Fresno Metropolitan Flood Control District

Table 6-2
Detailed Budget

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	AMOUNT	DWR	FMFCD	Source of Local Funding
Task 1: Project Management								
1.A	**Pre-Construction Activities**				**$ 20,337**	**$ 20,337**	**$ -**	
	Staff Analyst	HR	40	$ 63	$ 2,519	$ 2,519	$ -	
	Engineer	HR	160	$ 63	$ 10,150	$ 10,150	$ -	
	Operations Engineer	HR	40	$ 90	$ 3,618	$ 3,618	$ -	
	District Engineer	HR	16	$ 116	$ 1,850	$ 1,850	$ -	
	Fish & Game and County Fees	LS	1	$ 2,200	$ 2,200	$ 2,200	$ -	
1.B	**Project Coordination Meetings**				**$ 2,068**	**$ 2,068**	**$ -**	
	Engineer	HR	20	$ 63	$ 1,269	$ 1,269	$ -	
	Operations Engineer	HR	5	$ 90	$ 452	$ 452	$ -	
	District Engineer	HR	2	$ 116	$ 231	$ 231	$ -	
	Staff Analyst	HR	1	$ 63	$ 63	$ 63	$ -	
	Inspector	HR	1	$ 53	$ 53	$ 53	$ -	
1.C	**Public Outreach**				**$ 2,251**	**$ 2,251**	**$ -**	
	Program Assistant	HR	24	$ 53	$ 1,279	$ 1,279	$ -	
	Office Assistant	HR	10	$ 44	$ 445	$ 445	$ -	
	Engineer	HR	2	$ 63	$ 127	$ 127	$ -	
	Advertisement & Material	LS	1	$ 400	$ 400	$ 400	$ -	
Task 2: Construction								
2.A	**Recharge Improvement Project**				**$ 160,368**	**$ 160,368**	**$ -**	
	Basin P							
	Dewater Basin P	LS	1	$ 2,357	$ 2,357	$ 2,357	$ -	
	Survey Gravity Drain Locations	LS	1	$ 1,704	$ 1,704	$ 1,704	$ -	
	Installation of 20 Gravity Drains	LS	1	$ 75,000	$ 75,000	$ 75,000	$ -	
	Inspector	HR	20	$ 53	$ 1,051	$ 1,051	$ -	
	Basin TBD							
	Dewater Basin TBD	LS	1	$ 2,500	$ 2,500	$ 2,500	$ -	
	Survey Gravity Drain Locations	HR	1	$ 1,705	$ 1,705	$ 1,705	$ -	
	Installation of Gravity Drains	LS	1	$ 75,000	$ 75,000	$ 75,000	$ -	
	Inspector	HR	20	$ 53	$ 1,051	$ 1,051	$ -	
	OR							
	Basin CM							
	Dewater Basin CM	LS	1	$ 2,610	$ 2,610	$ 2,610	$ -	
	Survey Gravity Drain Locations	LS	1	$ 1,706	$ 1,706	$ 1,706	$ -	
	Installation of 20 Gravity Drains	LS	1	$ 75,000	$ 75,000	$ 75,000	$ -	
	Inspector	HR	20	$ 53	$ 1,051	$ 1,051	$ -	

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	AMOUNT	DWR	FMFCD	Source of Local Funding
2.B	**Collection of Soil Data**				**$ 46,245**	**$ 46,245**	**$ -**	
	Basin AG							
	Dewater Basin	LS	1	$ 3,969	$ 3,969	$ 3,969	$ -	
	Survey Boring Locations	LS	1	$ 932	$ 932	$ 932	$ -	
	Boring & Logging	LS	1	$ 3,439	$ 3,439	$ 3,439	$ -	
	Basin AF							
	Dewater Basin	LS	1	$ 2,480	$ 2,480	$ 2,480	$ -	
	Survey Boring Locations	LS	1	$ 1,109	$ 1,109	$ 1,109	$ -	
	Boring & Logging	LS	1	$ 6,715	$ 6,715	$ 6,715	$ -	
	Basin J							
	Dewater Basin	LS	1	$ 2,796	$ 2,796	$ 2,796	$ -	
	Survey Boring Locations	LS	1	$ 925	$ 925	$ 925	$ -	
	Boring & Logging	LS	1	$ 3,439	$ 3,439	$ 3,439	$ -	
	Basin RR3							
	Dewater Basin	LS	1	$ 1,688	$ 1,688	$ 1,688	$ -	
	Survey Boring Locations	HR	1	$ 932	$ 932	$ 932	$ -	
	Boring & Logging	LS	1	$ 3,439	$ 3,439	$ 3,439	$ -	
	Basin CY							
	Dewater Basin	LS	1	$ 2,103	$ 2,103	$ 2,103	$ -	
	Survey Boring Locations	LS	1	$ 920	$ 920	$ 920	$ -	
	Boring & Logging	LS	1	$ 3,439	$ 3,439	$ 3,439	$ -	
	Basin 1G							
	Dewater Basin	LS	1	$ 2,249	$ 2,249	$ 2,249	$ -	
	Survey Boring Locations	LS	1	$ 920	$ 920	$ 920	$ -	
	Boring & Logging	LS	1	$ 3,439	$ 3,439	$ 3,439	$ -	
	Determine next Feasible Basin Site for Recharge Improvements							
	Engineer	HR	8	$ 63	$ 1,015	$ 1,015	$ -	
	Operations Engineer Review	HR	4	$ 90	$ 181	$ 181	$ -	
	District Engineer Review	HR	2	$ 116	$ 116	$ 116	$ -	
Task 3: Monitor Improved Basin Sites								
3.A	**Monitor and Record Data**				**$ 7,702**	**$ 7,702**	**$ -**	
	Input FID Delivery Report							
	Senior Engineer	HR	17	$ 81	$ 1,378.36	$ 1,378	$ -	
	Percolation Rate Tests							
	Senior Engineer	HR	10	$ 81	$ 810	$ 810	$ -	
	Recharge Reports							
	Senior Engineer	HR	68	$ 81	$ 5,513.44	$ 5,513	$ -	

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	AMOUNT	DWR	FMFCD	Source of Local Funding
3.B	**Use of Collected Data to Model Existing and Future Physically Improved Sites**				**$ 1,622**	**$ 1,622**	**$ -**	
	Prepare Surface Recharge Model							
	Senior Engineer	HR	10	$ 81	$ 811	$ 811	$ -	
	Stormwater Recharge Model							
	Senior Engineer	HR	20	$ 81	$ 1,622	$ 1,622	$ -	
Task 4: Reports								
4.A	**Progress Project Reports**				**$ 7,705**	**$ 7,705**	**$ -**	
	Quarterly Report (January-April 2013)							
	Engineer	HR	16	$ 63	$ 1,015	$ 1,015	$ -	
	Office Assistant	HR	4	$ 44	$ 178	$ 178	$ -	
	Operations Engineer Review	HR	2	$ 90	$ 181	$ 181	$ -	
	District Engineer Review	HR	1	$ 116	$ 116	$ 116	$ -	
	Quarterly Report (May-August 2013)							
	Engineer	HR	4	$ 63	$ 254	$ 254	$ -	
	Office Assistant	HR	2	$ 44	$ 89	$ 89	$ -	
	Operations Engineer Review	HR	1	$ 90	$ 90	$ 90	$ -	
	District Engineer Review	HR	1	$ 116	$ 116	$ 116	$ -	
	Monthly Report (September 2013)							
	Engineer	HR	4	$ 63	$ 254	$ 254	$ -	
	Office Assistant	HR	2	$ 44	$ 89	$ 89	$ -	
	Operations Engineer Review	HR	1	$ 90	$ 90	$ 90	$ -	
	District Engineer Review	HR	1	$ 116	$ 116	$ 116	$ -	
	Monthly Report (October 2013)							
	Engineer	HR	4	$ 63	$ 254	$ 254	$ -	
	Office Assistant	HR	2	$ 44	$ 89	$ 89	$ -	
	Operations Engineer Review	HR	1	$ 90	$ 90	$ 90	$ -	
	District Engineer Review	HR	1	$ 116	$ 116	$ 116	$ -	
	Monthly Report (November 2013)							
	Engineer	HR	4	$ 63	$ 254	$ 254	$ -	
	Office Assistant	HR	2	$ 44	$ 89	$ 89	$ -	
	Operations Engineer Review	HR	1	$ 90	$ 90	$ 90	$ -	
	District Engineer Review	HR	1	$ 116	$ 116	$ 116	$ -	
	Monthly Report (December 2013)							
	Engineer	HR	4	$ 63	$ 254	$ 254	$ -	
	Office Assistant	HR	2	$ 44	$ 89	$ 89	$ -	
	Operations Engineer Review	HR	1	$ 90	$ 90	$ 90	$ -	
	District Engineer Review	HR	1	$ 116	$ 116	$ 116	$ -	
	Quarterly Report (January-April 2014)							

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	AMOUNT	DWR	FMFCD	Source of Local Funding
	Engineer	HR	4	$ 63	$ 254	$ 254	$ -	
	Office Assistant	HR	4	$ 44	$ 178	$ 178	$ -	
	Operations Engineer Review	HR	2	$ 90	$ 181	$ 181	$ -	
	District Engineer Review	HR	1	$ 116	$ 116	$ 116	$ -	
	Monthly Report (May 2014)							
	Engineer	HR	4	$ 63	$ 254	$ 254	$ -	
	Office Assistant	HR	2	$ 44	$ 89	$ 89	$ -	
	Operations Engineer Review	HR	1	$ 90	$ 90	$ 90	$ -	
	District Engineer Review	HR	1	$ 116	$ 116	$ 116	$ -	
	Monthly Report (June 2014)							
	Engineer	HR	4	$ 63	$ 254	$ 254	$ -	
	Office Assistant	HR	2	$ 44	$ 89	$ 89	$ -	
	Operations Engineer Review	HR	1	$ 90	$ 90	$ 90	$ -	
	District Engineer Review	HR	1	$ 116	$ 116	$ 116	$ -	
	Monthly Report (July 2014)							
	Engineer	HR	4	$ 63	$ 254	$ 254	$ -	
	Office Assistant	HR	2	$ 44	$ 89	$ 89	$ -	
	Operations Engineer Review	HR	1	$ 90	$ 90	$ 90	$ -	
	District Engineer Review	HR	1	$ 116	$ 116	$ 116	$ -	
	Monthly Report (August 2014)							
	Engineer	HR	4	$ 63	$ 254	$ 254	$ -	
	Office Assistant	HR	2	$ 44	$ 89	$ 89	$ -	
	Operations Engineer Review	HR	1	$ 90	$ 90	$ 90	$ -	
	District Engineer Review	HR	1	$ 116	$ 116	$ 116	$ -	
	Monthly Report (September 2014)							
	Engineer	HR	4	$ 63	$ 254	$ 254	$ -	
	Office Assistant	HR	2	$ 44	$ 89	$ 89	$ -	
	Operations Engineer Review	HR	1	$ 90	$ 90	$ 90	$ -	
	District Engineer Review	HR	1	$ 116	$ 116	$ 116	$ -	
4.B	**Inform GWMP and IRWMP Members, Local Agencies and the Public**				**$ 213**	**$ 213**	**$ -**	
	Program Assistant	HR	4	$ 53	$ 213	$ 213	$ -	
4.C	**Final Project Report**				**$ 1,489**	**$ 1,489**	**$ -**	
	Engineer	HR	16	$ 63	$ 1,015	$ 1,015	$ -	
	Office Assistant	HR	4	$ 44	$ 178	$ 178	$ -	
	Operations Engineer Review	HR	2	$ 90	$ 181	$ 181	$ -	
	District Engineer Review	HR	1	$ 116	$ 116	$ 116	$ -	
			SUBTOTAL		$ 250,000	$ 250,000	$ -	

Total	DWR	FMFCD
$ 250,000	$ 250,000	$ -

MADE BY: JCS

Notes

1.A Pre-Construction Activities

FMFCD Hourly Rates: Refer to 'FMFCD Hourly Rates per Employee' table from the FMFCD Hourly Rates sheet.
Hourly rates received from FMFCD accounting department. Rates include overhead costs.

1.B Project Coordination Meetings

FMFCD Hourly Rates: Refer to 'FMFCD Hourly Rates per Employee' table from the FMFCD Hourly Rates sheet.
Hourly rates received from FMFCD accounting department. Rates include overhead costs.

1.C Public Outreach

FMFCD Hourly Rates: Refer to 'FMFCD Hourly Rates per Employee' table from the FMFCD Hourly Rates sheet.
Hourly rates received from FMFCD accounting department. Rates include overhead costs.
Material - assume $250 for material, $25 for printing and $125 for mailing supplies.

2.A Recharge Improvement Project

FMFCD Hourly Rates: Refer to 'FMFCD Hourly Rates per Employee' table from the FMFCD Hourly Rates sheet.
Hourly rates received from FMFCD accounting department. Rates include overhead costs.

Basin "P"

Dewater calculations: Refer to 'Estimate for Dewatering Basins' table from the Basin Dewater Calculations sheet.
Survey calculations: Refer to 'Estimate for Survey Gravity Drain Locations' table from the Survey, Boring, & Logging Costs sheet.
Installation of 20 gravity drains: Refer to Engineer's Estimate for Basin "P".
Days of Construction: Assumed 3 gravity drains installated per day.
Estimating the Inspector will be on site 2 hours each construction day.

Basin To Be Determined (TBD)

Dewater calculations: Round the average cost to dewater Basin "P" & "CM" to the nearest hundred for Basin TBD.
Survey calculations: Round the average cost to survey Basin "P" & "CM" to the nearest hundred for Basin TBD.
Assumed 20 gravity drains will be installed.

OR

Basin "CM" (Potential 2nd Site)

Dewater calculations: Refer to 'Estimate for Dewatering Basins' table from the Basin Dewater Calculations sheet.
Survey calculations: Refer to 'Estimate for Survey Gravity Drain Locations' table from the Survey, Boring, & Logging Costs sheet.

Installation of 20 gravity drains: Refer to Engineer's Estimate for Basin "CM".
Days of Construction: Assumed 3 gravity drains installated per day.
Estimating the Inspector will be on site 2 hours each construction day.

2.B Collection of Soil Data

FMFCD Hourly Rates: Refer to 'FMFCD Hourly Rates per Employee' table from the FMFCD Hourly Rates sheet.
Hourly rates received from FMFCD accounting department. Rates include overhead costs.
Dewater calculations: Refer to 'Estimate for Dewatering Basins' table from the Basin Dewater Calculations sheet.
Survey calculations: Refer to 'Estimate for Survey Boring Locations' table from the Survey, Boring, & Logging Costs sheet.
Boring calculations: Refer to 'Estimate for Boring & Logging' table from the Survey, Boring, & Logging Costs sheet.

3.A Monitor and Record Data

FMFCD Hourly Rates: Refer to 'FMFCD Hourly Rates per Employee' table from the FMFCD Hourly Rates sheet.
Hourly rates received from FMFCD accounting department. Rates include overhead costs.

3.B Use of Collected Data to Model Existing and Future Physically Improved Sites

FMFCD Hourly Rates: Refer to 'FMFCD Hourly Rates per Employee' table from the FMFCD Hourly Rates sheet.
Hourly rates received from FMFCD accounting department. Rates include overhead costs.

4.A Monthly Reports

FMFCD Hourly Rates: Refer to 'FMFCD Hourly Rates per Employee' table from the FMFCD Hourly Rates sheet.
Hourly rates received from FMFCD accounting department. Rates include overhead costs.
First monthly report will take longer to prepare. Can be used as template for following monthly reports.

4.B Inform GWMP and IRWMP Members, Local Agencies and the Public

FMFCD Hourly Rates: Refer to 'FMFCD Hourly Rates per Employee' table from the FMFCD Hourly Rates sheet.
Hourly rates received from FMFCD accounting department. Rates include overhead costs.

4.C Final Reports

FMFCD Hourly Rates: Refer to 'FMFCD Hourly Rates per Employee' table from the FMFCD Hourly Rates sheet.
Hourly rates received from FMFCD accounting department. Rates include overhead costs.

FRESNO METROPOLITAN FLOOD CONTROL DISTRICT

ENGINEER'S ESTIMATE

Date: June 14, 2012
Project Description: Basin P Recharge Improvement - 20 Gravity Drains

ITEM NO.	ITEM CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	AMOUNT
1		Dust Control	LS	1	$500.00	$500.00
2		Storm Water Pollution Prevention	LS	1	$500.00	$500.00
3		Mobilization	LS	1	$2,500.00	$2,500.00
4		Haul Out (stockpile @ Basin AY??)	LS	1	$1,500.00	$1,500.00
5		Sand in Place and Complete (Basin AY)	LS	1	$1,260.00	$1,260.00
6		Gravity Drains, In Place and Complete	EA	20	$2,600.00	$52,000.00
7		Mirafi 140N, In Place and Complete	SY	270	$5.00	$1,350.00
8		Gravel in Place and Complete	TON	95	$22.50	$2,137.50
						$61,747.50
			Contingency		**20.00%**	$12,349.50
						$74,097.00

MADE BY: John Santos

FRESNO METROPOLITAN FLOOD CONTROL DISTRICT

ENGINEER'S ESTIMATE

Date: July 10, 2012
Project Description: Basin CM Recharge Improvement - 20 Gravity Drains

ITEM NO.	ITEM CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	AMOUNT
1		Dust Control	LS	1	$500.00	$500.00
2		Storm Water Pollution Prevention	LS	1	$2,000.00	$2,000.00
3		Mobilization	LS	1	$2,500.00	$2,500.00
4		Haul Out (stockpile @ Basin AY??)	LS	1	$1,500.00	$1,500.00
5		Sand in Place and Complete (Basin AY)	LS	1	$1,260.00	$1,260.00
6		Gravity Drains, In Place and Complete	EA	20	$2,600.00	$52,000.00
7		Mirafi 140N, In Place and Complete	SY	300	$5.00	$1,500.00
8		Gravel in Place and Complete	TON	110	$22.50	$2,475.00
						$63,735.00
				Contingency	**20.00%**	$12,747.00
						$76,482.00

MADE BY: John Santos

FMFCD Hourly Rates

7/2/2012

Reference for Attachment 6. Budget

FMFCD Hourly Rates per Employee		
FMFCD Staff	Position	Hourly Rate[1]
		($/hr)
Brandy Swisher	Program Assistant	$53.30
Brent Sunamoto	Senior Engineer	$81.08
Dwayne Farrow	Inspector	$52.53
Jerry Lakeman	District Engineer	$115.61
John Santos	Engineer	$63.44
Kristine Johnson	Staff Analyst	$62.98
Paul Allen	Facilities Manager	$64.52
Peter Sanchez	Operations Engineer	$90.45
Terri Schafer	Office Assistant	$44.46

1 Hourly Rates received from FMFCD accounting department. Rates include overhead costs.

Basin Dewater Calculations

6/26/2012

Reference for Attachment 6. Budget

Major Dewatering Calculations

	Electric Pumping (if available)													Portable Pumping										Total
	Start Level (assumed)			Target Level (top of cage)			Pump Rate	Pump Size	Volume	Time	Power Use	Rate	Cost	Start Level			Target Level (dry)		Pump Volume	Pump Rate	Pump Time	Fuel Used	Fuel Rate[1]	Cost	Total Cost
Basin	BRB	Elev	Vol	BRB	Elev	Vol	(cfs)	(HP)	(ac-ft)	(hrs)	(kW-hr)	($/kW-hr)	($)	BRB	Elev	Vol	BRB	Elev	(ac-ft)	(cfs)	(hrs)	(gal/hr)	($/gal)	($)	($)
P	5	328.73	51.4	17.45	316.28	5.0	5	20	46.4	111.4	2,986	$0.21	$627.08	17.45	316.28	5.0	20.95	312.78	5.0	3.3	18.2	1.25	$4.084	$92.82	$719.90
CM	10	329.65	59.8	17.85	321.8	16.3	5	20	43.5	104.3	2,797	$0.21	$587.32	17.85	321.8	16.3	21.35	318.3	16.3	3.3	59.4	1.25	$4.084	$303.21	$890.53
AG	10	280.75	146.6	25.85	264.9	16.3	5	20	130.2	312.5	8,379	$0.21	$1,759.63	25.85	264.9	16.3	29.35	261.4	16.3	3.3	59.4	1.25	$4.084	$303.21	$2,062.84
AF	8	291.26	58.4	15.2	284.06	16.8	5	20	41.6	99.8	2,675	$0.21	$561.81	15.2	284.06	16.8	18.7	280.56	16.8	3.3	61.1	1.25	$4.084	$311.69	$873.50
J	8	308.85	91.6	22.95	293.9	12.4	5	20	79.2	190.2	5,099	$0.21	$1,070.70	22.95	293.9	12.4	26.45	290.4	12.4	3.3	45.1	1.25	$4.084	$230.05	$1,300.75
AE	6	297.25	87.5	15.75	287.5	9.7	No electric pump, project starting level to portable pump >>>>							6	297.25	87.5	19.25	284	87.5	7	149.9	2.75	$4.084	$1,683.73	$1,683.73
RR3	28	245.45	5.3	26.15	247.3	14.3	No electric pump, project starting level to portable pump >>>>							28	245.45	5.3	29.65	243.8	5.3	7	9.0	2.75	$4.084	$101.19	$101.19
CY	8	338.75	47.5	20.15	326.6	4.3	5	20	43.2	103.6	2,777	$0.21	$583.23	20.15	326.6	4.3	23.65	323.1	4.3	3.3	15.8	1.25	$4.084	$80.65	$663.88
1G	8	349.25	57.5	16.75	340.5	14.3	5	20	43.2	103.7	2,780	$0.21	$583.72	16.75	340.5	14.3	20.25	337	14.3	3.3	51.9	1.25	$4.084	$264.81	$848.53
2D	9	341.25	39.8	22.45	327.8	5.1	5	20	34.7	83.3	2,233	$0.21	$468.87	22.45	327.8	5.1	25.95	324.3	5.1	3.3	18.6	1.25	$4.084	$95.14	$564.01
K	6	301.65	31.7	16.05	291.6	2.3	5	20	29.4	70.6	1,892	$0.21	$397.25	16.05	291.6	2.3	19.55	288.1	2.3	3.3	8.5	1.25	$4.084	$43.62	$440.88
CL	8	336.95	79.4	21.3	323.65	12.0	5	20	67.3	161.6	4,332	$0.21	$909.71	21.3	323.65	12.0	24.8	320.15	12.0	3.3	43.8	1.25	$4.084	$223.64	$1,133.35

[1] Per Caltran's Labor Surcharge and Equipment Rental Rate for 4/1/2012 - 3/31/2013

	Drying Calculations								
		Nuiss. Flow	Pump Rate	Pump Time	Fuel Rate	Est. Dry Time	Fuel Used	Fuel Rate[1]	Total Cost
Basin	CA	(ac-ft)	(cfs)	(hrs/day)	(gal/hr)	(days)	(gal)	($/gal)	($)
P	178.80	0.27	1.10	2.93	0.50	25	36.57	$4.084	$149.36
CM	353.00	0.53	4.00	1.59	1.00	25	39.71	$4.084	$162.19
AG	416.50	0.62	4.00	1.87	1.00	25	46.86	$4.084	$191.36
AF	209.40	0.31	1.10	3.43	0.50	22	37.69	$4.084	$153.93
J	141.90	0.21	1.10	2.32	0.50	20	23.22	$4.084	$94.83
AE	192.50	0.29	1.10	3.15	0.50	28	44.10	$4.084	$180.10
RR3	87.70	0.13	1.10	1.44	0.50	28	20.09	$4.084	$82.05
CY	189.00	0.28	1.10	3.09	0.50	20	30.93	$4.084	$126.31
1G	216.30	0.32	1.10	3.54	0.50	17	30.09	$4.084	$122.87
2D	163.60	0.25	1.10	2.68	0.50	17	22.76	$4.084	$92.93
K	193.00	0.29	1.10	3.16	0.50	17	26.84	$4.084	$109.63
CL	344.90	0.52	4.00	1.55	1.00	25	38.80	$4.084	$158.46

[1] Per Caltran's Labor Surcharge and Equipment Rental Rate for 4/1/2012 - 3/31/2013

	Staff Cost							
	Major Dewater	Portable Dewatering		Drying				
	Check Time	Setup Time	Check Time	Setup Time	Check Time	Total Staff Time	Staff Rate	Staff Cost
Basin	(man-hrs)	(man-hrs)	(man-hrs)	(man-hrs)	(man-hrs)	(man-hrs)	($/hr)	($)
P	2.5	7	1.0	7	25	42.5	$35.00	$1,487.50
CM	2.5	7	3.0	7	25	44.5	$35.00	$1,557.50
AG	7.0	7	3.0	7	25	49.0	$35.00	$1,715.00
AF	2.5	7	3.0	7	22	41.5	$35.00	$1,452.50
J	4.0	7	2.0	7	20	40.0	$35.00	$1,400.00
AE	0.0	7	7.0	7	28	49.0	$35.00	$1,715.00
RR3	0.0	7	1.0	7	28	43.0	$35.00	$1,505.00
CY	2.5	7	1.0	7	20	37.5	$35.00	$1,312.50
1G	2.5	7	3.0	7	17	36.5	$35.00	$1,277.50
2D	2.0	7	1.0	7	17	34.0	$35.00	$1,190.00
K	1.5	7	1.0	7	17	33.5	$35.00	$1,172.50
CL	3.5	7	2.0	7	25	44.5	$35.00	$1,557.50

Estimate for Dewatering Basins									
Basin	Elec. Pumping		Portable Pumping		Drying		Staff Time		Total Cost
	Time	Power Cost	Time	Fuel Cost	Time	Fuel Cost	Time	Staff Cost	
	(hrs)	($)	(hrs)	($)	(days)	($)	(man-hrs)	($/hr)	($)
P	111	$627	18.2	$93	25	$149	42.5	$1,488	$2,357
CM	104	$587	59.4	$303	25	$162	44.5	$1,558	$2,610
AG	313	$1,760	59.4	$303	25	$191	49.0	$1,715	$3,969
AF	100	$562	61.1	$312	22	$154	41.5	$1,453	$2,480
J	190	$1,071	45.1	$230	20	$95	40.0	$1,400	$2,796
AE	0	$0	149.9	$1,684	28	$180	49.0	$1,715	$3,579
RR3	0	$0	9.0	$101	28	$82	43.0	$1,505	$1,688
CY	104	$583	15.8	$81	20	$126	37.5	$1,313	$2,103
1G	104	$584	51.9	$265	17	$123	36.5	$1,278	$2,249
2D	83	$469	18.6	$95	17	$93	34.0	$1,190	$1,847
K	71	$397	8.5	$44	17	$110	33.5	$1,173	$1,723
CL	162	$910	43.8	$224	25	$158	44.5	$1,558	$2,849

Survey, Boring, & Logging Costs

6/28/2012

Reference for Attachment 6. Budget

Estimate for Surveying Gravity Drain Locations												
Basin	Distance Between FMFCD Office and Project	Fuel Rate[1]	Fuel Cost	Survey Crew[1]	Robotic Total Sta.[1]	Drive Time	Time to Setup Equip., Establish TBM, & Shut Down	Number of Pts to Survey[2]	Time to Survey a Pt	Total time to Survey	Cost to Survey	Total Cost
	(mi)	($/mi)	($)	($/hr)	($/hr)	(hrs)	(hrs)		(hr/Pt)	(hr)	($)	($)
P	21.00	$0.56	11.66	$158.00	$25.00	0.25	3.00	24	0.25	9	$1,692.75	$1,704.41
CM	23.00	$0.56	12.77	$158.00	$25.00	0.25	3.00	24	0.25	9	$1,692.75	$1,705.52

[1] Per FMFCD's Rate (6/26/2012)

[2]20 Gravity Drains to Survey plus 4 points around the basin floor

Estimate for Surveying Boring Locations														
Basin	Distance Between FMFCD Office and Project	Fuel Rate[1]	Fuel Cost	Survey Crew[1]	Robotic Total Sta.[1]	Drive Time	Time to Setup Equip., Establish TBM, & Shut Down	Basin Size	Number of 50' Borings to Survey	Number of 15' Borings to Survey	Time to Survey a Pt	Total time to Survey	Cost to Survey	Total Cost
	(mi)	($/mi)	($)	($/hr)	($/hr)	(hrs)	(hrs)	(ac)			(hr/Pt)	(hr)	($)	($)
1G	9.00	$0.56	5.00	$158.00	$25.00	0.25	3.00	3.6	2	4	0.25	5	$915.00	$920.00
2D	5.00	$0.56	2.78	$158.00	$25.00	0.25	3.00	3.0	2	4	0.25	5	$915.00	$917.78
AE	20.00	$0.56	11.10	$158.00	$25.00	0.33	3.00	12.3	2	8	0.25	6	$1,098.00	$1,109.10
AF	20.00	$0.56	11.10	$158.00	$25.00	0.33	3.00	13.0	2	8	0.25	6	$1,098.00	$1,109.10
AG	31.00	$0.56	17.21	$158.00	$25.00	0.50	3.00	6.2	2	4	0.25	5	$915.00	$932.21
CL	4.00	$0.56	2.22	$158.00	$25.00	0.10	3.00	9.1	2	6	0.25	6	$1,098.00	$1,100.22
CY	9.00	$0.56	5.00	$158.00	$25.00	0.25	3.00	5.5	2	4	0.25	5	$915.00	$920.00
J	18.00	$0.56	9.99	$158.00	$25.00	0.33	3.00	3.5	2	4	0.25	5	$915.00	$924.99
K	18.00	$0.56	9.99	$158.00	$25.00	0.33	3.00	3.8	2	4	0.25	5	$915.00	$924.99
RR3	31.00	$0.56	17.21	$158.00	$25.00	0.50	3.00	6.5	2	4	0.25	5	$915.00	$932.21

[1] Per FMFCD's Rate (6/26/2012)

Estimate for Boring & Logging													
Basin	50' Boring						15' Boring						Total Cost
	Number of 50' Borings to Survey	Cost to Bore (Mobilization & Demobilization included)[1]	Cost to Sample and Prepare Field Logs[1]	Laboratory Testing[1]	Preparation of Boring Logs and Report[1]	50' Boring Cost	Number of 15' Borings to Survey	Cost to Bore (Mobilization & Demobilization included)[1]	Cost to Sample and Prepare Field Logs[1]	Laboratory Testing[1]	Preparation of Boring Logs and Report[1]	15' Boring Cost	
		($)	($)	($)	($)	($)		($)	($)	($)	($)	($)	($)
1G	2	$890.00	$1,420.00	$163.00	$275.00	$5,496.00	4	$248.00	$414.00	$75.00	$82.00	$3,276.00	$3,439.00
2D	2	$890.00	$1,420.00	$163.00	$275.00	$5,496.00	4	$248.00	$414.00	$75.00	$82.00	$3,276.00	$3,439.00
AE	2	$890.00	$1,420.00	$163.00	$275.00	$5,496.00	8	$248.00	$414.00	$75.00	$82.00	$6,552.00	$6,715.00
AF	2	$890.00	$1,420.00	$163.00	$275.00	$5,496.00	8	$248.00	$414.00	$75.00	$82.00	$6,552.00	$6,715.00
AG	2	$890.00	$1,420.00	$163.00	$275.00	$5,496.00	4	$248.00	$414.00	$75.00	$82.00	$3,276.00	$3,439.00
CL	2	$890.00	$1,420.00	$163.00	$275.00	$5,496.00	6	$248.00	$414.00	$75.00	$82.00	$4,914.00	$5,077.00
CY	2	$890.00	$1,420.00	$163.00	$275.00	$5,496.00	4	$248.00	$414.00	$75.00	$82.00	$3,276.00	$3,439.00
J	2	$890.00	$1,420.00	$163.00	$275.00	$5,496.00	4	$248.00	$414.00	$75.00	$82.00	$3,276.00	$3,439.00
K	2	$890.00	$1,420.00	$163.00	$275.00	$5,496.00	4	$248.00	$414.00	$75.00	$82.00	$3,276.00	$3,439.00
RR3	2	$890.00	$1,420.00	$163.00	$275.00	$5,496.00	4	$248.00	$414.00	$75.00	$82.00	$3,276.00	$3,439.00

[1] Per BSK Associates Engineers & Laboratories Rate (6/27/2012)