

APPENDIX C

Groundwater Recharge Memoranda

Fresno Metropolitan Flood Control District: Report on Groundwater Recharge Activity in District Basins in 2007 Recharge Year

Blair, Church & Flynn: Planned Groundwater Recharge Facilities

MEMORANDUM

File No. 220.41

BOARD MEETING: April 9, 2008
AGENDA ITEM NO: 8c

FROM: Jerry Lakeman 
District Engineer

SUBJECT: Report on Groundwater Recharge Activity in District Basins for 2007 Recharge Year

Summary

Fifty-one of the eighty-three District basins that are included in the recharge program were utilized during the 2007 recharge program. The District, in cooperation with the City of Clovis, City of Fresno, and Fresno Irrigation District (FID), accepts imported surface water during the non-rainy season in its stormwater management basins and recharges the groundwater aquifer throughout the Fresno-Clovis area.

The 2007 recharge program was hampered by the limited water supplies. Nevertheless, District basins recharged 16,341 acre-feet of imported surface water. The attached bar chart provides monthly breakdown and year to year comparisons. Also attached is a list of the basins used in the 2007 program and ranked in order of volume recharged. This year was a sub-average performance, but more than predicted by the model used to estimate recharge quantities prior to the beginning of the program year. The model attempts to project the recharge volume at the beginning of the surface water delivery season by considering the available water supply and the maintenance and construction schedules within the basins. The recharge model predicted 14,508 acre-feet for the 2007 program. Factors that influence the recharge volume are identified in the discussion portion of this memorandum.

Staff has made a preliminary estimate for the 2008 Recharge Program with a volume of 30,800 acre-feet. However, until the 2008-2009 budget is prepared, some currently unanticipated construction could lessen the volume. In addition, staff recently created a stormwater recharge model to estimate the amount of stormwater (exclusive of imported surface water) that recharges the groundwater aquifer. This model calculates the recharge volume based on known percolation rates at specific basin storage elevations. Basin storage capacity curves and areas of inundation are then used to calculate the volume of stormwater recharged. Staff has not yet completed the model for calendar year 2007. A supplemental report will be provided to the Board at a future meeting.

Recommendation

This report is for informational purposes only. No Board action is required unless specific direction is given staff.

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BOARD MEETING: April 9, 2008
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Discussion

Prior to the 2000 recharge program, the City of Fresno established a goal for the District of 30,000 acre-feet of imported surface water with a 2% increase for each of the following years with a maximum goal of 40,000 acre-feet. In 2000, the District's imported surface water recharge goal was substantially surpassed. However, the subsequent years were far below the goal. The attached sheet identifies the yearly breakdown of this recharge goal. There are several reasons that caused the recharge volume to be short of the goal:

- 1) Shortened water delivery season due to a below average snow pack (estimated loss of 7,500 acre-feet).
- 2) More conservative canal operations to reduce spills to the San Joaquin River, use of basin for spills rather than delivering maximum volume to basins, and provide downstream capacity for surface water treatment plants in the event they do not take estimated deliveries (estimated loss of 1,000 acre-feet).
- 3) Construction, maintenance or excavation activities in high percolation rate sites (estimated loss of 7,500 acre-feet).
- 4) Drop off in percolation rates, at some basins, due to less frequent silt removal and more economical maintenance scheduling (estimated loss of 2,000 acre-feet) of the basin.
- 5) Conversion of good recharge basins to park sites, such as Basins "XX" and "CN" (estimate loss of 2,000 acre-feet)

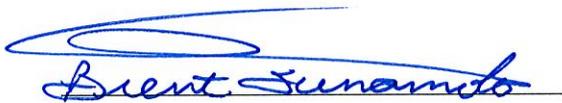
Staff was aware of the shortened water delivery season and decided to take advantage of this by performing most of the budgeted 2007-2008 basin maintenance before winter. During a typical recharge season, approximately 60 basins are authorized for recharge throughout the season, but for the 2007 recharge season, 51 were authorized.

In creating the imported surface water recharge model, staff was very conservative due to the shortened delivery season. However, the actual 2007 total was greater than predicted by the model because FID was able to deliver water later than initially anticipated. Early discussions with FID indicated that deliveries would cease at the end of August, but they were able to provide deliveries to many basins through the middle of October.

The stormwater recharge model is still being improved and will likely evolve over the coming years. However, staff feels the methodology results in a reasonable representation of actual stormwater recharge. The total groundwater recharged in FMFCD basins in good water supply years is poorly represented by just viewing the imported water that is recharged. In good years,

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the basins contain larger volumes of stormwater, less water is imported, but the total recharge volume is likely to be greater. Thus, viewing both imported and stormwater recharge, one has a better perspective of the benefit provided by the District's groundwater recharge program. Conversely, mild winters (poor water years) typically allow a full summer recharge season and more capacity in basins to begin the summer recharge season, resulting in greater summer recharge, but less stormwater recharge. Adding the stormwater recharge model provides data to better view the total recharge.

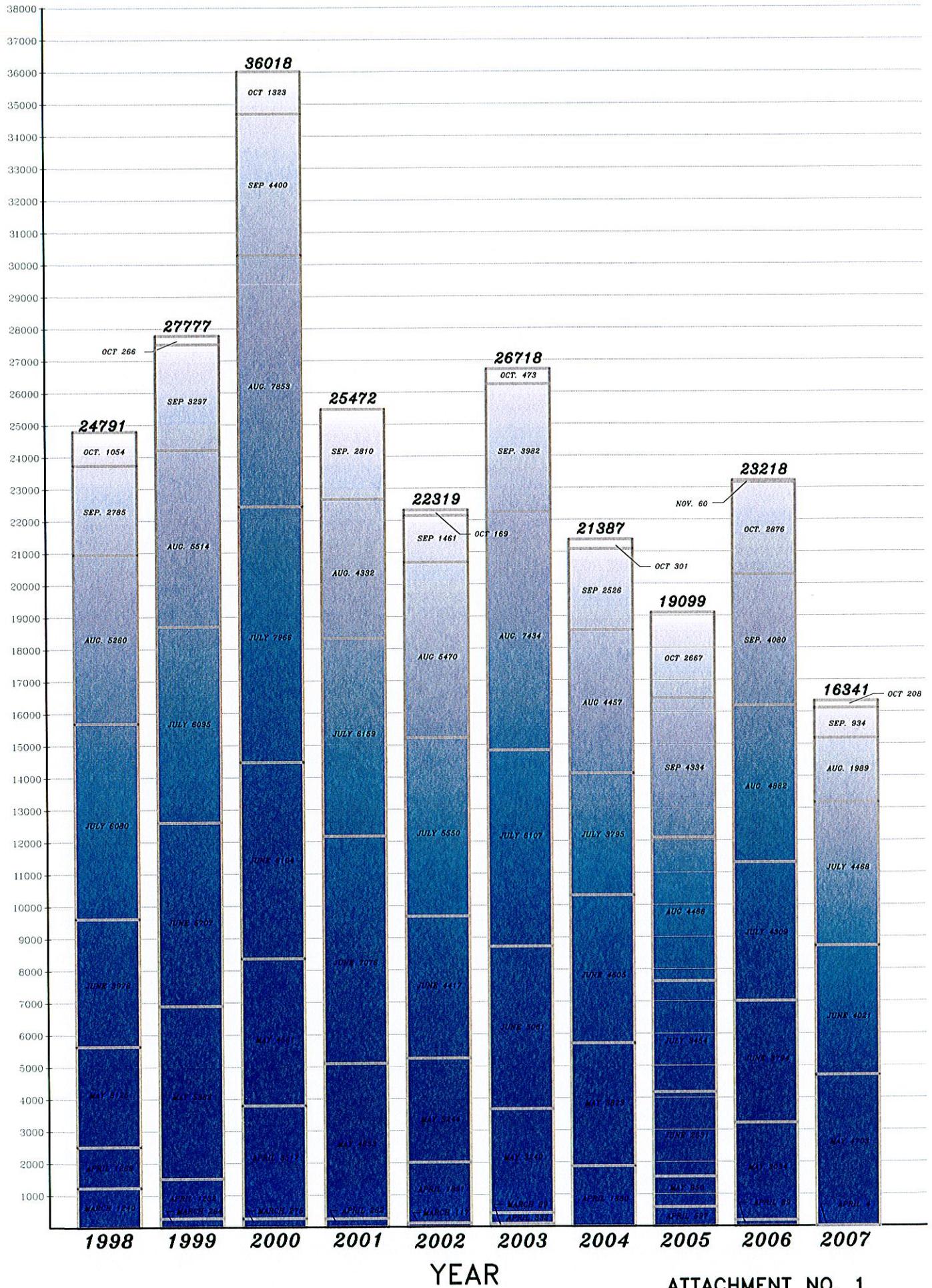


Brent Sunamoto
Senior Engineer

BS/mcf

Attachments

F.I.D. DELIVERY TO RECHARGE BASIN (Ac. Ft.)



**FID DELIVERY TO RECHARGE BASIN
MONTHLY REPORT (AC.FT.)
2007**

BASIN	LOCATION	APR	MAY	JUNE	JULY	AUG	SEP	OCT	YR TOTAL
Basin CO2	Herndon & Maroa		698	565	746	619	428	16	3,072
Basin BH	Church e/o Clovis	2	426	250	307				985
Basin CS	s/o North e/o Peach		365	280	325				970
Basin UU3	Marks & Belmont		383	331	256				970
Basin EE	McKinley & West		238	153	238	115	71	30	845
Basin MM	Ashlan and Marks		331	137	95	28	24	16	631
Basin DD	Palm & Dakota		165	180	256	14			615
Basin J	Bullard & Forkner		83	107	180	157	67		594
Basin CW	Fresno & Nees		77	44	109	230	91	4	555
Basin AJ	Ashlan w/o Cornelia		101	129	105	32	4	42	413
Basin AF	Marty s/o Shaw		109	119	81	38		24	371
Basin AL	Brawley & Clinton		87	117	115				319
Basin GG	Florence w/o Maple		48	117	153				318
Basin RR3	Whitesbridge & West		141	99	50				290
Basin BO	Sunnyside & Fancher Creek		85	93	111				289
Basin AB	Palo Alto w/o Marks		56	73	103	38	8		278
Basin L	San Jose e/o Blackstone		28	89	67	54	22	16	276
Basin BE	e/o Willow, n/o Church	2	198	54	20				274
Basin I12	n/o Church, e/o Orange		38	119	117				274
Basin EL	99 & Herndon Canal		60	81	87	18	14	6	266
Basin I11	Grove e/o Fig		50	119	89				258
Basin RR1	Nielson & Teilman		119	99	34				252
Basin R	Chestnut & Shepherd			71	36	36	83	14	240
Basin BU	Clovis, s/o Clinton		32	63	61	58	14	2	230
Basin BW	Dakota e/o Clovis		87	61	40	34	4		226
Basin S	Ashlan & Peach		20	71	61	69			221
Basin OO	West s/o California		65	89	54				208
Basin N	Escalon w/o Fresno		89	48	44	14	12		207
Basin A	Florence e/o Maple		40	60	61	8			169
Basin AC	Escalon n/o Bullard		56	28	34	46			164
Basin AD	Figarden Loop @ Escalon		28	14	54	42			138
Basin AG	Valentine & Ashlan		18	61	58				137
Basin AZ	Chestnut & Golden State		61	42	32				135
Basin BF	Chestnut s/o Church		60		71				131
Basin CY	Alluvial, e/o Cedar		54	20	28	16			118

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MONTHLY REPORT (AC.FT.)
2007**

BASIN	LOCATION	APR	MAY	JUNE	JULY	AUG	SEP	OCT	YR TOTAL
Basin CX	Nees w/o Cedar		48	32	12	14			106
Basin EG	Spruce, w/o Hayes				22	48	26	8	104
Basin IE	Ashlan & Stanford					81	20		101
Basin CM	Cedar & Palo Alto		89						89
Basin 1G	Temperance @ Gould Canal					79	6		85
Basin 4E	Bullard and Fowler					79			79
Basin K	Shaw & Santa Fe		26			30	16		72
Basin CC	Floradora e/o Clark				58				58
Basin UU2	e/s 99, s/o Pine				52				52
Basin HH	Commerce w/o Maple		28	6	8				42
Basin P	Cedar n/o Bullard		12		30		4	30	42
Basin EF	Cornelia & Browning								34
Basin 3A	Helm n/o Shaw					14	12		26
Basin Z	Kings Canyon & Maple				8				8
Basin Y	Kings Canyon & Adler		4						4
Basin AE	San Jose & Marty								0
Basin AH	Gettysburg align. & Cornelia								0
Basin AO	Belmont & Blythe								0
Basin BT	Nees & Marion								0
Basin BV	Fowler, n/o Shields								0
Basin BZ	Cedar and Copper								0
Basin CL	Willow & Escalon								0
Basin CN	First & Herndon								0
Basin CZ	Chestnut s/o Nees								0
Basin DH	Maroa & Cromwell								0
Basin FF	West s/o Kearney								0
Basin JJ	McKinley btwn 8th & 9th								0
Basin KK	Elm n/o Annadale								0
Basin LL	Annadale e/o Cherry								0
Basin O	First s/o Bullard								0
Basin RR2	Belmont Circle								0
Basin TT	West s/o Church								0
Basin U	Chestnut & Dakota								0
Basin W	Minnewawa s/o Olive								0
Basin ZZ	Dry Creek & Crystal								0

FID DELIVERY TO RECHARGE BASIN
MONTHLY REPORT (AC.FT.)
2007

BASIN	LOCATION	APR	MAY	JUNE	JULY	AUG	SEP	OCT	YR TOTAL
Basin2D	Clovis & Swift								0
Basin3D	Sunnyside & Hoblitt								0
Basin3F	Shaw & Laverne								0
Basin5F	Fowler & Escalon								0
Basin5B/5C	Sierra and 168								0
Basin6D	Sierra e/o Clovis								0
Basin7C	Alluvial & Clovis								0
SUBTOTAL		4	4,703	4,021	4,468	2,003	934	208	16,341
YEAR TO DATE		4	4,707	8,728	13,196	15,199	16,133	16,341	16,341

*Note: District basins were did not receive recharge deliveries in Jan, Feb, Mar, Nov, and Dec

Recharge Goals

<u>Year</u>	<u>Goal</u>	<u>Actual</u>	<u>Yearly Variance</u>	<u>Combined Variance</u>
2000	30,000	36,018	+ 6,018	+ 6,018
2001	30,600	25,472	- 5,128	+ 890
2002	31,212	22,434	- 8,778	- 7,888
2003	31,836	26,718	- 5,118	- 13,006
2004	32,473	21,387	- 11,086	- 24,092
2005	33,122	19,099	- 14,023	- 38,116
2006	33,785	23,218	- 10,567	- 48,683
2007	34,461	16,341	- 18,120	- 66,802

*All Values in acre-feet



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TECHNICAL MEMORANDUM

TO: Gerry Nakano
Elizabeth Drayer
West Yost Associates

File No. 205-0230

FROM: Luis Gonzalez
Karl Kienow
Blair, Church & Flynn Consulting Engineers

DATE July 30, 2008

**SUBJECT: Fresno Metropolitan Water Resources Management Plan Update:
Planned Groundwater Recharge Facilities**

BACKGROUND

Blair, Church & Flynn Consulting Engineers (Blair, Church & Flynn) has been retained by West Yost Associates (WYA) to secure, evaluate and present information provided by agencies relative to projected future groundwater recharge systems, in support of the *Fresno Metropolitan Water Resources Management Plan Update* being prepared by WYA. This technical memorandum summarizes the data requested and received from the Fresno Metropolitan Flood Control District (FMFCD), Fresno Irrigation District (FID), City of Fresno (Fresno), and City of Clovis (Clovis).

INFORMATION REQUESTED AND RECEIVED FROM AGENCIES

Blair, Church & Flynn requested by letter information relative to planned groundwater recharge facilities from Fresno Metropolitan Flood Control District, Fresno Irrigation District, the City of Fresno, and the City of Clovis. Copies of the letter requests for information are attached. The following paragraphs provide a discussion of the responses received.

Fresno Metropolitan Flood Control District: Fresno Metropolitan Flood Control District reports that it is in the process of working with the City of Fresno to identify future recharge sites. FMFCD reports that 84 of its basins are currently capable of being used for recharge, although not all of them are used during any given year due to routine maintenance or construction activities at basin sites. FMFCD estimates that an additional 10 to 20 of its basins, located in the City of Fresno, may be used for groundwater recharge in the future. Some basins used for groundwater recharge may also be used for recreation purposes, if the basins are designed for such dual purposes. Further coordination between the City of Fresno and FMFCD is reportedly necessary before any plans to use the basins as future groundwater recharge sites are finalized.

According to FMFCD, there are many as yet indeterminate variables with respect to the use of the additional basins as future groundwater recharge sites, including surface water availability in the area of the basins, required infrastructure to transport surface water to the basins, and City of Fresno preferences with regard to the use of the basins for groundwater recharge purposes instead of recreational purposes, for those that would not be dual use facilities. General information on the locations of the basins that may serve as future groundwater recharge sites was provided by FMFCD and reviewed by Blair, Church & Flynn. However, FMFCD reports that the information is preliminary,

and has not authorized its distribution. FMFCD estimates that more definitive plans for future recharge sites will be available in 2009. FMFCD should be contacted directly for updated information relative to the availability of additional information for future recharge facilities.

A copy of FMFCD's email response to the request for information is attached.

Fresno Irrigation District: Fresno Irrigation District reports that it currently has no plans for future groundwater recharge facilities. A copy of FID's email response to the request for information is attached.

City of Fresno: The City of Fresno did not respond directly to Blair, Church & Flynn's request for information relative to planned groundwater recharge systems. However, the City contacted WYA and indicated that no such information would be provided. The City directed WYA to formulate plans for the City's future groundwater recharge systems.

City of Clovis: The City of Clovis reports that opportunities for groundwater recharge are very limited in its service area, and that it currently has no plans to develop future groundwater recharge facilities. Clovis intends to rely on surface water and recycled water, in concert with its groundwater supply resources and existing groundwater recharge facilities, to meet its water needs in the future. Clovis also plans to retrofit many of its landscape irrigation services to use recycled water, or in some cases untreated surface water, instead of potable water. A copy of the City of Clovis' email response to the request for information is attached.

We trust this technical memorandum adequately serves your needs relative to the reporting of the information provided by the agencies contacted. If you have questions or comments, or if you require additional information, you are invited to contact us any time, as always.

April 2, 2008

Peter Sanchez
Fresno Metropolitan Flood Control District
5469 East Olive Avenue
Fresno, California 93727

File No. 205-0230

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**Subject: Fresno Metropolitan Water Resources Management Plan Update:
Planned Groundwater Recharge Facilities**

Dear Mr. Sanchez:

As a consultant to the City of Fresno, the firm of West Yost Associates (WYA) is currently preparing the Fresno Metropolitan Water Resources Management Plan Update. In its capacity as a subconsultant to WYA, we at Blair, Church & Flynn Consulting Engineers (BCF) are tasked with gathering and reporting information relative to planned groundwater recharge facilities in the Fresno metropolitan area. To that end, this letter presents our request for information relative to future groundwater recharge facilities, or future expansion of existing groundwater recharge facilities, that may be planned by Fresno Metropolitan Flood Control District.

Please provide the following information relative to future groundwater recharge facilities planned by Fresno Metropolitan Flood Control District.

1. The proposed location, size and nature of the planned groundwater recharge facilities.
2. The proposed improvements and facilities that are expected to be necessary for the conveyance of surface water supplies to the planned groundwater recharge facilities.
3. The proposed operational characteristics of the planned groundwater recharge facilities. In this regard, we are interested in knowing whether the planned facilities will be dedicated groundwater recharge facilities, or multi-use facilities in conjunction with other uses, such as flood control or recreation. We would also like to know whether the facilities would be subject to seasonal operational limitations, or would generally be operated on a year-round basis.
4. The expected groundwater recharge capacity of the planned facilities.
5. The proposed schedule for development and commissioning of the planned groundwater recharge facilities, including any proposed phasing.
6. The projected costs of development of the planned groundwater recharge facilities.

Please contact us at your earliest convenience for a brief discussion relative to the availability of the information described above, and the schedule on which you expect to be able to arrange for its provision to us.

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For Blair, Church & Flynn, and on behalf of WYA and the City of Fresno, thank you for your cooperation and assistance. If you have questions or comments, or if you require additional information, you are invited to contact me or Luis Gonzalez any time, as always.

Best Regards,

BLAIR, CHURCH & FLYNN CONSULTING ENGINEERS



Karl E. Kienow, P.E.
Associate Principal

c: Luis Gonzalez, BCF
Dave Peterson, PBP
Elizabeth Drayer, WYA

Karl Kienow

From: Brent H. Sunamoto [brenths@fresnofloodcontrol.org]
Sent: Tuesday, May 06, 2008 2:46 PM
To: Karl Kienow
Cc: Peter Sanchez
Subject: FMFCD Recharge Facilities

Karl,

I was forwarded your request for information on our recharge basins by Peter Sanchez.

We currently do not have an official list of planned recharge facilities. We have been working with the City of Fresno Water Division and Parks Department on a Secondary Use list. This list will officially designate, likely by agreement between the agencies, whether a basin will be a recharge basin, park, or both. We've met twice and are about 30%-40% through our entire list of basins, so there's some work to be done. Until this list is agreed upon by all parties, we cannot provide an official list other than the existing recharge basins, but even those are subject to changes in designation.

We do have old secondary use lists, but several designations have changed and they therefore would not be an accurate indication of our planned uses. If an old list will be sufficient for your needs, I can check with Jerry Lakeman to see if he's comfortable with the City publishing an old list in the Metroplan. I sent an old secondary use map to Brock Buche a few months ago that he wanted to use in the Metroplan.

Let me know how you want us to approach providing you this information. I'll do what I can.

**Brent Sunamoto, P.E.
Senior Engineer
Fresno Metropolitan Flood Control District
(559) 456-3292, (559) 456-2452 (fax)
<mailto:brenths@fresnofloodcontrol.org>
<http://www.fresnofloodcontrol.org>**



April 2, 2008

Bill Stretch
Fresno Irrigation District
2907 South Maple Avenue
Fresno, California 93725-2218

File No. 205-0230

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**Subject: Fresno Metropolitan Water Resources Management Plan Update:
Planned Groundwater Recharge Facilities**

Dear Mr. Stretch:

As a consultant to the City of Fresno, the firm of West Yost Associates (WYA) is currently preparing the Fresno Metropolitan Water Resources Management Plan Update. In its capacity as a subconsultant to WYA, we at Blair, Church & Flynn Consulting Engineers (BCF) are tasked with gathering and reporting information relative to planned groundwater recharge facilities in the Fresno metropolitan area. To that end, this letter presents our request for information relative to future groundwater recharge facilities, or future expansion of existing groundwater recharge facilities, that may be planned by Fresno Irrigation District.

Please provide the following information relative to future groundwater recharge facilities planned by Fresno Irrigation District.

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Please contact us at your earliest convenience for a brief discussion relative to the availability of the information described above, and the schedule on which you expect to be able to arrange for its provision to us.

For Blair, Church & Flynn, and on behalf of WYA and the City of Fresno, thank you for your cooperation and assistance. If you have questions or comments, or if you require additional information, you are invited to contact me or Luis Gonzalez any time, as always.

Best Regards,

BLAIR, CHURCH & FLYNN CONSULTING ENGINEERS



Karl E. Kienow, P.E.
Associate Principal

c: Luis Gonzalez, BCF
Dave Peterson, PBP
Elizabeth Drayer, WYA

Karl Kienow

From: Bill Stretch [BStretch@fresnoirrigation.com]
Sent: Wednesday, June 11, 2008 3:34 PM
To: Karl Kienow
Cc: Laurence Kimura; Jim Irwin
Subject: City of Fresno's Metropolitan Water Resources Plan - FID Recharge Basins

Karl – Per our discussion several weeks ago, it's our understanding that you are working with West Yost to help the City of Fresno with its Urban Water Management Plan. As part of that plan, you have inquired whether or not FID will be constructing any new recharge basins in the urban areas in the future. FID does not currently have any plans to construct any basins within the urban areas in the future. FID has discussed other means to increasing recharge efforts within the City, such as increasing the capacity of FMFCD basins. Please call me or e-mail me with any questions or concerns.

Sincerely,
Bill

April 2, 2008

Brock Buche
City of Fresno
Department of Public Utilities
Water Division
1910 East University Avenue
Fresno, California 93703

File No. 205-0230

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Frederick W. Wong, PE

**Subject: Fresno Metropolitan Water Resources Management Plan Update:
Planned Groundwater Recharge Facilities**

Dear Mr. Buche:

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For Blair, Church & Flynn, and on behalf of WYA and the City of Fresno, thank you for your cooperation and assistance. If you have questions or comments, or if you require additional information, you are invited to contact me or Luis Gonzalez any time, as always.

Best Regards,

BLAIR, CHURCH & FLYNN CONSULTING ENGINEERS



Karl E. Kienow, P.E.
Associate Principal

c: Luis Gonzalez, BCF
Dave Peterson, PBP
Elizabeth Drayer, WYA

April 2, 2008

Lisa Koehn, Assistant Director
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File No. 205-0230

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Himawan Brasali, LS

David W. Briley, MLA

Patrick G. Campbell, PE

Eric M. Doswald, PE

Timothy J. Flynn, PE

Luis M. Gonzalez, PE

Steven R. Miller, PE

Beth G. Montanez, PE

Cordie R. Qualle, PE

Forest Shepherd, LS

Edward M. Wong, PE

Frederick W. Wong, PE

**Subject: Fresno Metropolitan Water Resources Management Plan Update:
Planned Groundwater Recharge Facilities**

Dear Ms. Koehn:

As a consultant to the City of Fresno, the firm of West Yost Associates (WYA) is currently preparing the Fresno Metropolitan Water Resources Management Plan Update. In its capacity as a subconsultant to WYA, we at Blair, Church & Flynn Consulting Engineers (BCF) are tasked with gathering and reporting information relative to planned groundwater recharge facilities in the Fresno metropolitan area. To that end, this letter presents our request for information relative to future groundwater recharge facilities, or future expansion of existing groundwater recharge facilities, that may be planned by the City of Clovis.

Please provide the following information relative to future groundwater recharge facilities planned by the City of Clovis.

1. The proposed location, size and nature of the planned groundwater recharge facilities.
2. The proposed improvements and facilities that are expected to be necessary for the conveyance of surface water supplies to the planned groundwater recharge facilities.
3. The proposed operational characteristics of the planned groundwater recharge facilities. In this regard, we are interested in knowing whether the planned facilities will be dedicated single-use groundwater recharge facilities, or multi-use facilities in conjunction with other uses, such as flood control or recreation. We would also like to know whether the facilities would be subject to seasonal operational limitations, or would generally be operated on a year-round basis.
4. The expected groundwater recharge capacity of the planned facilities.
5. The proposed schedule for development and commissioning of the planned groundwater recharge facilities, including any proposed phasing.
6. The projected costs of development of the planned groundwater recharge facilities.

Please contact us at your earliest convenience for a brief discussion relative to the availability of the information described above, and the schedule on which you expect to be able to arrange for its provision to us.

For Blair, Church & Flynn, and on behalf of WYA and the City of Fresno, thank you for your cooperation and assistance. If you have questions or comments, or if you require additional information, you are invited to contact me or Luis Gonzalez any time, as always.

Best Regards,

BLAIR, CHURCH & FLYNN CONSULTING ENGINEERS



Karl E. Kienow, P.E.
Associate Principal

c: Luis Gonzalez, BCF
Dave Peterson, PBP
Elizabeth Drayer, WYA

Karl Kienow

From: Lisa Koehn [lisak@ci.clovis.ca.us]
Sent: Thursday, April 03, 2008 7:07 PM
To: Karl Kienow
Cc: Luis Gonzalez; David Peterson (E1); Elizabeth Drayer (E1); Elizabeth Drayer (E2)
Subject: RE: Fresno Metropolitan Water Resources Management Plan Update: Planned Groundwater Recharge Facilities

At this time we do not have any plans for additional recharge facilities. Opportunities for recharge are very limited in our service area. We intend to rely on surface water and recycled water to meet our additional water needs in the future. We do have a few projects that are planned to take existing landscape irrigation off of potable water and utilize surface water. If you have any other questions, please let me know.

*Lisa Koehn
City of Clovis
Assistant Public Utilities Director
155 N. Sunnyside Avenue
Clovis, CA 93611
(559) 324-2607*

From: Karl Kienow [mailto:KKienow@bcf-engr.com]
Sent: Wednesday, April 02, 2008 10:02 PM
To: Lisa Koehn
Cc: Luis Gonzalez; David Peterson (E1); Elizabeth Drayer (E1); Elizabeth Drayer (E2)
Subject: Fresno Metropolitan Water Resources Management Plan Update: Planned Groundwater Recharge Facilities

Hello, Lisa.

With this, I'm sending an advance copy of my letter to you, of this date. It contains a request for information relative to planned groundwater recharge facilities. The original will follow by delivery.

Thank you for your cooperation and assistance. If you have questions or require additional information, you are invited to contact me any time, as always.

Best Regards,
Karl

Karl E. Kienow, PE
Associate Principal

Blair, Church & Flynn
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7/30/2008