DWR EXHIBIT J

Application, File No. 45,575

EXHIBIT

DWR "J"

PENGAD 800-631-6989

F.O. 2
GMD 2
MEETS
K.A.R.5-3-1
USE ART
S 5
Co. HV
By JP
Date 7/3/03

THE STATE OF KANSAS

KANSAS DEPARTMENT OF AGRICULTURE
Jamie Clover Adams, Secretary of Agriculture

DIVISION OF WATER RESOURCES
David L. Pope, Chief Engineer

File Number 45575
This item to be completed by the Division of Water Resources.

APPLICATION FOR PERMIT TO APPROPRIATE WATER FOR BENEFICIAL USE

Filing Fee Must Accompany the Application
(Please refer to Fee Schedule attached to this application form.)

WATER RESOURCES RECEIVED
DEC 16 2003
KS DEPT OF AGRICULTURE

ASR Project DW-4

To the Chief Engineer of the Division of Water Resources, Kansas Department of Agriculture, 109 SW 9th Street, Second Floor, Topeka, KS 66612-1283:

1. Name of Applicant (Please Print): City of Wichita, Water & Sewer Dept.
   Address: 455 N. Main
   City: Wichita State KS Zip Code 67202
   Telephone Number: (316) 268-4504
2. The source of water is: ☑ surface water in Little Arkansas River (stream)
   OR ☐ groundwater in _____ (drainage basin)

   Certain streams in Kansas have minimum target flows established by law or may be subject to administration when water is released from storage for use by water assurance district members. If your application is subject to these regulations on the date we receive your application, you will be sent the appropriate form to complete and return to the Division of Water Resources.
3. The maximum quantity of water desired is 1,500 acre-feet OR _____ gallons per calendar year,
   to be diverted at a maximum rate of 1,500 gallons per minute OR _____ cubic feet per second.

   Once your application has been assigned a priority, the requested maximum rate of diversion and maximum requested quantity of water under that priority number can NOT be increased. Please be certain your requested maximum rate of diversion and maximum quantity of water are appropriate and reasonable for your proposed project and are in agreement with the Division of Water Resources' requirements.
4. The water is intended to be appropriated for (Check use intended):
   (a) ☑ Artificial Recharge (c) ☐ Irrigation Use (e) ☐ Recreational Use (g) ☐ Water Power use
   (b) ☐ Industrial Use (d) ☐ Municipal Use (f) ☐ Stockwatering Use

YOU MUST COMPLETE AND ATTACH ADDITIONAL DIVISION OF WATER RESOURCES FORM(S) PROVIDING INFORMATION TO SUBSTANTIATE YOUR REQUEST FOR THE AMOUNT OF WATER FOR THE INTENDED USE REFERENCED ABOVE.

For Office Use Only: Code REG Fee $540- TR # 04000238 Receipt Date 7-3-03 Check # 00018490

Reg

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1:07PM
JUL 03 2003

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MICROFILMED 7-15-03

308

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KS DEPT OF AGRICULTURE

File No. 45575

5. The location of the proposed wells, pump sites or other works for diversion of water is:

Note: For the application to be accepted, the point of diversion location must be described to at least a 10 acre tract, unless you specifically request 60 days in which to locate the site within a quarter section tract. Any request for an extension of time in which to locate the point of diversion shall include a contract with a well driller or a contractor for the necessary test holes.

(A) One in the NW quarter of the SE quarter of the SW quarter of Section 8, more particularly described as being near a point 1037 feet North and 3300 feet West of the Southeast corner of said section, in Township 23 South, Range 2 East/West (circle one), Harvey County, Kansas.

(B) One in the _____ quarter of the _____ quarter of the _____ quarter of Section _____, more particularly described as being near a point _____ feet North and _____ feet West of the Southeast corner of said section, in Township _____ South, Range ____ East/West (circle one), _____ County, Kansas.

(C) One in the _____ quarter of the _____ quarter of the _____ quarter of Section _____, more particularly described as being near a point _____ feet North and _____ feet West of the Southeast corner of said section, in Township _____ South, Range ____ East/West (circle one), _____ County, Kansas.

(D) One in the _____ quarter of the _____ quarter of the _____ quarter of Section _____, more particularly described as being near a point _____ feet North and _____ feet West of the Southeast corner of said section, in Township _____ South, Range ____ East/West (circle one), _____ County, Kansas.

If the source of supply is groundwater, a separate application shall be filed for each proposed well or battery of wells, except that a single application may include up to four wells within a circle with a quarter (¼) mile radius in the same local source of supply which do not exceed a maximum diversion rate of 20 gallons per minute per well and which are operated by means of submersible pumps.

A battery of wells is defined as two or more wells connected to a common pump by a manifold; or not more than four wells in the same local source of supply within a 300 foot radius circle which are being operated by pumps not to exceed a total maximum diversion rate of 800 gallons per minute and which supply water to a common distribution system.

6. The proposed project for diversion of water will consist of one bank storage well
(number of wells, pumps or dams, etc.)
and (was)(will be) completed (by) March 1, 2004.
(Month/Day/Year - each was or will be completed)

7. The first actual application of water for the proposed beneficial use was or is estimated to be 03/01/04
(Mo/Day/Year)

8. Will pesticide, fertilizer, or other foreign substance be injected into the water pumped from the diversion works?

Yes G No ✓ If "yes", a check valve shall be required.

All chemigation safety requirements must be met including a chemigation permit and reporting requirements.

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KS DEPT OF AGRICULTURE File No. 45575

9. If you are planning to impound water, please contact the Division of Water Resources for assistance, prior to submitting the application. Please attach a reservoir area capacity table and inform us of the total acres of surface drainage area above the reservoir.

Have you also made an application for a permit for construction of this dam and reservoir with the Division of Water Resources? G Yes ☒ No

! If yes, show the Water Structures permit number here _____

! If no, explain here why a Water Structures permit is not required will use bank storage well to induce river infiltration

10. The application must be supplemented by a U.S.G.S. topographic map, aerial photograph or a detailed plat showing the following information. On the topographic map, aerial photograph, or plat, identify the center of the section, the section lines or the section corners and show the appropriate section, township and range numbers. Also, please show the following information:

(a) The location of the proposed point(s) of diversion (wells, stream-bank installations, dams, or other diversion works) should be plotted as described in Paragraph No. 5 of the application, showing the North-South distance and the East-West distance from a section line or southeast corner of section.

(b) If the application is for groundwater, please show the location of any existing water wells of any kind within ½ mile of the proposed well or wells. Identify each existing well as to its use and furnish the name and mailing address of the property owner or owners. If there are no wells within ½ mile, please advise us.

(c) If the application is for surface water, the names and addresses of the landowner(s) ½ mile downstream and ½ mile upstream from your property lines must be shown.

(d) The location of the proposed place of use should be shown by crosshatching on the topographic map, aerial photograph or plat.

(e) Show the location of the pipelines, canals, reservoirs or other facilities for conveying water from the point of diversion to the place of use.

A 7.5 minute U.S.G.S. topographic map may be obtained by providing the section, township and range numbers to: Kansas Geological Survey, 1930 Constant, Campus West, University of Kansas, Lawrence, Kansas 66047.

11. List any application, appropriation of water, water right, or vested right file number that covers the same diversion points or any of the same place of use described in this application. Also list any other recent modifications made to existing permits or water rights in conjunction with the filing of this application.

Part of City of Wichita's ASR project. Well will operate only during above base flow events when river flow exceeds 42 cfs April-Sept. and 20 cfs Oct-March as measured at USGS gage at Highway 50.

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KS DEPT OF AGRICULTURE File No. 45575

12. Furnish the following well information if the proposed appropriation is for the use of groundwater. If the well has not been completed, give information obtained from test holes, if available.

Information below is from: Test holes ✓ Well as completed G Drillers log attached ✓

Well location as shown in paragraph No.	(A)	(B)	(C)	(D)
Date Drilled	08/28/02			
Total depth of well	141			
Depth to water bearing formation	11			
Depth to static water level	42			
Depth to bottom of pump intake pipe	—			

13. The relationship of the applicant to the proposed place where the water will be used is that of agent.
(owner, tenant, agent or otherwise)

14. The owner(s) of the property where the water is used, if other than the applicant, is (please print):

(name, address and telephone number)

(name, address and telephone number)

15. The undersigned states that the information set forth above is true to the best of his/her knowledge and that this application is submitted in good faith.

Dated at Wichita, Kansas, this 2nd day of July (month) 2003 (year).

(Applicant Signature)

APPLICANT(S) SOCIAL SECURITY IDENTIFICATION NUMBER(S)

By Gerald T. Blain
(Agent or Officer Signature)

48-6000653
and/or
APPLICANT(S) TAXPAYER I.D. NO.(S)

Gerald T. Blain
(Agent or Officer - Please Print)

Assisted by WATER RESOURCES RECEIVED JUL 0 3 2003 KS DEPT OF AGRICULTURE (office/title) Date:

MICROFILMED

Diversion Well No. 4
1037 ft. N. and 3,300 ft. W. of SE Corner of Sec. 8, T 23 S, R 2 W.

Diversions within 1/2 mile:

Irrigation Wells – none

Domestic Wells

D1 – Renee R. Martin
14800 NW 12th St.
Burrton, KS 67020

D2 - Steve Bayless
14903 NW. 12th St.
Burrton, KS 67020

D3 - E. Hayes
1424 Golden Prairie Rd.
Burrton, KS 67020

D4 - Lee Snell
1229 N. Golden Prairie
Burrton, KS 67020

Properties within ½ mile upstream and downstream

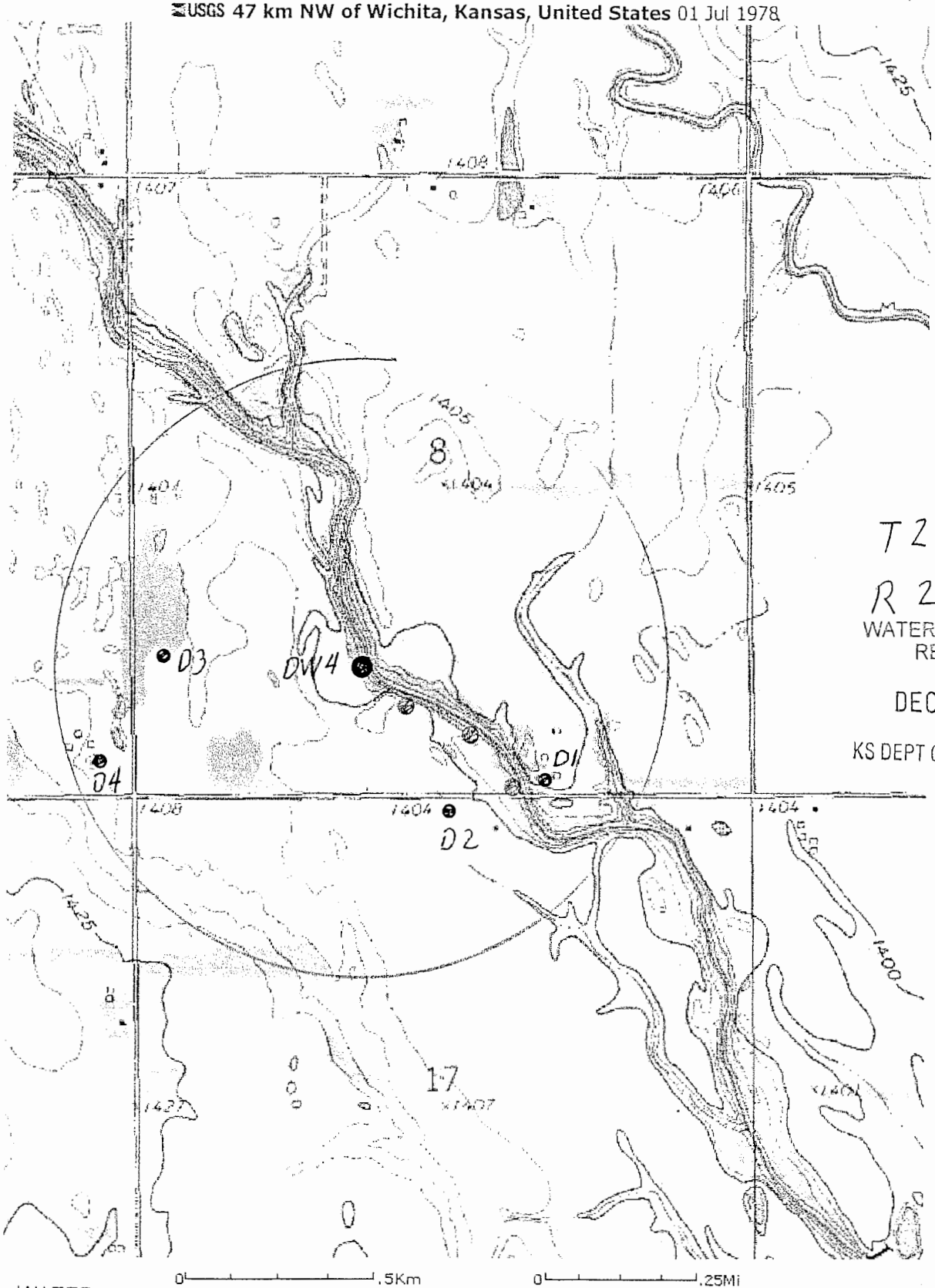
Douglas R. Unruh ✓
1715 N. Old Settlers Rd.
Halstead, KS 67056

Wilbert H. Penner
14935 NW 24th St.
Burrton, KS 67020

Ivan J. Schirer
14430 W 1st St.
Halstead, KS 67056

Send To Printer Back To TerraServer Change to 11x17 Print Size Show Grid Lines Change to Landscape

USGS 47 km NW of Wichita, Kansas, United States 01 Jul 1978



WATER RESOURCES RECEIVED
DEC 16 2003
KS DEPT OF AGRICULTURE

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JUL 03 2003
KS DEPT OF AGRICULTURE

Image courtesy of the U.S. Geological Survey

313

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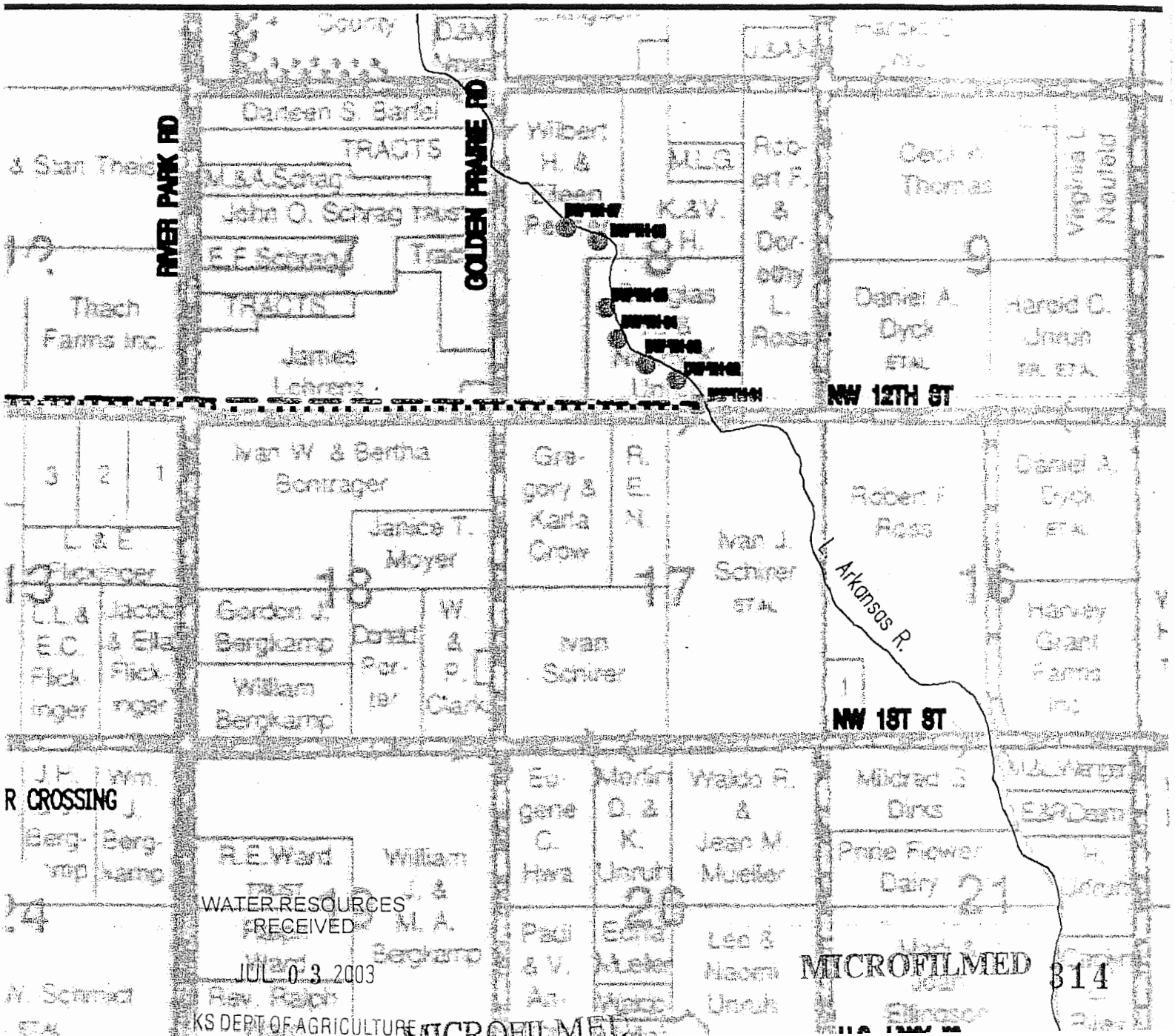

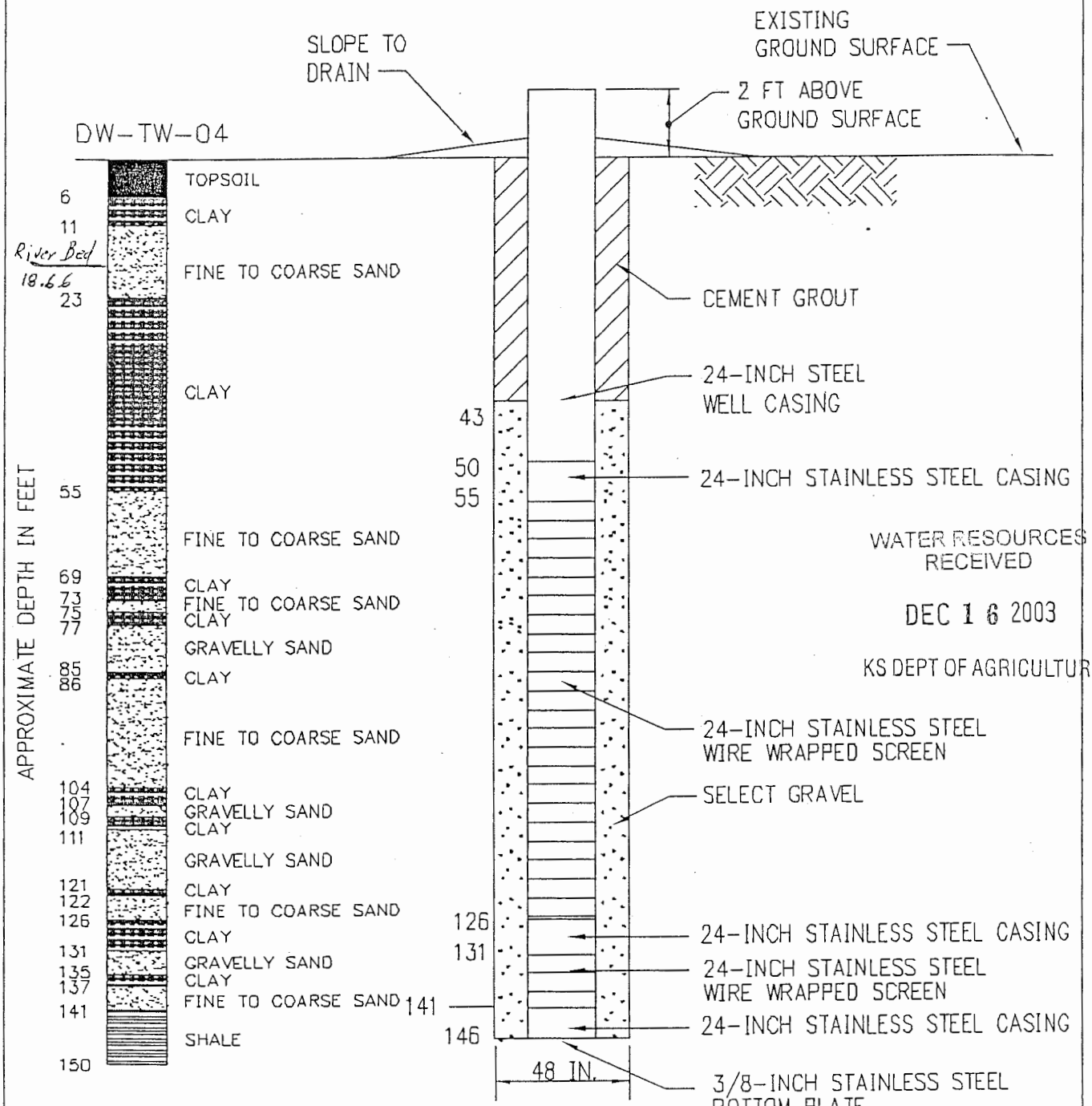

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KS DEPT OF AGRICULTURE

WATER RESOURCES RECEIVED

JUL 03 2003

KS DEPT OF AGRICULTURE

NOTE: FINAL DESIGN TO BE BASED ON PILOT HOLE FOR DIVERSION WELL.

Burns & McDonnell

CITY OF WICHITA

PRELIMINARY DESIGN
DIVERSION WELL
DW-04

315

MICROFILMED

MICROFILMED

J:\WICHI\29886 ASR-P1\diverswell04.DWG 06/11/03

MUNICIPAL (PUBLIC WATER SUPPLY) APPLICATION
SUPPLEMENTAL INFORMATION SHEET

NAME _____
(Please Print)

Application File Number
_____
(assigned by DWR)

SECTION 1: PRESENT WATER USE SUMMARY (IF NO PREVIOUS MUNICIPAL WATER USE HAS BEEN UTILIZED, PROCEED TO SECTION 3)
NOTE: WORKSHEET FOR WATER PUMPED, PURCHASED, AND SOLD BY YOUR WATER DISTRIBUTION SYSTEM.

Column 1 Raw Water Diverted Under Your Rights	Column 2 Water Purchased From All Sources	Column 3 Water Sold to Other Public Water Suppliers	Column 4 Water Sold to Your Industrial, Stock, and Bulk Customers	Column 5 Water Sold to Your Residential and Commercial Customers	Column 6 Other Metered Water	Column 7 Remaining Water Used (See Below Explanation)
TOTAL WATER = Columns 1 + 2		ACCOUNTED FOR WATER = Columns 3 + 4 + 5 + 6				UNACCOUNTED FOR WATER

UNACCOUNTED FOR WATER = TOTAL WATER - ACCOUNTED FOR WATER

Column 1: The amount of raw water diverted from all of your points of diversion.

Column 2: The amount of water purchased wholesale from all other public water supply systems or the Kansas Water Office.

Column 3: The amount of water sold wholesale to all other public water supply systems.

Column 4: The amount of water sold retail to all industrial, pasture, stockwater, feedlot, and bulk water service connections. Include the amount of water sold to all farmsteads using at least 200,000 gallons of water per year.

Column 5: The amount of water sold retail to your residential and commercial customers and to industries and farmsteads using less than 200,000 gallons of water per year.

Column 6: The amount of water used that is metered at individual service connections and supplied free, such as for public service, treatment processes, and connections receiving free water.

Column 7: The amount of remaining water used. The gallons reported in this column are found by adding the numbers in Columns 1 and 2 and subtracting the numbers in Columns 3, 4, 5, and 6.

UNACCOUNTED FOR WATER

Use the following to calculate your distribution system's Unaccounted For Water:
Start with the amount in Column 1 and add the amount in Column 2, then subtract the amounts in Columns 3, 4, 5, and 6 leaving an amount of water representing your unaccounted for water to enter in Column 7.

Use the following to calculate the percent Unaccounted For Water versus the Total Water of your system:

$$\text{Percent Unaccounted For Water} = \frac{\text{Unaccounted For Water}}{\text{Total Water (Columns 1,2)}} \times 100$$

If this number exceeds 20%, please explain the large amount of unaccounted for water and describe any steps being taken to reduce it.

SECTION 2: PAST WATER USE
COMPLETE THE FOLLOWING TABLE FROM YOUR PAST WATER USE RECORDS.

	Column 1 Raw Water Diverted Under Your Rights	Column 2 Water Purchased From All Sources	Column 3 Water Sold to Other Public Water Suppliers	Column 4 Water Sold to Your Industrial, Stock, and Bulk Customers	Column 5 Water Sold to Your Residential and Commercial Customers	Column 6 Other Metered Water	Column 7 Remaining Water Used (See Above Explanation)
20 years ago							
15 years ago							
10 years ago							
5 years ago							
	TOTAL WATER = Columns 1 + 2		ACCOUNTED FOR WATER = Columns 3 + 4 + 5 + 6				UNACCOUNTED FOR WATER

SECTION 3: PROJECTED FUTURE WATER NEEDS
PLEASE COMPLETE THE FOLLOWING TABLE SHOWING YOUR FUTURE WATER REQUIREMENTS FOR THE NEXT 20 YEARS:

	Column 1 Raw Water Diverted Under Your Rights	Column 2 Water Purchased From All Sources	Column 3 Water Sold to Other Public Water Suppliers	Column 4 Water Sold to Your Industrial, Stock, and Bulk Customers	Column 5 Water Sold to Your Residential and Commercial Customers	Column 6 Other Metered Water	Column 7 Remaining Water Used (See Explanation on other side)
Year 5							
Year 10							
Year 15							
Year 20							
	TOTAL WATER = Columns 1 + 2		ACCOUNTED FOR WATER = Columns 3 + 4 + 5 + 6				UNACCOUNTED FOR WATER

SECTION 4: POPULATION AND SERVICE CONNECTIONS
ESTIMATE THE NUMBER OF PERSONS DIRECTLY SERVED BY YOUR WATER DISTRIBUTION SYSTEM

PAST POPULATION - PROVIDE INFORMATION BELOW:
(CENSUS BUREAU INFORMATION)

LAST 20 YEARS	POPULATION
20 years ago	
15 years ago	
10 years ago	
5 years ago	
Last Year	

PROJECTED FUTURE POPULATION
ESTIMATE FUTURE POPULATION AND SUBSTANTIATE NUMBERS ON SEPARATE ATTACHMENTS

NEXT 20 YEARS	POPULATION
Year 5	
Year 10	
Year 15	
Year 20	

Provide number of current active service connections:

_____ Residential _____ Industrial _____ Other (specify) _____

_____ Commercial _____ Pasture/ Stockwater/ Feedlot _____ **Total**

SECTION 5: PRESENT GALLONS PER PERSON PER DAY
CALCULATE YOUR GALLONS PER PERSON PER DAY

Water in Columns 5,6, and 7 ÷ Population ÷ 365 Days/Year = Gallons per Person per Day

_____ ÷ _____ ÷ 365 Days/Year = _____ GALLONS PER PERSON PER DAY.

Amount of water in Columns 5,6, and 7 of Section 1

Population from Last Year of Section 4

SECTION 6: AREA TO BE SERVED

Describe the area to be served or provide the legal description of the location where the water is to be used including any other city of water supply system (i.e. Rural Water District): _____

Within the boundary of the City of Wilcox DWR/JP 7/3/03

You may attach additional information you believe will assist in informing the Division of the [illegible] for your request.

KANSAS

DEPARTMENT OF AGRICULTURE
ADRIAN J. POLANSKY, SECRETARY

KATHLEEN SEBELIUS, GOVERNOR

July 8, 2003

CITY OF WICHITA
WATER AND SEWER DEPT
455 N MAIN
WICHITA KS 67202

RE: Application
File No. 45,575

Dear Sir or Madam:

Your application for permit to appropriate water in 08-23-02 West, Harvey County, was received and has been assigned the file number noted above.

As a matter of information, the Division of Water Resources has on hand a large number of applications awaiting processing. In order to be fair to all concerned, it is our policy to process applications in the order they are received. Once review of your application has begun, we will contact you, if additional information is required.

In accordance with the provisions of the Kansas Water Appropriation Act, a portion of which is included below, the use of water as proposed prior to approval of the application is unlawful. Once approved, compliance with the terms, conditions and limitations of the permit is necessary. Conservation of the water resources of Kansas is required.

Section 82a-728 of the Kansas Water Appropriation Act, provides (a) except for the appropriation of water for the purpose of domestic use, . . . it shall be unlawful for any person to appropriate or threaten to appropriate water from any source without first applying for and obtaining a permit to appropriate water in accordance with the provisions of the Water Appropriation Act or for any person to violate any condition of a vested right, appropriation right or an approved application for a permit to appropriate water for beneficial use. (Emphasis added)

(b) (1) The violation of any provision of this section by any person is a class C misdemeanor . . .

A class C misdemeanor is punishable by a fine not to exceed $500 and/or a term of confinement not to exceed one month in the county jail. Each day that the violation occurs constitutes a separate offense.

If you have any questions, please contact our office. If you wish to discuss a specific file, please have the file number ready so that we may help you more efficiently.

Sincerely,

William J. Gilliland, L.G.
Permits Unit Head
Water Appropriation Program

WJG:zjp
pc: Stafford Field Office
Groundwater Management District No. 2

KANSAS

DEPARTMENT OF AGRICULTURE
ADRIAN J. POLANSKY, SECRETARY

KATHLEEN SEBELIUS, GOVERNOR

DOUGLAS R UNRUH
1715 N OLD SETTLERS RD
HALSTEAD KS 67056

August 11, 2003

Re: Application
File No. 45,575

Dear Mr. Unruh:

This is to advise you that the City of Wichita Water and Sewer Department has filed the application referred to above for permit to appropriate 1,500 acre-feet of surface water per calendar year from the Little Arkansas River for artificial recharge use to be diverted at a maximum rate of 1,500 gallons per minute from a location or locations as follows:

> one (1) bank storage well adjacent to the Little Arkansas River in the Northwest Quarter of the Southeast Quarter of the Southwest Quarter (NW¼ SE¼ SW¼) of Section 8, Township 23 South, Range 2 West, Harvey County Kansas.

The well is intended to capture surface water that has infiltrated into the banks of the Little Arkansas River during periods of high flows in the river. Diversion of water from the well will take place only at such times of high river flows.

Records in this office indicate that you own land along the stream in this vicinity and you are notified of receipt of this application in order that you may be fully informed of the proposed location of the applicant's point of diversion and proposed use of water. Consideration will be given to comments or other information which you desire to submit to this office within 15 days from the date of this letter.

Sincerely,

Mark D. Jennings, L. G.
Environmental Scientist
Water Appropriation Program

MDJ
pc: Stafford Field Office
City of Wichita Water & Sewer Dept.

KANSAS

DEPARTMENT OF AGRICULTURE
ADRIAN J. POLANSKY, SECRETARY

KATHLEEN SEBELIUS, GOVERNOR

WILBERT J PENNER
14935 NW 24TH ST
BURRTON KS 67020

August 11, 2003

Re: Application
File No. 45,575

Dear Mr. Penner:

This is to advise you that the City of Wichita Water and Sewer Department has filed the application referred to above for permit to appropriate 1,500 acre-feet of surface water per calendar year from the Little Arkansas River for artificial recharge use to be diverted at a maximum rate of 1,500 gallons per minute from a location or locations as follows:

> one (1) bank storage well adjacent to the Little Arkansas River in the Northwest Quarter of the Southeast Quarter of the Southwest Quarter (NW¼ SE¼ SW¼) of Section 8, Township 23 South, Range 2 West, Harvey County Kansas.

The well is intended to capture surface water that has infiltrated into the banks of the Little Arkansas River during periods of high flows in the river. Diversion of water from the well will take place only at such times of high river flows.

Records in this office indicate that you own land along the stream in this vicinity and you are notified of receipt of this application in order that you may be fully informed of the proposed location of the applicant's point of diversion and proposed use of water. Consideration will be given to comments or other information which you desire to submit to this office within 15 days from the date of this letter.

Sincerely,

Mark D. Jennings, L. G.
Environmental Scientist
Water Appropriation Program

MDJ
pc: Stafford Field Office
City of Wichita Water & Sewer Dept.

KANSAS

DEPARTMENT OF AGRICULTURE
ADRIAN J. POLANSKY, SECRETARY

KATHLEEN SEBELIUS, GOVERNOR

IVAN J SCHIRER
14430 W 1ST ST
HALSTEAD KS 67056

August 11, 2003

Re: Application
File No. 45,575

Dear Mr. Schirer:

This is to advise you that the City of Wichita Water and Sewer Department has filed the application referred to above for permit to appropriate 1,500 acre-feet of surface water per calendar year from the Little Arkansas River for artificial recharge use to be diverted at a maximum rate of 1,500 gallons per minute from a location or locations as follows:

one (1) bank storage well adjacent to the Little Arkansas River in the Northwest Quarter of the Southeast Quarter of the Southwest Quarter (NW¼ SE¼ SW¼) of Section 8, Township 23 South, Range 2 West, Harvey County Kansas.

The well is intended to capture surface water that has infiltrated into the banks of the Little Arkansas River during periods of high flows in the river. Diversion of water from the well will take place only at such times of high river flows.

Records in this office indicate that you own land along the stream in this vicinity and you are notified of receipt of this application in order that you may be fully informed of the proposed location of the applicant's point of diversion and proposed use of water. Consideration will be given to comments or other information which you desire to submit to this office within 15 days from the date of this letter.

Sincerely,

Mark D. Jennings, L. G.
Environmental Scientist
Water Appropriation Program

MDJ
pc: Stafford Field Office
City of Wichita Water & Sewer Dept.

SEE EXHIBIT L

COMMENT LETTERS RECEIVED AND DWR RESPONSES

SEE EXHIBIT M

INFORMAL SUBMISSION
CARL NUZMAN
AUGUST 7, 2003

SEE EXHIBIT N

DWR LETTER TO CITY OF WICHITA REQUESTING INFORMATION NEEDED TO COMPLETE THE APPLICATION
OCTOBER 30, 2003

SEE EXHIBITS O, P, AND Q

CITY OF WICHITA'S RESPONSE TO REQUEST FOR INFORMATION
DECEMBER 16, 2003

[DO NOT BATE-STAMP]

KANSAS

DEPARTMENT OF AGRICULTURE
ADRIAN J. POLANSKY, SECRETARY

KATHLEEN SEBELIUS, GOVERNOR

GROUNDWATER MANAGEMENT DISTRICT NO 2
313 SPRUCE ST
HALSTEAD KS 67056-1925

February 11, 2004

Re: Application File Nos.
45,567 through 45,576
Wichita ASR Project

Ladies and Gentlemen:

We are enclosing copies of the applications referred to above which appear to be in proper form.

We are delaying any further action for a period of 15 days from the date of this letter, or within any authorized extension of time, to allow you time to submit your recommendations concerning this application.

Please note that some of the technical reports submitted by the City of Wichita in support of these applications have not been included with the applications, because the District most likely already has copies of these reports. These reports include the Final Report on the Equus Beds Groundwater Recharge Demonstration Project, by Burns and McDonnell, dated April, 2000; USGS Water Resources Investigations Report 99-4250, on water quality samples taken during the demonstration project, and USGS Water Resources Investigations Report 98-4141, on water level changes in the Wichita Well Field Area, 1940-1998. A copy of data relating to the groundwater model for the ASR project has been included on a CD for your review.

Please submit your recommendations within the allotted time, or any authorized extension of time thereof. If you wish to discuss a specific file, please refer to the file number so that we may help you more efficiently.

Sincerely,

Mark D. Jennings, L. G.
Environmental Scientist
Water Appropriation Program

MDJ
Enclosure

pc: Stafford Field Office

EQUUS BEDS GROUNDWATER MANAGEMENT DISTRICT NO. 2

313 SPRUCE • HALSTEAD, KANSAS 67056-1925 • equusbed@ink.org • VOICE (316) 835-2224 • FAX (316) 830-2210

February 13, 2004

David L. Pope, Chief Engineer
Division of Water Resources
Kansas Department of Agriculture
109 S.W. 9th Street, Second Floor
Topeka, Kansas 66612-1283

Re: Application Nos. 45,567 through 45,576 – City of Wichita

Dear Mr. Pope:

The Equus Beds Groundwater Management District No. 2, on February 12, 2004, received the referenced applications for the City of Wichita aquifer storage and recovery project.

Due to the unique conditions of the applications, the District requests that the time to review the applications and provide recommendations be extended 120 days from the date of this letter. The extension will permit the Board of Directors to review the applications at its next available public meeting.

Should you have any questions, please contact me.

Sincerely,
EQUUS BEDS GROUNDWATER
MANAGEMENT DISTRICT NO. 2

Michael T. Dealy, L. G.
Manager

MTD/DRK/rk

pc: Gerald T. Blain, City of Wichita
John F. and Ileen L. Weber
Edward J. Weber
Dick Van Wye
Ronald and Sharon Neuway
Edward W. Combs
Equus Beds Groundwater Management District Board of Directors

EQUUS BEDS GROUNDWATER MANAGEMENT DISTRICT NO. 2

313 SPRUCE • HALSTEAD, KANSAS 67056-1925 • equusbed@ink.org • VOICE (316) 835-2224 • FAX (316) 830-2210

May 13, 2004

David L. Pope, Chief Engineer
Division of Water Resources
Kansas Department of Agriculture
109 S.W. 9th Street, Second Floor
Topeka, Kansas 66612-1283

Re: Application Nos. 45,567 through 45,576 – City of Wichita

Dear Mr. Pope:

The Equus Beds Groundwater Management District Board of Directors, at its May 11, 2004, meeting discussed the proposed review of the referenced water appropriation applications for the City of Wichita aquifer storage and recovery project.

It was the consensus of the Board to request an extension of time to review the proposed applications, to allow additional time for application review by its consultant and to establish a time and location for the public meeting.

Based upon the Board's decision, the District requests that the time to review the applications and provide recommendations be extended an additional 90 days.

Should you have any questions, please contact me.

Sincerely,
EQUUS BEDS GROUNDWATER
MANAGEMENT DISTRICT NO. 2

Michael T. Dealy, L. G.
Manager

MTD/DRK/rk

pc: Gerald T. Blain, City of Wichita
John F. and Ileen L. Weber
Edward J. Weber
Dick Van Wye
Ronald and Sharon Neuway
Edward W. Combs
Equus Beds Groundwater Management District Board of Directors

KANSAS

DEPARTMENT OF AGRICULTURE
ADRIAN J. POLANSKY, SECRETARY

KATHLEEN SEBELIUS, GOVERNOR

June 7, 2004

GROUNDWATER MANAGEMENT DISTRICT NO 2
313 SPRUCE ST
HALSTEAD KS 67056-1925

Re: Application File Nos.
45,567 through 45,576
Wichita ASR Project

Ladies and Gentlemen:

In response to your request, dated May 13, 2004, for an extension of time to review and submit recommendations regarding the referenced applications, the Chief Engineer has approved an extension of time until August 13, 2004.

For your information, the Division of Water Resources is currently in the planning process for setting up formal hearings on these applications, as required by K.A.R. 5-12-3. A tentative date for a pre-hearing conference has been scheduled for August 31, 2004

Please submit your recommendations within the allotted time, or any authorized extension of time thereof. If you wish to discuss the extension of time or the formal hearing process, please contact this office.

Sincerely,

Thomas L. Huntzinger, P. E.
Water Appropriation Program Manager

TLH:mdj

pc: Stafford Field Office

EQUUS BEDS GROUNDWATER MANAGEMENT DISTRICT NO. 2

313 SPRUCE • HALSTEAD, KANSAS 67056-1925 • equusbed@ink.org • VOICE (316) 835-2224 • FAX (316) 830-2210

August 12, 2004

David L. Pope, Chief Engineer
Division of Water Resources
Kansas Department of Agriculture
109 S.W. 9th Street, Second Floor
Topeka, Kansas 66612-1283

Re: Application Nos. 45569 through 45575 – City of Wichita

Dear Mr. Pope:

The referenced applications were reviewed by the Equus Beds Groundwater Management District pursuant to K.A.R. 5-22-12. The applications were reviewed using the District's Revised Management Program (effective May 1, 1995), and Rules and Regulations K.A.R. 5-22-1 through 5-22-12. Copies of the District's Application Review Information reports and the independent consultant's project report are enclosed for your information.

Additionally, a draft copy of the proposed Memorandum of Understanding (MOU) between the District and the applicant has been enclosed. The District Board of Directors and the City of Wichita have conditionally agreed to the terms of the MOU, and a copy of the signed agreement shall be submitted to the Division by September 15, 2004.

Based upon the review findings, the provisions of the proposed MOU, and comments from the Board of Directors, the applicant and the public, the District recommends the applications for approval with each application subject to conditions that:

1) the withdrawal well is equipped with a water meter pursuant to K.A.R. 5-22-4(a);

2) the operation of the withdrawal wells shall not impair existing water rights nor prejudicially affect the public interest;

3) the proposed bank storage well is positioned at a location within 300 feet of the centerline of the Little Arkansas River channel;

4) The diverted bank storage water must comply with the source water regulation K.A.R. 5-1-1(sss);

5) the withdrawal well shall operate only during bank storage events in the Little Arkansas River, as determined by measured river flow and evidence correlating the increase of river stage to the increase of water level in the bank storage well or adjacent monitoring well;

6) bank storage, for the purpose of permit conditions, is limited to flows in the Little Arkansas River equal to or greater than 20 cfs during the months of October through March, and 57 cfs during the months of April through September;

7) streamflow data collected from the USGS gage at Highway 50 (Halstead) shall be used to determine flow conditions and bank storage well utilization and shall be based on stream flow adjusted for intervening base flow nodes and currently existing surface water rights;

TRICT NO. 2

AX (316) 830-2210

g well network is completed at the bank storage pump site as shown on Attachment l include existing monitoring well sites IW03, EB143 and EB144;

ing wells are drilled and completed at depths correlating to the upper and lower he aquifer for water sample collection, water level measurements and testing

ty analyses shall be completed at the applicant's expense for samples collected mestic wells located within one-quarter mile of the proposed bank storage well, b) ed withdrawal well, and 3) all monitoring wells located at the bank storage diversion olish baseline ambient groundwater quality prior to bank storage withdrawal;

of surface water induced into the river bank shall not degrade the ambient r quality in the bank storage withdrawal area;

ter shall meet or exceed the minimum drinking water standards specified by the partment of Health and Environment for artificial recharge;

nt conduct aquifer pump testing to determine the well's capture zone, the hydraulic between the aquifer's upper and lower zones at the well site, and submit said data sults to the Division of Water Resources and the District within a specified time

nall be pumped from the lower unit of the aquifer, if determined by the Division of ources and the District that a hydraulic connection does not exist between the per and lower zones;

e findings and conclusions of the Division of Water Resources and the District, the tructed to allow only withdrawal of bank storage water;

wn limit in any zone, shallow or deep, will not exceed ten (10) feet at a distance 660 e point of diversion on either side of the Little Arkansas River;

n days after the pumping of all bank storage wells has ceased, the water level in storage well, or monitoring well located within 100 feet of the bank storage well, will n elevation equal to or greater than the water level elevation immediately before the e well began to pump, adjusted for any regional groundwater level changes not umping of the bank storage well;

/ occurring and artificially induced rate of infiltration from the bed and banks of the n bank storage is occurring will be sufficient to meet the following conditions: a) xceed the authorized rate of diversion of all bank storage wells, b) prevent caused by all bank storage wells, and c) prevent groundwater mining caused by all e wells;

mping rate of the seven bank storage wells shall not exceed a maximum of 7,000 minute;

all not be operated during baseflow conditions, and operation of the bank storage subject to measured streamflow at the Highway 50 (Halstead) gage equal to 57 cfs horized rate of the bank storage withdrawal well. Further, the operation of the well ined with the maximum authorized rate of 7,000 gallons per minute for all seven e wells is subject to measured streamflow at the Highway 50 (Halstead) gage exceeding 72.61 cfs;

nt shall submit a water level and water quality monitoring plan for review and GMD2 and approval by the Chief Engineer, DWR;

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22) the water quality monitoring shall provide necessary chemical, physical, radiological and biological data, and include but not be limited to continuous monitoring of specific conductance, PH, turbidity, dissolved oxygen, and temperature;

23) water level monitoring at the bank storage site shall be automated with a frequency not to exceed six hours;

24) the applicant shall submit a well field operation, monitoring and reporting plan for review and comment by GMD2 and approval by the Chief Engineer, DWR;

25) the operational plan shall include utilization of monitoring wells and the stream flow monitoring gage in an automated system; and

26) bank storage diversion quantities, aquifer injection quantities, water level data and water quality analyses are reported to the Division of Water Resources and the District each month for the 1st year of operation, each calendar quarter for the 2nd year of operation, and annually thereafter by March 1, of each year.

Please contact me should there be any question regarding the District's findings or recommendation.

A District decision may be appealed to the District Board of Directors by submitting a written petition to the District office within 30 days from date of this notification, pursuant to K.A.R. 5-22-12.

Sincerely,
EQUUS BEDS GROUNDWATER
MANAGEMENT DISTRICT NO. 2

Michael T. Dealy, L. G.
Manager

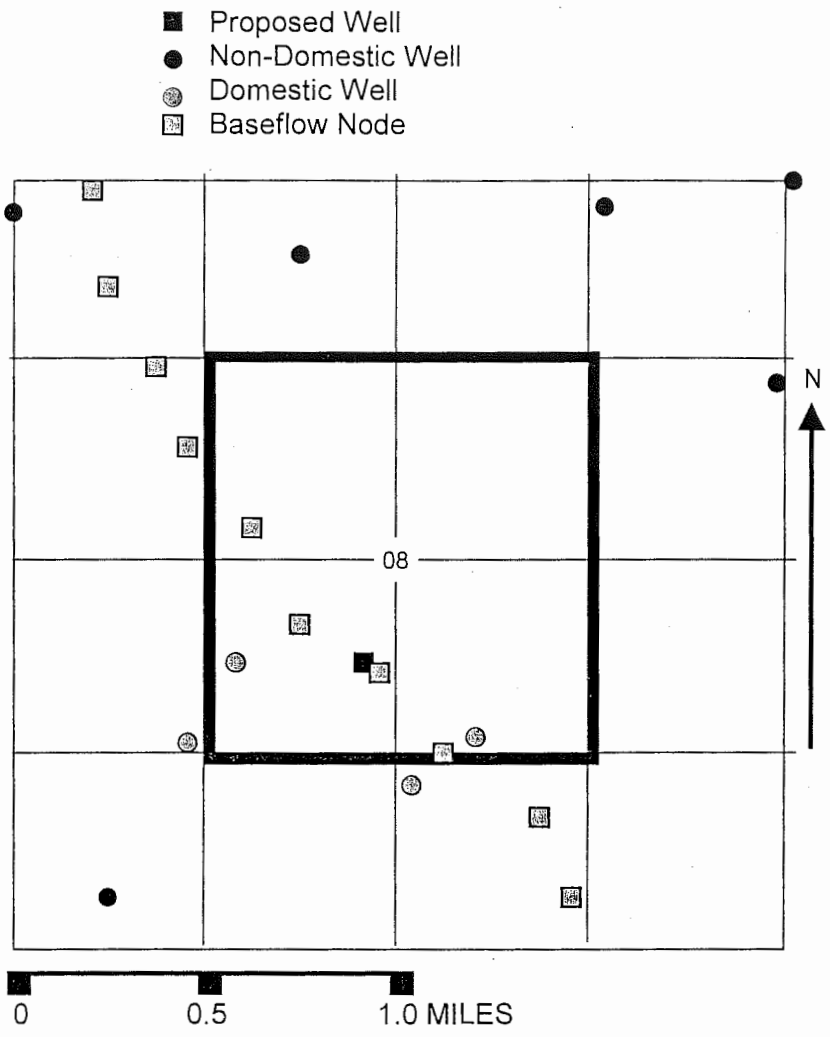
MTD/DRK/rk
Enclosures

pc: David Warren, City of Wichita
John F. and Ileen L. Weber
Edward J. Weber
Ronald and Sharon Neuway
Edward W. Combs
Dick Van Wye
Equus Beds Groundwater Management District Board of Directors

APPLICATION REVIEW INFORMATION

NAME CITY OF WICHITA
ADDRESS 455 N. MAIN STREET
WICHITA, KS 67202

APPLICATION NO. 45575
APPL. NEW
COUNTY HARVEY TRACT SW-SW-SE
WELL LOCATION S 8 T 23 R 2 W
QUANT 1500 AF RATE 1500 GPM
WELL SPACING D=1660', ND>2640'
BASEFLOW NODE SPACING <1320'



ISSUE: The application was filed for a bank storage well for the City of Wichita's Aquifer Storage and Recovery system. The applicant proposes to pump water temporarily stored in the banks and bed of the Little Arkansas River during above-baseflow stage, and recharge it into the Equus Beds aquifer.

BACKGROUND INFORMATION:

JUL 3, 2003 - The applicant filed application no. 45575 for permit to withdraw water for artificial recharge use as part of the Aquifer Storage and Recovery system. The application proposes the diversion of 1,500 AF/Y at a maximum diversion rate of 1,500 GPM, from a proposed bank storage well located in the Northwest quarter of the Southeast quarter of the Southwest quarter of Section 8, Township 23 South, Range 2 West, Harvey County. The proposed well location is more specifically described as being 1,037 feet north and 3,300 feet west of the southeast corner of said section (figures 1 and 2).

FEB 11, 2004 - DWR requested that the District review the application and make recommendations.

FEB 13, 2004 - The District requested an extension of time to submit recommendations on the application to allow review of the application by the Board of Directors. It was requested that

the time to provide recommendations be extended for 120 days. Copies of the extension request were submitted to the applicant and parties of interest who submitted letters of concern.

MAY 13, 2004 – It was the consensus of the Board of Directors at the May 11, 2004, meeting, that an additional 90-day extension be requested from the Chief Engineer, DWR, to provide recommendations. The additional time would allow for application review by the Board's consultant and the scheduling of a public meeting. Copies of the May 13, 2004, extension request were submitted to the applicant and parties of interest who submitted letters of concern to DWR regarding the proposed applications.

JUN 7, 2004 – The DWR approved an extension of time until August 13, 2004, to allow additional time for application review and recommendation.

FINDINGS: Application no. 45575 for groundwater withdrawal is subject to the Aquifer Management Program and District Standards and Policies, effective May 1, 1995, and Rules and Regulations K.A.R. 5-22-1 through K.A.R. 5-22-12.

Application no. 45575 is subject to the installation of a water flowmeter in accordance with District Metering Regulation K.A.R. 5-22-4a.

The proposed use of water was for artificial recharge. Artificial recharge is defined by K.A.R. 5-1-1(g), as the use of source water to artificially replenish the water supply in an aquifer. Source water by definition K.A.R. 5-1-1(sss), must meet the following conditions:

1. Is available for appropriation for beneficial use;
2. Is above baseflow stage in the stream;
3. Is not needed to satisfy minimum desirable streamflow requirements; and
4. Will not degrade the ambient groundwater quality in the basin storage area.

The proposed source water for the applicant's artificial recharge use in the aquifer storage and recovery system, is bank storage water to be diverted from a proposed well located in the NW-SE-SW of Section 8, Township 23 South, Range 2 West (figure 2).

The proposed bank storage well is one of seven proposed bank storage wells located in Section 8. The bank storage withdrawal wells are identified by the applicant as DW-1 through DW-7, and proposed under application nos. 45569, 45570, 45571, 45572, 45573, 45574 and 45575 (figures 2 and 3).

Bank storage by definition K.A.R. 5-1-1(i), means water absorbed by and temporarily stored in the banks and bed of a stream during above-baseflow stage. Upon the river's flow reduction, the bank storage water discharges naturally back to the river. The applicant's proposed bank storage well site is located near the west bank of the Little Arkansas River (figures 2 and 3).

The proposed bank storage well shall be utilized only when river flow exceeds 42 cubic feet per second (cfs) from April through September, and 20 cfs from October through March, as measured at the United States Geological Survey (USGS) gage located at Highway 50 near Halstead (figure 1).

The 42 cfs value was derived by adding a 10.8 cfs baseflow value to the existing senior surface water appropriations downstream from the proposed site. Total maximum rate of diversion for those appropriations is approximately 31 cfs.

Twenty cfs is the Minimum Desirable Streamflow (MDS) established by the Chief Engineer (K.S.A. 82a-703c.) for Valley Center. The established MDS for the Alta Mills stream gage site is eight cfs.

The minimum flow restrictions would constitute above-baseflow conditions in response to a significant runoff event when water level elevation of the stream is greater than the elevation of the adjacent water table of the aquifer.

The proposed quantity of 1,500 AF/Y, to be diverted at a maximum rate of 1,500 GPM, would allow the withdrawal of water for a maximum period of 226 days, when bank storage conditions are met. The applicant filed applications for a total of seven bank storage wells, five with proposed rates of 1,200 GPM, and two with proposed rates of 1,500 GPM.

The District Board of Directors, by approved motion recommended to the Chief Engineer, DWR, revisions of Article 22. The proposed changes included a provision to Safe Yield regulation 5-22-7, stipulating that applications not subject to the Safe Yield Regulation shall include applications for bank storage wells, only to the extent that the wells are withdrawing bank storage water.

Under the proposed application only bank storage water would be withdrawn. The existing groundwater at and below baseflow level would not be diminished. As a result, the aquifer's safe yield balance would not be affected.

The application complies with Well Spacing Regulation K.A.R. 5-22-2, as the types of wells not subject to the well spacing regulation under provision (e)(2) include bank storage wells. Bank storage withdrawal can only occur during periods when above baseflow conditions exist. As a result, drawdown impairment of existing wells or baseflow would not occur.

The Division of Water Resources advised that no responses were received from the well owners and landowners contacted within one-half mile of the proposed well site.

The application complies with the Reclamation and Recycling Policy 9007.6, which provides that groundwater users are encouraged to:

a. anticipate future water demands and needs;

b. assess options for development of new water supplies;

c. embrace a philosophy that the groundwater user has a responsibility to maintain, manage and restore groundwater resources;

d. endeavor to initiate cooperative water reclamation and supply projects using water which has been treated, purified and reclaimed to recharge or store to meet future water supply needs;

e. embrace the concept of continual recycling of usable water; and

f. cooperate with the District to investigate means to supplement groundwater resources by improving recharge, preventing its deterioration and seeking means to import water.

Hydrologic and geologic data indicate that depth to bedrock is approximately 141 feet below land surface (bls). Depth to water is approximately 5 feet bls and saturated thickness 136 feet. Regional groundwater flow direction at the proposed well site is southeast.

The lithologic log of the proposed well site indicates that the aquifer is comprised of alternating sand and thin clay layers, with shale encountered at 141 feet (figure 4). The log indicated that a 32 feet thick clay unit exists at a depth of 23 to 55 feet bls. The horizontal extent and continuity of the clay unit was not determined.

Water level data has been recorded by the District at groundwater monitoring site IW03 located approximately 0.4 mile southwest of the proposed well site (figure 3). Water levels recorded at the site during the period of record from October 2001 to April 2004 (figure 5), ranged from 5.99 to 16.49 feet bls in IW03A (total depth 34 feet), and from 9.03 to 22.53 feet bls in IW03C (total depth 138 feet). The IW03C lithologic log reported that depth to bedrock was 166 feet bls.

IW03 water level data (figure 5) indicated that a head difference ranging from approximately 1 to 6 feet existed between the upper zone (A well) and the lower zone (C well). The water levels in both zones exhibited similar responses to water table fluctuations, indicating a hydraulic connection. The fluctuation responses indicated leakage occurrence from the upper zone to the lower zone. Pumping effects exhibited in the lower zone also affected water levels in the upper zone. The correlation between the data sets indicated that the clay unit separating the two zones is not continuous throughout the area.

The application's proposed well depth is 141 feet bls (figure 4), with a proposed screen interval from 55 to 141 feet bls. The well is proposed to be screened in the lower portion of the aquifer below the clay unit located from 23 to 55 feet bls. The applicant proposes to utilize a 24-inch diameter well casing and screen.

The hydraulic connection from the streambed and banks to each bank storage well must be sufficient to transmit bank storage water from the bed and banks of the stream to each bank storage well at a rate sufficient to sustain the authorized rage of diversion of the well.

The naturally occurring and artificially induced rate of infiltration from the bed and banks of the stream when bank storage is occurring must be sufficient to meet the following conditions: a) equal or exceed the authorized rate of diversion of all bank storage wells, b) prevent impairment caused by all bank storage wells, and c) prevent groundwater mining caused by all bank storage wells.

The applicant proposes to install observation wells for groundwater level and water quality monitoring at the site. The quantity and quality of source water diverted at the site will be monitored.

STAFF RECOMMENDATIONS:

Based on data submitted by the applicant and District findings, staff recommends that the application be approved subject to additional conditions that:

1) the withdrawal well is equipped with a water meter pursuant to K.A.R. 5-22-4(a);
2) the operation of the withdrawal wells shall not impair existing water rights nor prejudicially affect the public interest;
3) the proposed bank storage well is positioned at a location within 300 feet of the centerline of the Little Arkansas River channel;
4) the diverted bank storage water must comply with the source water regulation K.A.R. 5-1-1(sss);
5) the withdrawal well shall operate only during bank storage events in the Little Arkansas River, as determined by measured river flow and evidence correlating the increase of river stage to the increase of water level in the bank storage well or adjacent monitoring well;

6) bank storage, for the purpose of permit conditions, is limited to flows in the Little Arkansas River equal to or greater than 20 cfs during the months of October through March, and 57 cfs during the months of April through September;

7) streamflow data collected from the USGS gage at Highway 50 (Halstead) shall be used to determine flow conditions and bank storage well utilization and shall be based on stream flow adjusted for intervening base flow nodes and currently existing surface water rights;

8) a monitoring well network is completed at the bank storage pump site as shown on Attachment A, and shall include existing monitoring well sites IW03, EB143 and EB144;

9) the monitoring wells are drilled and completed at depths correlating to the upper and lower zones of the aquifer for water sample collection, water level measurements and testing purposes;

10) water quality analyses shall be completed at the applicant's expense for samples collected from: a) domestic wells located within one-quarter mile of the proposed bank storage well, b) the proposed withdrawal well, and 3) all monitoring wells located at the bank storage diversion site to establish baseline ambient groundwater quality prior to bank storage withdrawal;

11) the quality of surface water induced into the river bank shall not degrade the ambient groundwater quality in the bank storage withdrawal area;

12) storage water shall meet or exceed the minimum drinking water standards specified by the Kansas Department of Health and Environment for artificial recharge;

13) the applicant conduct aquifer pump testing to determine the well's capture zone, the hydraulic connection between the aquifer's upper and lower zones at the well site, and submit said data and test results to the Division of Water Resources and the District within a specified time period;

14) no water shall be pumped from the lower unit of the aquifer, if determined by the Division of Water Resources and the District that a hydraulic connection does not exist between the aquifer's upper and lower zones;

15) based on the findings and conclusions of the Division of Water Resources and the District, the well is constructed to allow only withdrawal of bank storage water;

16) the drawdown limit in any zone, shallow or deep, will not exceed ten (10) feet at a distance 660 feet from the point of diversion on either side of the Little Arkansas River;

17) within seven days after the pumping of all bank storage wells has ceased, the water level in each bank storage well, or monitoring well located within 100 feet of the bank storage well, will recover to an elevation equal to or greater than the water level elevation immediately before the bank storage well began to pump, adjusted for any regional groundwater level changes not caused by pumping of the bank storage well;

18) the naturally occurring and artificially induced rate of infiltration from the bed and banks of the stream when bank storage is occurring will be sufficient to meet the following conditions: a) equal or exceed the authorized rate of diversion of all bank storage wells, b) prevent impairment caused by all bank storage wells, and c) prevent groundwater mining caused by all bank storage wells;

19) the total pumping rate of the seven bank storage wells shall not exceed a maximum of 7,000 gallons per minute;

20) the well shall not be operated during baseflow conditions, and operation of the bank storage well shall be subject to measured streamflow at the Highway 50 (Halstead) gage equal to 57 cfs plus the authorized rate of the bank storage withdrawal well. Further, the operation of the well when combined with the maximum authorized rate of 7,000 gallons per minute for all seven bank storage wells is subject to measured streamflow at the Highway 50 (Halstead) gage equaling or exceeding 72.61 cfs;

21) the applicant shall submit a water level and water quality monitoring plan for review and comment by GMD2 and approval by the Chief Engineer, DWR;

22) the water quality monitoring shall provide necessary chemical, physical, radiological and biological data, and include but not be limited to continuous monitoring of specific conductance, PH, turbidity, dissolved oxygen, and temperature;

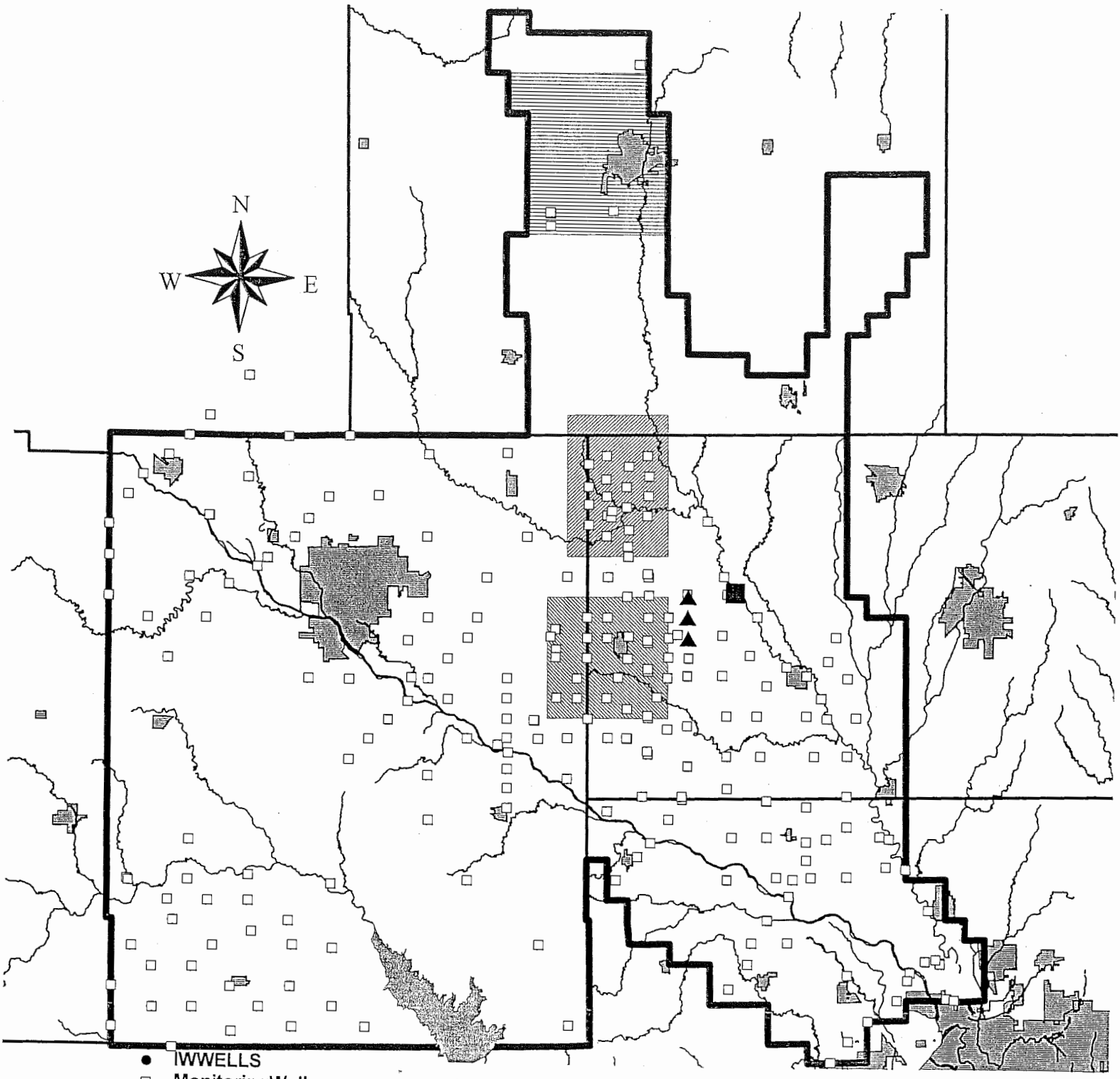
23) water level monitoring at the bank storage site shall be automated with a frequency not to exceed six hours;

24) the applicant shall submit a well field operation, monitoring and reporting plan for review and comment by GMD2 and approval by the Chief Engineer, DWR;

25) the operational plan shall include utilization of monitoring wells and the stream flow monitoring gage in an automated system; and

26) bank storage diversion quantities, aquifer injection quantities, water level data and water quality analyses are reported to the Division of Water Resources and the District each month for the 1st year of operation, each calendar quarter for the 2nd year of operation, and annually thereafter by March 1, of each year.

Figure 1. - Equus Beds Groundwater Management District No. 2 Aquifer Storage and Recovery Project Map July 13, 2004



- IWWELLS
- MonitoringWells
- Cheney Reservoir
- Counties
- District Boundary

Streams
- Major Stream
- Cities

Special Use Areas
- BURRTON IGUCA
- MCPHERSON IGUCA
- SWQUA

▲ Application for Proposed Aquifer Recharge and Recovery Well

■ Applications for 7 Proposed Bank Storage Withdrawal Wells

335

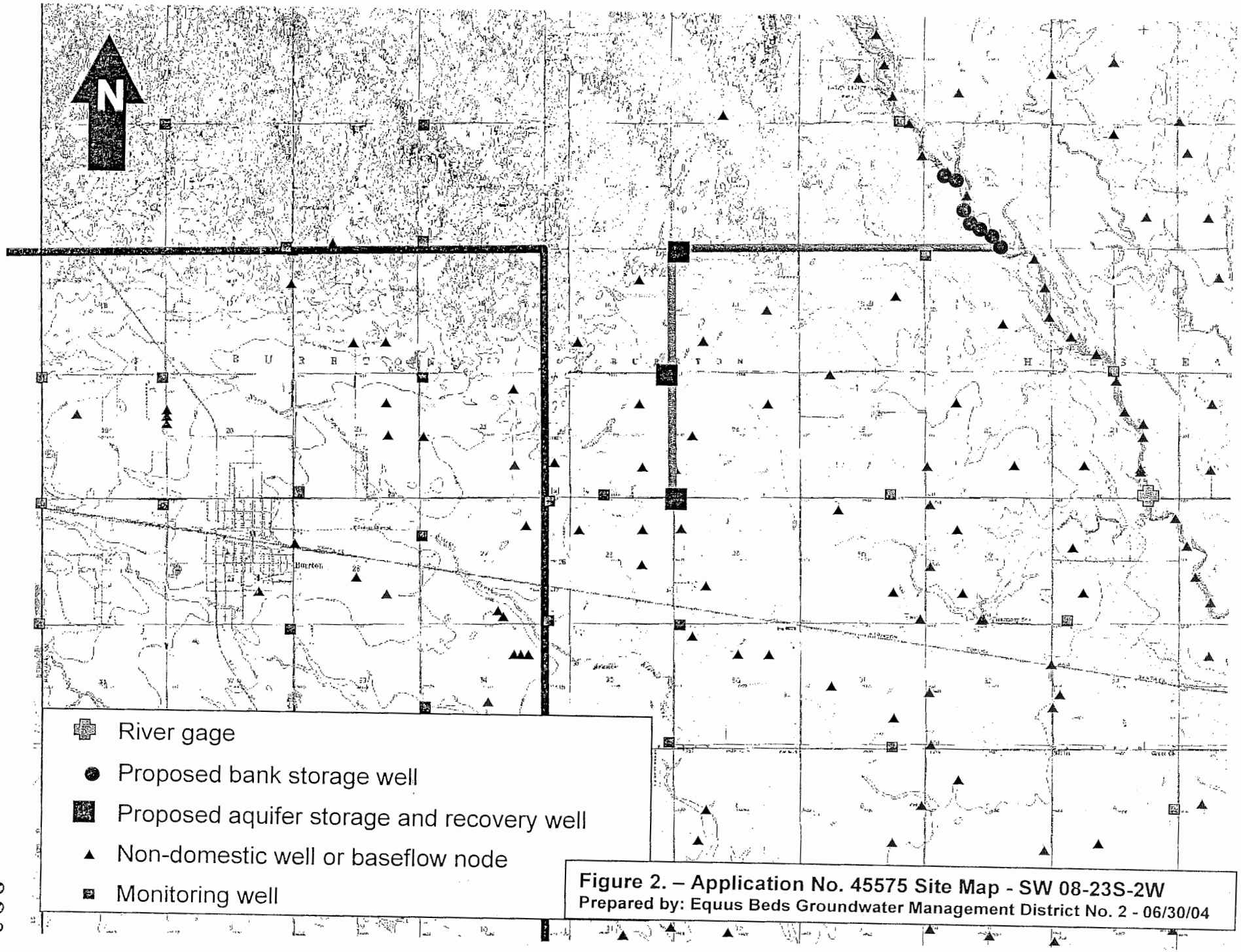


Figure 2. – Application No. 45575 Site Map - SW 08-23S-2W
Prepared by: Equus Beds Groundwater Management District No. 2 - 06/30/04

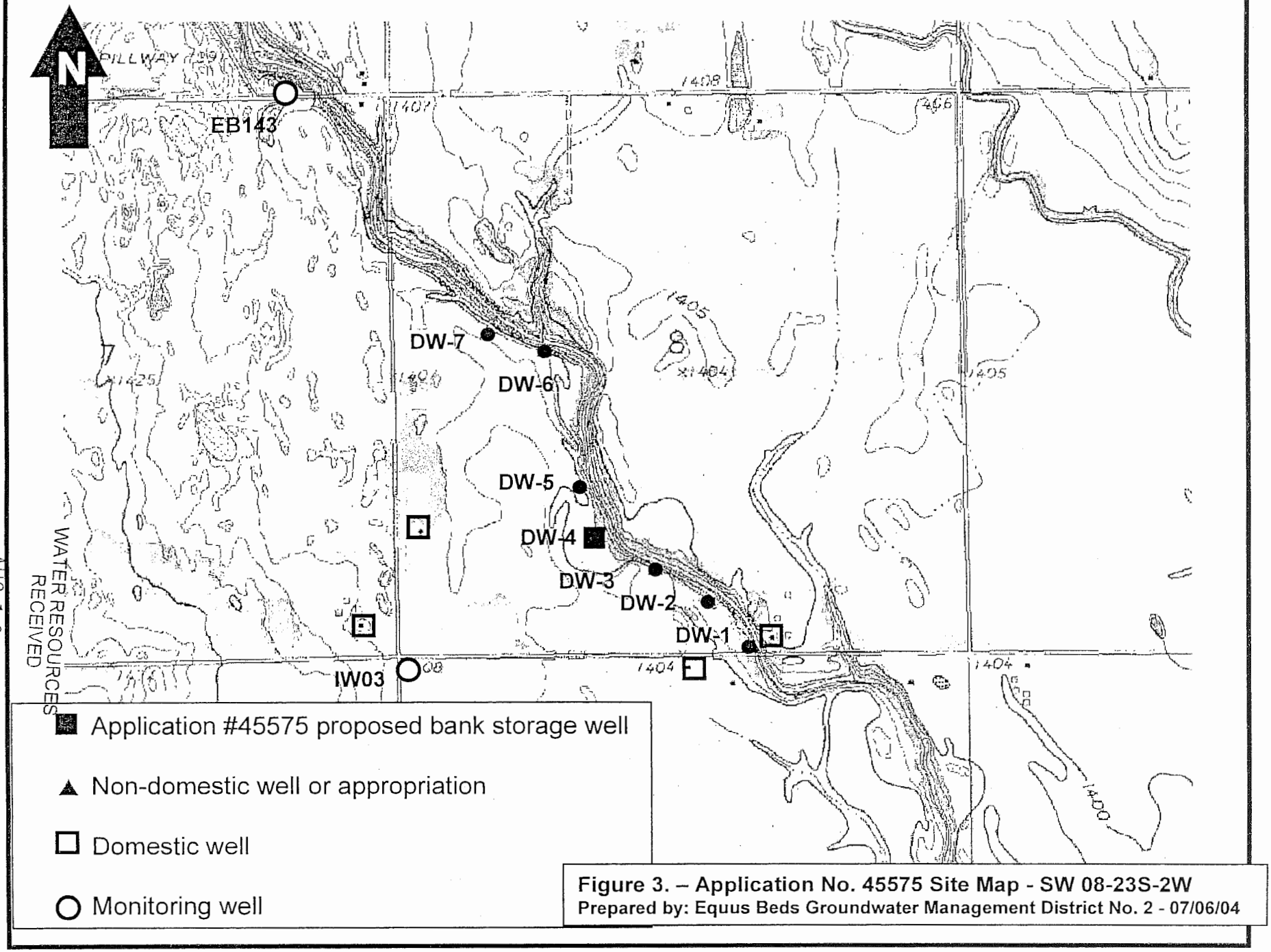


Figure 3. – Application No. 45575 Site Map - SW 08-23S-2W
Prepared by: Equus Beds Groundwater Management District No. 2 - 07/06/04

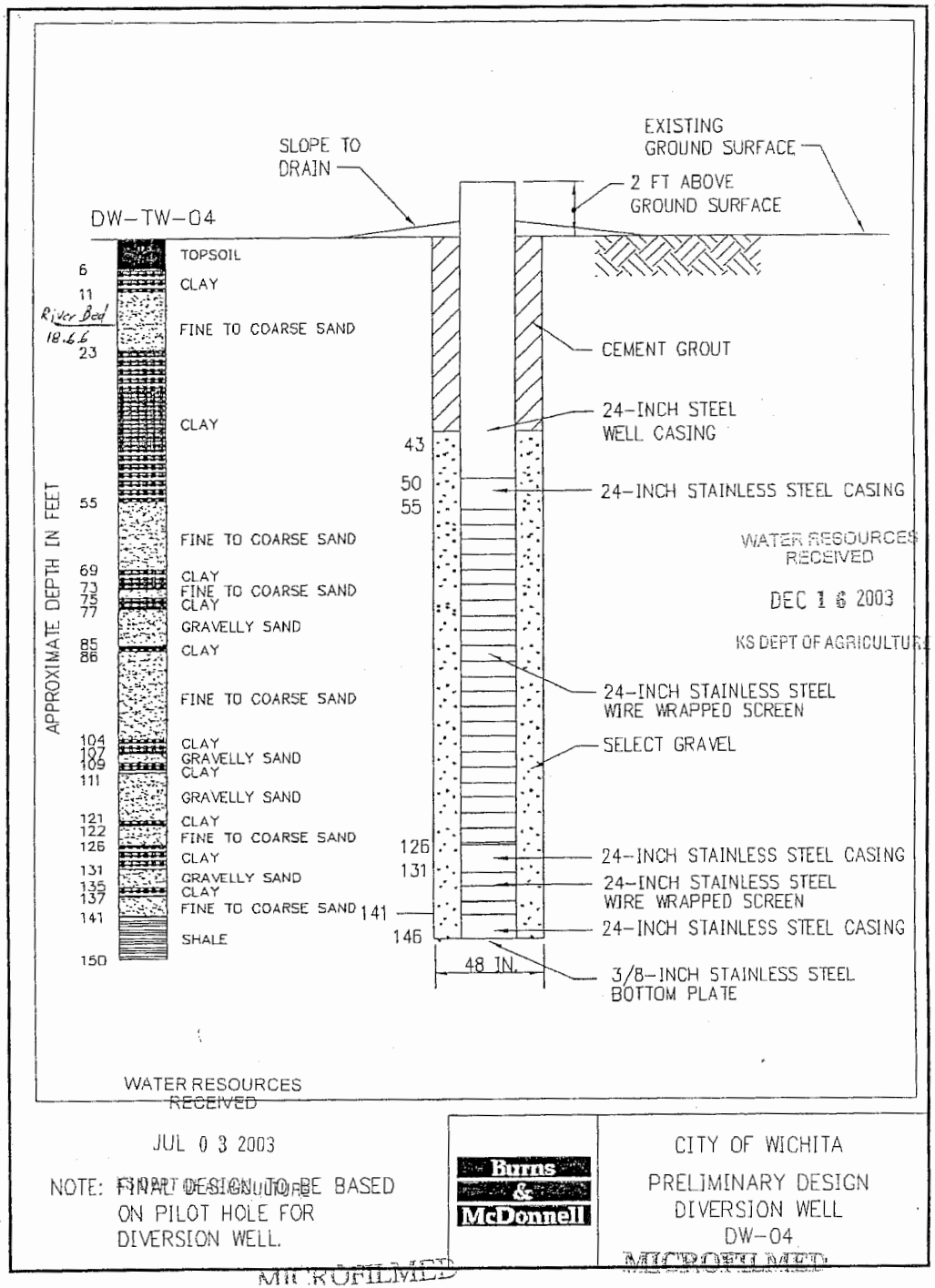
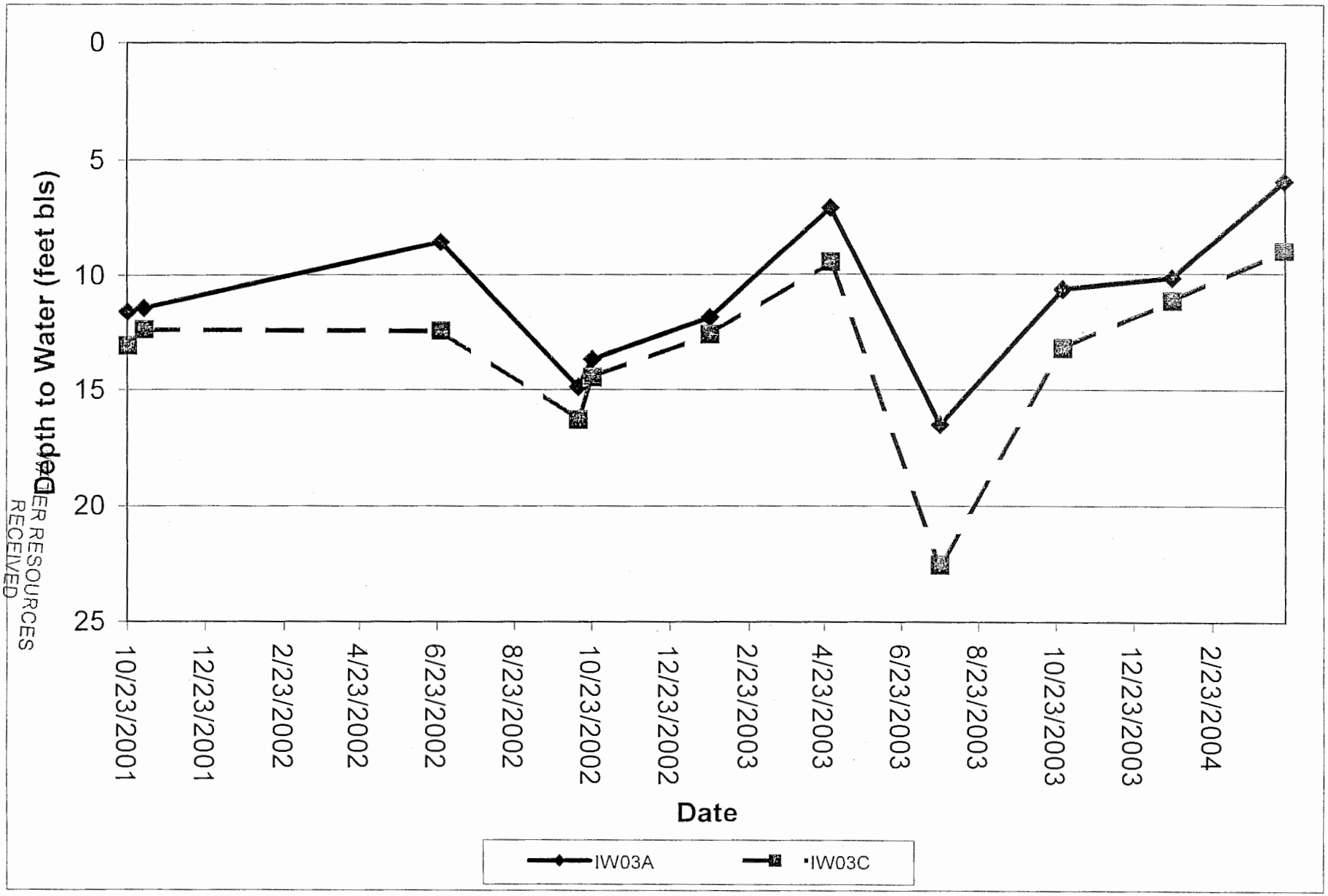


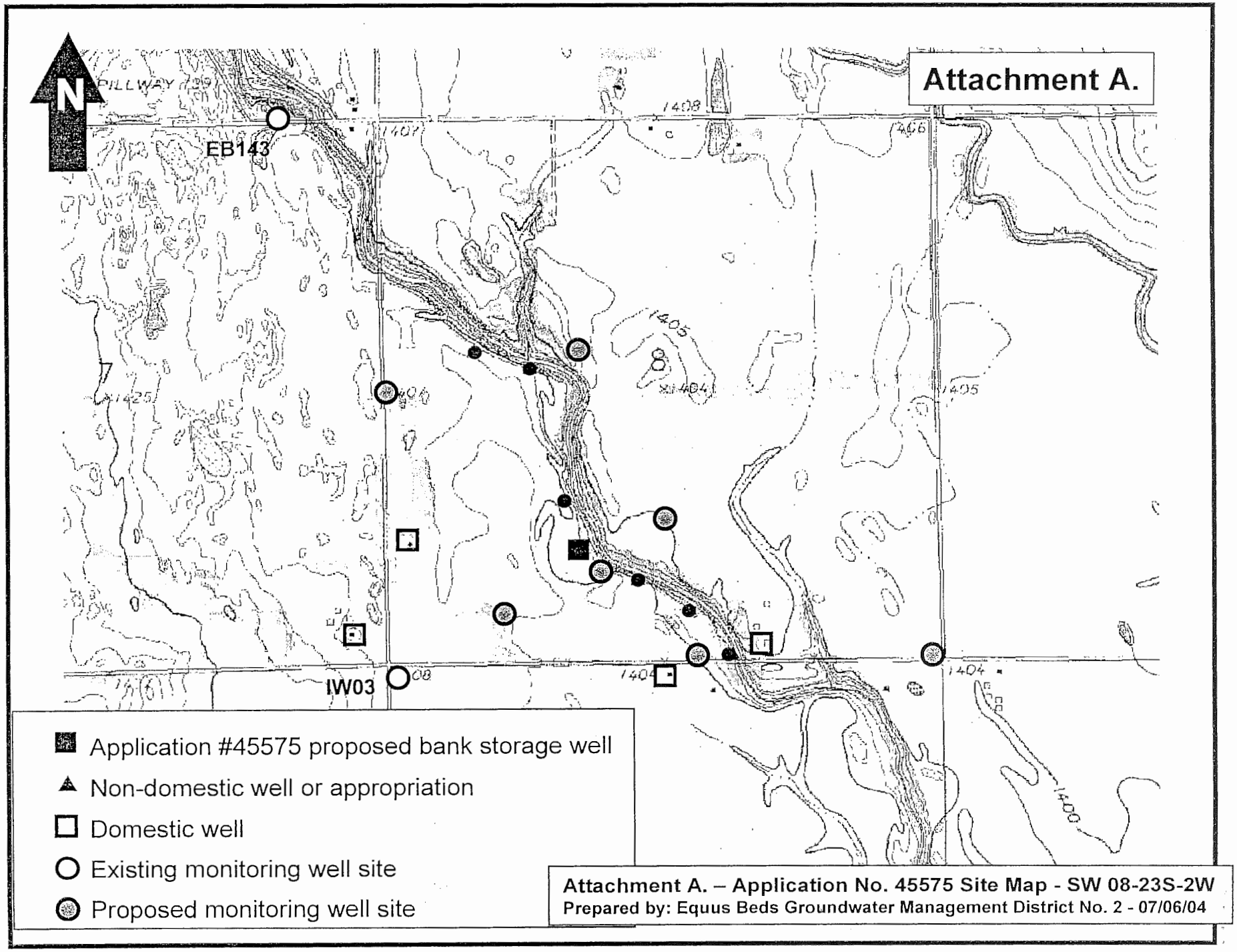
Figure 4. – Application No. 45575 Lithologic Log and Construction Design for Bank Storage Well

Groundwater Monitoring Site IW03
NW-NW-NW Sec. 17, T23S, R2W



IW03A Depth = 34 feet
IW03C Depth = 138 feet

Figure 5.



Attachment A. – Application No. 45575 Site Map - SW 08-23S-2W
Prepared by: Equus Beds Groundwater Management District No. 2 - 07/06/04

SEE EXHIBIT R

DRAFT MOU
GMD LETTER TO CHIEF ENGINEER
AUGUST 12, 2004

SEE EXHIBIT S

INDEPENDENT CONSULTANT'S REPORT
GMD LETTER TO CHIEF ENGINEER
AUGUST 12, 2004

[DO NOT BATE-STAMP]