.
The total fee is a not-to-exceed (NTE) amount and individual task fees may vary within the total NTE.
Where needed tasks may be performed concurrently or out of the sequence indicated above.