BOARD OF COUNTY COMMISSIONERS OF DOUGLAS COUNTY, KANSAS

WEDNESDAY, FEBRUARY 1, 2012
6:35 p.m**.**
-Convene

CONSENT AGENDA

(1) (a) Consider approval of Commission Orders; and
(b) Consider acquisition of right-of-way for project No. 23C-0059-01; County Route 6 curve SW of Clinton (Michael Kelly)

REGULAR AGENDA

(2) **CUP-10-6-10**: Consider a Conditional Use Permit (as deferred from the 12/07/11 meeting) for Kaw Valley Eudora Sand Facility, located at 2102 N 1500 Road, NE of SW Cor. SW ¼ S32-T12S-R21E, on approximately 196.58 acres. Submitted by Landplan Engineering, P.A., for Kaw Valley Companies, Inc., contract purchaser, for James and Ronda Bigger and Wellsville Bank, property owners of record. (Sandra Day is the Planner)

(3) Other Business
(a) Consider approval of Accounts Payable (if necessary)
(b) Appointments:
Lawrence-Douglas County Advocacy Council on Aging – vacancy
Douglas County Senior Services, Inc. Board of Directors - 12/2011
Jayhawk Area Agency on Aging Tri-County Advisory Council - vacancy
(c) Public Comment
(d) Miscellaneous

(4) Adjourn

FEBRUARY 8, 2012
4:00 p.m.
-Work Session to discuss preliminary projects for 2013 Budget (Craig Weinaug)

WEDNESDAY, FEBRUARY 15, 2012
No 4:00 p.m. meeting
6:35 p.m.
Consider proposal from Tenants to Homeowners for use of land located next United Way Center (Rebecca Buford, TTH Executive Director)

WEDNESDAY, APRIL 18, 2012 - 4:00 p.m. Only

WEDNESDAY, JULY 11, 2012 4:00 p.m. – Cancelled**;** 6:35 p.m. – Tentatively Cancelled

Note*: The Douglas County Commission meets regularly on Wednesdays at 4:00 P.M. for administrative items and 6:35 P.M. for public items at the Douglas County Courthouse. Specific regular meeting dates that are not listed above have not been cancelled unless specifically noted on this schedule.*

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Keith A. Browning, P.E.
Director of Public Works/County Engineer

MEMORANDUM

TO : Douglas County Commission

FROM : Keith A. Browning, P.E., Director of Public Works/County Engineer
Michael D. Kelly, L.S., County Surveyor

DATE : January 26, 2012

RE : Consent Agenda
Project No. 23C-0059-01; County Route 6 curve improvement
Acquisition of Construction Easement

As you may be aware a curve improvement has been designed for County Route 6, located approximately one-half mile southwest of the townsite of Clinton. The project requires acquisition of permanent and/or temporary easement from five (5) properties. One of the tracts is owned by the U.S. Army Corps of Engineers and, as such, we have already obtained a "license to construct". Contracts have been signed by three (3) of the remaining landowners. The fifth tract to be acquired involves out-of-state landowners and their property is currently the subject of litigation due to an estate ownership dispute. We hope to conclude activities needed to obtain the fifth tract within the next couple of weeks.

The project will utilize federal funding and, as such, requires any necessary construction easement be acquired using federal acquisition guidelines. To that end an independent appraiser was hired to ascertain an appropriate offer for the required easement. In addition, also according to federal guidelines, a review appraisal was conducted to verify the initial appraiser's compliance with accepted appraisal techniques. The review appraisal was performed by county appraisal staff.

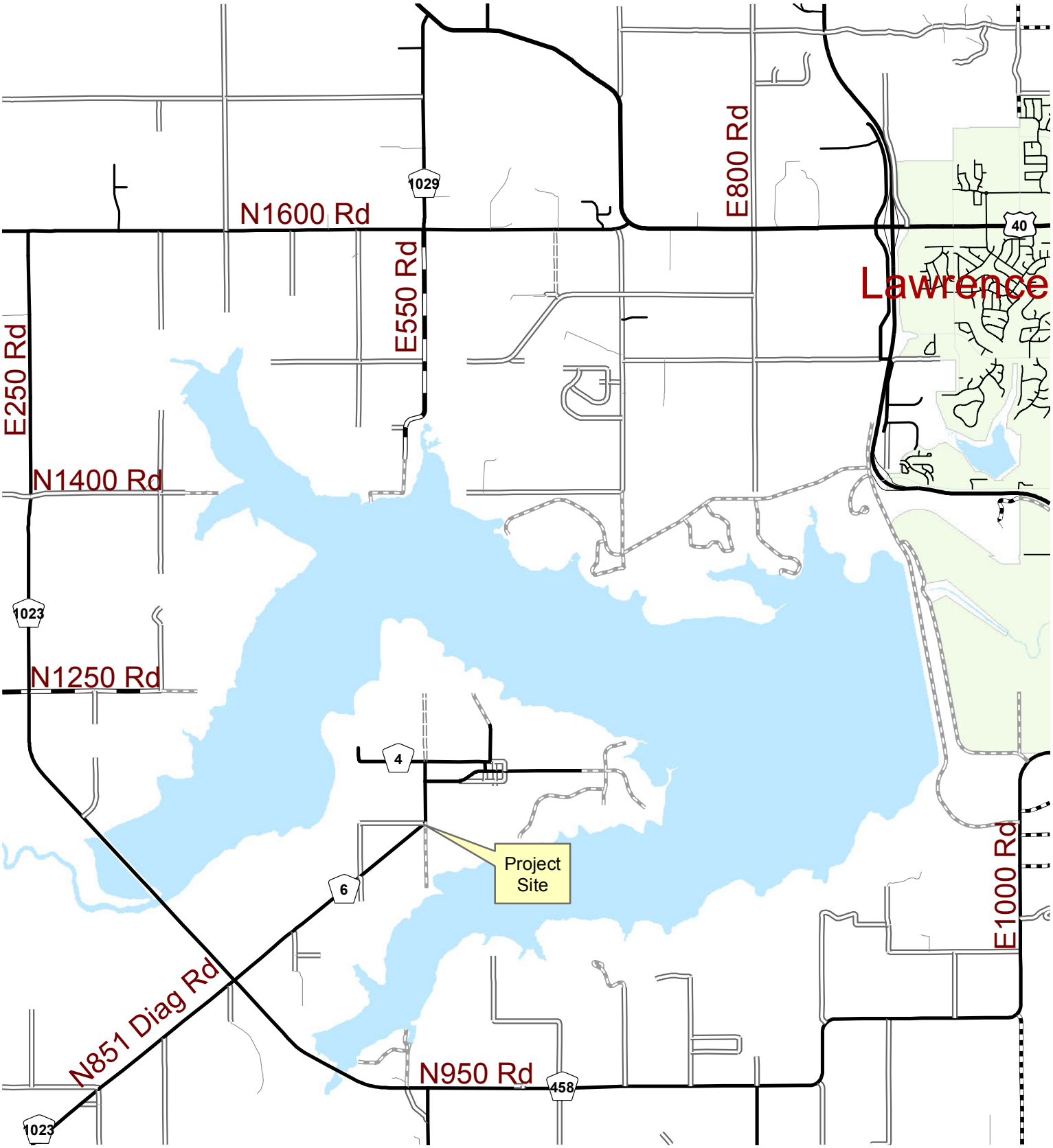
Attached are three (3) contracts requiring approval and the total expenditure for the contracts is in the amount of $12,500.00.

ACTION REQUIRED: Consent agenda approval is required to execute the attached CONTRACT's FOR HIGHWAY PURPOSES.

County Route 6 Project Site

1 inch = 1 miles

1 0.5 0 1 Miles



STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	23 C-0059-01	2010	4	21

POT 1 = 5/8" Rebar @ CL Road = Sta. 0+41.74
N 218562.31 E 2051317.78
50.27' NNW to PK in top of Corner fence post
50.96' NW to PK in top fence post
64.94' S to PK in N face of tall fence post
8.35' SW to face of tall gatepost

POT 2 = 5/8" Rebar @ CL of E 550 Rd and CL of N 1190 Rd = Sta. 26+16.64
N 2120851.16 E 2051988.24
65.27' SW to PK in top of fence post
50.58 NW to PK in top fence post
56.16 NE to PK in top fence post

NORTH
SCALE: 1"=40'

N 1150 ROAD
Exist. R/W
40'
N. 88° 19' 29" E
1/4 SL
Exist. Utility Easement

ALUN P. MORRALL
8.42 Acre tract in the SW 1/4 of Sec. 22-13-18

CHESTER M. BALDWIN
DOROTHY M. AND JIMMY L. BALDWIN
74.99 Acres (S 1/2, Nw 1/4, less 5.01 Acres)Sec. 22-13-18

JIMMY AND GERALDINE K. BALDWIN
5.01 Acres (S 1/2, Nw 1/4, Sec. 22-13-18

Sta. 4+61 - Route 6
Exist. DGCO Culvert
No. 11.42N 05.39E.
7' X 5.5' X 50 L.F. RCB

R/W = Exist. R/W = 50' CL
Exist. R/W =50' CL
N. 49° 12' 27" E
R/W = 75' CL
Const. Limits
Prop. R/W
R/W = Exist. R/W = 90' CL
R/W = 75' CL
R/W = 90' 1/4 SL
R/W = Exist. R/W = 170' CL
R/W = 60' 1/4 SL
Const.Limits
Prop. R/W
R/W = Exist. R/W = 35' 1/4 SL
R/W = 60' 1/4 SL
Exist. R/W
R/W = Exist. R/W = 35' 1/4 SL
R/W = 60' 1/4 SL
SL = C/L Project
Exist. R/W =50' CL
665' from sec cor. along CL
R/W 55' to center line
R/W = Exist. R/W = 55' CL
R/W = 80' CL
Const. Limits
Prop. R/W
Prop CL
Prop. C/L
ROUTE 6
Exist. C/L
N. 1° 53' 44" W
1/4 SL
Const.Limits
Prop. R/W

STA. 14+50 - PROP CL =
STA. 14+96.90 - 1/4 SL
END Project No. 23 C-0059-01

STA. 5+00 - PROP CL =
BEGIN Project No. 23 C-0059-01

STA. 9+14.26 - ROUTE 6 =
STA. 50+00 - SIDE ROAD

ROBERTA M. OLSEN
SHARON D. ANDERSON
27.5 Acre tract in the NE 1/4 of Sec. 22-13-18

R/W = Exist. R/W = 80' CL
Const. Limits
Prop. R/W
PI = STA. 10+00 - SL
CENTER OF SEC. 22,
T 13 S, R 19 E
N 219188.48
E 2052042.97
R/W = 60' RT. 1/4 SL
N. 88° 18' 10" E
PL

UNITED STATES OF AMERICA
ATTN. CORPS OF ENGINEERS
283.06 Acre tract in Sec. 22-13-18

N. 2° 20' 44" W
E 550 RD. (Vacated)
1/4 SL
R/W = Exist. R/W = 159.12' CL
PL
RODNEY L. AND HELEN EIDSON
1/4 SL
UNITED STATES OF AMERICA
ATTN. CORPS OF ENGINEERS

CURVE DATA - ROUTE 6
P.C. STA. 6+50.89
Coord.: N. 218960.53
E. 2051301.94
P.I. STA. 10+00.00 (Ahd.)
STA. 9+53.09 (Bk.)
Coord.: N. 219107.02
E. 2052048.67
P.T. STA. 13+02.11
Coord.: N. 219537.38
E. 2052031.54
△ = 51°06'21" Lt.
R = 730.00'
L = 651.13'
T = 349.02'
Super = 4%

BM 1 = Chiseled square in SE corner of concrete Tel ped. pad.
Elev. = 938.43
25.30' NE to PK in top of fence post (slope tie)
12.55' W to PK in S face PP (slope tie)
10.90' NW to guy anchor @ ground level

BM 2 = Triple 60D spike in PP (W face) in SE Quadrant @ intersection of N 1150 E 550 Rd.
Elev. = 944.15
19.40' S to guy anchor (North 1 of 3)
0.50' Slope to PK in SW face PP
67.70' NW to Corp mark @ the cor. of Sec. 22, T12S, R18E

BM 3 = Triple 60D spike in PP (W face) in 1st PP N of curve on E side E550 Rd.
Elev. = 946.71
68.20' W to PK in top of lone hedge fence post.
33.07' W to CL E550 1st PP N of Int. N 1150 E 550 Rd

NO.	DATE	REVISIONS	BY	APPD
3				
2				
1				

KANSAS DEPARTMENT OF TRANSPORTATION

DOUGLAS COUNTY - ROUTE 6
RIGHT OF WAY AND SURVEY CONTROL

SHEET NO. OF		SCALE AS SHOWN		APP'D			
DESIGNED	A.S.	DETAILED	L.H.	QUANTITIES	A.S.	TRACED	L.H.
DESIGN CK.	T.G.	DETAIL CK.	A.S.	QUAN. CK.	T.G.	TRACE CK.	A.S.

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Keith A. Browning, P.E.
Director of Public Works/County Engineer

MEMORANDUM

To : Board of County Commissioners

From : Keith A. Browning, P.E., Director of Public Works/County Engineer KB

Date : January 25, 2012

Re : Kaw Valley Sand facility CUP
Review of Decision Document supporting Corps of Engineers Permit

The Corps of Engineers, Kansas City District (COE) has issued a permit to Kaw Valley Companies, Inc. for the proposed off-channel sand dredging facility near Eudora. Our consultant, Paul D. Miller, P.E., with George Butler Associates, and I have reviewed the decision document. Paul's report to me is attached.

The last page of the attached report shows the migration of the right (south) bank of the Kansas River in the Eudora Bend river meander since 1950. The meander has migrated eastward or downriver approximately 3000' since 1950. Between 1991 and 2011, the river meander advanced approximately 800' east. The river is advancing eastward toward the old channel which ran through the subject property.

The proposed plan would leave a 300' woody vegetative buffer on the east side of the applicant's property and a 150' buffer on the north side of the property. As stated in the COE document, these buffers are adequate and appropriate. However, the property immediately west of the applicant's property has very little woody vegetative buffer in the northwest portion of the property. This area is in the topographic low point for overbank flows, and aligns with the old river channel to the southeast. The lack of a vegetative barrier provides little resistance to movement of the right bank discussed above. The concern is that sustained overbank flows (longer than one week) may encourage river migration toward the former channel and the site of the sand dredging facility. The existing rock fill portion of the dike proposed for removal is the only structure retarding this migration.

The COE document correctly points out the rock fill portion of the farthest upstream dike is not the functional end of the dike. The proposed sand facility will leave the functional (northern) end of the dike in place. The rock fill landward (or southwesterly) of the functional end was placed essentially to maintain a constant elevation. However, under existing conditions the rock fill would provide at least some resistance to the possible river migration discussed above. The proposed sand facility would remove the rock fill and create a deep excavation in line with the old river channel. This excavation would likely accelerate the river's migration toward the old channel during sustained overbank flows.

The COE document states that out of bank flooding of the Kansas River is rare due to numerous flood control projects in the rivershed. However, our consultant reports that in the past twenty years, overbank flows at this site have occurred 26 times, 6 of which were sustained overbank flows of longer than one week.

The threat of river migration to the old channel during sustained overbank flows exists today. It is my opinion that the sand facility as currently proposed exacerbates the risk. Even if the river migrates to the old channel, it is possible the two downstream dikes will protect the Route 1061 bridge and approach roadways. However, long term river response is hard to predict. River migration may threaten the downstream dikes, the Route 1061 bridge, and/or the approach roadway. While I cannot quantify the additional risk incurred by removal of the rock fill portion of the dike, I do feel the risk is increased.

At a minimum, the following conditions should be part of CUP approval:

1. Establish a woody vegetative buffer at least 100' wide and approximately 3,000' long along the west property line of the subject property. This will provide some resistance to river migration discussed above. Any woody vegetation removed as part of the sand facility development could be transplanted to the west property line. Additional woody vegetation would be required if there is an inadequate number of plants available to transplant. The current proposal would allow pit excavation to within 50 feet of the west property line with no vegetative buffer.
2. Monitor the meander migration of the south bank of the river toward the east and toward the old river channel, west of the applicant's property, following all overbank flows lasting one week or longer. The COE permit requires monitoring of the site every 10 years for river movement, but this is only for the portion of the river adjacent to the applicant's property.
3. In the event the south bank of the river begins to meander toward or into the woody vegetative buffer established along the west line of the applicant's property, revoke the CUP and require closure of the facility until solutions can be developed.

Appropriate solutions, should the south bank meander toward the vegetative buffer, are difficult to determine until the exact river action is known. However, any solution will be expensive. One solution may be to install a sheet pile wall within the 100' vegetative buffer along the west line of the applicant's property. We estimate the cost of a 3000-foot long, 15-foot high (as measured on the sand pit side), sheet pile wall to be approximately $2.25 million.

Action Required: Discuss and consider the above information in determining appropriate action regarding the CUP.

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MEMORANDUM

To: Keith Browning, P.E.
County Engineer
Douglas County Public Works

From: Paul D. Miller, P.E., CFM

Date: January 20, 2012

Subject: Summary Review of Off Channel Sand Mining Proposal
Intangible Risk to Publicly Maintained Structures

A review the Corps of Engineers (COE) "Decision Document" for Kaw Valley Sand near Eudora, KS has been completed per your request. Excavation of the sand pit is proposed within the former channel of the Kansas River. The COE has constructed two river control project in the vicinity of the proposed sand facility on the Kansas River. The first project constructed jettys and river relocation in the early 1950's and the secondary project constructed L head dykes in early 2000's. In general we find concurrence with the COE evaluation with respect to the functional goals of those projects and proposed sand facility in that:

- Riparian buffers will be established or maintained to prevent river migration from the west and toward the proposed sand facility.
- Hydrology of the Kansas River has been altered by tributary reservoirs effectively reducing the probability of peak flow discharges like that of recent history (1951).
- The first project functioned as indented to redirect primary river flows away from the south abutment of the bridge at Eudora.
- The second project functioned as indented to prevent near bank erosion on the east bank.

The analysis made to date for these riverine structures has not considered the long term affects of their placement, which cannot usually be known for at least five years, in the case of larger rivers, like the Kansas, decades. Since these structures have been in place for such time periods we can detect the river response. COE professional have indeed pointed to this response in the vicinity of the projects noted above, however, they have failed to recognize the long term fluvial response that is apparently active on the upstream side of the meander bend in question (Eudora Bend). This is a known and documented physical response to reducing bend radius or modifying energy gradient of the river. (*Historical Channel Changes of the Kansas River and its Major Tributaries, Special Publication 42, The American Geographical Society, Wakefield Dort, Jr)*

- It is well documented that the Kansas River is down cutting, thus since the 1950's the elevation downstream of the pile diversion structure has also changed, response of this is likely minimized to portions of the river downstream of the mouth of the Wakarusa River.
- Reservoir construction in Kansas River tributaries likely reduced historical sediment loads in the Kansas River, which may increase river bank erosion over long periods of time.

- The jetty project in the 1950's decreased stream length by constructing a new river channel and a pile diversion in the former channel. These actions effectively modified river energy gradient within the Eudora Bend of the Kansas River. River response to the modifications was to increase channel length through meander migration processes. Examination of the south bank of the river between 1950 and 1966 the upstream side of the river meander had moved over 1600 feet to the east; between 1966 and 1991, an additional 700 feet eastward.
- L head dykes constructed in 2000's reduced near bank radius and reduced effective channel length in the bend. River response appears to be continued migration of the south river bank toward the east. Between 1991 and 2011, the river meander has advanced east an additional 800 feet.

We have attached an exhibit that demonstrates this meander migration through aerial imagery and referenced data; the meander at Eudora has moved eastward or down gradient up to 3000 feet since 1950. Also, mapping information provided in the COE "Decision Document" clearly show that the river is advancing eastward toward the old channel in this area. The property most affected by the meander migration is west of the applicant's property. This parcel is rarely shown in maps provided in the COE "Decision Documents" or Douglas County review documents, probably because it is not the property under application. Little to no riparian corridor exists on the south bank of the river bend on this property; it's in the topographic low point for overbank flows and located right in line with the former channel of the Kansas River. Since Douglas County is responsible for long term maintenance and function of the river jettys to prevent diminished use or safety of the Eudora bridge, it is advised to consider these points:

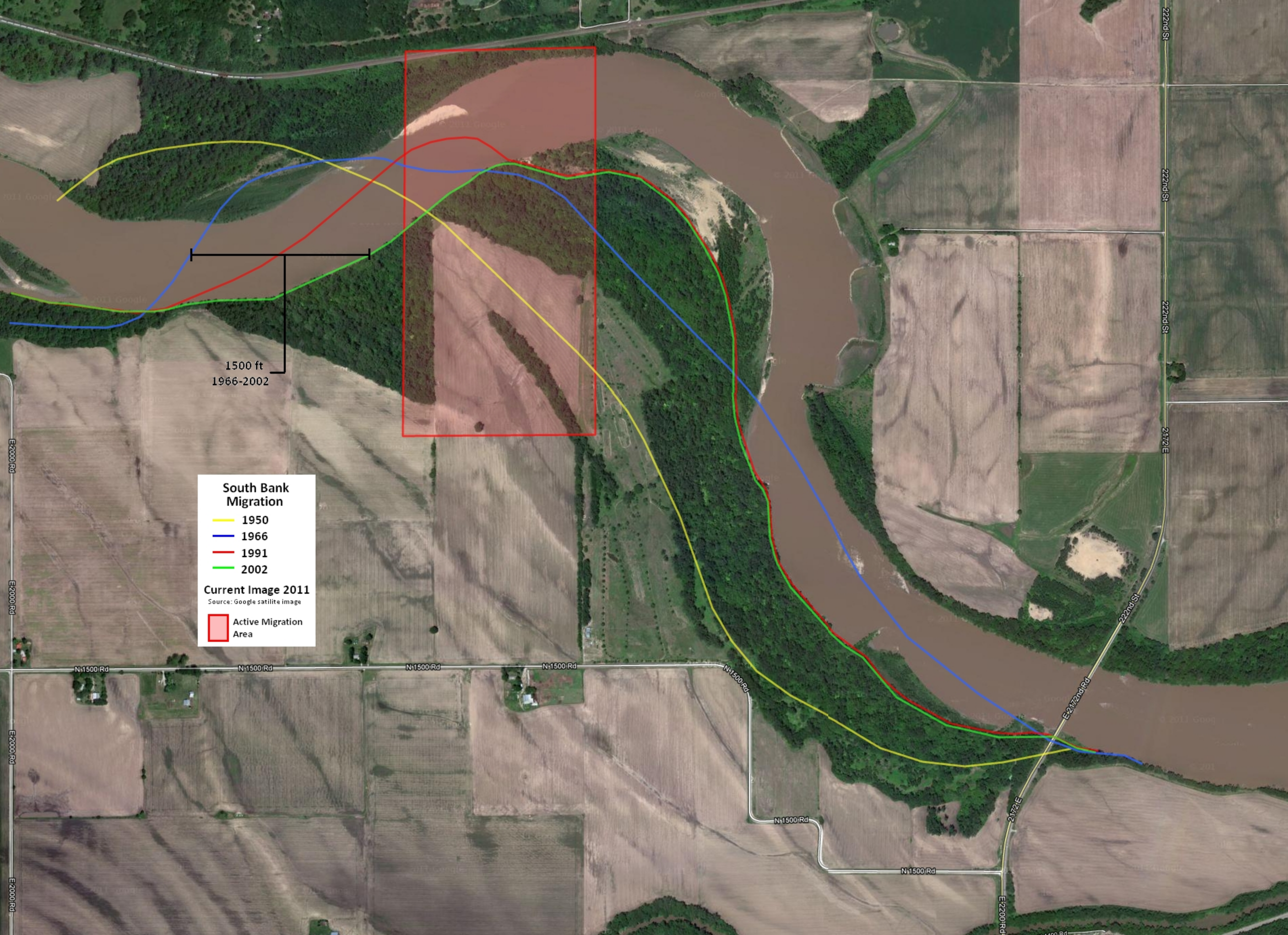
- The substructure of the Eudora bridge was constructed in 1965. The typical effective lifespan of bridge substructures in Kansas is over 100 years. When replaced, reconfiguration of the roadway approach and bridge abutments should be considered as if the jettys no longer functioned. Consideration should also be given to remove the agricultural levee north of the river as well.
- Long term changes in both watershed hydrology/sediment load by construction of the tributary reservoirs and down cutting of the river have occurred in the 60 years since the COE jetty project after the 1951 flood. Events have occurred that were not considered in the design of the original jettys. The force of moving water is the most powerful natural force on earth; a long term river response should be expected.
- Local residents responding to the COE via written comment have noted overbank flows in the Kansas River "several" times in the past 20 years. Sustained overbank discharges (> 1 weeks) may encourage river migration toward the former channel and location of the proposed off channel sand dredging site. Some COE hydraulic engineering personnel agreed with this possibility when meeting in person and presented the information in a brief. It is noted in the "Decision Document" that when questioned about that consultation by other COE staff that the portion of the meander bend in our exhibit was not discussed, at least in the written documents provided, as it was during the personal interview and briefing.
- The only structure retarding the river from the eastward migration course would be the dyke proposed for removal. The large depression created by the sand pit would likely accelerate river migration toward the old channel offering a steep place for energy dissipation during overbank flows. While more robust dykes downstream may prevent immediate harm to the Eudora bridge, diversion, over

widening or relocation of the river upstream (or into the sand pit) may have a detrimental impact on both the jettys and the bridge.

- Morphological response to the possibility above is unlikely to be single event driven. There will likely be adequate time to offer a response to such events. It is noted that the COE has required monitoring of the site every 10 years for river movement, but this is just for the east and west banks of the river adjacent to the applicant's property (near the COE projects). It is recommended that the upstream side of the meander bend also be monitored closely for migration movement toward the former channel and sand facility. Further, it is recommended that the monitoring period include provision for monitoring after all overbank flooding events lasting more than 1 week. This stipulation could be offered as part of the County requirement for Floodplain Development Permit; it is obvious the County has a financial and public responsibility to maintain the jetty function through previous agreements with the COE.
- For reasons stated above we have consistently recommended a riparian buffer on the west side of the applicant's property as minimum action to retard river advancement eastward into the former channel and possibly the proposed sand pit. A 100 foot wide woody native riparian buffer should be established to offer resistance to overbank flows into this area. A more proactive response maybe to also require a blockade to this path via sheet piling, micropiling or other techniques to retard river migration toward the sand pit while under operation, this could serve to somewhat replace the function of the jetty that is proposed for removal. As discussed in out meeting on August 5, 2011, working around the original jetty is not feasible for the proposed facility nor is it worthy, since the original foundation is in sand and pit excavation on both sides of it will diminish is effectiveness. Also, reconstruction of the jetty or suitable replacement in its current location appears technically challenging and cost prohibitive for the applicant.

In summary we offer the following recommendations:

1. Monitor and document meander migration of the south bank of the river, toward the east and into the former channel, west of the applicant's property, after all overbank discharges lasting 1 week or longer. Overbank flows at the site will occur about 15 feet above base flow or discharges exceeding 50,000 cfs. In the past 20 years, overbank events have occurred 26 times, 6 of these events were sustained longer than one week. Note that 10 of the overbank events and 3 of the sustained overbank events occurred in one year (1993). Statistical analysis of the gages at Lecompton and De Soto over the past 20 years indicates that there is an 85% probability of overbank flows occurring in any given year. Sustained overbank flows (> 1 week) have a 20% chance of occurring in any given year.
2. Require a woody riparian buffer to be established along the west side of the applicant's property not less than 100 feet wide and 3000 feet long as indicated on the attached exhibit. Should the river begin to migrate into this buffer area, require immediate resolution by revocation of the special use permit and closure of the facility until solutions can be developed.
3. Consider requiring escrow or surety, possibly linked to Douglas County "Royalty Fee", for potential planning, engineering, and repairs to river structures (i.e. jettys) and/or bridge abutments in the event of river breach into the 100 foot woody riparian buffer and response to morphology events that follow thereafter.


South Bank Migration
1950
1966
1991
2002
Current Image 2011
Source: Google satilite image
Active Migration Area
1500 ft
1966-2002
N 1500 Rd
E 2000 Rd
222nd St
E 2172 E
E 2200 Rd

Memorandum
City of Lawrence
Douglas County
Planning & Development Services

TO: **Lawrence Douglas County Metropolitan Planning Commission**
Eudora Planning Commission
FROM: **Planning Staff**

CC: **City of Eudora**
Applicant

Date: **April 11, 2011**

RE: **CUP-10-6-10 (Kaw Valley Sand Dredging follow up meeting)**

This memo summarizes information requested by the Planning Commissions at the February meeting and includes a list of possible conditions of approval for the Commission's consideration. Staff's recommendation has not been revised from the February edition of the staff report. There are several attachments to this memo including the February 23, 2011 staff report.

Attachments

1. Site Plan
2. Reclamation Plan
3. Well Report Revised March 31, 2011 (Carl Nuzman)
4. Memo from County Public Works Director "Existing rock jetties situated within subject property"
5. Memo from County Public Works Director regarding N 1500 Road improvements
6. Travel Route Map
7. Eudora Memo dated April 18, 2011
8. Eudora Well Report dated February 14, 2011(Terrane Resources Co., Edward Marks)
9. February 2011 Staff Report
10. Proposed Applicant Conditions dated February 22, 2011
11. February Planning Commission Minutes

Summary of Requested Information

Following the February Planning Commission meeting, staff identified several topics that the Planning Commissions requested additional information about. Staff met with the applicant and a representative of the City of Eudora on March 3, 2011.

The following topics were discussed:

- Impact of the proposed use on the wells supplying water to the City of Eudora.
- Impact of the proposed use on the river and land if the jetties are removed a possible harm to the river bridge.

- Impact of the project on the river/project by establishing an easement (setback) from the Jetties across the property.
- Impact of the project on the roads with detail about specific required improvements.

Wells
The applicant prepared a second well report. This report examines the impact of possible effects of the sand pit operation proposed by Kaw Valley Companies, Inc on the City of Eudora water supply wells. The March 31, 2011 study concludes that the proposed operation will have no effect on the Eudora wells or water supply.

Jetty
This project has been revised to leave the two jetties located on the subject property intact. The impact then is eliminated. The revised plan shows a setback of 100' centered on the jetty that will protect the structure and the toe of the structure from proposed dredging operations. The site plan also shows an access drive around the perimeter of the site for maintenance access to the jetties. A memo from Keith Browning, County Public Works Director is attached to this memo.

Easement / Setback for Jetty
As noted, a setback is shown on the face of the site plan to protect the structures. The County has an existing "blanket easement" across the entire property. No changes to this easement are proposed with this project. The County will retain the right to access the property for the maintenance of the existing structures. The site plan provides a location and specified access that is generally agreeable to County Staff for access required to continue maintenance of the structures.

Roads
The traffic study indicated that a majority of the traffic will be north bound. Only two trips per day (average) are expected to pass through the City of Eudora and three trips per day are expected to be west bound using County roads. A map is attached to graphically illustrate this concept.

The County Public Works Director has provided a memo (attachment) detailing anticipated costs for required road stabilization to support the truck traffic, if approved.

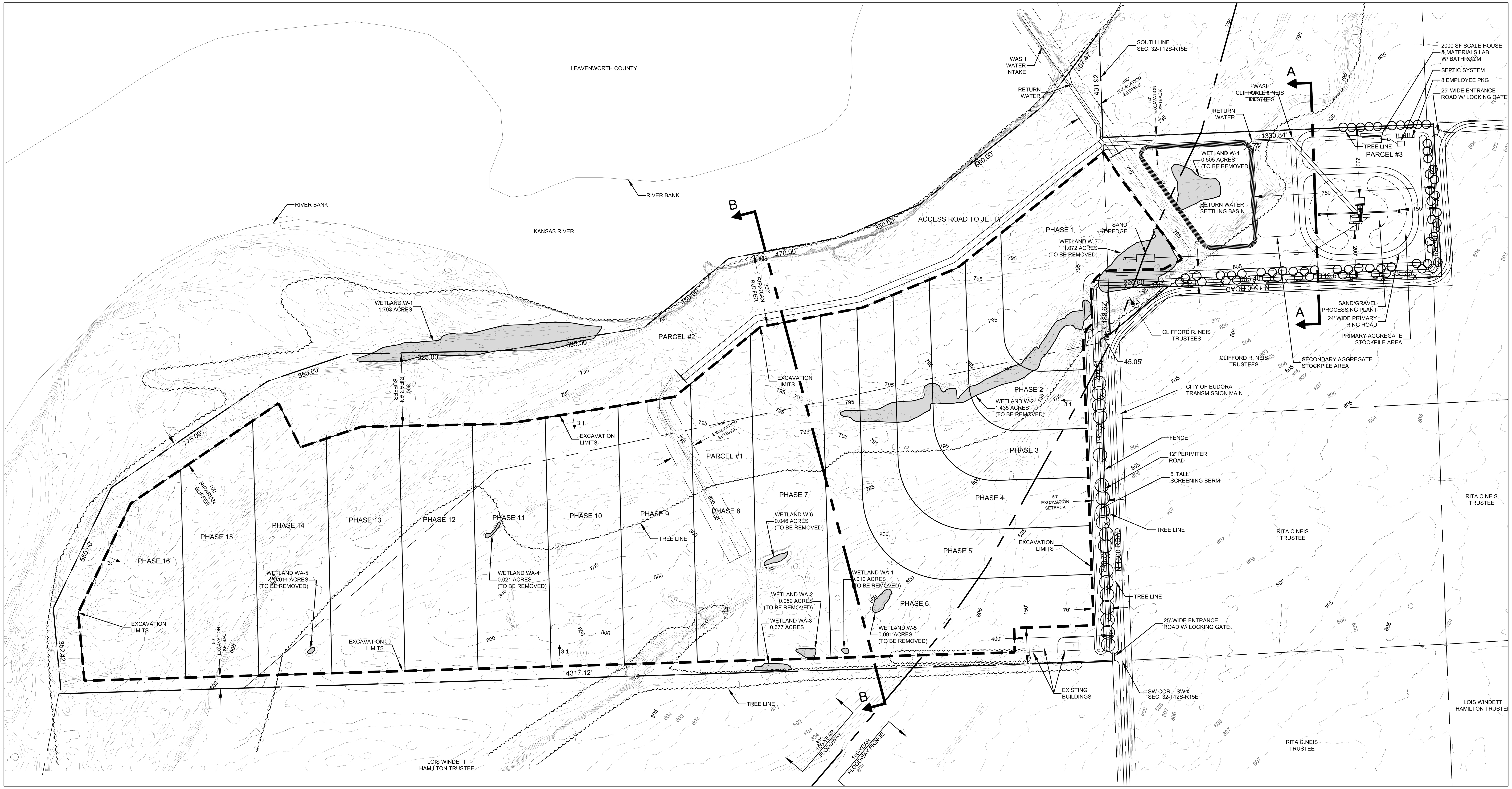
Conclusion:
Staff has provided a summary of additional information as requested by the Planning Commissions. Staff's recommendation has not been revised from the February publication of the original staff report. Staff's recommendation is as follows:

STAFF RECOMMENDATION:
Staff recommends the Planning Commissions forward recommendations for denial of this Conditional Use Permit to the Board of County Commissioners based on the findings of fact in the staff report.

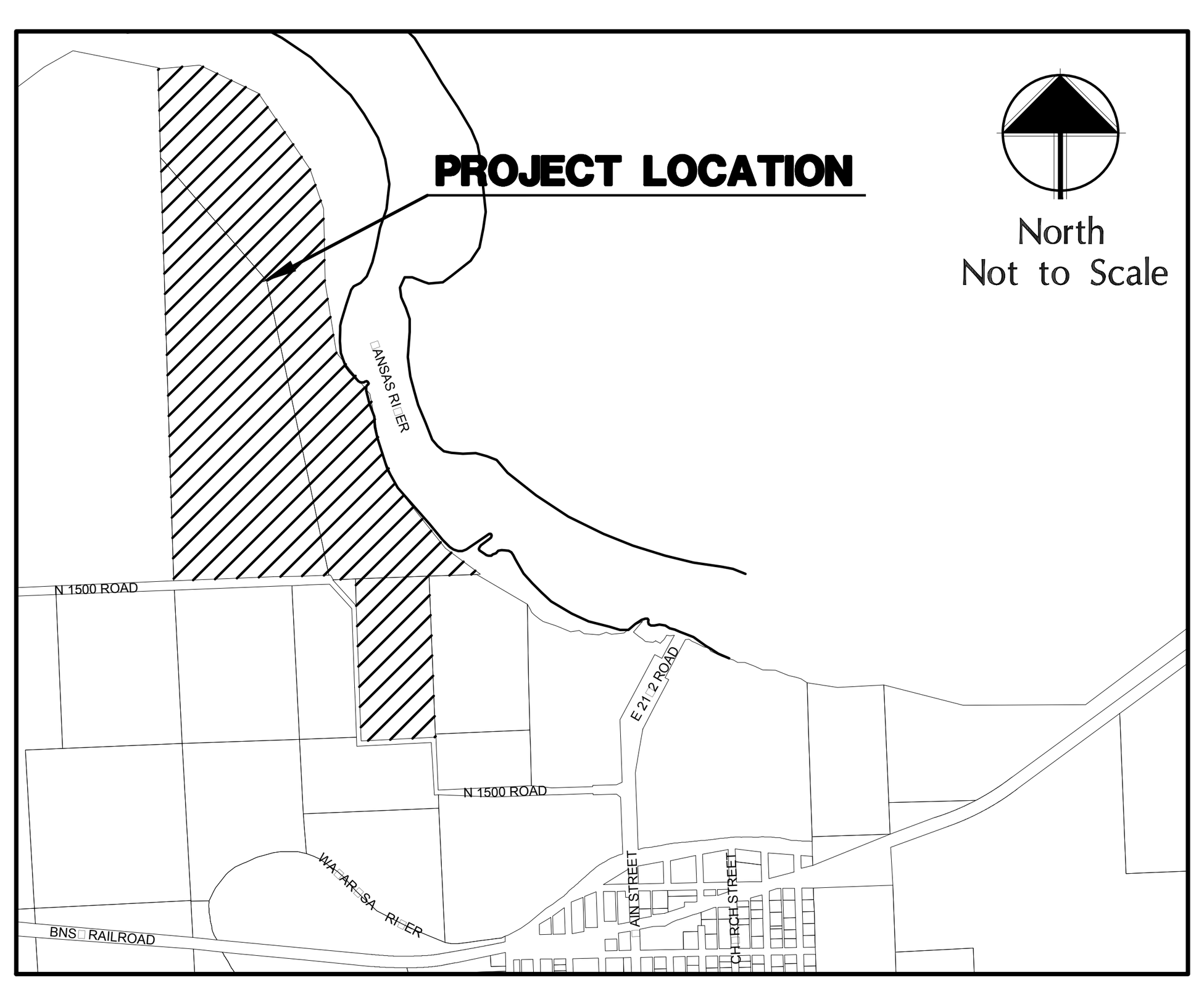
Conditions of Approval for Consideration:

Possible conditions of approval that may be considered by the Planning Commission are as follows:

1. Provision of a note on the face of the site plan that states application shall be required to obtain all applicable state and federal permits prior to operation of the dredging activity.
2. Provision of road improvements and financing per the memo prepared by the County Public Works Director dated April 2, 2011 to include the proposed $0.10 per ton royalty provided for ongoing maintenance for this portion of N 1500 Road. Such improvements shall be completed prior to dredging activity that requires off-site hauling of material.
3. Applicant is responsible for dust control between the subject property and the intersection of Co. Road 1061 and N 1500 Road.
4. Provision of a landscape plan to show the species of trees proposed, minimum planting size, total number, and proposed spacing of trees per section 12-319A-4.10 of the County Zoning Regulations per planning staff approval.
    a. Screening trees shall be planted along the public right-of-way
    b. Screening trees shall be planted along south 700 fee of the east property line to screen the processing plant and stockpiles from the adjacent property.
    c. Screening trees shall be planted a minimum of 30’ on center.



Location Map



Legal Description

A TRACT OF LAND IN THE WEST HALF OF SECTION 32, TOWNSHIP 12 SOUTH, RANGE 21 EAST AND THE NORTHWEST QUARTER OF SECTION 05, TOWNSHIP 13S, RANGE 21 EAST OF THE SIXTH PRINCIPAL MERIDIAN, IN DOUGLAS COUNTY, KANSAS, DESCRIBED AS FOLLOWS:

PARCEL #1

BEGINNING AT THE SOUTHWEST CORNER OF SECTION 32, TOWNSHIP 12 SOUTH, RANGE 21 EAST THENCE NORTH 0°18'56" EAST, ALONG WEST LINE OF SAID QUARTER SECTION 3619.59 FEET; THENCE SOUTH 89°41'04" EAST, 34.40 FEET; THENCE SOUTH 38°40'12" EAST, 1368.99 FEET; THENCE SOUTH 09°52'55" EAST, 2544.71 FEET; THENCE SOUTH 0°00'00", TO A POINT ALONG SOUTH LINE OF SAID SECTION 47.76 FEET; THENCE NORTH 89°49'14" WEST ALONG SOUTH LINE 1346.44 FEET TO THE POINT OF BEGINNING. CONTAINS 72.800 ACRES, MORE OR LESS.

PARCEL #2

BEGINNING AT THE SOUTHWEST CORNER OF SECTION 32, TOWNSHIP 12 SOUTH, RANGE 21 EAST THENCE NORTH 0°18'56" EAST, ALONG WEST LINE OF SAID QUARTER SECTION 4375 FEET TO RIGHT BANK OF THE KANSAS RIVER; THE NEXT ELEVEN COURSES ARE ALONG THE SOUTHERLY AND WESTERLY BANK OF THE KANSAS RIVER; THENCE NORTH 86°48'56" EAST, 350.00 FEET; THENCE SOUTH 62°11'04" EAST, 550.00 FEET; THENCE SOUTH 32°11'04" EAST, 775.00 FEET; THENCE SOUTH 16°36'04" EAST, 350.00 FEET; THENCE SOUTH 0°53'56" WEST, 625.00 FEET; THENCE SOUTH 07°06'04" EAST, 595.00 FEET; THENCE SOUTH 37°06'04" EAST, 450.00 FEET; THENCE SOUTH 08°36'04" EAST, 470.00 FEET; THENCE SOUTH 20°36'04" EAST, 350.00 FEET; THENCE SOUTH 36°36'04" EAST, 660.00 FEET; THENCE SOUTH 51°06'04" EAST, TO A POINT ALONG SOUTH LINE OF SAID SECTION 411.10 FEET; THENCE NORTH 89°49'14" WEST ALONG SOUTH LINE 2614.92 FEET TO THE POINT OF BEGINNING, LESS PARCEL #1 CONTAINS 77.600 ACRES, MORE OR LESS.

PARCEL #3

BEGINNING AT A POINT FROM THE NORTHWEST CORNER OF SECTION 5, TOWNSHIP 13 SOUTH, RANGE 21 EAST THENCE EAST, 2128.50 FEET; THENCE SOUTH, 1391.00 FEET; THENCE WEST, 626.30 FEET; THENCE NORTH, 1391.00 FEET; THENCE EAST, TO THE POINT OF BEGINNING 626.30 FEET. CONTAINS 19.700 ACRES, MORE OR LESS.

General Notes

OWNER: KAW VALLEY COMPANIES, INC.
ATTN: ALAN TEUTEMACHER
5600 KANSAS AVENUE,
KANSAS CITY, KS 66106

1. LAND PLANNER/ ENGINEER: LANDPLAN ENGINEERING, P.A.
   1310 WAKARUSA DRIVE
   LAWRENCE, KS 66049
2. TOPOGRAPHIC INFORMATION OBTAINED FROM 2006 CITY OF LAWRENCE LIDAR AERIAL DATA.
3. EXISTING LAND USE: AGRICULTURAL
4. PROPOSED LAND USE: SAND EXCAVATION, EXTRACTION & PROCESSING; AGRICULTURAL
5. EXISTING ZONING: A
6. PROPOSED ZONING: A
7. THIS SITE IS LOCATED WITHIN THE FLOODPLAIN PER FEMA MAP #20045C0203D, DATED AUGUST 5, 2010.
8. THIS SITE HAS BEEN DESIGNED TO COMPLY WITH THE PROVISIONS OF THE AMERICANS WITH DISABILITIES ACT ACCESSIBILITY GUIDELINES (ADAAG) FOR BUILDINGS AND FACILITIES, APPENDIX A TO 28 CFR PART 36.
9. DOUGLAS COUNTY HAS A BLANKET EASEMENT ON THE PROPERTY TO MAINTAIN THE TWO ROCK JETTIES.
10. PROVIDE DUST CONTRAIL ALONG PROPERTY 4 TIMES A YEAR.
11. OWNER SHALL WORK WITH DOUGLAS PUBLIC WORKS ON 1500 ROAD IMPROVEMENTS ALONG THE PROPERTY AND AT THE INTERSECTION OF E 2200 RD AND N 1500 ROAD.

Site Summary

GROSS CUP/SITE AREA:	**7,387,103 SF / 169.58 AC**
PUBLIC RIGHTS-OF-WAY:	**SF / AC**
NET CUP/SITE AREA:	**SF / AC**
SAND EXCAVATION & AGRI AREA:	4,971,151 SF / 114.12 AC
SAND/GRAVEL PROCESSING AREA:	280,000 SF / 6.43 AC
SCALE HOUSE & MATERIALS LAB:	200 SF
SAND/GRAVEL PROCESSING PLANT:	APPROX. 15,000 SF

Parking Summary

REQUIRED = 1 SPACE/2 EMPLOYEES; 4 TOTAL EMPLOYEES = 2 SPACES
PROVIDED = 8 SPACES

SCALE: 1" = 200'

200 100 0 200 400

A CUP Site Plan #2 for

Kaw Valley Eudora Sand Facility

Douglas County, Kansas

Landplan Engineering, P.A.
Lawrence, KS • Kansas City, MO • Manhattan, KS
Blue Springs, MO • The Woodlands, TX

Civil Engineering
Landscape Architecture
Community Planning
Surveying

1310 Wakarusa Drive
Lawrence, Kansas 66049
tele (785)843-7530
fax (785)843-2410
email: info@landplan-pa.com
Web www.landplan-pa.com

EUDORA SAND FACILITY
CONDITIONAL USE PERMIT
SITE PLAN #2

REV	DATE	DESCRIPTION
1	3.30.11	JETTY SETBACK
2	3.30.11	ADD TREE EAST PL
3	4..1.11	NOTES

PICK A STAMP OR SEAL

DATE:	11/16/10
PROJECT NO.:	20101019
DESIGNED BY:	LPE
DRAWN BY:	TL/RD/BS
CHECKED BY:	RD/CLM

ISSUE A

SHEET NO. C-001

OF 2 SHEETS

PROTECT SIDE SLOPES
SEED ALL DISTRUBED AREAS PER THE KANSAS CONSERVATION COMMISSION SURFACE MINING RECLAMATION RECOMENDATIONS

RIPARIAN BUFFER

300' RIPARIAN BUFFER

50' EXCAVATION SETBACK

150' EXCAVATION SETBACK

CLIFFORD R. NEIS TRUSTEES

REMOVE PROCESSING EQUIPMENT, BACKFILL DISTRUBED AREA WITH TOPSOIL SEED ALL DISTRUBED AREAS PER THE KANSAS CONSERVATION COMMISSION SURFACE MINING RECLAMATION RECOMENDATIONS

N 1500 ROAD

EXISTING TREES AND BERM REMAIN

RITA C.NEIS TRUSTEE

EXISTING RESIDENTIAL HOME AND OUT BUILDING TO REMAIN

LOIS WINDETT HAMILTON TRUSTEE

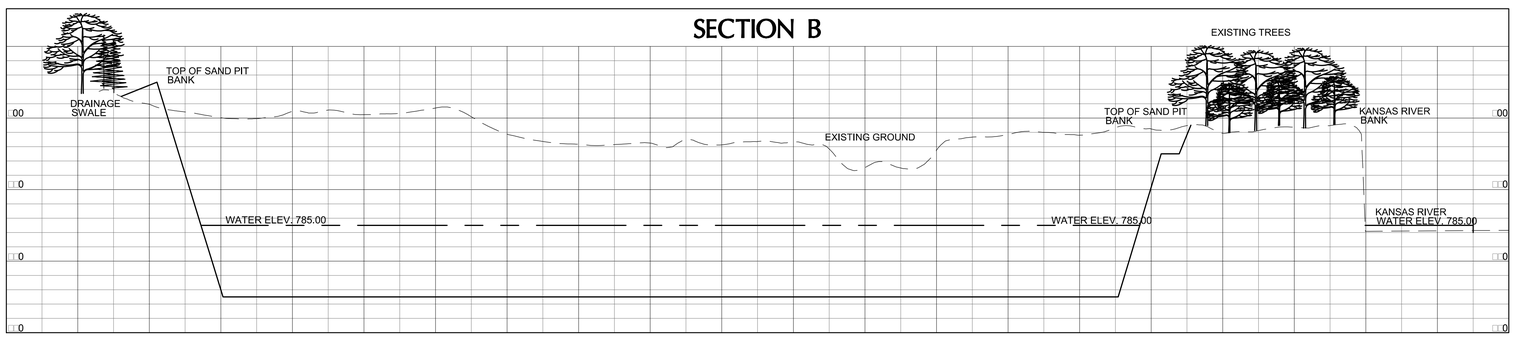
100 YEAR FLOODWAY

100 YEAR FLOODWAY FRINGE

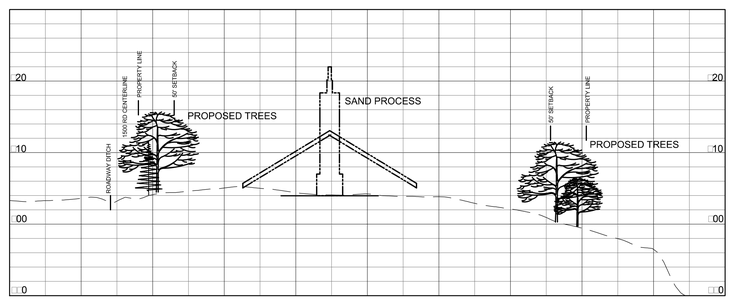
A

B

SECTION B



SECTION A



SCALE: 1" = 200'

200 100 0 200 400

A Reclamation Plan for

Kaw Valley Eudora Sand Facility

Douglas County, Kansas

Civil Engineering
Landscape Architecture
Community Planning
Surveying

Landplan Engineering, P.A.
1310 Wakarusa Drive
Lawrence, Kansas 66049
tel (785)843-7530
fax (785)843-2410
email: landplan@landplan-pa.com
Web: www.landplan-pa.com

Lawrence, KS • Kansas City, MO • Manhattan, KS
Blue Springs, MO • The Woodlands, TX

EUDORA SAND FACILITY
RECLAMATION PLAN
SITE PLAN #2

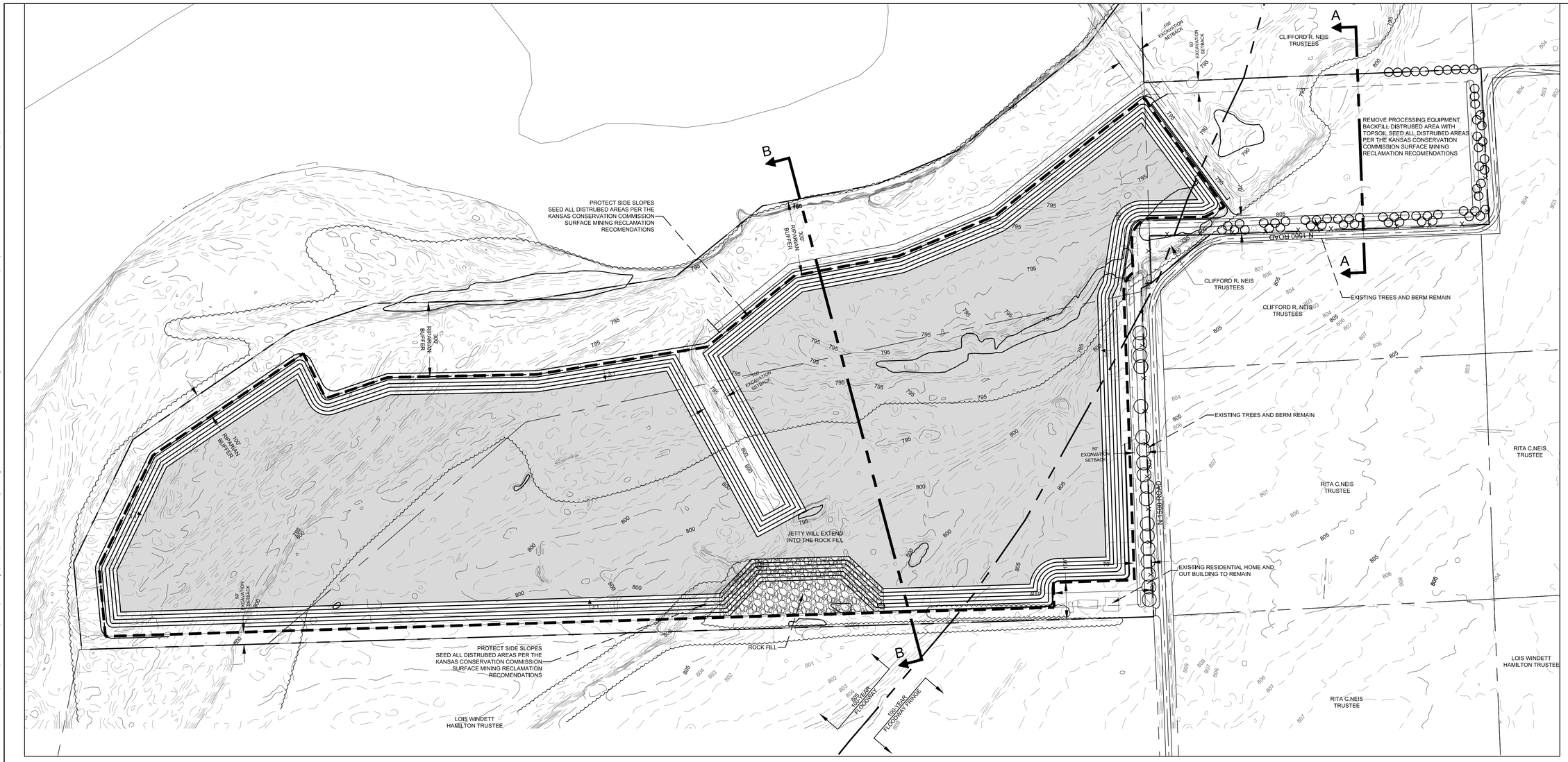
REV	DATE	DESCRIPTION
1	4.1.11	SECTION UPDATE
2	4.18.11	JETTY UPDATE

PICK A STAMP OR SEAL

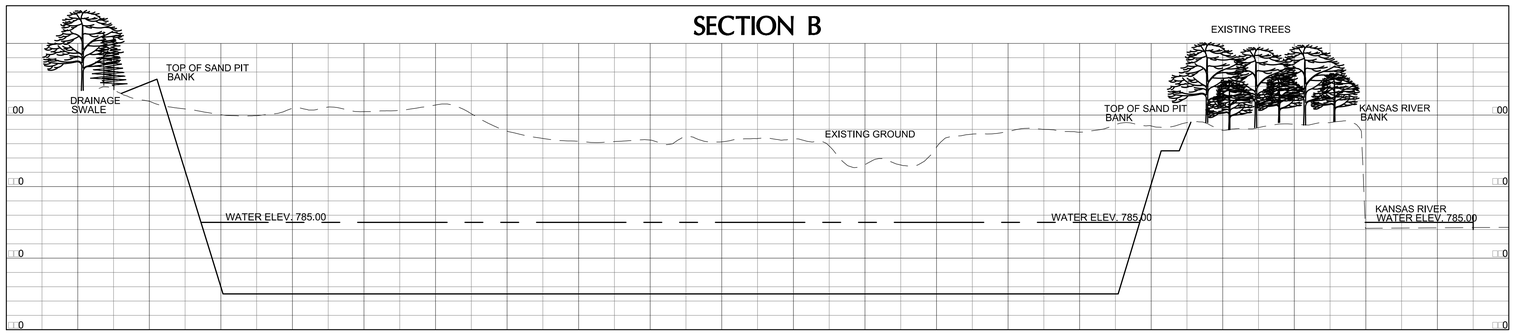
DATE:	11/16/10
PROJECT NO.:	20101019
DESIGNED BY:	LPE
DRAWN BY:	TL/RD/BS
CHECKED BY:	RD/CLM

ISSUE	SHEET NO.
A	R-001

OF 2 SHEETS



SECTION B



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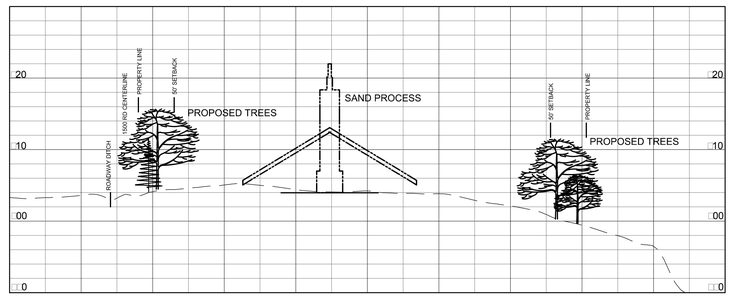

SCALE: 1" = 200'

200 100 0 200 400

A Reclamation Plan for

Kaw Valley Eudora Sand Facility

Douglas County, Kansas

Civil Engineering
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Landplan Engineering, P.A.

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Lawrence, KS • Kansas City, MO • Manhattan, KS
Blue Springs, MO • The Woodlands, TX

EUDORA SAND FACILITY
RECLAMATION PLAN
SITE PLAN #2

REV	DATE	DESCRIPTION
1	4.11.11	SECTION UPDATE
2	4.18.11	JETTY UPDATE

PICK A STAMP OR SEAL

DATE:	11/16/10
PROJECT NO.:	20101019
DESIGNED BY:	LPE
DRAWN BY:	TL/RD/BS
CHECKED BY:	RD/CLM

ISSUE	SHEET NO.
A	R-001

OF 2 SHEETS

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Evaluation of Kaw Valley Companies, Inc., Proposed Sand Pit Operation on Ground Water in the Vicinity of Eudora, KS

For

Kaw Valley Companies, Inc.
Alan Teutemacher, General Manager of Sand
5600 Kansas Avenue
Kansas City, Kansas 66106

Sand 913 287 0035
Cell 913 915 7444

By

Carl E. Nuzman, P.E., P.Hg.
Consulting Engineer/Hydrogeologist
3314 NW Huxman Road
Silver Lake, Kansas 66539-9243

Phone 785 224 9929
Fax 785 582 4155

February 11, 2011

Revised
March 31, 2011

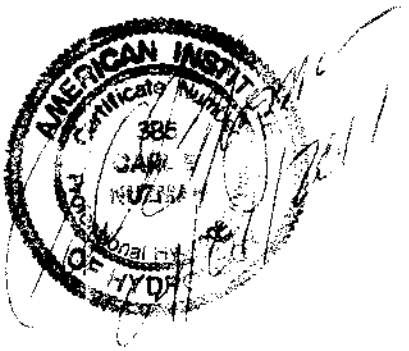


TABLE OF CONTENTS

Evaluation of Kaw Valley Companies, Inc.
Proposed Sand Pit Operation on Ground Water in the Vicinity of Eudora, KS

1. INTRODUCTION

In response to a concern by a citizen of the City of Eudora, a study and evaluation of the possible effects of the sand pit operation proposed by Kaw Valley Companies, Inc. on the City of Eudora water supply wells is the subject of this report. Kaw Valley Companies, Inc. proposes to establish a sand mining operation north of the City of Eudora in the SW ¼ of Section 32, Township 12 South, Range 21 East in Douglas County, Kansas, next to the Kansas River as shown in Exhibit A. The site was formerly developed for a 9-hole golf course and currently is not used for agricultural production of crops.

The City of Eudora has a group of four (4) wells westerly of the proposed sand mining site as their primary water supply, and an existing irrigation well exists in the vicinity as shown in Exhibit B.

2. GEOLOGIC SITUATION

The Quaternary Geology and Ground-Water Resources of the Kansas River Valley Between Bonner Springs and Lawrence, Kansas, by Alvin E. Dufford has been studied by the Kansas Geologic Survey, Bulletin 130, Part 1, University of Kansas Publications 1958 located in Lawrence, KS. The valley itself narrows from more than three (3) miles wide to less than two (2) miles wide at Eudora. The Wakarusa River hugs the south boundary of the Kansas River valley in the vicinity of Eudora, while the Kansas River leaves the north side of the valley and meanders across the valley to the south edge at Eudora and then meanders back to the north side east of Eudora. The Kansas River valley has a general eastward slope of about 3 feet per mile with low dissected hills bounding the flood plain on both sides.

The valley alluvium that comprises the aquifer consists principally of sand, but contains lenses of both coarser and finer material. Generally, the saturated thickness of the aquifer is about 40 feet to 50 feet in the vicinity of the City wells, but thins to about 30 feet in saturated thickness, in the vicinity of the proposed sand mining operation. Well logs can be found in Appendix I from the WWC-5 forms filed at the Kansas Geologic Survey water well log file in Lawrence, KS. In Exhibit C, is a geologic west to east, cross-section along North 1500 Road which shows the geology from the well logs obtained.

3. HYDROLOGIC SITUATION

The Eudora area has a humid continental climate. Normally, more that 70% of the annual precipitation of 39 inches falls during the growing season, April through September, precipitation during this period is usually from thunderstorms (high intensity rainfall of brief duration) in the evening and early morning hours. The mean hourly wind speed is about 10 miles per hour, and the sun usually shines more than 60% of the daylight hours.

The Kansas River, which flows in an easterly direction, is the principal stream in the area. The Army Corps of Engineers normally maintains a minimum desirable stream flow of 1,000 cubic feet per second (cfs) at the DeSoto gaging station on the Kansas River. The Wakarusa River is hydrologically an important tributary stream because it is a major source of recharge to the alluvial aquifer.

4. SAFE YIELD ANALYSIS

The safe yield available for appropriation from an unconfined aquifer at a specific location is determined by the amount of average annual precipitation that becomes recharge to the aquifer occurring within the area of consideration by the chief engineer of the Division of Water Resources, Kansas Department of Agriculture. The area of consideration means the portion of the aquifer area that lies within a two-mile radius circle with the proposed point of interest (the sand pit) as the geo-center.

Although a safe yield analysis is not required for a sand pit operation in the Kansas River Basin by the Division of Water Resources, Kansas Department of Agriculture, such an appraisal was made to identify all registered ground water appropriators within a two (2) mile radius of the proposed sand pit operation. There were 15 identified ground water users of which five (5) pertained to the City of Eudora wells. The four (4) Northwest wells are shown on Kaw Valley Eudora Sand Facility, Eudora City Well Exhibit B. These data are given in Appendix II. The City Well No. 6 and the Neis irrigation well are both ½ mile from the Phase 1 planned mining by Kaw Valley Companies, Inc.

Based on established recharge rates by the Division of Water Resources, the safe yield for the 2-mile circle is 2,749.76 acre-feet, using 9.21 inches per year as the average recharge rate to the aquifer in this area. The prior appropriation in the circle is 1,629.50 acre-feet of which 43% (699 ac-ft or 227.77 MGY) is for municipal appropriation including future water use for population growth. The remainder of the 930.5 ac-ft appropriated in this area is for irrigation of which only about ½ is used in any particular year then only for about 6 weeks from July into September. The un-appropriated water available for future use is 40.7% of the total available in this area of consideration.

City of Eudora original well No. 1 has long since been abandoned. Plugging reports have been filed for Wells No. 2, 3 and 4 showing these wells to be abandoned, are included in Appendix I. The status of well No. 5 which is located within the north city limits of Eudora is unknown but believed to be serviceable. The City of Eudora's annual pumpage for the calendar year of 2009 was 186.781 million gallons per year (MGY) or 573.2 acre feet. Eudora well No. 6 has been certified by the Division of Water Resources, file No. 38,063, to a permanent water right for an amount of 69.777 MGY to be diverted at a rate not to exceed 325 gallons per minute. Eudora well No. 7 is covered by File No. 38,064. Well No. 8 is covered by File No. 42,939. Well No. 9 which was placed in service in 2005 is covered by File No. 45,800. The total authorized annual pumpage of all water rights on file for the City of Eudora with the Division of Water Resources of the Kansas Department of Agriculture is 227.77 MGY or 699 acre feet per year.

5. AQUIFER PROPERTIES

You do not get water from a well. A well is a stabilized hole in the ground to gain access to water bearing material called an ***aquifer***. The yield of an aquifer is controlled by the permeability of the geologic formation and the thickness of that permeable formation. The yield of a well can never be greater than that of the aquifer and usually less depending upon the efficiency of well construction and development. A well can decrease in yield due to biological fouling and lack of proper maintenance but unless the static water level has a substantial decline reducing the saturated thickness, the yield available from the aquifer remains constant.

Data from the WWC-5 report for City Well No 8, shown in Exhibit D was used to estimate the properties of the aquifer. The reported drawdown was 4 feet after 11 hours of pumping at 521 gallons per minute (gpm). These values give a well specific capacity of 130 gpm/foot of drawdown when constructed. This value is used to estimate the transmissivity of the aquifer which is 220,000 gpd/ft. Utilizing the 25 feet of well screen installed which is less than the formation thickness, the calculated formation permeability is 8,800 gpd/ft^2, a very good formation value. Typical average value of formation permeability for the Kansas River valley alluvium is about 5,000 gpd/ft^2, with a maximum value observed of 10,000 gpd/ft^2. Additional data was found for City wells No. 6 and No. 7. The original specific capacity for well No. 6 was 101.7 gpm/foot of drawdown. The estimated formation transmissivity of the aquifer at well No. 6 location is 172,900 gpd/ft. The original well specific capacity for well No. 7 was 126.8 gpm/ft which gives an estimated formation transmissivity of 215,600 gpd/ft.

When a well is pumped, the pump energy creates a partial vacuum that causes a cone of depression to develop around the bore hole [Reference exhibit No. E]. The bore hole for the construction of Well No. 8 was reported to be 42 inches which gives a well radius of 1.75 feet. Using the formation transmissivity value of 220,000 gpd/ft, the drawdown per log cycle was calculated to be 1.0 foot for a pumping rate of 325 gpm, which is the maximum authorized pumping rate established for well No. 6. This information was then plotted on a semi-log plot to obtain the radius of influence for well 6, well 7 and well 8, Reference Exhibit F. The zero (0) drawdown for wells 6 & 7 was 2,400 feet and 2,100 feet for well 8 [Reference exhibits F & G]. Drawdown values of less than 1 foot are considered insignificant since annual variations of static water level may vary more than 2 feet in a year due to weather conditions. The 1-foot drawdown occurs at a radius from 130 to 260 feet for each of the wells shown in Exhibit F. The basic assumptions in Exhibit F assume the world is flat and the aquifer conditions are perfect. The approximate 1,000 feet distance between City wells minimizes the mutual interference effects from simultaneous pumping of these wells.

Simple model system was developed using the analytical-element method often used in modeling well-head protection. The State Geological Survey of Kansas had experienced geologists investigate the Kansas River valley geology and ground water resources from Bonner Springs to the vicinity of Manhattan. The reach of special interest is contained in Bulletin 130, Part 1, Quaternary Geology and Ground-Water Resources of Kansas River Valley between Bonner Springs and Lawrence, Kansas. At that time, the Kansas Geological Survey had their own small drilling rig in which to drill test holes. Many of the data points used in the model were from this work dated back to the 1940's and 1950's.

Figure 3 in Bulletin 130, Part 1 is the basis for the development of Exhibit H, a generalized static water table of the area of interest. In the 1950's there was no pumpage in this area of interest which gives a good representation of pre-development conditions for the aquifer. Since the measurements upon which Figure 3 was based occurred over a period of years, exact replication of the water level elevations was not possible. Using statistical analysis, a very reasonable simulation of the water table gradient was obtained.

The model was then used to simulate the probable maximum 3-day pumping rate of 1.4 million gallons per day to obtain the area of direct influence of the City of Eudora well field. You will note that the area of 1 foot drawdown for the City of Eudora's peak pumpage is not circular but egg shaped extending more up-gradient to the west than to the east toward the sand pit. In fact the 1.0 foot drawdown, considered the point of significance is still a few hundred feet from the corner of the pit property. Set-back of the pit mining from the property boundaries further extends this distance. Average annual pumping rate is estimated at 60% of peak day rate. Thus the development of the drawdown simulated in Exhibit I is a representation of the maximum drawdown expected in the future.

A feature of the model called particle tracking was then used to plot the movement of water in the aquifer to each of the four wells shown in Exhibit J. Based on the maximum allowable pumpage of 227.77 MGY authorized by the City's water rights on file with the Division of Water Resources, the travel time of water in the aquifer was calculated. The time period selected was 10 years. Each little collar around the straw like flow path lines represents one (1) year of flow. Due to the hydraulic gradient of the valley aquifer system and recharge to the aquifer from rainfall, **no water enters the wells** from the direction of the proposed sand pit. The City's concern in regard to protecting the future quality of water from their well field must focus on the area west of the wells.

In so far as contaminant in the aquifer, the water movement is from west to east in a down-gradient direction. This means that if any contaminants were to occur at the sand pit, they would move into the Kansas River or remain in the aquifer system down-gradient (Easterly). The estimated travel time in the Kansas River alluvium aquifer, based on the formation transmissivity and land surface gradient is 0.7 feet /day or about 8.4 inches per day.

The static water level elevation in the sand pit will be about the same as the water surface elevation in the Kansas River. Sand pit lakes that are within the effective radius of influence of a water well support the water production from a well during drought conditions due to the increase of lake water storage which is 5 times greater than the water storage yield capacity of the aquifer itself. This storage yield effect is applicable to any unconsolidated aquifer.

Water pumped by the sand dredge is piped to the sand separator, then diverted to a sediment pond, and then returned to the sand pit. Storm water runoff from local precipitation is diverted around the pit to the Kansas River. Berms and a grass swale will be provided on the west and south sides of the sand pit for the diversion of local storm water.

6. WICHITA SAND PIT STUDY

Sedgwick County Department of Environmental Resources organized and conducted much of the efforts to determine which sand pits to study in more detail. The study group obtained assistance from the U.W. Bureau of Reclamation in drilling and installing three (3) monitoring wells around each of six (6) sites selected for study. Funds were obtained for the U.S. Geological Survey to sample and analyze surface water from the pits, ground water from the monitoring wells, and pit bottom sediment at four (4) sites located at the northwest edge of Wichita. The USGS analyzed the water samples for 18 physical and chemical properties, five (5) bacteriological values, 40 inorganic constituents, 118 pesticides and degradate compounds, and 134 organic compounds other than pesticides. The USGS analyzed the bottom sediments for five (5) physical and chemical properties, 45 inorganic constituents, and 32 organic compounds. The four pits in the Phase I sampling were; Barefoot Bay, Ridge Port, Mooring, and Cropland. Later two south pits were sampled which were; Kingston Cove and Pine Bay Estates.

Maize retention pond/ground-water pit is used for storage of storm water runoff. A special sampling of the storm water flow into the pit was made by others within 30 minutes of when flow commenced and within one to two hours following a storm event. The TDS of the storm water flow was very low at 49 to 111 mg/L when compared to the computed values in the analysis of data of 46 to 83 mg/L by the Kansas Geological Survey. Organic compounds found in the runoff water of concern was alachlor at 3.8 μg/L in the first June 2007 runoff sample, alachlor of 3.0 μg/L in the second June 2007 sample. The drinking water MCL for alachlor is 2 μg/L. However, in the October 2007 pond sample alachlor was significantly reduced by sunlight and bacterial activity of the pond. The Maize detention pond appears to be an effective means of removing storm water runoff with high bacteria content from the Big Slough waterway.

Storm water runoff into the sand pits does contribute to ground water recharge. The study showed no *significant* evidence of contamination of ground water by storm water runoff into the pits. The key word is *significant* contamination. Trace levels of some organics and mineral constituents such as iron, manganese and the ammonium ion were detected in the down gradient monitoring wells in slightly greater concentrations than the up gradient monitoring wells. On the contrary, most organic contaminants were reduced by the sunlight and bacterial activity existing within the sand pit lakes. Bacterial levels were never greater than the level recommended by KDHE for body contact.

Although some of the pits had piped storm water runoff into the pits from streets, broad width flow ways with grass filtering would capture silt and other contaminants prior to entering the ponds or pits. Road side drainage ditches may have a broad width overflow channels into nearby pits temporarily storing the storm water surge allowing orderly flow to the natural water courses. The long term accumulation of silts, sediments and other solids will eventually restrict the recharge to the ground water system as has occurred at the Sedgwick County Zoo pit.

Residential areas have the greater potential for ground water contamination than rural areas. However, the spring runoff from corn fields with atrazine must be bounded by grass filter strips and flows need to be routed in grass waterways to capture sediments with atrazine attached.

In the area of consideration, the herbicide Alachlor, which is used for the control of annual grasses and broadleaf weeds, may be the most prevalent in the vicinity of the sand pit. Alachlor is reduced by sunlight and bacterial activity in the pit lake. The sand pit will have a minimum of 50 feet wide grass filter strip surrounding the pit area. There will be a gentle slope to the grass filter strip away from the active pit area.

7. CONCLUSION

It was found in this study that the proposed sand pit lake that will eventually be developed in this study area will have ***no*** effect on the City of Eudora's wells or water supply. All activity at the proposed sand pit operation is down-gradient from the City wells and of sufficient distance that the operation of the City wells **will not in any way draw any potential contaminants into the area of influence of these wells** from the sand pit area.

After extensive study and analysis in the Wichita Study, it was concluded that storm water runoff into sand pit lakes was not a threat to any significant contamination of the ground water system. The benefit of ground water recharge to shallow aquifers has the potential to offset the loss of water from evaporation for the average year.

By using runoff from the adjacent areas and routing the storm water flow through broad and relatively flat natural grass filter areas, sediment and most organic contamination can be reduced to manageable levels. Contaminants will naturally degrade in the sand pit lakes as shown by the Kansas Geological Survey study in Wichita.

With Best Management Practices (BMP's) sand pit lakes can benefit the management of storm water runoff and substantially add to ground water recharge of shallow aquifers. Storm water is very low in minerals and with proper natural filtration for the removal of sediment and organics, ground water recharge through sand pit lakes can improve the overall quality of ground water that is high in dissolved minerals.

There is not complete agreement between State agencies on routing storm water into or around sand pits. Kaw Valley Companies, Inc. is taking the conservative position of providing diversion of local storm water around the sand pit from west side to the south, then eastward to the Kansas River. The plans and work will be reviewed by the State Conservation Commission Director and staff during reclamation following the sand mining operation.

EXHIBITS

A. Eudora Sand Facility Conditional Use permit Site Plan #2

B. Kaw Valley Eudora Sand Facility Eudora City Well Exhibit

C. West to East Geologic Cross-Section along N 1500 Road

D. WWC-5 Water Well Record for City of Eudora Well No. 8

E. Cone of Depression around a Pumping Well

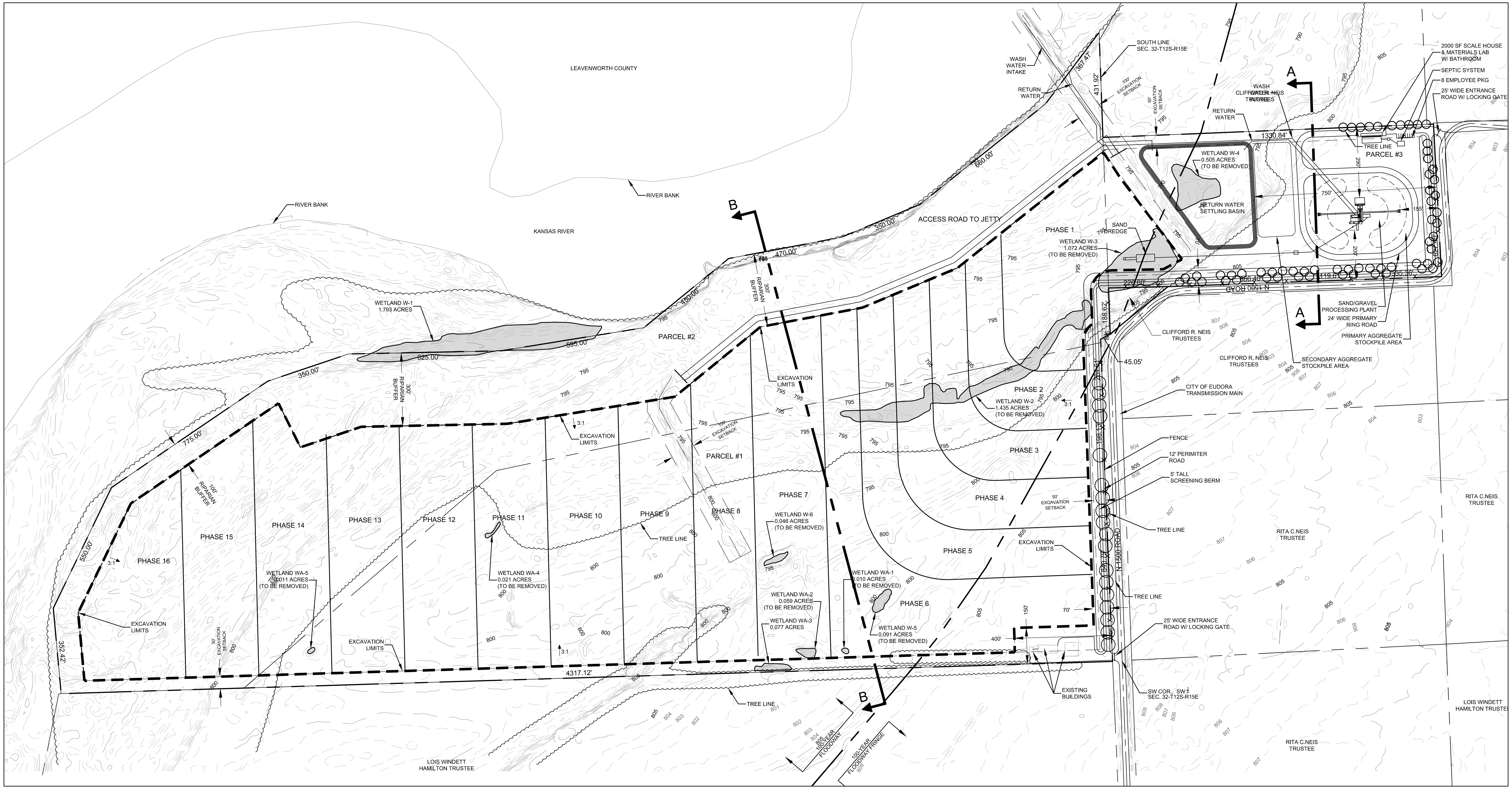
F. Distance-Drawdown Semi-Log Plot of Eudora Well No. 8 Data

G. Radius of Influence

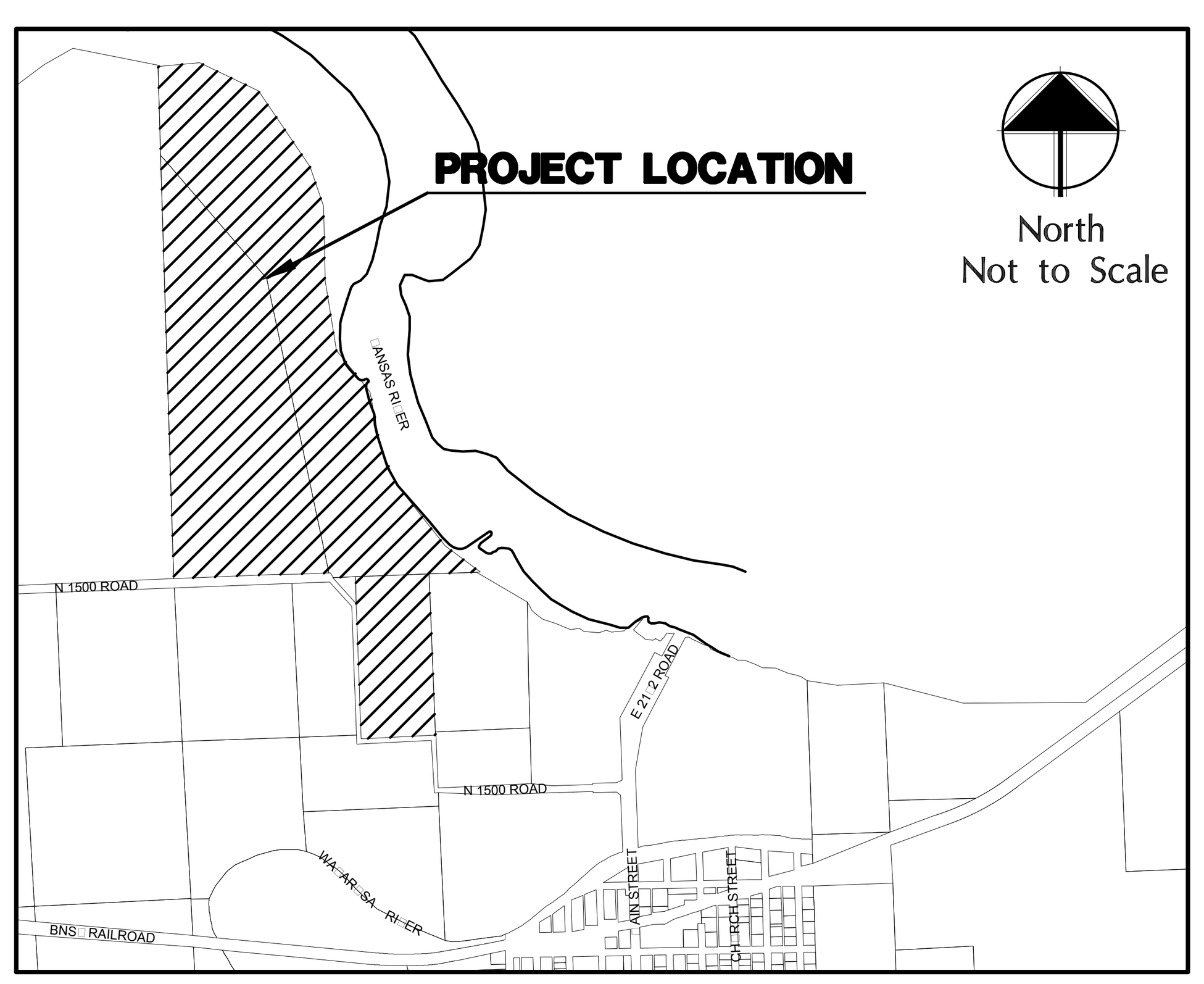
H. Generalized Static Water Table

I. Drawdown at Peak Day Pumpage of 1.4 MGD

J. Groundwater Flow Paths to Eudora Wells at 227.77 MGY Pumpage



Location Map



Legal Description

A TRACT OF LAND IN THE WEST HALF OF SECTION 32, TOWNSHIP 12 SOUTH, RANGE 21 EAST AND THE NORTHWEST QUARTER OF SECTION 05, TOWNSHIP 13S, RANGE 21 EAST OF THE SIXTH PRINCIPAL MERIDIAN, IN DOUGLAS COUNTY, KANSAS, DESCRIBED AS FOLLOWS:

PARCEL #1

BEGINNING AT THE SOUTHWEST CORNER OF SECTION 32, TOWNSHIP 12 SOUTH, RANGE 21 EAST THENCE NORTH 0°18'56" EAST, ALONG WEST LINE OF SAID QUARTER SECTION 3619.59 FEET; THENCE SOUTH 89°41'04" EAST, 34.40 FEET; THENCE SOUTH 38°40'12" EAST, 1368.99 FEET; THENCE SOUTH 09°52'55" EAST, 2544.71 FEET; THENCE SOUTH 0°00'00", TO A POINT ALONG SOUTH LINE OF SAID SECTION 47.76 FEET; THENCE NORTH 89°49'14" WEST ALONG SOUTH LINE 1346.44 FEET TO THE POINT OF BEGINNING. CONTAINS 72.800 ACRES, MORE OR LESS.

PARCEL #2

BEGINNING AT THE SOUTHWEST CORNER OF SECTION 32, TOWNSHIP 12 SOUTH, RANGE 21 EAST THENCE NORTH 0°18'56" EAST, ALONG WEST LINE OF SAID QUARTER SECTION 4375 FEET TO RIGHT BANK OF THE KANSAS RIVER; THE NEXT ELEVEN COURSES ARE ALONG THE SOUTHERLY AND WESTERLY BANK OF THE KANSAS RIVER; THENCE NORTH 86°48'56" EAST, 350.00 FEET; THENCE SOUTH 62°11'04" EAST, 550.00 FEET; THENCE SOUTH 32°11'04" EAST, 775.00 FEET; THENCE SOUTH 16°36'04" EAST, 350.00 FEET; THENCE SOUTH 0°53'56" WEST, 625.00 FEET; THENCE SOUTH 07°06'04" EAST, 595.00 FEET; THENCE SOUTH 37°06'04" EAST, 450.00 FEET; THENCE SOUTH 08°36'04" EAST, 470.00 FEET; THENCE SOUTH 20°36'04" EAST, 350.00 FEET; THENCE SOUTH 36°36'04" EAST, 660.00 FEET; THENCE SOUTH 51°06'04" EAST, TO A POINT ALONG SOUTH LINE OF SAID SECTION 411.10 FEET; THENCE NORTH 89°49'14" WEST ALONG SOUTH LINE 2614.92 FEET TO THE POINT OF BEGINNING, LESS PARCEL #1 CONTAINS 77.600 ACRES, MORE OR LESS.

PARCEL #3

BEGINNING AT A POINT FROM THE NORTHWEST CORNER OF SECTION 5, TOWNSHIP 13 SOUTH, RANGE 21 EAST THENCE EAST, 2128.50 FEET; THENCE SOUTH, 1391.00 FEET; THENCE WEST, 626.30 FEET; THENCE NORTH, 1391.00 FEET; THENCE EAST, TO THE POINT OF BEGINNING 626.30 FEET. CONTAINS 19.700 ACRES, MORE OR LESS.

General Notes

OWNER: KAW VALLEY COMPANIES, INC.
ATTN: ALAN TEUTEMACHER
5600 KANSAS AVENUE,
KANSAS CITY, KS 66106

1. LAND PLANNER/ENGINEER: LANDPLAN ENGINEERING, P.A.
1310 WAKARUSA DRIVE
LAWRENCE, KS 66049
2. TOPOGRAPHIC INFORMATION OBTAINED FROM 2006 CITY OF LAWRENCE LIDAR AERIAL DATA.
3. EXISTING LAND USE: AGRICULTURAL
4. PROPOSED LAND USE: SAND EXCAVATION, EXTRACTION & PROCESSING; AGRICULTURAL
5. EXISTING ZONING: A
6. PROPOSED ZONING: A
7. THIS SITE IS LOCATED WITHIN THE FLOODPLAIN PER FEMA MAP #20045C0203D, DATED AUGUST 5, 2010.
8. THIS SITE HAS BEEN DESIGNED TO COMPLY WITH THE PROVISIONS OF THE AMERICANS WITH DISABILITIES ACT ACCESSIBILITY GUIDELINES (ADAAG) FOR BUILDINGS AND FACILITIES, APPENDIX A TO 28 CFR PART 36.
9. DOUGLAS COUNTY HAS A BLANKET EASEMENT ON THE PROPERTY TO MAINTAIN THE TWO ROCK JETTIES.
10. PROVIDE DUST CONTRAIL ALONG PROPERTY 4 TIMES A YEAR.
11. OWNER SHALL WORK WITH DOUGLAS PUBLIC WORKS ON 1500 ROAD IMPROVEMENTS ALONG THE PROPERTY AND AT THE INTERSECTION OF E 2200 RD AND N 1500 ROAD.

Site Summary

GROSS CUP/SITE AREA:	**7,387,103 SF / 169.58 AC**
PUBLIC RIGHTS-OF-WAY:	**SF / AC**
NET CUP/SITE AREA:	**SF / AC**
SAND EXCAVATION & AGRI AREA:	4,971,151 SF / 114.12 AC
SAND/GRAVEL PROCESSING AREA:	280,000 SF / 6.43 AC
SCALE HOUSE & MATERIALS LAB:	200 SF
SAND/GRAVEL PROCESSING PLANT:	APPROX. 15,000 SF

Parking Summary

REQUIRED = 1 SPACE/2 EMPLOYEES; 4 TOTAL EMPLOYEES = 2 SPACES
PROVIDED = 8 SPACES

SCALE: 1" = 200'

200 100 0 200 400

A CUP Site Plan #2 for

Kaw Valley Eudora Sand Facility

Douglas County, Kansas

Civil Engineering
Landscape Architecture
Community Planning
Surveying

1310 Wakarusa Drive
Lawrence, Kansas 66049
tele (785)843-7530
fax (785)843-2410
email: info@landplan-pa.com
Web www.landplan-pa.com

Landplan Engineering, P.A.
Lawrence, KS • Kansas City, MO • Manhattan, KS
Blue Springs, MO • The Woodlands, TX

EUDORA SAND FACILITY CONDITIONAL USE PERMIT SITE PLAN #2

REV	DATE	DESCRIPTION
1	3.30.11	JETTY SETBACK
2	3.30.11	ADD TREE EAST PL
3	4..1.11	NOTES

PICK A STAMP OR SEAL

DATE:	11/16/10
PROJECT NO.:	20101019
DESIGNED BY:	LPE
DRAWN BY:	TL/RD/BS
CHECKED BY:	RD/CLM

ISSUE A | SHEET NO. **C-001** OF 2 SHEETS

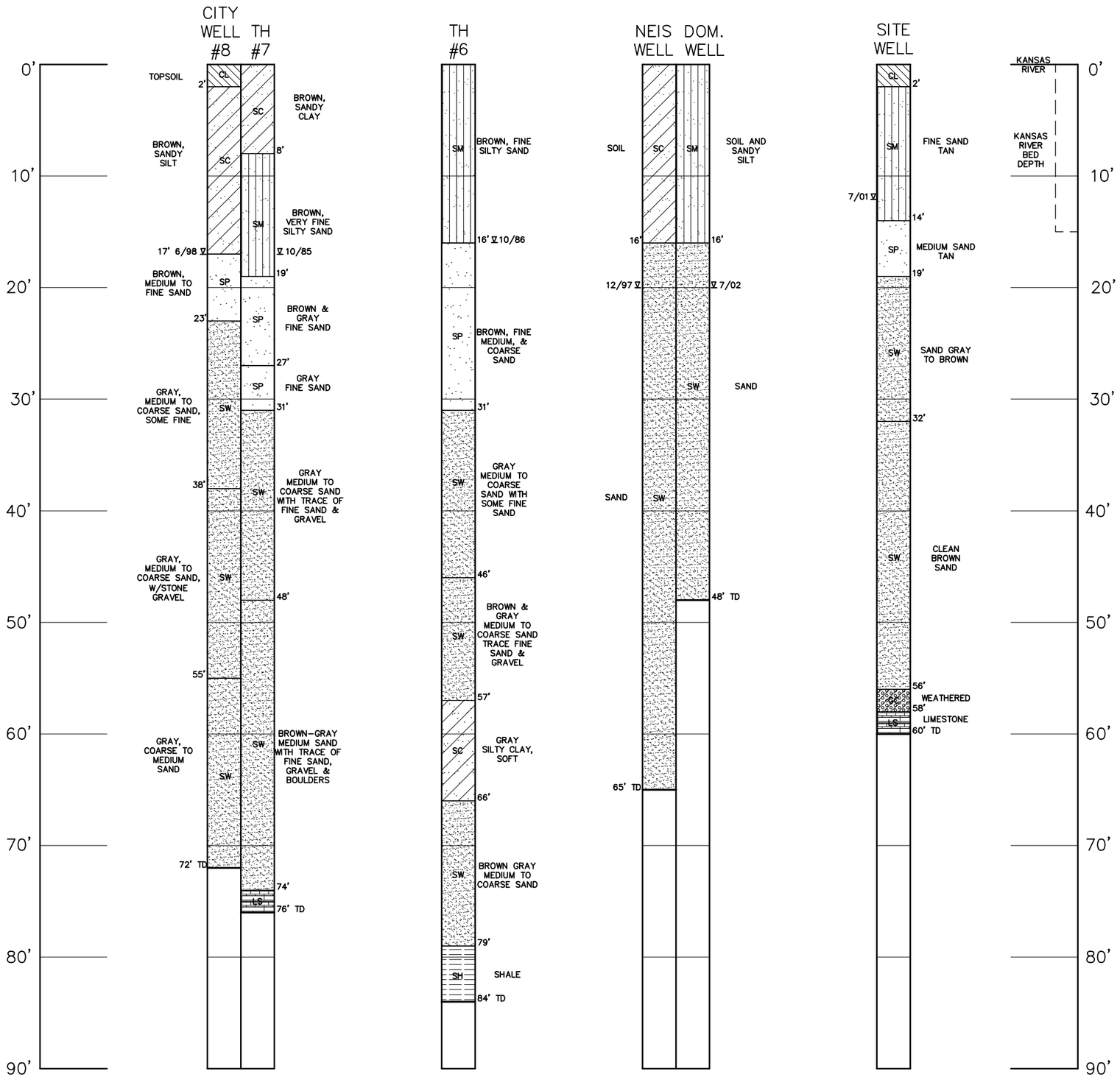


EXHIBIT C
WEST TO EAST CROSS SECTION ALONG N 1500 ROAD

PREPARED 1/20/11

SCALE: 1" = 10'

10 5 0 10 20

Landplan Engineering, P.A.
Lawrence, KS • Kansas City, MO • Columbus, OH
The Woodlands, TX • Farmington Hills, MI

Civil Engineering
Landscape Architecture
Community Planning
Surveying

1310 Wakarusa Drive
Lawrence, Kansas 66049
tele (785)843-7530
fax (785)843-2410
email: info@landplan-pa.com
Web www.landplan-pa.com

EXHIBIT B
□AW □ALLE□ E□DORA SAND □ACILIT□
E□DORA CIT□ WELL EXHIBIT

PREPARED 2/0□/11

NOTES□

1□ CIT□ WELL LOCATIONS ARE PER □WELL LOCATIONS AND PLACE O□ □SE□CIT□ O□ E□DORA□ □ANSAS WATER APPROPRIATION PER□IT APPLICATION□□DATED 12□1□200□□PREPARED B□ B□RNS □ □CDONNELL□

2□ THE DI□ENSIONS SHOWN ARE BASED ON APPROXI□ATE WELL LOCATIONS AND HA□E NOT BEEN □ERI□IED B□ □IELD S□R□E□□

Landplan Engineering, P.A.
Lawrence, KS • Kansas City, MO • Columbus, OH
The Woodlands, TX • Farmington Hills, MI

Civil Engineering
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1310 Wakarusa Drive
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tele (785)843-7530
fax (785)843-2410
email: info@landplan-pa.com
Web www.landplan-pa.com

EXHIBIT D

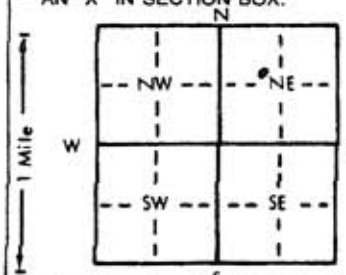
WATER WELL RECORD Form WWC-5 KSA 82a-1212

1 LOCATION OF WATER WELL:	Fraction	Section Number	Township Number	Range Number
County: DOUGLAS	SE ¼ NW ¼ NE ¼	6	T 13 S	R 21 (E)W

Distance and direction from nearest town or city street address of well if located within city?
3 MILES NORTHWEST OF EUDORA

2 WATER WELL OWNER: CITY OF EUDORA
RR#, St. Address, Box # : 4 EAST SEVENTH STREET
City, State, ZIP Code : EUDORA, KS 66026
Board of Agriculture, Division of Water Resources
Application Number:

3 LOCATE WELL'S LOCATION WITH AN "X" IN SECTION BOX:



4 DEPTH OF COMPLETED WELL 72 ft. ELEVATION:
Depth(s) Groundwater Encountered 1. 18 ft. 2. ft. 3. ft.
WELL'S STATIC WATER LEVEL 18 ft. below land surface measured on mo/day/yr 6/16/98
Pump test data: Well water was 20 ft. after 0.5 hours pumping 329 gpm
Est. Yield 325 gpm: Well water was 22 ft. after 11 hours pumping 521 gpm
Bore Hole Diameter 42 in. to 72 ft., and in. to ft.
WELL WATER TO BE USED AS: (5 Public water supply) 8 Air conditioning 11 Injection well
1 Domestic 3 Feedlot 6 Oil field water supply 9 Dewatering 12 Other (Specify below)
2 Irrigation 4 Industrial 7 Lawn and garden only 10 Monitoring well
Was a chemical/bacteriological sample submitted to Department? Yes X No; If yes, mo/day/yr sample was submitted 4/21/97 Water Well Disinfected? (Yes) No

5 TYPE OF BLANK CASING USED: (1 Steel) 2 PVC 3 RMP (SR) 4 ABS 5 Wrought iron 6 Asbestos-Cement 7 Fiberglass 8 Concrete tile 9 Other (specify below)
CASING JOINTS: Glued Clamped Welded X Threaded
Blank casing diameter 12 in. to 47 ft., Dia in. to ft., Dia in. to ft.
Casing height above land surface 18 in., weight PITLESS UNIT lbs./ft. Wall thickness or gauge No. 0.375"

TYPE OF SCREEN OR PERFORATION MATERIAL:
1 Steel (3 Stainless steel) 5 Fiberglass 7 PVC 10 Asbestos-cement
2 Brass 4 Galvanized steel 6 Concrete tile 8 RMP (SR) 11 Other (specify)
9 ABS 12 None used (open hole)

SCREEN OR PERFORATION OPENINGS ARE:
1 Continuous slot 3 Mill slot 5 Gauzed wrapped 8 Saw cut 11 None (open hole)
2 Louvered shutter 4 Key punched (6 Wire wrapped) 9 Drilled holes
7 Torch cut 10 Other (specify)

SCREEN-PERFORATED INTERVALS: From 47 ft. to 72 ft., From ft. to ft.
From ft. to ft., From ft. to ft.
GRAVEL PACK INTERVALS: From 22 ft. to 72 ft., From ft. to ft.
From ft. to ft., From ft. to ft.

6 GROUT MATERIAL: (1 Neat cement) 2 Cement grout 3 Bentonite 4 Other
Grout Intervals: From 6 ft. to 20 ft., From ft. to ft., From ft. to ft.

What is the nearest source of possible contamination:
1 Septic tank 4 Lateral lines 7 Pit privy 10 Livestock pens 14 Abandoned water well
2 Sewer lines 5 Cess pool 8 Sewage lagoon 11 Fuel storage 15 Oil well/Gas well
3 Watertight sewer lines 6 Seepage pit 9 Feedyard 12 Fertilizer storage 16 Other (specify below)
13 Insecticide storage
Direction from well? How many feet?

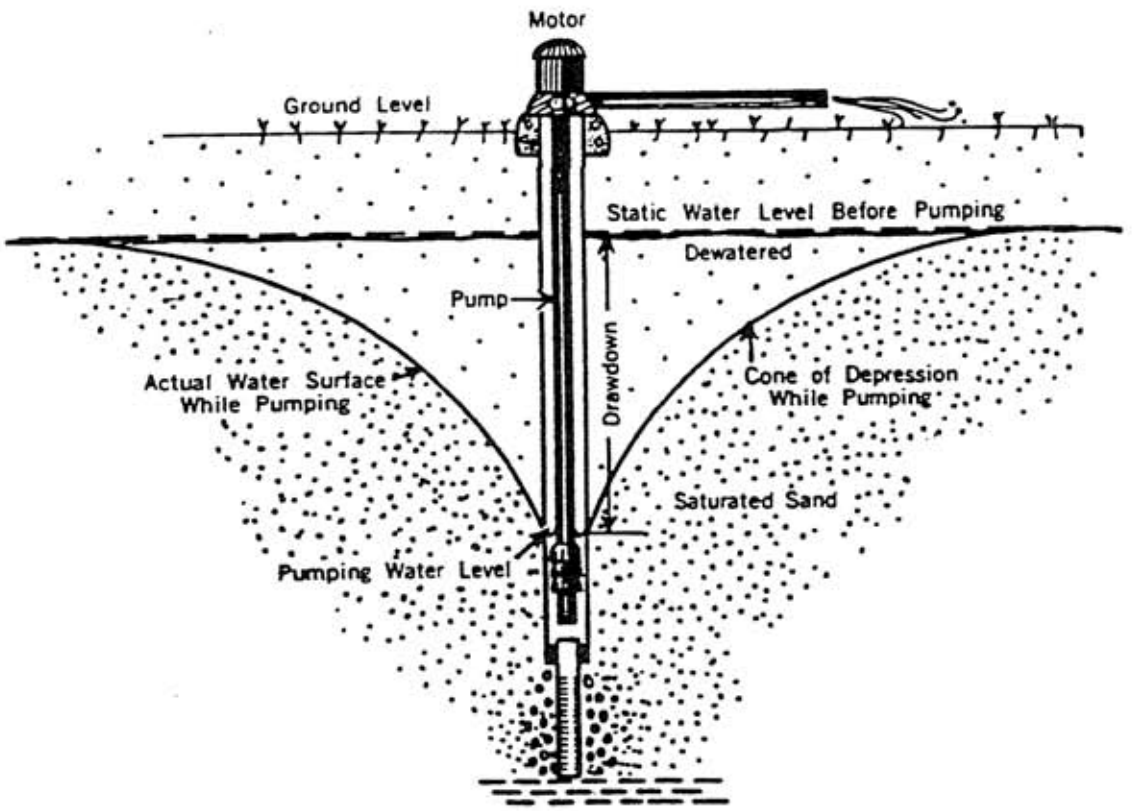
FROM	TO	LITHOLOGIC LOG	FROM	TO	PLUGGING INTERVALS
0	2	TOP SOIL			
2	17	BROWN SANDY SILT			
17	23	BROWN MEDIUM TO FINE SAND			
23	38	GRAY MEDIUM TO COARSE, SOME FINE			
38	55	GRAY MEDIUM TO COARSE, SOME GRAVEL			
55	72	GRAY COARSE TO MEDIUM			

7 CONTRACTOR'S OR LANDOWNER'S CERTIFICATION: This water well was (1) constructed (2) reconstructed, or (3) plugged under my jurisdiction and was completed on (mo/day/year) 6/16/98 and this record is true to the best of my knowledge and belief. Kansas Water Well Contractor's License No. 102 This Water Well Record was completed on (mo/day/yr) 8/5/98
under the business name of LAYNE CHRISTENSEN COMPANY by (signature)

INSTRUCTIONS: Use typewriter or ball point pen. *PLEASE PRESS FIRMLY* and *PRINT* clearly. Please fill in blanks, underline or circle the correct answers. Send top three copies to Kansas Department of Health and Environment, Bureau of Water, Topeka, Kansas 66620-0001. Telephone: 913-296-5545. Send one to WATER WELL OWNER and retain one for your records.

EXHIBIT E

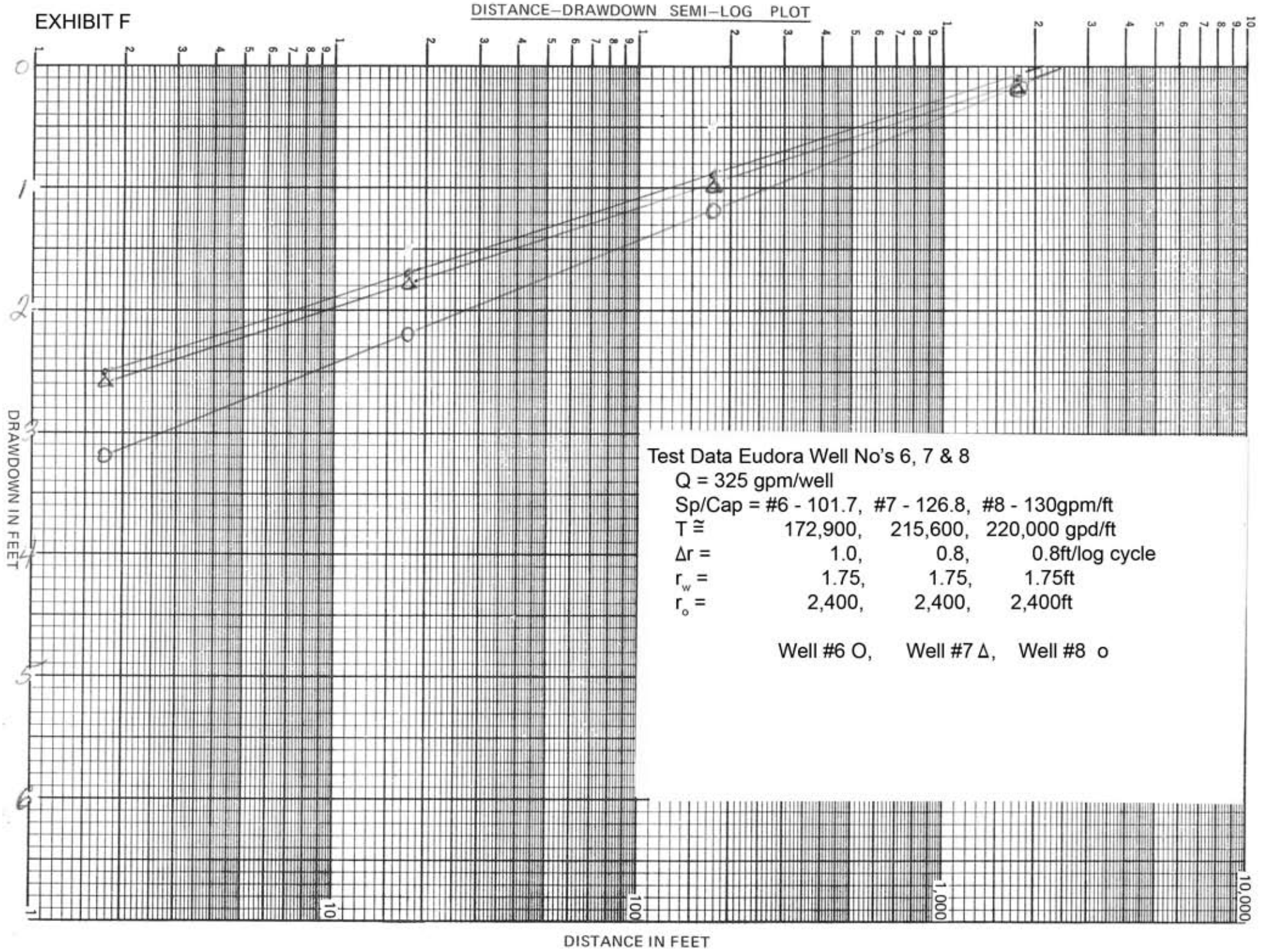
Cone of Depression Around a Pumping Well



The Pump Energy creates a partial vacuum that causes a Drawdown or Cone of Depression that is controlled by the Permeability of the surrounding Geologic Formation.

EXHIBIT F

DISTANCE–DRAWDOWN SEMI–LOG PLOT



Test Data Eudora Well No's 6, 7 & 8

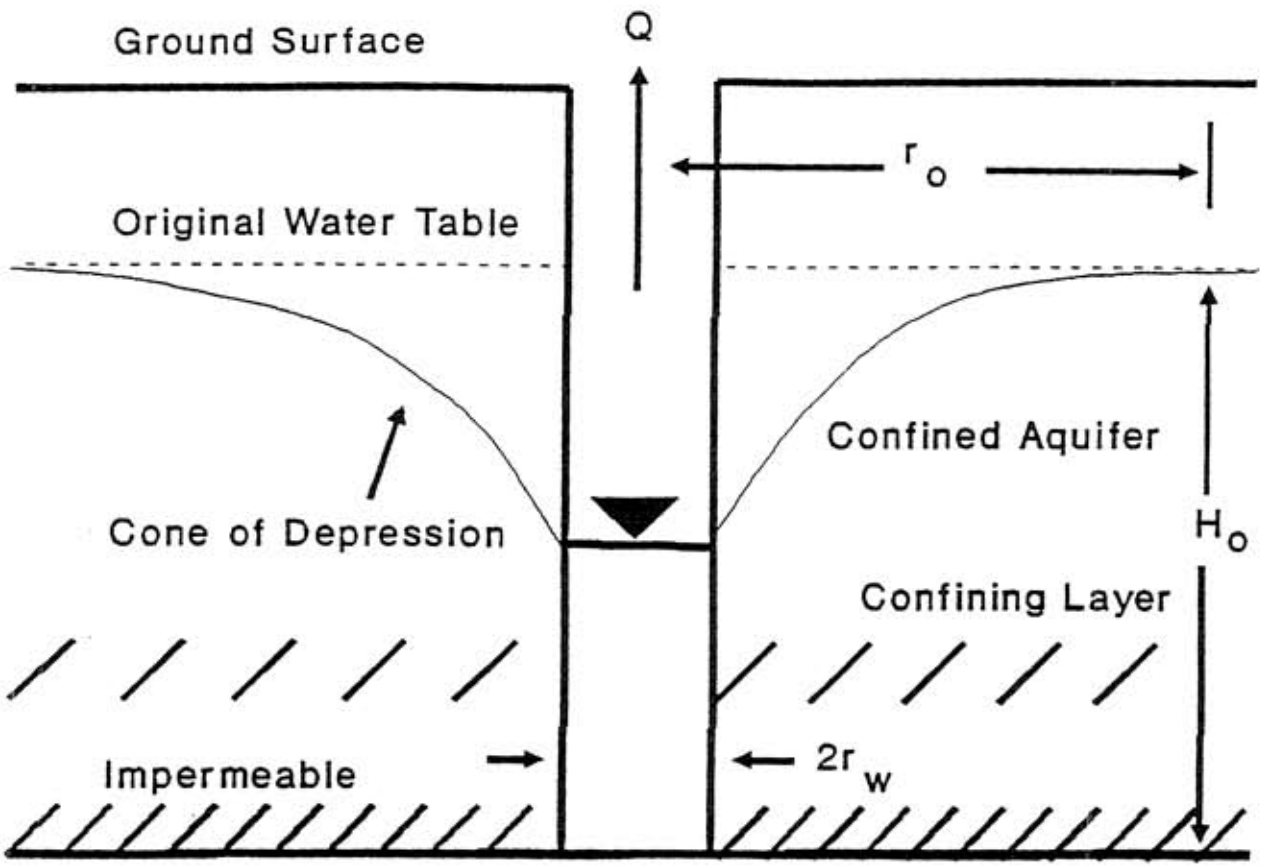
Q = 325 gpm/well

Sp/Cap =	#6 - 101.7,	#7 - 126.8,	#8 - 130gpm/ft
T ≅	172,900,	215,600,	220,000 gpd/ft
Δr =	1.0,	0.8,	0.8ft/log cycle
r_w =	1.75,	1.75,	1.75ft
r_o =	2,400,	2,400,	2,400ft

Well #6 O, Well #7 Δ, Well #8 o

EXHIBIT G

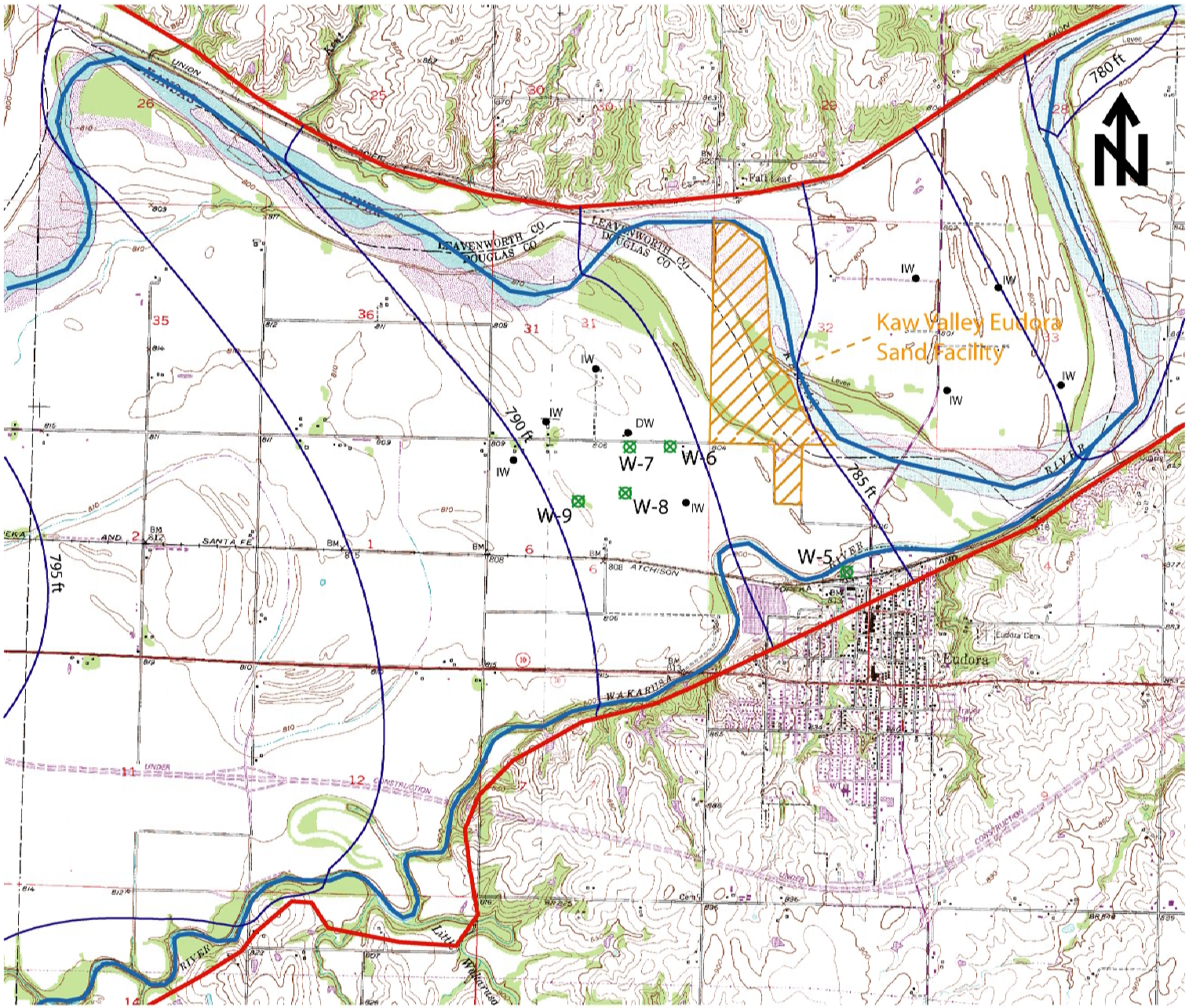
Radius of Influence



r_o = Radius of Influence

r_w = Radius of Well

H_o = Static Water Level

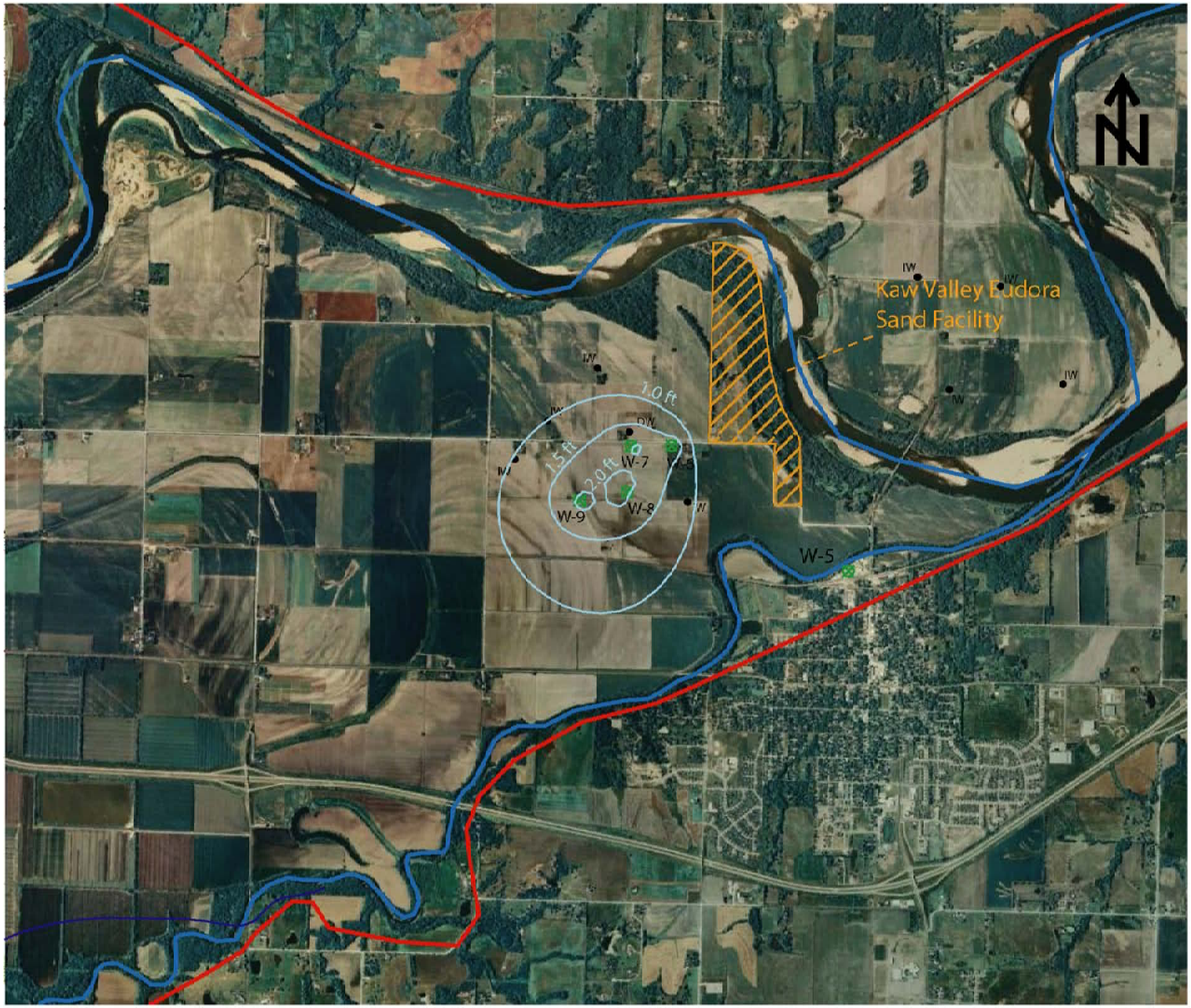


Approximate Scale
0 0.5 1.0 miles
0 2,640 5,280 feet

Legend

- River
- Aquifer Boundary
- Water Table Elevation (Contour Interval 2.5 feet)
- W-7 City of Eudora Water Supply Well
- IW DW Registered Irrigation or Domestic Well

Exhibit H:
Generalized Static Water Table
(Based on data from KGS Bul. 130, Part 1)

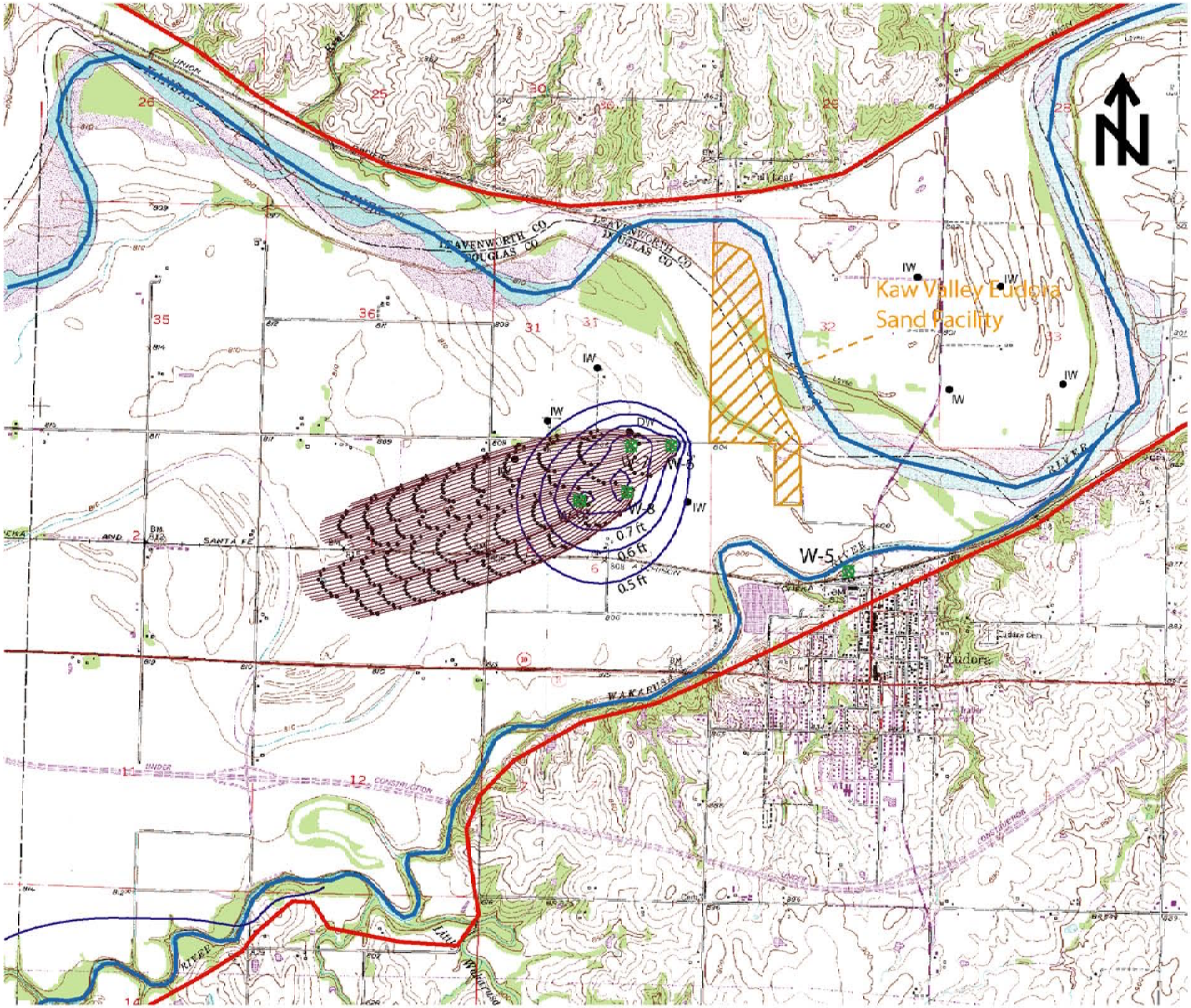


Approximate Scale
0 0.5 1.0 miles
0 2,640 5,280 feet

Legend

- River
- Aquifer Boundary
- Water Table Drawdown (Contour Interval 0.5 feet)
- W-7 City of Eudora Water Supply Well
- IW DW Registered Irrigation or Domestic Well

Exhibit I:
Drawdown at Peak Day Pumpage of 1.4 MGD



Approximate Scale
0 0.5 1.0 miles
0 2,640 5,280 feet

Legend

- River
- Aquifer Boundary
- Water Table Drawdown (Contour Interval 0.1 feet)
- W-7 City of Eudora Water Supply Well
- IW DW Registered Irrigation or Domestic Well
- Flowpaths to Pumping Wells (Tick Marks = 1 year travel time)

Exhibit J:
Groundwater Flow Paths to Eudora Wells at 227.77 MGY Pumpage

APPENDICES

I WC-5 Water Well Logs Sections 5 & 6, T-13S, R21E, & Sections 31 & 32, T-12S, R-21E, in Douglas County, KS

II. KDA, Division of Water Resources, Safe Yield Analysis Data

III Carl E. Nuzman, Resume' and Personal Information

APPENDIX – I

WC-5 Water Well Logs Sections 5 & 6, T-13S, 21E, &
Sections 31 & 32, T-12S, R-21E, in Douglas County, KS

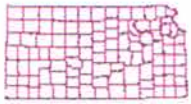
Hydrology

State of Kansas Geographic Information Systems Policy Board, Data Access and Support Center, and the Kansas Geological Survey
Please email questions and comments to Asif Iqbal

WWC5 Well viewer

Section Any Township 1 Range 1 Range Direction E show

Overview Map



Remove monitoring/engineering wells

Color wells based on Estimated yield Well Depth Static water level

Choose Labelling on zoom-in Owner Name Well Depth/Estimated yield Static water level

Zoom Level: 1.5 Zoom In Zoom Out Pan Identify

Show Entire State

Legend

- Single well
- Multiple wells
- Yield (in gpm)
- between 0.00 and 5.00
- between 5.00 and 10.00
- between 10.00 and 950.00
- unknown Yield
- Township Boundary
- PLSS
- Roads
- Railroads
- Rivers and Streams
- City Boundary
- County Boundary

Table of Contents

Visible

- [x] Township Boundary
- [x] PLSS
- [x] Roads
- [x] Railroads
- [ ] Zip Code
- [x] Rivers and Streams
- [x] Major Streams
- [x] *City Boundary*
- [x] County Boundary
- [x] View Aerials 2002
- [ ] View Aerials 1991
- [x] View Topo

update map

print map

Well #2

WATER WELL PLUGGING RECORD

Form WWC-5P KSA 82a-1212 ID NO. _____

1 LOCATION OF WATER WELL:	Fraction	Section Number	Township Number	Range Number
County: Douglas	¼ NW ¼ SE ¼	5	13	21 E/W

Distance and direction from nearest town or city street address of well if located within city?
NEAR City water plant – Well is in well House at the Gate · Water Jocky Building

2 WATER WELL OWNER: City of Eudora
RR #, St. Address, Box #: 101 W. 5
City, State, ZIP Code : Eudora, KS 66025
Board of Agriculture, Division of Water Resources Application Number: N/A

3 MARK WELL'S LOCATION WITH AN "X" IN SECTION BOX:

N / NW / NE / W / E / SW / SE / S — X

4 DEPTH OF WELL 68.7 ft.
WELL'S STATIC WATER LEVEL 29 ft.

WELL WAS USED AS:

1 Domestic	(5) Public Water Supply	9 Dewatering
2 Irrigation	6 Oil Field Water Supply	10 Monitoring Well
3 Feedlot	7 Domestic (Lawn & Garden)	11 Injection Well
4 Industrial	8 Air Conditioning	12 Other

Was a chemical / bacteriological sample submitted to Department? Yes ..... No X
If yes, mo/day/yr sample was submitted .....

Water Well Disinfected: Yes X No .....

5 TYPE OF BLANK CASING USED:

(1) Steel	3 RMP (SR)	5 Wrought	7 Fiberglass	9 Other (Specify below)
2 PVC	4 ABS	6 Asbestos-Cement	8 Concrete Tile	

Blank casing diameter 12 in. Was casing pulled? Yes ..... (No) If yes, how much .....
Casing height above or below land surface 4 Ft in.

6 GROUT PLUG MATERIAL: (1) Neat cement 2 Cement grout 3 Bentonite 4 Other .....
Grout Plug Intervals: From 69 ft. to GL ft., From GL ft. to 4' AGL ft., From ..... to ..... ft.

What is the nearest source of possible contamination:

1 Septic tank	6 Seepage pit	11 Fuel storage	(16) Other (specify below)
2 Sewer lines	7 Pit privy	12 Fertilizer storage	City water plant
3 Watertight sewer lines	8 Sewage lagoon	13 Insecticide storage	
4 Lateral lines	9 Feedyard	14 Abandoned water well	
5 Cess pool	10 Livestock pens	15 Oil well/Gas well	

Direction from well? West How many feet? 400'

FROM	TO	PLUGGING MATERIALS
69'	Ground Level	Neat Cement
GL	To top of Casing in well House	Neat Cement

7 CONTRACTOR'S OR LANDOWNER'S CERTIFICATION: This water well was plugged under my jurisdiction and was completed on (mo/day/year) 8-9-06 and this record is true to the best of my knowledge and belief. Kansas Water Well Contractor's License No. 102 This Water Well Record was completed on (mo/day/year) 3-1-07 under the business name of Layne Western Co.
by (signature) Joe Harriston/DRC

INSTRUCTIONS: Use typewriter or ball point pen. Please press firmly and print clearly. Please fill in blanks, underline or circle the correct answers. Send top three copies to Kansas Department of Health and Environment, Bureau of Water, Geology Section, 1000 SW Jackson St., Ste. 420, Topeka, Kansas 66612-1367. Telephone: 785/296-5522. Send one to Water Well Owner and retain one for your records.

Well #3 ... Plugged —

WELL #3

WATER WELL RECORD Form WWC-5 KSA 82a-1212 Plugging Report ✓

1 LOCATION OF WATER WELL:	Fraction	Section Number	Township Number	Range Number
County: Douglas	SE ¼ SW ¼ NE ¼	5	T 13 S	R 21 E/W

Distance and direction from nearest town or city street address of well if located within city?
5 Th STreeT WesT oF Main inside city limiTs.

2 WATER WELL OWNER: City of Eudora
RR#, St. Address, Box # : 4 East 7TH
City, State, ZIP Code : Eudora, Ks 66025

Board of Agriculture, Division of Water Resources
Application Number: 038064

3 LOCATE WELL'S LOCATION WITH AN "X" IN SECTION BOX:

N / NW / NE / W / E / SW / SE / S — 1 Mile

4 DEPTH OF COMPLETED WELL ..60.. ft. ELEVATION:
Depth(s) Groundwater Encountered 1. ~~249~~ 0 ft. 2. ft. 3. ft.
WELL'S STATIC WATER LEVEL ..27.. ft. below land surface measured on mo/day/yr 10-26-87
Pump test data: Well water was ft. after hours pumping gpm
Est. Yield gpm: Well water was ft. after hours pumping gpm
Bore Hole Diameter in. to ft., and in. to ft.
WELL WATER TO BE USED AS: (5 Public water supply) 8 Air conditioning 11 Injection well
1 Domestic 3 Feedlot 6 Oil field water supply 9 Dewatering 12 Other (Specify below)
2 Irrigation 4 Industrial 7 Lawn and garden only 10 Observation well
Was a chemical/bacteriological sample submitted to Department? Yes ..... No. X ; If yes, mo/day/yr sample was submitted
Water Well Disinfected? Yes X No

5 TYPE OF BLANK CASING USED: (1 Steel) 2 PVC 3 RMP (SR) 4 ABS 5 Wrought iron 6 Asbestos-Cement 7 Fiberglass 8 Concrete tile 9 Other (specify below)
CASING JOINTS: Glued Clamped Welded Threaded
Blank casing diameter ..8".. in. to ft., Dia in. to ft., Dia in. to ft.
Casing height above land surface in., weight lbs./ft. Wall thickness or gauge No.

TYPE OF SCREEN OR PERFORATION MATERIAL:
1 Steel 3 Stainless steel 5 Fiberglass 7 PVC 10 Asbestos-cement
2 Brass 4 Galvanized steel 6 Concrete tile 8 RMP (SR) 11 Other (specify)
9 ABS 12 None used (open hole)

SCREEN OR PERFORATION OPENINGS ARE:
1 Continuous slot 3 Mill slot 5 Gauzed wrapped 8 Saw cut 11 None (open hole)
2 Louvered shutter 4 Key punched 6 Wire wrapped 9 Drilled holes
7 Torch cut 10 Other (specify)

SCREEN-PERFORATED INTERVALS: From ft. to ft., From ft. to ft.
From ft. to ft., From ft. to ft.
GRAVEL PACK INTERVALS: From ft. to ft., From ft. to ft.
From ft. to ft., From ft. to ft.

6 GROUT MATERIAL: 1 Neat cement (2 Cement grout) 3 Bentonite 4 Other
Grout Intervals: From ..6.. ft. to ..3.. ft., From ft. to ft., From ft. to ft.

What is the nearest source of possible contamination:
1 Septic tank 4 Lateral lines 7 Pit privy 10 Livestock pens 14 Abandoned water well
2 Sewer lines 5 Cess pool 8 Sewage lagoon 11 Fuel storage 15 Oil well/Gas well
3 Watertight sewer lines 6 Seepage pit 9 Feedyard 12 Fertilizer storage 16 Other (specify below)
13 Insecticide storage
Direction from well? How many feet?

FROM	TO	LITHOLOGIC LOG	FROM	TO	LITHOLOGIC LOG
60	10	Sand & Gravel 17 Cu Ft			
10	6	Cement (42 cu ft)			
6	3	Compacted Clay			

7 CONTRACTOR'S OR LANDOWNER'S CERTIFICATION: This water well was (1) constructed, (2) reconstructed, or (3) plugged under my jurisdiction and was completed on (mo/day/year) 10-26-87 and this record is true to the best of my knowledge and belief. Kansas Water Well Contractor's License No. This Water Well Record was completed on (mo/day/yr) 10-27-87 under the business name of City of Eudora City Dept by (signature) Richard McNett

INSTRUCTIONS: Use typewriter or ball point pen. *PLEASE PRESS FIRMLY* and *PRINT* clearly. Please fill in blanks, underline or circle the correct answers. Send top three copies to Kansas Department of Health and Environment, Office of Oil Field and Environmental Geology, Regulation and Permitting Section, Topeka, Kansas 66620-7500, Telephone: 913-862-9360. Send one to WATER WELL OWNER and retain one for your records.

(-79)

Well #4

WATER WELL PLUGGING RECORD

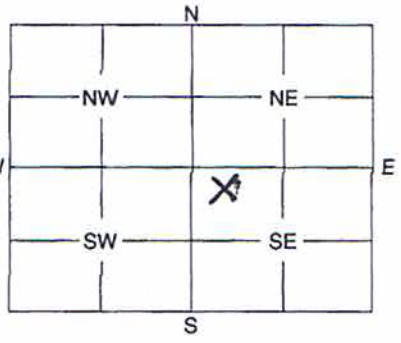
Form WWC-5P KSA 82a-1212 ID NO. _____

1 LOCATION OF WATER WELL:	Fraction	Section Number	Township Number	Range Number
County: Douglas	¼ NW ¼ SE ¼	5	13	21 E/W

Distance and direction from nearest town or city street address of well if located within city?
NEAR City water plant from City Barn 172' N. 36' West

2 WATER WELL OWNER: City of Eudora
RR #, St. Address, Box #: 101 W. 5
City, State, ZIP Code : Eudora, KS 66025
Board of Agriculture, Division of Water Resources
Application Number: N/C

3 MARK WELL'S LOCATION WITH AN "X" IN SECTION BOX:



4 DEPTH OF WELL 73 ft.
WELL'S STATIC WATER LEVEL 24.5 ft.

WELL WAS USED AS:

1 Domestic	(5) Public Water Supply	9 Dewatering
2 Irrigation	6 Oil Field Water Supply	10 Monitoring Well
3 Feedlot	7 Domestic (Lawn & Garden)	11 Injection Well
4 *Industrial*	*8 Air Conditioning*	*12 Other*

Was a chemical / bacteriological sample submitted to Department? Yes ..... (No)
If yes, mo/day/yr sample was submitted .....

Water Well Disinfected: (Yes) ..... No .....

5 TYPE OF *BLANK CASING USED:*

(1 Steel)	3 RMP (SR)	5 Wrought	7 Fiberglass	9 Other (Specify below)
2 PVC	4 ABS	6 Asbestos-Cement	8 Concrete Tile	

Blank casing diameter 12" in. Was casing pulled? Yes ..... (No ?) If yes, how much .....
Casing height above or below land surface ..... in.

6 GROUT PLUG MATERIAL: (1 Neat cement) 2 Cement grout 3 Bentonite 4 Other .....
Grout Plug Intervals: From ..... ft. to ..... ft., From ..... ft. to ..... ft., From ..... to ..... ft.

What is the nearest source of possible contamination:

1 Septic tank	6 Seepage pit	11 Fuel storage	(16) Other (specify below)
2 Sewer lines	7 Pit privy	12 Fertilizer storage	City water plant
3 Watertight sewer lines	8 Sewage lagoon	13 Insecticide storage	
4 Lateral lines	9 Feedyard	14 Abandoned water well	
5 *Cess pool*	*10 Livestock pens*	*15 Oil well/Gas well*	

Direction from well? EAST How many feet? 200'

FROM	TO	PLUGGING MATERIALS
73'	20'	Chlorinated Sand
20'	3'	NEAT CEMENT.
3'	0'	Surface Material

7 CONTRACTOR'S OR LANDOWNER'S CERTIFICATION: This water well was plugged under my jurisdiction and was completed on (mo/day/year) 8-9-06 and this record is true to the best of my knowledge and belief. Kansas Water Well Contractor's License No. 102 This Water Well Record was completed on (mo/day/year) 3-1-07 under the business name of LAYNE WESTERN CO. KANSAS City, KS 66106
by (signature) Joe Hansen/DRC

INSTRUCTIONS: Use typewriter or ball point pen. Please press firmly and print clearly. Please fill in blanks, underline or circle the correct answers. Send top three copies to Kansas Department of Health and Environment, Bureau of Water, Geology Section, 1000 SW Jackson St., Ste. 420, Topeka, Kansas 66612-1367. Telephone: 785/296-5522. Send one to Water Well Owner and retain one for your records.

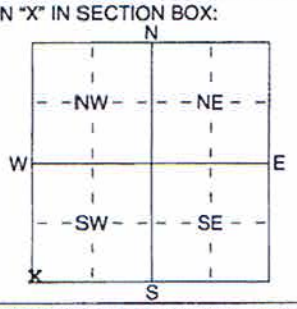
WATER WELL RECORD Form WWC-5 KSA 82a-1212 ID No. _____

1 LOCATION OF WATER WELL:	Fraction	Section Number	Township Number	Range Number
County: Douglas	SW ¼ SW ¼ SW ¼	5	T 13 S	R 21E E/W

Distance and direction from nearest town or city street address of well if located within city?
1/8 mile west of Eudora

2 WATER WELL OWNER: Larry Dalrymple
RR#, St. Address, Box # : 2102 N. 1400 Rd
City, State, ZIP Code : Eudora, Ks. 66025
Board of Agriculture, Division of Water Resources Application Number:

3 LOCATE WELL'S LOCATION WITH AN "X" IN SECTION BOX:



4 DEPTH OF COMPLETED WELL 140 ft. ELEVATION:
Depth(s) Groundwater Encountered 1 ..... ft. 2 ..... ft. 3 ..... ft.
WELL'S STATIC WATER LEVEL 21 ft. below land surface measured on mo/day/yr 5-13-08
Pump test data: Well water was ..... ft. after ..... hours pumping ..... gpm
Est. Yield 2 gpm: Well water was ..... ft. after ..... hours pumping ..... gpm
WELL WATER TO BE USED AS: 1 Domestic 2 Irrigation 3 Feedlot 4 Industrial 5 Public water supply 6 Oil field water supply 7 Domestic (lawn & garden) 8 Air conditioning 9 Dewatering 10 Monitoring well 11 Injection well 12 Other (Specify below)

Was a chemical/bacteriological sample submitted to Department? Yes ..... No X ; If yes, mo/day/yrs sample was submitted
Water Well Disinfected? Yes X No

5 TYPE OF BLANK CASING USED: 1 Steel 2 PVC 3 RMP (SR) 4 ABS 5 Wrought iron 6 Asbestos-Cement 7 Fiberglass 8 Concrete tile 9 Other (specify below)
CASING JOINTS: Glued X Clamped ..... Welded ..... Threaded .....
Blank casing diameter 5 in. to ..... ft., Dia ..... in. to ..... ft., Dia ..... in. to ..... ft.
Casing height above land surface 24 in., weight 2.82 lbs./ft. Wall thickness or guage No. .258

TYPE OF SCREEN OR PERFORATION MATERIAL: 1 Steel 2 Brass 3 Stainless Steel 4 Galvanized Steel 5 Fiberglass 6 Concrete tile 7 PVC 8 RMP (SR) 9 ABS 10 Asbestos-Cement 11 Other (Specify) 12 None used (open hole)

SCREEN OR PERFORATION OPENINGS ARE: 1 Continuous slot 2 Louvered shutter 3 Mill slot 4 Key punched 5 Guazed wrapped 6 Wire wrapped 7 Torch cut 8 Saw cut 9 Drilled holes 10 Other (specify) 11 None (open hole)

SCREEN-PERFORATED INTERVALS: From 40 ft. to 60 ft., From ..... ft. to ..... ft.
From ..... ft. to ..... ft., From ..... ft. to ..... ft.
GRAVEL PACK INTERVALS: From 24 ft. to 140 ft., From ..... ft. to ..... ft.
From ..... ft. to ..... ft., From ..... ft. to ..... ft.

6 GROUT MATERIAL: 1 Neat cement 2 Cement grout 3 Bentonite 4 Other .....
Grout Intervals: From 2 ft. to 24 ft., From ..... ft. to ..... ft., From ..... ft. to ..... ft.

What is the nearest source of possible contamination:
1 Septic tank 2 Sewer lines 3 Watertight sewer lines 4 Lateral lines 5 Cess pool 6 Seepage pit 7 Pit privy 8 Sewage lagoon 9 Feedyard 10 Livestock pens 11 Fuel storage 12 Fertilizer storage 13 Insecticide storage 14 Abandoned water well 15 Oil well/Gas well 16 Other (specify below) well
Direction from well? How many feet?

FROM	TO	LITHOLOGIC LOG	FROM	TO	PLUGGING INTERVALS
0	3	top soil			
3	11	brown clay			
11	21	grey limestone			
21	23	yellow limestone			
23	26	yellow shale			
26	29	grey shale			
29	33	grey limestone			
33	44	grey shale			
44	47	limestone brown brow in h2o			
47	52	grey shale			
52	76	grey limestone			
76	95	grey shale			
95	128	grey limestone			
128	140	grey shale			

7 CONTRACTOR'S OR LANDOWNER'S CERTIFICATION: This water well was (1) constructed, (2) reconstructed, or (3) plugged under my jurisdiction and was completed on (mo/day/year) 5-13-08 and this record is true to the best of my knowledge and belief. Kansas Water Well Contractor's Licence No 182 This Water Well Record was completed on (mo/day/yr) 5-29-08
under the business name of Strader Drilling Co., Inc. by (signature) Betty Strader

INSTRUCTIONS: Use typewriter or ball point pen. *PLEASE PRESS FIRMLY* and *PRINT* clearly. Please fill in blanks, underline or circle the correct answers. Send top three copies to Kansas Department of Health and Environment, Bureau of Water, Geology Section, 1000 SW Jackson St., Suite 420, Topeka, Kansas 66612-1367. Telephone 785-296-5522. Send one to WATER WELL OWNER and retain one for your records. Fee of $5.00 for each constructed well.

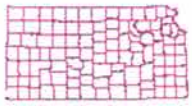
Hydrology

State of Kansas Geographic Information Systems Policy Board, Data Access and Support Center, and the Kansas Geological Survey
Please email questions and comments to Asif Iqbal

WWC5 Well viewer

Section Any Township 1 Range 1 Range Direction E show

Overview Map



Remove monitoring/engineering wells

Color wells based on Estimated yield Well Depth Static water level

Choose Labelling on zoom-in Owner Name Well Depth/Estimated yield Static water level

Zoom Level: 1.5 Zoom In Zoom Out Pan Identify

Show Entire State

Legend

- Single well
- Multiple wells
- Yield (in gpm)
- between 0.00 and 5.00
- between 5.00 and 10.00
- between 10.00 and 950.00
- unknown Yield
- Township Boundary
- PLSS
- Roads
- Railroads
- Rivers and Streams
- City Boundary
- County Boundary

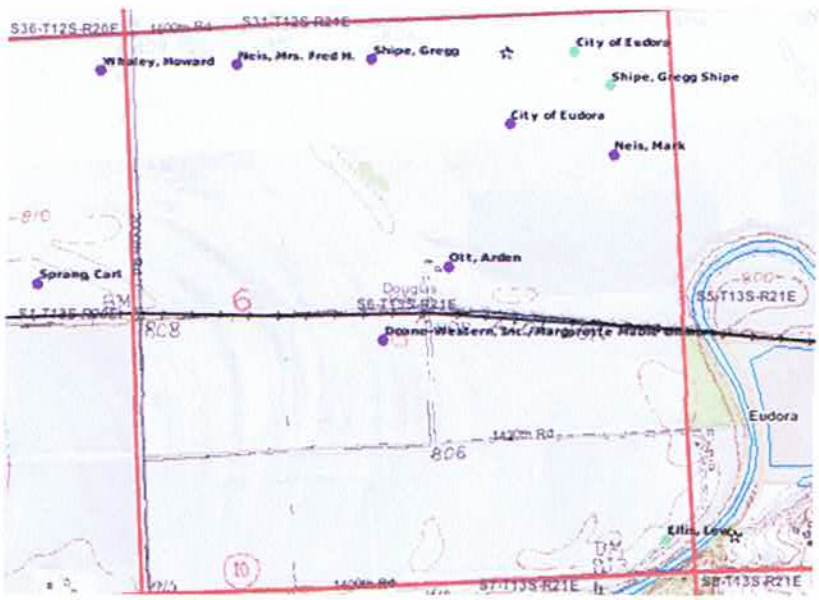


Table of Contents

Visible

- Township Boundary
- PLSS
- Roads
- Railroads
- Zip Code
- Rivers and Streams
- Major Streams
- *City Boundary*
- County Boundary
- View Aerials 2002
- View Aerials 1991
- View Topo

update map

print map

KGS Hydrology | Water Well Database Query

Scan of WWC5 Form

WATER WELL RECORD Form WWC-5 KSA 82a-1212 ID No.

1 LOCATION OF WATER WELL: County: Douglas | Fraction: near center-E½-NE¼ | Section Number: 6 | Township Number: T 13 S | Range Number: R 21E E/W

Distance and direction from nearest town or city street address of well if located within city?
1 mile northwest of Lecompton

2 WATER WELL OWNER: Mark Neis
RR#, St. Address, Box # : 12775 County Line Rd.
City, State, ZIP Code : Eudora, Ks. 66025
Board of Agriculture, Division of Water Resources Application Number:

3 LOCATE WELL'S LOCATION WITH AN "X" IN SECTION BOX: N, NW, NE, W, E, SW, SE, S

4 DEPTH OF COMPLETED WELL....63..... ft. ELEVATION:
Depth(s) Groundwater Encountered 1..... ft. 2..... ft. 3..... ft.
WELL'S STATIC WATER LEVEL 19½ ft. below land surface measured on mo/day/yr 12-14-2001
Pump test data: Well water was ..... ft. after ..... hours pumping ..... gpm
Est. Yield 950 gpm: Well water was ..... ft. after ..... hours pumping ..... gpm
Bore Hole Diameter 24 in. to ..... ft., and ..... in. to ..... ft.
WELL WATER TO BE USED AS: 1 Domestic 2 Irrigation 3 Feedlot 4 Industrial 5 Public water supply 6 Oil field water supply 7 Domestic (lawn & garden) 8 Air conditioning 9 Dewatering 10 Monitoring well 11 Injection well 12 Other (Specify below)
Was a chemical/bacteriological sample submitted to Department? Yes ..... No X ; If yes, mo/day/yrs sample was submitted
Water Well Disinfected? Yes X No

5 TYPE OF BLANK CASING USED: 1 Steel 2 PVC 3 RMP (SR) 4 ABS 5 Wrought iron 6 Asbestos-Cement 7 Fiberglass 8 Concrete tile 9 Other (specify below)
CASING JOINTS: Glued X Clamped ..... Welded ..... Threaded .....
Blank casing diameter 16 in. to ..... ft., Dia ..... in. to ..... ft., Dia ..... in. to ..... ft.
Casing height above land surface 24 in., weight 15.54 lbs./ft. Wall thickness or gauge No. .500

TYPE OF SCREEN OR PERFORATION MATERIAL: 1 Steel 2 Brass 3 Stainless steel 4 Galvanized steel 5 Fiberglass 6 Concrete tile 7 PVC 8 RMP (SR) 9 ABS 10 Asbestos-cement 11 Other (specify) 12 None used (open hole)

SCREEN OR PERFORATION OPENINGS ARE: 1 Continuous slot 2 Louvered shutter 3 Mill slot 4 Key punched 5 Gauzed wrapped 6 Wire wrapped 7 Torch cut 8 Saw cut 9 Drilled holes 10 Other (specify) 11 None (open hole)

SCREEN-PERFORATED INTERVALS: From 50 ft. to 63 ft., From ..... ft. to ..... ft.
From ..... ft. to ..... ft., From ..... ft. to ..... ft.
GRAVEL PACK INTERVALS: From 25 ft. to 63 ft., From ..... ft. to ..... ft.
From ..... ft. to ..... ft., From ..... ft. to ..... ft.

6 GROUT MATERIAL: 1 Neat cement 2 Cement grout 3 Bentonite 4 Other .....
Grout Intervals: From 0 ft. to 25 ft., From ..... ft. to ..... ft., From ..... ft. to ..... ft.
What is the nearest source of possible contamination:
1 Septic tank 2 Sewer lines 3 Watertight sewer lines 4 Lateral lines 5 Cess pool 6 Seepage pit 7 Pit privy 8 Sewage lagoon 9 Feedyard 10 Livestock pens 11 Fuel storage 12 Fertilizer storage 13 Insecticide storage 14 Abandoned water well 15 Oil well/Gas well 16 Other (specify below) Open Field
Direction from well? How many feet?

FROM	TO	LITHOLOGIC LOG	FROM	TO	PLUGGING INTERVALS
0	11	brown silty clay			
11	18	brown silt			
18	22	brown fs-cs			
22	27	brown fs-cs-med-pea			
27	33	grey fine sand			
33	35	blue clay			
35	38	grey fs-cs-med gravel			
38	42	blue clay			
42	49	fs-cs-med-some pea			
49	54	fs-cs-med-pea			
54	55	blue clay			
55	58	fs-cs-med-pea			
58	63	fs-cs-med-pea ½x3/4			
63		grey limestone			

7 CONTRACTOR'S OR LANDOWNER'S CERTIFICATION: This water well was (1) constructed, (2) reconstructed, or (3) plugged under my jurisdiction and was completed on (mo/day/year) 12-14-2001 and this record is true to the best of my knowledge and belief. Kansas Water Well Contractor's License No. 182. This Water Well Record was completed on (mo/day/yr) 1-2-2002 under the business name of Strader Drilling co., Inc. by (signature) [signature]

INSTRUCTIONS: Use typewriter or ball point pen. PLEASE PRESS FIRMLY and PRINT clearly. Please fill in blanks, underline or circle the correct answers. Send top three copies to Kansas Department of Health and Environment, Bureau of Water, Topeka, Kansas 66620-0001. Telephone 785-296-5524. Send one to WATER WELL OWNER and retain one for your records. Fee of $5.00 for each constructed well.

Eu #6 Test Hole

WATER WELL RECORD Form WWC-5 KSA 82a-1212

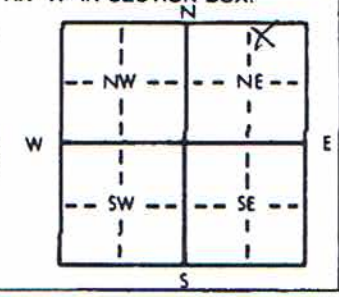
1 LOCATION OF WATER WELL: County: DOUGLAS | Fraction: NW NE NE NE ¼ NE ¼ NW ¼ | Section Number: 6 | Township Number: T 13 S | Range Number: R 21 E

Distance and direction from nearest town or city street address of well if located within city?
1½ MILES NW OF EUDORA

2 WATER WELL OWNER: CITY OF EUDORA
RR#, St. Address, Box # : 4 E. 7TH ST
City, State, ZIP Code : EUDORA, KS 66025

Board of Agriculture, Division of Water Resources
Application Number:

3 LOCATE WELL'S LOCATION WITH AN "X" IN SECTION BOX:



4 DEPTH OF COMPLETED WELL 80.0 ft. ELEVATION:
Depth(s) Groundwater Encountered 1. 16.5 ft. 2. ft. 3. ft.
WELL'S STATIC WATER LEVEL 16.5 ft. below land surface measured on mo/day/yr
Pump test data: Well water was ft. after hours pumping gpm
Est. Yield gpm: Well water was ft. after hours pumping gpm
Bore Hole Diameter 4 in. to 80 ft., and in. to ft.

WELL WATER TO BE USED AS: 1 Domestic 2 Irrigation 3 Feedlot 4 Industrial 5 Public water supply 6 Oil field water supply 7 Lawn and garden only (10) Observation well 8 Air conditioning 9 Dewatering 12 Other (Specify below)

Was a chemical/bacteriological sample submitted to Department? Yes ..... No X ; If yes, mo/day/yr sample was submitted Water Well Disinfected? Yes No

5 TYPE OF BLANK CASING USED: 1 Steel (2) PVC 3 RMP (SR) 4 ABS 5 Wrought iron 6 Asbestos-Cement 7 Fiberglass 8 Concrete tile 9 Other (specify below)

CASING JOINTS: Glued Clamped X Welded Threaded

Blank casing diameter 2 in. to 80 ft., Dia in. to ft., Dia in. to ft.
Casing height above land surface 48 in., weight lbs./ft. Wall thickness or gauge No. 40

TYPE OF SCREEN OR PERFORATION MATERIAL: (1) PVC 1 Steel 2 Brass 3 Stainless steel 4 Galvanized steel 5 Fiberglass 6 Concrete tile 8 RMP (SR) 9 ABS 10 Asbestos-cement 11 Other (specify) 12 None used (open hole)

SCREEN OR PERFORATION OPENINGS ARE: 1 Continuous slot 2 Louvered shutter 3 Mill slot 4 Key punched 5 Gauzed wrapped 6 Wire wrapped 7 Torch cut (8) Saw cut 9 Drilled holes 10 Other (specify) 11 None (open hole)

SCREEN-PERFORATED INTERVALS: From 70 ft. to 80 ft., From ft. to ft.
From ft. to ft., From ft. to ft.

GRAVEL PACK INTERVALS: From 15 ft. to 80 ft., From ft. to ft.
From ft. to ft., From ft. to ft.

6 GROUT MATERIAL: 1 Neat cement 2 Cement grout (3) Bentonite 4 Other

Grout Intervals: From 0 ft. to 5 ft., From 5 ft. to 15 ft., From ft. to ft.

What is the nearest source of possible contamination:
1 Septic tank 2 Sewer lines 3 Watertight sewer lines 4 Lateral lines 5 Cess pool 6 Seepage pit 7 Pit privy 8 Sewage lagoon 9 Feedyard 10 Livestock pens 11 Fuel storage 12 Fertilizer storage 13 Insecticide storage 14 Abandoned water well 15 Oil well/Gas well 16 Other (specify below)

Direction from well? How many feet?

FROM	TO	LITHOLOGIC LOG	FROM	TO	LITHOLOGIC LOG
		SEE ATTACHED LOG			

7 CONTRACTOR'S OR LANDOWNER'S CERTIFICATION: This water well was (1) constructed, (2) reconstructed, or (3) plugged under my jurisdiction and was completed on (mo/day/year) 10/25/86 and this record is true to the best of my knowledge and belief. Kansas Water Well Contractor's License No. 102 This Water Well Record was completed on (mo/day/yr) 10-30-86 under the business name of LAYNE-WESTERN by (signature) Paul W. Landa

INSTRUCTIONS: Use typewriter or ball point pen. *PLEASE PRESS FIRMLY* and *PRINT* clearly. Please fill in blanks, underline or circle the correct answers. Send top three copies to Kansas Department of Health and Environment, Office of Oil Field and Environmental Geology, Regulation and Permitting Section, Topeka, Kansas 66620-7500, Telephone: 913-862-9360. Send one to WATER WELL OWNER and retain one for your records.

(785)

TEST HOLE REPORT

Layne-Western Company, Inc.

Contract Name: City of Eudora

Job No.: A-245 F Date: 10/28/85

City: Eudora State: Kansas

TEST HOLE No. 8-85

Driller: J. C. Von Holt

Test Hole Location: Static water level 17' from ground level

Distance and Direction from Permanent Landmark or Previous Test Hole

TEST LOG

Static Water Level 17.0' Measured

_____ Hours After Completion

FROM	TO	MARSH FUNNEL VISCOSITY SECONDS	MUD PIT LOSS INCHES	FORMATION
0.0'	5.0'		[illegible]	Brown very silty clay
5.0'	16.0'		[illegible]	Brown fine to very fine silty sand
16.0'	26.0'			Brown medium to fine sand, trace coarse sand
26.0'	31.0'			Brown & gray medium to coase sand, trace fine sand
31.0'	34.0'			Gray medium to coarse sand, trace fine sand
34.0'	39.0'			Gray medium to fine sand, trace clay
39.0'	42.0'	35	1"	Gray medium to coarse sand, trace fine sand & clay
42.0'	46.5'		08	Gray medium to fine sand, trace clay
46.5'	47.5'		02	Gray silty sandy clay
47.5'	57.0'	43	2" 08	Brown gray medium to coarse sand, trace fine sand & gravel
57.0'	66.0'		03	Gray very silty clay, soft
66.0'	69.0'	43	1"	Brown gray medium to coarse sand, trace fine sand & gravel
69.0'	79.2'	43	1" 08	Brown gray medium sand w/coarse & fine sand, trace gravel
79.2'	81.2'			Olive brown clayey shale
81.2'	84.0'		19	Light gray shale
84.0'	Total depth			

NOTES: Size of Pit Portable X _____ X _____ DEEP

Set 82' of 2" PVC, left 4' above ground, bottom 20' slotted, gravel packed to 15' bentonite slurry to 5', clay to surface. Blew w/air & obtained water sample.

LW-100

Eq #7 test Hol

WATER WELL RECORD Form WWC-5 KSA 82a-1212

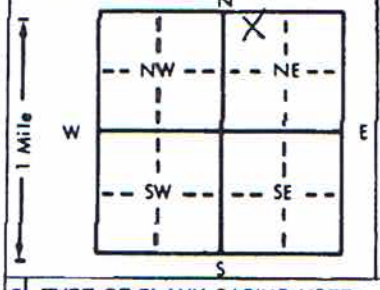
1 LOCATION OF WATER WELL: County: DOUGLAS | Fraction: NE ¼ NW ¼ NE ¼ | Section Number: 6 | Township Number: T 13 S | Range Number: R 21 E

Distance and direction from nearest town or city street address of well if located within city?

2 WATER WELL OWNER: CITY OF EUDORA
RR#, St. Address, Box # : 4 E. 7TH ST
City, State, ZIP Code : EUDORA, KS 66025

Board of Agriculture, Division of Water Resources
Application Number:

3 LOCATE WELL'S LOCATION WITH AN "X" IN SECTION BOX:



4 DEPTH OF COMPLETED WELL 84.0 ft. ELEVATION:
Depth(s) Groundwater Encountered 1. 17 ft. 2. ft. 3. ft.
WELL'S STATIC WATER LEVEL 17 ft. below land surface measured on mo/day/yr
Pump test data: Well water was ft. after hours pumping gpm
Est. Yield gpm: Well water was ft. after hours pumping gpm
Bore Hole Diameter 4 *in. to* 84 *ft., and* *in. to* ft.

WELL WATER TO BE USED AS: 1 Domestic 2 Irrigation 3 Feedlot 4 Industrial 5 Public water supply 6 Oil field water supply 7 Lawn and garden only 8 Air conditioning 9 Dewatering (10) Observation well 11 Injection well 12 Other (Specify below)

Was a chemical/bacteriological sample submitted to Department? Yes No X; If yes, mo/day/yr sample was submitted Water Well Disinfected? Yes No

5 TYPE OF BLANK CASING USED: 1 Steel 3 RMP (SR) (2) PVC 4 ABS 5 Wrought iron 6 Asbestos-Cement 7 Fiberglass 8 Concrete tile 9 Other (specify below)

CASING JOINTS: Glued Clamped Welded Threaded

Blank casing diameter 2 in. to 82 ft., Dia in. to ft., Dia in. to ft.
Casing height above land surface 48 in., weight lbs./ft. Wall thickness or gauge No. 40

TYPE OF SCREEN OR PERFORATION MATERIAL: (2) PVC 1 Steel 2 Brass 3 Stainless steel 4 Galvanized steel 5 Fiberglass 6 Concrete tile 8 RMP (SR) 9 ABS 10 Asbestos-cement 11 Other (specify) 12 None used (open hole)

SCREEN OR PERFORATION OPENINGS ARE: 1 Continuous slot 2 Louvered shutter 3 Mill slot 4 Key punched 5 Gauzed wrapped 6 Wire wrapped 7 Torch cut (8) Saw cut 9 Drilled holes 10 Other (specify) 11 None (open hole)

SCREEN-PERFORATED INTERVALS: From 64 ft. to 84 ft., From ft. to ft.
From ft. to ft., From ft. to ft.

GRAVEL PACK INTERVALS: From 15 ft. to 84 ft., From ft. to ft.
From ft. to ft., From ft. to ft.

6 GROUT MATERIAL: 1 Neat cement 2 Cement grout (3) Bentonite 4 Other

Grout Intervals: From 0 ft. to 5 ft., From 5 ft. to 15 ft., From ft. to ft.

What is the nearest source of possible contamination:
1 Septic tank 2 Sewer lines 3 Watertight sewer lines 4 Lateral lines 5 Cess pool 6 Seepage pit 7 Pit privy 8 Sewage lagoon 9 Feedyard 10 Livestock pens 11 Fuel storage 12 Fertilizer storage 13 Insecticide storage 14 Abandoned water well 15 Oil well/Gas well 16 Other (specify below)

Direction from well? How many feet?

FROM	TO	LITHOLOGIC LOG	FROM	TO	LITHOLOGIC LOG
		SEE ATTACHED LOG			

7 CONTRACTOR'S OR LANDOWNER'S CERTIFICATION: This water well was (1) constructed, (2) reconstructed, or (3) plugged under my jurisdiction and was completed on (mo/day/year) 10-28-85 and this record is true to the best of my knowledge and belief. Kansas Water Well Contractor's License No. 102 This Water Well Record was completed on (mo/day/yr) 6-16-86 under the business name of LAYNE-WESTERN by (signature) Paul W. Fox

INSTRUCTIONS: *Use typewriter or ball point pen. PLEASE PRESS FIRMLY and PRINT clearly. Please fill in blanks, underline or circle the correct answers. Send top three copies to Kansas* Department of Health and Environment, Office of Oil Field and Environmental Geology, Regulation and Permitting Section, Topeka, Kansas 66620-7500, Telephone: 913-862-9360. Send one to WATER WELL OWNER and retain one for your records.

(783)

TEST HOLE REPORT

Layne-Western Company, Inc.

Contract Name: City of Eudora

Job No.: A-245 F Date: 10/24/85

City: Eudora State: Kansas

TEST HOLE No.: 6-85

Driller: J. C. Von Holt

Test Hole Location: _____

Distance and Direction from Permanent Landmark or Previous Test Hole

TEST LOG

Static Water Level: 16.1' Measured _____ Hours After Completion

FROM	TO	MARSH FUNNEL VISCOSITY SECONDS	MUD PIT LOSS INCHES	FORMATION
0.0'	7.0'			Brown very silty clay
7.0'	13.0'			Brown very fine silty sand
13.0'	19.0'			Brown fine to very fine sand
19.0'	23.0'			Brown medium to fine sand
23.0'	27.0'			Brown & gray medium to fine sand, trace coarse sand
27.0'	31.0'			Gray & trace brown fine to very fine sand
31.0'	36.0'			Gray medium to fine sand, trace clay
36.0'	48.0'	40	2"	Gray medium to coarse sand, trace gravel, fine sand & clay
48.0'	50.0'	40	1"	Brown gray medium to coarse sand, trace fine sand, gravel
50.0'	51.5'	SS1	REC 0.9	Same
51.5'	58.0'	40	1"	Brown gray medium to coarse sand, trace fine sand w/gravel
58.0'	65.0'	40	2"	Brown gray medium to coarse sand, trace fine sand w/gravel, boulders
65.0'	70.0'	40	2"	Same
70.0'	74.5'	40	1"	Brown gray coarse to medium sand, w/boulders, trace gravel & fine sand
74.5'	76.2'			Brown broken limestone

NOTES: Size of Pit _____ X _____ X _____ DEEP

LW-100

Layne

TEST HOLE REPORT

Layne-Western Company, Inc.

Contract Name City of Eudora

Job No. A-245 F Date 10/24/85

City Eudora, State Kansas

TEST HOLE No. 6-85

Driller J. C. Von Holt

Test Hole Location

Distance and Direction from Permanent Landmark or Previous Test Hole

TEST LOG

FROM	TO	MARSH FUNNEL VISCOSITY SECONDS	MUD PIT LOSS INCHES	Static Water Level ____ Measured ____ Hours After Completion / FORMATION
76.2'	80.0'			Light gray shale
80.0'	Total depth			

NOTES: Size of Pit Portable X ____ X ____ DEEP

Set 80' of 2" PVC, left 3' above ground, bottom 30' slotted, gravel packed to 15' bentonite slurry to 5', clay to surface, developed w/air, obtained water sample.

WATER WELL RECORD Form WWC-5 KSA 82a-1212

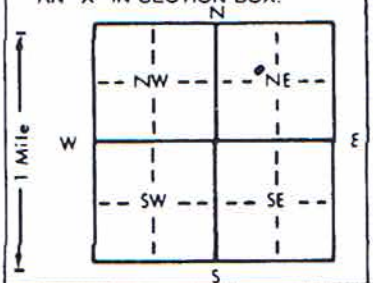
1 LOCATION OF WATER WELL: County: DOUGLAS | Fraction: SE ¼ NW ¼ NE ¼ | Section Number: 6 | Township Number: T 13 S | Range Number: R 21 (E)W

Distance and direction from nearest town or city street address of well if located within city?
3 MILES NORTHWEST OF EUDORA

2 WATER WELL OWNER: CITY OF EUDORA
RR#, St. Address, Box # : 4 EAST SEVENTH STREET
City, State, ZIP Code : EUDORA, KS 66026

Board of Agriculture, Division of Water Resources
Application Number:

3 LOCATE WELL'S LOCATION WITH AN "X" IN SECTION BOX:



4 DEPTH OF COMPLETED WELL 72 ft. ELEVATION:
Depth(s) Groundwater Encountered 1. 18 ft. 2. ft. 3. ft.
WELL'S STATIC WATER LEVEL 18 ft. below land surface measured on mo/day/yr 6/16/98
Pump test data: Well water was 20 ft. after 0.5 hours pumping 329 gpm
Est. Yield 325 gpm: Well water was 22 ft. after 11 hours pumping 521 gpm
Bore Hole Diameter 42 in. to 72 ft., and in. to ft.
WELL WATER TO BE USED AS: (5 Public water supply) 8 Air conditioning 11 Injection well
1 Domestic 3 Feedlot 6 Oil field water supply 9 Dewatering 12 Other (Specify below)
2 Irrigation 4 Industrial 7 Lawn and garden only 10 Monitoring well
Was a chemical/bacteriological sample submitted to Department? Yes X No; If yes, mo/day/yr sample was submitted 4/21/97 Water Well Disinfected? (Yes) No

5 TYPE OF BLANK CASING USED: (1 Steel) 2 PVC 3 RMP (SR) 4 ABS 5 Wrought iron 6 Asbestos-Cement 7 Fiberglass 8 Concrete tile 9 Other (specify below)
CASING JOINTS: Glued Clamped Welded X Threaded
Blank casing diameter 12 in. to 47 ft., Dia in. to ft., Dia in. to ft.
Casing height above land surface 18 in., weight PITLESS UNIT lbs./ft. Wall thickness or gauge No. 0.375"

TYPE OF SCREEN OR PERFORATION MATERIAL:
1 Steel (3 Stainless steel) 5 Fiberglass 7 PVC 10 Asbestos-cement
2 Brass 4 Galvanized steel 6 Concrete tile 8 RMP (SR) 11 Other (specify)
9 ABS 12 None used (open hole)

SCREEN OR PERFORATION OPENINGS ARE:
1 Continuous slot 3 Mill slot (6 Wire wrapped) 8 Saw cut 11 None (open hole)
2 Louvered shutter 4 Key punched 5 Gauzed wrapped 9 Drilled holes 7 Torch cut 10 Other (specify)

SCREEN-PERFORATED INTERVALS: From 47 ft. to 72 ft., From ft. to ft.
From ft. to ft., From ft. to ft.
GRAVEL PACK INTERVALS: From 22 ft. to 72 ft., From ft. to ft.
From ft. to ft., From ft. to ft.

6 GROUT MATERIAL: (1 Neat cement) 2 Cement grout 3 Bentonite 4 Other
Grout Intervals: From 6 ft. to 20 ft., From ft. to ft., From ft. to ft.

What is the nearest source of possible contamination:
1 Septic tank 4 Lateral lines 7 Pit privy 10 Livestock pens 14 Abandoned water well
2 Sewer lines 5 Cess pool 8 Sewage lagoon 11 Fuel storage 15 Oil well/Gas well
3 Watertight sewer lines 6 Seepage pit 9 Feedyard 12 Fertilizer storage 16 Other (specify below)
13 Insecticide storage
Direction from well? How many feet?

FROM	TO	LITHOLOGIC LOG	FROM	TO	PLUGGING INTERVALS
0	2	TOP SOIL			
2	17	BROWN SANDY SILT			
17	23	BROWN MEDIUM TO FINE SAND			
23	38	GRAY MEDIUM TO COARSE, SOME FINE			
38	55	GRAY MEDIUM TO COARSE, SOME GRAVEL			
55	72	GRAY COARSE TO MEDIUM			

7 CONTRACTOR'S OR LANDOWNER'S CERTIFICATION: This water well was (1) constructed (2) reconstructed, or (3) plugged under my jurisdiction and was completed on (mo/day/year) 6/16/98 and this record is true to the best of my knowledge and belief. Kansas Water Well Contractor's License No. 102 This Water Well Record was completed on (mo/day/yr) 8/5/98
under the business name of LAYNE CHRISTENSEN COMPANY by (signature)

INSTRUCTIONS: Use typewriter or ball point pen. *PLEASE PRESS FIRMLY* and *PRINT* clearly. Please fill in blanks, underline or circle the correct answers. Send top three copies to Kansas Department of Health and Environment, Bureau of Water, Topeka, Kansas 66620-0001 Telephone: 913-296-5545. Send one to WATER WELL OWNER and retain one for your records.

Hydrology

State of Kansas Geographic Information Systems Policy Board, Data Access and Support Center, and the Kansas Geological Survey
Please email questions and comments to Asif Iqbal

WWC5 Well viewer

Section Any | Township 1 | Range 1 | Range Direction E | show

Overview Map

Remove monitoring/engineering wells ☐

Color wells based on ◉ Estimated yield ○ Well Depth ○ Static water level

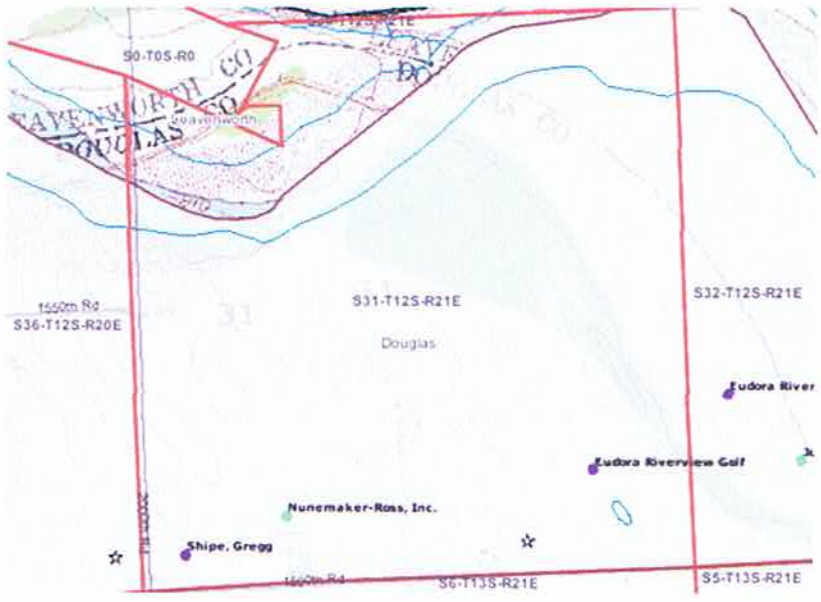
Choose Labelling on zoom-in ◉ Owner Name ○ Well Depth/Estimated yield ○ Static water level

Zoom Level: 1.5 | ◉ Zoom In ○ Zoom Out ○ Pan ○ Identify

Show Entire State

Legend

- Single well
- Multiple wells
- Yield (in gpm)
- between 0.00 and 5.00
- between 5.00 and 10.00
- between 10.00 and 950.00
- unknown Yield
- Township Boundary
- PLSS
- Roads
- Railroads
- Rivers and Streams
- City Boundary
- County Boundary



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- ☑ Rivers and Streams
- ☑ Major Streams
- ☑ *City Boundary*
- ☑ County Boundary
- ☑ View Aerials 2002
- ☐ View Aerials 1991
- ☑ View Topo

update map

print map

WATER WELL RECORD Form WWC-5 KSA 82a-1212

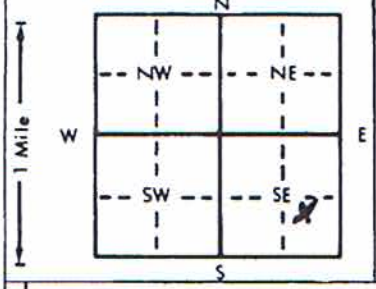
1 LOCATION OF WATER WELL: County: Douglas | Fraction: NW ¼ SE ¼ SE ¼ | Section Number: 31 | Township Number: T 12 S | Range Number: R 21 E W

Distance and direction from nearest town or city street address of well if located within city?
3/4 miles N. from NW Eudora

2 WATER WELL OWNER: Eudora Riverview Golf
RR#, St. Address, Box # : 2504 Alabama
City, State, ZIP Code : Lawrence, Ks. 66046

Board of Agriculture, Division of Water Resources
Application Number:

3 LOCATE WELL'S LOCATION WITH AN "X" IN SECTION BOX:



4 DEPTH OF COMPLETED WELL 53 ft. ELEVATION:
Depth(s) Groundwater Encountered 1. 19-53 ft. 2. ft. 3. ft.
WELL'S STATIC WATER LEVEL 19 ft. below land surface measured on mo/day/yr 3-29-95
Pump test data: Well water was ft. after hours pumping gpm
Est. Yield 25.0 gpm: Well water was ft. after hours pumping gpm
Bore Hole Diameter 12¼ in. to 53 ft., and in. to ft.
WELL WATER TO BE USED AS: 1 Domestic 2 Irrigation 3 Feedlot 4 Industrial 5 Public water supply 6 Oil field water supply 7 Lawn and garden only 8 Air conditioning 9 Dewatering 10 Monitoring well 11 Injection well 12 Other (Specify below)
Was a chemical/bacteriological sample submitted to Department? Yes ..... No ....; If yes, mo/day/yr sample was submitted
Water Well Disinfected? Yes X No

5 TYPE OF BLANK CASING USED: 1 Steel 2 PVC 3 RMP (SR) 4 ABS 5 Wrought iron 6 Asbestos-Cement 7 Fiberglass 8 Concrete tile 9 Other (specify below)
CASING JOINTS: Glued X Clamped Welded Threaded
Blank casing diameter 8 in. to 33 ft., Dia in. to ft., Dia in. to ft.
Casing height above land surface 30 in., weight 200# lbs./ft. Wall thickness or gauge No.

TYPE OF SCREEN OR PERFORATION MATERIAL: 7 PVC
1 Steel 2 Brass 3 Stainless steel 4 Galvanized steel 5 Fiberglass 6 Concrete tile 8 RMP (SR) 9 ABS 10 Asbestos-cement 11 Other (specify) 12 None used (open hole)

SCREEN OR PERFORATION OPENINGS ARE: 1 Continuous slot 2 Louvered shutter 3 Mill slot 4 Key punched 5 Gauzed wrapped 6 Wire wrapped 7 Torch cut 8 Saw cut 9 Drilled holes 10 Other (specify) 11 None (open hole)

SCREEN-PERFORATED INTERVALS: From 33 ft. to 53 ft., From ft. to ft.
From ft. to ft., From ft. to ft.
GRAVEL PACK INTERVALS: From 53 ft. to 20 ft., From ft. to ft.
From ft. to ft., From ft. to ft.

6 GROUT MATERIAL: 1 Neat cement 2 Cement grout 3 Bentonite 4 Other
Grout Intervals: From 20 ft. to 0 ft., From ft. to ft., From ft. to ft.
What is the nearest source of possible contamination: NONE At the Time
1 Septic tank 2 Sewer lines 3 Watertight sewer lines 4 Lateral lines 5 Cess pool 6 Seepage pit 7 Pit privy 8 Sewage lagoon 9 Feedyard 10 Livestock pens 11 Fuel storage 12 Fertilizer storage 13 Insecticide storage 14 Abandoned water well 15 Oil well/Gas well 16 Other (specify below)
Direction from well? How many feet?

FROM	TO	LITHOLOGIC LOG	FROM	TO	PLUGGING INTERVALS
0	15	Soil, Clay, Silt			
15	52	Sand			
52	53	Gravel + Limestone			

7 CONTRACTOR'S OR LANDOWNER'S CERTIFICATION: This water well was (1) constructed, (2) reconstructed, or (3) plugged under my jurisdiction and was completed on (mo/day/year) 3-29-95 and this record is true to the best of my knowledge and belief. Kansas Water Well Contractor's License No. 561 This Water Well Record was completed on (mo/day/yr) 4-3-95 under the business name of Evans Energy Dev. Inc. by (signature)

INSTRUCTIONS: Use typewriter or ball point pen. PLEASE PRESS FIRMLY and PRINT clearly. Please fill in blanks, underline or circle the correct answers. Send top three copies to Kansas Department of Health and Environment, Bureau of Water, Topeka, Kansas 66620-0001. Telephone: 913-296-5545. Send one to WATER WELL OWNER and retain one for your records.

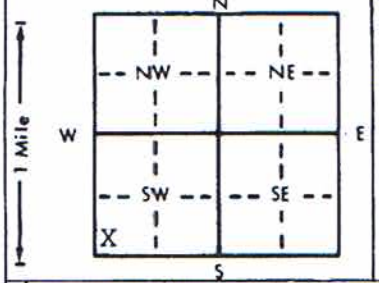
WATER WELL RECORD Form WWC-5 KSA 82a-1212

1 LOCATION OF WATER WELL:	Fraction	Section Number	Township Number	Range Number
County: DOUGLAS	SW ¼ SW ¼ SW ¼	31	T 12 S	R 21 E/W

Distance and direction from nearest town or city street address of well if located within city?
4 east of Lawrence

2 WATER WELL OWNER: Gregg Shipe
RR#, St. Address, Box # : 1394 E. 1900 Rd.
City, State, ZIP Code : Lawrence, KS 66044
Board of Agriculture, Division of Water Resources
Application Number:

3 LOCATE WELL'S LOCATION WITH AN "X" IN SECTION BOX:



4 DEPTH OF COMPLETED WELL 40 ft. ELEVATION:
Depth(s) Groundwater Encountered 1. ft. 2. ft. 3. ft.
WELL'S STATIC WATER LEVEL 18' ft. below land surface measured on mo/day/yr 11-25-94
Pump test data: Well water was ft. after hours pumping gpm
Est. Yield 50 gpm: Well water was ft. after hours pumping gpm
Bore Hole Diameter 14" in. to ft., and in. to ft.

WELL WATER TO BE USED AS: 5 Public water supply 8 Air conditioning 11 Injection well
1 Domestic 3 Feedlot 6 Oil field water supply 9 Dewatering 12 Other (Specify below)
2 Irrigation 4 Industrial 7 Lawn and garden only 10 Monitoring well

Was a chemical/bacteriological sample submitted to Department? Yes No X ; If yes, mo/day/yr sample was submitted
Water Well Disinfected? Yes X No

5 TYPE OF BLANK CASING USED: 5 Wrought iron 8 Concrete tile CASING JOINTS: Glued X Clamped
1 Steel 3 RMP (SR) 6 Asbestos-Cement 9 Other (specify below) Welded
2 PVC 4 ABS 7 Fiberglass Threaded

Blank casing diameter 5" in. to 0-26 ft., Dia in. to ft., Dia in. to ft.
Casing height above land surface 24" in., weight 2.82 lbs./ft. Wall thickness or gauge No. .258

TYPE OF SCREEN OR PERFORATION MATERIAL: 7 PVC 10 Asbestos-cement
1 Steel 3 Stainless steel 5 Fiberglass 8 RMP (SR) 11 Other (specify)
2 Brass 4 Galvanized steel 6 Concrete tile 9 ABS 12 None used (open hole)

SCREEN OR PERFORATION OPENINGS ARE: 5 Gauzed wrapped 8 Saw cut 11 None (open hole)
1 Continuous slot 3 Mill slot 6 Wire wrapped 9 Drilled holes
2 Louvered shutter 4 Key punched 7 Torch cut 10 Other (specify)

SCREEN-PERFORATED INTERVALS: From 26 ft. to 40 ft., From ft. to ft.
From ft. to ft., From ft. to ft.
GRAVEL PACK INTERVALS: From 24 ft. to 40 ft., From ft. to ft.
From ft. to ft., From ft. to ft.

6 GROUT MATERIAL: 1 Neat cement 2 Cement grout 3 Bentonite 4 Other
Grout Intervals: From 4 ft. to 24 ft., From ft. to ft., From ft. to ft.

What is the nearest source of possible contamination:
1 Septic tank 4 Lateral lines 7 Pit privy 10 Livestock pens 14 Abandoned water well
2 Sewer lines 5 Cess pool 8 Sewage lagoon 11 Fuel storage 15 Oil well/Gas well
3 Watertight sewer lines 6 Seepage pit 9 Feedyard 12 Fertilizer storage 16 Other (specify below)
13 Insecticide storage
Direction from well? north How many feet? 150'

FROM	TO	LITHOLOGIC LOG	FROM	TO	PLUGGING INTERVALS
0	5	Top Soil			
5	20	Clay-Brown			
20	26	Clay-Blue			
26	34	Fine Sand-Coarse Sand-Blue			
34	37	Clay-Blue			
37	40	FS-CS-Med Gravel-Grey			

7 CONTRACTOR'S OR LANDOWNER'S CERTIFICATION: This water well was (1) constructed, (2) reconstructed, or (3) plugged under my jurisdiction and was completed on (mo/day/year) 11-25-94 and this record is true to the best of my knowledge and belief. Kansas Water Well Contractor's License No. 182 This Water Well Record was completed on (mo/day/yr) 12-20-94 under the business name of STRADER DRILLING CO., INC. by (signature) Dale Strader

INSTRUCTIONS: Use typewriter or ball point pen. PLEASE PRESS FIRMLY and PRINT clearly. Please fill in blanks, underline or circle the correct answers. Send top three copies to Kansas Department of Health and Environment, Bureau of Water, Topeka, Kansas 66620-0001. Telephone: 913-296-5545. Send one to WATER WELL OWNER and retain one for your records.

95 21049 SE 42 18E

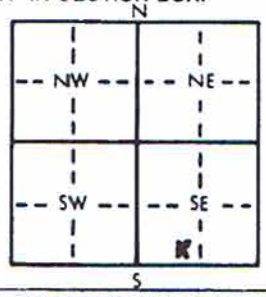
WATER WELL RECORD Form WWC-5 KSA 82a-1212

1 LOCATION OF WATER WELL: County: DOUGLAS | Fraction: SE ¼ SW ¼ SE ¼ | Section Number: 31 | Township Number: T 12 S | Range Number: R 21 E W

Distance and direction from nearest town or city street address of well if located within city?
1 WEST & EUDORA on Old Hwy 10 / N + 3/4 E NORTHSIDE

2 WATER WELL OWNER: GREGG SHIPE
RR#, St. Address, Box # : 1911 TENNESSEE
City, State, ZIP Code : LAWRENCE KS 66044
Board of Agriculture, Division of Water Resources Application Number:

3 LOCATE WELL'S LOCATION WITH AN "X" IN SECTION BOX:



4 DEPTH OF COMPLETED WELL 70 ft. ELEVATION:
Depth(s) Groundwater Encountered 1. 22 ft. 2. ft. 3. ft.
WELL'S STATIC WATER LEVEL 22 ft. below land surface measured on mo/day/yr 4-6-15-84
Pump test data: Well water was 32 ft. after 3 hours pumping 5.00 gpm
Est. Yield gpm: Well water was ft. after hours pumping gpm
Bore Hole Diameter 20 in. to 21 ft., and 12 in. to 70 ft.
WELL WATER TO BE USED AS: 1 Domestic 2 Irrigation 3 Feedlot 4 Industrial 5 Public water supply 6 Oil field water supply 7 Lawn and garden only 8 Air conditioning 9 Dewatering 10 Observation well 11 Injection well 12 Other (Specify below)
Was a chemical/bacteriological sample submitted to Department? Yes NO; If yes, mo/day/yr sample was submitted
Water Well Disinfected? Yes No

5 TYPE OF BLANK CASING USED: 1 Steel 2 PVC 3 RMP (SR) 4 ABS 5 Wrought iron 6 Asbestos-Cement 7 Fiberglass 8 Concrete tile 9 Other (specify below)
CASING JOINTS: Glued Clamped Welded Threaded
Blank casing diameter 12 in. to 50 ft., Dia in. to ft., Dia in. to ft.
Casing height above land surface 16 in., weight lbs./ft. Wall thickness or gauge No. 0.188

TYPE OF SCREEN OR PERFORATION MATERIAL: 1 Steel 2 Brass 3 Stainless steel 4 Galvanized steel U.P. 5 Fiberglass 6 Concrete tile 7 PVC 8 RMP (SR) 9 ABS 10 Asbestos-cement 11 Other (specify) 12 None used (open hole)
SCREEN OR PERFORATION OPENINGS ARE: 1 Continuous slot 2 Louvered shutter 3 Mill slot 4 Key punched 5 Gauzed wrapped 6 Wire wrapped U.P. 7 Torch cut 8 Saw cut 9 Drilled holes 10 Other (specify) 11 None (open hole)
SCREEN-PERFORATED INTERVALS: From 50 ft. to 70 ft., From ft. to ft.
From ft. to ft., From ft. to ft.
GRAVEL PACK INTERVALS: From NONE ft. to ft., From ft. to ft.
From ft. to ft., From ft. to ft.

6 GROUT MATERIAL: 1 Neat cement 2 Cement grout 3 Bentonite 4 Other 15 TO 19 CLAY
Grout Intervals: From 19 ft. to 22 ft., From 15 ft. to 19 ft., From 15 ft. to 0 CEMENT ft.
What is the nearest source of possible contamination: NONE
1 Septic tank 2 Sewer lines 3 Watertight sewer lines 4 Lateral lines 5 Cess pool 6 Seepage pit 7 Pit privy 8 Sewage lagoon 9 Feedyard 10 Livestock pens 11 Fuel storage 12 Fertilizer storage 13 Insecticide storage 14 Abandoned water well 15 Oil well/Gas well 16 Other (specify below)
Direction from well? How many feet?

FROM	TO	LITHOLOGIC LOG	FROM	TO	LITHOLOGIC LOG
0	4	SOIL			
4	21	CLAY			
21	27	SAND MED. FINE BROWN			
27	30	MED.			
30	37	FINE GRAY SAND			
37	40	MED SAND .045			
40	42	MED SAND .035			
42	48	MED SAND .035			
48	52	MED SAND .045			
52	60	MED COARSE .060 SAND			
60	64	" " " "			
64	66	" SOME COARSE GRAVEL ¼" "			
66	70	COARSE SOME CLAY'S .090			

APP 70 TO AUGMADE

7 CONTRACTOR'S OR LANDOWNER'S CERTIFICATION: This water well was (1) constructed, (2) reconstructed, or (3) plugged under my jurisdiction and was completed on (mo/day/year) Sept. 1, 1984 and this record is true to the best of my knowledge and belief. Kansas Water Well Contractor's License No. 119 This Water Well Record was completed on (mo/day/yr) Sept. 27, 1984 under the business name of Jungmann Orlg by (signature)

INSTRUCTIONS: Use typewriter or ball point pen, PLEASE PRESS FIRMLY and PRINT clearly. Please fill in blanks, underline or circle the correct answers. Send top three copies to Kansas Department of Health and Environment, Division of Environment, Environmental Geology Section, Topeka, KS 66620. Send one to WATER WELL OWNER and retain one for your records.

WATER WELL RECORD Form WWC-5 KSA 82a-1212 ID No. _____

1 LOCATION OF WATER WELL: Fraction: ¼ S 1/2 SW ¼ | Section Number: 31 | Township Number: T 12 S | Range Number: R 21 E/W

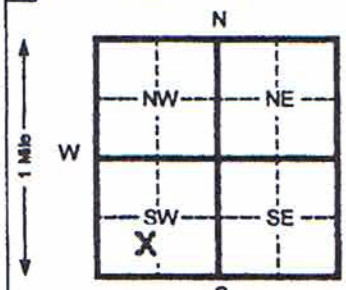
County: Douglas

Distance and direction from nearest town or city street address of well if located within city?
REF: Don Westheffer

2 WATER WELL OWNER: Nunemaker-Ross Inc.
RR#, St. Address, Box # : 1616 North 1700 Road
City, State, ZIP Code : Lawrence, Ks 66044

Board of Agriculture, Division of Water Resources
Application Number: 46589

3 LOCATE WELL'S LOCATON WITH AN "X" IN SECTION BOX:



4 DEPTH OF COMPLETED WELL 50 ft. ELEVATION:

Depth(s) Groundwater Encountered 1 _____ ft. 2 _____ ft. 3 _____ ft.

WELL'S STATIC WATER LEVEL na ft. below land surface measured on mo/day/yr _____

Pump test data: Well water was _____ ft. after _____ hours pumping _____ gpm

Est. Yield _____ gpm: Well water was _____ ft. after _____ hours pumping _____ gpm

Bore Hole Diameter 28 in. to 51 ft. and _____ in. to _____ ft.

WELL WATER TO BE USED AS: 1 Domestic 3 Feed lot 5 Public water supply 6 Oil field water supply 8 Air conditioning 9 Dewatering 11 Injection well 12 Other (Specify below)
2 Irrigation 4 Industrial 7 Lawn and garden (domestic) 10 Monitoring well _____

Was a chemical/bacteriological sample submitted to Department? Yes _____ No X If yes, mo/day/yr sample was submitted _____ Water Well Disinfected? Yes X No

5 TYPE OF BLANK CASING USED: 1 Steel 2 PVC 3 RMP (SR) 4 ABS 5 Wrought Iron 6 Asbestos-Cement 7 Fiberglass 8 Concrete tile 9 Other (specify below)

CASING JOINTS: Glued X Clamped _____ Welded _____ Threaded _____

Blank casing diameter 28 in. to 30 ft., Dia _____ in. to _____ ft., Dia _____ in. to _____ ft.

Casing height above land surface 24 in., weight 16.15 lbs./ft. Wall thickness or gauge No. .500

TYPE OF SCREEN OR PERFORATION MATERIAL: 1 Steel 2 Brass 3 Stainless steel 4 Galvanized steel 5 Fiberglass 6 Concrete tile 7 PVC 8 RMP (SR) 9 ABS 10 Asbestos-cement 11 Other (specify) _____ 12 None used (open hole)

SCREEN OR PERFORATION OPENINGS ARE: 1 Continuous slot 2 Louvered shutter 3 Mill slot 4 Key punched 5 Gauzed wrapped 6 Wire wrapped 7 Torch cut 8 Saw cut 9 Drilled holes 10 Other (specify) _____ 11 None (open hole)

SCREEN-PERFORATED INTERVALS: From 30 ft. to 50 ft. From _____ ft. to _____ ft.
From _____ ft. to _____ ft. From _____ ft. to _____ ft.

GRAVEL PACK INTERVALS: From 20 ft. to 50 ft. From _____ ft. to _____ ft.
From _____ ft. to _____ ft. From _____ ft. to _____ ft.

6 GROUT MATERIAL: 1 Neat cement 2 Cement grout 3 Bentonite 4 Other _____

Grout Intervals From 0 ft. to 20 ft. From _____ ft. to _____ ft. From _____ ft. to _____ ft.

What is the nearest source of possible contamination:
1 Septic tank 2 Sewer lines 3 Watertight sewer lines 4 Lateral lines 5 Cess pool 6 Seepage pit 7 Pit privy 8 Sewage lagoon 9 Feedyard 10 Livestock pens 11 Fuel storage 12 Fertilizer storage 13 Insecticide storage 14 Abandoned water well 15 Oil well/ Gas well 16 Other (specify below) none

Direction from well? _____ How many feet? _____

FROM	TO	CODE	LITHOLOGIC LOG	FROM	TO	PLUGGING INTERVALS
0	3		Surface			
3	24		Clay			
24	35		Sand & gravel			
35	50		Large gravel			
50	51		shale			

7 CONTRACTOR'S OR LANDOWNER'S CERTIFICATION: This water well was (1) constructed, (2) reconstructed, or (3) plugged under my jurisdiction and was completed on (mo/day/yr) 5-13-07 and this record is true to the best of my knowledge and belief. Kansas Water Well Contractor's License No. 554 This Water Well Record was completed on (mo/day/yr) 3-30-07 under the business name of Woofter Pump & Well Inc. by (signature) Jay C Woofter Jr MR

INSTRUCTIONS: Please fill in blanks and circle the correct answers. Send three copies to Kansas Department of Health and Environment, Bureau of Water, 1000 S W Jackson St., Ste. 420, Topeka, Kansas 66612-1367. Telephone: 913-296-5545. Send one to WATER WELL OWNER and retain one for your records.

Hydrology

State of Kansas Geographic Information Systems Policy Board, Data Access and Support Center, and the Kansas Geological Survey
Please email questions and comments to Asif Iqbal

WWC5 Well viewer

Section Any Township 1 Range 1 Range Direction E show

Overview Map

Remove monitoring/engineering wells

Color wells based on Estimated yield | Well Depth | Static water level

Choose Labelling on zoom-in Owner Name | Well Depth/Estimated yield | Static water level

Zoom Level: 1.5 Zoom In | Zoom Out | Pan | Identify

Show Entire State

Legend

- Single well
- Multiple wells
- Yield (in gpm)
  - between 0.00 and 5.00
  - between 5.00 and 10.00
  - between 10.00 and 1200.00
  - unknown Yield
- Township Boundary
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- Roads
- Railroads
- Zip Code
- Rivers and Streams
- Major Streams
- City Boundary
- County Boundary
- View Aerials 2002
- View Aerials 1991
- View Topo

update map

print map

WATER WELL RECORD Form WWC-5 KSA 82a-1212 ID No. TH-6

1 LOCATION OF WATER WELL: County: Douglas | Fraction: NE ¼ SW ¼ SW ¼ | Section Number: 32 | Township Number: T 12 S | Range Number: R 21 E/W

Distance and direction from nearest town or city street address of well if located within city?

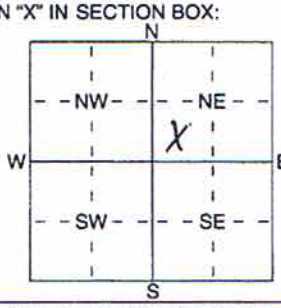
2 WATER WELL OWNER: Johnson County Water Dist. 1

RR#, St. Address, Box # : 7601 Holliday Drive

City, State, ZIP Code : Kansas City, Kansas 6606

Board of Agriculture, Division of Water Resources Application Number:

3 LOCATE WELL'S LOCATION WITH AN "X" IN SECTION BOX:



4 DEPTH OF COMPLETED WELL 35 (60) Boring ft. ELEVATION:

Depth(s) Groundwater Encountered 1 12.5 ft. 2 ft. 3 ft.

WELL'S STATIC WATER LEVEL 12.5 ft. below land surface measured on mo/day/yr 7/18/01

Pump test data: Well water was ft. after hours pumping gpm

Est. Yield gpm: Well water was ft. after hours pumping gpm

WELL WATER TO BE USED AS: 1 Domestic 2 Irrigation 3 Feedlot 4 Industrial 5 Public water supply 6 Oil field water supply 7 Domestic (lawn & garden) 8 Air conditioning 9 Dewatering 10 Monitoring well 11 Injection well (12) Other (Specify below) Test Boring

Was a chemical/bacteriological sample submitted to Department? Yes ..... No ✓; If yes, mo/day/yrs sample was submitted

Water Well Disinfected? Yes No ✓

5 TYPE OF BLANK CASING USED: 1 Steel (2) PVC 3 RMP (SR) 4 ABS 5 Wrought iron 6 Asbestos-Cement 7 Fiberglass 8 Concrete tile 9 Other (specify below)

CASING JOINTS: Glued Clamped Welded Threaded ✓

Blank casing diameter 2 in. to 45 ft., Dia in. to ft., Dia in. to ft.

Casing height above land surface 30 in., weight lbs./ft. Wall thickness or guage No. Sch 40

TYPE OF SCREEN OR PERFORATION MATERIAL: 1 Steel 2 Brass 3 Stainless Steel 4 Galvanized Steel 5 Fiberglass 6 Concrete tile (7) PVC 8 RMP (SR) 9 ABS 10 Asbestos-Cement 11 Other (Specify) 12 None used (open hole)

SCREEN OR PERFORATION OPENINGS ARE: (1) Continuous slot 2 Louvered shutter 3 Mill slot 4 Key punched 5 Guazed wrapped 6 Wire wrapped 7 Torch cut 8 Saw cut 9 Drilled holes 10 Other (specify) 11 None (open hole)

SCREEN-PERFORATED INTERVALS: From 45 ft. to 55 ft., From ft. to ft.

From ft. to ft., From ft. to ft.

GRAVEL PACK INTERVALS: From 5.5 ft. to 43 ft., From ft. to ft.

From ft. to ft., From ft. to ft.

6 GROUT MATERIAL: 1 Neat cement 2 Cement grout (3) Bentonite 4 Other

Grout Intervals: From 0 ft. to 25 ft., From ft. to ft., From ft. to ft.

What is the nearest source of possible contamination: 1 Septic tank 2 Sewer lines 3 Watertight sewer lines 4 Lateral lines 5 Cess pool 6 Seepage pit 7 Pit privy 8 Sewage lagoon 9 Feedyard 10 Livestock pens 11 Fuel storage 12 Fertilizer storage 13 Insecticide storage 14 Abandoned water well 15 Oil well/Gas well 16 Other (specify below)

Direction from well? How many feet?

FROM	TO	LITHOLOGIC LOG	FROM	TO	PLUGGING INTERVALS
0	2	Topsoil	0	25	Bentonite Chips
2	14	Fine Sand - V. Fine Sand; tan			
14	19	Med. Sand, loose; Brown			
19	32.5	Medo to Coarse sand; gray to brown			
32.5		Course Sand w/ stringers			
		of fine to med. Sand, numerous			
		chert pebbles subrounded;			
	56	clean Brown			
56	58	Weathered rock; yellow/brown			
58	60	limestone; gray			
		End of Boring			

7 CONTRACTOR'S OR LANDOWNER'S CERTIFICATION: This water well was (1) constructed, (2) reconstructed, or (3) plugged under my jurisdiction and was completed on (mo/day/year) 7/18/01 and this record is true to the best of my knowledge and belief. Kansas Water Well Contractor's Licence No 597 This Water Well Record was completed on (mo/day/yr) under the business name of PROSONIC CORPORATION by (signature)

INSTRUCTIONS: Use typewriter or ball point pen. PLEASE PRESS FIRMLY and PRINT clearly. Please fill in blanks, underline or circle the correct answers. Send top three copies to Kansas Department of Health and Environment, Bureau of Water, Geology Section, 1000 SW Jackson St., Suite 420, Topeka, Kansas 66612-1367, Telephone 785-296-5522. Send one to WATER WELL OWNER and retain one for your records. Fee of $5.00 for each constructed well.

WATER WELL RECORD Form WWC-5 KSA 82a-1212 ID No. _____

1 LOCATION OF WATER WELL: County: Douglas | Fraction: SW ¼ NW ¼ SW ¼ | Section Number: 32 | Township Number: T 12 S | Range Number: R 21 E

Distance and direction from nearest town or city street address of well if located within city?
2102 N. 1500 Rd. Eudora, Ks. 66025

2 WATER WELL OWNER: Eudora Riverview Golf
RR#, St. Address, Box # : 2102 N. 1500 Rd.
City, State, ZIP Code : Eudora, Ks. 66025
Board of Agriculture, Division of Water Resources Application Number:

3 LOCATE WELL'S LOCATION WITH AN "X" IN SECTION BOX: N / NW / NE / W / E / SW (X) / SE / S; 1 Mile

4 DEPTH OF COMPLETED WELL. 47 ft. ELEVATION:
Depth(s) Groundwater Encountered 1. 21-47 ft. 2. ft. 3. ft.
WELL'S STATIC WATER LEVEL 21 ft. below land surface measured on mo/day/yr 7-19-02
Pump test data: Well water was ft. after hours pumping gpm
Est. Yield 10.0 gpm: Well water was ft. after hours pumping gpm
Bore Hole Diameter. 12¼ in. to 48 ft., and in. to ft.
WELL WATER TO BE USED AS: 5 Public water supply 8 Air conditioning 11 Injection well; 1 Domestic 3 Feedlot 6 Oil field water supply 9 Dewatering 12 Other (Specify below); (2) Irrigation 4 Industrial 7 Domestic (lawn & garden) 10 Monitoring well
Was a chemical/bacteriological sample submitted to Department? Yes ____ No X ; If yes, mo/day/yrs sample was submitted
Water Well Disinfected? Yes X No

5 TYPE OF BLANK CASING USED: 1 Steel 3 RMP (SR) 5 Wrought iron 8 Concrete tile 9 Other (specify below); (2) PVC 4 ABS 6 Asbestos-Cement 7 Fiberglass
CASING JOINTS: Glued X Clamped ____ Welded ____ Threaded ____
Blank casing diameter 6 in. to 22 ft., Dia in. to ft., Dia in. to ft.
Casing height above land surface 30 in., weight SDR 21 200 PSI lbs./ft. Wall thickness or gauge No.
TYPE OF SCREEN OR PERFORATION MATERIAL: 1 Steel 3 Stainless steel 5 Fiberglass 8 RMP (SR) 10 Asbestos-cement; 2 Brass 4 Galvanized steel 6 Concrete tile (7) PVC 9 ABS 11 Other (specify) 12 None used (open hole)
SCREEN OR PERFORATION OPENINGS ARE: 1 Continuous slot (3) Mill slot 5 Gauzed wrapped 8 Saw cut 11 None (open hole); 2 Louvered shutter 4 Key punched 6 Wire wrapped 9 Drilled holes 7 Torch cut 10 Other (specify) ft.
SCREEN-PERFORATED INTERVALS: From 22 ft. to 47 ft., From ft. to ft.; From 47 ft. to ft., From ft. to ft.
GRAVEL PACK INTERVALS: From 47 ft. to 20 ft., From ft. to ft.; From ft. to ft., From ft. to ft.

6 GROUT MATERIAL: 1 Neat cement 2 Cement grout (5) Bentonite 4 Other
Grout Intervals: From 20 ft. to D ft., From ft. to ft., From ft. to ft.
What is the nearest source of possible contamination: NONE
1 Septic tank 4 Lateral lines 7 Pit privy 10 Livestock pens 14 Abandoned water well
2 Sewer lines 5 Cess pool 8 Sewage lagoon 11 Fuel storage 15 Oil well/Gas well
3 Watertight sewer lines 6 Seepage pit 9 Feedyard 12 Fertilizer storage 16 Other (specify below)
13 Insecticide storage
Direction from well? How many feet?

FROM	TO	LITHOLOGIC LOG	FROM	TO	PLUGGING INTERVALS
0	16	Soil & Silt - Sandy			
16	48	Sand			

7 CONTRACTOR'S OR LANDOWNER'S CERTIFICATION: This water well was (1) constructed, (2) reconstructed, or (3) plugged under my jurisdiction and was completed on (mo/day/year) 7-19-02 and this record is true to the best of my knowledge and belief. Kansas Water Well Contractor's Licence No. 561 This Water Well Record was completed on (mo/day/yr) 7-19-02
under the business name of Evans Energy Dev. Inc. by (signature)

INSTRUCTIONS: Use typewriter or ball point pen. PLEASE PRESS FIRMLY and PRINT clearly. Please fill in blanks, underline or circle the correct answers. Send top three copies to Kansas Department of Health and Environment, Bureau of Water, Topeka, Kansas 66620-0001. Telephone 785-296-5524. Send one to WATER WELL OWNER and retain one for your records. Fee of $5.00 for each constructed well.

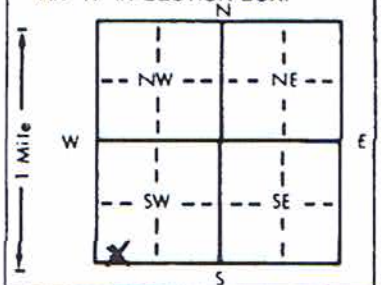
WATER WELL RECORD Form WWC-5 KSA 82a-1212

1 LOCATION OF WATER WELL: County: Douglas | Fraction: SW ¼ SW ¼ SW ¼ | Section Number: 32 | Township Number: T 12 S | Range Number: R 20 (E) W

Distance and direction from nearest town or city street address of well if located within city?
2102 N 1500 Rd. Eudora, Ks. 66025

2 WATER WELL OWNER: Eudora Riverview Golf
RR#, St. Address, Box # : 2102 N. 1500 Rd.
City, State, ZIP Code : Eudora, Ks. 66025
Board of Agriculture, Division of Water Resources
Application Number:

3 LOCATE WELL'S LOCATION WITH AN "X" IN SECTION BOX:



4 DEPTH OF COMPLETED WELL 65 ft. ELEVATION:
Depth(s) Groundwater Encountered 1. 21-65 ft. 2. ft. 3. ft.
WELL'S STATIC WATER LEVEL 21 ft. below land surface measured on mo/day/yr
Pump test data: Well water was ft. after hours pumping gpm
Est. Yield 3.0+ gpm: Well water was ft. after hours pumping gpm
Bore Hole Diameter 8 3/4 in. to 65 ft., and in. to ft.
WELL WATER TO BE USED AS: 5 Public water supply 8 Air conditioning 11 Injection well
(1) Domestic 3 Feedlot 6 Oil field water supply 9 Dewatering 12 Other (Specify below)
2 Irrigation 4 Industrial 7 Lawn and garden only 10 Monitoring well
Was a chemical/bacteriological sample submitted to Department? Yes No X; If yes, mo/day/yr sample was submitted
Water Well Disinfected? Yes X No

5 TYPE OF BLANK CASING USED: 5 Wrought iron 8 Concrete tile CASING JOINTS: Glued X Clamped
1 Steel 3 RMP (SR) 6 Asbestos-Cement 9 Other (specify below) Welded
(2) PVC 4 ABS 7 Fiberglass Threaded
Blank casing diameter 5 in. to 55 ft., Dia in. to ft., Dia in. to ft.
Casing height above land surface 30 in., weight 200 PSI lbs./ft. Wall thickness or gauge No.
TYPE OF SCREEN OR PERFORATION MATERIAL: (7) PVC 10 Asbestos-cement
1 Steel 3 Stainless steel 5 Fiberglass 8 RMP (SR) 11 Other (specify)
2 Brass 4 Galvanized steel 6 Concrete tile 9 ABS 12 None used (open hole)
SCREEN OR PERFORATION OPENINGS ARE: 5 Gauzed wrapped 8 Saw cut 11 None (open hole)
1 Continuous slot (3) Mill slot 6 Wire wrapped 9 Drilled holes
2 Louvered shutter 4 Key punched 7 Torch cut 10 Other (specify)
SCREEN-PERFORATED INTERVALS: From 55 ft. to 65 ft., From ft. to ft.
From ft. to ft., From ft. to ft.
GRAVEL PACK INTERVALS: From 65 ft. to 21 ft., From ft. to ft.
From ft. to ft., From ft. to ft.

6 GROUT MATERIAL: 1 Neat cement 2 Cement grout (3) Bentonite 4 Other
Grout Intervals: From 21 ft. to 0 ft., From ft. to ft., From ft. to ft.
What is the nearest source of possible contamination:
(1) Septic tank (4) Lateral lines 7 Pit privy 10 Livestock pens 14 Abandoned water well
2 Sewer lines 5 Cess pool 8 Sewage lagoon 11 Fuel storage 15 Oil well/Gas well
3 Watertight sewer lines 6 Seepage pit 9 Feedyard 12 Fertilizer storage 16 Other (specify below)
13 Insecticide storage
Direction from well? N How many feet? 100+

FROM	TO	LITHOLOGIC LOG	FROM	TO	PLUGGING INTERVALS
0	16	Soil			
16	65	Sand			
65		Shale			

7 CONTRACTOR'S OR LANDOWNER'S CERTIFICATION: This water well was (1) constructed, (2) reconstructed, or (3) plugged under my jurisdiction and was completed on (mo/day/year) 12-1-97 and this record is true to the best of my knowledge and belief. Kansas Water Well Contractor's License No. 561 This Water Well Record was completed on (mo/day/yr) 12-2-97 under the business name of Evans Energy Dev. Inc by (signature) Scott C. Evans

INSTRUCTIONS: Use typewriter or ball point pen. *PLEASE PRESS FIRMLY* and *PRINT* clearly. Please fill in blanks, underline or circle the correct answers. Send top three copies to Kansas Department of Health and Environment, Bureau of Water, Topeka, Kansas 66620-0001. Telephone: 913-296-5545. Send one to WATER WELL OWNER and retain one for your records.

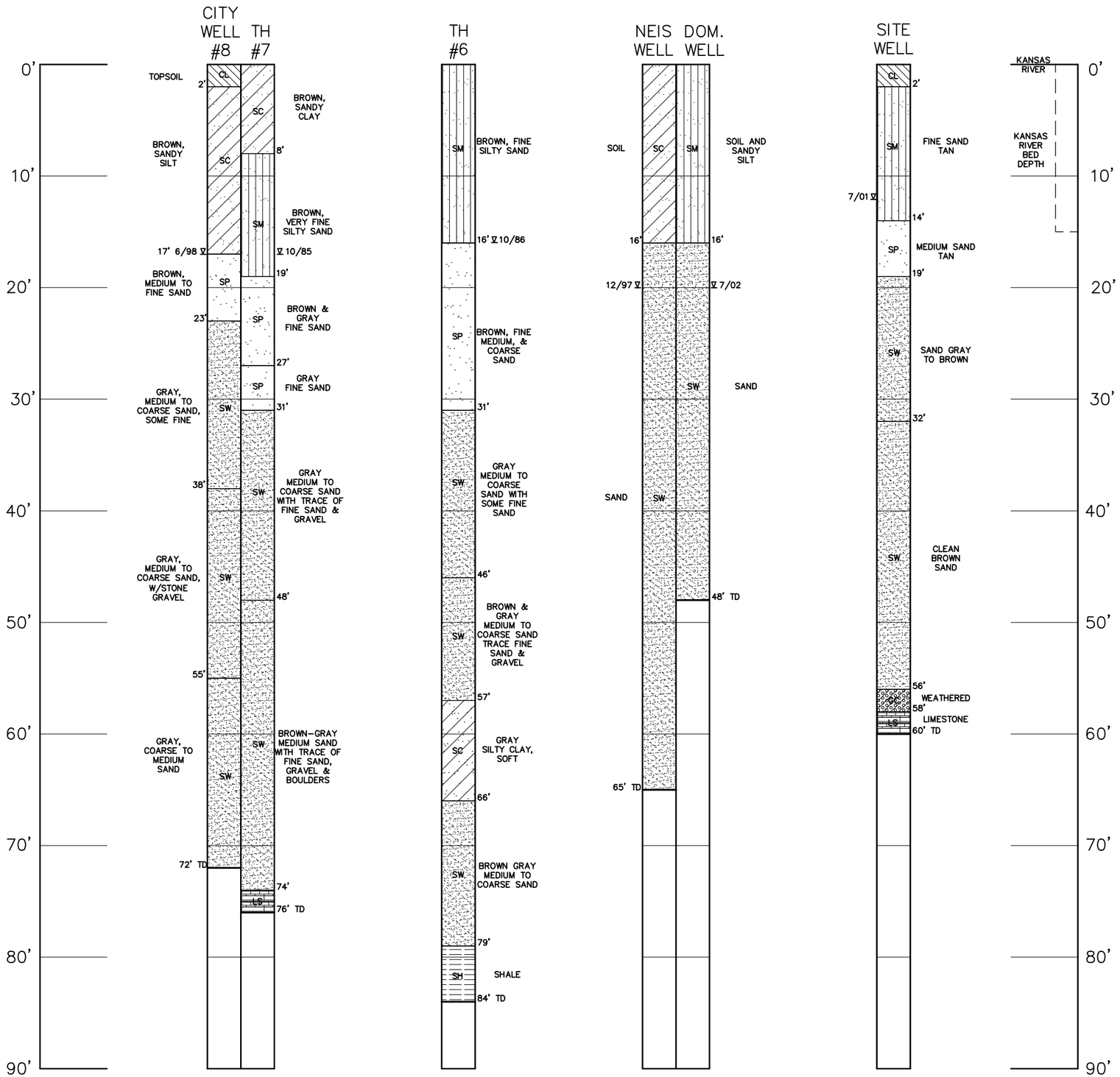


EXHIBIT C
WEST TO EAST CROSS SECTION ALONG N 1500 ROAD

PREPARED 1/20/11

SCALE: 1" = 10'

10 5 0 10 20

Landplan Engineering, P.A.
Lawrence, KS • Kansas City, MO • Columbus, OH
The Woodlands, TX • Farmington Hills, MI

Civil Engineering
Landscape Architecture
Community Planning
Surveying

1310 Wakarusa Drive
Lawrence, Kansas 66049
tele (785)843-7530
fax (785)843-2410
email: info@landplan-pa.com
Web www.landplan-pa.com

6

R.

USE TYPEWRITER OR BALL POINT PEN-PRESS FIRMLY, PRINT CLEARLY.

WATER WELL RECORD
KSA 82a-1201-1215

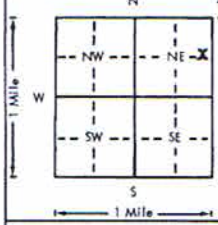
Kansas Department of Health and Environment-Division of Environment
(Water well Contractors)
Topeka, Kansas 66620

1. Location of well:	County	Fraction	Section number	Township number	Range number
	Leavenworth	SE 1/4 NE 1/4 NE 1/4	32	T 12 S	R 21 E/W

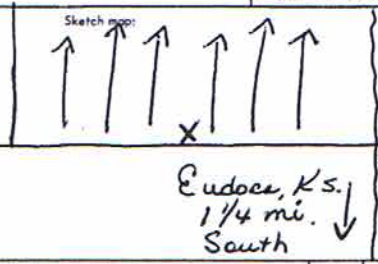
2. Distance and direction from nearest town or city: 1½ mi. North of Eudora on Leavenworth County Rd. #1
Street address of well location if in city:

3. Owner of well: A. B. Pendleton
R.R. or street: R. R. #2
City, state, zip code: Lawrence, Kansas

4. Locate with "X" in section below:



Sketch map:



6. Bore hole dia. 30 in. Completion date 5-23-77
Well depth 50 ft.

7. ___ Cable tool ___ Rotary ___ Driven ___ Dug
___ Hollow rod ___ Jetted ___ Bored X Reverse rotary

8. Use: ___ Domestic ___ Public supply ___ Industry
X Irrigation ___ Air conditioning ___ Stock
___ Lawn ___ Oil field water ___ Other

9. Casing: Material Trans; Weight: (above) or below
Threaded ___ Welded ___ Surface 12 in.
RMP ___ PVC ___ Weight ___ lbs./ft.
Dia. 16 in. to 24 ft. depth; Wall Thickness: inches or
Dia. ___ in. to ___ ft. depth; gage No. .25"

5. Type and color of material	From	To
Med. brown soil	0	1
Fine brown ~~XX~~ blow sand	1	22
Small brown gravel	22	25
~~XX~~ Med. to large brown gravel	25	31
Med. to large gray gravel	81	50
Stopped.	50	

10. Screen: Manufacturer's name Johnson Well Co.
Type Transite Dia. 16"
Slot/gauze 1/8 x 8 Length 26'
Set between 24 ft. and 50 ft.
___ ft. and ___ ft.
Gravel pack? Yes Size range of material 1/8-1/4

11. Static water level: mo./day/yr.
22 ft. below land surface Date 5-23-77

12. Pumping level below land surfaces:
32 ft. after 1 hrs. pumping 800 g.p.m.
35 ft. after 3 hrs. pumping 1000 g.p.m.
Estimated maximum yield 1200 g.p.m.

13. Water sample submitted: mo./day/yr.
___ Yes X No Date ___

14. Well head completion:
___ Pitless adapter ___ Inches above grade

15. Well grouted? yes
With: ___ Neat cement ___ Bentonite X Concrete
Depth: From 0 ft. to 10 ft.

16. Nearest source of possible contamination:
ft. 800 Direction west Type old farm
Well disinfected upon completion? ___ Yes X No

17. Pump: X Not installed
Manufacturer's name ___
Model number ___ HP ___ Volts ___
Length of drop pipe ___ ft. capacity ___ g.p.m.
Type:
___ Submersible ___ Turbine
___ Jet ___ Reciprocating
___ Centrifugal ___ Other

(Use a second sheet if needed)

18. Elevation: 797'
Topography:
___ Hill
___ Slope
___ Upland
X Valley

19. Remarks:
Leveled for flood irrigation.
800' from map
We do not install pumps.

20. Water well contractor's certification:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.
Hoobler Drilling Co. 323
Business name License No.
Address St. Marys, Ks. 66536
Signed Allen Hoobler Date 6-10-77
Authorized representative

Forward the white, blue and pink copies to the Department of Health and Environment

Form WWC-5

M1-1023

12 21 W 3 3 SE NE NE 1/4 1/4 1/4 Sec

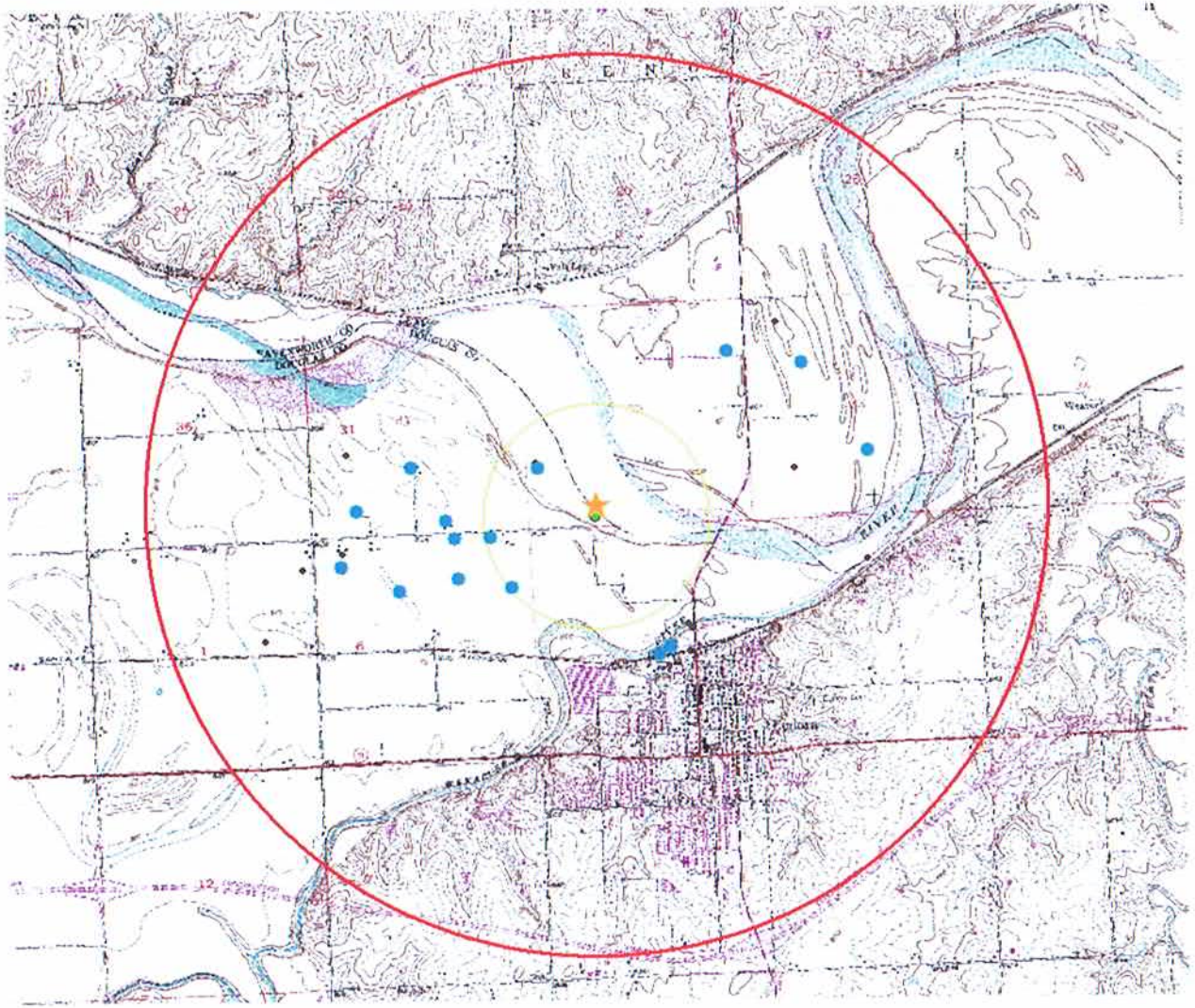
BR elev <787 ▽ = 775

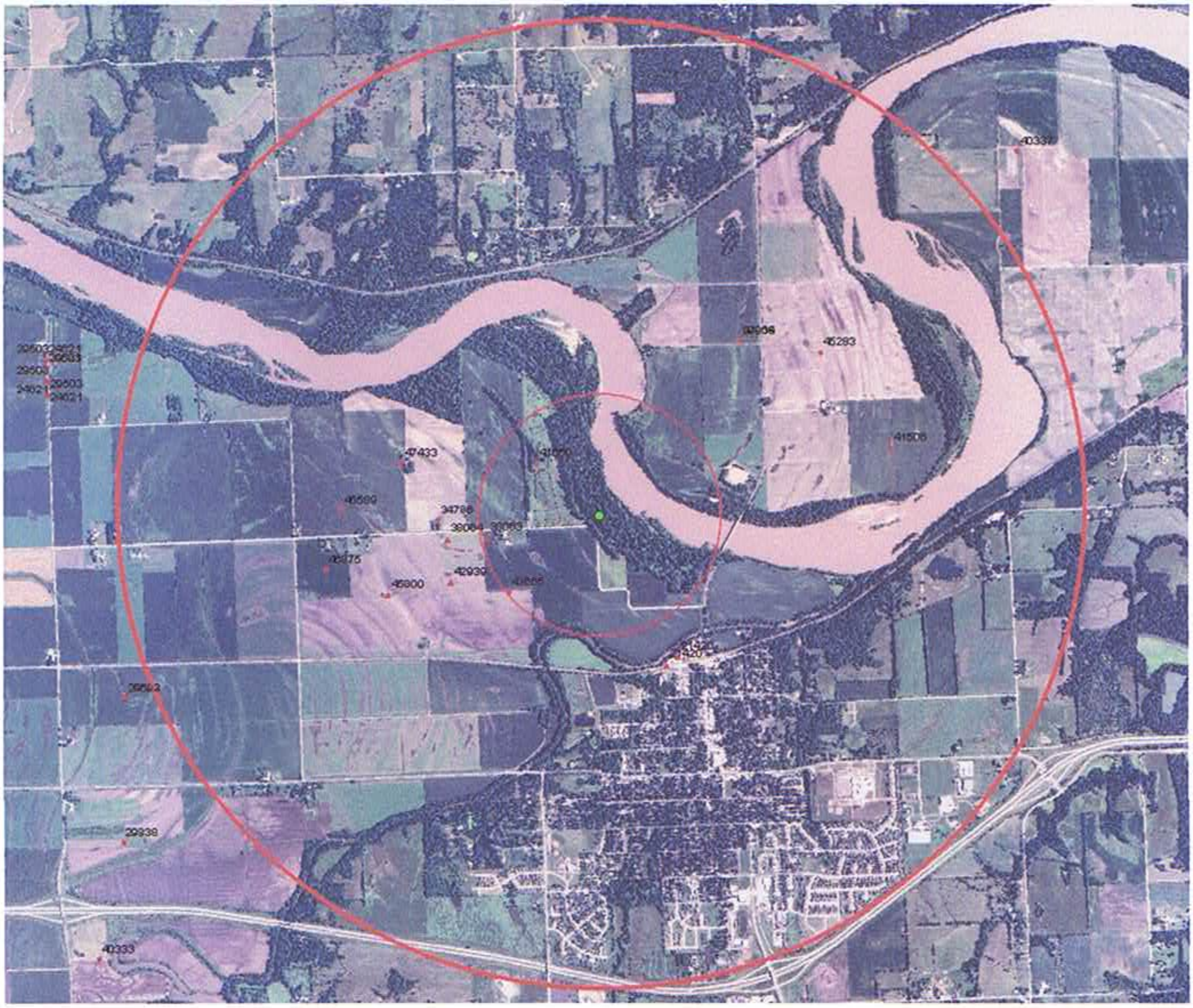
APPENDIX – II

KDA, Division of Water Resources, Safe Yield Analysis Data

Safe Yield Report Sheet
Proposed Water Right Application
Point of Diversion in NWSWSESW 32-12S-21E

==========





47433
42930
45283
41506
40337
29938
40333

Analysis Results

The selected PD is in an area OPEN to new appropriations.

The safe yield, based on the variables listed below is 2,749.76 AF.

Total prior appropriation in the circle is 1,629.50 AF.

Total quantity of water available for appropriation is 1,120.26 AF.

Safe Yield Variables

The area used for the analysis is set at 4777 acres.

Potential annual recharge of the area is estimated to be 9.21 inches.

The percent of recharge available for appropriation is 75%.

Authorized Quantity values are as of 13-JAN-2011 and are based on Appropriated and Vested ground water right and possible stream nodes for GMD #2. Domestic, Term and Temporary water rights have been excluded.

There are 15 water right(s) and 15 point(s) of diversion within the circle.

File Number	Use	ST	SR	Q4	Q3	Q2	Q1	FeetN	FeetW	Sec	Twp	Rng	ID	Qind	Auth_Quant	Add_Quant	Tacres	Nacres
A 21420 00	MUN	NK	G		NW	NW	SE	2464	2112	05	13	21E	4	PD	53.03	53.03		

Same			MUN	NK	G	NW NW SE	2288	2376	05	13	21E	5	PD	79.48	79.48	
A	29914	00	IRR	NK	G	SE NE NE	4000	450	32	12	21E	1	WR	13.00	13.00	100.00	100.00
A	34786	00	IRR	NK	G	SE SW SE	300	1950	31	12	21E	1	WR	25.00	25.00	39.00	39.00
A	38063	00	MUN	NK	G	NW NE NE	5180	1003	06	13	21E	2	WR	214.14	113.00		
A	38064	00	MUN	NK	G	NE NW NE	5180	1855	06	13	21E	3	WR	190.70	141.97		
A	41506	00	IRR	NK	G		1515	2527	33	12	21E	1	WR	156.00	156.00	160.00	160.00
A	41650	00	IRR	NK	G		1449	4996	32	12	21E	3	WR	37.00	37.00	60.00	60.00
A	42939	00	MUN	LO	G	SE NW NE	4230	1820	06	13	21E	5	WR	245.51	245.51		
A	43665	00	IRR	KK	G	NC E2 NE	3950	550	06	13	21E	6	WR	168.00	168.00	178.00	178.00
A	45283	00	IRR	LO	G	NE SW NW	3719	3974	33	12	21E	4	WR	171.00	171.00	180.00	180.00
A	45800	00	MUN	LO	G	SE SE NW	3870	3110	06	13	21E	7	WR	245.51	66.01		
A	46589	00	IRR	LO	G	NC S2 SW	575	3960	31	12	21E	2	WR	150.00	150.00	150.00	150.00
A	46875	00	IRR	HK	G	SE NW NW	4613	4547	06	13	21E	9	WR	32.00	32.00	32.00	32.00
A	47008	00	IRR	GY	G	SE NE NE	4000	450	32	12	21E	1	WR	100.00	87.00	100.00	0.00
A	47433	00	IRR	GY	G	SE NE SW	1584	2706	31	12	21E	5	WR	91.50	91.50	91.50	51.50

James E & Ronda Bigger
727 S White Sands BLVD
Alamogordo NM 88310-7247

THE STATE OF KANSAS

KANSAS DEPARTMENT OF AGRICULTURE
Adrian J. Polansky, Secretary of Agriculture

DIVISION OF WATER RESOURCES
David W. Barfield, Chief Engineer

CERTIFICATE OF APPROPRIATION FOR BENEFICIAL USE OF WATER

WATER RIGHT, File No. **41,650**

PRIORITY DATE **March 1, 1995**

WHEREAS, It has been determined by the undersigned that construction of the appropriation diversion works has been completed, that water has been used for beneficial purposes and that the appropriation right has been perfected, all in conformity with the conditions of approval of the application pursuant to the water right referred to above and in conformity with the laws of the State of Kansas.

NOW, THEREFORE, Be It Known that DAVID W. BARFIELD, the duly appointed, qualified and acting Chief Engineer of the Division of Water Resources of the Kansas Department of Agriculture, by authority of the laws of the State of Kansas, and particularly K.S.A. 82a-714, does hereby certify that, subject to vested rights and prior appropriation rights, the appropriator is entitled to make use of groundwater to be withdrawn by means of a well located in Lot 2 of Section 32, more particularly described as being near a point 1,449 feet North and 4,996 feet West of the Southeast corner of said section, in Township 12 South, Range 21 East, Douglas County, Kansas, at a diversion rate not in excess of **200 gallons per minute (0.45 c.f.s.)** and a quantity not to exceed **37 acre-feet** of water per calendar year for irrigation use on the following described property:

1 acre in the Southwest Quarter of the Northwest Quarter (SW¼ NW¼),
11 acres in Lot 3,
14 acres in the Northwest Quarter of the Southwest Quarter (NW¼ SW¼),
34 acres in Lot 2,

a total of 60 acres in Section 32, Township 12 South, Range 21 East, Douglas County, Kansas.

RECEIVED
APR 08 2003
TOPEKA FIELD OFFICE
DIVISION OF WATER RESOURCES

The maximum authorized acres that were lawfully irrigated in any one calendar year during the perfection period were 20 acres.

SCANNED

All terms, conditions and limitation applicable to the Appropriation of Water not expressly changed or removed by the issuance of the Certificate of Appropriation remain in full force and effect. Failure to comply with those terms, conditions and limitations, and those added or amended by this Certificate, will result in the suspension of this appropriation right or revocation and dismissal of this appropriation right.

This is a final agency action. If you choose to appeal this decision or any finding or part thereof, you must do so by filing a petition for review in the manner prescribed by the Kansas Act for Judicial Review and Civil Enforcement of Agency Actions (KJRA K.S.A. 77-601 et seq.) within 30 days of service of this order. Your appeal must be made with the appropriate district court for the district of Kansas. The Chief Legal Counsel for the Kansas Department of Agriculture, 109 SW 9th Street, 4th Floor, Topeka, Kansas 66612, is the agency officer who will receive service of a petition for judicial review on behalf of the Kansas Department of Agriculture, Division of Water Resources. If you have questions or would like clarification concerning this order, you may contact the Chief Engineer.

IN WITNESS WHEREOF, I have hereunto set my hand at my office at Topeka, Kansas, this 14th day of March, 2008.

David W. Barfield, P.E.
Chief Engineer
Division of Water Resources
Kansas Department of Agriculture

RECEIVED
APR 08 2008
TOPEKA FIELD OFFICE
DIVISION OF WATER RESOURCES

State of Kansas)
) SS
County of Shawnee)

The foregoing instrument was acknowledged before me this 14th day of March, 2008, by David W. Barfield, P.E., Chief Engineer, Division of Water Resources, Kansas Department of Agriculture.

Notary Public

BRENDYLON F. HARMON
NOTARY PUBLIC
OFFICIAL SEAL
STATE OF KANSAS
MY COMMISSION EXPIRES
November 19, 2011

SCANNED

KANSAS
DEPARTMENT OF AGRICULTURE

Mark Parkinson, Governor
Joshua Svaty, Acting Secretary

www.ksda.gov/dwr

CERTIFIED MAIL

December 30, 2009

LOIS M WINDETT-HAMILTON TRUST
LOIS WINDETT-HAMILTON TTE
52 MALAGA WAY
HOT SPRINGS VILLAGE AR 71909

Re: Notice Given Under K.S.A. 82a-718(b)
File No(s). 43,665

According to the Division of Water Resources' records you are the owner of or water use correspondent for the above referenced water right(s) or permit(s) to appropriate water.

The law requires the Division of Water Resources to notify you that:

The records show there has been no use of water as authorized by the referenced file(s) for a minimum of 3 successive years.

This file may be terminated if no lawful, beneficial use is made for a total of 5 successive years unless the beneficial use of the water was prevented or made unnecessary by circumstances that are considered due and sufficient cause for the non-use.

The circumstances considered to be due and sufficient cause for the non-use of water are listed on the back and also can be found in Kansas Administrative Regulation K.A.R. 5-7-1.

The reasons for non-use of water should always be noted on the annual water use report. If you have not reported reasons for non-use, you can provide this information to Division of Water Resources, in writing, at any time.

If you believe the Division of Water Resources' records are incorrect and there has been use of water within the past three years, provide documentation to that effect. It is to your benefit to provide this information as soon as you can.

This notice provides you the opportunity to remedy any abandonment situation that may exist with your project before a total of five years of non-use takes place.

If you have questions concerning this matter, please contact the Division of Water Resources at 785-296-3717. If you would prefer, please call the Topeka field office at 785-862-6300 to arrange for an appointment.

Sincerely,

Lane P. Letourneau

Lane P. Letourneau, L.G.
Program Manager
Water Appropriation Program

LPL:ccd
cc: Topeka Field Office

THE STATE OF KANSAS

KANSAS DEPARTMENT OF AGRICULTURE
Alice A. Devine, Secretary of Agriculture

DIVISION OF WATER RESOURCES
David L. Pope, Chief Engineer

APPROVAL OF APPLICATION
and
PERMIT TO PROCEED

(This is not a Certificate of Appropriation)

This is to certify that I have examined Application **File No. 43,665** of the applicant

Mark Neis
40395 West 119th Street
Eudora, Kansas 66025

for a permit to appropriate water for beneficial use, together with the maps, plans and other submitted data, and that the application is hereby approved and the applicant is hereby authorized, subject to vested rights and prior appropriations, to proceed with the construction of the proposed diversion works (except those dams and stream obstructions regulated by K.S.A. 82a-301 through 305a, as amended), and to proceed with all steps necessary for the application of the water to the approved and proposed beneficial use and otherwise perfect the proposed appropriation subject to the following terms, conditions and limitations:

1. That the priority date assigned to such application is **February 4, 1999**.

2. That the water sought to be appropriated shall be used for irrigation use on land described in the application, as follows:

			NE¼				NW¼				SW¼				SE¼				TOTAL
Sec.	Twp.	Range	NE¼	NW¼	SW¼	SE¼	NE¼	NW¼	SW¼	SE¼	NE¼	NW¼	SW¼	SE¼	NE¼	NW¼	SW¼	SE¼	
5	13S	21E						30	21										51
6	13S	21E	37	20	20	40													117

3. That the authorized source from which the appropriation shall be made is groundwater from the alluvial aquifer, in the drainage basin of the Kansas River to be withdrawn by means of one (1) well located near the center of the East Half of the Northeast Quarter (E½ NE¼) of Section 6, more particularly described as being near a point 3,950 feet North and 550 feet West of the Southeast corner of said section, in Township 13 South, Range 21 East, Douglas County, Kansas, located substantially as shown on the topographic map accompanying the application.

4. That the appropriation sought shall be limited to a maximum diversion rate not in excess of **1,200 gallons per minute (2.67 c.f.s.)** and to a quantity not to exceed **168 acre-feet** of water for any calendar year.

5. That installation of works for diversion of water shall be completed on or before **December 31, 2000** or within any authorized extension thereof. The applicant shall notify the Chief Engineer and pay the statutorily required field inspection fee of $200.00 when construction of the works has been completed. Failure to timely submit the notice and the fee will result in revocation of the permit. Any request for an extension of time shall be submitted prior to the expiration of the deadline and shall be accompanied by the required statutory fee, which is currently $50.00.

6. That the proposed appropriation shall be perfected by the actual application of water to the proposed beneficial use on or before **December 31, 2004** or any authorized extension thereof. Any request for an extension of time shall be submitted prior to the expiration of the deadline and shall be accompanied by the required statutory fee, which is currently $50.00.

RECEIVED
MAR 17 1999
TOPEKA FIELD OFFICE
DIVISION OF WATER RESOURCES

DUPLICATE COPY

(OVER)

7. That the applicant shall not be deemed to have acquired a water appropriation for a quantity in excess of the amount approved herein nor in excess of the amount found by the Chief Engineer to have been actually used for the approved purpose during one calendar year subsequent to approval of the application and within the time specified for perfection or any authorized extension thereof.

8. That the use of water herein authorized shall not be made so as to impair any use under existing water rights nor prejudicially and unreasonably affect the public interest.

9. That the right of the appropriator shall relate to a specific quantity of water and such right must allow for a reasonable raising or lowering of the static water level and for the reasonable increase or decrease of the streamflow at the appropriator's point of diversion.

10. That this permit does not constitute authority under K.S.A. 82a-301 through 305a to construct any dam or other obstruction; nor does it grant any right-of-way, or authorize entry upon or injury to, public or private property.

11. That all diversion works constructed under the authority of this permit into which any type of chemical or other foreign substance will be injected into the water pumped from the diversion works shall be equipped with an in-line, automatic quick-closing, check valve capable of preventing pollution of the source of the water supply. The type of valve installed shall meet specifications adopted by the Chief Engineer and shall be maintained in an operating condition satisfactory to the Chief Engineer.

12. That an acceptable water flow meter shall be installed on the diversion works authorized by this permit in accordance with specifications adopted by the Chief Engineer on February 27, 1985, and shall be maintained in an operating condition satisfactory to the Chief Engineer, and shall be used to provide information required on the annual water use report (including the meter reading at the beginning and ending of the report year).

13. That the applicant shall maintain accurate and complete records from which the quantity of water diverted during each calendar year may be readily determined and the applicant shall file an annual water use report with the Chief Engineer by March 1 following the end of each calendar year. Failure to file the annual water use report by the due date shall cause the applicant to be subject to a civil penalty.

14. That no water user shall engage in nor allow the waste of any water diverted under the authority of this permit.

15. That all wells with a diversion rate of 100 gallons per minute or more drilled under the authority of this permit shall have a tube or other device installed in a manner acceptable to, and in accordance with specifications adopted by, the Chief Engineer. This tube or device shall be suitable for making water level measurements and shall be maintained in a condition satisfactory to the Chief Engineer.

16. That failure without cause to comply with provisions of the permit and its terms, conditions and limitations will result in the forfeiture of the priority date, revocation of the permit and dismissal of the application.

17. That the right to appropriate water under authority of this permit is subject to any minimum desirable streamflow requirements identified and established pursuant to K.S.A. 82a-703c for the source of supply to which this water right applies.

18. That the applicant shall submit to the Chief Engineer a copy of the well log required by the Kansas Department of Health and Environment under the authority of K.S.A. 82a-1212, currently form WWC-5, within 30 days following the drilling of the well at the location authorized herein.

19. That the Chief Engineer specifically retains jurisdiction in this matter with authority to make such reasonable reductions in the approved rate of diversion and quantity authorized to be perfected, and such changes in other terms, conditions, and limitations set forth in this approval and permit to proceed as may be deemed to be in the public interest.

Dated this 12th day of March, 1999.

David L. Pope, Chief Engineer, P.E.
Division of Water Resources
Kansas Department of Agriculture

WATER METER REQUIRED

THE STATE OF KANSAS

KANSAS DEPARTMENT OF AGRICULTURE

Jamie Clover-Adams Secretary of Agriculture

DIVISION OF WATER RESOURCES
David L. Pope, Chief Engineer

CERTIFICATE OF APPROPRIATION FOR BENEFICIAL USE OF WATER

RECEIVED
DEC 03 1999
TOPEKA FIELD OFFICE
DIVISION OF WATER RESOURCES

WATER RIGHT, File No. 38,063

PRIORITY DATE December 9, 1985

WHEREAS, It has been determined by the undersigned that construction of the appropriation diversion works has been completed, that water has been used for beneficial purposes and that the appropriation right has been perfected, all in conformity with the conditions of approval of the application pursuant to the water right referred to above and in conformity with the laws of the State of Kansas.

NOW, THEREFORE, Be It Known that DAVID L. POPE, the duly appointed, qualified and acting Chief Engineer of the Division of Water Resources of the Kansas Department of Agriculture, by authority of the laws of the State of Kansas, and particularly K.S.A. 82a-714, does hereby certify that, subject to vested rights and prior appropriation rights, the appropriator is entitled to make use of groundwater to be withdrawn by means of a well located in the Northwest Quarter of the Northeast Quarter of the Northeast Quarter (NW¼ NE¼ NE¼) of Section 6, more particularly described as being near a point 5,180 feet North and 1,003 feet West of the Southeast corner of said section, in Township 13 South, Range 21 East, Douglas County, Kansas, at a diversion rate not in excess of 325 gallons per minute (0.72 c.f.s.) and a quantity not to exceed 69.777 million gallons (214.14 acre-feet) of water per calendar year for municipal use in the City of Eudora Kansas and the immediate vicinity.

This appropriation right is further limited to a quantity of water which when combined with the water right set forth in the Certificate of Appropriation issued pursuant to File No.21,420, will provide a total quantity not to exceed 69.777 million gallons (214.14 acre-feet) of water per calendar year for municipal use at the location described herein.

(over)

All terms, conditions and limitation applicable to the Appropriation of Water not expressly changed or removed by the issuance of the Certificate of Appropriation remain in full force and effect. Failure to comply with those terms, conditions and limitations, and those added or amended by this Certificate, will result in the suspension of this appropriation right or revocation and dismissal of this appropriation right.

IN WITNESS WHEREOF, I have hereunto set my hand at my office at Topeka, Kansas, this 23rd day of November, 1999.

DAVID L. POPE
CHIEF ENGINEER

David L. Pope, P.E.
Chief Engineer
Division of Water Resources
Kansas Department of Agriculture

State of Kansas)
) SS
County of Shawnee)

The foregoing instrument was acknowledged before me this 23rd day of November, 1999, by David L. Pope, P.E., Chief Engineer, Division of Water Resources, Kansas Department of Agriculture.

Dorothy M Halloran
Notary Public

My appointment expires:

DOROTHY M. HALLORAN
Notary Public - State of Kansas
My Appt. Expires June 27, 2001

CERTIFICATE OF APPROPRIATION
FOR BENEFICIAL USE OF WATER

STATE OF KANSAS

COUNTY, ss.

Filed for record this ____ day of ____, ____ at ____ o'clock ____ m. and recorded in Book ____ Page ____

Fee $ ____

Register of Deeds

(Record in the office of Register of Deeds in the county or counties wherein the point of diversion is located)

APPENDIX – III

Carl E. Nuzman, Resume' and Personal Information

RESUME'
AND
PERSONAL INFORMATION

Name: Carl E. Nuzman, P.E., P.Hg.
3314 NW Huxman Road
Silver Lake, KS 66539
Email; cyjnzmn@swbell.net

Phone: (785) 582-4054
Fax: (785) 582-4155
Cell: (785) 224 9929

Position: Consulting Engineer/Hydrogeologist

Academic/Professional Certifications:

Master of Science in Water Resources Engineering, Department of Civil Engineering, University of Kansas, 1966

Bachelor of Science in Agricultural Engineering, Kansas State University, 1953

Professional Engineer, first licensed in1962-Kansas No. 4482, and in the following states: MO-E12525, IA-6334, SC-4099, FL-15102, AL-16858, AZ-23209, IL-062-043392, IN-PE60880547, LA-23209, MS-10041, MI-33050, NE-E-12525, NC-15121, NM-10625, OH-E-51179, OK-15653, TN-018707, VA-0402-018380, and WI-E-25841.
Professional Hydrogeologist, Certified in1986 by the American Institute of Hydrology, PHg-No. 385

Professional Positions:

- Consultant(1997-Present)
- Layne GeoSciences, Inc. Mission Woods, KS Vice President and Principal Hydrologist (1988-1997)
- Groundwater Management, Inc., Kansas City, KS Vice President and Chief Hydrologist(1985-1988)
- Layne Western Company, Inc., Kansas City, KS Hydrology Division Manager and Chief Hydrologist (1970-1985)
- Layne Western Company, Inc., Kansas City, MO Sales Engineer (1967-1970)
- Kansas Water Resources Board, Topeka, KS Hydrologist III (1966)
- Kansas State Board of Agriculture, Division of Water Resources, Topeka, KS Assistant Engineer (1957-1965)

Specialized Competence:

- Surface and groundwater hydrology
- Project management and supervision
- Well treatment and rehabilitation/groundwater quality
- Well and well field design and construction
- Modeling of groundwater systems
- Water treatment and distribution piping
- Injection well design and operation
- Water pumps and associated equipment including suction flow control devices

Applicable Experience:

Mr. Nuzman has extensive experience in the areas of groundwater modeling, water well and well field design and construction, water well treatment and rehabilitation, and soil and groundwater remediation. In the groundwater resource area, he has performed hydrological investigations and modeling studies of several large regional groundwater aquifers. He served as technical advisor to the Attorney General and the USGS Analog Model laboratory on the first model work of the Equus Beds in 1961. He was the first to model the Ogallala Aquifer in SW Kansas using the passive element electric analog model technique in 1966.

After joining Layne Western in 1967, he conducted the testing program, aquifer modeling and well field design and construction for the City of Manhattan wells to infiltrate water from the Blue River, the City of Columbia, MO to change water supply source from the deep Ordovician aquifer to the Missouri river alluvium, and develop the ground water supply for the KP&L Hutchinson II power plant.

He has consulted on deep disposal wells and designed a groundwater recharge facility.

He has been involved in the design of dewatering systems for underground construction and has provided expert testimony on a variety of hydrologic related issues. He has served as a principal engineer on several major environmental projects such as underground storage tank and contaminated soil removal in central Illinois, a remedial investigation and feasibility study at an engine manufacturing facility in Indiana, remediation of a municipal well field of TCE, and the closure of an RCRA storage facility.

He has prepared specifications and bidding documents for both municipal and industrial well construction, pumps and controls, and water treatment facilities with connecting piping.

Publications:

- Nuzman, Carl E. (1989) "Well Hydraulic Flow Concept", Published in *Recent Advances in Ground-Water Hydrology,* by the American Institute of Hydrology, pgs. 72-77.
- Nuzman. Carl E., (1978, revised 1985) "Ground-Water and Well Efficiency", Published by Doerr Metal Products, Larned, KS Pgs. 67.
- Winslow, John D. and C. E. Nuzman, (1966) "Electric Analog Model of the Kansas River Alluvium in the vicinity of Topeka, Kansas" Kans. Geo. Survey, Lawrence, KS.
- Contributor to the "Handbook of Ground-Water Development", by the Roscoe Moss Company, Los Angeles, CA, on well rehabilitation, 1990.
- Contributing author "Ground-Water Development Handbook M-21"and contributor to the new revised edition of Manual M-21 by the American Water Works Association, Denver, CO.
- Other technical papers have been published and numerous Client reports of study have been made.

Mr. Nuzman has conducted numerous studies and managed projects on the development, management and remediation of groundwater resources and water supply wells.

Inventions:

- Co-inventor on a filament wound fiber glass well screen;
- Inventor of an In-Situ Groundwater Treatment System assigned to Layne Western Company, Inc.;
- Co-inventor on a patent of a non-vortexing passive pump strainer for boiling water reactor nuclear power plants and water resources applications.

Professional Societies:

- American Society of Agricultural Engineers
- American Society of Civil Engineers
- American Geophysical Union
- American Institute of Hydrology
- American Water Resources Association
- American Water Works Association
- National Ground Water Association
- National Society of Professional Engineers
- Kansas Society of Professional Engineers

DOUGLAS COUNTY PUBLIC WORKS
1242 Massachusetts Street
Lawrence, KS 66044-3350
(785) 832-5293 Fax (785) 841-0943
dgcopubw@douglas-county.com
www.douglas-county.com

Keith A. Browning, P.E.
Director of Public Works/County Engineer

MEMORANDUM

To : Scott McCullough, Director, Planning & Development Services
Sandra Day, Planner

From : Keith A. Browning, P.E., Director of Public Works/County Engineer KAB

Date : April 7, 2011

Re : CUP-10-6-10 Kaw Valley Sand Facility
Existing rock jetties situated within subject property

It is my understanding the applicant for the referenced CUP has agreed to leave undisturbed each of two existing rock jetties situated within the subject property. The latest site plan shows a setback area 100' wide (50' on each side) around each jetty in which no excavation will occur. The site plan also includes means to access each jetty to ensure this department can maintain the jetties. Our current blanket easement on the property to access and maintain the jetties will remain.

This satisfies our earlier concerns over excavating or otherwise disturbing the jetties.

The intended function of the existing jetties, constructed in the early 1950's, was to promote sedimentation and fill in the early-1950's channel alignment that had shifted far south, and direct flow through the Route 1061 bridge over the Kansas River, thereby preventing the river from eroding the southern approach to the bridge. I believe the existing jetties will continue to serve their intended purpose even as surrounding ground is excavated, as long as they are not disturbed.

DOUGLAS COUNTY PUBLIC WORKS
1242 Massachusetts Street
Lawrence, KS 66044-3350
(785) 832-5293 Fax (785) 841-0943
dgcopubw@douglas-county.com
www.douglas-county.com

Keith A. Browning, P.E.
Director of Public Works/County Engineer

MEMORANDUM

To : Scott McCullough, Director, Planning & Development Services
Sandra Day, Planner

From : Keith A. Browning, P.E., Director of Public Works/County Engineer KB

Date : April 7, 2011

Re : CUP-10-6-10 Kaw Valley Sand Facility
N 1500 Road improvements

The proposed sand facility will result in increased truck traffic on N 1500 Road. The applicant's traffic analysis report estimates an average fourteen (14) trucks per day will travel east on N 1500 Road to Route 1061, and an estimated three (3) trucks per day will travel west on N 1500 Road.

The current condition of N 1500 Road from Route 1061 west approximately 5,000 feet through the four sharp turns is less than adequate for increased truck traffic. While the limited number of trucks does not justify reconstructing the roadway, some "heavy maintenance" improvements are required to ensure the road will stand up to the increased traffic. In addition, the eastern approximately 250' of N 1500 Road is on a significant grade and should be surfaced with asphaltic concrete. This will ensure trucks queuing up on the grade approaching the STOP sign at Route 1061 will not tear up the gravel surface when accelerating from a stopped condition.

I recommend the applicant be held responsible for the following actions associated with initial improvements and ongoing maintenance of N 1500 Road:

1. Construct asphaltic concrete surfacing on the eastern approximately 250 feet of N 1500 Road.
    a. Engineered construction plans shall be prepared by the applicant's engineer, subject to approval by my office.
    b. Applicant shall hire a contractor to construct the improvements, and my office will inspect the construction.
2. Applicant provides all materials necessary for "heavy maintenance" improvements on the rock-surfaced portion of N 1500 Road from Route 1061 through the 4th turn west of Route 1061, a distance of approximately 5,000 feet.

a. Applicant shall have all materials delivered to the site, and shall coordinate delivery with this department.
b. This department will construct the "heavy maintenance" improvements.
c. Applicant will provide easement access to property to facilitate any drainage improvements. This department will work with Applicant to ensure any drainage ways or outlets fit with proposed improvements to the sand facility.

3. Applicant provides $0.10 per ton of material hauled from the sand facility into a fund established by Douglas County for ongoing maintenance of N 1500 Road.
4. Applicant provides permanent drainage easements to allow maintenance of any drainage ways or outlets constructed on Applicant's property.

As indicated above, I propose the Applicant provide materials and Douglas County construct the "heavy maintenance" improvements on the rock-surfaced portion of N 1500 Road. We currently estimate material costs to be approximately $40,000, as detailed on the attached spreadsheet. The nature of these improvements makes it difficult to adequately convey in a set of plans for use by a contractor. Improvements will include:

- Drainage improvements
  - Raise low areas on the inside of curves
  - Grade-to-drain any areas of ponded water
  - Grade ditches and install culverts as necessary
- Rock surfacing improvements
  - Widen road where necessary
  - Stabilize subgrade on inside of curves and other soft areas
  - Add 4" rock surfacing
  - Stabilize rock surfacing

The proposed $0.10 per ton royalty should provide adequate funds for ongoing maintenance of this portion of N 1500 Road. Assuming the Applicant's estimate of 100,000 tons per year hauled from the site, this would provide $10,000 per year to cover maintenance costs.

The proposed "heavy maintenance" improvements will not result in a perfect roadway. Drainage will be a continual problem given the flatness of the surrounding floodplain. However, these improvements will result in an adequate road that will handle the increased truck traffic without being a continual maintenance problem for Eudora Township.

N 1500 Road Improvements Date: 4/7/2011
Kaw Valley Sand Facility By: KAB

N 1500 Road from Route 1061 to ~ 5000 feet west of Route 1061

Proposal:

1. Applicant provide all material costs for rock road improvements
2. Applicant haul all rock need for rock road improvements
3. Applicant allow access to property to facilitate any drainage improvements
4. Douglas County perform rock road improvements
5. Applicant design and construct HMA surfacing from Route 1061 to ~250 feet west
6. Applicant provide $0.10/ton hauled from site for ongoing road maintenance

Drainage Improvements:

Raise low areas on inside of curves
Grade to drain areas currently ponding water
Installation of CMP culverts may be necessary

Rock road improvements:

Stabilize subgrade on inside of curves and other soft areas
Add 4" surface rock from Rte 1061 to Sand Facility entrance
Stabilize rock surfacing (e.g. BaseOne stabilizer)

Estimated material costs--rock road improvements (for information only):

Work Item	Quantity	Units	Unit Cost	Cost
Stabilize subgrade in soft areas with shot rock	650	Tons	$ 8.50	$ 5,525.00
Rock surfacing	3000	Tons	$ 8.50	$ 25,500.00
BaseOne stabilizing agent	1	mile	$ 6,000.00	$ 6,000.00
CMP cross road culverts	72	l.f.	$ 20.00	$ 1,440.00
CMP End Sections	4	Ea.	$ 100.00	$ 400.00
	Total =			**$ 38,865.00**

Estimated Quantities:

Item	(ft) Length	(ft) Width	(ft) Depth	(lb/cu.ft.) Unit Weight	Quantity	Unit
Shot Rock	1500	6	1	145	652.5	Tons
Rock surfacing	5000	24	0.33	150	2997	Tons

Travel Routes

14 trucks
daily average

2 trucks
daily average

3 trucks
daily average

Legend

Subject Property

Highways

CLASS

- Interstate Hwy
- State Hwy
- US Hwy
- public
- private

LOCHNER
BWR Division

MEMORANDUM

TO: Douglas County Planning Commission
City of Eudora Planning Commission

CC: City of Eudora staff and governing body
Douglas County staff

FROM: Scott Michie, City of Eudora Planning Advisory Consulting Staff

SUBJECT: **Staff Findings** for Application for Kaw Valley Eudora Sand Facility Conditional Use Permit to Douglas County by Landplan Eng/Kaw Valley Sand & Gravel Co.

DATE: **April 18, 2011** **County Agenda of 4-25-2011, Sand Pit CUP**

The City of Eudora appreciates the County staff listening to the City's planning policies and facilitating this process to date. This memorandum is the City of Eudora's follow up staff findings to the first public hearing of February 23rd and staff-applicant meetings of March 3rd and April 4th.

The City remains committed to its recommendation for denial and supports the recommendations for denial from County staff and the City planning commission (February 23rd public hearing). The City's recommendation for denial remains centered on three findings:

1. The CUP application does not meet **long-standing industrial development plans and policies** in the City's planning area.
2. The review and analysis by Terrane Resources Company (February 14, 2011) provided for the February 23rd public hearing lists variables and concerns that merit a remedy before **the public can be assured against harm as to long-term potential impacts** of the proposed sand pit operation on treatment by the City of Eudora of well water at its treatment plant.
3. The impact on the central jetty and the jetty system: We ask that **the Douglas County Engineer's opinion be reconsidered**.

Re #1 – Eudora Standard 1: Whether the proposed use meets City regulations. The subject application does not meet the standards of City of Eudora regulations, because it does not meet the City's long-standing public policies for Industrial Development. For City Development Policy to be valid it must be applied to all cases. As City Development Policy must be applied to all cases, it must be applied to each individual case, including the CUP application by Kaw Valley Sand & Gravel Co.

The City of Eudora's long-standing Industrial Development Policies are very clear and very simple. Industrial development in Eudora and its designated planning area must be:

1. Directly accessible to K-10 Highway, and
2. Out of the 100-year floodplain.

This application meets neither of the City's long-standing industrial development policies.

Over the years the City has considered industrial development in its northern floodplains; and after careful study, has expressly rejected that development option. In the 2008 plan update workshop sessions, citizens a) considered this option for industrial development in the City's northern floodplains, and b) decided that the City of Eudora should not allow industrial land uses in its northern floodplains. To the contrary, the City decided it should promote industrial development where there is direct access to K-10 Highway, so that industrial traffic does not have to drive through the City on local streets to reach the regional highway. Douglas County approval of industrial development north of the City corporate limits—in the 100-year floodplain, outside of the City's "three primary target areas for industrial and commercial" growth—would be contrary to the City of Eudora's current and long-standing development policies. From a strategic policy perspective, Douglas County-approved industrial development in such areas that are not in the City's planned industrial areas would have the negative potential of diverting limited city resources away from its well-document "primary target areas" for industrial and commercial development.

Each annual Plan update by the City of Eudora that followed the 2008 planning charrettes has shown how the City continues—to this day—implementing its long-standing plans for industrial and commercial development: the 2009 *Economic Development Plan* and the 2010 *Nottingham Development Guidelines and Site Plan* (which was jointly adopted by the City and the Eudora School District). Both plans further documented the City's strategic, public commitment to its three primary non-residential target areas—the areas where it has publicly stated its municipal support for non-residential development—in Downtown Eudora, the Church Street Corridor at K-10 Highway, and the East 10th Street Corridor at K-10 Highway.

Eudora Standard 2: Whether the proposed use complies with the Comprehensive Plan.
Staff Finding: The application does not comply with the City of Eudora Comprehensive Plan. The prior major plan update (2003) and recent plan updates by the City of Eudora call for preservation of the river floodplains in its planning area, recognizing them as "the most prominent natural features north and west of the City." Specifically, the 2003 updates consider *preservation of environmental and natural resources* as a tool that defines the character of the community and greatly contribute to the overall quality of life. The primary natural resources in Eudora are the Wakarusa and Kansas Rivers, the creeks, designated open spaces and floodplains. Requiring specific consideration during the platting and site planning processes should protect these resources. Clearly the application by Kaw Valley Sand and Gravel Co. will adversely affect the preservation of these natural resources.

In addition, the 2003 Comprehensive plan updates support the industrial land use recommendation of the Future Land Use Map:

1. Industrial uses should be on land that is well drained and free from flooding.

2. Industrial development should be concentrated on land currently zoned for industrial and in existing and new industrial parks, promoting the proper mix of light and heavy industrial development, and encouraging employment opportunities for the existing pool of skilled labor.

3. Industrial areas should have reasonable and convenient access to major arterials and

railroad facilities as required. The use of local streets and traffic that cuts through the community off of arterial streets is strongly discouraged as it increases road maintenance and traffic conflicts.

The 2008 Comprehensive Plan update referred to the Wakarusa and Kansas Rivers as "the primary (natural) resources in Eudora." The plan update went on to define public policy vis-à-vis "Environment/Natural Resources" by stating, "Natural resources help define the character of the community and greatly contribute to the overall quality of life . . . (including) the designated open spaces and floodplains." Participants in the 2008 Plan update were asked to identify future growth areas in the greater Eudora area where industrial development should be focused (**ref. map on page five of this memorandum**). The following items received support from participants:

- General-commercial areas, especially along K-10.
- Nottingham School site for future commercial use.
- Promote commercial development along K-10 Highway both to the west and the east; long-term growth into Johnson County.
- Concentrate commercial development on the east interchange to serve future traffic if the I-70/K-10 connector is built at this location; also increase commercial in this area on Future Land Use map.

The majority of workshop participants in 2008 did not support the idea of promoting industrial development in the floodplain of the Kansas River. Plan update participants discussed that, "Development in this area would be made more difficult due to 100-year floodplain restrictions . . . there are other areas that would be more suitable for industrial development, such as west of the Wakarusa River north of K-10 Highway (in the 500-year floodplain)." The maps created in 2008 and selected by the planning commission built on long-standing plans for linear parks and passive recreation in the river floodplains—left undeveloped—and for industrial development in long-standing targeted nodes outside of the 100-year floodplains, with direct access to K-10 Highway.

Eudora Standard 3: Whether the proposed use and site plan will be objectionable or detrimental to the public welfare of the community under the circumstances of the particular case regarding setback, height, density and similar aspects.
Staff Finding: The application does not meet the following City zoning requirements:

- Exterior Storage: Except as otherwise permitted by these regulations or during permitted construction on any tract, all exterior storage of equipment, raw materials or finished products shall be fully screened from the view of adjacent parcels and streets by a solid screen at least six (6) feet in height.
    (1) Planting Screens. Planting screens shall consist of trees, bushes or shrubs of a variety and so planted and kept as to be achieved within thirty-six (36) months after occupancy of the premises to be screened.
        (a) Any two (2) foot square segment of a planting screen shall contain no more than Twenty-five percent (30%) open space affording a direct horizontal view through such screen if such segment is over two (2) feet above grade.
        (b) Such screen shall have a minimum height of six (6) feet above grade at any particular point along its length.

(2) Landscaped Berm. Adequate evidence shall be furnished demonstrating that the construction of such berm, along with any necessary culverts and ditching, will not create adverse drainage and flooding conditions on adjacent property.
   (a) Such berm shall be at least thirty (30) feet in width at the base and at least four (4) feet in height, as measured perpendicular to grade level at any point along its length. Side slopes shall have a gradient no steeper than three to one.
   (b) Side slopes of such berm shall be sodded so as to prevent erosion. The top of the berm shall contain a planting screen above except that the minimum height of such planting screen need be no more than three feet above the top of the berm at any particular point along its length. Construction and material of such berm shall be as approved by the Planning Commission.

(3) Fence Screen. A fence screen shall not be less than eight (8) feet, nor more than ten (10) feet in height above grade level, at any particular point along its length. Any two (2) foot square segment of such screen shall contain no more than Twenty-five percent (30%) open space affording a direct horizontal view through such screen. Construction and material of such fence screen shall be as approved by the Planning Commission.

- Improvement guarantees shall be provided to ensure the proper installation of improvements required by the site plan.

- Preservation of Natural Features. Mature trees, vegetative cover, watercourses and other natural site features shall be preserved to the greatest extent possible. Abrupt changes in natural slope shall be avoided. Preservation shall be directed toward:
  (I) enhancing the quality of new development,
  (II) protecting the natural environment, and
  III) preserving the character of existing neighborhoods

SUMMATION

The subject application does not meet the three standards of City of Eudora zoning regulations, because it does not meet the City's long-standing, well-documented public policies for industrial development, which clearly state that it must be:

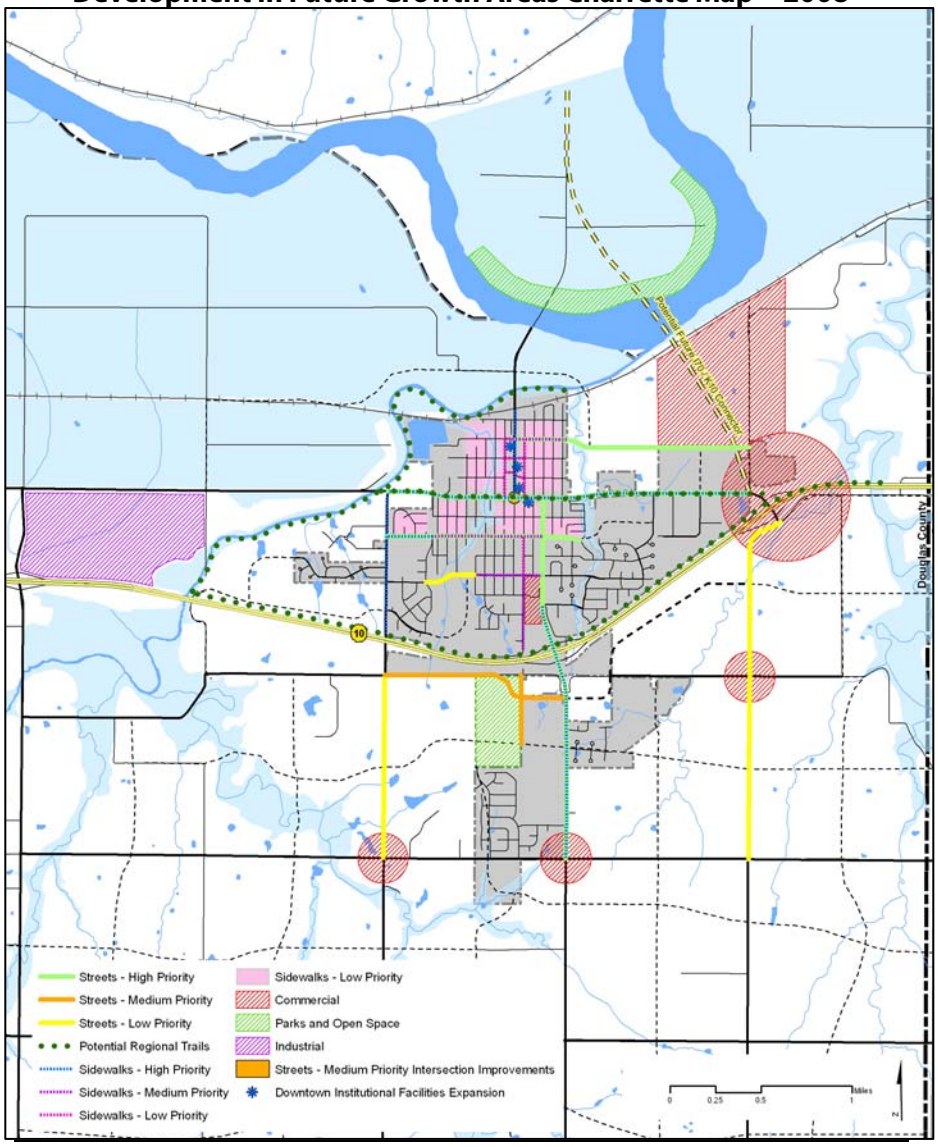
1. Directly accessible to K-10 Highway, and
2. Out of the 100-year floodplain.

The City of Eudora has consistently planned for industrial development in targeted areas of the City and its planning area (including parcels in 500-year floodplain of the planning area) that have direct access to K-10 Highway—which is clearly contrary to Douglas County approving industrial development in Eudora's planning area on parcels in 100-year floodplain at locations where direct access to the regional highway system cannot be provided.

Comprehensive Plan Update Map—2008

The maps created in 2008 and selected by the planning commission built on long-standing plans for linear parks and passive recreation in the river floodplains—left undeveloped—and for commercial and industrial development to focus in long-standing targeted nodes outside of the 100-year floodplains.

Development in Future Growth Areas Charrette Map—2008



The 2008 Plan update called for 100-year floodplains to be kept open and industrial development to be targeted west of the Wakarusa River in the 500-year floodplain with direct access to K-10 Highway (at CR 1057), and at the long-established Intech Business Park near the East 10th Street interchange with direct access to K-10 Highway.

Re #2 – Public assurance as to long-term potential impacts of the proposed sand pit operation on treatment of the well water by the City of Eudora. Should the County consider conditions of CUP approval in this case, the City recommends the following conditions be considered for City well protection:

1. A **surety bond** with provisions to assure that the City would be made whole should a well water problem result from the proposed sand pit operation, provisions to be worked out with input from the City.
2. **Method for monitoring** untreated and treated well water for timely intervention, in a procedure acceptable to the City and the County.
3. **A building setback** of 100-feet or greater from the property line opposite the main City water line feeding the city of Eudora, parallel to N-1500 Road.

Re #3 –Long-term potential impacts of the proposed sand pit operation on the central jetty and the jetty system. We ask that the Douglas County Engineer's opinion be reconsidered, and that **if any jetty is amended by the dredging, then an engineering solution** must be submitted for how the amendment will leave a fully-functioning jetty system.

Attachment: Review by Terrane Resources Company (February 14, 2011)

End of Memorandum

Terrane Resources Co.
P.O. Box 173 Stafford, KS 67578 (620) 234-5200

14 February, 2011

Mr. John Harrenstein, City Manager
City of Eudora
Eudora, KS

Re: Kaw Valley, Eudora Sand Facility

Mr. Harrenstein,

This letter and enclosed exhibits are compiled in response to the City of Eudora's request we review and evaluate a report titled *"Evaluation of Kaw Valley Companies, Inc., Proposed Sand Pit Operation on Ground Water in the Vicinity of Eudora"*. We have reviewed the data presented in this report, questions answered by the City Staff, and some of the published data for the area. Our findings are based on the presented data and our understanding of how the City operates its well field.

It is our understanding the wells are operated approximately 12 hours per day during the winter, 15 to 18 hours per day during the summer and up to 20 hours a day during drought conditions. Additionally, we understand the wells operate at the same time.

Our comments are as follows:

Section 1 responses

We believe Mr. Nuzman has made a valid attempt to estimate the potential impact of the proposed sand operation on the City's well field. We are still not sure if this is a preliminary report or a final report, as neither the report, the plans or cross section are stamped by either an professional engineer or geologist.

Section 2 responses

The Kansas Geological Survey (KGS) has studied this area; however there is no reference to any specific report by the KGS. KGS Bull. 206, part 2 does show a west to east ground water flow through a portion of this area. Typically, we see the water table surface mimic land surface though more subdued. This regional study would be a good guide re: regional ground water flows. However, a detail

survey would have to be done to better define the area of influence to the City wells.

TRC 1 is a copy of the cross section submitted by Mr. Nuzman. The drawing shows well logs and the text indicates it runs along North 1500 Road. None of the maps we have rec'd shows the transect line for this cross section. Additionally, it is not clear which logs were used for the cross section as none of them are labeled to match the TH id's along the top of the cross section. The scale shown on the cross section is apparently the vertical scale as it would not be a reasonable horizontal scale for the area depicted by the cross section.

We have modified this graphic to show the estimated water level associated with the river compared to the test-hole data. It is important to understand the TH logs are not adjusted for elevation. Therefore, the water table, as depicted, is probably not representative of actual conditions. Elevation adjusted cross-sections for the area could better define the relationship of the City's well field to the sand pit site and Kansas River.

Section 3 responses

Based on our brief data review we do agree the Wakarusa River is an important component to your well field viability. It would take further investigations to better define the impact of the Wakarusa River on the overall ground water aquifer system.

Section 4 responses

Mr. Nuzman has identified the City's wells as being NW of town but appears to misquote the actual number as "three" in the text. One of the maps shows 4 wells and a potential fifth one. Exhibit B does show well #9 as a proposed well. The info we rec'd from your staff indicates Well#9 is online.

It is important to note some of the wells are situated in an east to west configuration. This arrangement puts Well #8 down-gradient of Well #9 and the proposed new well down-gradient of Well #8. Like wise Well #6 is down-gradient of Well #7. Fundamentally we see down-gradient wells being affected by up-gradient wells especially when they are pumped at the same time.

Typically we see an elongation of the cone of depressions in the direction of ground water flow when wells are situated as the City's are. This is important when you look at potential changes to the effective saturated thickness of the aquifer, and additional developments.

Section 5 responses

Mr. Nuzman makes some good comments re: aquifers, well influences on the aquifer and saturated thickness.

He references the 1998 data for City Well #8 (Exhibit D) and has prepared a distance-drawdown graph based upon that data. Mr. Nuzman indicates the data shows there to be little if any negative impact to nearby wells due to distance. We have modified that graph to show what two additional feet of drawdown does for the area of influence. See TRC 2

We have no data that shows that the additional drawdown will happen. Also we have no data which shows it is not occurring already.

The modified graph now shows the one foot draw-down point to be out to approximately 800 feet instead of 450 feet.

The current Kansas River bank is approximately 3,500 feet east of Well #6. The SW corner of the proposed gravel pit (along North 1500 Road) will be approximately 1,250 feet away from Well #6. This is a significant encroachment on the well field.

As discussed in the previous section there are some fundamentals regarding aquifers and the effects of pumping wells we can discuss. Elongation of areas of influence is the most critical with regards to the City's well field. If the wells were situated in a north-south configuration the interference effects would be mitigated. The reason the effects would be limited is due to the ground water flow direction being from west to east. Since some of the wells are situated down-gradient, from each other, the potential for interference is greater. The interference is caused because the up-gradient well partially dewaters the aquifer between the wells. This partial dewatering of the aquifer reduces the saturated thickness which limits the recharge to the down-gradient well. See TRC #3 and #4

In order to maintain the same area of influence for each well, if the overlapping cones of depression do cause interference, the pumping rates have to be reduced.

Mr. Nuzman's statement is correct regarding the sand pit lakes being a source of recharge to the aquifer when they are within the area of influence of water wells. Unfortunately, that is not what the City needs. If this sand pit becomes a recharge source for the City Wells then they may get reclassified as ground water wells under the influence of surface waters.

TRC 5 is a copy of Exhibit B from Mr. Nuzman's report. We have modified it to show 500 foot and 1000 foot circles around each of the City wells. It is our

understanding the irrigation well is proposed as a new City well and are showing it with dashed circles.

Mr. Nuzman also states the static water level in the sandpit will be about the same as the water surface elevation of the Kansas River. We believe this to be an accurate representation of what will happen to the water level in the sand pit.

When the pit is dug the water level of the pit will be lower than what is static for the aquifer. This will be a permanent lowering of the water table and will impact the up-gradient aquifer. At this time we would estimate the lowering of the static water level to be 4 to 6 feet at the sand pit site. The lower water level in the pit will result in a permanent lowering of the water level immediately up-gradient of the pit and will migrate towards the well field.

How far the lowering of the static water level will extend up-gradient, from the sandpit would have to be determined.

As we discussed above, any lowering of the water level in the aquifer will increase the area of influence for the pumping wells. This will happen because the saturated thickness of the aquifer will be less. Unless the City reduces it pumping rates the drawdown in the wells will increase.

It will take field studies to verify the actual changes to the static water level.

Again, it is important to understand that surface water will be approximately 2000 feet closed to the well field. If lowering of the water levels in the aquifer result in increases in areas of influence for the well field, the sandpit becomes a recharge boundary and will provide surface water to the aquifer. The reclassification to ground water under the influence of surface water may become a reality.

Section 6 responses

Mr. Nuzman makes some good and relative comments in this section. The Wichita area sandpit studies are relevant in that they are a good guide. However, it is important to understand the only way to understand what will happen in the Kansas River alluvial aquifer will be to study it.

Based upon the information we have there are no housing developments planned for the area immediately around the sandpit. Urban runoff does typically cause more problems than rural runoff.

Mr. Nuzman is correct that natural grass filter strips are important and must be utilized to mitigate ag-chemical runoff from nearby fields.

We do not have enough details for the proposed sandpit runoff controls and structures to comment whether they appear to be sufficient or not.

Mr. Nuzman is correct regarding the effects of sunlight and biological activity degrading and utilizing the contaminants associated with runoff. However, it is the biological activity that may impact the City's classification regarding ground water under the influence of surface water.

As Mr. Nuzman has commented some of the sandpits tend to silt over with time and limit recharge to the aquifer. This can be a benefit as well as a detraction. The increase in silt can minimize the potential for contamination (chemical or biological) from entering the aquifer by reducing the recharge potential of the site. Conversely, the reduced recharge may limit the recovery of the well field resulting in increased drawdown in the wells.

Section 7 responses

We simply can not come to the same conclusions as Mr. Nuzman. If the proposed sandpit was a ½ mile down-gradient, from the wells, or across the river we would be much less concerned. The proposed sandpit will bring surface water approximately 2000 feet closer to the well field and potentially dewater a portion of the aquifer up-gradient and towards the City wells.

The sandpit studies in the Wichita area are simply that, they are in the Wichita area! The study can be a good guide as how this sandpit might be monitored.

Utilizing Best management Practices (BMP's) around this sandpit will be important. We have no information regarding the processes Kaw Valley has proposed for surface runoff control.

Recommendations

We strongly suggest the City ask Kaw Valley to postpone their meeting with Planning and Zoning until the City can obtain clarification of some of the data and present their concerns directly to Kaw Valley and their consultants. It has been our experience that direct negotiations will be more beneficial and less expensive than trying to negotiate through the Planning and Zoning Process. If a mutual agreement can be reached between the City and Kaw Valley, then the City simply recommends the modified plan be approved by Planning and Zoning.

Historically, it was thought the public should have complete and unrestricted access to a city's data and well field operations. We do not believe going into great detail as to how the City's wells function and the areas which directly impact the viability of the well field need be publicized.

We recommend the City monitor water levels in and around their well field. Either by utilizing existing wells if available or by installing a series of observation wells. From this network a detailed ground water flow regime map can be prepared. Additionally, seasonal variations in ground water flow can be monitored.

Once the City has a detailed Source Water Protection Area (SWPA) delineated then it can be referenced in future planning and zoning determinations.

We suggest requesting Kaw Valley install, monitor and analyze samples and data from no less than three observation wells along the west and southwest portion of the proposed sand pit. It would be beneficial if these wells could be installed before excavation begins. Samples should be collected in the spring and late fall to establish a baseline on quality and water levels should be measured monthly.

The main component as to whether this proposed sandpit will be an issue will depend how much impact the City's well field has on the aquifer. It is possible the data to make that determination already exists. Much of the data gathered during the construction of the wells should be available. It is important the wells be evaluated as they are operated, not as a single event or pumping well.

John, this is a complex issue, which may be exactly as Mr. Nuzman has described it. It has been our experience it takes detailed analysis of the data to establish areas of influence and develop a meaningful SWPA delineation.

As Always if you or any of your colleagues have any questions do not hesitate to contact us.

Respectfully submitted

Edward "Ned" T. Marks, Geologist
Terrane Resources Co.

Encl.

Edward T. Marks
15 Feb 2011

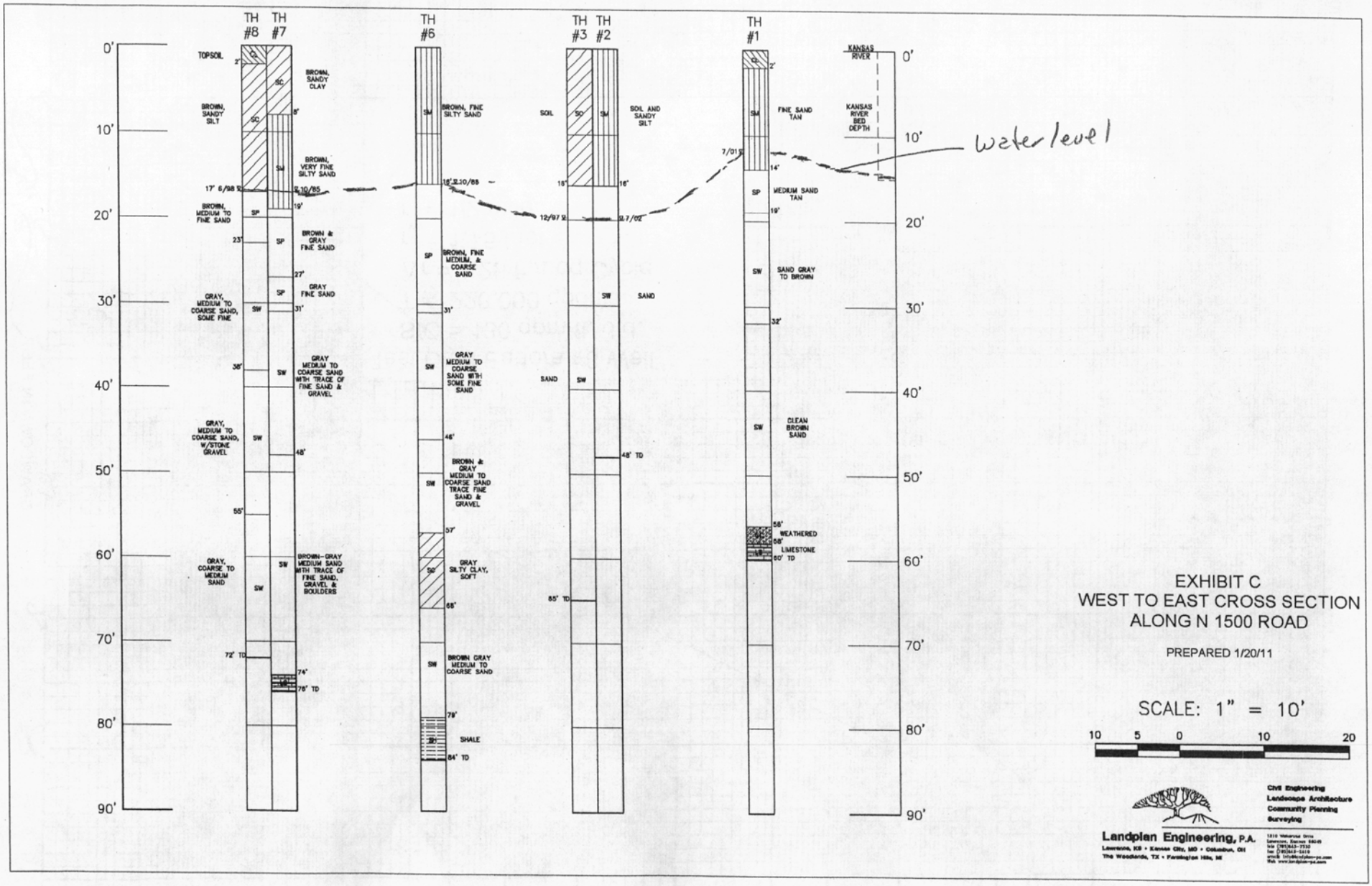


EXHIBIT C
WEST TO EAST CROSS SECTION
ALONG N 1500 ROAD

PREPARED 1/20/11

SCALE: 1" = 10'

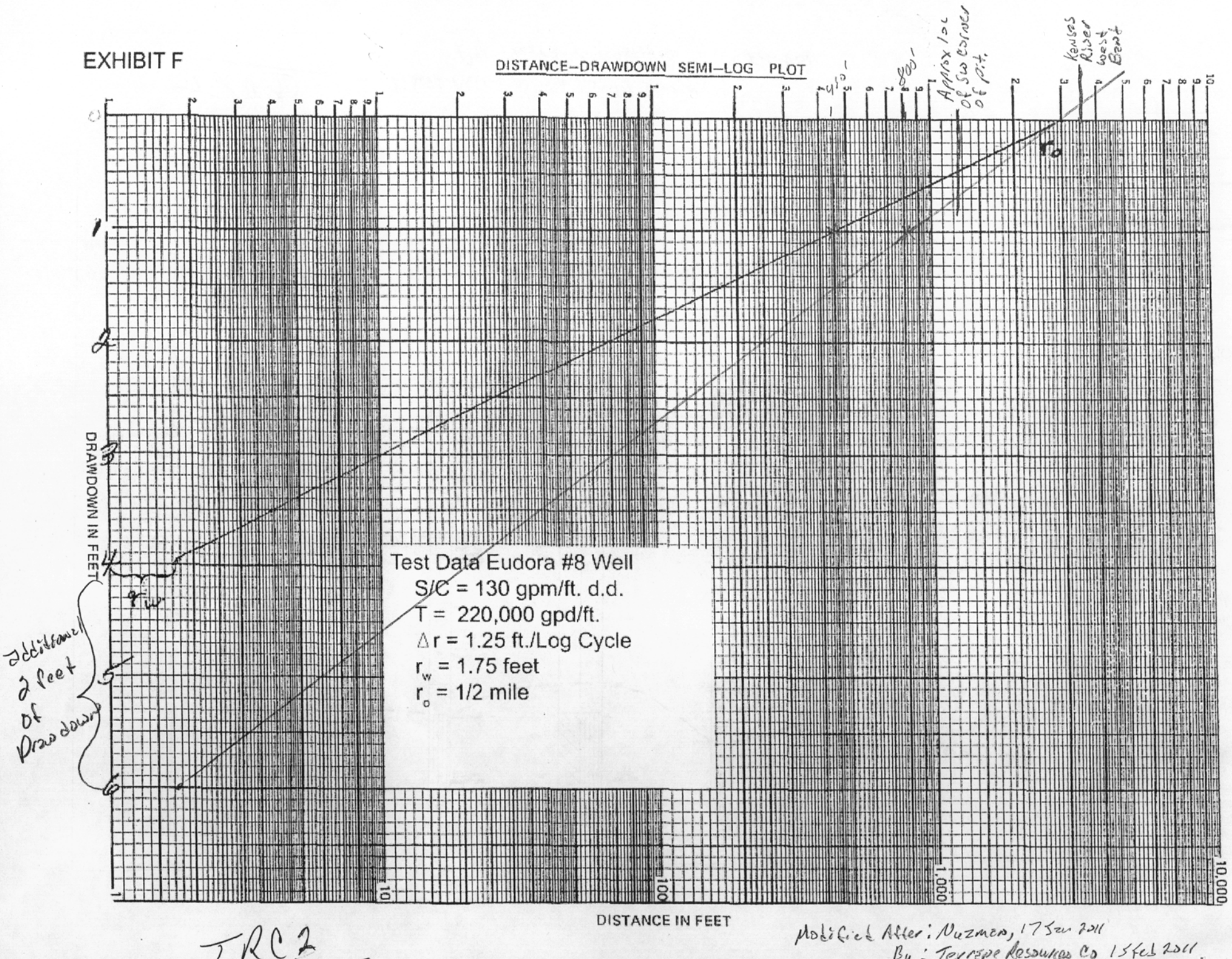
10 5 0 10 20

Landplan Engineering, P.A.
Lawrence, KS • Kansas City, MO • Columbus, OH
The Woodlands, TX • Farmington Hills, MI

Civil Engineering
Landscape Architecture
Community Planning
Surveying

TRC1 Modified After: Duzmen; 17 Jan 2011
By: Terrane Resources Co 15 Feb 2011

EXHIBIT F



TRC2

Modified After: Nuzman, 17 Jan 2011
By: Terrape Resources Co 15 Feb 2011.

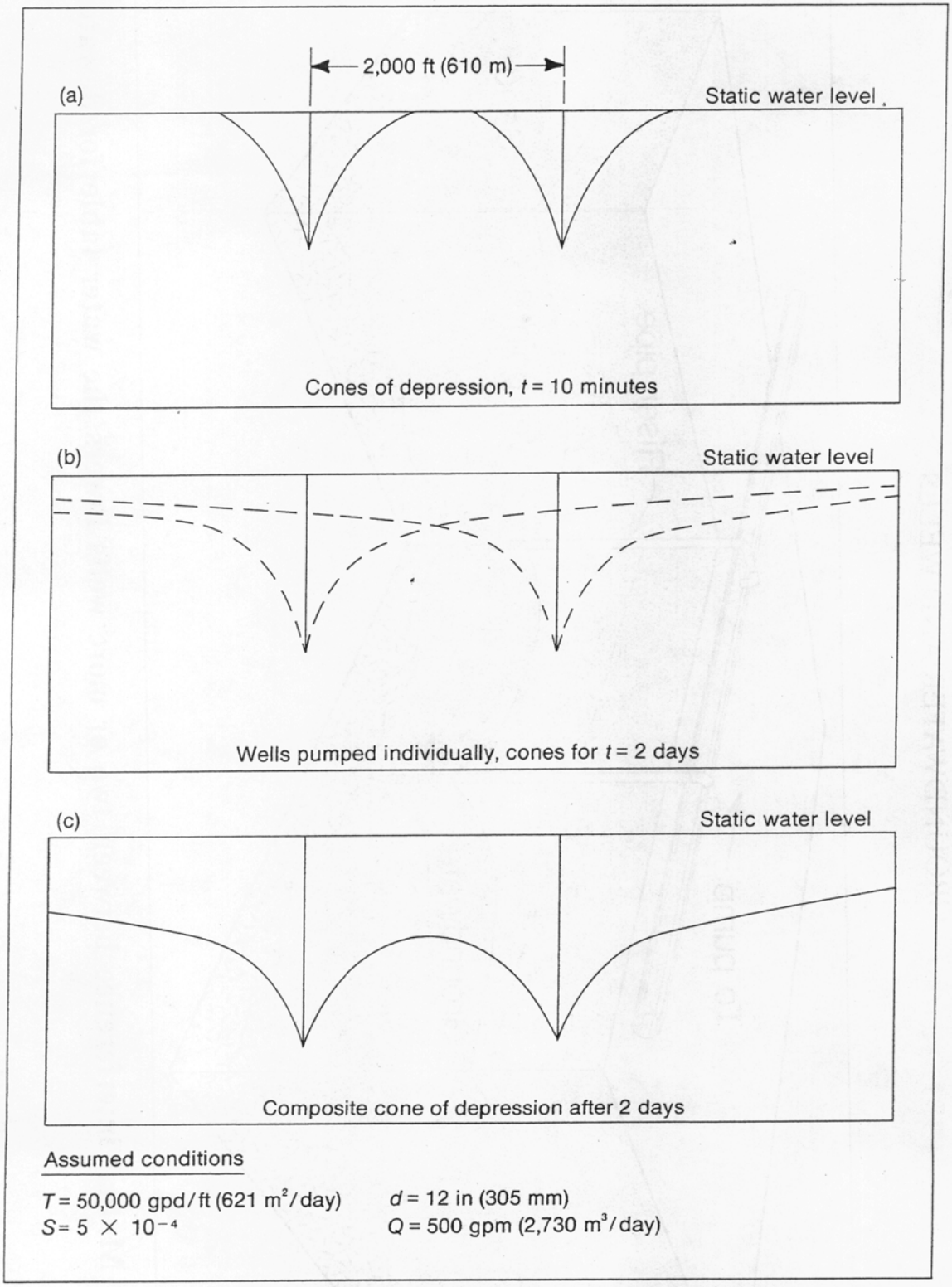


Figure 9.29. Interference between adjacent wells tapping the same confined aquifer. Composite cone is for both wells pumping simultaneously under the assumed conditions.

through this point a straight line having a Δs, or slope, of the calculated value.

WELL INTERFERENCE

The interference or drawdown in another well 300 ft (91.5 m) from the pumped well

TRC #3

TRC #4

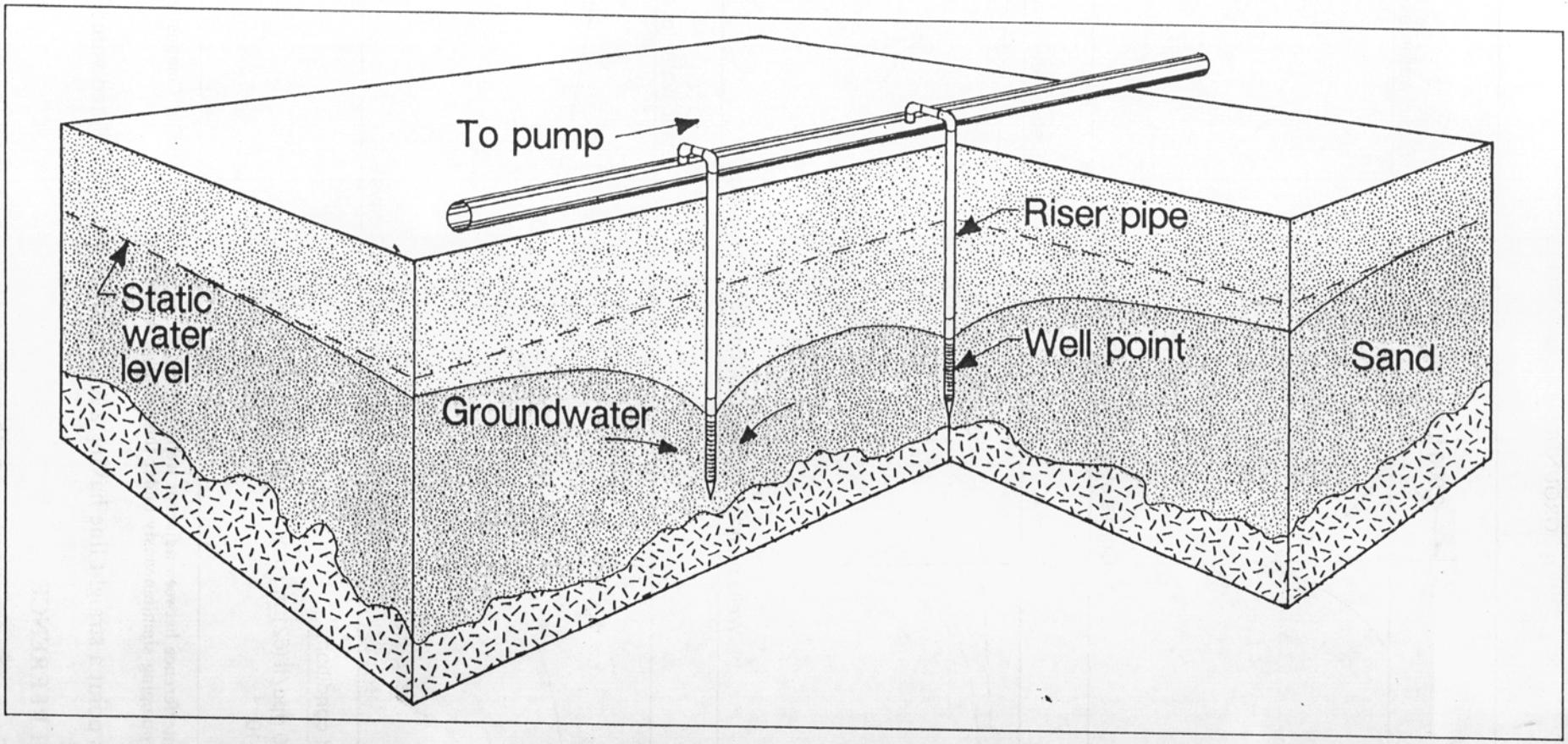


Figure 22.5. Mutual interference between two or more wells lowers the water table for dewatering operations.

vertical drainage of all the water from the saturated zone. In practice, this time lag makes it necessary to start pumping from the well-point system a day or more before excavation begins.

As explained above, the

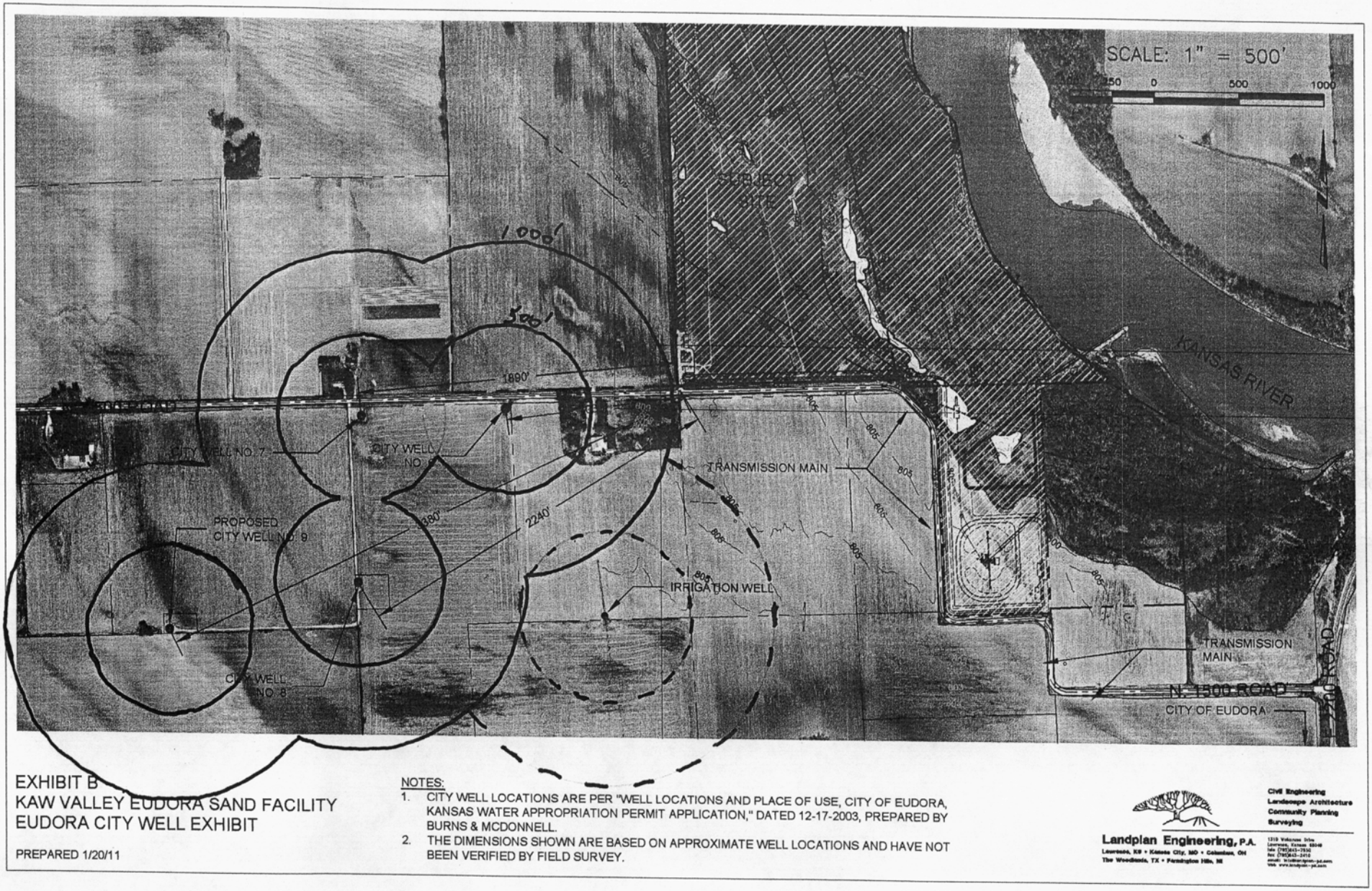


EXHIBIT B
KAW VALLEY EUDORA SAND FACILITY
EUDORA CITY WELL EXHIBIT

PREPARED 1/20/11

NOTES:
1. CITY WELL LOCATIONS ARE PER "WELL LOCATIONS AND PLACE OF USE, CITY OF EUDORA, KANSAS WATER APPROPRIATION PERMIT APPLICATION," DATED 12-17-2003, PREPARED BY BURNS & MCDONNELL.
2. THE DIMENSIONS SHOWN ARE BASED ON APPROXIMATE WELL LOCATIONS AND HAVE NOT BEEN VERIFIED BY FIELD SURVEY.

Landplan Engineering, P.A.
Lawrence, KS • Kansas City, MO • Columbus, OH
The Woodlands, TX • Farmington Hills, MI

Civil Engineering
Landscape Architecture
Community Planning
Surveying

1310 Vermont Drive
Lawrence, Kansas 66046
tele (785)843-7530
fax (785)843-2410
email: landplan@landplan-pa.com
web: www.landplan-pa.com

TRCS Modified Attn: Nuzman 17 Jan 2011
By: Terracon Resources Co 15 Feb 2011

PLANNING COMMISSION REPORT
Regular Agenda – Public Hearing Item

PC Staff Report
2/23/11

ITEM NO. 5 CONDITIONAL USE PERMIT FOR KAW VALLEY EUDORA SAND FACILITY; LOCATED AT 2102 N 1500 ROAD (SLD)

CUP-10-6-10: Consider a Conditional Use Permit for Kaw Valley Eudora Sand Facility, located at 2102 N 1500 Road, NE of SW Cor. SW ¼ S32-T12S-R21E, on approximately 196.58 acres. Submitted by Landplan Engineering, P.A., for Kaw Valley Companies, Inc., contract purchaser, for James and Ronda Bigger and Wellsville Bank, property owners of record. *Joint meeting with Eudora Planning Commission.*

STAFF RECOMMENDATION: Staff recommends the Planning Commissions forward recommendations for denial of this Conditional Use Permit to the Board of County Commissioners based on the findings of fact in the staff report.

Reason for Request: *"The owner wishes to conduct sand excavation, extraction and processing operations on the subject property in conjunction with the existing agricultural uses."*

KEY POINTS
- The property is currently in agricultural production during the growing seasons of the year.
- Kansas Geologic Services web site is provided for reference documentation: http://www.kgs.ku.edu/Publications/KR/
- Sand, Gravel and Crushed Stone: Their Production and Use in Kansas: http://www.kgs.ku.edu/Publications/pic6/pic6_1.html

ASSOCIATED CASES/OTHER ACTION REQUIRED
- State and local permitting required following local approval, if granted.
- Local Floodplain Development Permit will be required from Douglas County.

PUBLIC COMMENT RECEIVED PRIOR TO PRINTING
See communications attached to report.

ATTACHEMENTS
1. Site Plan (including reclamation plan)
2. On line Soils Report form
3. Well Report
4. Staff summary – Eudora Economic Development Plan

I. ZONING AND USES OF PROPERTY NEARBY

GENERAL INFORMATION

Current Zoning and Land Use: VC (Valley Channel) District; existing unmaintained golf course with substantial trees along river bank.

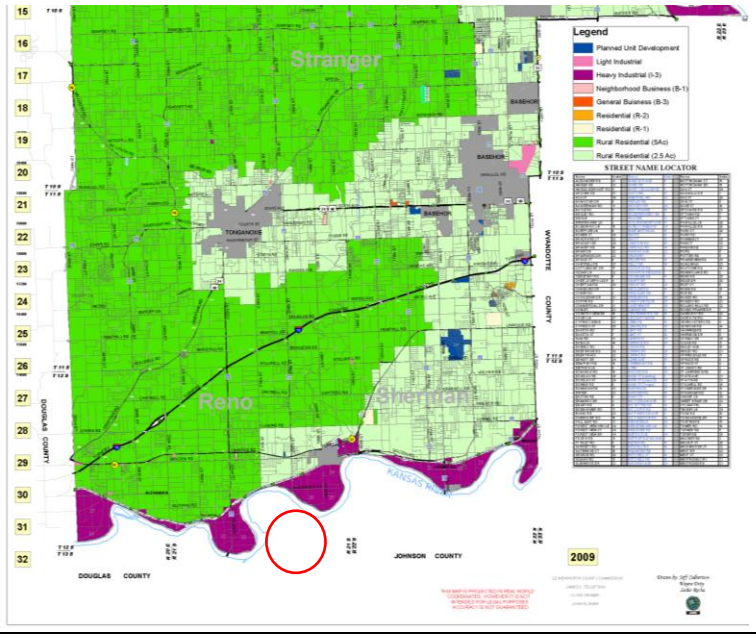
Surrounding Zoning and Land Use: VC (Valley Channel) District to the west and south within Douglas County; crop land with scattered rural residences.

Kansas River to the immediate north and east.

I-3 (Heavy Industrial) District – Leavenworth County Zoning (see inset).

Staff Finding – The property is not actively used for any specific use. The property was, at one time, developed and operated as a golf course but has since fallen to disuse. The area includes Valley Chanel zoning within Douglas County and Heavy Industrial zoning in Leavenworth County. Both Douglas and Leavenworth County surrounding properties are predominantly used for agricultural crop production. Leavenworth County includes a railroad line that generally parallels the Kansas River. All land south of the railroad to the County line is zoned for industrial uses in Leavenworth County. The area within Douglas County east and south is zoned VC – Valley Channel and is used for agricultural activities.

General area of proposed dredging operation and proximity to Leavenworth County.

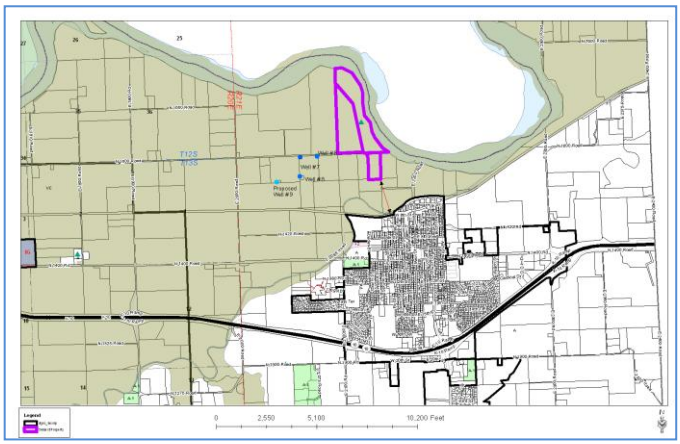


II. CHARACTER OF THE AREA

This area is located north of the City of Eudora and within 3 miles of the Eudora City Limits. More specifically, the incorporated Eudora City Limits is located approximately .3 miles mile south of the proposed use. The proposed dredging operation area is also located within the City of Eudora's Planning Area as found in the Eudora Comprehensive Plan (ECP). This planning area extends north and east to the Douglas County Line boundary lines and generally 3 miles to the west and south of the existing city limits.

The property was originally developed as a public golf course but is currently vacant. The surrounding area includes extensive agricultural fields and scattered rural residential homes found along the County roads.

A dominating characteristic of the area is the floodplain encompassing the subject property and the surrounding land. The floodplains from the Kansas River and the Wakarusa River converge northeast of the City of Eudora. Approximately 141 acres of the proposed sand dredging operation are located within the floodplain. The balance of the subject property is located within the 100 year fringe area.



The encumbrance of floodplain designations tend to hinder development and limit land uses to those compatible with open uses of land.

Staff Finding – The character of the area is rural agricultural. The presence of extensive floodplain limits development opportunities in this area. The proximity of the subject property to the City of Eudora is a key factor of this consideration.

III. SUITABILITY OF SUBJECT PROPERTY FOR THE USES TO WHICH IT HAS BEEN RESTRICTED

Applicant response: *The majority of the subject property will remain open space.*

Suitability is reviewed based in the following subjects:

a) Current County zoning VC.
b) General provisions of a Conditional Use Permit.
c) Eudora Industrial Zoning.
d) Soils Classifications for the subject property.
e) Geology

The subject property is restricted to the uses permitted in the Valley Channel zoning district, which includes mining as a conditional use permit.

a) Zoning. This property is currently zoned V-C (Valley Channel) District.

The purpose of this district is to prevent, in those areas subject to periodic or potential flooding, such development as would result in a hazard to health or safety, and to insure the general public will not be forced to expand exorbitant funds to remedy flood problems (per section 12-314-1 of the County Zoning Regulations).

Uses allowed in this district include farms, truck gardens, orchards, nurseries, grazing, hunting and fishing, public or private commercial recreation facilities and structures, preserves, reservations and other similar open uses. Section 12-314-3.08 prohibits "the removal of top soil, or damming or relocating of any water course except with the approval of the Planning Commission." Mining activities are further defined in Section 12-319-4.05 as a Conditional Use. While the use is potentially allowed, approval is required though a public review process.

The property is also encumbered by the 100 year floodway except for a small area located in the southwest corner and a portion along the west side of N 1500 Road. This designation further limits development options as set out in section 12-328 of the County Zoning Regulations. The Floodplain management regulations are intended to, among other things, *"Control grading (fill or excavation), dredging, and development which may unduly increase the potential for flood damage."* It should be further noted that any improvements to the property such as the addition of structures and berms are subject to local, state review with regard to As such, a local Floodplain Development Permit from Douglas County would also be require for this project.

The proposed request will not alter the base zoning. However, if approved, the ultimate result (when the resource is exhausted) will be a permanent alteration to the area by the creation of a 114 acre lake.

It is assumed that areas not actively being mined will remain in unimproved open space or agricultural production. The site plan does not clearly designate this activity.

- If approved, the site plan should be revised to include notes regarding the continued use of property during phases.

b) Conditional Use Permits. Section 12-319 of the County Zoning Regulations states:

Recognizing that certain uses may be desirable when located in the community, but that these uses may be incompatible with other uses permitted in a district, certain conditional uses listed in Section 12-319-4 below, when found to be in the interest of the public health, safety, morals and general welfare of the community may be permitted, except as otherwise specified, in any district from which they are prohibited.

Specific uses are listed in the Zoning Code including mining excavation and extraction of minerals. This use is allowed in the district subject to the approval of a Conditional Use Permit. The code states:

> *12-319-4.05. To assure that the continued development of all natural resources will be made possible through inclusion of known mineral deposits within zones reserved for their development and production, to guarantee that these sources will not be forever lost for the benefit of Douglas County, Kansas:*
>
> *(a) Mining excavation and extraction of mineral or raw materials including but not limited to stone, sand, gravel or the other building materials and the manufacturing, processing, storage and selling of said minerals and materials shall be permitted to continue in operation in "A" Agricultural District, "VC" Valley Channel District and Floodway and Floodway Fringe Overlay Districts (only on those areas under lease and on record at the time this resolution goes into effect.)*
>
> *(b) Mining, extraction and excavation of raw materials at new locations within Agricultural, Valley Channel districts, in Douglas County, shall require that an approved plan of restoration of land be submitted to the Planning Board for its recommendation to the Board of County Commissioners. This plan shall show that all excavated material will be returned to a level no higher than the elevation of surrounding land, and that proper drainage is provided. All shafts or tunnels must be left in a safe condition when abandoned.*

This use is allowed in the VC zoning district subject to approval of a Conditional Use Permit. Conditions may be placed on the use to assure compatibility and address concerns through mitigation standards if approved. Douglas County does not include any specific use standards for mining activities with the exception of the restoration plan as noted above.

c) Eudora Industrial Zoning. While the property is not within the City of Eudora, a review of the applicable base zoning district is included, since the subject property is within the Eudora growth boundary.

Eudora Industrial Zoning:
16-308 I – Industrial District
(1) General Description: The purpose of the Industrial District is to provide for the establishment of warehousing, manufacturing, and administrative office development. The overall character of the industrial district is intended to allow industrial development but to ensure that it is compatible with adjacent land uses, whether they be industrial, business or residential in nature. The method of ensuring such compatibility is by the imposition of performance standards which will lessen any potential detrimental effects of a particular industrial use.

(2) Uses Permitted: The manufacturing, compounding, assembly, packaging, repair, testing, treatment, wholesaling, or storage of products, materials or equipment, and physical recreation or training facilities (such as, but not limited to, dance studios and health clubs), and administrative office facilities, and sexually oriented businesses, and pawnshops, and facilities necessary to operate public services, are permitted uses in the I District.

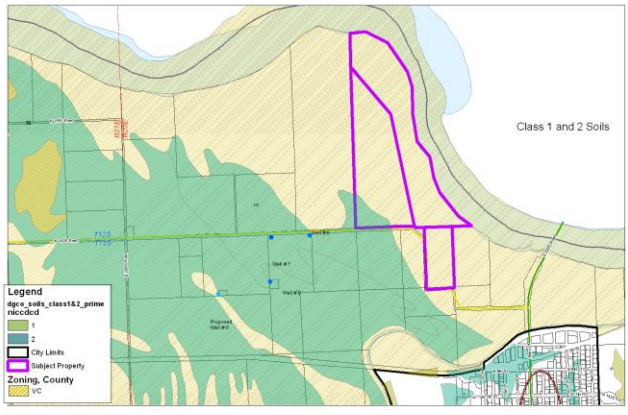
Development standards with regard to industrial development state:
Exterior Storage: Except as otherwise permitted by these regulations or during permitted construction on any tract, all exterior storage of equipment, raw materials or finished products shall be fully screened from the view of adjacent parcels and streets by a solid screen at least six (6) feet in height. Storage within I - Industrial Districts shall be exempt from screening of exterior storage visible from abutting streets.

Other land use policies included in the Eudora Comprehensive Plan state that industrial development is not suitable in flood prone areas.

d) Soils Classifications. In the staff report CUP-12-7-94 the area was described as follows:

The Soil Survey of Douglas County, Kansas, 1977 identifies the majority of the site as Eudora-Kimo fine sandy loads, overwash; Eudora silt loam; and Sharpy-Eudora complex, overwash which are all classified as highly productive farmland. The northern portion of the property is Riverwash areas, which are classified as low productive potential.

The southwest corner of the subject property is encumbered by Type Two Soils. Soils are not necessarily limiting other than they are not reported to be highly productive agriculturally. This factor lends its support toward other types of open spaces uses such as recreation uses as previously approved for this site.



e) Geology. Sand, like gravel, soil, oil, and other materials are mined from the ground as a marketable resource. Some of resources are renewable with good land management practices; others once mined are not renewable and substantially alter the landscape. Soils associated with rich sand deposits are most commonly found located along rivers.

The Kansas River is the contributor to the deposit of sand and gravel within the river bed and along the river. Changes in Federal and State law restrict accessibility from excavation in the river. These materials are described as low-value, high-bulk commodities. As such they are generally marketed for construction purposes in the immediate vicinity of the extraction facility. As communities develop the accessibility to the resources becomes restricted. A large segment

of the Kansas River is within a regulatory airport zone that prohibits the constriction of ponds as a hazard to the Lawrence Municipal Airport. Other segments of the river are located within designated urban growth areas of Lawrence and Eudora.

> "...demand for these materials comes from areas of growing population where new construction and road-building are most common. Because sand, gravel, and other geologic commodities come from the earth, their production often raises a conflict between people's desire for an undisturbed landscape and the demand for these resources." *Sand, Gravel, and Crushed Stone: Their Production and Use in Kansas* by David A. Grisafe Source: http://www.kgs.ku.edu/kgs.html

The proposed request represents a consideration of the balance of co-located resources. Each resource, open space or mineral extraction, includes inherent value. The value of the preservation of agricultural properties and open space uses and soils are articulated in the Communities comprehensive plan, *Horizon 2020*.

Staff Finding – When reviewing the county codes, the property is suited for the proposed use of a sand dredging operation if it can be shown that it is not *incompatible with other uses permitted in a district...* and is*... found to be in the interest of the public health, safety, morals and general welfare of the community.* The operation of the use will be industrial in nature and will have certain impacts to nearby properties. These impacts can be mitigated if the public good is served by extracting the natural resource.

IV. LENGTH OF TIME SUBJECT PROPERTY HAS REMAINED VACANT AS ZONED

This property was developed as a golf course in 1994 with revisions to add the sale of cereal malt beverages in 1997 and a caretakers residence in the clubhouse in 1999 (CUP-12-7-94; CUP-1-1-97, SP-2-11-99). Improvements include an existing two story residence located in the southwest corner on the north side of N. 1500 Road and several accessory structures north of the residence. These buildings are shown on the site plan and will not be removed as part of the proposed use, if approved.

Staff Finding –County Zoning Regulations were adopted in 1966; this property has been zoned "VC (Valley Channel)" since that adoption. The property was developed as a golf course but has been unused since 2006. Property improvements include a two story residence with a total of 2,900 Sf.

V. EXTENT TO WHICH REMOVAL OF RESTRICTIONS WILL DETRIMENTALLY AFFECT NEARBY PROPERTY

Applicant Response: *"No detriment to nearby properties will occur. This CUP request maintains existing agricultural uses on the land while adding employment and revenue opportunities in northeast Douglas County."*

Section 12-319 of the County Zoning Regulations recognizes that "*certain uses may be desirable when located in the community, but that these uses may be incompatible with other uses permitted in a district..."* The proposed use falls under section 12-319 Count Zoning Regulations) of the County Zoning Regulations. Mining and excavation uses are enumerated in this section 12-319-4.05.

Approval of a Conditional Use Permit does not remove any restrictions imposed by the VC zoning of the property. Approval of this application would allow the applicant to remove top

soil, regrade the property, and extract the sand/gravel material. There are no shafts or tunnels associated with this operation that will require abandonment as are associated with other types of mining activities. The code specifically requires a restoration plan approved by the Planning Commission. As noted, this type of mineral extraction operation will permanently alter the surface contours by creation of a lake. It is unlikely that "restoration" to the pre-extraction conditions is feasible. Therefore a more correct interpretation is that a mitigation/reclamation plan is required to re-establish a productive use of the property. Given the proximity of the floodplain it is unlikely that development such as lake front suburban homes is feasible.

- Key concerns focus on the impact of traffic, water well protection, and structural protection of the Kansas River jetties.

- City and County staff have reviewed the traffic study and a study of the project on the Eudora water wells located to the southwest of the project.

Traffic. The traffic study indicated that the roads are capable of supporting the resulting traffic. The County Engineer noted that some road widening, surface, and subgrade stabilization in some areas may be needed on N 1500 between the entrance and Route 1061. County staff recommended the applicant provide rock for township improvement. The study further indicated that three (3) trucks per day (on average) travel west from the facility on N 1500 Road. Should the number of trips increase to 10 or more vehicle trips per day County staff recommends the applicant provide dust control along the route. Options for this include application by the operator of the facility directly to the roads or funding the township for the application of treatment for dust.

Well. The well report adequately, in staff's opinion, concludes that the proposed sand pit operation will not contaminate groundwater pumped from the Eudora city wells. The City of Eudora is conducting an independent review of the report. Findings will be provided to the Planning Commission at the public hearing if available.

Rock Jetties. An additional concern identified by staff is the required protection of the Kansas River rock jetties located within the proposed mining area. Plans have been revised to protect the eastern most jetty with a setback that will allow continued protection of the jetty. The northern jetty is located within phases 7 through 9.

The functionality of the northern jetty has been questioned by the applicant. Given changes in the river the applicant generally asserts that this jetty could be safely removed. To date no convincing argument or evidence to that assertion from the Corps of Engineers or the applicant has been provided to County Staff.

The purpose of the jetty is to redirect the river and to limit riverbank erosion. There was a system of three jetties constructed on the south river bank in this vicinity in the 1950's when the river threatened to cut through Route 1061 south of the Kansas River Bridge. After construction of the jetties, the river moved back to the north and eroded areas filled in. Since in the past the river has shown a tendency to migrate south and threaten the Route 1061 bridge, and since the system of jetties corrected the problem and has worked well, the County Public Works staff feels it unwise to allow removal or disturbance of any jetty. The County Public Works staff is charged with maintenance of the jetties by the Corps of Engineers. If approved no work beyond phase 6 should be allowed until documentation is provided by the Corps of Engineers. Douglas County has a blanket easement on this property to maintain the jetties. No

excavation should be allowed within 50' of the rock jetties to avoid disturbing the jetties and to allow access to the jetties.

Approval of the request introduces an industrial type activity to the north of the City of Eudora. The Community plans this area as future open space since the area is within the floodplain. This would be a substantial deviation from planned land use for the City of Eudora.

Staff Finding – Affects to nearby properties include increased truck traffic, including dust, and the industrial aesthetic of the processing plant portion of the site. Noise is not viewed by staff to be a detrimental impact though noise from trucks and machinery will be present. Strict controls are needed to assure protection of the Kansas River structures as well as public infrastructure investments.

VI. RELATIVE GAIN TO THE PUBLIC HEALTH, SAFETY AND WELFARE BY THE DESTRUCTION OF THE VALUE OF THE PETITIONER'S PROPERTY AS COMPARED TO THE HARDSHIP IMPOSED UPON THE INDIVIDUAL LANDOWNERS

Applicant Response: *No identifiable gain will result by denial of this request; no identifiable hardship will result from its approval."*

This factor is a test of balance; weighing the relative gain to the public against the hardship imposed upon the property owner/applicant if the application is denied.

Agricultural Resource. Portions of the property have been mapped as Class 1 and 2 soils. The initial phase and plant will be located in the south central portion of the site along the west property line. Phase 1 of the dredging operation and the initial improvements area located in a type 2 soils area. The west half of Phase 2-4 appears to be out side of the mapped soils area. Existing residences and buffer areas would also not encroach into the mapped soils areas identified as Class 1 and 2 Soils.

Traffic Impacts. The relatively low traffic volume has been reviewed and deemed to be acceptable by County staff. Specific road improvements are needed as noted in the County Public Works review comments.

Interstate access. Highway access is important to the project to allow for delivery of the product to the main facility located in Kansas City, Kansas. The most direct route is by using County Road 1061 (Main Street in the City of Eudora) across the Kansas River to County Highway 1 in Leavenworth County for access to I-70. The applicant anticipates that the majority of trips will use this route (70%) the remaining trips would be west bound to and from Lawrence (20%) and south on Co Road 1061 through Eudora (10%). This use will have a presence in the Eudora traffic system.

Approval of the request will result in a change to the maintenance requirements of the existing township roads. As such staff recommends a per ton charge be added to the project if approved. The details of this mitigation tool are discussed later in this report.

Water Resource. As stated earlier, the proposed operation will not harm, in staff's opinion, the existing Eudora wells located to the south and west of the proposed activity.

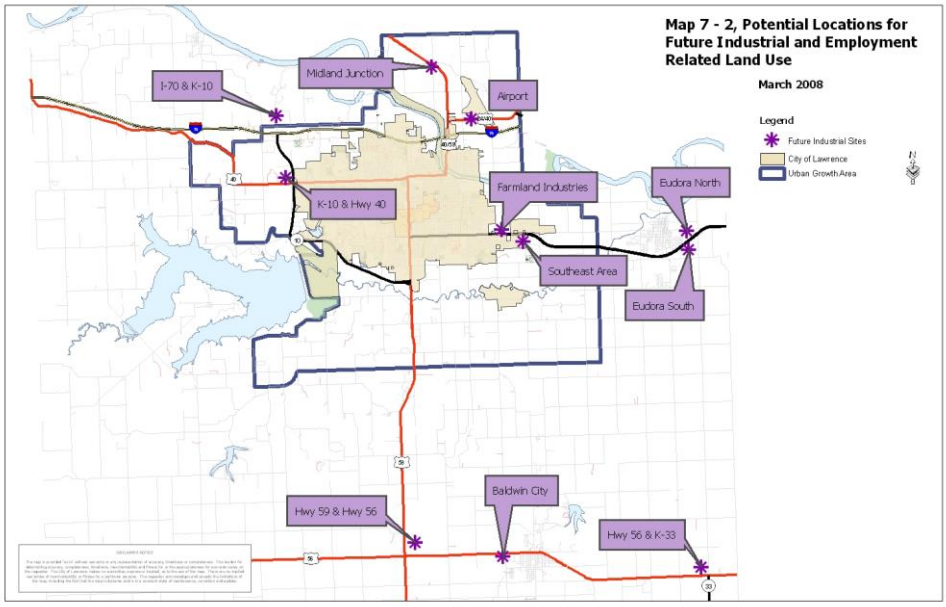
Staff Finding – Approval of the use does not clearly benefit nor harm the public. Approval of the request will alter the physical site by creating a 114 acre lake. Development opportunities are limited because of the presence of floodway. Once the sand is extracted the property will be removed from the agricultural inventory.

VII. CONFORMANCE WITH THE COMPREHENSIVE PLAN OF DOUGLAS COUNTY AND WITH THE COMPREHENSIVE PLAN OF EUDORA

Applicant Response: *"This request complies with H2020. As a prospective industrial/employment-related development, the proposed sand excavation operation meets all 4 general and all 6 specific location criteria set forth in Chapter 7, Policy 2.1.*

A review of the applicable comprehensive plans is included in this report. *Horizon 2020* governs the unincorporated areas of Douglas County. The City of Eudora designates an area outside of the existing city limits as part of the City's planning area. The proximity of the request to the Eudora city limits is significant in this evaluation. *Horizon 2020* notes the importance of establishing urban growth areas as stated in Chapter 4 of the plan. The Eudora growth area was updated in 2003 upon Eudora's adoption of a comprehensive plan. This element will be discussed in further detail later in this report.

HORIZON 2020. An evaluation of the conformance of a Conditional Use Permit request with *Horizon 2020's* strategies, goals, policies and recommendations finds that the comprehensive plan does not address special or conditional use permits. The plan identifies several future locations of new industrial areas. These locations are mapped on page 7-24 (Map 7-2) of *Horizon 2020*.



Horizon 2020 identifies several future new industrial areas including an area described as Eudora North and Eudora South. The plan states:

> Areas have been generally identified on the east side of Eudora both north and south of K 10 Highway that would be appropriate for Industrial Development. It is recommended that Eudora annex both areas prior to development. (page 7) http://www.lawrenceplanning.org/documents/Horizon2020.pdf

The plan assumes that these future uses include buildings and parking lots as the primary investment in the property. The proposed use has only limited amount of building structure associated with the activity.

Horizon 2020 recognizes that various land uses often compete when there are similar land features desirable for a group of uses. To provide balance to the competing concerns for of a health natural environment and a diversified economy a set of location criteria have been established for locating new industrial developments.

LOCATIONAL CRITERIA FOR INDUSTRIAL DEVELOPMENTS (PAGE 7-4 AND 7-5)

*A given site, whether located within City limits, in the UGA, or in unincorporated areas of Douglas County, should substantially meet the following **general** locational criteria:*

- *have feasible access to Federal and State transportation networks;*
- *be of adequate parcel size, generally over forty acres;*
- *lie primarily outside of the regulatory floodplain;*
- *have minimal average slopes.*

*After identifying a general location for potential industrial and employment park development, further site analysis and environmental suitability should be conducted considering site-specific criteria. Sites should substantially meet the following **specific** criteria on a site plan or development plan level:*

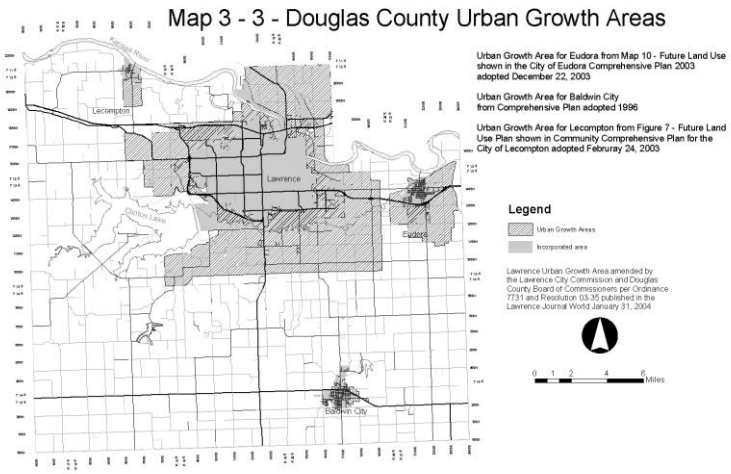
- *preserve environmentally sensitive areas, including vegetative cover and wildlife habitat, to act as buffers and site amenities;*
- *encourage natural stormwater management, including locations that permit direct discharge to the floodplain;*
- *have available and adequate utilities, infrastructure and services (i.e. police and fire protection) for the proposed use;*
- *be compatible with existing and future zoning/land use patterns, including the use of appropriate buffers between land uses;*
- *be annexed before development if adjacent to municipal boundaries.*

Access to state (K-10) (K-32) and federal (I-70) highways require travel of several miles to reach these highways using county roads. Access is feasible but not within the immediate proximity. The requested area clearly exceeds the minimum 40 acre standard listed above. However, the property is fully within the 100 year floodplain and a substantial portion is located in the floodway. The property also includes minimal slope. The proposed request satisfies two of the initial criteria listed in Horizon 2020.

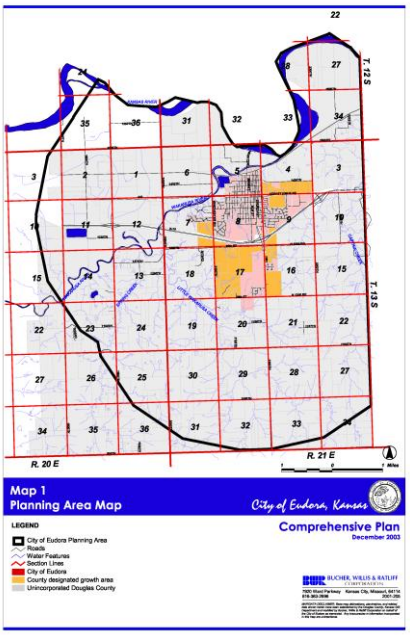
The Plan does address agriculturally zoned/used land. *Horizon 2020* recommends; "Agricultural uses should continue to be the predominant land use within the areas of the county beyond the designated urban growth/service areas (rural area). Uses permitted in the rural area should continue to be limited to those which are compatible with agricultural production and uses." (page 5-6, *Horizon 2020).*

The Planning Commission approved language for Chapter 16 Environment in August 2010. A section of this chapter addresses "marketable resources." This proposed chapter recognizes that, "They are essential to sustainable development activity, primarily in the form of low cost raw materials, such as sand, gravel, timber, oil, gas, and stone, etc." A recommended action item of the chapter is to map the resources to assist in reviewing land use applications. To date the plan does not include a map of marketable mineral deposits in Douglas County.

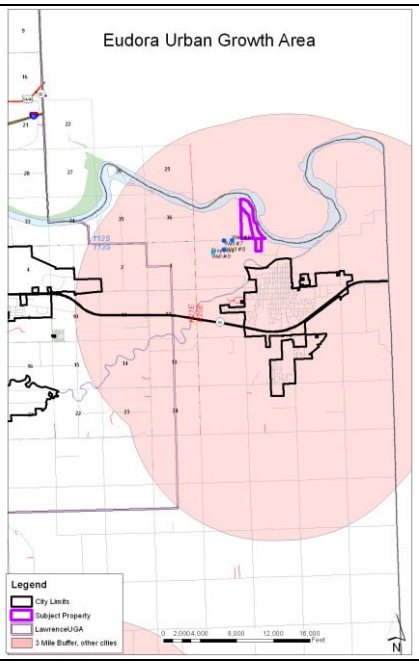
Urban Growth Areas. *Horizon 2020* includes growth areas for the Cities of Baldwin, Eudora, Lawrence and Lecompton. They are shown in the composite map 3-3 of Horizon 2020. The City of Eudora's designated urban growth area was added in December 2003. The 2009 update expands the plan area for Eudora.



UGA *Horizon 2020*



Plan Area
Eudora Comprehensive Plan

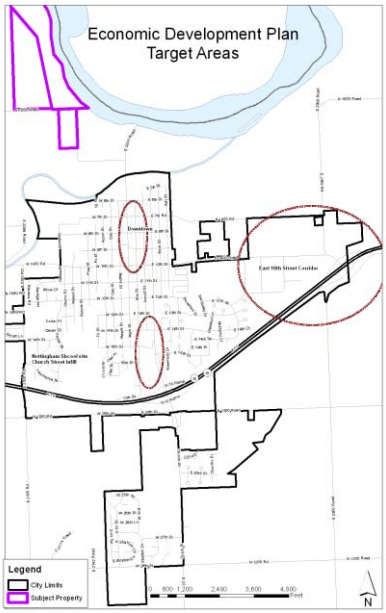


Area within 3 miles of
City of Eudora

Land uses planned for the area generally north of the Wakarusa river (north Eudora) are identified as continued floodplain with no specific land uses planned for the area.

Eudora Comprehensive Plan (ECP). The City of Eudora engaged in an update to the community comprehensive plan in 2009. The plan focuses on three "primary target areas." The result of the update was the adoption of the Economic Development Plan. The three targeted areas are, Downtown Eudora, Nottingham School Area and East 10th Street Corridor. These three areas each have specific features noted in the plan as beneficial to future economic development. The Downtown area includes access to the I-70 interchange to the north; The Nottingham School Aras is identified as a primary gateway to the community, and the E. 10th Street Corridor features larger tracts with easy access to K-10 highway.

The focus of these areas centers on either the ability to redevelop properties or buildings or accommodate new construction to encourage economic development opportunities. Two of the sites are described in the plan as intended for retail related uses. The E. 10th Street Corridor, however, is designated for large-scale commercial and light-industrial growth.



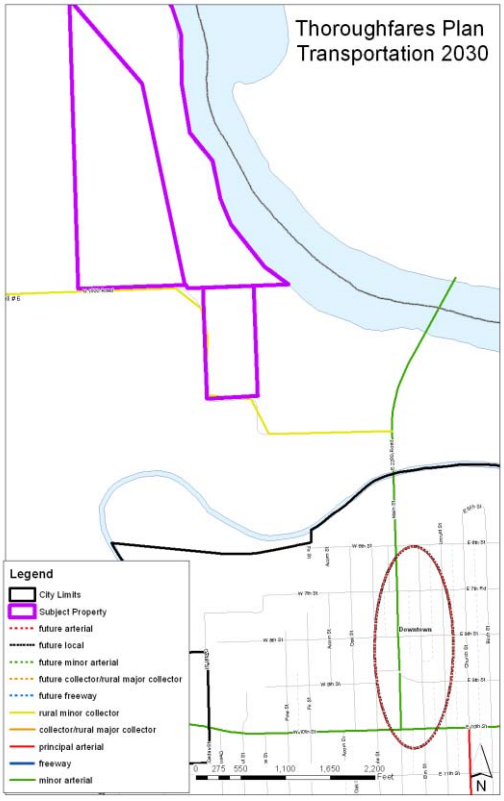
Plan Site	Target Retail Markets
Downtown Eudora	Specialty Retail
Nottingham School/ N. of K-10	Community Shopping Center
East 10th Street Corridor.	Highway commercial/Neighborhood Commercial

http://client.bwrcorp.com/eudora/documents/feb10plan_final.pdf

The Eudora Plan seeks to position the community to take the best advantage of K-10 access for development opportunities. General land uses targeted for these areas are described in Chapter 2 of the Economic Development Plan (page 2-3).

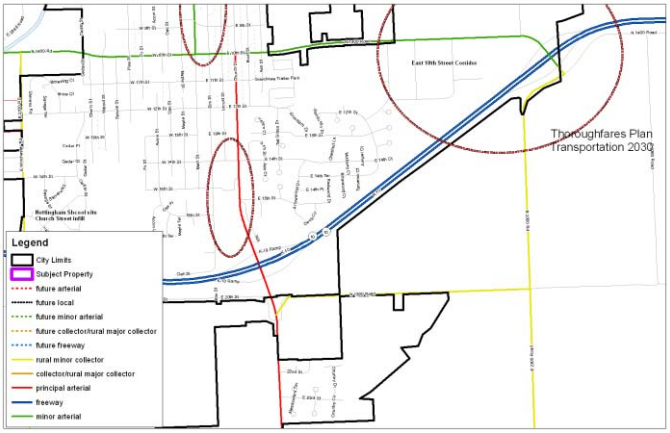
Transportation:
One action step identified in the *ECP* (page 3-5) recommends coordination with regional and state partners to support an alignment of the I-70/K10 connector route near east Eudora. *Horizon 2020* includes all unincorporated areas of Douglas County. The adopted *Transportation 2030,* recently adopted as Chapter 8 of *Horizon 2020*, does not include this street network connection at this time.

This type of connector road would divert traffic flow around the City of Eudora and avoid main thoroughfare through Eudora. This east Eudora connection is listed in Chapter 14 of *Transportation 2030* as an illustrative or unfunded project. An I-70/K10 connection east of Lawrence (west of Eudora) is shown in figures 6.9 and 6.10 of T2030.



The plan identifies the north Downtown area as a gateway. This is enhanced by the connection of Main Street to Leavenworth County Highway 1 and connection to I-70 interchange. N 1500 Road intersects this "corridor". Traffic from the proposed dredging operation is likely to use the Leavenworth County connection to, I-70, to haul materials to the main processing center in Kansas City Kansas. At this point that travel route would not enter Eudora City Limits.

The Nottingham and East 10th Street areas likewise are designated as gateways to the community. The plan specifically recommends rezoning of the East 10th Street area to accommodate commercial uses and support of an alignment of the I-70/K10 connector route on the east side of Eudora.



The Eudora Economic Development Plan focuses on three specific areas. A summary prepared by staff is provided as an attachment to this report.

General industrial policies included in the **Eudora Comprehensive Plan** state:

- Industrial development should be on land that is well drained and free from flooding
- Industrial development should be concentrated on land currently zoned for industrial and in existing and new industrial parks, promoting the proper mix of light and heavy industrial development and encouraging employment opportunities for existing pool of skilled labor.

More specifically the Plan shows Indusial Park and Business Park uses. The narrative suggests that such development would include internal circulation, landscaping, and architecturally pleasing buildings.

Staff Finding – The location criteria outlined in Chapter 7 of *Horizon 2020* have been assessed for this site. While some criteria are met, not all are met. The proximity to the City of Eudora is a critical element is assessing the proposed project. As interpreted by the City of Eudora, this requested land use would be a substantial deviation from planned land use for the City of Eudora. The area is clearly encumbered by regulatory floodway. Long range land use for this general area is identified as floodplain in the City of Eudora Comprehensive Plan and as a rural growth area in *Horizon 2020*. The City of Eudora interprets their plan to exclude industrial type development in this designation. Planning staff believes that *Horizon 2020*, by recognizing growth areas, places emphasis on how cities desire their growth areas to develop.

If approved the land feature will be permanently altered from "land" to "water". Areas of restore land (reclamation area) are located on the periphery of the project.

The issuance of special or conditional use permits is not discussed in *Horizon 2020.* However, the Plan does address agricultural uses and the fact that such uses should be continued as the predominant land use and the preservation of agricultural land.

STAFF REVIEW

The subject property includes a total of 169.58 acres. Of this a total of 55.46 acres will be left as open space. This area is generally located immediately adjacent to the river. Open space is also designated as a 50' perimeter buffer along the west property line and along the adjacent road right of way.

The property is generally located along the north side of N 1500 Road. This road zigzags along the south property line of the subject. The area in the southeast area is designated for the processing and stockpiling activities associated with this use.

Within the boundary of the property are to rock jetties discussed in part V of this report. The site plan shows protection measures for the jetty located at the north end of the processing area. No such protections are provided for the jetty that crosses phases 7, 8 and 9.

The property is substantially encumbered by floodway. This element presents special considerations that have not yet been fully resolved. Any such approval will require both local and state approval for activity in the floodway. Mitigation measures, including the planting of vegetation, will be reviewed by multiple state departments. The dredge ponds or lakes are generally bounded by a type of berm either constructed or resulting from the removal of soil to access the material. These berms will require approval by other agencies.

Existing Development

The property includes an existing two story residence. The residence is shown to be located on a part of the property that is generally 150' by 400' or 1.3 acres. This would not comply with today's minimum area requirements as a parcel. At a minimum three acres of undisturbed area should be reserved around this structure, if approved, to accommodate minimum county standards if the parcel is ever divided in the future.

Site Plan Analysis:

The following table provides a summary of the use areas of the property including active and open space areas throughout the site.

Site Summary: (Acres)	169.58 acres
Buffer /Riparian area	49.03 acres
Processing Area:	6.43 acres
Excavation area	114.12 acres
Total Active Area:	**120.55 acres**
Phases	16 phases

Site improvements for the dredging operation include a 2,000 Sf scale house and laboratory space and a processing plant. The processing plant is comprised of a series of movable equipment that separates and directs the material to stockpiles on the site. An interior drive is provided around the processing area for access to the equipment and the stockpiles.

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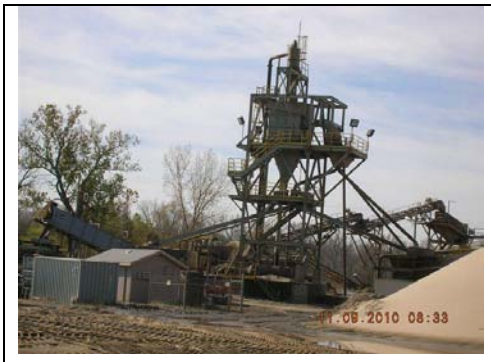
<tr><td> 
1</td><td> 
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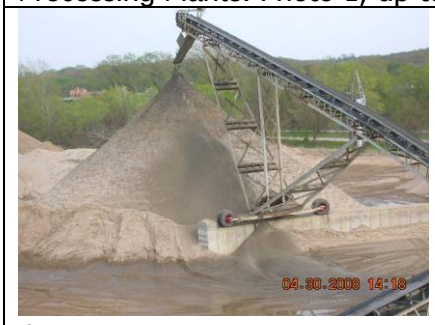
<tr><td colspan="3">Processing Plants. Photo 1, up to 70’ tall.</td></tr>
<tr><td> 
4</td><td> 
5</td><td></td></tr>
<tr><td colspan="3">Samples of stockpiling. Radial stacker piling finished product. Conveyors up to 50’ tall.</td></tr>
</table>

Height:
The plan does not detail the maxim height of the equipment proposed nor does it detail the height of the stockpiles. Section 12-318 of the County Zoning Regulations provides the height area and bulk requirements for the county zoning districts. The VC district is limited to a maximum of 35’ or 2.5 stores. Certain structures may exceed these height limitations and are listed in section 12-321.301 of the County Zoning Regulations. Structures that may exceed the height standard of a district include chimneys, church spires, conveyors, cooling towers, elevator bulkheads, fire towers, flag poles, grain elevators, radio and television antennas, silos etc. The elevators associated with the material processing operations could therefore exceed the maximum height limitation of the district.

Setback:
The location of the processing equipment exceeds the 50’ front yard setback (155’ proposed) and the 15’ side yard setback (200’ west property line and 290’ east property line). The equipment is also setback from the north parcel line (rear yard) by 850’. This setback exceeds the minimum 50’ district required rear yard standards.

The scale house is setback from N 1500 Road (front yard) by 200’. The scale house is located approximately 35’ east of the east property line. The proposed interior drive that circles the site is located approximately 10’ from the property line. This drive does not have a setback and abuts the Neis property to the east. There is no proposed screening along this property line.

The south 900' is located in the floodway fringe and could potentially be provided with screening.

Traffic and Roads:
As discussed in the body of the staff report, some improvements in the County and Township Roads may be needed depending on the volume of traffic. Any approval of the request would need to include mitigation for dust and for a contribution to the township for necessary road improvements. A per ton change could be used as a method to finance some of the road improvements.

Mitigation Plan:
The resulting land feature of this project, if approved, will be a 114 acre lake. The mitigation plan as proposed provides landscaping only along the road right-of-way. There is no developable land except for that south 6.43 acres that was the processing area. The plan specifically notes that the area will be regraded and reconditioned with top soil and seeded following the *Kansa Conservation Commission surface mining reclamation recommendations*.

It is not clear on the plans if the return water settling basis will also be backfilled and the grade restored. That portion of the site was heavily wooded and if back filled presumable would be an open field as part of the reclamation. The provision of cross sections should be provided to clearly articulate the final site restoration.

CONCLUSION
The proposed use in many ways demands adjacency to a river due to the location of sand deposits. A recent application at Midland Junction led to the knowledge that much of the Kansas River in Douglas County precludes this use for FAA reasons, which limits where sand dredging can occur in the county.

Staff believes that *Horizon 2020*, by recognizing growth areas, places emphasis on how cities desire their growth areas to develop. Eudora does not support the request for reasons identified in their report to the commission. The proximity of the project to the Eudora City limits and with the existing industrial policies for Eudora, staff cannot support the proposed request.

Civil Engineering
Landscape Architecture
Community Planning
Surveying

Landplan Engineering, P.A.

1310 Wakarusa Drive
Lawrence, Kansas 66049

tele 785.843.7530
fax 785.843.2410
email info@landplan-pa.com

Sandra L. Day, AICP
City/County Planner II
Douglas County Planning
Lawrence, Kansas 66044

February 22, 2011

RE: CUP -10-6-10; Kaw Valley Sand Dredging, Condition of Approval

Dear Sandra:

The following are condition of approval for the cup plan referenced above.

Condition of Approval

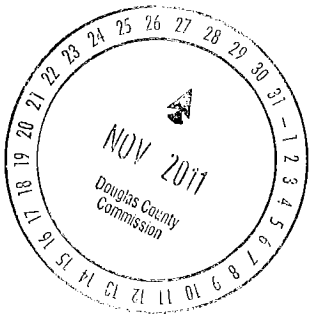
1. All state and federal permits.
2. Road improvements to N1500 Road along subject property. These improvements have been outlined by Douglas County Public Works.
3. Road improvements to the intersection at Co. Rd 1061 and N1500 Road. These improvements have been outlined by Douglas County Public Works.
4. Application of dust treatment on N1500 Road from the subject property to the intersection of Co. Rd. 1061 and N1500 Road.
5. Provide addition screen along the east property line to screen the proposed scale house from the east property. Revise the landscape schedule with addition landscaping.
6. Provide a minimum of three (3) acres undisturbed area around the existing structures on the west side of the property.
7. Provide additional cross section of the proposed plant and sand pit.
8. Provide a cross section of the area after the processing plant has been removed.
9. A per ton charge for maintenance of the existing N 1500 Road?

Please feel free to contact me at 785-843-7530 with any questions or concerns.

Sincerely,

C.L. Maurer, RLA, ASLA
Landplan Engineering, P.A.

City Of Eudora, Kansas



November 21, 2011

Jim Flory, Commission Chairman
Nancy Thellman, Commissioner
Mike Gaughn, Commissioner
Douglas County Courthouse, 2nd Floor
1100 Massachusetts
Lawrence, KS 66044

Dear Douglas County Commissioners,

Attached is a letter signed by the Mayor, City Council President and most of the Eudora City Council members.

Note: Council member Tim Reazin was out of town and unable to attend the meeting. Although unable to sign the letter, Council member Reazin has voiced his support of the attached letter.

Let me know if you have any questions or concerns.

Sincerely,

Pam Schmeck

Pam Schmeck
City Clerk
Eudora, Kansas
785.542.2153
785.542.1237 (F)

City Of Eudora, Kansas

November 14, 2011

Jim Flory, Commission Chairman
Nancy Thellman, Commissioner
Mike Gaughn, Commissioner
Douglas County Courthouse, 2nd Floor
1100 Massachusetts Street
Lawrence, Kansas, 66044

Dear Douglas County Commissioners,

The Mayor and City Council of Eudora are aware that the Douglas County Commission will review the application from the Kaw Valley Sand Company to develop a sand pit near the border of Eudora on December 7th, 2011. The purpose of this letter is to recount and reiterate our opposition to approval of this conditional use permit and to encourage you to deny the permit at your December 7th meeting in accordance with the previous recommendations of the Lawrence/Douglas County Planning Commission and the Eudora Planning Commission. Please also note that this letter is submitted in addition to our previous correspondence to your body from October, 2010 (attached).

Our understanding is that the decision before your body on December 7th will be to deny, approve, or remand back to the Lawrence/Douglas County Planning Commission the application by the Kaw Valley Sand Company. We urge you to deny this permit. No condition submitted by the applicant (attached), which serves as their basis for seeking a remand, takes into consideration the potential affects to the Eudora municipal water supply or the city's long-standing adopted planning documents.

While this application may be new to your body, the citizens, planning commission and city council of Eudora have struggled with this issue for over eleven months and elongating the process serves no public benefit. Every public body responsible for reviewing this application has recommended denial of the project. Eudora's planning consultants recommended denial because the application does not meet the city's long-standing adopted plans. Douglas County planning staff accepted the city's finding which they cited as the primary basis for their own, independent recommendation for denial. The Eudora Planning Commission unanimously voted for denial in February and at the continued public hearing held in April. Finally, after completion of two public hearings, the Lawrence/Douglas County Planning Commission voted 7-1 to deny the application.

After being denied by the Lawrence/Douglas County Planning Commission and the Eudora Planning Commission, the applicant then requested that the Douglas County Commission "delay" a decision on their application. The expressed purpose of this delay was to "confer with the Corp of Engineers" and alter the application before it came before your body. To this date, no substantive changes to the application have been made that the city of Eudora is aware of and as mentioned above, no conditions are offered by the applicant to resolve our outstanding issues. Our belief is the applicants request for remand is to simply keep alive a project with significant public opposition.

Since the beginning of this project the city has voiced concern regarding the proximity of the project to the well field that serves as the sole source of water for Eudora. Both parties have vastly different views of the implications of a sand mining operation near our municipal well field. In an effort to compromise, the city requested that the developer purchase a surety bond to cover any future expenses that arise as a

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4 East Seventh Street P.O. Box 650 • Eudora, Kansas 66025-0650

result of the sand pit operations near our municipal well field. This request was denied by the developer and they do not list it as a condition to be considered if the issue is remanded.

Remanding this issue back to the Lawrence/Douglas County Planning Commission brings into question the efficacy of the urban growth boundaries and the public review of such issues. Two joint hearings have been held in accordance with the Douglas County's planning regulations because of the proximity of the project to the city of Eudora. This long standing policy ensures that growth near the boundaries of urban areas is reviewed by the citizens most affected by the proposed developments and provides a balance of public input into projects to ensure that both urban and rural interests are heard. The outcome the policy process put into place by the Douglas County Commission has resulted with an overwhelming recommendation for denial. We urge the Douglas County Commission to uphold these recommendations and deny the applicants request for remand at the December 7th meeting.

Sincerely,

Scott Hopson	Ruth Hughes	Bill Whitten	Tim Reazin	Kenny Massey	John Fiore
Mayor	Council President	Council Member	Council Member	Council Member	Council Member

City Of Eudora, Kansas

September 22, 2010

Chairman Thellman
Douglas County Courthouse, 2nd Floor
1100 Massachusetts Street
Lawrence, Kansas
66044

Dear Chairman Thellman,

Representatives from the city of Eudora joined several neighbors in the surrounding rural area to attend a public meeting hosted by the Kaw Valley Company regarding a proposed sand pit they hope to develop near the Wakarusa River. It is our understanding that the developer will begin the process to obtain a conditional use permit for the proposed operation in the near future. In addition, we understand a vote of the Douglas County Commission is required to approve the conditional use permit. The purpose of this letter is to express the city of Eudora's concern with this development and to ask that you take serious consideration of the affects the proposed development may have on our community.

One of the wells that serve as a source of water supply for the city of Eudora is located approximately 2,000 feet from the proposed location of the sand pit operation. As the city grows over time, new wells may need to be established in the area near the proposed project. The city of Eudora requests that the Douglas County Planning Commission and the Douglas County Commissioners require an independent analysis be conducted to assess the potential impact of the proposed sand pit on the Eudora water supply (both current & future) before consideration for approval is given. Any negative effect to the city's water supply and well field will cause extreme damage to the quality of life offered to our citizens and should serve as a reason to deny the permit.

Secondly, the city of Eudora requests a detailed traffic analysis be conducted to determine the anticipated number of vehicles entering and exiting the sand pit operation that will travel through Eudora so we can determine the affect of the development on our roadways. County road 1061 serves as Eudora's Main Street and will likely serve as one route for trucks entering in and out of the sand plant. Numerous pedestrians use Eudora's Main Street on a daily basis and we desire to understand the impacts the sand plant may have on their safety.

We hope this letter articulates our concerns regarding the proposed project and look forward to working with the Douglas County Planning Commission and the Douglas County Commission to assure these concerns are addressed during the planning process.

Sincerely,

Scott Hopson	Bill Whitten	Maria Nelson	Tim Reazin	Ruth Hughs	Jeff Peterson
Mayor	City Council President	City Council	City Council	City Council	City Council

Cc: Commissioner Mike Gaughan
Commissioner Jim Flory
Lawrence-Douglas County Planning Commission
Eudora Planning Commission
Craig Weinaug, County Administrator

BHC RHODES
CIVIL ENGINEERS ◦ SURVEYORS

October 11, 2011

RE: CUP – 10-6-10

Dear Scott,

We would respectfully request that the Douglas County Board of County Commissioners at its November 23, 2011 meeting consider a motion to remand the above CUP to the Douglas County plan commission. We have attached a suggested format for such a motion but would welcome further suggestions from commissioners, professional planning staff and interested property owners as to other issues that might be reviewed by the plan commission should the matter remanded to them.

If you should have any further questions, please call me at (913) 663-1900.

Thank you,

Larry Winn III
Customer Development Strategist

JMC

Enc.

cc Price Banks
Phil Strubel
Alan Teutemacher

Exhibit A

1. Shorten initial permit time to 5 years only which can by administrative order be extended an additional 5 years if the applicant is determined to be in substantial compliance with the conditional CUP Stipulations.

2. Douglas County shall have 60 days prior to final county approval if granted to have any well studies preciously submitted reviewed by an expert of the counties choosing.

3. Any jetties on the river adjacent to the operation shall either remain as they are or be relocated subject to the approval of the Corps of Engineers, KDHE and Douglas County.

4. Applicants shall meet all dust control requirements of Douglas County

5. Applicant shall pay to the county an impact fee that the county may apply to any county cost of maintaining county roads that are utilized to transport sand or equipment to the site. The impact fee shall be the greater of $12,000 per annum or a $0.10 per ton royalty.

6. Any road improvements suggested by the April 2, 2011 memo of the public works director of Douglas County shall be completed prior to dredging activity that requires off-site hauling of material.

7. At the conclusion of the CUP the lake shown on the reclamation plan shall if the County or the City of Eudora wants the lake, and the reclamation plan has been completed to the satisfaction of the county, be dedicated as public recreation property.

8. Provision of a landscape plan to show the species of trees proposed, minimum planting size, total number, and proposed spacing of trees per section 12-319A-4.10 of the County Zoning Regulations per planning staff approval.

   a. Screening trees shall be planted along the public right-of-way
   b. Screening trees shall be planted along south 700 fee of the east property line to screen the processing plant and stockpiles from the adjacent property.
   c. Screening trees shall be planted a minimum of 30' on center.

-----Original Message-----
From: Nancy Thellman [mailto:nthellman@gmail.com]
Sent: Friday, April 22, 2011 9:08 AM
To: Scott McCullough
Subject: please forward to Planning Commissioners

4/22/11

Commissioners,
I was asked by a Eudora resident, Kathleen Chronister, 1204 Main Street, to convey her serious concerns about the Kaw Valley Sand Pit proposal which you will be hearing next week. Ms. Chronister is unable to come to the meeting personally, and asked to pass this message along through me, her County Commissioner. Here are her concerns/comments:

1. Ms. Chronister believes that locating the sand pit operation so close to Eudora's drinking water well will have a serious negative impact on the community's water--both its quality and, possibly, it's future availability.

2. Ms. Chronister believes there is no particular benefit to the community of Eudora having this sand pit operation because it will take sand out of the community but will not put anything into the community like new employees/jobs or significant money through taxes.

3. Ms. Chronister states that if Eudora's water quality would be improved by the sand pit mining operation then she could support it, but she's very concerned it will have the opposite effect.

Thanks for your consideration of Ms. Chronister's concern.
Nancy Thellman, County Commissioner, 2nd District

February 17, 2011

Douglas County Planning
and Development Services
6 East 6th St. Lawrence, Ks

Dear Planning Commission Members.

as a property owner of farm ground south and East of the proposed sand pit, and between the Kaw and the Wakarusa rivers on both the East and West side of E. 2172 road (County road 1061). I am strongly opposed to the location of the sand facility for the following reasons:

1) The proposed site is subject to flooding from the Kaw R. on the north and on to the south and east as it has been for many years. Excavation of a sand pit of such huge size would not only facilitate the flow of the flooding Kaw through and east of the location, but would also narrow and weaken the worked natural barrier to the direct east of the pit, and threaten the south abutment of the bridge on 1061 crossing the Kaw. The land south and east of the proposed site has been flooded many times over the last 20 years, all the way to the point between the Kaw and Wakarusa rivers!

2) The fragile county roads leading south and east to 1061, and both north over the bridge and south thru Eudora would be destroyed by the weight of these huge, heavy trucks, and the bridge would also be in danger, as well as the danger to the heavy north and south bound traffic on County road 1061.

Thank you for your careful consideration of this matter.

Respectfully yours.

Lyne T. Cordry
Robert Cordry

From: smason@kcp.com [mailto:smason@kcp.com]
Sent: Monday, February 14, 2011 10:26 AM
To: ZO - Davis-Englebert, Kanitha
Subject: Feedback for Zoning & Codes of Douglas County, Kansas

The following feedback was submitted to you through the Douglas County, Kansas feedback form:

Category: Zoning & Codes
Full Name: Shawn Mason
Address: 1202 W 13th Terrace
City: Eudora
State: KS
Zip Code: 66025
Email Address: smason@kcp.com
Phone: 785-542-3219
Comments: In Regards to Up Coming Decision for Permit to Kaw Valley Companies to Build a Sand Pit at Old Eudora Golf Course: After reading the Article in the Journal World and on that information provided only, I do not see any benefit to the City of Eudora, I believe more surveys need to be done (Not by Developer) to determine effect on City Wells. No info was stated about number of Jobs and Revenue to County and City of Eudora. I imagine it is not a significant number. The plan does not fit into the planning policies for industrial business's for the City of Eudora. Please do not recommend/approve this permit to Kaw Valley Companies

ITEM NO. 1 CONDITIONAL USE PERMIT; KAW VALLEY EUDORA SAND FACILITY; 2102 N 1500 RD (SLD)

CUP-10-6-10: Consider a Conditional Use Permit for Kaw Valley Eudora Sand Facility, located at 2102 N 1500 Road, NE of SW Cor. SW ¼ S32-T12S-R21E, on approximately 196.58 acres. Submitted by Landplan Engineering, P.A., for Kaw Valley Companies, Inc., contract purchaser, for James and Ronda Bigger and Wellsville Bank, property owners of record. *Joint meeting with Eudora Planning Commission. Deferred by Planning Commission on 2/23/11.*

STAFF PRESENTATION by City of Lawrence
Ms. Sandra Day presented the item.

Commissioner Rasmussen said the property was zoned as Valley Channel. He asked Ms. Day to explain why applying industrial zoning rules was appropriate for that zoning.

Ms. Day said she was not sure that they were attempting to apply industrial zoning rules. As a Conditional Use Permit there was an opportunity to provide a set of recommendations and conditions to make that use more compatible with the surrounding area.

Commissioner Rasmussen said in the staff report it says it is a valley channel and then on page 163 of the packet it says the Eudora Industrial Zoning District should be guiding this. He asked how industrial was applicable to Valley Channel.

Ms. Day said what staff tried to do was to make the comparison that if this application were in the City of Eudora that this would be the type of appropriate zoning.

Commissioner Rasmussen asked how close the dredging activity was.

Ms. Day said the southern property was within a mile of the City of Eudora and that the dredging operation may be a little over that.

Commissioner Rasmussen asked what was too close and how that was determined.

Ms. Day said that was a very difficult question to answer. She said during the review staff gave deference to the City of Eudora's position and to their adopted plan for the area. She stated had this been on the more extreme area of that 3 mile radius staff might have come to a different conclusion.

Commissioner Rasmussen asked what other elements went into that balancing act.

Mr. McCullough said it was more of an exercise in looking at the Comprehensive Plan values. He said Eudora has done some planning and has established a type of growth area that staff believes the Comprehensive Plan wants staff to show deference to.

Commissioner Rasmussen inquired about the planning exercise done for City of Eudora to establish the Urban Growth Area.

Mr. McCullough said it was established in Horizon 2020 and the City of Eudora established it for their own purposes. He said there is deference shown when a city has undertaken an exercise to plan for a certain area and the statutes appear to give that 3 mile concept, so staff chose to show that deference with the recommendation.

Commissioner Rasmussen asked what area Ms. Day showed on overhead.

Ms. Day said the grey area was designated as floodplain.

Commissioner Rasmussen said in the staff report it states '*…the property is suited for the proposed use…if it can be shown that it is not incompatible with other uses permitted in a district… and is… found to be in the interest of the public health, safety, morals and general welfare…*' and later in the staff report it says '*Approval of the use does not clearly benefit nor harm the public.*' He asked how an industrial activity could clearly benefit the public.

Ms. Day said many times with industrial applications they look at generating tax revenue, employment dollars, employing local community members, construction costs for new buildings and improvements.

Commissioner Rasmussen asked if those things would not be a part of this project.

Ms. Day said the application does not clearly justify that. She said there was nothing in the application that supported it one way or the other.

Commissioner Rasmussen said in the staff report it states *'…relatively low traffic volume has been reviewed and deemed to be acceptable by County staff.* ' But above that in staff finding it says '*Affects to nearby properties include increased truck traffic…'* He asked how those two statements could be reconciled.

Ms. Day said traffic studies provide the rationale and justification for a particular land use. This particular use can be accommodated on the County roads. She said from the public perspective there would be more traffic than what was currently associated with an agricultural activity. She said the study does not say there would be not be any increase in traffic; there will be and there will be a perception to the public of that fact.

Commissioner Rasmussen said the staff report states '*If approved the land feature will be permanently altered from "land" to "water".*' He said the impression he got from that sentence was that staff was stating it as a negative impact as justification for recommendation of denial.

Ms. Day said she did not necessarily intend for that statement to be negative. She said it was a statement of fact. She said this was not a land use that once it went away all traces of it could be removed. She said many conditional Use Permits have a time element to them and then they go away and the property could still be used for agricultural use. She stated in this particular use the landscape would be permanently altered.

Commissioner Harris said the County had a certain way of looking at industrial development and the City of Eudora had another way of looking at it. She asked if the City of Eudora had come to a different conclusion, if their Comprehensive Plan said something different, would the staff recommendation be different.

Ms. Day said yes, if there was better support and better justification in the Eudora Plan there could have been a different conclusion.

Commissioner Rasmussen asked if the Eudora Comprehensive Plan or the Eudora staff report swayed staff recommendation.

Ms. Day said the Eudora Comprehensive Plan.

STAFF PRESENTATION by City of Eudora

Mr. Scott Michie, City of Eudora Planner, presented the item. He said his staff memo was virtually unchanged from the February hearing. He said the City documents were very clear on the policies that pertain to this application. He reviewed the staff memo he wrote that was included in the packet. He said if there was a recommendation for approval for this that one of the conditions he would like to see was '*A **surety bond** with provisions to assure that the City would be made whole should a well water problem result from the proposed sand pit operation, provisions to be worked out with input from the City.*' He said regarding the jetties the

County Engineer worked with the applicant for some additional changes and he just saw those this afternoon so he was not prepared to speak about it.

Commissioner Rasmussen inquired about Mr. Michie staff memo where it says '*The City of Eudora's long-standing Industrial Development Policies are very clear and very simple. Industrial development in Eudora and its designated planning area must be: 1. Directly accessible to K-10 Highway, and 2. Out of the 100-year floodplain.*'

Mr. Michie displayed the designated planning area on the overhead. He stated it was approximately a 3 mile area outside the corporate limits of the City.

Commissioner Rasmussen asked if based on that no industrial activity would be permissible unless it was directly accessible to K-10.

Mr. Michie said that would be the type of development that would meet the adopted policies, shown on page 5 of his staff memo.

Commissioner Rasmussen asked Mr. Michie to show where industrial sites were located east of the City of Eudora.

Mr. Michie said on the map it was the darker color located within the red circle.

Commissioner Rasmussen said the red circle on the map in his staff memo was colored red commercial. He asked if it was commercial and industrial.

Mr. Michie said within that was the industrial business park (purple) and that it was the adopted policy that the City of Eudora would support a range of non-residential development at the E 10th Street interchange.

Commissioner Rasmussen asked if those were the only two places where industrial development would be appropriate in that 3 mile ring.

Mr. Michie said that was correct.

Commissioner Harris asked if the Eudora plan mentions mineral extraction as an industrial activity.

Mr. Michie said the Zoning Regulations were broadly defined in Eudora and there was one industrial classification and mineral extraction was one of the industrial uses. He stated there was also a general agricultural district that every city has and mineral extraction would be a permitted use with a Conditional Use Permit.

Eudora Commissioner Johnny Stewart asked if Mr. Michie worked on the Douglas County Comprehensive Plan.

Mr. Michie said he did not work on the Douglas County Comprehensive Plan, only the Eudora Comprehensive Plan.

Eudora Commissioner Stewart asked if the Douglas County Comprehensive Plan was followed when the Eudora Comprehensive Plan was implemented.

Mr. Michie said representatives were invited from the County to the work sessions and public hearings. He stated the Eudora Chamber of Commerce representatives were invited as well.

Eudora Commissioner Stewart said the Douglas County Comprehensive Plan says that valley channel prohibits removal of top soil or reallocating any water sources. He stated the area north and south of the river was

considered off limits for development because topsoil should not be taken or dredged. He wondered if Eudora took that into account when they created their Comprehensive Plan.

Mr. Michie said those were background discussions for designating the 100 year floodplain as open space, natural features, active and passive recreation, and for encouraging industrial development in the 500 year floodplain or out of the floodplain entirely. He said one of the things they discussed in the past months was best management practices for out of river dredging, some of which call for that activity not to be in the 100 year floodplain. He said his recollection of the 2002, 2008, and 2009 plan updates for the city did not explicitly explore excavation and dredging and mineral extraction in the floodplain because it was not a topical issue at that time.

Eudora Commissioner Stewart asked what a surety bond was.

Mr. Michie said he did not have the opportunity to go into the specifics with the applicant because in past discussions the applicant indicated they were not willing to consider a surety bond. He said a surety bond would provide provisions to assure that the City of Eudora would be made whole should a well water problem result from the proposed sand pit operation.

Eudora Commissioner Stewart asked if the City of Eudora could show clear harm if the surety bond would kick in.

Mr. Michie said that was correct but he had not had the opportunity to discuss the specifics with the applicant because the applicant chose not to discuss that.

APPLICANT PRESENTATION

Mr. Phil Struble, Landplan Engineering, said the applicant was asking for a Conditional Use Permit because they were not asking for industrial. He stated many mineral extraction activities were called mineral extraction activities and did not normally fall under the industrial categories. He said the use would almost always be in the floodplain because that was where the sand was. He said as the locations where sand could be mined got further and further away the cost was directly impacted. He said they were not asking for Eudora industrial zoning nor asking to be in the City of Eudora. He stated they were typically considered a good open space use because it has a defined limit through a Conditional Use Permit. He introduced Mr. Edward (Woody) Moses, Executive Director of the Kansas Agri-Producers Association, who was present to answer any questions if needed. He stated the second well study came to the same conclusion that there was no definable potential pollutants. He also stated that he had a brief conversation with Mr. Michie about the surety bond and the applicant was not interested in it. He said Planning Staff had a detailed conversation about how there could be some measureable criteria that might trigger the sand operation stopping until it was resolved. He said they were open to dialogue to work through the issues. He wanted to clarify the traffic issue as presented by Ms. Day. He said the sand pit had only one destination today for the sand and that 100% of the traffic would go north to Kansas City, Kansas. He stated O% of the traffic would go through Eudora or to Lawrence, although he said he could not say it would never go through Eudora. He said he would like to work through any issues.

Commissioner Harris asked if there was any mention in the transportation information about the bridge.

Mr. Struble said Mr. Keith Browning could answer that. He said he thought they were not even close to any load limits on the bridge.

Eudora Commissioner Ken Adkinson asked if there would still be two employees and if they would be from another area. He wondered what the economic value was for Eudora and Douglas County.

Mr. Struble said the employee based was only a guess. He said they have employees living in the house out there right now who are living in Douglas County. He said he had not done an economic analysis of the project to be able to answer that question. He stated the economic value to the county would be more readily available sands.

Eudora Commissioner Grant Martin inquired about the plant in Kansas City, Kansas where sand from the proposed pit would be going. He asked what the site in Kansas City was zoned.

Mr. Struble said he was not sure.

Commissioner Rasmussen said his recollection from the previous meeting was that part of the reason for the application for this location was because of the type of sand that could be used to make things such as insulation and be dried and sent to the airport. He said he did not recall that it was said this would also be provided locally.

Mr. Struble said dried sand was sold to the airport and a lot of people for sand on the roads. He said dried sand was also shipped to St. Louis to make insulation products and fire retardant products. He stated that was the bulk of their business but that if the opportunity arose where local businesses needed additional sand for a large project they would sell them sand to supplement that need.

Commissioner Rasmussen asked if he stated earlier that all the product would be going north of town. He asked if that was only the dried product. He was concerned about trucks going through town.

Mr. Struble said 100% of the product would not be a dried product. Today their customer was in Kansas City, KS but they would not shut the door on providing sand to a Eudora road project, for example.

Eudora Commissioner Kurt von Achen asked if they would be willing to agree to a condition to keep all trucks out of Eudora.

Mr. Struble said not all their truck drivers were their truck drivers, half of them were under contract and not under Kaw Sand authority. Said if they sold sand to Penny's Concrete on Highway 7 then the answer would be yes.

Commissioner Harris asked how the weight of the sand trucks compared to other types of industrial trucks.

Mr. Struble said they were the same trucks seen all over town, approximately 22 tons.

Eudora Commissioner Stewart asked if they would be willing to stop extraction if there was an impact to the wells. He wondered how and who would monitor that and who would fund the cost of that monitoring.

Mr. Struble said it would not be court ordered and they would agree to simple phone call to the plant operator or to the home office in Kansas City, KS and they would immediately shut down the plant. He stated County Commission meets twice a week and with a Conditional Use Permit County Commission had authority to shut down operations at any time they wanted. He said they were open to discussions on the cost of monitoring.

Eudora Commissioner Stewart inquired about the large number of trees being removed.

Mr. Struble said the previous plan had a 300' minimum and went up to 500' width of the existing trees to stay. He stated the trees themselves in an aerial map range between 400'-800' wide. He said yes, there would still be a row of trees removed and that that part of the plan hadn't changed.

Commissioner Burger inquired about the general timeframe from when sand was extracted from this type of facility to when it would be delivered to places like Penny's Concrete and then be available to put in place in a concrete pour in Douglas County.

Mr. Struble said what people typically think of regarding a sand processing plant was seeing a big pile of sand. He stated that big pile of sand was generally 1-2 weeks worth of sand inventory. He said beyond when it goes someplace to be used he could not venture to guess.

Commissioner Burger said she appreciated the intent and agreement to say they would shut down with a phone call. She was concerned about the domino effect with that kind of agreement where a phone call could be placed to shut down the sand processing plant and how that would impact the rest of the community during a large project.

Mr. Struble said the scenario of a large project would require about 6 weeks worth of sand stockpiled in advance. He said the advantage with this project would be that it's a small sand pit for producing ready mix sand. He stated Penny's Concrete could extract much more sand from the river than Kaw Valley could, so even in that scenario if they were shut down, at best they would be 5% of that project. He said if the Corps of Engineers shut down the sand dredging in Lawrence, KS then there would be a problem. He said with a large project another company might rely on Kaw Valley for just a little extra sand, but that a big project would not be predicated on Kaw Valley.

Commissioner Liese asked what had happened with the community and applicant since the last meeting.

Mr. Struble said that they had not tried to reach out personally to each person in the community. He said he had conversations with a handful of people.

Eudora Commissioner Ken Adkinson said Kaw Valley would be closing down any expansion to wells to the east so as Eudora expands wells would have to go to the west. He felt it would be restricting the water growth for Eudora.

Mr. Struble said he did not do the well study and would defer that to the well expert.

Eudora Commissioner Richard Campbell asked who owned the property. He was concerned about other potential uses.

Mr. Struble said Kaw Sand already owned the property. He stated the purchase of the property was time contingent.

PUBLIC HEARING

Mr. Mark Neis inquired about the buffer of trees. He said they would be 50' of 15th Street and 50' of the property line with a berm. He said with 6" rain that area was flooded. He wondered if there would be a conservation plan. He was concerned about who would pay to fix a broken berm and who would take care of the roads and ditches. He wondered if they had done testing to see how far down to the sand was and how much top soil they would have to take off.

Mr. Melvin Morriss was concerned about the holding pond being located where the old dump was located. He expressed concern about truck traffic going north and the load limit being 10 ton.

Mr. Scott Jackson said he was surprised they were still talking about this issue because nobody had been in favor of it. He stated Commissioner Rasmussen said last time that there was a desperate need for sand but he did not see that. He did not feel there was much of an economic benefit from two employees. He wondered if sand going to Missouri would still receive sales tax for it.

Mr. Bruce Balke was concerned about the potential threat to Eudora's water supply and felt that risking Eudora's municipal water supply was unacceptable, both from an economic standpoint and from a human standpoint. He did not feel the location of the proposed operation conformed with the existing zoning or planning uses. He stated that both the Eudora Planning Commission and the staff of the Douglas County Planning department had recommended denial of the Conditional Use Permit. He stated the operation would bring no or minimal employment to Eudora. He expressed concern about the possible impacts to the Eudora water supply in the event of a major flood on the Kansas River. He also stated there was the potential for a lot of large truck traffic to move through Eudora. He said an independent study could not say with any certainty

whether the operation would threaten Eudora's water supply. He believed the proposed location and proposed use did not conform to the US Army Corps of Engineer's river management policies. He wondered about the estimate cost to replace the water supply if it were contaminated. He felt that Kaw Valley should be required to place the full amount estimated to be required to replace the water supply in escrow for a period of not less than ten full years.

Mr. Ron Knaggs said Kaw Valley was looking for a high silicon content sand that would primarily be sold to Kansas City International airport and a customer out of Saint Louis. He stated the bi-product would be the street sand, like the kind that might go into concrete, so the impact of trying to keep down the cost of construction and building products to the City of Lawrence or Douglas County would be negligible. Kaw Valley's main product would be going out of town and in some cases out of state.

Mr. Philip Schonberg said the cost of producing water was less if there was a body of water in close proximity of well heads. He said if Eudora grew and had a body of water in the floodplain they would probably ask Kaw Valley if they could put well points in close proximity to the lake for improved water in Eudora.

Ms. Pam Staab said a Conditional Use Permit was issued only when it was found to be in the interest of the public health, safety, morals, and general welfare of the community. She said the burden was to show that it was in the interest of the community. She found in the documents she read in the packet that those benefits were ill-defined and very vague. She felt there needed to be more specific information about how it would benefit the community.

Ms. Lois Hamilton said she had wells on her property and she tried to buy the proposed land when it was in bankruptcy but the applicant outbid her without her knowledge. She felt the City of Eudora would have to spend a lot of money if there was a problem with the water. She was concerned about how close the sand pit would be to her property. She felt the tax payers would have to replace the bridge. She said Kaw Valley could find a better place and make more money on it. She said they needed to analyze the damage it would do to Eudora. She felt water pits/ponds would be a security issue. She said the roads could not handle the current farmer trucks now, let alone more trucks. She said sand would fill the ditches during the first rain. She expressed concern about trees being removed.

Ms. Martha Skeet read from the Soil and Water news from Douglas County regarding stewardship week. She asked them to think about the bends in the river and how fragile that environment was. She said it was not IF there was a flood, it was WHEN. She said maybe there needed to be a surety bond for rebuilding the road and bridge when there was another flood.

Mr. Pradeep Natarajan said there was nothing mentioned by the applicant about mitigation plans. He said he could not believe this was even being considered.

Mr. Robert Cordry said the next course of the Kaw River would be where the sand facility would be.

Mr. Edward (Woody) Moses, Kansas Aggregate Producers Association, said how do you weigh the needs of the many against the needs of the few. He stated one of the biggest issues that needed to be addressed was the location of this resource. He stated there used to be 14 dredges on the river and there were now only 5. He said they have only been able to replace 14 dredges with 3-4 pits. He said it created an imbalance as far as the access to sand and gravel. He said the sand would benefit everyone and would be valuable to the entire community of Douglas County. He said ponds near wells could provide more water and takes less energy. He stated Douglas County was now importing sand from Topeka and that had a cost with fuel, energy, and environmental costs. He felt the larger community of Douglas County would benefit as a whole.

Ms. Sharon Bearden was concerned about noise, water quality, air quality, traffic cost for street repairs, and the ecological impacts. She said in engineering terms 500 maximeters was the closest dredging was supposed to be to any base settlements, bridges, fishing areas, and any burial reserves.

Commissioner Harris inquired about the source of the information Ms. Bearden provided.

Ms. Bearden said she found the information on the internet.

COMMISSION DISCUSSION

Mr. Keith Browning, Douglas County Public Works Director, said regarding the roads, given the estimated number of trucks, approximately 17 trucks a day, 12 going north, 3 possibly going west, and 2 possibly going south. He said the number of trucks did not justify reconstructing a road. He stated the existing township maintained roads and 1500 Rd were in bad shape and needed some work. He proposed having the applicant provide all the materials for the work and the County would do the heavy maintenance improvements. In addition it was recommended that the approach to Route 1061 be paved with asphalt. He felt that would be enough to address the kind of truck traffic being talked about and also would improve the road for current traffic. He said regarding the trucks going through Eudora, Route 1061 functioned as a rural major collector and the purpose of that was to take truck traffic from local roads to arterial roads. He was not in favor of saying all traffic heading south must head west to E 1800 Rd and then south to old K-10. He said E 1800 Rd was not built to handle that kind of traffic but that Route 1061 was. He said regarding the jetties, the applicant agreed not to disturb the north jetty. He said the engineers at Lochner pointed out that although they would not be disturbing the rock, they would be disturbing the earth behind it. He said he talked to Mr. Phil Struble about revising the reclamation plan to not disturb the existing rock jetty and extend the existing rock jetty back to tie into existing ground or large amount of rock. He said restoring that to a constant elevation should restore all the function of the jetties.

Commissioner Liese inquired about how traffic routes would be enforced.

Mr. Browning said local rural roads were not built for a lot of truck traffic.

Commissioner Harris asked Mr. Browning to speak about the comment made regarding the truck load limit in Leavenworth being 10 tons.

Mr. Browning said he was unaware that it was 10 tons. He said if that was the case that would certainly be a concern for the applicant.

Commissioner Harris inquired about the comment made regarding the holding pond being on top of an old dump site.

Mr. Browning said the old dump was on part of the property where the processing facility would be and that issue came up a few months ago during the Planning Commission meeting. He said Mr. Struble indicated that Kaw Valley was in the business of doing large scale cleanup so it was not seen as a huge problem.

Commissioner Harris inquired about the water supply possibly being damaged.

Mr. Browning said he was not an expert in that area but that he did read the reports and that the one prepared by the applicant seemed to make sense to him. He said the movement of ground water was typically down gradient movement and the sand facility would be down gradient of the wells. He said it made sense to him that it should have no effect on the wells, although he could not say there would be no scenario where the wells would not be effected.

Commissioner Harris asked if he expected additional ditch maintenance.

Mr. Browning said he was proposing that the County do heavy maintenance improvements with the applicant providing the materials. He said once it was in shape where it would handle the truck traffic it would be turned back over to Eudora Township to maintain. He said if they had the cooperation of the applicant, much of the property was lower than the road and should allow for better drainage than what was there now. He said it

would not be perfect because it was in the floodplain, but that they could slope the ditches and have an outlet in a lower area on the applicant's property to drain.

APPLICANT CLOSING COMMENTS

Mr. Price Banks summarized the testimony from this evening. He stated the applicant had experience in cleaning up dump sites and was currently cleaning up Farmland under contract with the City of Lawrence. He said most of the sand out of the operation would go to the applicant's plant in Kansas City, KS. He said there was testimony about the road issues being pretty much taken care of and that the bridge was not a problem. He said the applicant would do work on the jetties that would probably make them better.

Commissioner Hird said the 2008 Eudora Comprehensive Plan update refers to the Wakarusa and Kansas River as the primary natural resources in Eudora. He said the report basically says the maps created and selected by Planning Commission were built on long standing plans for linear parks and passive recreation in the river floodplains left undeveloped and for industrial development and long standing targeted nodes outside of the 100 year floodplains with direct access to K-10 Highway.

Mr. Banks said if they approved this they would be deferring to that. He said this was not an industrial use, it was a temporary use. He said it would be reclaimed and it would become open space. He said this could and should be an amenity rather than a detraction.

Commissioner Rasmussen inquired about Mr. Banks comment about the sand pit improving the stability and functionality of the jetties.

Mr. Banks said the construction work on the jetties was designed to improve the functionality of the jetties. He said it was his understanding that they were not well tied into the soil behind them.

Eudora Commissioner von Achen said he did not disagree with Mr. Browning stating Route 1061 could handle the trucks. He was concerned about the safety of Route 1061 because it was the main street of Eudora with diagonal parking on both sides and hills. He said Eudora police could enforce that safety standard.

Mr. Jack Messer, Lochner & Associates, said he had been the City Engineer in Manhattan during the 1993 flood so he had experience with the power of water. He said there would be a current across the proposed site during a flood and create a funnel with a faster current. He said the bottom of the excavation was 775' and the bottom of the river elevation was 785', 10' lower than the river bottom. He said jetty excavation would range between 10' below the bottom of the jetty to 2' below the bottom of the jetty. He said removing fill around it would likely affect how it would function. He said the City of Eudora was just asking for assurance if something negative happened to the wells.

COMMISSION DISCUSSION

Commissioner Rasmussen felt sand was a needed commodity, not desperately needed (as an earlier public comment attributed to him saying). He said he would like to see sand not taken from inside the river but instead outside in quarries like this. He felt it was important to not over-regulate the county so that there could be opportunities for a sand operation. He was conflicted about the application. He did not think staff did a good job in justifying the denial and the applicant did not do a good job in justifying why they shouldn't accept the staff report. He said the public comment arguments that a company selling a product out of the state was not persuasive to him. He said he looked at the staff report and went through each point. He said the first part of the staff report looked at the zoning and use of the property. He looked at the valley channel district and felt it was an appropriate use. He said he next looked at the character of the area and felt the use fit with the general character of the area. He said regarding part three of the staff analysis, the suitability of the subject property for the uses to which it had been restricted, he was not convinced industrial zoning should be applied to the site. He said regarding the soils and geology he felt it was appropriate soil characteristics for the activity. He said regarding part four of the staff analysis, the length of time the property remained vacant, he did not feel 2006 was that long ago for a piece of rural property to be vacant. He stated regarding part five of the staff analysis, the extent to which removal of restrictions would detrimentally affect

nearby property, he felt there were real concerns about traffic impacts and safety. He stated there was potential concern about the water supply wells in the area. He said he would like to hear from the Corps of Engineers about how the jetties might be impacted. He said it sounded like there would not be very much gain to the community. He felt one of the few benefits would be a lake. He felt it did conform to Horizon 2020. He said because the application did not meet all seven criteria evaluated he would not vote in favor of the application.

Commissioner Hird said there was no credible evidence either way on potential damage to the water wells. He said an agreement to shut down the plant was not enough. He said Planning Commissions obligation was to the entire county. He stated the City of Eudora's staff report was at least in part based upon the fact that historically Eudora has recognized the riverfront as a natural resource. He said he would defer to the findings of the Eudora Planning Commission since it was in their backyard. He said the traffic would be dependent on the customer base.

Commissioner Singleton said her primary concern was the operation being so close to Eudora. She did not feel the applicant provided clear responses/information to Planning Commission or the residents. She did not feel the risks had been addressed. She said she would like to support some sort of operation like this in a different location.

Commissioner Liese responded regarding a public comment about why the issue was being heard again. He said he recommended a deferral last time to get more information.

Commissioner Harris said the crux of the issue for her was what the Eudora Plan says would happen in the floodplain. She felt they needed to support planning efforts. Her main concerns were water quality and not being able to insure that the community would not have problems. Her other concerns were the jetties and truck traffic going through town. She said the draft Environmental Chapter does address mineral extraction but it needed to go further with guidance and tools to locate places where minerals could be extracted.

Commissioner Burger said the finding of facts were not sufficient to not agree with staff report and findings. She said she would vote to agree with the staff report. She encouraged the applicant to look at planning in a bigger picture and see what other opportunities there might be to make this happen.

Commissioner Culver said Eudora Planning Commission took the time and effort to develop a Comprehensive Plan for their city and by going against that could take the meaning out of their efforts. He felt their actions should be consistent with their plans. He had concerns about the proximity of the site to the city and not having direct answers about the uncertainty with the jetties and water wells. He said at this point he could not support the proposal.

Commissioner Blaser said he did not believe this was an industrial site. He said regarding the wells he believed what the water report said about it improving the quality. He said Eudora's Plan had the area as being a natural resource and to be undisturbed. He said it had already been disturbed and in his opinion was a mess. It had not been farmed and someone tried to use it as a golf course. He said he would vote for approval and that he was voting for the whole county and did not think this was to the detriment of Eudora and/or their water system.

Commissioner Liese made a comment about why the Planning Commissioners typing during public comment. He wanted them to know they were keeping notes on their comments.

ACTION TAKEN by Lawrence Planning Commission
Motioned by Commissioner Liese, seconded by Commissioner Singleton, to support recommendations for denial of this Conditional Use Permit and forward to the Board of County Commissioners based on the findings of fact in the staff report.

Commissioner Blaser said the jetty would tie back to two lakes.

Commissioner Rasmussen said he would vote for the outcome of the motion to deny but not because he found the staff report to be adequate. He felt that the staff report did not provide justification for denial.

Motion carried 7-1-1, with Commissioner Blaser voting in opposition of the motion and Commissioner Finkeldei abstaining. Student Commissioner Davis was in favor of the motion.

ACTION TAKEN by Lawrence Planning Commission

Eudora Commissioner Kurt von Achen said at the last meeting they recommended denial. There was no motion to reconsider so their motion and action stood from the last meeting.

ITEM NO. 5 CONDITIONAL USE PERMIT FOR KAW VALLEY EUDORA SAND FACILITY; 2102 N 1500 RD (SLD)

CUP-10-6-10: Consider a Conditional Use Permit for Kaw Valley Eudora Sand Facility, located at 2102 N 1500 Road, NE of SW Cor. SW ¼ S32-T12S-R21E, on approximately 196.58 acres. Submitted by Landplan Engineering, P.A., for Kaw Valley Companies, Inc., contract purchaser, for James and Ronda Bigger and Wellsville Bank, property owners of record. *Joint meeting with Eudora Planning Commission.*

STAFF PRESENTATION by City of Lawrence
Ms. Sandra Day presented the item.

Mr. Keith Browning, County Public Works Director, displayed plans and aerial photos on the overhead from 1953 and 1954 when the Corps of Engineering constructed three rock jetties in conjunction with Douglas County and Leavenworth County. He showed plans on the overhead of the same area from 1966 which showed movement of the river. He said the jetties work very well and he would be reluctant to disturb them. He felt it was important to look at the whole series of jetties, not just individual jetties, and leave one but not another.

Commissioner Finkeldei asked if there was an easement.

Mr. Browning said yes, there was a blanket easement over the subject property for maintenance.

Commissioner Rasmussen asked if there was an agreement with the Corps of Engineers to maintain the jetties.

Mr. Browning said they were built in the early 1950's. He said they have searched for the original construction contract and have found the resolution that says Leavenworth County and Douglas County would partner in maintaining the jetties. He said the resolution refers to the Corps of Engineers contract. He said he put a call into the Corps of Engineers today with the specific contract number in order to try and locate the contract. He said his understanding was that the applicant had talked to the Corps of Engineers.

Mr. Kurt von Achen, Eudora Planning Commission Chair, inquired about the Eudora landfill dump area.

Commissioner Dominguez inquired about the jetties.

Mr. Browning said currently the applicant was planning on leaving middle jetty 2 and staying 50' from the jetty. He said the applicant was proposing to not avoid the northern jetty and mine through it.

Ms. Day said jetty 1 was near the bridge. She said with the proposed request the applicant would explore revising the blanket easement.

Commissioner Dominguez inquired about dust control.

Ms. Day said she believed it would be less than ten trucks. She said in staff's opinion that if it was more than that threshold there were certainly some things that needed to be done to the roads, specifically those 90 degree turns. She said County Commission had expressed concern about dust control with the last several projects.

Commissioner Dominguez inquired about the traffic increase along the main street of Eudora.

Ms. Day said trucks moving straight through Eudora was an enormous concern to the City of Eudora.

Commissioner Rasmussen said when Ms. Day started her presentation it gave him the impression that there was a general consensus that land dredging operations were preferable to water dredging operations. He stated that when he read through the staff report he had a hard time figuring out what the basis was for denial. He asked staff to walk him through the criteria that was used for recommending denial.

Ms. Day said of all the different Golden Factors outlined in the staff report what really kind of tipped the scale for staff was the proximity to the City of Eudora and the policies in place regarding where industrial activities are recommended in the community and what those land use policies were for the City of Eudora. She said it was really a case of proximity and that other issues could be conditioned or addressed to make the use more acceptable.

Commissioner Blaser asked if the airport would come into play at this location.

Ms. Day said no.

Commissioner Dominguez inquired about the proximity to Eudora.

Ms. Day said it was less than one mile from the city limit of Eudora.

Commissioner Dominguez inquired about the projected growth of Eudora based on past growth and how long it would take until the city would reach the sand facility.

Ms. Day said the Eudora community would need to answer that. She said their plan specifically talks about not developing in floodplain and flood fringe.

Mr. McCullough said throughout the process there was continuous dialogue with the City of Eudora and the applicant. He said the proximity of the request was almost adjacent to the City of Eudora and that weighed heavily in staff's recommendation for denial of the request. He stated it was within an identified planning area that Eudora has put forth a great deal of effort in their planning exercises.

Commissioner Rasmussen asked how close was too close.

Mr. McCullough said he did not know he could answer that. He said there was a little bit of overlap between the city growth area and the Eudora identified planning area.

STAFF PRESENTATION by City of Eudora

Mr. Scott Michie, consultant Planner to the City of Eudora, reviewed the memo that he wrote that was included in the packet. He said the three Eudora standards were not met by the application.

Commissioner Finkeldei asked if he reviewed the traffic study.

Mr. Michie said Eudora does not have any questions of the traffic study that was submitted by the applicant. He said they saw the issue as a bigger policy issue which was that development in the north floodplains would inevitably require travel through the local streets of the city to get to the regional highway system.

Commissioner Dominguez asked if Mr. Michie didn't have any problems with the traffic study that was presented.

Mr. Michie said that was correct. He referred to the longstanding plan that showed a map of the future traffic study.

Commissioner Dominguez inquired about the traffic from the I-70 interchange.

Mr. Michie said the traffic was about what KDOT expected in terms of north/south traffic. He stated it was general highway traffic coming through the city.

Commissioner Dominguez inquired about ten more trucks increasing traffic.

Mr. Michie said he was not questioning the traffic study or count and that was not the basis for his finding. He said the basis was a larger public policy issue.

Commissioner Blaser inquired about the definition of industrial. He wondered if mining was considered industrial.

Mr. Michie said the City of Eudora does not use the standard industrial classification as a basis for its zoning district classifications, nor does the County. He said it has only one industrial classification, the I District. He said this type of use was dealt with through Conditional Use Permits.

Mr. Ned Marks, geologist and owner of Terrane Resources Company, said he was hired by the City of Eudora to evaluate Mr. Carl Nuzman's report. He reviewed his findings of this report. He discussed the City of Eudora's well fields. He said the sand pit would encroach upon city wells considerably with surface water. He displayed wells and water table maps on the overhead. He did not recommend approving the Conditional Use Permit until further studies could be provided.

Mr. Ned Marks' letter was added to the Planning Commission packet after the meeting.

Commissioner Liese asked if he felt his studies were inconclusive.

Mr. Marks said they most certainly were because they have not had time and that there was a tremendous amount of information out there and that the information could be better compiled. He felt additional studies were needed.

Commissioner Liese inquired about the discrepancies about what he found and what Mr. Nuzman found.

Mr. Marks said part of that was based on the fact that he did not know what all Mr. Nuzman looked at. He said he made his recommendations based on the information that the city wells operate at the same time.

Commissioner Finkeldei asked if he was saying in his analysis that there was a lot more information out there and more time was needed to do additional studies.

Mr. Marks said that was correct. He said he was confident that there was existing information on the wells. He said as far as his scheduling goes it would be a minimum of six months to gather more information.

Commissioner Liese asked if there was some information that would always be an unknown.

Mr. Marks said there would be some very technical issues that he could counteract and make some generalizations to offset those. He said there would be zones in the aquifer that would yield way more water than other zones.

Commissioner Rasmussen inquired about Mr. Marks' report where it said 'when the pit is dug the water level of the pit will be lower than what is static for the aquifer. This will be a permanent lowering of the water table and will impact the upgrading of aquifer.' He wondered how the pit would permanently lower the aquifer.

Mr. Marks said based on the information he had with the water level in the aquifer, because it is sand and gravel and more remote from the river and drain, retards the flow of the water through the aquifer to the river.

Commissioner Rasmussen asked if the top of the aquifer away from the stream would be higher than the stream elevation.

Mr. Marks said yes.

APPLICANT PRESENTATION

Mr. Phil Struble, Landplan Engineering, introduced his team that he brought with him. He recapped the meetings he has had over the year to work his way through the process. He gave a summary of what Kaw Valley Companies does and produces. He said they were a niche market sand producing company. He said they have two drying plants to dry the sand. He displayed on the overhead a list of products and suppliers. He went over the business plan. He stated an average day would result in 16 truck trips a day. He said for the bulk of the year the trucks will go to the site and go on to Road 1061 which is the extension of Main Street in Eudora and go north on either Hwy 32 or I-70. He said that road today, based on the most recent traffic counts, carries about 2,900 trips a day. He said of that number it carries 11% truck traffic which would be 300 trucks today using that road to go north and south. The sand facility would add an average of 16 more truck trips a day. He felt that was an insignificant traffic increase. He said they have worked with Keith Browning to talk about the traffic because they don't believe there would be no impact whatsoever. He said the extra trucks would cause some problems and inconvenience to some things. He discussed a 200' paved section of road where up to two trucks would be waiting at the stop sign to turn left. When the trucks accelerate on the gravel road it would be on a paved surface instead which should reduce the maintenance concerns that the County may have. He said he intended to hold a neighborhood meeting to discuss possible improvements, such as drainage and a dust palliative if needed. He stated the buffer between the river and the sand pit was proposed to be a 300' setback, which was over the required 50'. He said jetty 3 was completely buried and they weren't exactly sure where it was. He said if Douglas County, who was responsible for maintaining those jetties, says they want a 50' setback and the jetties protected then that would be done. He said he has had a number of conversations with the Corps of Engineers but can't seem to find anyone who knows the history or details so it's still in the investigation phase. He said the pit would mimic the water level of the river. He said there would be some erosion problems but the company had plenty of equipment and experience to deal with any erosion that may occur. He said they were aware of the Eudora dump and that Mr. Browning showed them an aerial photograph with a pile of debris on a ¼ of the property and made sure they were aware they would need to clean it up. He said Kaw Valley Companies was one of the contractors the City of Lawrence hired to clean up Farmland Industries so cleaning a small abandoned dump would be no problem. He said they would like to start providing the unknown answers over wells that were in Mr. Marks letter received tonight. He said during the sand extraction process the top soil is stripped off and preserved onsite to be part of the reclamation plan. He said he would dispute the definition of industry. He said there was industry with a little 'i' and industry with a capital 'I'. He said the sand facility was an industry with a little 'i'. He said the end product reclamation plan was going to be a great recreational facility for Eudora.

Eudora Commissioner Ken Atkinson inquired about levies to keep the river from coming over during flooding.

Mr. Struble said the sand that's stocked piled on the north side of the bridge, in Leavenworth County and in the Industrial zoned property, was inventory with Penny's Concrete. He said he could not speak on their behalf but that Penny's has a permit to dredge the river through that section.

Eudora Commissioner Ken Atkinson said it was a natural resource and wondered how much of it they wanted to pile up.

Mr. Struble said that was a river permit and every two years that permit was subject to review by the Corps of Engineers. He said there would be a 300' greenbelt between the sand pit and the river.

Eudora Commissioner Johnny Stewart inquired about the timeframe from first dig to reclamation.

Mr. Struble said the business plan was built around 20 years.

Commissioner Liese inquired about who owned the property and for how long.

Mr. Struble said Kaw Valley Companies has owned the property for less than a year.

Commissioner Liese wondered if the company bought the property without really finding out if the community would support the development.

Mr. Price Banks, attorney for applicant, said the property was in two parcels. One parcel came on the market and the applicant had an option on it and attempted to do exploratory work and due diligence and the seller was pressing the point on the options. He stated the process had begun and initial meetings with some of the folks from Eudora and the County began at the time when they were forced to close on that option on the first piece of property. The two pieces of property were involved in a lawsuit because one had been sold and there was a mix-up in the way the mortgages were filed. He said Wellsville Bank was pressuring the applicant to close on that option. He said there was an initial meeting with the neighbors and more conversations with the City of Eudora and County folks at that point.

Commissioner Liese said his impression was that the predominant attitude in the community was this would not be optimal for them. He was curious if the purchase took place knowing the community was against it.

Mr. Banks said he did not think there was an overwhelming belief that the community was predominately against it. He stated there had been some vocal opposition.

Commissioner Liese asked if there were any community members in favor.

Mr. Banks said yes there had been some support expressed.

Commissioner Rasmussen asked Mr. Struble to verify that he said he reached out to Corps of Engineers but that they had not been able to provide any information yet.

Mr. Struble said that was correct.

Commissioner Rasmussen inquired about the reclamation plan and asked if it would be accessible to the public.

Mr. Struble said he did not know at this point. He said it would be a private pond in 20 years. He said he would love to talk to someone who might want to turn it into a business venture or for the City of Eudora take it over and turn it into a great park.

Commissioner Finkeldei wondered how they should handle the conditions if approved.

Mr. Struble said he would like Planning Commission to vote in favor of approving the Conditional Use Permit and forwarding it on to County Commission for action knowing there weren't any conditions and how that throws a hurdle in things. He said he has a set of proposed Conditional Use Permit conditions that he could give staff tonight. He said he would be okay with the item being deferred for a month if needed.

Commissioner Culver asked why this site was so beneficial for a sand pit.

Mr. Struble said the site was not great because it was 19 miles from where the sand would be processed. He said if they could find a site anywhere closer they would move there. He said the problem was that the site had to have sand, a willing seller, and a relatively small overburden.

Commissioner Blaser asked if this type of sand was along the Missouri river.

Mr. Struble said it was a lot lower quality sand.

Commissioner Liese asked if the sandpit would not require the removal of trees along the river.

Mr. Struble said the sand pit would maintain a minimum of 300' wide buffer of trees between the pit and river.

Commissioner Liese inquired about the environmental impact.

Mr. Struble said 300' was a lot larger than what was typically seen along rivers. He said he did not have an immediate answer about the environmental impact.

Commissioner Liese said Mr. Struble suggested there were people in the Eudora community that were in favor. He asked if any of those people who were in favor were present tonight.

Mr. Struble said no, they were not present tonight. He said this was his 23rd rock quarry/sand pit he has worked on in his career. He said the opposition had been reasonable with great questions and ideas. He said their concerns were real and their ideas were good. He said he would characterize the opposition as thoughtful and engaging.

Commissioner Liese asked for a reason to vote in favor of the project when the community present tonight was unanimously against it as well as the Eudora City Council.

Mr. Struble said their attitude would change if they collectively discover that there would be a negative impact on the City of Eudora wells. He said the reason to vote in favor was because it had been incorrectly characterized by the overall Eudora land use plan as to what this location was because it was not part of a comprehensive plan to be anything, it was part of a comprehensive plan to be nothing. He said this was a request for a sand extraction use in a valley channel that was permitted given an approved Conditional Use Permit. He said it had relatively short access to a well maintained paved road that takes a fairly directly route. He said the entire area was industrial. He said sand plants were not ugly, they represented progress.

Commissioner Liese said he was anticipating the entire community attending tonight would be against it. He asked for any good reason to say yes to the plan.

Mr. Struble said there were very few opportunities to locate an industry that was needed.

Commissioner Liese asked if the applicant was right and everyone present tonight from the community was wrong.

Mr. Struble said that was not what he was saying.

Commissioner Dominguez inquired about the tax revenue for the City of Eudora.

Mr. Struble said it would generate three jobs, some level of property tax, a royalty type situation worked out with the city and county which would generate revenue for the City of Eudora and Douglas County.

Commissioner Blaser asked if there were depletion taxes on minerals in Kansas.

Mr. Struble said he was not sure.

PUBLIC HEARING

Mr. Mark Neis said he farms in the area and worked with the Corps of Engineer on the jetties. He was opposed to the project. He asked if there had ever been a sand pit within 300' of an active river. He said the sand pits he had seen were ½ to ¼ mile away. He was surprised the Corps of Engineers had not been more involved. He expressed concern about the sand pit being only 50' from the boundary line. He said a 5' berm would be washed away leaving a ditch. He said the sand pit was proposed in an old river bed. He also expressed

concern about how deep the sand pit would be. He said the applicant had meetings with the neighbors but wouldn't allow them to see the site. He said he went to the site for himself and took pictures. He was concerned about wells being affected as well as land value.

Commissioner Rasmussen asked if the land he farms included the land above the water wells.

Mr. Neis said he farms directly across from the site so the water wells are to the west of his land.

Commissioner Dominguez said the water well concerns could be solved with more research. He said he did not consider property value to be an issue. He said they could get additional water well studies, as well as the depth, and knock out two of his concerns. He said the Corps of Engineers did not seem interested in the jetties so it must not be a big issue to them.

Mr. Neis said he would be satisfied if the Corps of Engineers sent him a letter regarding the jetties.

Ms. Lois Hamilton said she owned the land where the wells were located. She said she received her first letter wanting to buy her property in 2009 so it has been going on for a few years and they have had plenty of time to get more well information. She said the road could not stand more trucks because it was in sad shape. She worried about the river bridge too because it could not withstand all of the truck traffic. She was worried about the value of her land. She was also concerned about how many people it would employee and felt it would not be Eudora people. She was worried about swags forming.

Ms. Martha Saunders Skees said she could remember the 1950 flood and that every action in that area has a reaction. She said the levies were there to hold the land and if some of that was taken out there would be a reaction and that it would cost millions to rebuild the bridge. She felt they should learn from history.

Mr. Bob Cordry said they should look at the fact that it was located in the floodplain and an old riverbed. He said it would be a pending ecological disaster if approved. He felt there was inadequate transportation to any of the highways, let alone loaded with 20 tons of sand. He stated the concept of this being a small 'i' compared to a big 'I' was untrue because they would be using lots of equipment at the site.

Mr. John Pendleton pointed on the overhead map where his land was located. He said it was only a matter of days in the 1993 flood that he lost over 20 acres and the neighbor lost 10-15 acres.

Mr. Scott Jackson said he opposed the Conditional Use Permit and that there was no community support. He said the only people in favor were being paid, such as their attorney Price Banks and Landplan Engineering. He felt that bottom ground should be farmed and that when the land is mined it would never be used for farming again. He said when the river comes up it would most likely take more. He said mining operations were ugly.

Mr. Michael Almon displayed a map on the overhead of the area. He was concerned about losing prime farmland. He discussed hydrology. He said that rivers meander and move. They move toward the outside of the meander so the meanders get more severe. He said the river moves and has a lot of hydraulic pressure and the pressure was mostly pronounced during flood stages. He stated that's what the jetties are there for, to redirect the force of the water away from the outside part of the meander to direct the channel in a more benign way. He said the jetties have worked and reclaimed a lot of land since 1951. He said the main concern was not that it was too close to Eudora but rather too close to the river. He expressed concern about the health of the river.

Mr. Jason Grimms said he lives about a mile west of the proposed site and that it would affect him by having to see it, hear it, and smell it. He did not feel the roads would support it. He expressed concern about 20-30 years of contamination. He did not believe the ratio of truck loads in and out. He said he did not want to look at heavy equipment and a big berm.

Ms. Laura Caldwell, Kansas River Keeper for Friends of the Kaw, said dredging the river significantly impacts the Kansas River. She said she applauded what Kaw Valley was trying to do and would love to be able to support the location but she had concerns. She put maps on the overhead of the river from 1991 and 2010 showing the movement of the river. She displayed a map that showed all the trees that would be removed. She said she respected the valid concerns of the local community but that the Friends of the Kaw did not want to be involved in that.

APPLICANT CLOSING COMMENTS
No closing comments.

COMMISSION DISCUSSION by Eudora Planning Commission
Eudora Commissioner Johnny Stewart said he had not heard any positive comments from the Eudora community. He said he had been approached by several citizens regarding their concerns about the wells. He felt the applicant knew about the infrastructure of the wells when they bought the land so it should not be surprise information tonight.

Eudora Commissioner Richard Campbell expressed concerns about the bridge. He said the Corps of Engineer spent a lot of time and money in the 1950's to redirect the river and protect that side. He said the pictures clearly show what they did worked and it would not make sense to remove the work they did. He said access to the highway and whether it's a little 'i' or big 'I' was part of the concern but that the most important concerns were the water wells, boundaries of the river, and access to bridge.

Eudora Commissioner Grant Martin said the applicant was trying to focus on whether it was little 'i' or big 'I', but he hoped both Commissions could focus on the environmental aspect of it because he felt that was where the greatest impact was. He said it would not provide a huge economic gain by employing three people.

Eudora Commissioner Glen Bartlett, agreed with what had been said already.

Eudora Commissioner Chair Kurt von Achen said he agreed with the staff report. He said he firmly believed that zoning ordinances were to protect neighbors. He did not see enough benefit to the community to override the neighbors. He felt the Conditional Use Permit was a flawed vehicle because they do not have enough institutional memory to manage a 20-30 year permit. He said a Conditional Use Permit implies conditions and conditions infer policing powers which aren't available. He said this piece of property could be sold at any time in the future and the future user might not follow the restrictions. He agreed that ten trucks through Eudora was not a big deal but if they sell the property it could have more trucks in the future. He said he would vote in opposition.

Commissioner Blaser asked Mr. McCullough to speak about Conditional Use Permits.

Mr. McCullough said if a Conditional Use Permit does not meet its conditions it could go toward a revocation hearing at any point. He said the enforcement agency in the county was the County Zoning office in coordination with the City Planning office. He said there could be conditions about review and that there was a history of having those sorts of conditions. He said there was a program of inspection of Conditional Use Permits. He said there was a major exercise last year with a quarry in the west part of the county that went to the County Commission that had conditions revised. He said he took a little exception but understood Mr. von Achen's point that it was difficult to get enforcement. He said in his opinion any time there was a Conditional Use Permit that has an exorbitant amount of conditions to make it right was probably not a good use in the first place. He said there was a program and enforcement mechanisms in the county.

ACTION TAKEN by Eudora Planning Commission
Motioned by Eudora Commissioner Ken Atkinson, seconded by Eudora Commissioner Rose House, to deny the Conditional Use Permit.

Eudora Commissioner Campbell said he wanted to also add that the reasoning was based on the staff report, the danger to water wells, the danger to the Kaw River bridge, and the environmental impact.

Motion carried 7-0.

COMMISSION DISCUSSION by Lawrence Planning Commission

Commissioner Rasmussen said part of their responsibility was to represent the citizens but also felt part of their responsibility was to use their judgment and to help insure proper planning and proper implementation of the Zoning Code. He questioned whether it was appropriate to apply city zoning standards to an area that was outside the city boundary. He felt they needed to look at the County Code which allows for this type of use in the Valley Channel zoning district. He did not think it was appropriate to be applying industrial standards to this type of proposed use. He said it was not an industrial activity, it was a mining activity, and was specifically called out in the Zoning Code as a mining and excavation activity. He said he was disappointed by the city staff analysis recommending denial. He said he had a difficult time finding rationale in the staff report to support that judgment for denial. He said just being told that the reason for denial was proximity to Eudora was something to consider but not a strong reason for denial. He said there had been valid concerns of potential effects to water wells and potential stability of the riverbanks. He felt they had heard from a lot of amateur geologists and civil engineers and he would rather hear from Corps of Engineers on that issue. He said he was not comfortable supporting a Conditional Use Permit but also not comfortable denying based on the information given tonight. He felt this was a low impact use and a use permitted in that zoning district. He said it this was within the city limits it would be a different story but it was even outside the area specifically identified on the 2008 Eudora future growth area charette map. He said the area of the proposed project had no designation so the impression he got from that was there was no intended future use based on the 2008 map. He did not see how that conflicted with other Eudora uses and plans. He said if there was a motion to deny the permit he would vote in opposition and if there was a motion to support the Conditional Use Permit he would recommend it be delayed in order to get more information.

Commissioner Liese asked when it was in the Urban Growth Area if it was considered to be in the county or city.

Mr. McCullough said the weight to provide to it was not as clear in policy. He said there had been some weight given to the fact that there was a joint hearing where the County Commission said they wanted to hear from both the County and City Planning Commissioners. They want to understand what the city and county policies are for the area. He said there was no question that it was under the jurisdiction of the County Zoning Code and that city standards are not trying to be applied. He said the Golden Analysis points to one critical element which was the proximity to the city of Eudora. He said staff attempted to articulate clear Golden Analysis in the report but that there was disagreement in the weight given to the City of Eudora's position on the matter. He stated staff showed greater weight in deference to the City of Eudora's position than they would if this were outside of their area of influence.

Commissioner Rasmussen asked where in the staff report it reflected what Mr. McCullough just said that staff gave great deference to the City of Eudora and their decision.

Mr. McCullough read the staff finding from the staff report, 'The proximity to the City of Eudora is a critical element in assessing the proposed project.'

Commissioner Blaser said he was still struggling with the definition of industrial. He said he does not think of mining as industrial. He felt a 20 ton truck today was not a big truck. He said regarding farming there was no class 1 soil and only a small corner of class 2 soil that hasn't been farmed for at least 20 years. He did believe farm land needed to be saved for future use but he did not think farm land came into this issue. He said the river was going to change channels at some point. He said the Corps of Engineer studied and will study it because they would have to approve it and make sure the bridge is protected. He said regarding the wells there have been two different reports. He said he wished there were more facts. He said if the motion was for denial he would vote against that. He said he may be in favor of deferral.

Commissioner Rasmussen said in the staff report provided it shows the Urban Growth Area for the City of Eudora and the proposed site was not within that area.

Mr. McCullough said it was not identified as Urban Growth Area in Horizon 2020 but was within Eudora's planning area and their 3 mile area of influence.

Commissioner Finkeldei asked what happens if there was a motion to defer from Lawrence Planning Commission and a recommendation of denial from Eudora Planning Commission.

Mr. McCullough said it would probably wait for Lawrence Planning Commission to make an action to the County Commission.

Commissioner Finkeldei said he did not think they had enough good solid information to vote in the affirmative. He felt at this point there were more questions that needed to be answered. He said he was concerned about the jetties and wanted to hear from the Corps of Engineer. He agreed that he wouldn't classify the use as industrial but it was valid planning and the plan Eudora developed in 2008 shows that area to be open agricultural land. He felt they needed more sand dredging operations in Douglas County and hoped they could find locations that would work. He said he would not support to approve this tonight.

Commissioner Liese thanked Mr. Struble and Kaw Valley for their work and time. He said he may be wrong about his continued support for rejecting this project but he would continue to be in favor of the decision that Eudora Planning Commission made. He questioned what an Urban Grown Area really was.

Commissioner Dominguez agreed with everything Commissioner Rasmussen said. He also agreed that mining wasn't really industry. He didn't like it being so close to Eudora. He would like more studies to show the road can handle the truck traffic. He said at this point he could not vote for denial. He felt the water issues should be handled before being heard by Planning Commission again.

Commissioner Burger said she appreciated the applicant being willing to do more than required for a Conditional Use Permit. She said she would fall in line with the staff recommendation to deny but that she did not want to discourage the project, she just felt there were more things to be figured out. She said she was predisposed to not give up potential farmland and floodway to this type of use.

Commissioner Blaser asked what would happen if the project was denied.

Mr. McCullough said typically if the item was denied by County Commission the applicant could not come back for 12 months.

Commissioner Culver said he would echo a lot of the discussions the commission has had. He said there were still two areas that had questions and required due diligence; water well impact and the limited information from the Corps of Engineer. He said at this point he could not support the project but he also did not have grounds to deny it.

Commissioner Dominguez asked about clarification from the Corps of Engineers.

Mr. McCullough said he was not sure. He stated the Corps of Engineers does not typically comment on Conditional Use Permits.

Commissioner Dominguez asked about a list of items the applicant would have to go through to operate.

Ms. Day said those would be additional permits they would have to seek. She said typically they could not move forward with State and Federal permits until they pass the local approval first. She stated the Corps of Engineers sometimes provides very generic responses but most times they would not until there was a formal

project before them. She said it was not unusual to see a use like this with a series of conditions that say the applicant has to provide proof of those additional approvals from other agencies prior to them moving the first shovel of ground

Commissioner Liese said he would be willing to defer the item.

ACTION TAKEN by Lawrence Planning Commission
Motioned by Commissioner Liese, seconded by Commissioner Finkeldei, to defer Conditional Use Permit (CUP-10-6-10) for Kaw Valley Eudora Sand Facility, located at 2102 N 1500 Road, for a minimum of 60 days.

Mr. von Achen said he would recommend a 60 day deferral.

Mr. Struble said he was fine with a two month deferral.

Commissioner Rasmussen asked what they were hoping to accomplish with the deferral.

Commissioner Finkeldei said more information on the wells, jetties, and the structural stability of the river.

Commissioner Liese said he would like for the applicant to spend more time with the people of Eudora to see if there was any potential movement there.

Commissioner Finkeldei said he would like to see some sort of agreement that the County was okay with the easements.

Commissioner Burger asked if they would be asking some civic entity to spend money to find the answers to these questions.

Mr. McCullough said everyone would go to work at trying to get meetings with the Corps of Engineers. He said there had already been funds expended on the studies in the packet. He said there would likely be more consultant fees involved.

Commissioner Liese said he would like to see Eudora really try to work with the applicant to see if anything would make this feasible for them.

Commissioner Dominguez said he would like to see something to insure that the public roads can hold the 16 proposed trucks.

Motion carried 6-1, with Commissioner Burger voting in opposition.

JAMIE SHEW
DOUGLAS COUNTY CLERK
1100 Massachusetts
Lawrence, KS 66044
Phone: 785-832-5267
Fax: 785-832-5192

Carrie F. Moore
Chief Deputy Clerk

Benjamin Lampe
Deputy Clerk-Elections

May 10, 2011

ATTN: DOUGLAS COUNTY COMMISSIONERS

RE: Protest Petition against Conditional Use Permit 10-6-10, Sand Dredging Operation

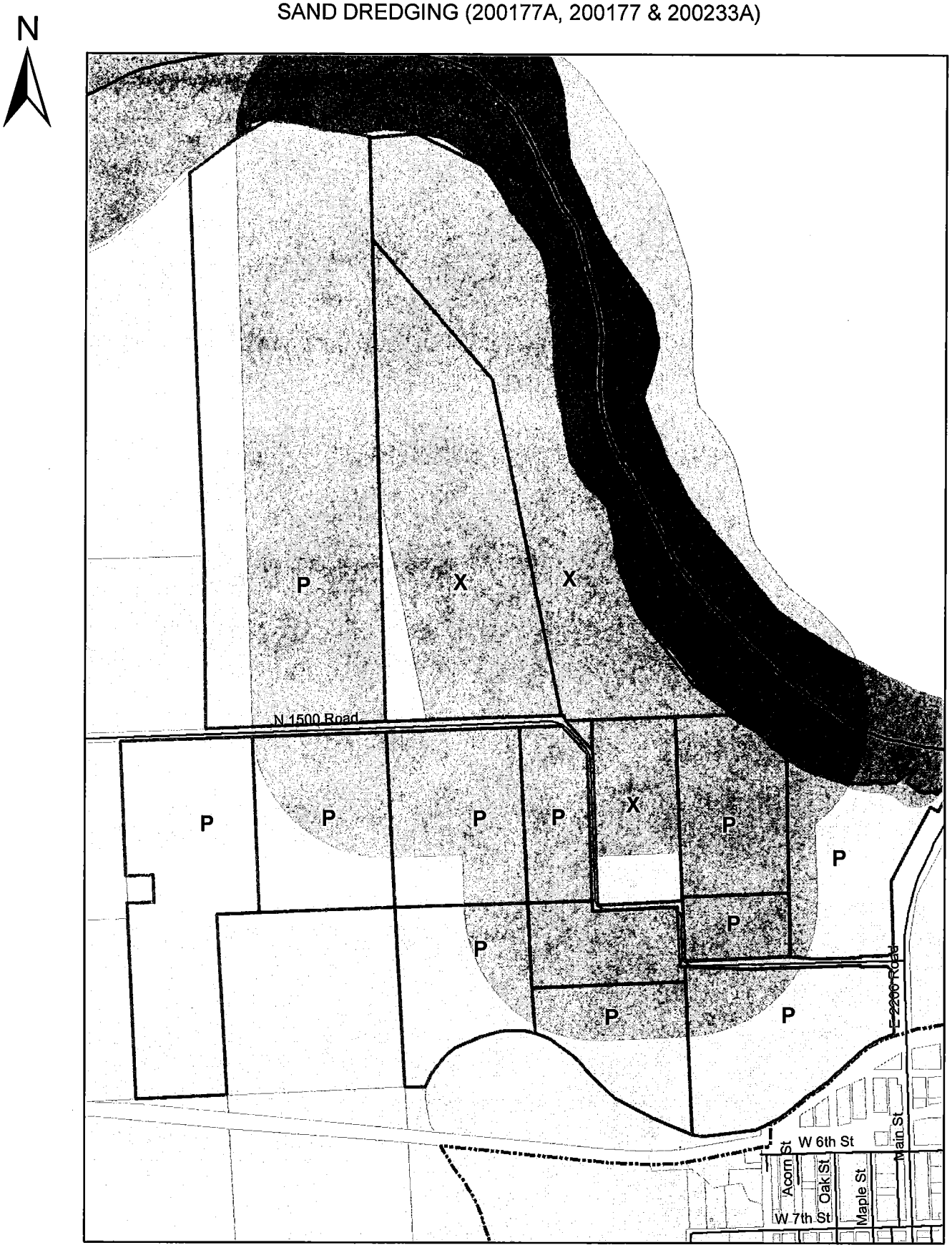
CERTIFICATION

I, JAMIE SHEW, DOUGLAS COUNTY CLERK, DO HEREBY CERTIFY THAT THE ATTACHED PETITION, RECEIVED ON MAY 5, 2011 IS A VALID PETITION.

Jamie Shew
Douglas County Clerk

JS/cko

POL WITHIN 1000 FT OF CUP 10-6-10
SAND DREDGING (200177A, 200177 & 200233A)



X - CUP parcel
P - protest filed

05-05-11

REZONING (CONDITIONAL USE PERMIT) PROTEST PETITION

Protest Petition against Application/Douglas County Matter No. CUP 10-6-10

We, the undersigned property owners, do hereby protest the granting by the Board of County Commissioners of Douglas County, Kansas of a the rezoning and/or conditional use permit (CUP) requested in the above-described application or matter number, to permit a sand dredging operation on the following described property:

A TRACT OF LAND IN THE WEST HALF OF SECTION 32, TOWNSHIP 12 SOUTH, RANGE 21 EAST AND THE NORTHEAST QUARTER OF SECTION 05, TOWNSHIP 13S, RANGE 21 EAST OF THE SIXTH PRINCIPAL MERIDIAN, IN DOUGLAS COUNTY, KANSAS, DESCRIBED AS FOLLOWS:

PARCEL #1

BEGINNING AT THE SOUTHWEST CORNER OF SECTION 32, TOWNSHIP 12 SOUTH, RANGE 21 EAST THENCE NORTH 0°18'56" EAST, ALONG WEST LINE OF SAID QUARTER SECTION 3619.59 FEET; THENCE SOUTH 89°41'04" EAST, 34.40 FEET; THENCE SOUTH 38°40'12" EAST 1368.99 FEET; THENCE SOUTH 09°52'55" EAST, 2544.71 FEET; THENCE SOUTH 0°00'00", TO A POINT ALONG SOUTH LINE OF SAID SECTION 47.76 FEET; THENCE NORTH 89°49'1" WEST ALONG SOUTH LINE 1346.44 FEET TO THE POINT OF BEGINNING. CONTAINS 72.800 ACRES, MORE OR LESS.

PARCEL #2

BEGINNING AT THE SOUTHWEST CORNER OF SECTION 32, TOWNSHIP 12 SOUTH, RANGE 21 EAST THENCE NORTH 0°18'56" EAST, ALONG WEST LINE OF SAID QUARTER SECTION 4375 FEET TO RIGHT BANK OF THE KANSAS RIVER; THE NEXT ELEVEN COURSES ARE ALONG THE SOUTHERLY AND WESTERLY BANK OF THE KANSAS RIVER; THENCE NORTH 86°48'56" EAST, 350.00 FEET; THENCE SOUTH 62°11'04" EAST, 550.00 FEET; THENCE SOUTH 32°11'04" EAST, 775.00 FEET; THENCE SOUTH 16°36'04" EAST, 350.00 FEET; THENCE SOUTH 0°53'56" WEST, 625.00 FEET; THENCE SOUTH 07°06'04" EAST, 595.00 FEET; THENCE SOUTH 37°06'04" EAST, 450.00 FEET; THENCE SOUTH 36°36'04" EAST, 660.00 FEET; THENCE SOUTH 51°06'04" EAST, TO A POINT ALONG SOUTH LINE OF SAID SECTION 411.10 FEET; THENCE NORTH 89°49'14" WEST ALONG SOUTH LINE 2614.92 FEET TO THE POINT OF BEGINNING, LESS PARCEL #1 CONTAINS 77.600 ACRES, MORE OR LESS.

of materials
teria post)

PARCEL #3

BEGINNING AT A POINT FROM THE NORTHWEST CORNER OF SECTION 5, TOWNSHIP 13 SOUTH, RANGE 21 EAST THENCE EAST, 2128.50 FEET; THENCE SOUTH, 1391.00 FEET; THENCE WEST, 626.30 FEET; THENCE NORTH, 1391.00 FEET; THENCE EAST, TO THE POINT OF BEGINNING 626.30 FEET. CONTAINS 19.700 ACRES, MORE OR LESS.

We, the undersigned, are owners of real property located within the statutory area of notification related to the area for which the rezoning (or CUP) is sought. See K.S.A. 12-757(f).

[See attached signature pages]

Note: Print name legible below or beside signature. All owners of the property must sign.

PRINTED NAME AND SIGNATURE OF OWNER	DESCRIPTION OF PROPERTY WITHIN NOTIFICATION AREA	RESIDENCE ADDRESS (IF DIFFERENT)	DATE
Rita C Neis, Trust Print Name of Owner(s)	Plate Nbr. 200241A Pin Nbr. 093-05-0-00-00-003.01-0 (see attached Real Estate Owner's List)	12445 Co. Line Rd. Eudora, KS 66025 Address	5/4/11 Date
Sign: Rita C Neis Trust Title: Owner			
Print Name of Owner(s)	Plate Nbr. 200241A Pin Nbr. 093-05-0-00-00-003.01-0 (see attached Real Estate Owner's List)	Address	Date
Sign: Title:			

STATE OF KANSAS)
) ss:
COUNTY OF DOUGLAS)

I am the circulator of this Protest Petition and a resident of the state of Kansas and possess the qualifications of an elector of the State of Kansas. I have personally witnessed the signing of the Protest Petition by each person whose name appears thereon.

Mark Nels — Mark Nels
Circulator Signature — Printed Name

Circulator's Residence and Address: 12775 County Line Rd. Eudora, Ks, 66025 Date:

Signed and sworn to (or affirmed) before me on this 4th day of May, 2011, by Mark Nels, circulator of this Protest Petition.

Elizabeth Crabill
Notary Public

My appointment expires: December 15th, 2015

NOTARY PUBLIC - State of Kansas
ELIZABETH CRABILL
MY APPT. EXPIRES:
12/15/15

3080798v1

Note: Print name legible below or beside signature. All owners of the property must sign.

PRINTED NAME AND SIGNATURE OF OWNER	DESCRIPTION OF PROPERTY WITHIN NOTIFICATION AREA	RESIDENCE ADDRESS (IF DIFFERENT)	DATE
Rita C. Neis, Trust Print Name of Owner(s)	Plate Nbr. 200241 Pin Nbr. 093-05-0-00-00-003.00-0 (see attached Real Estate Owner's List)	12445 Co. Line Rd Eudora, KS 66025 Address	5/4/11 Date
Sign: Rita C. Neis, Trust Title: Owner			
_____ Print Name of Owner(s)	Plate Nbr. 200241 Pin Nbr. 093-05-0-00-00-003.00-0 (see attached Real Estate Owner's List)	_____ Address	_____ Date
Sign: _____ Title: _____			

STATE OF KANSAS)
) ss:
COUNTY OF DOUGLAS)

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Mark Neis
Circulator Signature

Mark Neis
Printed Name

Circulator's Residence and Address: 12725 Co. Line Rd. Eudora, Ks. 66025 Date: 5/4/11

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Elizabeth Crabill
Notary Public

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Rita C Neis, Trust Rita C Neis, Trust Print Name of Owner(s) Sign: Rita C Neis Title: Owner	Plate Nbr. 200251 Pin Nbr. 093-06-0-00-00-001.00-0 (see attached Real Estate Owner's List)	12445 Co. Line Rd Eudora, KS 66025 Address	5/4/11 Date
_____ _____ _____ Print Name of Owner(s) Sign: _____ Title: _____	Plate Nbr. 200251 Pin Nbr. 093-06-0-00-00-001.00-0 (see attached Real Estate Owner's List)	_____ _____ _____ Address	_____ Date

STATE OF KANSAS)
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Mark Neis
Circulator Signature

Mark Neis
Printed Name

Circulator's Residence and Address: 12775 Co. Line Road Eudora, Ks. 66025 Date: 5/4/11

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PRINTED NAME AND SIGNATURE OF OWNER	DESCRIPTION OF PROPERTY WITHIN NOTIFICATION AREA	RESIDENCE ADDRESS (IF DIFFERENT)	DATE
Lois Hamilton Trust	(98) Plate Nbr. 200173	52 Malaga Way	5-29-11
	Pin Nbr. 089-31-0-00-00-001.00-0	Hot Springs Village	Date
	(see attached Real Estate Owner's List)	52 Malaga - Ark	
Print Name of Owner(s)		Address	

Sign: Lois M. Hamilton
Title: Owner

	Plate Nbr. 200173		
	Pin Nbr. 089-31-0-00-00-001.00-0		Date
	(see attached Real Estate Owner's List)		
Print Name of Owner(s)		Address	

Sign: _____
Title: _____

STATE OF KANSAS)
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COUNTY OF DOUGLAS)

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Mark Nels — Mark Nels
Circulator Signature — Printed Name

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PRINTED NAME AND SIGNATURE OF OWNER	DESCRIPTION OF PROPERTY WITHIN NOTIFICATION AREA	RESIDENCE ADDRESS (IF DIFFERENT)	DATE
Lois Hamilton Trust (TOD)	Plate Nbr. 200254	52 Malaga Way	4-29-11
	Pin Nbr. 093-06-0-00-00-002.00-0	Hot Springs Village	Date
	(see attached Real Estate Owner's List)	AR 71909	
Print Name of Owner(s)		Address	
Sign: Lois M. Hamilton			
Title: Owner			
	Plate Nbr. 200254		
	Pin Nbr. 093-06-0-00-00-002.00-0		Date
	(see attached Real Estate Owner's List)		
Print Name of Owner(s)		Address	
Sign:			
Title:			

STATE OF KANSAS)
) ss:
COUNTY OF DOUGLAS)

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Mark Nus
Circulator Signature

Mark Nus
Printed Name

Circulator's Residence and Address: 12775 Co. Line Rd. Eudora, Ks 66025 Date: 5/4/11

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Elizabeth Crabill
Notary Public

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PRINTED NAME AND SIGNATURE OF OWNER	DESCRIPTION OF PROPERTY WITHIN NOTIFICATION AREA	RESIDENCE ADDRESS (IF DIFFERENT)	DATE
Rose T. Cordry Trust Print Name of Owner(s) Sign: Rose T. Cordry Title: Trustee	Plate Nbr. 200250-03A Pin Nbr. 093-05-0-10-02-001.00-0 (see attached Real Estate Owner's List)	14340 W 154th St. Olathe, Ks. 66062 Address	5-4-11 Date
Print Name of Owner(s) Sign: Title:	Plate Nbr. 200250-03A Pin Nbr. 093-05-0-10-02-001.00-0 (see attached Real Estate Owner's List)	Address	Date

STATE OF KANSAS)
) ss:
COUNTY OF DOUGLAS)

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Mark Nus
Circulator Signature

Mark Nus
Printed Name

Circulator's Residence and Address: 12775 Co. Line Rd. Endora, Ks. 66025 Date: 5/4/11

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Notary Public

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12/15/15

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PRINTED NAME AND SIGNATURE OF OWNER	DESCRIPTION OF PROPERTY WITHIN NOTIFICATION AREA	RESIDENCE ADDRESS (IF DIFFERENT)	DATE
Clifford R Neis Trust	Plate Nbr. 200242	2197 N 1100 Rd	5/4/11
	Pin Nbr. 093-05-0-00-00-001.03-0	Eudora Ks	Date
	(see attached Real Estate Owner's List)	66025	
Print Name of Owner(s)		Address	

Sign: Clifford R Neis
Title: Trustee

Sylvia E Neis	Plate Nbr. 200242	2197 N 1100 Rd	5/4/11
	Pin Nbr. 093-05-0-00-00-001.03-0	Eudora Ks	Date
	(see attached Real Estate Owner's List)	66025	
Print Name of Owner(s)		Address	

Sign: Sylvia E Neis
Title: Trustee

STATE OF KANSAS)
) ss:
COUNTY OF DOUGLAS)

I am the circulator of this Protest Petition and a resident of the state of Kansas and possess the qualifications of an elector of the State of Kansas. I have personally witnessed the signing of the Protest Petition by each person whose name appears thereon.

Mark Neis — Mark Neis
Circulator Signature — Printed Name

Circulator's Residence and Address: 12775 Co. Line Rd. Eudora, Ks 66025 Date: 5/4/11

Signed and sworn to (or affirmed) before me on this 4th day of May, 2011, by Mark Neis, circulator of this Protest Petition.

Elizabeth Crabill
Notary Public

My appointment expires: December 15th, 2015

NOTARY PUBLIC - State of Kansas
ELIZABETH CRABILL
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Note: Print name legible below or beside signature. All owners of the property must sign.

PRINTED NAME AND SIGNATURE OF OWNER	DESCRIPTION OF PROPERTY WITHIN NOTIFICATION AREA	RESIDENCE ADDRESS (IF DIFFERENT)	DATE
Clifford B Neis Print Name of Owner(s)	Plate Nbr. 200234A Pin Nbr. 093-05-0-10-03-001.00-0 (see attached Real Estate Owner's List)	2197 N 1100 Rd Eudora Ks 66025 Address	5/4/11 Date

Sign: Clifford B Neis
Title: Trustee

Sylvia E Neis Print Name of Owner(s)	Plate Nbr. 200234A Pin Nbr. 093-05-0-10-03-001.00-0 (see attached Real Estate Owner's List)	2197 N 1100 Rd Eudora, KS 66025 Address	5/4/11 Date

Sign: Sylvia E Neis
Title: Trustee

STATE OF KANSAS)
) ss:
COUNTY OF DOUGLAS)

I am the circulator of this Protest Petition and a resident of the state of Kansas and possess the qualifications of an elector of the State of Kansas. I have personally witnessed the signing of the Protest Petition by each person whose name appears thereon.

Mark Neis
Circulator Signature

Mark Neis
Printed Name

Circulator's Residence and Address: 12775 Co Line Rd. Eudora Ks 66025 Date: 5/4/11

Signed and sworn to (or affirmed) before me on this 4th day of May, 2011, by Mark Neis, circulator of this Protest Petition.

Elizabeth Crabill
Notary Public

My appointment expires: December 15th, 2015

NOTARY PUBLIC - State of Kansas
ELIZABETH CRABILL
MY APPT. EXPIRES:
12/15/15

Note: Print name legible below or beside signature. All owners of the property must sign.

PRINTED NAME AND SIGNATURE OF OWNER	DESCRIPTION OF PROPERTY WITHIN NOTIFICATION AREA	RESIDENCE ADDRESS (IF DIFFERENT)	DATE
Clifford R Neis Trust	Plate Nbr. 200235C Pin Nbr. 093-05-0-00-00-001.01-0 (see attached Real Estate Owner's List)	2197 N 1100 Rd Eudora, Ks 66025	5/4/11
Print Name of Owner(s)		Address	Date

Sign: Clifford R Neis
Title: Trustee

Sylvia E Neis	Plate Nbr. 200235C Pin Nbr. 093-05-0-00-00-001.01-0 (see attached Real Estate Owner's List)	2197N 1100 Rd Eudora, Ks 66025	5/4/11
Print Name of Owner(s)		Address	Date

Sign: Sylvia E Neis
Title: Trustee

STATE OF KANSAS)
) ss:
COUNTY OF DOUGLAS)

I am the circulator of this Protest Petition and a resident of the state of Kansas and possess the qualifications of an elector of the State of Kansas. I have personally witnessed the signing of the Protest Petition by each person whose name appears thereon.

Mark Neis — Circulator Signature
Mark Neis — Printed Name

Circulator's Residence and Address: 12775 Co. Line Rd. Eudora, Ks. 66025 Date: 5/4/11

Signed and sworn to (or affirmed) before me on this 4th day of May, 2011, by Mark Neis, circulator of this Protest Petition.

Elizabeth Crabill
Notary Public

My appointment expires: December 15th, 2015

NOTARY PUBLIC - State of Kansas
ELIZABETH CRABILL
MY APPT. EXPIRES:
12/15/15

Note: Print name legible below or beside signature. All owners of the property must sign.

PRINTED NAME AND SIGNATURE OF OWNER	DESCRIPTION OF PROPERTY WITHIN NOTIFICATION AREA	RESIDENCE ADDRESS (IF DIFFERENT)	DATE
Clifford R Neis Trust Print Name of Owner(s) Sign: Clifford R Neis Title: Trustee	Plate Nbr. 200235A Pin Nbr. 093-05-0-00-00-001.00-0 (see attached Real Estate Owner's List)	2197 N 1100 Rd Eudora Ks 66025 Address	5/2/11 Date
Sylvia E Neis Print Name of Owner(s) Sign: Sylvia E Neis Title: Trustee	Plate Nbr. 200235A Pin Nbr. 093-05-0-00-00-001.00-0 (see attached Real Estate Owner's List)	2197 N 1100 Rd Eudora Ks 66025 Address	5/2/11 Date

STATE OF KANSAS)
) ss:
COUNTY OF DOUGLAS)

I am the circulator of this Protest Petition and a resident of the state of Kansas and possess the qualifications of an elector of the State of Kansas. I have personally witnessed the signing of the Protest Petition by each person whose name appears thereon.

Mark Neis
Circulator Signature

Mark Neis
Printed Name

Circulator's Residence and Address: 12775 Co. Line Rd. Eudora, Ks. 66025 Date: 5/4/11

Signed and sworn to (or affirmed) before me on this 4th day of May, 2011, by Mark Neis, circulator of this Protest Petition.

Elizabeth Crabill
Notary Public

My appointment expires: December 15th, 2015

NOTARY PUBLIC - State of Kansas
ELIZABETH CRABILL
MY APPT. EXPIRES:
12/15/15

Note: Print name legible below or beside signature. All owners of the property must sign.

PRINTED NAME AND SIGNATURE OF OWNER	DESCRIPTION OF PROPERTY WITHIN NOTIFICATION AREA	RESIDENCE ADDRESS (IF DIFFERENT)	DATE
Clifford R Neis Trust	Plate Nbr. 200235B Pin Nbr. 093-05-0-00-00-001.02-0 (see attached Real Estate Owner's List)	2197 N 1100 Rd Eudora, Ks 66025	5/4/11
Print Name of Owner(s)		Address	Date
Sign: Clifford R Neis Title: Trustee			
Sylvia E. Neis	Plate Nbr. 200235B Pin Nbr. 093-05-0-00-00-001.02-0 (see attached Real Estate Owner's List)	2197 N 1100 Rd Eudora, Ks 66025	5/4/11
Print Name of Owner(s)		Address	Date
Sign: Sylvia E Neis Title: Trustee			

STATE OF KANSAS)
) ss:
COUNTY OF DOUGLAS)

I am the circulator of this Protest Petition and a resident of the state of Kansas and possess the qualifications of an elector of the State of Kansas. I have personally witnessed the signing of the Protest Petition by each person whose name appears thereon.

Mark Neis — Mark Neis
Circulator Signature — Printed Name

Circulator's Residence and Address: 12725 Co. Line Rd. Eudora, Ks. 66025 Date: 5/4/11

Signed and sworn to (or affirmed) before me on this 4th day of May, 2011, by Mark Neis, circulator of this Protest Petition.

Elizabeth Crabill
Notary Public

My appointment expires: December 15th, 2015

NOTARY PUBLIC - State of Kansas
ELIZABETH CRABILL
MY APPT. EXPIRES:
12/15/15

3080798v1

JAMIE SHEW
DOUGLAS COUNTY CLERK
1100 Massachusetts
Lawrence, KS 66044
Phone: 785-832-5267
Fax: 785-832-5192

Carrie F. Moore
Chief Deputy Clerk

Benjamin Lampe
Deputy Clerk-Elections

May 10, 2011

ATTN: DOUGLAS COUNTY COMMISSIONERS

RE: Protest Petition against Conditional Use Permit 10-6-10, Sand Dredging Operation

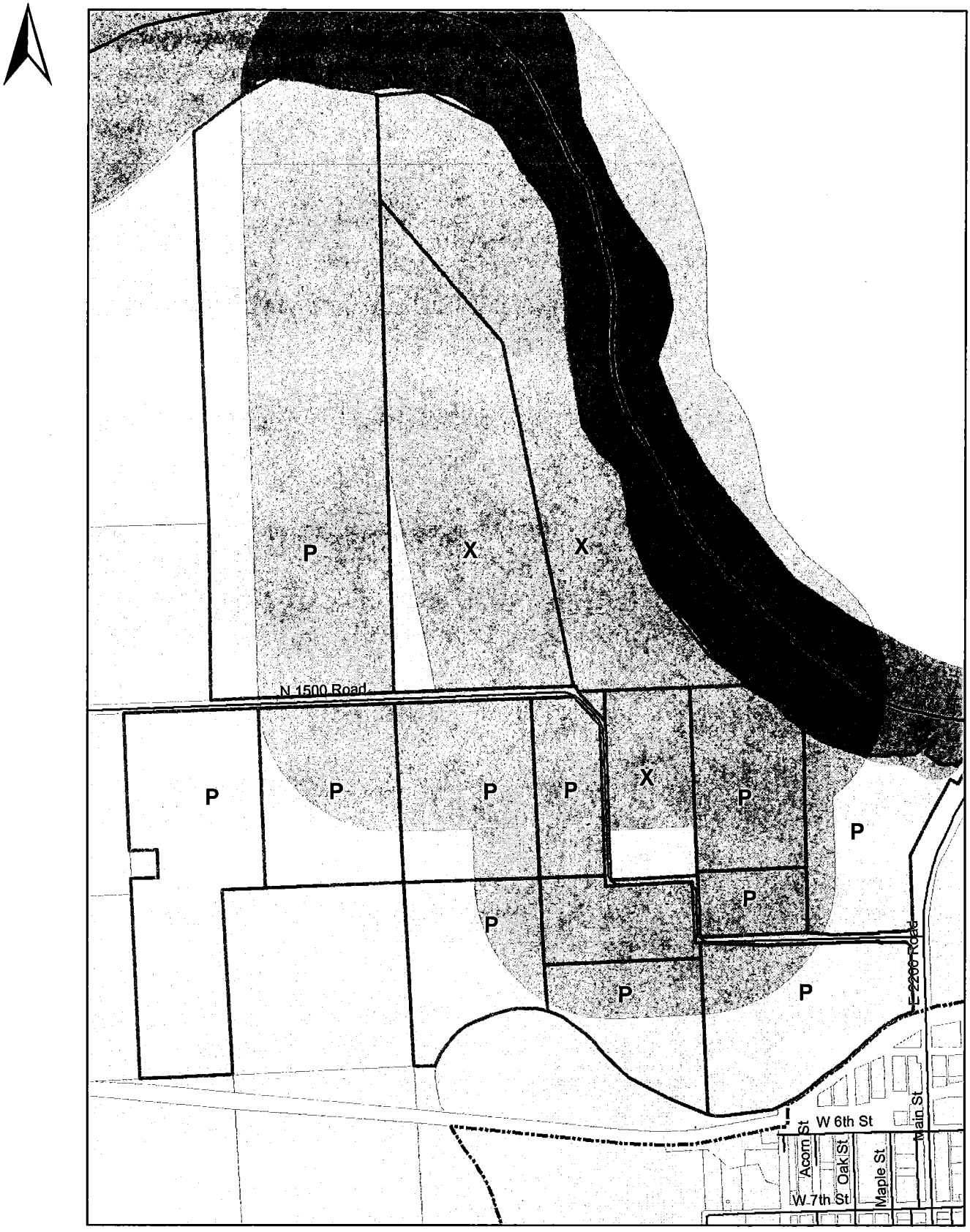
CERTIFICATION

I, JAMIE SHEW, DOUGLAS COUNTY CLERK, DO HEREBY CERTIFY THAT THE ATTACHED PETITION, RECEIVED ON MAY 5, 2011 IS A VALID PETITION.

Jamie Shew
Douglas County Clerk

JS/cko

POL WITHIN 1000 FT OF CUP 10-6-10
SAND DREDGING (200177A, 200177 & 200233A)



X - CUP parcel
P - protest filed

05-05-11

REZONING (CONDITIONAL USE PERMIT) PROTEST PETITION

Protest Petition against Application/Douglas County Matter No. CUP 10-6-10

We, the undersigned property owners, do hereby protest the granting by the Board of County Commissioners of Douglas County, Kansas of a the rezoning and/or conditional use permit (CUP) requested in the above-described application or matter number, to permit a sand dredging operation on the following described property:

A TRACT OF LAND IN THE WEST HALF OF SECTION 32, TOWNSHIP 12 SOUTH, RANGE 21 EAST AND THE NORTHEAST QUARTER OF SECTION 05, TOWNSHIP 13S, RANGE 21 EAST OF THE SIXTH PRINCIPAL MERIDIAN, IN DOUGLAS COUNTY, KANSAS, DESCRIBED AS FOLLOWS:

PARCEL #1

BEGINNING AT THE SOUTHWEST CORNER OF SECTION 32, TOWNSHIP 12 SOUTH, RANGE 21 EAST THENCE NORTH 0°18'56" EAST, ALONG WEST LINE OF SAID QUARTER SECTION 3619.59 FEET; THENCE SOUTH 89°41'04" EAST, 34.40 FEET; THENCE SOUTH 38°40'12" EAST 1368.99 FEET; THENCE SOUTH 09°52'55" EAST, 2544.71 FEET; THENCE SOUTH 0°00'00", TO A POINT ALONG SOUTH LINE OF SAID SECTION 47.76 FEET; THENCE NORTH 89°49'1" WEST ALONG SOUTH LINE 1346.44 FEET TO THE POINT OF BEGINNING. CONTAINS 72.800 ACRES, MORE OR LESS.

PARCEL #2

BEGINNING AT THE SOUTHWEST CORNER OF SECTION 32, TOWNSHIP 12 SOUTH, RANGE 21 EAST THENCE NORTH 0°18'56" EAST, ALONG WEST LINE OF SAID QUARTER SECTION 4375 FEET TO RIGHT BANK OF THE KANSAS RIVER; THE NEXT ELEVEN COURSES ARE ALONG THE SOUTHERLY AND WESTERLY BANK OF THE KANSAS RIVER; THENCE NORTH 86°48'56" EAST, 350.00 FEET; THENCE SOUTH 62°11'04" EAST, 550.00 FEET; THENCE SOUTH 32°11'04" EAST, 775.00 FEET; THENCE SOUTH 16°36'04" EAST, 350.00 FEET; THENCE SOUTH 0°53'56" WEST, 625.00 FEET; THENCE SOUTH 07°06'04" EAST, 595.00 FEET; THENCE SOUTH 37°06'04" EAST, 450.00 FEET; THENCE SOUTH 36°36'04" EAST, 660.00 FEET; THENCE SOUTH 51°06'04" EAST, TO A POINT ALONG SOUTH LINE OF SAID SECTION 411.10 FEET; THENCE NORTH 89°49'14" WEST ALONG SOUTH LINE 2614.92 FEET TO THE POINT OF BEGINNING, LESS PARCEL #1 CONTAINS 77.600 ACRES, MORE OR LESS.

of materials teria cost)

PARCEL #3

BEGINNING AT A POINT FROM THE NORTHWEST CORNER OF SECTION 5, TOWNSHIP 13 SOUTH, RANGE 21 EAST THENCE EAST, 2128.50 FEET; THENCE SOUTH, 1391.00 FEET; THENCE WEST, 626.30 FEET; THENCE NORTH, 1391.00 FEET; THENCE EAST, TO THE POINT OF BEGINNING 626.30 FEET. CONTAINS 19.700 ACRES, MORE OR LESS.

We, the undersigned, are owners of real property located within the statutory area of notification related to the area for which the rezoning (or CUP) is sought. See K.S.A. 12-757(f).

[See attached signature pages]

Note: Print name legible below or beside signature. All owners of the property must sign.

PRINTED NAME AND SIGNATURE OF OWNER	DESCRIPTION OF PROPERTY WITHIN NOTIFICATION AREA	RESIDENCE ADDRESS (IF DIFFERENT)	DATE
Rita C Neis, Trust Print Name of Owner(s)	Plate Nbr. 200241A Pin Nbr. 093-05-0-00-00-003.01-0 (see attached Real Estate Owner's List)	12445 Co. Line Rd. Eudora, KS 66025 Address	5/4/11 Date

Sign: Rita C Neis Trust
Title: Owner

_____ Print Name of Owner(s)	Plate Nbr. 200241A Pin Nbr. 093-05-0-00-00-003.01-0 (see attached Real Estate Owner's List)	_____ Address	_____ Date

Sign: _____
Title: _____

STATE OF KANSAS)
) ss:
COUNTY OF DOUGLAS)

I am the circulator of this Protest Petition and a resident of the state of Kansas and possess the qualifications of an elector of the State of Kansas. I have personally witnessed the signing of the Protest Petition by each person whose name appears thereon.

Mark Neis
Circulator Signature

Mark Neis
Printed Name

Circulator's Residence and Address: 12775 County Line Rd Eudora, Ks, Date: 66025

Signed and sworn to (or affirmed) before me on this 4th day of May, 2011, by Mark Neis, circulator of this Protest Petition.

Elizabeth Crabill
Notary Public

My appointment expires: December 15th, 2015

NOTARY PUBLIC - State of Kansas
ELIZABETH CRABILL
MY APPT. EXPIRES:
12/15/15

Note: Print name legible below or beside signature. All owners of the property must sign.

PRINTED NAME AND SIGNATURE OF OWNER	DESCRIPTION OF PROPERTY WITHIN NOTIFICATION AREA	RESIDENCE ADDRESS (IF DIFFERENT)	DATE
Rita C. Neis, Trust	Plate Nbr. 200241	12445 Co. Line Rd	5/4/11
	Pin Nbr. 093-05-0-00-00-003.00-0	Eudora, Ks 66025	Date
	(see attached Real Estate Owner's List)		
Print Name of Owner(s)		Address	

Sign: Rita C. Neis, Trust
Title: Owner

	Plate Nbr. 200241		
	Pin Nbr. 093-05-0-00-00-003.00-0		Date
	(see attached Real Estate Owner's List)		
Print Name of Owner(s)		Address	

Sign: _____
Title: _____

STATE OF KANSAS)
) ss:
COUNTY OF DOUGLAS)

I am the circulator of this Protest Petition and a resident of the state of Kansas and possess the qualifications of an elector of the State of Kansas. I have personally witnessed the signing of the Protest Petition by each person whose name appears thereon.

Mark Neis — Mark Neis
Circulator Signature — Printed Name

Circulator's Residence and Address: 12775 Co. Line Rd. Eudora, Ks. 66025 Date: 5/4/11

Signed and sworn to (or affirmed) before me on this 4th day of May, 2011, by Mark Neis, circulator of this Protest Petition.

Elizabeth Crabill
Notary Public

My appointment expires: December 15th, 2015

NOTARY PUBLIC - State of Kansas
ELIZABETH CRABILL
MY APPT. EXPIRES:
12/15/15

Note: Print name legible below or beside signature. All owners of the property must sign.

PRINTED NAME AND SIGNATURE OF OWNER	DESCRIPTION OF PROPERTY WITHIN NOTIFICATION AREA	RESIDENCE ADDRESS (IF DIFFERENT)	DATE
Rita C Neis, Trust Rita C Neis, Trust Print Name of Owner(s) Sign: Rita C Neis Title: Owner	Plate Nbr. 200251 Pin Nbr. 093-06-0-00-00-001.00-0 (see attached Real Estate Owner's List)	12445 Co. Line Rd Eudora, KS 66025 Address	5/4/11 Date
_____ _____ _____ Print Name of Owner(s) Sign: _____ Title: _____	Plate Nbr. 200251 Pin Nbr. 093-06-0-00-00-001.00-0 (see attached Real Estate Owner's List)	_____ _____ _____ Address	_____ Date

STATE OF KANSAS)
) ss:
COUNTY OF DOUGLAS)

I am the circulator of this Protest Petition and a resident of the state of Kansas and possess the qualifications of an elector of the State of Kansas. I have personally witnessed the signing of the Protest Petition by each person whose name appears thereon.

Mark Neis
Circulator Signature

Mark Neis
Printed Name

Circulator's Residence and Address: 12775 Co. Line Road Eudora, Kr. 66025 Date: 5/4/11

Signed and sworn to (or affirmed) before me on this 4th day of May, 2011, by Mark Neis, circulator of this Protest Petition.

Elizabeth Crabill
Notary Public

My appointment expires: December 15th, 2015

NOTARY PUBLIC - State of Kansas
ELIZABETH CRABILL
MY APPT. EXPIRES:
12/15/15

Note: Print name legible below or beside signature. All owners of the property must sign.

PRINTED NAME AND SIGNATURE OF OWNER	DESCRIPTION OF PROPERTY WITHIN NOTIFICATION AREA	RESIDENCE ADDRESS (IF DIFFERENT)	DATE
Lois Hamilton Trust	(98) Plate Nbr. 200173 Pin Nbr. 089-31-0-00-00-001.00-0 (see attached Real Estate Owner's List)	52 Malaga Way Hot Springs Village 52 Malaga - Dunnar AR	4-29-11 Date

Print Name of Owner(s)

Address

Sign: Lois M Hamilton
Title: Owner

______	Plate Nbr. 200173 Pin Nbr. 089-31-0-00-00-001.00-0 (see attached Real Estate Owner's List)	______	Date

Print Name of Owner(s)

Address

Sign: ______
Title: ______

STATE OF KANSAS)
) ss:
COUNTY OF DOUGLAS)

I am the circulator of this Protest Petition and a resident of the state of Kansas and possess the qualifications of an elector of the State of Kansas. I have personally witnessed the signing of the Protest Petition by each person whose name appears thereon.

Mark Neis — Circulator Signature

Mark Neis — Printed Name

Circulator's Residence and Address: 12775 Co. Line Rd. Eudora, Ks. 66025 Date: 5-4-11

Signed and sworn to (or affirmed) before me on this 4th day of May, 2011, by Mark Neis, circulator of this Protest Petition.

Elizabeth Crabill
Notary Public

My appointment expires: December 15th, 2015

NOTARY PUBLIC - State of Kansas
ELIZABETH CRABILL
MY APPT. EXPIRES: 12/15/15

3080798v1

Note: Print name legible below or beside signature. All owners of the property must sign.

PRINTED NAME AND SIGNATURE OF OWNER	DESCRIPTION OF PROPERTY WITHIN NOTIFICATION AREA	RESIDENCE ADDRESS (IF DIFFERENT)	DATE
Lois Hamilton Trust (gp)	Plate Nbr. 200254	52 Malaga Way	4-29-11
	Pin Nbr. 093-06-0-00-00-002.00-0	Hot Springs Village	Date
	(see attached Real Estate Owner's List)	AR 71909	
Print Name of Owner(s)		Address	
Sign: Lois M. Hamilton			
Title: Owner			
	Plate Nbr. 200254		
	Pin Nbr. 093-06-0-00-00-002.00-0		Date
	(see attached Real Estate Owner's List)		
Print Name of Owner(s)		Address	
Sign:			
Title:			

STATE OF KANSAS)
) ss:
COUNTY OF DOUGLAS)

I am the circulator of this Protest Petition and a resident of the state of Kansas and possess the qualifications of an elector of the State of Kansas. I have personally witnessed the signing of the Protest Petition by each person whose name appears thereon.

Mark Nus — Mark Nus
Circulator Signature — Printed Name

Circulator's Residence and Address: 12775 Co. Line Rd. Endora, Ks 66025 Date: 5/4/11

Signed and sworn to (or affirmed) before me on this 4th day of May, 2011, by Mark Nus, circulator of this Protest Petition.

Elizabeth Crabill
Notary Public

My appointment expires: December 15th, 2015

NOTARY PUBLIC - State of Kansas
ELIZABETH CRABILL
MY APPT. EXPIRES:
12/15/15

Note: Print name legible below or beside signature. All owners of the property must sign.

PRINTED NAME AND SIGNATURE OF OWNER	DESCRIPTION OF PROPERTY WITHIN NOTIFICATION AREA	RESIDENCE ADDRESS (IF DIFFERENT)	DATE
Rose T. Cordry Trust	Plate Nbr. 200250-03A Pin Nbr. 093-05-0-10-02-001.00-0 (see attached Real Estate Owner's List)	14340 W 159th St. Olathe, Ks. 66062	5-4-11 Date
Print Name of Owner(s)		Address	
Sign: Rose T. Cordry Title: Trustee			
	Plate Nbr. 200250-03A Pin Nbr. 093-05-0-10-02-001.00-0 (see attached Real Estate Owner's List)		Date
Print Name of Owner(s)		Address	
Sign: Title:			

STATE OF KANSAS)
) ss:
COUNTY OF DOUGLAS)

I am the circulator of this Protest Petition and a resident of the state of Kansas and possess the qualifications of an elector of the State of Kansas. I have personally witnessed the signing of the Protest Petition by each person whose name appears thereon.

Mark Nus — Circulator Signature

Mark Nus — Printed Name

Circulator's Residence and Address: 12775 Co. Line Rd. Endora, Ks. 66025 Date: 5/4/11

Signed and sworn to (or affirmed) before me on this 4th day of May, 2011, by Mark Nus, circulator of this Protest Petition.

Elizabeth Crabill
Notary Public

My appointment expires: December 15th, 2015

NOTARY PUBLIC - State of Kansas
ELIZABETH CRABILL
MY APPT. EXPIRES:
12/15/15

3080798v1

Note: Print name legible below or beside signature. All owners of the property must sign.

PRINTED NAME AND SIGNATURE OF OWNER	DESCRIPTION OF PROPERTY WITHIN NOTIFICATION AREA	RESIDENCE ADDRESS (IF DIFFERENT)	DATE
Clifford R Neis Trust Print Name of Owner(s) Sign: Clifford R Neis Title: Trustee	Plate Nbr. 200242 Pin Nbr. 093-05-0-00-00-001.03-0 (see attached Real Estate Owner's List)	2197 N 1100 Rd Eudora Ks 66025 Address	5/4/11 Date
Sylvia E Neis Print Name of Owner(s) Sign: Sylvia E Neis Title: Trustee	Plate Nbr. 200242 Pin Nbr. 093-05-0-00-00-001.03-0 (see attached Real Estate Owner's List)	2197 N 1100 Rd Eudora Ks 66025 Address	5/4/11 Date

STATE OF KANSAS)
) ss:
COUNTY OF DOUGLAS)

I am the circulator of this Protest Petition and a resident of the state of Kansas and possess the qualifications of an elector of the State of Kansas. I have personally witnessed the signing of the Protest Petition by each person whose name appears thereon.

Mark Neis
Circulator Signature

Mark Neis
Printed Name

Circulator's Residence and Address: 12775 Co. Line Rd. Eudora, Ks. 66025 Date: 5/4/11

Signed and sworn to (or affirmed) before me on this 4th day of May, 2011, by Mark Neis, circulator of this Protest Petition.

Elizabeth Crabill
Notary Public

My appointment expires: December 15th, 2015

NOTARY PUBLIC - State of Kansas
ELIZABETH CRABILL
MY APPT. EXPIRES:
12/15/15

3080798v1

Note: Print name legible below or beside signature. All owners of the property must sign.

PRINTED NAME AND SIGNATURE OF OWNER	DESCRIPTION OF PROPERTY WITHIN NOTIFICATION AREA	RESIDENCE ADDRESS (IF DIFFERENT)	DATE
Clifford B Neis Print Name of Owner(s)	Plate Nbr. 200234A Pin Nbr. 093-05-0-10-03-001.00-0 (see attached Real Estate Owner's List)	2197 N 1100 Rd Eudora Ks 66025 Address	5/4/11 Date

Sign: Clifford B Neis
Title: Trustee

Sylvia E Neis Print Name of Owner(s)	Plate Nbr. 200234A Pin Nbr. 093-05-0-10-03-001.00-0 (see attached Real Estate Owner's List)	2197 N 1100 Rd Eudora, Ks 66025 Address	5/4/11 Date

Sign: Sylvia E Neis
Title: Trustee

STATE OF KANSAS)
) ss:
COUNTY OF DOUGLAS)

I am the circulator of this Protest Petition and a resident of the state of Kansas and possess the qualifications of an elector of the State of Kansas. I have personally witnessed the signing of the Protest Petition by each person whose name appears thereon.

Mark Neis
Circulator Signature

Mark Neis
Printed Name

Circulator's Residence and Address: 12775 Co Lme Rd. Eudora Ks 66025 Date: 5/4/11

Signed and sworn to (or affirmed) before me on this 4th day of May, 2011, by Mark Neis, circulator of this Protest Petition.

Elizabeth Crabill
Notary Public

My appointment expires: December 15th, 2015

NOTARY PUBLIC - State of Kansas
ELIZABETH CRABILL
MY APPT. EXPIRES:
12/15/15

Note: Print name legible below or beside signature. All owners of the property must sign.

PRINTED NAME AND SIGNATURE OF OWNER	DESCRIPTION OF PROPERTY WITHIN NOTIFICATION AREA	RESIDENCE ADDRESS (IF DIFFERENT)	DATE
Clifford R Weis Trust	Plate Nbr. 200235C Pin Nbr. 093-05-0-00-00-001.01-0 (see attached Real Estate Owner's List)	2197 N 1100 Rd Eudora, Ks 66025	5/4/11
Print Name of Owner(s)		Address	Date

Sign: Clifford R Weis
Title: Trustee

Sylvia E Weis	Plate Nbr. 200235C Pin Nbr. 093-05-0-00-00-001.01-0 (see attached Real Estate Owner's List)	2197N 1100 Rd Eudora, Ks 66025	5/4/11
Print Name of Owner(s)		Address	Date

Sign: Sylvia E Weis
Title: Trustee

STATE OF KANSAS)
) ss:
COUNTY OF DOUGLAS)

I am the circulator of this Protest Petition and a resident of the state of Kansas and possess the qualifications of an elector of the State of Kansas. I have personally witnessed the signing of the Protest Petition by each person whose name appears thereon.

Mark Weis — Circulator Signature
Mark Weis — Printed Name

Circulator's Residence and Address: 12775 Co. Line Rd. Eudora, Ks. 66025 Date: 5/4/11

Signed and sworn to (or affirmed) before me on this 4th day of May, 2011, by Mark Weis, circulator of this Protest Petition.

Elizabeth Crabill
Notary Public

My appointment expires: December 15th, 2015

NOTARY PUBLIC - State of Kansas
ELIZABETH CRABILL
MY APPT. EXPIRES:
12/15/15

Note: Print name legible below or beside signature. All owners of the property must sign.

PRINTED NAME AND SIGNATURE OF OWNER	DESCRIPTION OF PROPERTY WITHIN NOTIFICATION AREA	RESIDENCE ADDRESS (IF DIFFERENT)	DATE
Clifford R Neis Trust Print Name of Owner(s) Sign: Clifford R Neis Title: Trustee	Plate Nbr. 200235A Pin Nbr. 093-05-0-00-00-001.00-0 (see attached Real Estate Owner's List)	2197 N 1100 Rd Eudora Ks 66025 Address	5/2/11 Date
Sylvia E Neis Print Name of Owner(s) Sign: Sylvia E Neis Title: Trustee	Plate Nbr. 200235A Pin Nbr. 093-05-0-00-00-001.00-0 (see attached Real Estate Owner's List)	2197 N 1100 Rd Eudora Ks 66025 Address	5/2/11 Date

STATE OF KANSAS)
) ss:
COUNTY OF DOUGLAS)

I am the circulator of this Protest Petition and a resident of the state of Kansas and possess the qualifications of an elector of the State of Kansas. I have personally witnessed the signing of the Protest Petition by each person whose name appears thereon.

Mark Neis
Circulator Signature

Mark Neis
Printed Name

Circulator's Residence and Address: 12775 Co. Line Rd. Eudora, Ks. 66025 Date: 5/4/11

Signed and sworn to (or affirmed) before me on this 4th day of May, 2011, by Mark Neis, circulator of this Protest Petition.

Elizabeth Crabill
Notary Public

My appointment expires: December 15th, 2015

NOTARY PUBLIC - State of Kansas
ELIZABETH CRABILL
MY APPT. EXPIRES:
12/15/15

Note: Print name legible below or beside signature. All owners of the property must sign.

PRINTED NAME AND SIGNATURE OF OWNER	DESCRIPTION OF PROPERTY WITHIN NOTIFICATION AREA	RESIDENCE ADDRESS (IF DIFFERENT)	DATE
Clifford R Neis for 45%	Plate Nbr. 200235B Pin Nbr. 093-05-0-00-00-001.02-0 (see attached Real Estate Owner's List)	2197 N 1100 Rd Eudora, Ks 66025	5/4/11
Print Name of Owner(s)		Address	Date
Sign: Clifford R Neis Title: ~~Trustee~~ Trustee			
Sylvia E. Neis	Plate Nbr. 200235B Pin Nbr. 093-05-0-00-00-001.02-0 (see attached Real Estate Owner's List)	2197 N 1100 Rd Eudora, Ks 66025	5/4/11
Print Name of Owner(s)		Address	Date
Sign: Sylvia E Neis Title: Trustee			

STATE OF KANSAS)
) ss:
COUNTY OF DOUGLAS)

I am the circulator of this Protest Petition and a resident of the state of Kansas and possess the qualifications of an elector of the State of Kansas. I have personally witnessed the signing of the Protest Petition by each person whose name appears thereon.

Mark Neis — Circulator Signature

Mark Neis — Printed Name

Circulator's Residence and Address: 12725 Co. Line Rd. Eudora, Ks. 66025 Date: 5/4/11

Signed and sworn to (or affirmed) before me on this 4th day of May, 2011, by Mark Neis, circulator of this Protest Petition.

Elizabeth Crabill
Notary Public

My appointment expires: December 15th, 2015

NOTARY PUBLIC - State of Kansas
ELIZABETH CRABILL
MY APPT. EXPIRES:
12/15/15

BHC RHODES
CIVIL ENGINEERS ◦ SURVEYORS

October 11, 2011

RE: CUP – 10-6-10

Dear Scott,

We would respectfully request that the Douglas County Board of County Commissioners at its November 23, 2011 meeting consider a motion to remand the above CUP to the Douglas County plan commission. We have attached a suggested format for such a motion but would welcome further suggestions from commissioners, professional planning staff and interested property owners as to other issues that might be reviewed by the plan commission should the matter remanded to them.

If you should have any further questions, please call me at (913) 663-1900.

Thank you,

Larry Winn III
Customer Development Strategist

JMC

Enc.

cc Price Banks
Phil Strubel
Alan Teutemacher

Exhibit A

1. Shorten initial permit time to 5 years only which can by administrative order be extended an additional 5 years if the applicant is determined to be in substantial compliance with the conditional CUP Stipulations.

2. Douglas County shall have 60 days prior to final county approval if granted to have any well studies preciously submitted reviewed by an expert of the counties choosing.

3. Any jetties on the river adjacent to the operation shall either remain as they are or be relocated subject to the approval of the Corps of Engineers, KDHE and Douglas County.

4. Applicants shall meet all dust control requirements of Douglas County

5. Applicant shall pay to the county an impact fee that the county may apply to any county cost of maintaining county roads that are utilized to transport sand or equipment to the site. The impact fee shall be the greater of $12,000 per annum or a $0.10 per ton royalty.

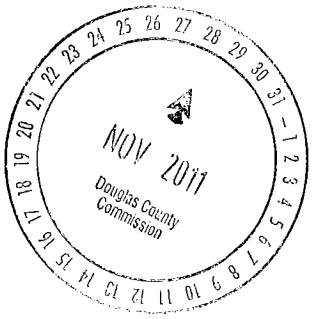
6. Any road improvements suggested by the April 2, 2011 memo of the public works director of Douglas County shall be completed prior to dredging activity that requires off-site hauling of material.

7. At the conclusion of the CUP the lake shown on the reclamation plan shall if the County or the City of Eudora wants the lake, and the reclamation plan has been completed to the satisfaction of the county, be dedicated as public recreation property.

8. Provision of a landscape plan to show the species of trees proposed, minimum planting size, total number, and proposed spacing of trees per section 12-319A-4.10 of the County Zoning Regulations per planning staff approval.

   a. Screening trees shall be planted along the public right-of-way
   b. Screening trees shall be planted along south 700 fee of the east property line to screen the processing plant and stockpiles from the adjacent property.
   c. Screening trees shall be planted a minimum of 30' on center.

City Of Eudora, Kansas



November 21, 2011

Jim Flory, Commission Chairman
Nancy Thellman, Commissioner
Mike Gaughn, Commissioner
Douglas County Courthouse, 2nd Floor
1100 Massachusetts
Lawrence, KS 66044

Dear Douglas County Commissioners,

Attached is a letter signed by the Mayor, City Council President and most of the Eudora City Council members.

Note: Council member Tim Reazin was out of town and unable to attend the meeting. Although unable to sign the letter, Council member Reazin has voiced his support of the attached letter.

Let me know if you have any questions or concerns.

Sincerely,

Pam Schmeck

Pam Schmeck
City Clerk
Eudora, Kansas
785.542.2153
785.542.1237 (F)

City Of Eudora, Kansas

November 14, 2011

Jim Flory, Commission Chairman
Nancy Thellman, Commissioner
Mike Gaughn, Commissioner
Douglas County Courthouse, 2nd Floor
1100 Massachusetts Street
Lawrence, Kansas, 66044

Dear Douglas County Commissioners,

The Mayor and City Council of Eudora are aware that the Douglas County Commission will review the application from the Kaw Valley Sand Company to develop a sand pit near the border of Eudora on December 7th, 2011. The purpose of this letter is to recount and reiterate our opposition to approval of this conditional use permit and to encourage you to deny the permit at your December 7th meeting in accordance with the previous recommendations of the Lawrence/Douglas County Planning Commission and the Eudora Planning Commission. Please also note that this letter is submitted in addition to our previous correspondence to your body from October, 2010 (attached).

Our understanding is that the decision before your body on December 7th will be to deny, approve, or remand back to the Lawrence/Douglas County Planning Commission the application by the Kaw Valley Sand Company. We urge you to deny this permit. No condition submitted by the applicant (attached), which serves as their basis for seeking a remand, takes into consideration the potential affects to the Eudora municipal water supply or the city's long-standing adopted planning documents.

While this application may be new to your body, the citizens, planning commission and city council of Eudora have struggled with this issue for over eleven months and elongating the process serves no public benefit. Every public body responsible for reviewing this application has recommended denial of the project. Eudora's planning consultants recommended denial because the application does not meet the city's long-standing adopted plans. Douglas County planning staff accepted the city's finding which they cited as the primary basis for their own, independent recommendation for denial. The Eudora Planning Commission unanimously voted for denial in February and at the continued public hearing held in April. Finally, after completion of two public hearings, the Lawrence/Douglas County Planning Commission voted 7-1 to deny the application.

After being denied by the Lawrence/Douglas County Planning Commission and the Eudora Planning Commission, the applicant then requested that the Douglas County Commission "delay" a decision on their application. The expressed purpose of this delay was to "confer with the Corp of Engineers" and alter the application before it came before your body. To this date, no substantive changes to the application have been made that the city of Eudora is aware of and as mentioned above, no conditions are offered by the applicant to resolve our outstanding issues. Our belief is the applicants request for remand is to simply keep alive a project with significant public opposition.

Since the beginning of this project the city has voiced concern regarding the proximity of the project to the well field that serves as the sole source of water for Eudora. Both parties have vastly different views of the implications of a sand mining operation near our municipal well field. In an effort to compromise, the city requested that the developer purchase a surety bond to cover any future expenses that arise as a

(785)-542-4111 (785)-542-1237 Fax
4 East Seventh Street P.O. Box 650 • Eudora, Kansas 66025-0650

result of the sand pit operations near our municipal well field. This request was denied by the developer and they do not list it as a condition to be considered if the issue is remanded.

Remanding this issue back to the Lawrence/Douglas County Planning Commission brings into question the efficacy of the urban growth boundaries and the public review of such issues. Two joint hearings have been held in accordance with the Douglas County's planning regulations because of the proximity of the project to the city of Eudora. This long standing policy ensures that growth near the boundaries of urban areas is reviewed by the citizens most affected by the proposed developments and provides a balance of public input into projects to ensure that both urban and rural interests are heard. The outcome the policy process put into place by the Douglas County Commission has resulted with an overwhelming recommendation for denial. We urge the Douglas County Commission to uphold these recommendations and deny the applicants request for remand at the December 7th meeting.

Sincerely,

Scott Hopson	Ruth Hughes	Bill Whitten	Tim Reazin	Kenny Massey	John Fiore
Mayor	Council President	Council Member	Council Member	Council Member	Council Member

City Of Eudora, Kansas

September 22, 2010

Chairman Thellman
Douglas County Courthouse, 2nd Floor
1100 Massachusetts Street
Lawrence, Kansas
66044

Dear Chairman Thellman,

Representatives from the city of Eudora joined several neighbors in the surrounding rural area to attend a public meeting hosted by the Kaw Valley Company regarding a proposed sand pit they hope to develop near the Wakarusa River. It is our understanding that the developer will begin the process to obtain a conditional use permit for the proposed operation in the near future. In addition, we understand a vote of the Douglas County Commission is required to approve the conditional use permit. The purpose of this letter is to express the city of Eudora's concern with this development and to ask that you take serious consideration of the affects the proposed development may have on our community.

One of the wells that serve as a source of water supply for the city of Eudora is located approximately 2,000 feet from the proposed location of the sand pit operation. As the city grows over time, new wells may need to be established in the area near the proposed project. The city of Eudora requests that the Douglas County Planning Commission and the Douglas County Commissioners require an independent analysis be conducted to assess the potential impact of the proposed sand pit on the Eudora water supply (both current & future) before consideration for approval is given. Any negative effect to the city's water supply and well field will cause extreme damage to the quality of life offered to our citizens and should serve as a reason to deny the permit.

Secondly, the city of Eudora requests a detailed traffic analysis be conducted to determine the anticipated number of vehicles entering and exiting the sand pit operation that will travel through Eudora so we can determine the affect of the development on our roadways. County road 1061 serves as Eudora's Main Street and will likely serve as one route for trucks entering in and out of the sand plant. Numerous pedestrians use Eudora's Main Street on a daily basis and we desire to understand the impacts the sand plant may have on their safety.

We hope this letter articulates our concerns regarding the proposed project and look forward to working with the Douglas County Planning Commission and the Douglas County Commission to assure these concerns are addressed during the planning process.

Sincerely,

Scott Hopson	Bill Whitten	Maria Nelson	Tim Reazin	Ruth Hughs	Jeff Peterson
Mayor	City Council President	City Council	City Council	City Council	City Council

Cc: Commissioner Mike Gaughan
Commissioner Jim Flory
Lawrence-Douglas County Planning Commission
Eudora Planning Commission
Craig Weinaug, County Administrator

December 1st, 2011

Scott McCullough
Lawrence-Douglas County Planning and Development Services
P.O. Box 708
Lawrence, KS 66044

Dear Mr. McCullough,

I am a home owner and registered voter in Eudora, Kansas. I was very concerned to discover that A Kaw Valley Company is again proposing to construct a sand pit on 1500 Road near Eudora. While I understand the need for companies to acquire this resource, I feel the risks that this project would impose on Eudora, Lawrence and the surrounding rural areas far outweigh any benefits to those areas. It is for this reason that I hope you will join myself and many other area residents in opposing this project.

The risks, as I understand them, include the devaluing of neighboring properties due to aesthetics and potential erosion, increased pollution and heavy truck traffic, possible compromise to surrounding infrastructure, including a near-by bridge, an increased flood risk to the area, and most concerning is the risk of disruption of the near-by wells that provide all of the water to the city of Eudora. I also understand that when these types of projects are no longer useful to the companies, they are often left to fill with water, and while sometimes called "recreational lakes or reservoirs," they are poorly constructed and even more poorly maintained. I would not begin to consider this as an asset to our area.

As I understand it, there will be little to no benefit to the surrounding areas by way of jobs or tax dollars. This balance of risk to benefit is unacceptable and should not be inflicted on the people of Eudora and the surrounding areas. I hope you will support us in the effort to block approval of this project.

Sincerely,

Rebecca M. Barrera
330 Stratton Drive
Eudora, KS 66025

DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, KANSAS CITY DISTRICT
635 FEDERAL BUILDING
601 E 12TH STREET
KANSAS CITY MO 64106-2824

REPLY TO
ATTENTION OF

November 28, 2011

Regulatory Branch
(NWK- 2009-01688)
Douglas County, Kansas

Mr. Alan Teutemacher
Kaw Valley Companies, Inc.
5600 Kansas Avenue
Kansas City, Kansas 66106

Dear Mr. Teutemacher:

This letter concerns your application for a Department of the Army (DA) permit to develop a sand pit mining operation in the floodplain of the Kansas River. As indicated in the submitted plans, project activities involve the placement of dredged and fill material in wetlands adjacent to the Kansas River. This activity is proposed for the construction of a dredge pit, settling basins, and for storage areas to stockpile material. Additionally, a water inlet/outlet will be placed within the Kansas River to support operations. The site is located in Section 32, Township 12 south, Range 21 east, and in Section 5, Township 13 south, Range 21 east, in Douglas County, Kansas.

A copy of the water quality certification, issued for your work by the Kansas Department of Health and Environment, has been attached to the enclosed DA permit. As stated in general condition "5" of the enclosed permit document, the conditions presented in the state's water quality certification are incorporated into the special conditions of the permit by reference.

The Kansas Department of Wildlife, Parks and Tourism (KDWPT) has stated that Designated Critical Habitat for the state threatened Flathead Chub, *Platygobio gracilis*, Plains Minnow, *Hybognathus placitus*, and Sturgeon Chub, *Macrhybopsis gelida*, occur in the project area. Since plans are to draw process water from the Kansas River through an intake structure, KDWPT will require an action permit.

The U.S. Fish and Wildlife Service (FWS) commented that your project is subject to the Migratory Bird Treaty Act of 1918 (MBTA). We did not identify any issues pertaining to the MBTA during our permit review process. However, you are reminded that this permit determination neither establishes compliance with the MBTA, nor does it relieve you of the responsibility for compliance with the MBTA. We recommend you contact FWS at (785) 539-3474 for further information about your responsibilities under the MBTA.

The FWS also expressed concerns with the inadvertent spread of exotic and invasive species; they recommended that all equipment brought on site should be thoroughly washed to remove dirt, seeds, and plant parts. Any equipment that has been in any body of water within the past 30 days should be thoroughly cleaned with hot water greater than 140° F (typically the temperature found at commercial car washes) and dried for a minimum of five days before being used at this project site. In addition, before transporting equipment from the project site all visible mud, plants and fish/animals should be removed, all water should be eliminated, and the equipment should be thoroughly cleaned. Anything that came in contact with water should be cleaned and dried following the above procedure.

This letter contains an initial proffered permit for your proposed project. If you object to the permit because of certain terms and conditions therein, you may request that the permit be modified accordingly.

Enclosed you will find a Notification of Administrative Appeal Options and Process (NAP) and Request for Appeal (RFA) form. If you request reconsideration of this decision you must submit a completed RFA form to the Kansas City District at the following address:

District Commander
ATTN: Mark D. Frazier
Chief, Regulatory Branch
U.S. Army Engineer District, Kansas City
601 East 12th Street, Suite 402
Kansas City, MO 64106-2824
Voice: 816-389-3990, FAX: 816-389-2032

In order for an RFA to be accepted by the U.S. Army Corps of Engineers (Corps), the Corps must determine that it is complete, that it meets the criteria for reconsideration under 33 C.F.R. Part 331.6.b., and that it has been received by the District Office within 60 days of the date of the NAP. Should you decide to submit an RFA form, it must be received at the above address by January 27, 2011.

It is not necessary to submit an RFA form to the District Office if you do not object to the provisions of your initial proffered permit. If you wish to accept the permit in its present form, please sign the original and duplicate copy of the enclosed permit document. Each copy of the permit document should be signed on page 3 above the word "Permittee," dated, and returned to this office within 30 days from the date of this letter. Also, the application fee of $100 should be paid by check made payable to USAED-KC and remitted with the permit document. A preaddressed envelope is enclosed for your convenience. Upon receipt of the properly signed documents and application fee, the permit will be executed and returned to you for your files. Your signature on the standard permit means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.

Special condition "a" of the permit document requires you to complete and return a "Compliance Certification" upon completion of the authorized work and any required mitigation. The "Compliance Certification" form will be provided to you when your DA permit is executed.

We are interested in your thoughts and opinions concerning your experience with the Kansas City District, Corps of Engineers Regulatory Program. We have placed an automated version of our Customer Service Survey form at: http://www.nwk.usace.army.mil/regulatory/survey.pdf. At your request, we will mail you a paper copy that you may complete and return to us by mail or fax.

If you have any questions concerning this matter, please feel free to write me or to call Mr. Michael T. McFadden, Regulatory Specialist, at 816-389-3432 (FAX 816-389-2032). Please reference Permit No. NWK 2009-01688 in all comments and/or inquiries relating to this project.

Sincerely,

Mark D. Frazier
Chief, Regulatory Branch
Operations Division

Enclosures

DEPARTMENT OF THE ARMY
KANSAS CITY DISTRICT, CORPS OF ENGINEERS
635 FEDERAL BUILDING
601 E 12TH STREET
KANSAS CITY MO 64106-2824

REPLY TO
ATTENTION OF

December 5, 2011

(NWK- 2009-01688)
Douglas County, Kansas

Mr. Randy Dean DeWitt, P.E.
Landplan Engineering, P.A.
1310 Wakarusa Drive
Lawrence, Kansas 66049

Dear Mr. DeWitt:

Permit No. 2009-01688 has been executed. One copy is enclosed for your records and one copy has been retained for our files. When you are ready to begin work, it is necessary that you contact Mr. Michael T. McFadden at 816-389-3432 (FAX 816-389-2032).

Special condition "a" of the permit requires you to sign and return the enclosed "Compliance Certification" upon completion of the authorized work and any required mitigation.

Sincerely,

Mark D. Frazier
Chief, Regulatory Branch
Operations Division

Enclosures

Copies Furnished (electronically w/enclosures):

Environmental Protection Agency,
Watershed Planning and Implementation Branch
U.S. Fish and Wildlife Service,
Manhattan, Kansas
Kansas Department of Wildlife, Parks and Tourism
Kansas Department of Health and Environment
Kansas Department of Agriculture

DEPARTMENT OF THE ARMY PERMIT

Permittee Kaw Valley Companies, Inc.

Permit No. NWK 2009-01688

Issuing Office U.S. Army Engineer District, Kansas City

NOTE: The term "you" and its derivatives, as used in this permit, means the permittee or any future transferee. The term "this office" refers to the appropriate district or division office of the Corps of Engineers having jurisdiction over the permitted activity or the appropriate official of that office acting under the authority of the commanding officer.

You are authorized to perform work in accordance with the terms and conditions specified below, and with the plans and drawings attached hereto which are incorporated in and made a part of this permit.

Project Description: PROPOSED WORK: Develop a sand pit mining operation on the floodplain of the Kansas River. As indicated in the submitted plans, project activities involve the placement of dredged and fill material in wetlands adjacent to the Kansas River. The activity is proposed for the construction of a dredge pit, settling basins, and for storage areas to stockpile material. The project will be completed in phases over the permit period. Additionally, a water intake and outfall structure will be placed within the Kansas River to support operations. The permittee is authorized to excavate and/or fill 0.74 acres of wetlands and place an intake structure on the right bank of the Kansas River in the designated project location. Compensatory mitigation for the loss of aquatic habitat will be completed by purchasing 0.74-acres of wetland credit from an approved mitigation bank for that service area.

Permit Drawings: Project Area Site Vicinity map (sheet 1 of 4), Final Project Area map (sheet 2 of 4) Permit Special Condition "d" & "e" Feature Location map (sheet 3 of 4), and Washwater Intake and Outfall Structure Exhibit (sheet 4 of 4), dated 21 November 2011.

Project Location: The project is located in the floodplain of the Kansas River in Section 32, Township 12 south, Range 21 east, and in Section 5, Township 13 south, Range 21 east, in Douglas County, Kansas.

Latitude: 38.96391° N, Longitude: -95.10783° W

Permit Conditions:

General Conditions:

1. The time limit for completing the work authorized ends on 31 December 2032. If you find that you need more time to complete the authorized activity, submit your request for a time extension to this office for consideration at least one month before the above date is reached.

2. You must maintain the activity authorized by this permit in conformance with the terms and conditions of this permit. You are not relieved of this requirement if you abandon the permitted activity, although you may make a good faith transfer to a third party in compliance with General Condition 4 below. Should you wish to cease to maintain the authorized activity or should you desire to abandon it without a good faith transfer, you must obtain a modification of this permit from this office, which may require restoration of the area.

3. If you discover any previously unknown historic or archeological remains while accomplishing the activity authorized by this permit, you must immediately notify this office of what you have found. We will initiate the Federal and state coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

4. If you sell the property associated with this permit, you must obtain the signature of the new owner in the space provided and forward a copy of the permit to this office to validate the transfer of this authorization.

5. If a conditioned water quality certification has been issued for your project, you must comply with the conditions specified in the certification as special conditions to this permit. For your convenience, a copy of the certification is attached if it contains such conditions.

6. You must allow representatives from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of your permit.

Special Conditions:

See continuation sheets, pages 4 and 5, of this document.

Further Information:

1. Congressional Authorities: You have been authorized to undertake the activity described above pursuant to:

(X) Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403).

(X) Section 404 of the Clean Water Act (33 U.S.C. 1344).

( ) Section 103 of the Marine Protection, Research and Sanctuaries Act of 1972 (33 U.S.C. 1413).

2. Limits of this authorization.

a. This permit does not obviate the need to obtain other Federal, state, or local authorization required by law.

b. This permit does not grant any property rights or exclusive privileges.

c. This permit does not authorize any injury to the property or rights of others.

d. This permit does not authorize interference with any existing or proposed Federal project.

3. Limits of Federal Liability. In issuing this permit, the Federal Government does not assume any liability for the following:

a. Damages to the permitted project or uses thereof as a result of other permitted or unpermitted activities or from natural causes.

b. Damages to the permitted project or uses thereof as a result of current or future activities undertaken by or on behalf of the United States in the public interest.

c. Damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity authorized by this permit.

d. Design or construction deficiencies associated with the permitted work.

e. Damage claims associated with any future modification, suspension, or revocation of this permit.

4. Reliance on Applicant's Data: The determination of this office that issuance of this permit is not contrary to the public interest was made in reliance on the information you provided.

5. Reevaluation of Permit Decision. This office may reevaluate its decision on this permit at any time the circumstances warrant. Circumstances that could require a reevaluation include, but are not limited to, the following:

a. You fail to comply with the terms and conditions of this permit.

b. The information provided by you in support of your permit application proves to have been false, incomplete, or inaccurate (See 4 above).

c. Significant new information surfaces which this office did not consider in reaching the original public interest decision.

Such a reevaluation may result in a determination that it is appropriate to use the suspension, modification, and revocation procedures contained in 33 CFR 325.7 or enforcement procedures such as those contained in 33 CFR 326.4 and 326.5. The referenced enforcement procedures provide for the issuance of an administrative order requiring you to comply with the terms and conditions of your permit and for the initiation of legal action where appropriate. You will be required to pay for any corrective measures ordered by this office, and if you fail to comply with such directive, this office may in certain situations (such as those specified in 33 CFR 209.170) accomplish the corrective measures by contract or otherwise and bill you for the cost.

6. Extensions. General condition 1 establishes a time limit for the completion of the activity authorized by this permit. Unless there are circumstances requiring either a prompt completion of the authorized activity or a reevaluation of the public interest decision, the Corps will normally give favorable consideration to a request for an extension of this time limit.

Your signature below, as permittee, indicates that you accept and agree to comply with the terms and conditions of this permit.

[signature]	12-02-2011
(PERMITTEE)	(DATE)

This permit becomes effective when the Federal official, designated to act for the Secretary of the Army, has signed below.

[signature]	5 DEC 2011
(DISTRICT ENGINEER) ANTHONY J. HOFMANN, COLONEL BY: Mark D. Frazier, Chief, Regulatory Branch	(DATE)

When the structures or work authorized by this permit are still in existence at the time the property is transferred, the terms and conditions of this permit will continue to be binding on the new owner(s) of the property. To validate the transfer of this permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below.

(TRANSFEREE)	(DATE)

Special Conditions:

a. You must sign and return a "Compliance Certification" after you complete the authorized work and any required mitigation. Your signature will certify that you completed the work in accordance with this permit, including general and specific conditions, and that any required mitigation was completed in accordance with the permit conditions.

b. The permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.

c. You must purchase 0.74 acres of mitigation credit, for the impacts of the project to wetlands, from an approved mitigation bank in the service area of the project. The project site is located within the service area of the Stranger Creek Stream and Wetland Mitigation Bank. Further information and contact information regarding this mitigation provider can be obtained from the Corps of Engineers Kansas City District Regulatory Office. Evidence of purchased mitigation credit must be provided to the Corps of Engineers prior to commencing any work in waters of the United States.

d. Wetland and Riparian Avoidance/Minimization Areas: You must avoid the remaining acres(s) of on-site wetlands identified as W-1, W-2 and W-3. These natural wetland areas were avoided as part of the permit application review process and therefore will not be disturbed by any project activities including dredging, filling, mechanized land clearing, agricultural activities, or other construction work whatsoever. The permittee is required to maintain a 100-foot wide native vegetation buffer around wetlands identified as W-2 and W-3. Wetland W-1 is located outside of the sand pit mining area (see Sheet #3).

You are required to develop a plan to conserve the wetland and riparian avoidance areas for our approval. The plan shall include methods to identify the boundaries of wetland and riparian buffer areas. Methods shall include sign posting along the project work area boundaries, and recording Global Position System (GPS) boundary angle point locations for archival purposes.

The forested riparian area which occurs along the banks of the Kansas River shall not be disturbed by project activities except for the limits authorized by this permit.

e. You must avoid disturbing or damaging the existing dike/jetty structures with the exception of the non-functional west end of northern structure identified on the attachment (Sheet #3).

f. You will schedule and conduct a site inspection and meeting, jointly with the Corps of Engineers Kansas City District Regulatory office, within 60 days before the end of each 10 year permit period segment. The purpose of the site inspection and meeting is to review the project for any need or requirement of permit modification. If necessary, the Regulatory office may modify the permit term with an extension of the

ending date, in accordance with 33 CFR 325.6(c).

g. If any part of the authorized work is performed by a contractor, before starting work you must discuss the terms and conditions of this permit with the contractor; and, you must give a copy of this entire permit to the contractor.

h. You must use clean, uncontaminated materials for fill in order to minimize excessive turbidity by leaching of fines, as well as to preclude the entrance of deleterious and/or toxic materials into the waters of the United States by natural runoff or by leaching.

i. You must dispose of excess concrete and wash water from concrete trucks and other concrete mixing equipment in a non-wetland area above the ordinary high water mark and at a location where the concrete and wash water cannot enter the water body or an adjacent wetland area.

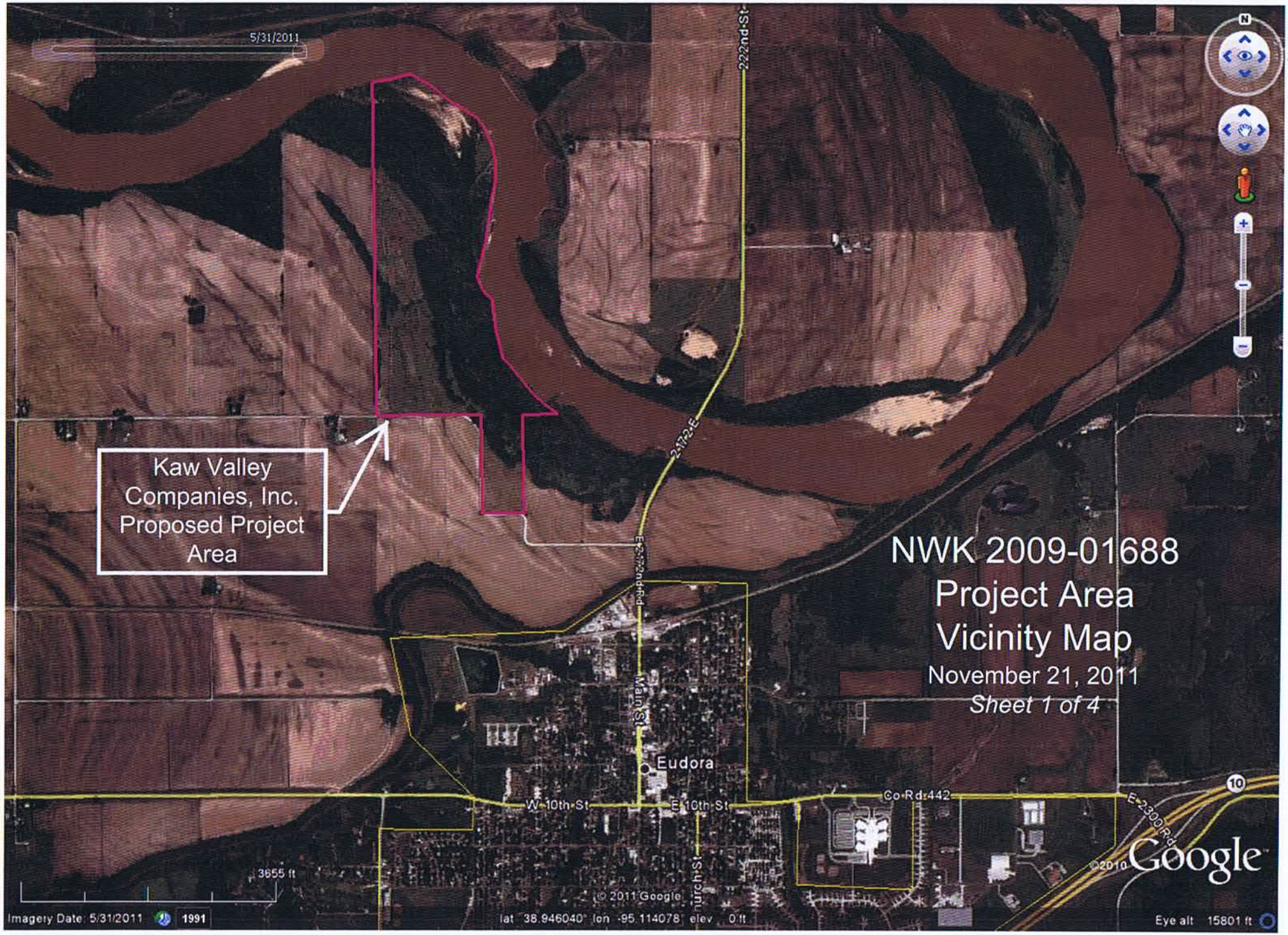
j. You must excavate, dredge and/or fill in the watercourse in a manner that will minimize increases in suspended solids and turbidity which may degrade water quality and damage aquatic life outside the immediate area of operation.

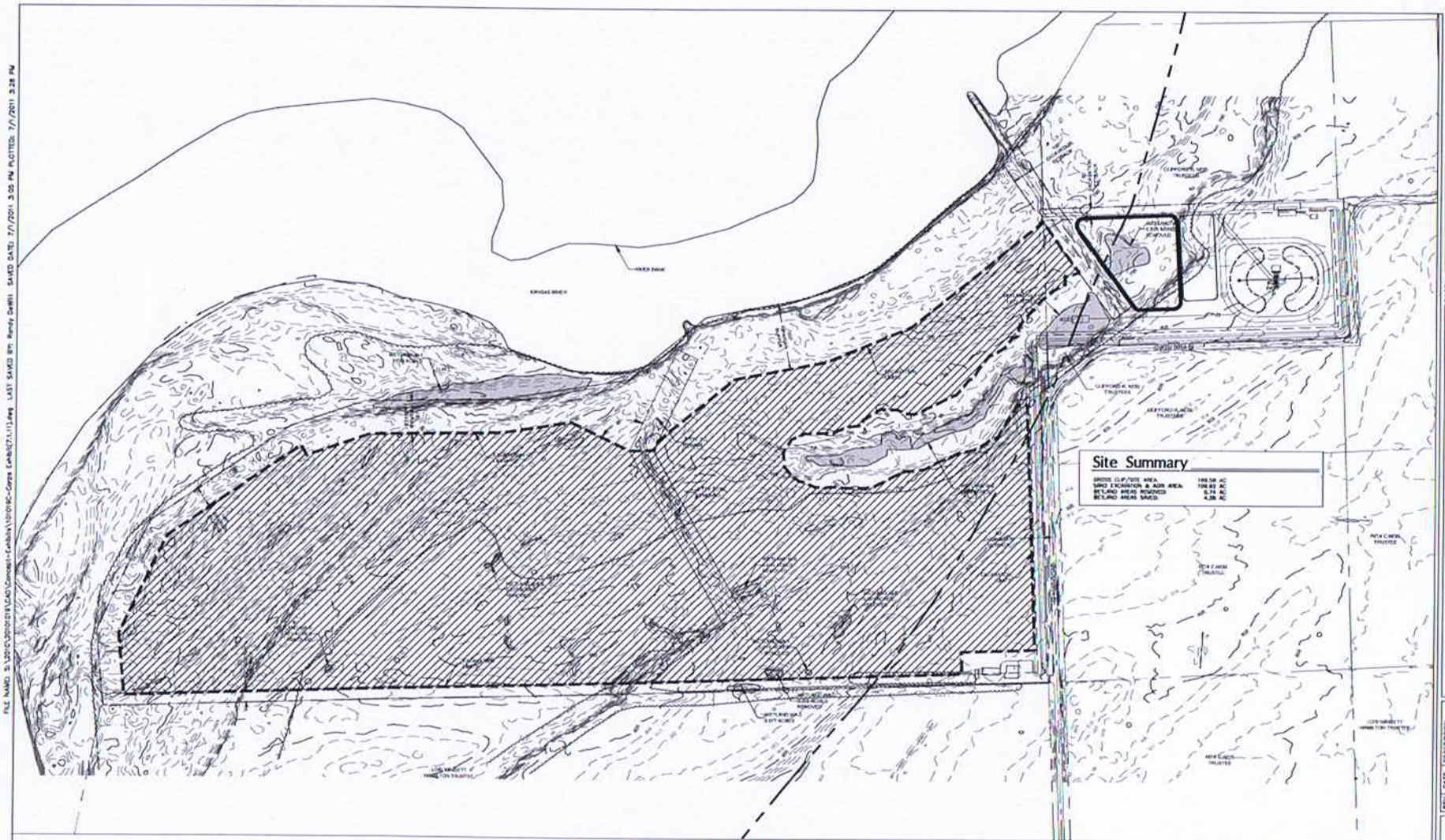
k. You must immediately remove and properly dispose of all debris during every phase of the project in order to prevent the accumulation of unsightly, deleterious and/or toxic materials in or near the water body.

l. You must not dispose of any construction debris or waste materials below the ordinary high water mark of any water body, in a wetland area, or at any location where the materials could be introduced into the water body or an adjacent wetland as a result of runoff, flooding, wind, or other natural forces.

m. You must store all construction materials, equipment, and/or petroleum products, when not in use, above anticipated high water levels.

n. You must restrict the clearing of timber and other vegetation to the absolute minimum required to accomplish the work. Clearing, grading and replanting should be planned and timed so that only the smallest area necessary is in a disturbed, unstable or unvegetated condition.


5/31/2011
222nd St
2172 E
Kaw Valley Companies, Inc. Proposed Project Area
E 22nd Rd
Main St
Eudora
W 10th St
E 10th St
Church St
Co Rd 442
E 2300 Rd
10
3655 ft
© 2011 Google
Imagery Date: 5/31/2011
1991
lat 38.946040° lon -95.114078° elev 0 ft
©2010 Google
Eye alt 15801 ft
NWK 2009-01688
Project Area
Vicinity Map
November 21, 2011
Sheet 1 of 4



NWK 2009-01688
Final Project Area Map
November 21, 2011

Sheet 2 of 4

SCALE: 1" = 200'

Excavation Area Exhibit

Kaw Valley
Eudora Sand Facility

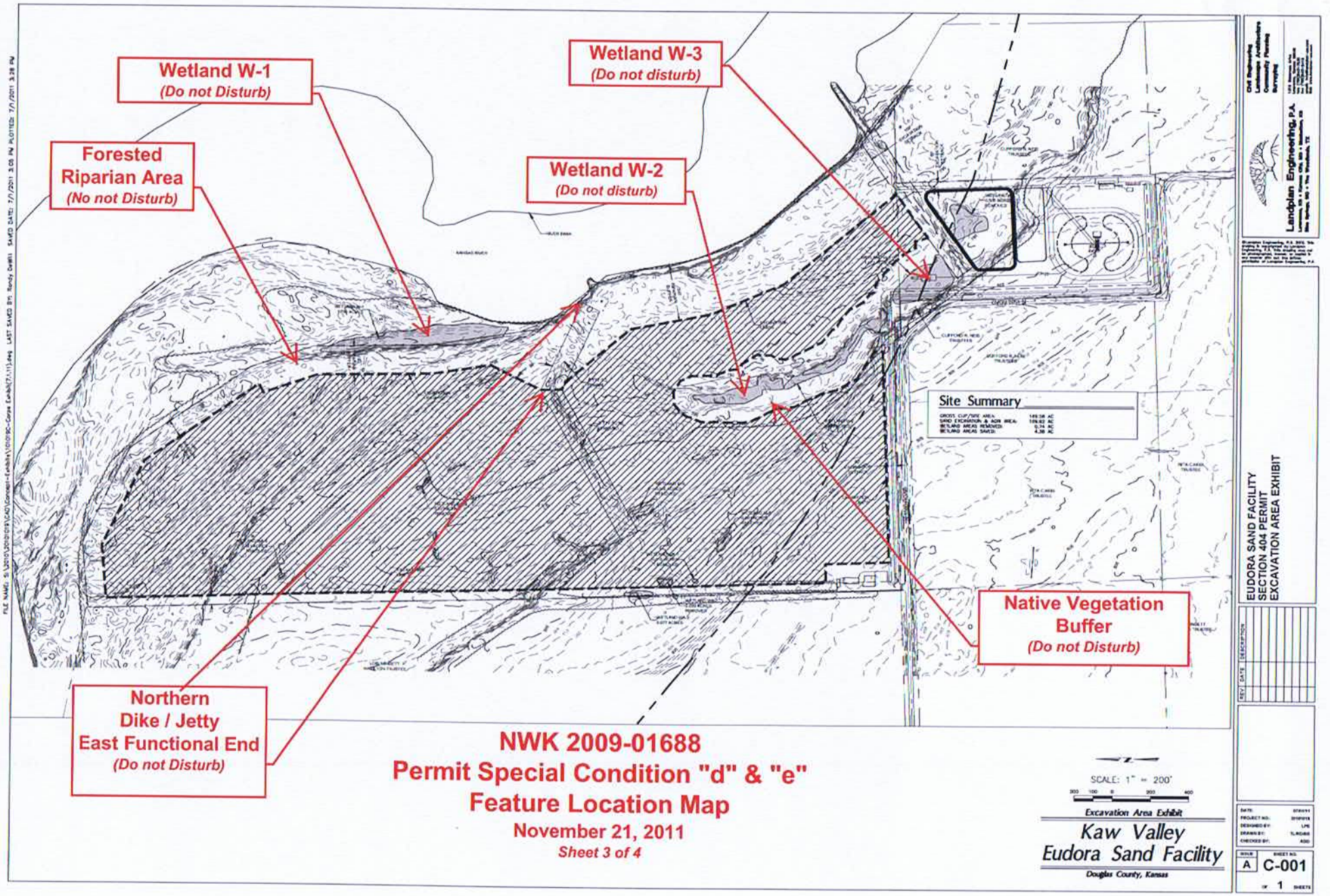
Douglas County, Kansas

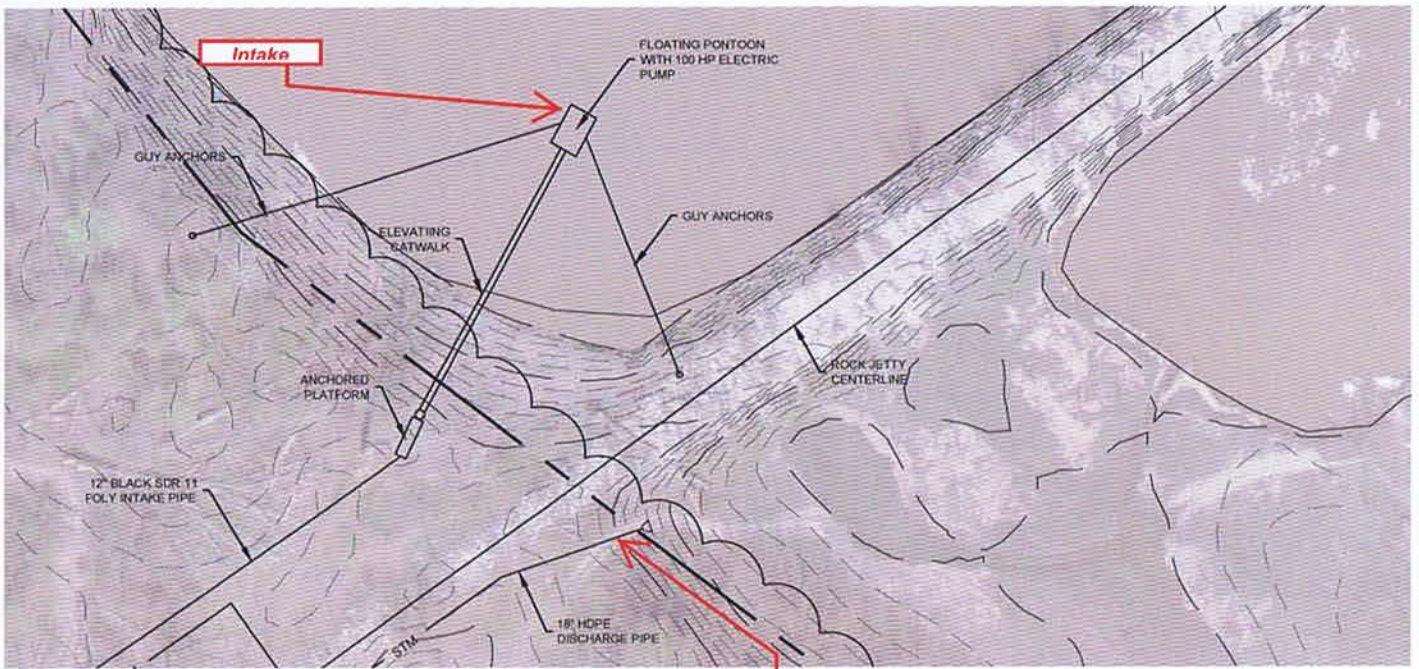
Landplan Engineering, P.A.

EUDORA SAND FACILITY
SECTION 404 PERMIT
EXCAVATION AREA EXHIBIT

A C-001

of 1


Wetland W-1
(Do not Disturb)
Forested
Riparian Area
(No not Disturb)
Wetland W-3
(Do not disturb)
Wetland W-2
(Do not disturb)
Site Summary
Native Vegetation
Buffer
(Do not Disturb)
Northern
Dike / Jetty
East Functional End
(Do not Disturb)
NWK 2009-01688
Permit Special Condition "d" & "e"
Feature Location Map
November 21, 2011
Sheet 3 of 4
SCALE: 1" = 200'
Excavation Area Exhibit
Kaw Valley
Eudora Sand Facility
Douglas County, Kansas
Landplan Engineering, P.A.
EUDORA SAND FACILITY
SECTION 404 PERMIT
EXCAVATION AREA EXHIBIT
C-001



NWK 2009-01688

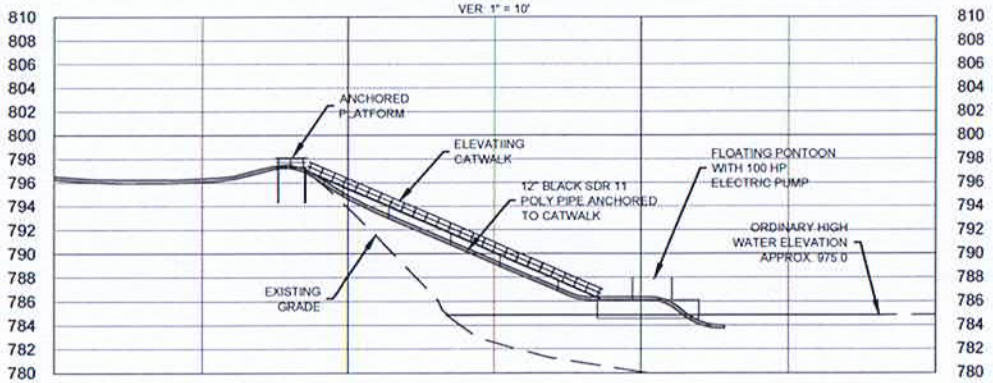
Washwater Intake and Outfall Structure Exhibit

November 21, 2011

Sheet 4 of 4

WASHWATER INTAKE DETAIL

HOR: 1" = 40'
VER: 1" = 10'



WASHWATER INTAKE STRUCTURE EXHIBIT

KAW VALLEY EUDORA SAND PLANT

SCALE: 1" = 40'

Landplan Engineering, P.A.
Civil Engineering
Landscape Architecture
Community Planning
Surveying

Bureau of Water
Watershed Management Section
1000 SW Jackson, Suite 420
Topeka, KS 66612-1367

Robert Moser, MD, Secretary

Kansas
Department of Health & Environment

Phone: 785-296-4195
Fax: 785-296-5509
nps@ks.gov
www.kdheks.gov/water

Sam Brownback, Governor

September 2, 2011

Mr. Michael Mc Fadden
Regulatory Branch
Kansas City District Office
U.S. Army Corps of Engineers
601 East 12th Street, Kansas City, MO
64106

Section 401 Water Quality Certification

RE: PN 2009-1688. Applicant: Kaw Valley Companies, Inc., 5600 Kansas Avenue, Kansas City, Kansas 66106

Dear Mr. Mc Fadden:

On August 2, 2011, the Kansas Department of Health and Environment (KDHE) received from the U.S. Army Corps of Engineers, Kansas City District, a request for Section 401 Water Quality Certification for the referenced proposed Section 404 project as described below.

Project Description from the U.S. Army Corps of Engineers, Kansas City District/ KDHE Public Notice: "The proposed project is to construct a sand mining operation for commercial purposes in the floodplain of the Kansas River. Floodplain sand mining operations are being constructed in the location of a former golf course. Project plans include the construction of a sand processing plant, an open dredge pit for the excavation of sand, access roads, settling basins, stockpile areas, and the construction of attendant buildings. Mining will be accomplished by using conventional methods and equipment to extract sand. The open dredge pit will encompass approximately 114 acres and be pit mined in 16 phases. Each phase will be mined over an estimated 30-year life of the mine. Process water will be drawn from the Kansas River through an intake structure and discharged to settling basins before being returned to the river. Reclamation of the site will be administered by the State Conservation Commission in accordance with the Surface-Mining Land Conservation and Reclamation Act. A conditional use permit will be required from Douglas County to develop the property into a sand mining operation. A 300-foot setback from the Kansas River is proposed and will be maintained along the entire project boundary to minimize impacts to the river and its riparian habitat. Adverse impacts to waters of the United States include 3.29 acres of wetlands adjacent to the Kansas River. The water intake structure will be constructed adjacent to an existing jetty within the river. **WETLANDS/AQUATIC HABITAT**: Approximately 10 wetlands adjacent to the Kansas River, totaling 3.29 acres, will be impacted by project operations. Specifically, adverse impacts include 2.97 acres of forested wetland and 0.32 acre of emergent wetland (Wetland 1: 0.01 acres, Wetland 2: 0.06 acres, Wetland 3: 0.08 acres, Wetland 4: 0.02 acres, Wetland 5: 0.01 acres, Wetland 6: 0.05 acres, Wetland 7: 0.09 acres, Wetland 8: 0.5 acres, Wetland 9: 1.07 acres, Wetland 10: 1.4 acres). Wetlands 1 to Wetland 7 are of limited functional quality and were constructed as features associated with the former golf course.

PROJECT LOCATION: The project is located near 2102 North 1500 Road in Eudora, Douglas County, Kansas. The project site is approximately 197 acres located in Section 32, Township 12 , Range 21 East, and Section 5, Township 13 , Range 21 East on the north side of the Wakarusa River and west of the Kansas River. (USGS Quad KS-Eudora at approximate Latitude: 38.96066 and Longitude: -95.10928).

APPLICANT'S STATEMENT OF AVOIDANCE, MINIMIZATION, AND COMPENSATORY MITIGATION FOR UNAVOIDABLE IMPACTS TO AQUATIC RESOURCES: Avoidance and minimization of adverse impacts to waters of the United States were considered during project planning and design. The applicant has explored alternate locations and configurations to avoid and minimize adverse impacts to waters of the United States. This includes constructing the sand mining operation in a previously disturbed location and incorporating a 300-foot setback from the Kansas River that is currently a forested riparian zone. Additionally, the applicant has avoided a 1.8-acre forested wetland in the configuration and design of the operations plan. For unavoidable adverse impacts the applicant is proposing the purchase of credits through an approved mitigation bank within the service area."

LEAST ENVIRONMENTALLY DAMAGING PRACTICAL ALTERNATIVE (LEDPA)
Comment letters of concern and negotiations between the USACE and the applicant resulting in the LEDPA that the USACE is permitting has the mine area reduced to 109.92 acres, and impacts to wetlands reduced to 0.74 acres.

The Kansas Department of Health and Environment has received your request for Section 401 Water Quality Certification. We have reviewed the project and have determined the project has the following water pollutant discharge sources:

1. Construction activities including grading and filling, equipment and materials storage, equipment fueling and maintenance, etc

2. Loss of riparian vegetation along the stream bank.

Discharges from these sources if not minimized or otherwise controlled may cause violations of the provisions of Kansas Water Quality Standards found at KAR 28-16-28 et seq. The Wakarusa River and Kansas Rivers are described in the Kansas Surface Water Register [KAR 28-16-28(g)] as having designated uses of domestic water supply, food procurement, ground water recharge, industrial, livestock watering and aquatic life support. The Wakarusa River has expected aquatic life use and the Kansas River has special aquatic life use (SALU) support. Waters designated as SALU contain designated critical habitat for threatened or endangered species, known populations of threatened or endangered species or uncommon combinations of plants and animals as documented in KAR 28-16-28d(b)(2)(A).

Additionally, **K.A.R. 28-16-28c(a)B**(4) No degradation of surface water quality by artificial sources of pollution shall be allowed if the degradation will result in harmful effects on populations of any threatened or endangered species of aquatic or semi-aquatic life or terrestrial wildlife or its critical habitat as determined by the secretary of wildlife and parks pursuant to K.S.A. 32-960, and amendments thereto, and K.A.R. 115-15-3 or in the federal endangered species act, 16 U.S.C. 1532 , as amended on October 7, 1988.

Therefore, pursuant to Clean Water Act Section 401and KAR 28-16-28f (c), KDHE has reviewed the certification request materials and associated documents, in response to the joint public notice of the project and finds there is a potential for significant water quality impacts. Therefore, KDHE issues this Section 401 Water Quality Certification subject to the conditions enumerated throughout this letter to avoid violations of the Kansas Surface Water Quality Standards.

KDHE CONDITIONS

1. A copy of this water quality certification shall be posted on site during construction.

2. KAW VALLEY COMPANIES, INC. shall implement good housekeeping practices to assure conditions do not cause:

   a. Surface waters of the state within and below the project area to offal, grass clippings, discarded building or construction materials, car bodies, tires, wire and other unwanted or discarded materials[KAR 28-16-28e(b)(3)].

3. KAW VALLEY COMPANIES, INC. shall avoid or control the discharge of suspended solids from construction activities and removal of riparian vegetation so that they **shall not cause**:

   a. Surface waters of the state within and below the project to have floating debris, scum, foam, froth and other floating materials directly or indirectly attributable to the project [KAR 28-16-28e(b)(4)].

   b. Surface waters of the state within or below the project to have deposits of sludge or fine solids [KAR 28-16-28e(b)(6)].

   c. Alteration of the natural appearance of surface waters of the state within or below the project by the addition of color-producing or turbidity-producing substances of artificial origin [KAR 28-16-28e(b)(8)].

   d. The concentration of dissolved oxygen in the Wakarusa and Kansas Rivers to be lower than 5.0 mg/L.

   e. Addition of suspended solids to the Wakarusa and Kansas Rivers in amounts and concentrations that will interfere with the behavior, reproduction, physical habitat, or other factors related to the survival and propagation of aquatic or semi aquatic life or terrestrial wildlife [KAR 28-16-28e(c)(2)(B)].

4. Non-agricultural activities that disturb one acre or more shall inquire as to how to obtain a construction stormwater NPDES permit from KDHE. A Stormwater Pollution Prevention Plan (SWPP) is requirement of the NPDES permit. Any inquiries should be directed to Mr. Larry Hook at 785/296-5549, lhook@kdheks.gov; Bureau of Water - Industrial Programs. Other information is available on their website: www.kdheks.gov/stormwater.

5. The KAW VALLEY COMPANIES, INC. shall avoid or control the discharge of nutrients from construction activities, removal of permanent riparian vegetation, so that the project **does not cause**:

a. Any surface waters of the state within and below the project to have floating debris, scum, foam, froth and other floating materials directly or indirectly attributable to the project [KAR 28-16-28e(b)(4)].

b. Any surface waters of the state within and below the project to contain taste and odor producing substances at concentrations which interfere with the production of potable water by conventional water treatment processes, impart an unpalatable flavor to edible aquatic or semi-aquatic life or terrestrial wildlife or that result in noticeable odors in the vicinity [KAR 28-16-28e(b)(7)].

c. Alteration of the natural appearance of surface waters of the state within or below the project by the addition of color-producing or turbidity-producing substances of artificial origin [KAR 28-16-28e(b)(8].

d. The concentration of dissolved oxygen in the Wakarusa and Kansas Rivers to be lower than 5.0 mg/L.

e. Addition of suspended solids to the Wakarusa and Kansas Rivers in amounts and concentrations that will interfere with the behavior, reproduction, physical habitat, or other factors related to the survival and propagation of aquatic or semi aquatic life or terrestrial wildlife [KAR 28-16-28e(c)(2)(B)].

f. The pH in the Wakarusa and Kansas Rivers to be below 6.5 or above 8.5. Refer to Surface Water Quality Standards [KAR 28-16-28e(d)] in table1g, a separate document found at: http://www.kdhe.state.ks.us/water/download/swqs_numeric_criteria.pdf,

6. The KAW VALLEY COMPANIES, INC. shall avoid or control the discharge of toxic substances, oil and grease and other fluids from construction activities, so that the project **does <u>not</u> cause**:

a. Any surface waters of the state within and below the project area to have a public health hazard, nuisance condition or impairments of designed uses [KAR 28-16-28e(b)].

b. Any surface waters of the state within and below the project area to have toxic substances, radioactive isotopes, and infectious microorganisms in concentrations or in combinations that jeopardize the public health or the survival or well-being of livestock, domestic animals, terrestrial wildlife or aquatic or semi-aquatic life [KAR 28-16-28e(b)].

c. Any surface waters of the state within and below the project area to have a visible oil and grease film or sheen on the water surface or on submerged substrate or adjoining shore lines, nor have a sludge or emulsion deposit below the water surface of adjoining shorelines [KAR 28-16-28e(b).

d. In the Wakarusa and Kansas Rivers listed harmful concentrations of any substance alone or in combination with other substances causing toxic, carcinogenic, teratogenic, or mutagenic effects in humans [KAR 28-16-28e(c)(3)(C)].

e. Concentrations of substances that bio-accumulate in the tissues of edible organisms to exceed a cancer risk level of (10^{-6}) in persons consuming organisms taken from the Wakarusa and Kansas Rivers [KAR 28-16-28e(c)(4)(B)].

f. The pH in the Wakarusa and Kansas Rivers to be below 6.5 or above 8.5. Refer to Surface Water Quality Standards [KAR 28-16-28e(d)] in table1g, a separate document found at: http://www.kdhe.state.ks.us/water/download/swqs_numeric_criteria.pdf,

7. KAW VALLEY COMPANIES, INC. shall avoid or control the discharge of *Escherichia-coli* bacteria from the project site, especially construction activities, so that the project does not cause the *Escherichia-coli* bacteria concentration of the geometric mean of 3,843 organisms per 100 milliliters during the period of November 1 through March 31 and the geometric mean of 427 organisms per 100 milliliters during the period of April 1 through October 31st. [KAR 28-16-28e(d) in table 1j].

8. The KAW VALLEY COMPANIES, INC. shall prepare a written project water quality protection plan describing the actions that will be taken to comply with Certification Conditions 2, 3, 4, 5, 6 and7. This condition may be waived depending on the content of the "stormwater pollution prevention plan" prepared pursuant to condition 4. It is suggested that the stormwater pollution prevention plan's description of BMPs, include a. through f. of the following:

a. **Riparian/Wetland Areas**: Minimize removal or disturbance of riparian/wetland areas (areas adjacent to water bodies). KDHE encourages the use of plants consistent with adjoining vegetation materials to minimize impacts from improper handling of fertilizers and pesticides.

b. **Solid Waste**: All waste materials produced by the construction project shall be disposed of in accordance with the provisions of the Kansas solid waste management statutes and regulations (K.S.A. 65-3401 and K.A.R. 28-29-1 et. seq.) or applicable local rules. Good house-keeping including personal refuse such as food containers, sacks etc. shall be addressed. Good house-keeping practices described above should also be incorporated into operations and management of wetlands and other structures once constructed to the extent practicable.

c. **Fuels: Chemicals and Maintenance Areas**: All fuels and chemicals necessary to complete the project shall be stored in such a manner that accidental spillage is minimized or can be temporarily contained before reaching the water body. Equipment maintenance areas shall also be located in this manner.

d. **Spills:** Should a spill of fuel or discharge of pollutants occur, the local emergency staff should be contacted first by dialing 911. The Kansas Department of Health and Environment shall then be notified immediately: (785) 296-1679 (24 hours a day.) These incidences should also be reported to the National Spill Response Center (1-800*424-8802). Hazardous materials spills and air releases that meet federal reportable quantities must also be reported to Kansas Division of*

Emergency Management (800-275-0297)." These reporting numbers shall be posted in several locations around the site. A Spill Prevention and Response Plan should be prepared. This should include reportable quantity limits (see www.kansas.gov/kdem).

e. **Materials** used to stabilize channel banks shall be free of pollutants which can wash or leach into waters of the state.

f. **Floating Debris:** The KAW VALLEY COMPANIES, INC. shall take appropriate measures to capture any floating debris released to surface waters as a result of this project.

9. In the event the permitted activity occurs in or within one half (.) mile of an Special Aquatic Life Support Use Water as referenced previously on page 2, **the person responsible for initiating the activity shall submit a copy of the PWQPP (described in condition 8) to:**

Kansas Department of Health and Environment
Bureau of Water - Watershed Management Section
1000 SW Jackson Street, Suite 420
Topeka, Kansas 66612-1367
nps@kdhe.state.ks.us

10. This certification does not relieve the KAW VALLEY COMPANIES, INC. of the responsibility for any discharge into waters of the state. The Kansas Department of Health and Environment retains the option of revoking or revising this certification any time an inappropriate discharge may occur. As provided by K.S.A. 65-171(f), failure to comply with the conditions of this certification may subject the responsible party to fines up to $10,000 per violation with each day the violation occurs constituting a separate violation.

11. If the KAW VALLEY COMPANIES, INC. believes the conditions of this certification will result in impairment of important social and economic development, the KAW VALLEY COMPANIES, INC. is advised of the variance provisions of KAR 28-16-28b(jjj) and KAR 28-16-28f(e).

Questions concerning this certification may be directed to Mr. Scott Satterthwaite, 785-296-5573 or by email at: ssattert@kdhe.state.ks.us.

Sincerely,

Scott L. Satterthwaite

Scott L. Satterthwaite, M.S.
Non-point Source Pollution Control Specialist
Bureau of Water-Watershed Management Section

EC: KDHE-Hook, Rowlands, Stiles
KDA-DWR, Chad Voigt

NOTIFICATION OF ADMINISTRATIVE APPEAL OPTIONS AND PROCESS AND REQUEST FOR APPEAL

Applicant: Kaw Valley Companies, Inc.	File Number:2009-1688	Date: Nov. 28, 2011
Attached is:		See Section below
XX	A. INITIAL PROFFERED PERMIT (Standard Permit or Letter of Permission)	A
	B. PROFFERED PERMIT (Standard Permit or Letter of Permission)	B
	C. PERMIT DENIAL	C
	D. APPROVED JURISDICTIONAL DETERMINATION	D
	E. PRELIMINARY JURISDICTIONAL DETERMINATION	E

SECTION I - The following identifies your rights and options regarding a modification, reconsideration, or administrative appeal of the above decision. Additional information may be found at http://www.usace.army.mil/inet/functions/cw/cecwo/reg or Corps regulations at 33 CFR Part 331.

A: INITIAL PROFFERED PERMIT: You may accept or request modification of the permit.

- ACCEPT: If you received a Standard Permit, you may sign the permit document and return it to the District Engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- REQUEST MODIFICATION: If you object to the permit (Standard or LOP) because of certain terms and conditions therein, you may request that the permit be modified accordingly. You must complete Section II of this form and return the form to the District Engineer. Your objections must be received by the District Engineer within 60 days of the date of this notice, or you will forfeit your right to appeal the permit in the future. Upon receipt of your letter, the District Engineer will evaluate your objections and may: (a) modify the permit to address all of your concerns, (b) modify the permit to address some of your objections, or (c) not modify the permit having determined that the permit should be issued as previously written. After evaluating your objections, the District Engineer will send you a proffered permit for your reconsideration, as indicated in Section B below.

B: PROFFERED PERMIT: You may accept or appeal the permit.

- ACCEPT: If you received a Standard Permit, you may sign the permit document and return it to the District Engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- APPEAL: If you choose to decline the proffered permit (Standard or LOP) because of certain terms and conditions therein, you may appeal the declined permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the Division Engineer (address on page 2). This form must be received by the Division Engineer within 60 days of the date of this notice.

C: PERMIT DENIAL: You may appeal the denial of a permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the Division Engineer (address on page 2). This form must be received by the Division Engineer within 60 days of the date of this notice.

D: APPROVED JURISDICTIONAL DETERMINATION: You may accept the approved JD, appeal the approved JD, or submit new information and request reconsideration of the approved JD.

- ACCEPT: You do not need to notify the Corps to accept an approved JD. Failure to notify the Corps within 60 days of the date of this notice, means that you accept the approved JD in its entirety, and waive all rights to appeal the approved JD.
- APPEAL: If you disagree with the approved JD, you may appeal the approved JD under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the Division Engineer (address on page 2). This form must be received by the Division Engineer within 60 days of the date of this notice.
- RECONSIDERATION BASED ON NEW INFORMATION: You may submit new information to the District Engineer for reconsideration of an approved JD. You must submit the information within 60 days of the date of this notice.

E: PRELIMINARY JURISDICTIONAL DETERMINATION: You do not need to respond to the Corps regarding the preliminary JD. The preliminary JD is not appealable. If you wish, you may request an approved JD (which may be appealed), by contacting the Corps district for further instruction. Also you may provide new information for further consideration by the Corps to reevaluate the JD.

SECTION II –Fill out this section and return this form to the appropriate office only if submitting a request for modification or reconsideration to the District Engineer, or if submitting a request for Administrative Appeal to the Division Engineer. All such submittals must be made within 60 days of the date of this notice.

Submit the following requests to the District Engineer

A. Modification of an INITIAL PROFFERED PERMIT (Item A).
D. Reconsideration of an APPROVED JURISDICTIONAL DETERMINATION based on NEW INFORMATION (Item D RECONSIDERATION).

Submit the following requests to the Division Engineer

B. Administrative Appeal of a PROFFERED PERMIT (Item B).
C. Administrative Appeal of a PERMIT DENIAL (Item C).
D. Administrative Appeal of an APPROVED JURISDICTIONAL DETERMINATION (Item D APPEAL) (for reasons other than reconsideration of an approved JD based on new information).

(Note: Preliminary Jurisdictional Determinations (Item E) are not appealable. If you have concerns regarding a preliminary Jurisdictional Determination, you can request an approved Jurisdictional Determination).

REASONS FOR APPEAL OR OBJECTIONS: (Describe your reasons for appealing the decision or your objections to an initial proffered permit in clear concise statements. You may attach additional information to this form to clarify where your reasons or objections are addressed in the administrative record.)

SUBMITTAL OF NEW OR ADDITIONAL INFORMATION: The District Engineer may accept and consider new information if you request a modification to an initial proffered permit (Part A), or a reconsideration of an approved JD (Part D). An administrative appeal to the Division Engineer is limited to a review of the administrative record, the Corps memorandum for the record of the appeal conference or meeting, and any supplemental information that the review officer has determined is needed to clarify the administrative record. Neither the appellant nor the Corps may add new information or analyses to the administrative record. However, you may provide additional information to clarify the location of information that is already in the administrative record.

POINT OF CONTACT FOR QUESTIONS OR INFORMATION:

If you have questions regarding this decision and/or the appeal process you may contact: DISTRICT ENGINEER **Attn: Mark D. Frazier** **Chief, Regulatory Branch** **U.S. Army Engineer District, Kansas City** **601 E. 12th Street, Suite 402** **Kansas City, MO 64106-2896** **Telephone: 816-389-3990** (Use this address for submittals to the District Engineer)	If you wish to submit an appeal or have questions regarding the appeal process you may contact: DIVISION ENGINEER **Attn: David W. Gesl** **Administrative Appeals Review Officer** **U.S. Army Engineer Division, Northwestern Division** **P.O. Box 2870** **Portland, OR 97208-2870** **Telephone: 503-808-3825**

RIGHT OF ENTRY: Your signature below grants the right of entry to Corps of Engineers personnel, and any government consultants, to conduct investigations of the project site during the course of the appeal process. You will be provided a 15 day notice of any site investigation, and will have the opportunity to participate in all site investigations.

_____ Signature of appellant or agent.	Date:	Telephone number:

APPLICANT'S RECOMMENDED FINDINGS OF FACT

I. ZONING AND USES OF PROPERTY NEARBY

Finding – The property under consideration is currently vacant. A portion of the site was, at one time, for a brief period, developed and operated as a golf course but has since fallen to disuse. The area includes Valley Chanel zoning within Douglas County and Heavy Industrial zoning in Leavenworth County. Both Douglas and Leavenworth County surrounding properties are predominantly used for agricultural crop production. Leavenworth County includes a railroad line that generally parallels the Kansas River. All land south of the railroad to the County line is zoned for industrial uses in Leavenworth County. The area within Douglas County east and south is zoned VC – Valley Channel and is used for agricultural activities. The area South of the site within the City of Eudora, is zoned for public use and business, but contains the City's sewage treatment plant, railroad tracks, scrap or salvage storage and various other high intensity land uses.

II. CHARACTER OF THE AREA - This area is located north of the City of Eudora and within 3 miles of the Eudora City Limits. The incorporated Eudora City Limits is located approximately .3 mile South of the proposed use.

Outside of the incorporated limits of the City of Eudora, the character of the area is primarily agricultural, but contains a former City Garbage and Trash Dump. The site under consideration is vacant.

Within the City limits, in the proximity of the proposed use, is the City's sewage treatment plant, railroad tracks, scrap or salvage storage and various other high intensity land uses, including outdoor storage of apparent industrial electrical transformers.

The area is generally characterized as open space and agricultural use lying adjacent to very intense industrial uses within the City of Eudora.

III. SUITABILITY OF SUBJECT PROPERTY FOR THE USES TO WHICH IT HAS BEEN RESTRICTED – Under the VC Valley Channel Zoning District, the property has been restricted to agricultural uses and to mining (mineral extraction) subject to a conditional use permit being issued.

The site is ideally located for mineral extraction. It contains high quality sand, and is located with direct access to transportation facilities to deliver the sand to the processing plant. It is not suitable for agricultural use because of the high sand content of the soil. In this case the mineral (sand) can be termed a renewable resource. After the sand is extracted, it will be gradually restored through natural processes. Moreover, after the land is used for mineral extraction and reclaimed, it will have value for recreational use.

After the reclamation the site will be classified as open space and recreational use. The recognized document for classifying land use is the Standard Industrial Classification List

published by the federal government. Sand extraction is not listed as an industrial use. The proposed use of this site is classified as: 1400 4 MINING & QUARRYING OF NONMETALLIC MINERALS (NO FUELS). It is not a manufacturing use. On the contrary, the operators are merely harvesting the bounty of their land using relatively gentle pumps to extract sand from a pond wholly on their property.

The land will remain open space. It will contain a pond which will float a watercraft (the dredge). There will be truck traffic, and there will be sorting and loading equipment. It will create less noise and dust than many farming operations.

Although the property is not well suited for agricultural use, it is well suited for sand extraction, which represents the only viably economic use of the site.

V. LENGTH OF TIME SUBJECT PROPERTY HAS REMAINED VACANT AS ZONED
The staff report accurately sets out findings for this factor, except that it is important to note that although a portion of the site was used for a short time as a golf course, the major part of it has been vacant for recent memory. As was previously noted, a small portion was used as a garbage and trash dump for a period of time.

V. EXTENT TO WHICH REMOVAL OF RESTRICTIONS WILL DETRIMENTALLY AFFECT NEARBY PROPERTY - Approval of a Conditional Use Permit does not remove any restrictions imposed by the VC zoning of the property. No nearby property will be detrimentally affected by the approval of this application to permit the extraction of sand from the site.

Experts testified that the operation contemplated will have no adverse impact on the nearby water wells, and traffic will be minimal and the applicant will adhere to the recommendations of the County Engineer.

The US Army Corps of Engineers has reviewed the proposed operation and the applicant will comply with the findings of their experts.

VI. RELATIVE GAIN TO THE PUBLIC HEALTH, SAFETY AND WELFARE BY THE DESTRUCTION OF THE VALUE OF THE PETITIONER'S PROPERTY AS COMPARED TO THE HARDSHIP IMPOSED UPON THE INDIVIDUAL LANDOWNERS – No hardship will be placed on individual landowners if the proposal is approved. On the other hand denial of the permit will result in the loss of all economically viable use of the site under consideration.

VII. CONFORMANCE WITH THE COMPREHENSIVE PLAN OF DOUGLAS COUNTY AND WITH THE COMPREHENSIVE PLAN OF EUDORA
There has been considerable discussion as to whether or not this proposed use is an industrial use. The sand extraction process is not an industrial use of land. The Federal classification system does not classify it as industrial; It requires no raw material inputs to the process; It consumes no water for cooling or otherwise; It produces no noxious waste or pollution; noise levels are less than with a farming operation; It creates none of the land use interface problems that are inherent with urban industrial uses; It requires no access to urban utilities; and There is no reason to annex an area of future open space and recreational use.

The purpose of the requested permit is to permit the harvesting of the fruits of the Land on the site in question. It makes no sense to require the excavation of sand to locate within the K-10 corridor, because that is not where the sand is located. It makes no sense to prohibit sand operations in the floodplain, because that is where the sand is located.

Notwithstanding those facts, this request complies with H2020. Even if considered a prospective industrial/employment-related development, the proposed sand excavation operation meets all 4 general and all 6 specific location criteria set forth in Chapter 7, Policy 2.1. A review of the applicable comprehensive plans is included in this report. Horizon 2020 governs the unincorporated areas of Douglas County.

CONCLUSION

The Planning Commission should approve the application and forward it to the Board of Commissioners of Douglas County with a recommendation for approval.

PRESS RELEASE Friends of the Kaw, www.kansasriver.org/stopdredging

CONTACT Laura Calwell, 913-963-3460, riverkeeper@kansasriver.org

RELEASE DATE December 1, 2011

DREDGING OPERATIONS DEEPEN, WIDEN KANSAS RIVER, CAUSE EROSION, THREATEN FISH

--- K-STATE RESEARCHERS TO RELEASE NEW STUDY ---

Private in-channel dredging operations on rivers like the Kansas River cause deepening and widening of the channel and accelerate erosion of the banks. As a result, dredging lowers the water level of the river and the adjacent water table in the floodplain. This creates the risk for harm to public river uses (such as water treatment facilities, municipal wells, bridge footings, etc.) as well as to fish communities throughout the watershed, including endangered species.

These preliminary findings come from a study funded by the Kansas Department of Wildlife and Parks (KDWP) and carried out by Kansas State University researchers Melinda Daniels and Craig Paukert. The scientists have documented riverbed incision in dredged reaches, which is most likely also causing excessive bank erosion both upstream and downstream of dredge sites. The final study results will be released in late December.

The local nonprofit conservation group Friends of the Kaw (FOK) recently interviewed Daniels for its public comment to the U.S. Army Corps of Engineers. The Army Corps is considering a proposal from five private dredging companies to increase dredging on the Kaw close to 50%, from 2.2 million tons to 3.2 million tons. Public comments should be emailed to kale.e.horton@usace.army.mil by December 9, 2011.

“If you take 3.2 million tons from the river bottom, then the river will take 3.2 million tons from the riverbanks, trying to balance the sediment load in the system,” Daniels said. “That’s the simple physics of how water works in river channels to transport sediment. Any riparian owner should be worried, particularly farmers with unforested river banks next to their fields. So should anyone with a water intake pipe or a creek in their backyard. The effects of in-channel dredging will propagate both upstream and downstream from the dredge site until a hard control point, like a dam or a bedrock outcrop, is reached. That means up tributary streams as well as the main river.”

Daniels surveyed major dredge holes on the Kansas River with a sophisticated new measuring technology, an acoustic Doppler instrument that mapped river channel topography and measured water velocity. The researchers discovered that while the Kansas River averages four to five feet deep, active dredge holes can measure up to forty feet deep.

The researchers also discovered that these deep dredge holes can migrate up and down river - sometimes very rapidly, depending on water conditions. Even during small flow increases, researchers documented the upslope lip of a dredge hole traveling upstream.

“People used to think the dredge holes just filled up, but now we know they don’t. The holes first cause erosion upstream and downstream and then eventually do fill in, but not before causing a net loss of sediment from the bed and banks of the channel, meaning the channel does not simply go back to its

original state," Daniels said. "If there's no bedrock, or physical structure like the Bowersock Dam to stop them, those dredge holes cause channel erosion that will keep on going through the entire river network. Their effects can even travel up the tributaries." Unless a bridge footing or other engineering infrastructure in the river is armored, then the migrating hole could erode that physical structure as well.

The technical term for this river phenomenon is a "migrating head cut." Here's how it works:
The Kansas River is a sand bed river. Sand is a light sediment, and water transports it easily. When dredgers excavate into the riverbed, that hole creates a steep wall (or head cut) where the river depth suddenly increases. Water rushes rapidly over that wall, gaining speed and picking up sand from the upstream edge. At the same time, some sand falls into the hole. The water passing over the hole then picks up new sediment downstream, causing erosion there as well. The hole starts to expand, both upstream and downstream.

Part of the dredging proposal before the Army Corps is to re-open a closed dredge site above Topeka. The Army Corps previously shut down the site, operated by Meier's Ready Mix, due to unacceptable bed degradation.

"Whatever happens above Topeka will eventually migrate upstream through the entire network, stopping only at the bases of Tuttle Creek and Milford and other dams," said Daniels. "It could happen quickly, within one to two years. Dredging incisions set up cascading environmental effects – bed degradation, riverbanks become unstable and steep from accelerated erosion, etc. Change happens very quickly on a sand bed river."

Over time, repeated dredging deepens and widens the river by removing sediment from the system. The result is that the river bottom lowers, too, along with the water level. This can leave the intakes for water treatment plants stranded. Dredging on the Missouri River has been scaled back recently because of similar problems propagating into the lower Kansas River and other tributaries to the Missouri.

When the river deepens, the water table in the floodplain lowers. Daniels said that this creates the potential for less water storage, which could affect the many municipal wells along the river. A lower water table also affects river vegetation and forests. For example, the cottonwood – the state tree of Kansas – can't survive unless its roots can reach a good water supply.

The deep dredge holes may affect fish populations, too. "The river's physical habitat is significantly different between dredged and un-dredged areas," noted Daniels.

However, dredging's most major environmental impacts for fish are not limited to the Kaw. Since migrating head cuts can also affect river tributaries, Daniels said the K-State study raises questions about risks to the habitat of endangered species (like the Topeka Shiner) that live in these smaller streams.

Daniels said that knowledge of the environmental impacts of dredging is incomplete without studying dredging's impacts on the entire Kansas River system.

"We need a new environmental impact study that considers the impacts of dredging on fish that live in the tributaries as well," said Daniels. Right now, the U.S. Army Corps of Engineers is depending on an environmental impact statement (EIS) dating from 1991.

Before Daniels and Paukert carried out their study, the effect of sand and gravel dredging on the Kansas River had not been seriously studied. This study was the first time such sophisticated measuring technology has been used.

"The Army Corps has studied similar conditions with sand dredging on the Missouri River," said Daniels. "They are aware of the problems, and if dredging is a problem for the Missouri River, then it's going to be a problem for the Kansas River. Simply shifting the problem from the Missouri to the Kansas is not a good strategy."

How fast will the dredge holes move? Water movement on the Kaw is greatly influenced by how much water the Army Corps releases from upstream reservoirs. Extreme rains plus reservoir releases can add a lot of extra velocity to the Kansas River system. In some circumstances, this may mean the dredge holes have the potential for very rapid movement.

Daniels is seeking additional funding for a second phase of the study, to model dredge hole migrations under different flow regimes.

To send a public comment to the Army Corps on the dredging proposal, email kale.e.horton@usace.army.mil by December 9, 2011.

#

FRIENDS OF THE KAW (FOK) is a nonprofit 501(c)(3) conservation organization whose mission to is to protect and preserve the Kansas River (known locally as the Kaw) for future generations. Founded in 1991, FOK supports protecting water quality, rehabilitating wildlife habitat, removing in-river dredges, and increasing public recreation and river access. Since 2002, FOK has helped eight communities build ten river access points or public river parks, bringing to thirteen the total number of access points on the Kaw.

For more information on dredging, go to www.kansasriver.org/stopdredging

PRESS RELEASE	Friends of the Kaw, www.kansasriver.org/stopdredging
CONTACT	Laura Calwell, 913-963-3460, riverkeeper@kansasriver.org
RELEASE DATE	December 1, 2011

Friends of the Kaw

December 6, 2011

Philip W. Struble, P.E., President
Landplan Engineering, P.A.
1310 Wakarusa Drive
Lawrence, Kansas 66049

RE: CUP for Kaw Valley Companies, Sand Pit Operations near Eudora, KS 12/07/2011

Dear Mr. Struble,

Friends of the Kaw, Inc. is a 501 c 3, grassroots environmental organization whose mission is to protect and preserve the Kansas River for present and future generations. Towards that end, we have advocated - since our inception in the early 1990's - that in-river sand and gravel operations move out of the river and onto the land (pit mining) due to (a) irreparable harm done to the river's channel, banks and ecosystem; and (b) degradation of our drinking water quality; (c) degradation to public water intake supply systems; and bridge structures.

The Kansas River has been commercially mined (dredged) for sand and gravel since the early 1900's. Past dredging activities are documented to have caused significant damage to riverbed, habitat, and water quality (See FOK's Dec. 1, 2011 KSU Dredging Study Press Release)

Friends of the Kaw understands that sand is needed for a healthy construction economy and we believe enough geological studies provide evidence that sand can be reasonably and efficiently obtained from "off-river" pit mines in the Kansas River valley. I have reviewed the Evaluation of Kaw Valley Companies Inc., Proposed Sand Pit Operation on Ground Water in the Vicinity of Eudora, KS by Carl E. Nuzman, P.E., P.Hg, revised on November 17, 2011 and feel there is no imminent danger to Eudora's water wells. We also appreciate that the plan has been revised to protect the larger wetlands on the property, have a 300' buffer along the southeast portion of the site and added a 300' buffer along our north property line. The 300' buffer along the north property line was at Friends of the Kaw's request. We support this application for a pit mine by Kaw Valley Companies at this location. However, we encourage all parties to carefully consider and address the residential neighbors concerns.

Sincerely,

Laura Calwell

Laura Calwell, Kansas Riverkeeper for Friends of the Kaw

Friends of the Kaw
P.O. Box 1612,
Lawrence, KS 66044
Kansas City:
913-963-3460;
Lawrence:
785-312-7200

Report River Pollution:
1-866-RIV-KEEP

Email:
Riverkeeper@KansasRiver.org

Website:
http://KansasRiver.org

KANSAS RIVERKEEPER®

WATERKEEPER® ALLIANCE

Evaluation of Kaw Valley Companies, Inc., Proposed Sand Pit Operation on Ground Water in the Vicinity of Eudora, KS

For

Kaw Valley Companies, Inc.
Alan Teutemacher, General Manager of Sand
5600 Kansas Avenue
Kansas City, Kansas 66106

Sand 913 287 0035
Cell 913 915 7444

By

Carl E. Nuzman, P.E., P.Hg.
Consulting Engineer/Hydrogeologist
3314 NW Huxman Road
Silver Lake, Kansas 66539-9243

Phone 785 224 9929
Fax 785 582 4155

February 11, 2011

Revised
March 31, 2011

Revised
November 17, 2011

TABLE OF CONTENTS

Evaluation of Kaw Valley Companies, Inc.
Proposed Sand Pit Operation on Ground Water in the Vicinity of Eudora, KS

1. INTRODUCTION

In response to a concern by a citizen of the City of Eudora, a study and evaluation of the possible effects of the sand pit operation proposed by Kaw Valley Companies, Inc. on the City of Eudora water supply wells is the subject of this report. Kaw Valley Companies, Inc. proposes to establish a sand mining operation north of the City of Eudora in the SW ¼ of Section 32, Township 12 South, Range 21 East in Douglas County, Kansas, next to the Kansas River as shown in Exhibit A. The site was formerly developed for a 9-hole golf course and currently is not used for agricultural production of crops.

The City of Eudora has a group of four (4) wells westerly of the proposed sand mining site as their primary water supply, and an existing irrigation well exists in the vicinity as shown in Exhibit B.

2. GEOLOGIC SITUATION

The Quaternary Geology and Ground-Water Resources of the Kansas River Valley Between Bonner Springs and Lawrence, Kansas, by Alvin E. Dufford has been studied by the Kansas Geologic Survey, Bulletin 130, Part 1, University of Kansas Publications 1958 located in Lawrence, KS. The valley itself narrows from more than three (3) miles wide to less than two (2) miles wide at Eudora. The Wakarusa River hugs the south boundary of the Kansas River valley in the vicinity of Eudora, while the Kansas River leaves the north side of the valley and meanders across the valley to the south edge at Eudora and then meanders back to the north side east of Eudora. The Kansas River valley has a general eastward slope of about 3 feet per mile with low dissected hills bounding the flood plain on both sides.

The valley alluvium that comprises the aquifer consists principally of sand, but contains lenses of both coarser and finer material. Generally, the saturated thickness of the aquifer is about 40 feet to 50 feet in the vicinity of the City wells, but thins to about 30 feet in saturated thickness, in the vicinity of the proposed sand mining operation. Well logs can be found in Appendix I from the WWC-5 forms filed at the Kansas Geologic Survey water well log file in Lawrence, KS. In Exhibit C, is a geologic west to east, cross-section along North 1500 Road which shows the geology from the well logs obtained.

3. HYDROLOGIC SITUATION

The Eudora area has a humid continental climate. Normally, more that 70% of the annual precipitation of 39 inches falls during the growing season, April through September, precipitation during this period is usually from thunderstorms (high intensity rainfall of brief duration) in the evening and early morning hours. The mean hourly wind speed is about 10 miles per hour, and the sun usually shines more than 60% of the daylight hours.

The Kansas River, which flows in an easterly direction, is the principal stream in the area. The Army Corps of Engineers normally maintains a minimum desirable stream flow of 1,000 cubic feet per second (cfs) at the DeSoto gaging station on the Kansas River. The Wakarusa River is hydrologically an important tributary stream because it is a major source of recharge to the alluvial aquifer.

4. SAFE YIELD ANALYSIS

The safe yield available for appropriation from an unconfined aquifer at a specific location is determined by the amount of average annual precipitation that becomes recharge to the aquifer occurring within the area of consideration by the chief engineer of the Division of Water Resources, Kansas Department of Agriculture. The area of consideration means the portion of the aquifer area that lies within a two-mile radius circle with the proposed point of interest (the sand pit) as the geo-center.

Although a safe yield analysis is not required for a sand pit operation in the Kansas River Basin by the Division of Water Resources, Kansas Department of Agriculture, such an appraisal was made to identify all registered ground water appropriators within a two (2) mile radius of the proposed sand pit operation. There were 15 identified ground water users of which five (5) pertained to the City of Eudora wells. The four (4) Northwest wells are shown on Kaw Valley Eudora Sand Facility, Eudora City Well Exhibit B. These data are given in Appendix II. The City Well No. 6 and the Neis irrigation well are both ½ mile from the Phase 1 planned mining by Kaw Valley Companies, Inc.

Based on established recharge rates by the Division of Water Resources, the safe yield for the 2-mile circle is 2,749.76 acre-feet, using 9.21 inches per year as the average recharge rate to the aquifer in this area. The prior appropriation in the circle is 1,629.50 acre-feet of which 43% (699 ac-ft or 227.77 MGY) is for municipal appropriation including future water use for population growth. The remainder of the 930.5 ac-ft appropriated in this area is for irrigation of which only about ½ is used in any particular year then only for about 6 weeks from July into September. The un-appropriated water available for future use is 40.7% of the total available in this area of consideration.

City of Eudora original well No. 1 has long since been abandoned. Plugging reports have been filed for Wells No. 2, 3 and 4 showing these wells to be abandoned, are included in Appendix I. The status of well No. 5 which is located within the north city limits of Eudora is unknown but believed to be serviceable. The City of Eudora's annual pumpage for the calendar year of 2009 was 186.781 million gallons per year (MGY) or 573.2 acre feet. Eudora well No. 6 has been certified by the Division of Water Resources, file No. 38,063, to a permanent water right for an amount of 69.777 MGY to be diverted at a rate not to exceed 325 gallons per minute. Eudora well No. 7 is covered by File No. 38,064. Well No. 8 is covered by File No. 42,939. Well No. 9 which was placed in service in 2005 is covered by File No. 45,800. The total authorized annual pumpage of all water rights on file for the City of Eudora with the Division of Water Resources of the Kansas Department of Agriculture is 227.77 MGY or 699 acre feet per year.

5. AQUIFER PROPERTIES

You do not get water from a well. A well is a stabilized hole in the ground to gain access to water bearing material called an ***aquifer***. The yield of an aquifer is controlled by the permeability of the geologic formation and the thickness of that permeable formation. The yield of a well can never be greater than that of the aquifer and usually less depending upon the efficiency of well construction and development. A well can decrease in yield due to biological fouling and lack of proper maintenance but unless the static water level has a substantial decline reducing the saturated thickness, the yield available from the aquifer remains constant.

Data from the WWC-5 report for City Well No 8, shown in Exhibit D was used to estimate the properties of the aquifer. The reported drawdown was 4 feet after 11 hours of pumping at 521 gallons per minute (gpm). These values give a well specific capacity of 130 gpm/foot of drawdown when constructed. This value is used to estimate the transmissivity of the aquifer which is 220,000 gpd/ft. Utilizing the 25 feet of well screen installed which is less than the formation thickness, the calculated formation permeability is 8,800 gpd/ft^2, a very good formation value. Typical average value of formation permeability for the Kansas River valley alluvium is about 5,000 gpd/ft^2, with a maximum value observed of 10,000 gpd/ft^2. Additional data was found for City wells No. 6 and No. 7. The original specific capacity for well No. 6 was 101.7 gpm/foot of drawdown. The estimated formation transmissivity of the aquifer at well No. 6 location is 172,900 gpd/ft. The original well specific capacity for well No. 7 was 126.8 gpm/ft which gives an estimated formation transmissivity of 215,600 gpd/ft.

When a well is pumped, the pump energy creates a partial vacuum that causes a cone of depression to develop around the bore hole [Reference exhibit No. E]. The bore hole for the construction of Well No. 8 was reported to be 42 inches which gives a well radius of 1.75 feet. Using the formation transmissivity value of 220,000 gpd/ft, the drawdown per log cycle was calculated to be 1.0 foot for a pumping rate of 325 gpm, which is the maximum authorized pumping rate established for well No. 6. This information was then plotted on a semi-log plot to obtain the radius of influence for well 6, well 7 and well 8, Reference Exhibit F. The zero (0) drawdown for wells 6 & 7 was 2,400 feet and 2,100 feet for well 8 [Reference exhibits F & G]. Drawdown values of less than 1 foot are considered insignificant since annual variations of static water level may vary more than 2 feet in a year due to weather conditions. The 1-foot drawdown occurs at a radius from 130 to 260 feet for each of the wells shown in Exhibit F. The basic assumptions in Exhibit F assume the world is flat and the aquifer conditions are perfect. The approximate 1,000 feet distance between City wells minimizes the mutual interference effects from simultaneous pumping of these wells.

6. AQUIFER WATER YIELD AND AREA OF WATER CAPTURE

Simple model system was developed using the analytical-element method often used in modeling well-head protection. The State Geological Survey of Kansas had experienced geologists investigate the Kansas River valley geology and ground water resources from Bonner Springs to the vicinity of Manhattan. The reach of special interest is contained in Bulletin 130, Part 1, Quaternary Geology and Ground-Water Resources of Kansas River Valley between Bonner Springs and Lawrence, Kansas. At that time, the Kansas Geological Survey had their own small drilling rig in which to drill test holes. Many of the data points used in the model were from this work dated back to the 1940's and 1950's.

Figure 3 in Bulletin 130, Part 1 is the basis for the development of Exhibit H, a generalized static water table of the area of interest. In the 1950's there was no pumpage in this area of interest which gives a good representation of pre-development conditions for the aquifer. Since the measurements upon which Figure 3 was based occurred over a period of years, exact replication of the water level elevations was not possible. Using statistical analysis, a very reasonable simulation of the water table gradient was obtained.

The model was then used to simulate the probable maximum 3-day pumping rate of 1.4 million gallons per day to obtain the area of direct influence of the City of Eudora well field. You will note that the area of 1 foot drawdown for the City of Eudora's peak pumpage is not circular but egg shaped extending more up-gradient to the west than to the east toward the sand pit. In fact the 1.0 foot drawdown, considered the point of significance is still a few hundred feet from the corner of the pit property. Set-back of the pit mining from the property boundaries further extends this distance. Average annual pumping rate is estimated at 60% of peak day rate. Thus the development of the drawdown simulated in Exhibit I is a representation of the maximum drawdown expected in the future.

A feature of the model called particle tracking was then used to plot the movement of water in the aquifer to each of the four wells shown in Exhibit J. Based on the maximum allowable pumpage of 227.77 MGY authorized by the City's water rights on file with the Division of Water Resources, the travel time of water in the aquifer was calculated. The time period selected was 10 years. Each little collar around the straw like flow path lines represents one (1) year of flow. Due to the hydraulic gradient of the valley aquifer system and recharge to the aquifer from rainfall, **no water enters the wells** from the East beyond the point of stagnation. The point of stagnation is actually an area approximately 500 to 800 feet east of well No. 6.

The City's concern in regard to protecting the future quality of water from their well field must focus on the area in the immediate vicinity of the wells and to the west of the wells.

7. WELL-HEAD PROTECTION STUDY

In so far as contaminants in the aquifer, the water movement is from west to east in a down-gradient direction. This means that if any contaminants were to occur at the sand pit, they would move into the Kansas River or remain in the aquifer system down-gradient (Easterly). The estimated travel time of water in the Kansas River alluvium aquifer, based on the formation transmissivity and land surface gradient is 0.7 feet /day or about 8.4 inches per day.

Several potential contamination sources have been identified that could threaten the water quality of the Eudora well field:

a. Septic tanks at the several domestic residences in the vicinity are each a potential threat to the water quality of the City wells.
b. To the east of Well No. 6 near the point of stagnation is or was a cattle feeding operation with livestock present as shown in Exhibit K.
c. Chemical fertilizer and herbicides applied to corn planted next to the wells as shown next to Well No. 6 in Exhibit L. are a potential threat of contamination to the City wells. This threat of contamination is increased with irrigation, especially on sandy soils. Major portions of Hall and Merrick Counties in

Nebraska have nitrates nearly double that of the KDHE and EPA regulations for Nitrates in public water supply due to irrigation and chemigation of corn on sandy soils.

d. Abandoned wells or old domestic wells that were drilled long ago with thin wall casing that have corroded through the years and were not grout sealed, can allow storm water runoff to flow directly into the aquifer resulting in direct contamination to the City wells. Such a well exists west of Eudora Well No. 7 as shown in Exhibit M under the old windmill tower.

8. SAND PIT OPERATION

The static water level elevation in the sand pit will be about the same as the water surface elevation in the Kansas River. Sand pit lakes that are within the effective radius of influence of a water well support the water production from a well during drought conditions due to the increase of lake water storage which is 5 times greater than the water storage yield capacity of the aquifer itself. This storage yield effect is applicable to any unconsolidated aquifer. Sand pits beneficially support the yield of wells that are down-gradient from a pit that is within the area of influence of a well.

Water pumped by the sand dredge is piped to the sand separator, and then water is diverted to a sediment pond, and returned to the sand pit. Storm water runoff from local precipitation is diverted around the pit to the Kansas River. Berms and a grass swale will be provided on the west and south sides of the sand pit for the diversion of local storm water.

9. CONCLUSION

The City of Olathe was concerned about their well field more than 20 years ago in a similar situation to Eudora. This consultant was contacted by the City of Olathe and reviewed the situation. It was recommended to the City of Olathe at that time to maintain at least 300 feet of aquifer intact between the sand pit and any well. Present regulations require 200 feet separation between a surface water source and a well to allow normal biological activity of surface water to be filtered before entering the well. The sand pit shown in Exhibit N, directly up-gradient from the Olathe wells has <u>never</u> caused any contamination to their wells.

It was found in this study that the proposed sand pit lake that will eventually be developed in this study area will have ***absolutely no*** effect on the City of Eudora's wells or water supply. All activity at the proposed sand pit operation is down-gradient from the City wells and of sufficient distance that the operation of the City wells **will not in any way draw any potential contaminants into the area of influence of the City of Eudora wells** from the KVC sand pit area.

The threat of contamination does exist to the City wells, but not from the proposed Kaw Valley Company's proposed sand mining operation. Upon completion of sand mining from the property shown in Exhibit O., a sand pit lake can be made into a water recreation facility for the area for canoeing, fishing, picnics and family outings, or for water fowl hunting.

EXHIBITS

A. Eudora Sand Facility Conditional Use permit Site Plan #2

B. Kaw Valley Eudora Sand Facility Eudora City Well Exhibit

C. West to East Geologic Cross-Section along N 1500 Road

D. WWC-5 Water Well Record for City of Eudora Well No. 8

E. Cone of Depression around a Pumping Well

F. Distance-Drawdown Semi-Log Plot of Eudora Wells No's. 6, 7 & 8

G. Radius of Influence, Illustrated

H. Generalized Static Water Table

I. Drawdown at Peak Day Pumpage of 1.4 MGD

J. Groundwater Flow Paths to Eudora Wells at 227.77 MGY Pumpage

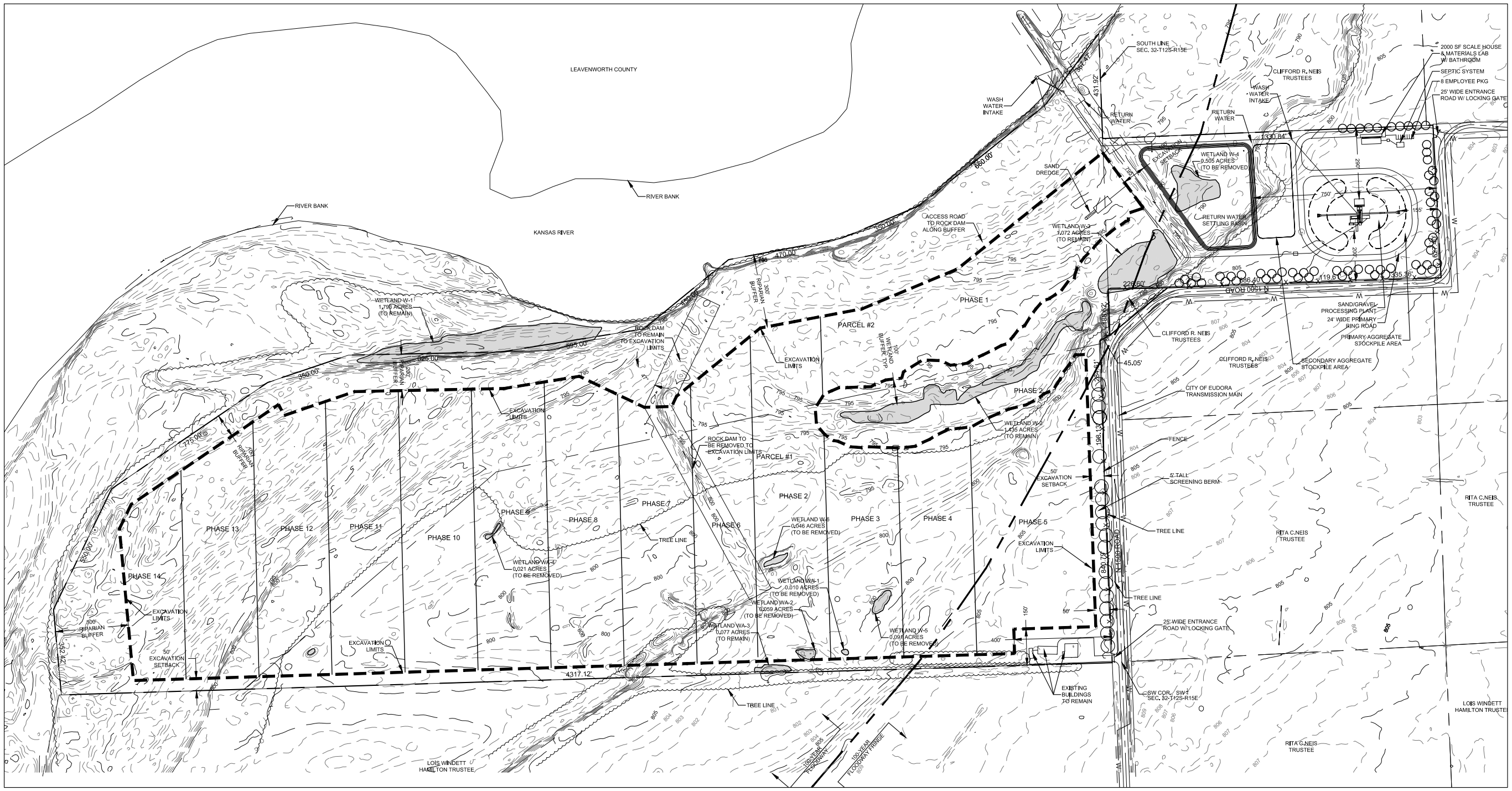
K. Feed Lot East of Well No. 6

L. Corn Field Adjacent to Well No. 6

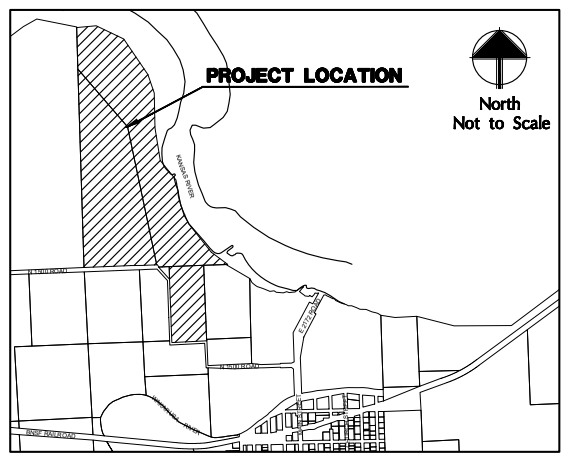
M. Well under Old Windmill Tower

N. Aerial View of Sand Pit Next to the Olathe Well Field

O. Future Pit Site Area



Location Map



Legal Description

A TRACT OF LAND IN THE WEST HALF OF SECTION 32, TOWNSHIP 12 SOUTH, RANGE 21 EAST AND THE NORTHWEST QUARTER OF SECTION 05, TOWNSHIP 13S, RANGE 21 EAST OF THE SIXTH PRINCIPAL MERIDIAN, IN DOUGLAS COUNTY, KANSAS, DESCRIBED AS FOLLOWS:

PARCEL #1

BEGINNING AT THE SOUTHWEST CORNER OF SECTION 32, TOWNSHIP 12 SOUTH, RANGE 21 EAST THENCE NORTH 0°18'56" EAST, ALONG WEST LINE OF SAID QUARTER SECTION 3619.59 FEET; THENCE SOUTH 89°41'04" EAST, 34.40 FEET; THENCE SOUTH 38°40'12" EAST, 1368.99 FEET; THENCE SOUTH 09°52'55" EAST, 2544.71 FEET; THENCE SOUTH 0°00'00", TO A POINT ALONG SOUTH LINE OF SAID SECTION 47.76 FEET; THENCE NORTH 89°49'14" WEST ALONG SOUTH LINE 1346.44 FEET TO THE POINT OF BEGINNING. CONTAINS 72.800 ACRES, MORE OR LESS.

PARCEL #2

BEGINNING AT THE SOUTHWEST CORNER OF SECTION 32, TOWNSHIP 12 SOUTH, RANGE 21 EAST THENCE NORTH 0°18'56" EAST, ALONG WEST LINE OF SAID QUARTER SECTION 4375 FEET TO RIGHT BANK OF THE KANSAS RIVER; THE NEXT ELEVEN COURSES ARE ALONG THE SOUTHERLY AND WESTERLY BANK OF THE KANSAS RIVER; THENCE NORTH 86°48'56" EAST, 350.00 FEET; THENCE SOUTH 62°11'04" EAST, 550.00 FEET; THENCE SOUTH 32°11'04" EAST, 775.00 FEET; THENCE SOUTH 16°36'04" EAST, 350.00 FEET; THENCE SOUTH 0°53'56" WEST, 625.00 FEET; THENCE SOUTH 07°06'04" EAST, 595.00 FEET; THENCE SOUTH 37°06'04" EAST, 450.00 FEET; THENCE SOUTH 08°36'04" EAST, 470.00 FEET; THENCE SOUTH 20°36'04" EAST, 350.00 FEET; THENCE SOUTH 36°36'04" EAST, 660.00 FEET; THENCE SOUTH 51°06'04" EAST, TO A POINT ALONG SOUTH LINE OF SAID SECTION 411.10 FEET; THENCE NORTH 89°49'14" WEST ALONG SOUTH LINE 2614.92 FEET TO THE POINT OF BEGINNING, LESS PARCEL #1 CONTAINS 77.600 ACRES, MORE OR LESS.

PARCEL #3

BEGINNING AT A POINT FROM THE NORTHWEST CORNER OF SECTION 5, TOWNSHIP 13 SOUTH, RANGE 21 EAST THENCE EAST, 2128.50 FEET; THENCE SOUTH, 1391.00 FEET; THENCE WEST, 626.30 FEET; THENCE NORTH, 1391.00 FEET; THENCE EAST, TO THE POINT OF BEGINNING 626.30 FEET. CONTAINS 19.700 ACRES, MORE OR LESS.

General Notes

OWNER: KAW VALLEY COMPANIES, INC.
ATTN: ALAN TEUTEMACHER
5600 KANSAS AVENUE,
KANSAS CITY, KS 66106

1. LAND PLANNER/ ENGINEER: LANDPLAN ENGINEERING, P.A.
1310 WAKARUSA DRIVE
LAWRENCE, KS 66049
2. TOPOGRAPHIC INFORMATION OBTAINED FROM 2006 CITY OF LAWRENCE LIDAR AERIAL DATA.
3. EXISTING LAND USE: AGRICULTURAL
4. PROPOSED LAND USE: SAND EXCAVATION, EXTRACTION & PROCESSING; AGRICULTURAL
5. EXISTING ZONING: A
6. PROPOSED ZONING: A
7. THIS SITE IS LOCATED WITHIN THE FLOODPLAIN PER FEMA MAP #20045C0203D, DATED AUGUST 5, 2010.
8. THIS SITE HAS BEEN DESIGNED TO COMPLY WITH THE PROVISIONS OF THE AMERICANS WITH DISABILITIES ACT ACCESSIBILITY GUIDELINES (ADAAG) FOR BUILDINGS AND FACILITIES, APPENDIX A TO 28 CFR PART 36.
9. DOUGLAS COUNTY HAS A BLANKET EASEMENT ON THE PROPERTY TO MAINTAIN THE ROCK JETTY AND ROCK DAM.
10. PROVIDE DUST CONTRAIL ALONG PROPERTY 4 TIMES A YEAR.
11. OWNER SHALL WORK WITH DOUGLAS PUBLIC WORKS ON 1500 ROAD IMPROVEMENTS ALONG THE PROPERTY AND AT THE INTERSECTION OF E 2200 RD AND N 1500 ROAD.
12. PHASE BOUNDARIES ARE ONLY AN APPROXIMATION DUE TO VARIABILITY OF UNDERGROUND DEPOSITS. SEQUENCES OF EXCAVATION MAY VARY.

Site Summary

GROSS CUP/SITE AREA:	7,387,103 SF	/ 169.58 AC
PUBLIC RIGHTS-OF-WAY:	0 SF	/ 0.00 AC
NET CUP/SITE AREA:	7,387,103 SF	/ 169.58 AC
SAND EXCAVATION & AGRI AREA:	4,700,443 SF	/ 107.91 AC
SAND/GRAVEL PROCESSING AREA:	280,000 SF	/ 6.43 AC
SCALE HOUSE & MATERIALS LAB:	200 SF	
SAND/GRAVEL PROCESSING PLANT:	15,000 SF	

Parking Summary

REQUIRED = 1 SPACE/2 EMPLOYEES; 4 TOTAL EMPLOYEES = 2 SPACES
PROVIDED = 8 SPACES

SCALE: 1" = 200'

200 100 0 200 400

A CUP Site Plan for

Kaw Valley Eudora Sand Facility

Douglas County, Kansas

Civil Engineering
Landscape Architecture
Community Planning
Surveying

Landplan Engineering, P.A.
Lawrence, KS • Kansas City, MO • Manhattan, KS
Blue Springs, MO • The Woodlands, TX

1310 Wakarusa Drive
Lawrence, Kansas 66049
tel (785)843-7530
fax (785)843-1848
email: info@landplan-pa.com
Web: www.landplan-pa.com

EUDORA SAND FACILITY
CONDITIONAL USE PERMIT
CUP SITE PLAN

REV	DATE	DESCRIPTION

DATE:	8/03/11
PROJECT NO.:	20101019
DESIGNED BY:	LPE/KVC
DRAWN BY:	LPE
CHECKED BY:	RDD/CLM

ISSUE A

SHEET NO. C-001

OF 2 SHEETS

FILE NAME: O:\20101019\CAD\Planning\CUP\101019C-CUP.dwg LAST SAVED BY: Randy DeWitt SAVED DATE: 11/21/2011 10:23 AM PLOTTED: 11/21/2011 10:24 AM

EXHIBIT B
□AW □ALLE□ E□DORA SAND □ACILIT□
E□DORA CIT□ WELL EXHIBIT

PREPARED 2/0□/11

NOTES□

1□ CIT□ WELL LOCATIONS ARE PER □WELL LOCATIONS AND PLACE O□ □SE□CIT□ O□ E□DORA□ □ANSAS WATER APPROPRIATION PER□IT APPLICATION□□DATED 12□1□200□□PREPARED B□ B□RNS □ □CDONNELL□

2□ THE DI□ENSIONS SHOWN ARE BASED ON APPROXI□ATE WELL LOCATIONS AND HA□E NOT BEEN □ERI□IED B□ □IELD S□R□E□□

Landplan Engineering, P.A.
Lawrence, KS • Kansas City, MO • Columbus, OH
The Woodlands, TX • Farmington Hills, MI

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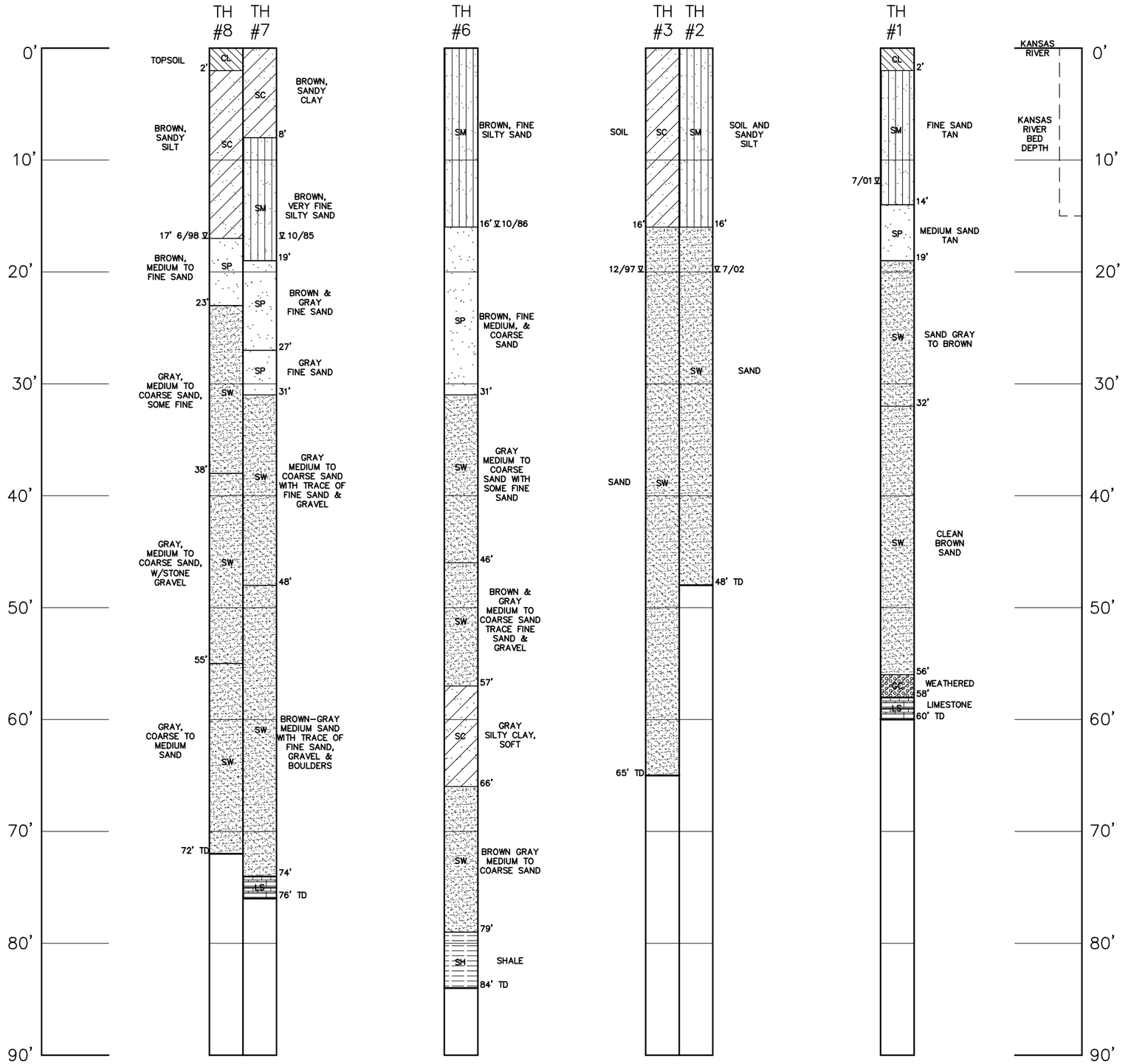

EXHIBIT C
WEST TO EAST CROSS SECTION ALONG N 1500 ROAD

PREPARED 1/20/11

SCALE: 1" = 10'

10 5 0 10 20

Landplan Engineering, P.A.

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EXHIBIT D

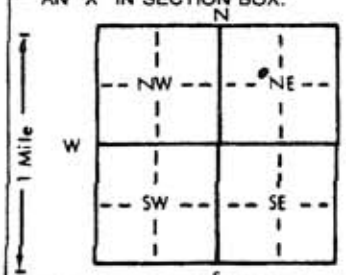
WATER WELL RECORD Form WWC-5 KSA 82a-1212

1 LOCATION OF WATER WELL:	Fraction	Section Number	Township Number	Range Number
County: DOUGLAS	SE ¼ NW ¼ NE ¼	6	T 13 S	R 21 (E)W

Distance and direction from nearest town or city street address of well if located within city?
3 MILES NORTHWEST OF EUDORA

2 WATER WELL OWNER: CITY OF EUDORA
RR#, St. Address, Box # : 4 EAST SEVENTH STREET
City, State, ZIP Code : EUDORA, KS 66026
Board of Agriculture, Division of Water Resources
Application Number:

3 LOCATE WELL'S LOCATION WITH AN "X" IN SECTION BOX:



4 DEPTH OF COMPLETED WELL 72 ft. ELEVATION:
Depth(s) Groundwater Encountered 1. 18 ft. 2. ft. 3. ft.
WELL'S STATIC WATER LEVEL 18 ft. below land surface measured on mo/day/yr 6/16/98
Pump test data: Well water was 20 ft. after 0.5 hours pumping 329 gpm
Est. Yield 325 gpm: Well water was 22 ft. after 11 hours pumping 521 gpm
Bore Hole Diameter 42 in. to 72 ft., and in. to ft.
WELL WATER TO BE USED AS: (5 Public water supply) 8 Air conditioning 11 Injection well
1 Domestic 3 Feedlot 6 Oil field water supply 9 Dewatering 12 Other (Specify below)
2 Irrigation 4 Industrial 7 Lawn and garden only 10 Monitoring well
Was a chemical/bacteriological sample submitted to Department? Yes X No; If yes, mo/day/yr sample was submitted 4/21/97 Water Well Disinfected? (Yes) No

5 TYPE OF BLANK CASING USED: (1 Steel) 2 PVC 3 RMP (SR) 4 ABS 5 Wrought iron 6 Asbestos-Cement 7 Fiberglass 8 Concrete tile 9 Other (specify below)
CASING JOINTS: Glued Clamped Welded X Threaded
Blank casing diameter 12 in. to 47 ft., Dia in. to ft., Dia in. to ft.
Casing height above land surface 18 in., weight PITLESS UNIT lbs./ft. Wall thickness or gauge No. 0.375"

TYPE OF SCREEN OR PERFORATION MATERIAL:
1 Steel (3 Stainless steel) 5 Fiberglass 7 PVC 10 Asbestos-cement
2 Brass 4 Galvanized steel 6 Concrete tile 8 RMP (SR) 11 Other (specify)
9 ABS 12 None used (open hole)

SCREEN OR PERFORATION OPENINGS ARE:
1 Continuous slot 3 Mill slot 5 Gauzed wrapped 8 Saw cut 11 None (open hole)
2 Louvered shutter 4 Key punched (6 Wire wrapped) 9 Drilled holes
7 Torch cut 10 Other (specify)

SCREEN-PERFORATED INTERVALS: From 47 ft. to 72 ft., From ft. to ft.
From ft. to ft., From ft. to ft.
GRAVEL PACK INTERVALS: From 22 ft. to 72 ft., From ft. to ft.
From ft. to ft., From ft. to ft.

6 GROUT MATERIAL: (1 Neat cement) 2 Cement grout 3 Bentonite 4 Other
Grout Intervals: From 6 ft. to 20 ft., From ft. to ft., From ft. to ft.

What is the nearest source of possible contamination:
1 Septic tank 4 Lateral lines 7 Pit privy 10 Livestock pens 14 Abandoned water well
2 Sewer lines 5 Cess pool 8 Sewage lagoon 11 Fuel storage 15 Oil well/Gas well
3 Watertight sewer lines 6 Seepage pit 9 Feedyard 12 Fertilizer storage 16 Other (specify below)
13 Insecticide storage
Direction from well? How many feet?

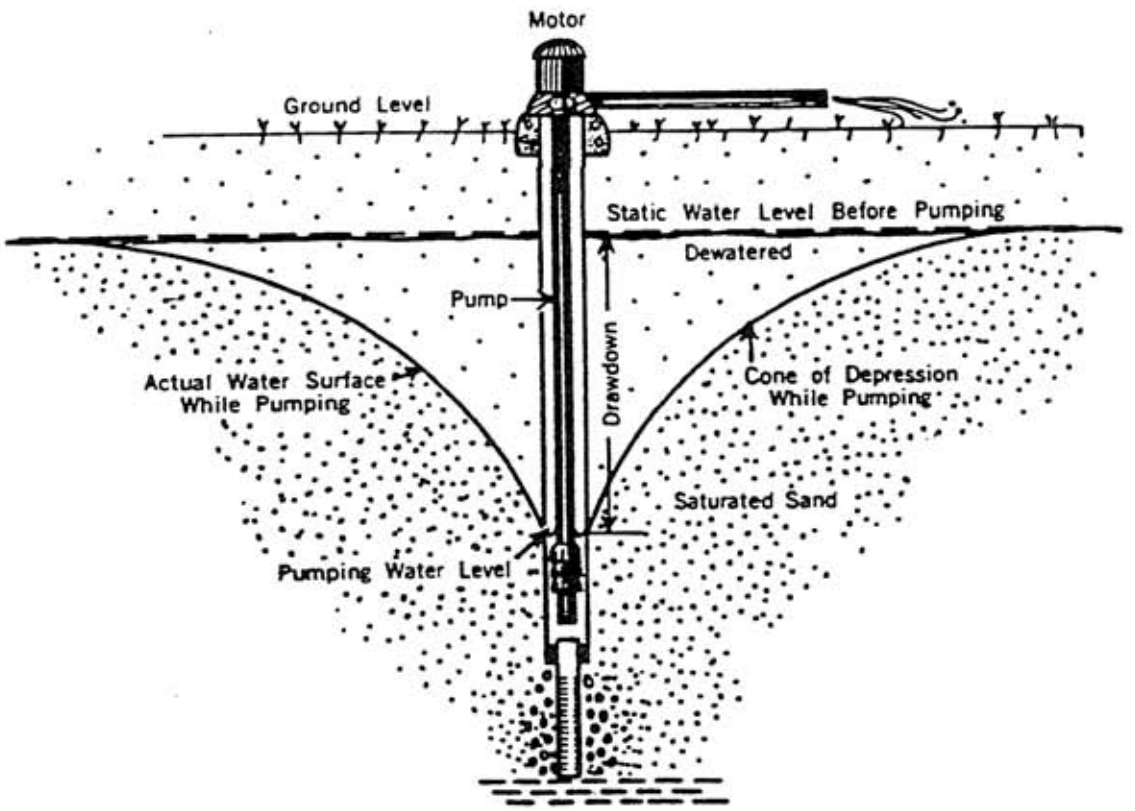
FROM	TO	LITHOLOGIC LOG	FROM	TO	PLUGGING INTERVALS
0	2	TOP SOIL			
2	17	BROWN SANDY SILT			
17	23	BROWN MEDIUM TO FINE SAND			
23	38	GRAY MEDIUM TO COARSE, SOME FINE			
38	55	GRAY MEDIUM TO COARSE, SOME GRAVEL			
55	72	GRAY COARSE TO MEDIUM			

7 CONTRACTOR'S OR LANDOWNER'S CERTIFICATION: This water well was (1) constructed (2) reconstructed, or (3) plugged under my jurisdiction and was completed on (mo/day/year) 6/16/98 and this record is true to the best of my knowledge and belief. Kansas Water Well Contractor's License No. 102 This Water Well Record was completed on (mo/day/yr) 8/5/98
under the business name of LAYNE CHRISTENSEN COMPANY by (signature)

INSTRUCTIONS: Use typewriter or ball point pen. *PLEASE PRESS FIRMLY* and *PRINT* clearly. Please fill in blanks, underline or circle the correct answers. Send top three copies to Kansas Department of Health and Environment, Bureau of Water, Topeka, Kansas 66620-0001. Telephone: 913-296-5545. Send one to WATER WELL OWNER and retain one for your records.

EXHIBIT E

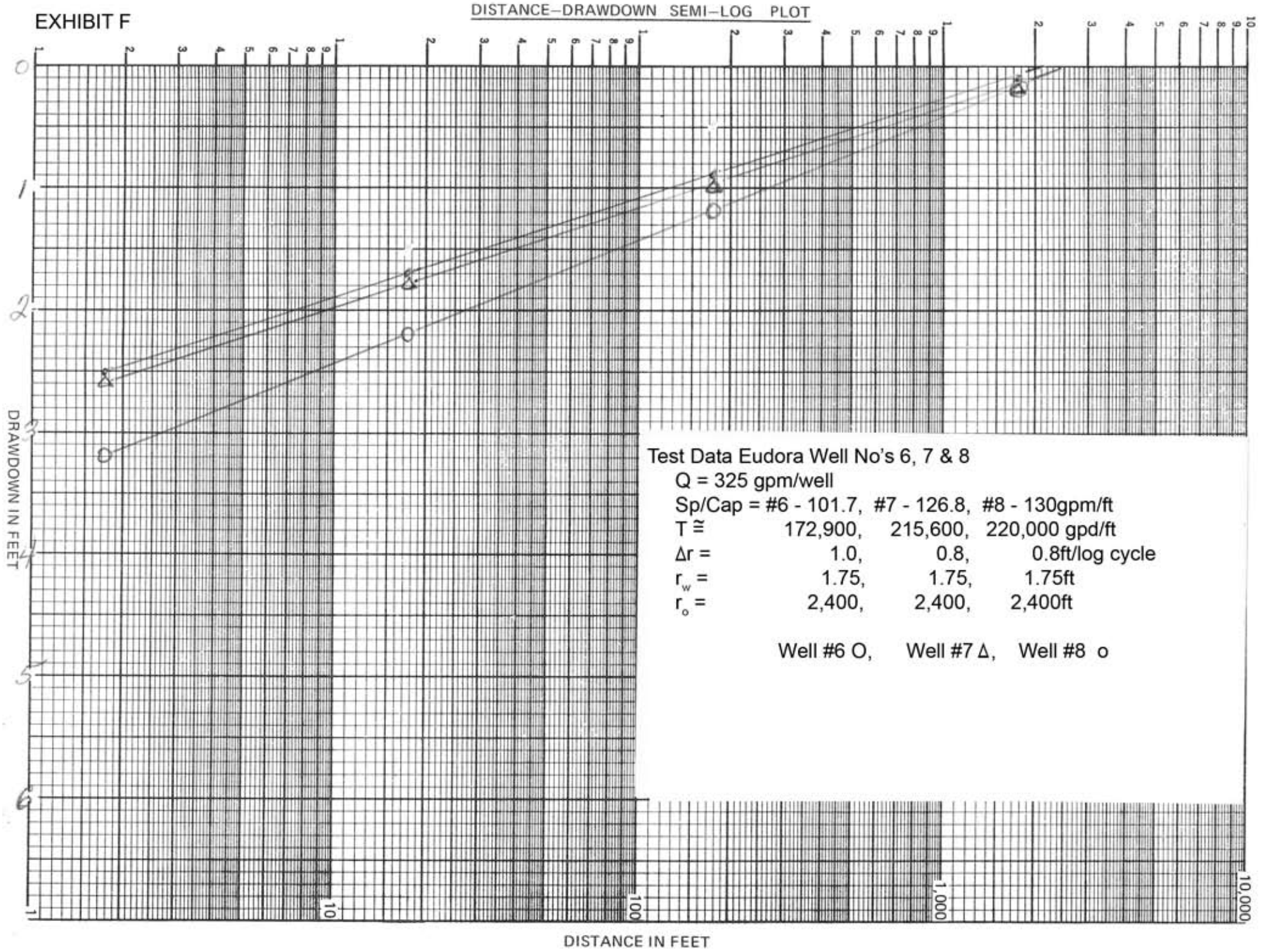
Cone of Depression Around a Pumping Well



The Pump Energy creates a partial vacuum that causes a Drawdown or Cone of Depression that is controlled by the Permeability of the surrounding Geologic Formation.

EXHIBIT F

DISTANCE–DRAWDOWN SEMI–LOG PLOT



Test Data Eudora Well No's 6, 7 & 8

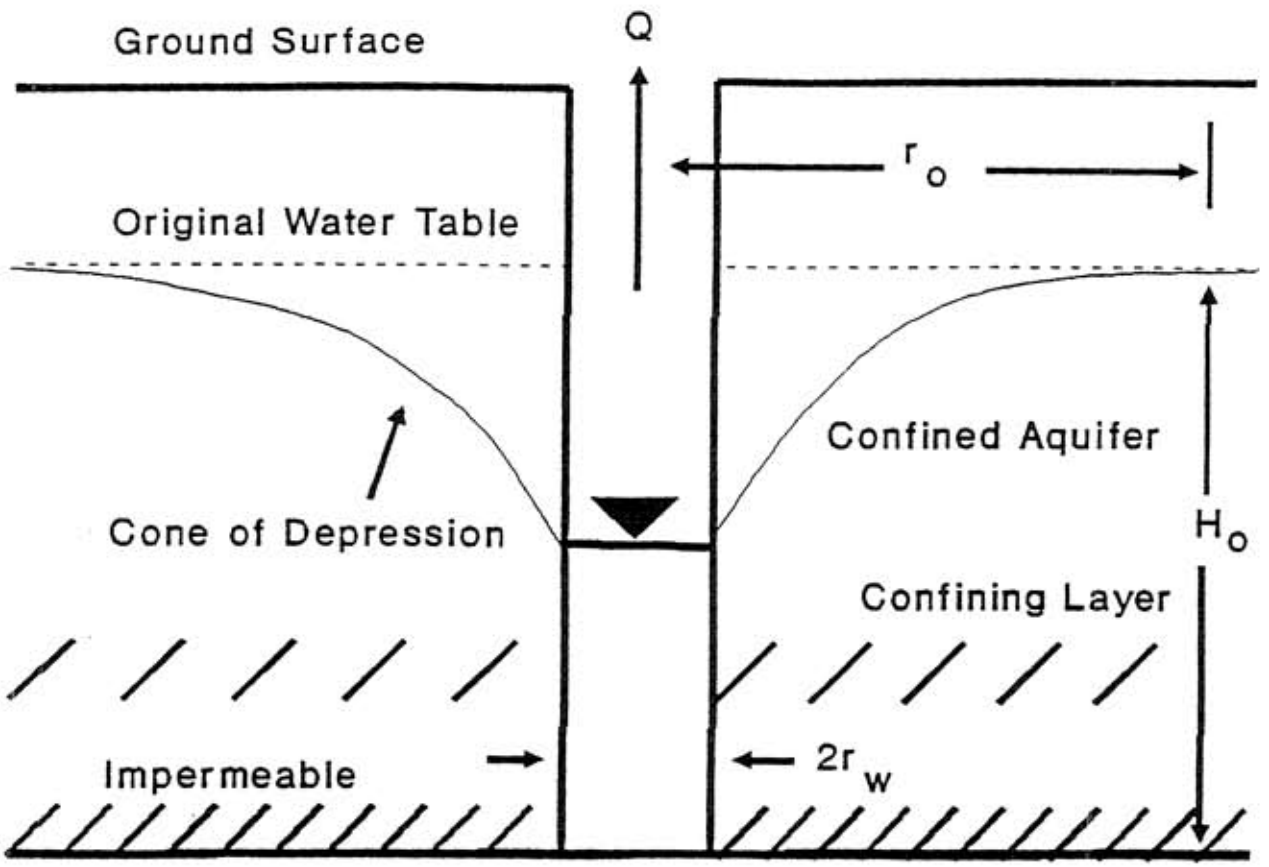
Q = 325 gpm/well

Sp/Cap =	#6 - 101.7,	#7 - 126.8,	#8 - 130gpm/ft
T ≅	172,900,	215,600,	220,000 gpd/ft
Δr =	1.0,	0.8,	0.8ft/log cycle
r_w =	1.75,	1.75,	1.75ft
r_o =	2,400,	2,400,	2,400ft

Well #6 O, Well #7 Δ, Well #8 o

EXHIBIT G

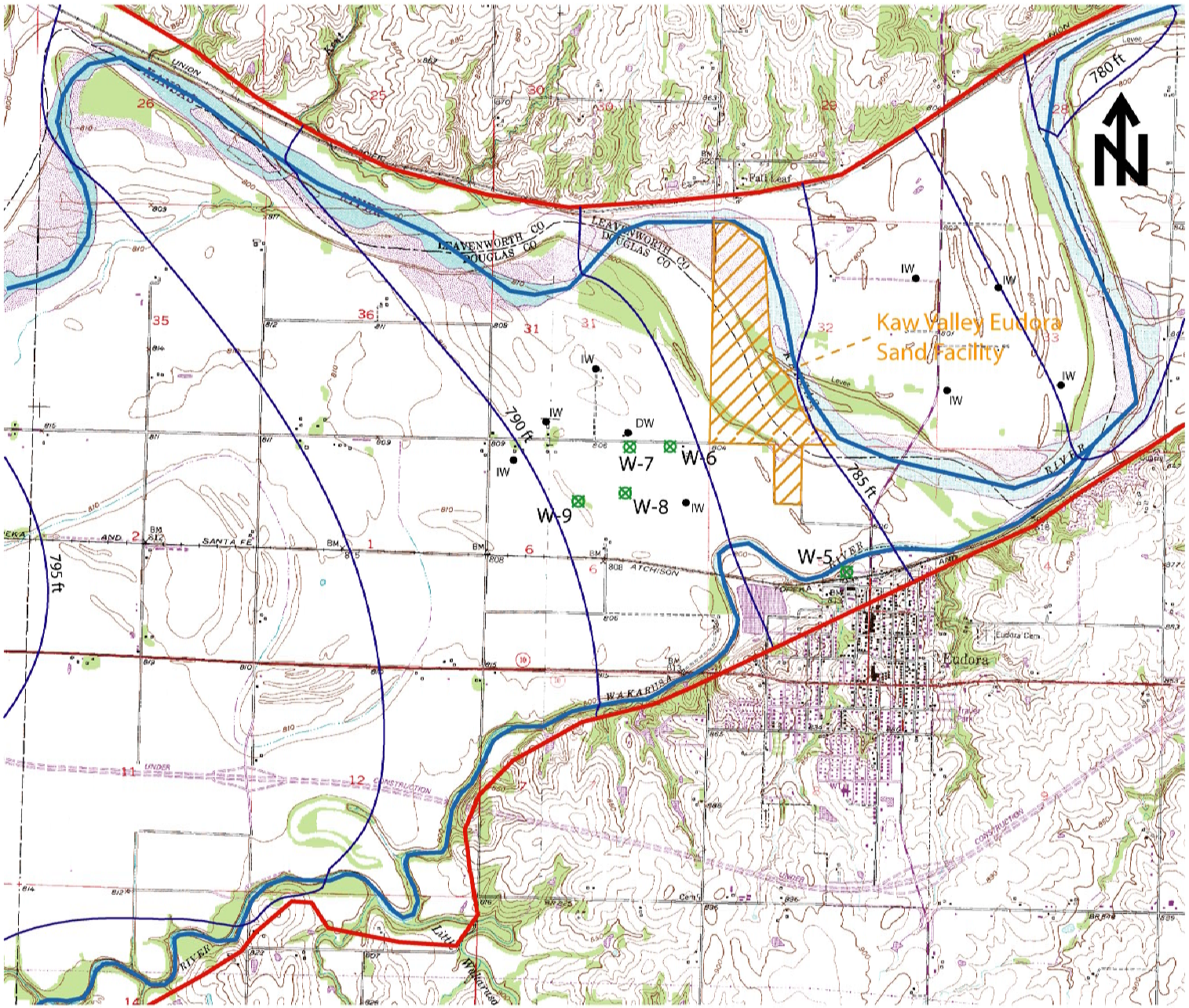
Radius of Influence



r_o = Radius of Influence

r_w = Radius of Well

H_o = Static Water Level

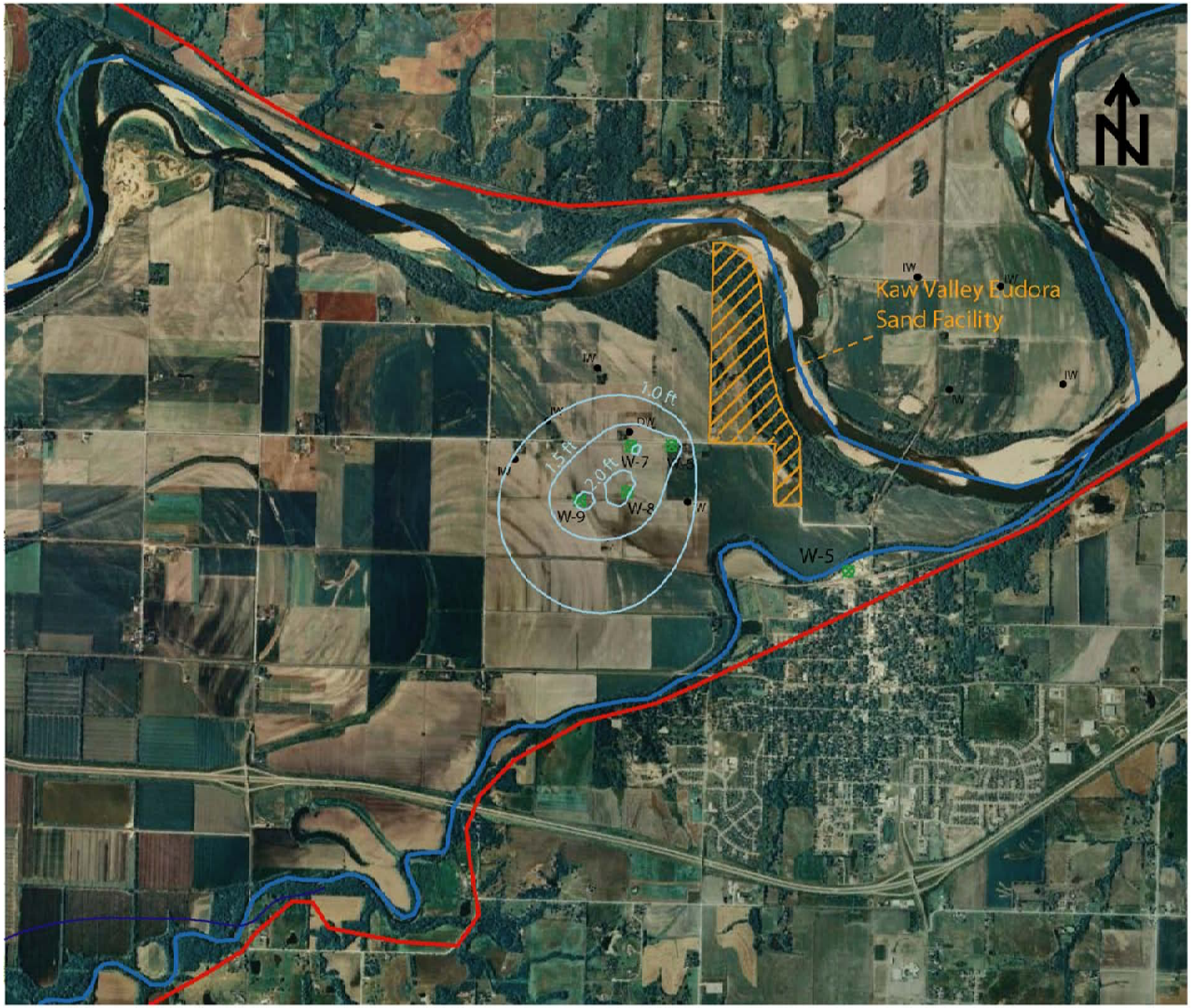


Approximate Scale
0 0.5 1.0 miles
0 2,640 5,280 feet

Legend

- River
- Aquifer Boundary
- Water Table Elevation (Contour Interval 2.5 feet)
- W-7 City of Eudora Water Supply Well
- IW DW Registered Irrigation or Domestic Well

Exhibit H:
Generalized Static Water Table
(Based on data from KGS Bul. 130, Part 1)

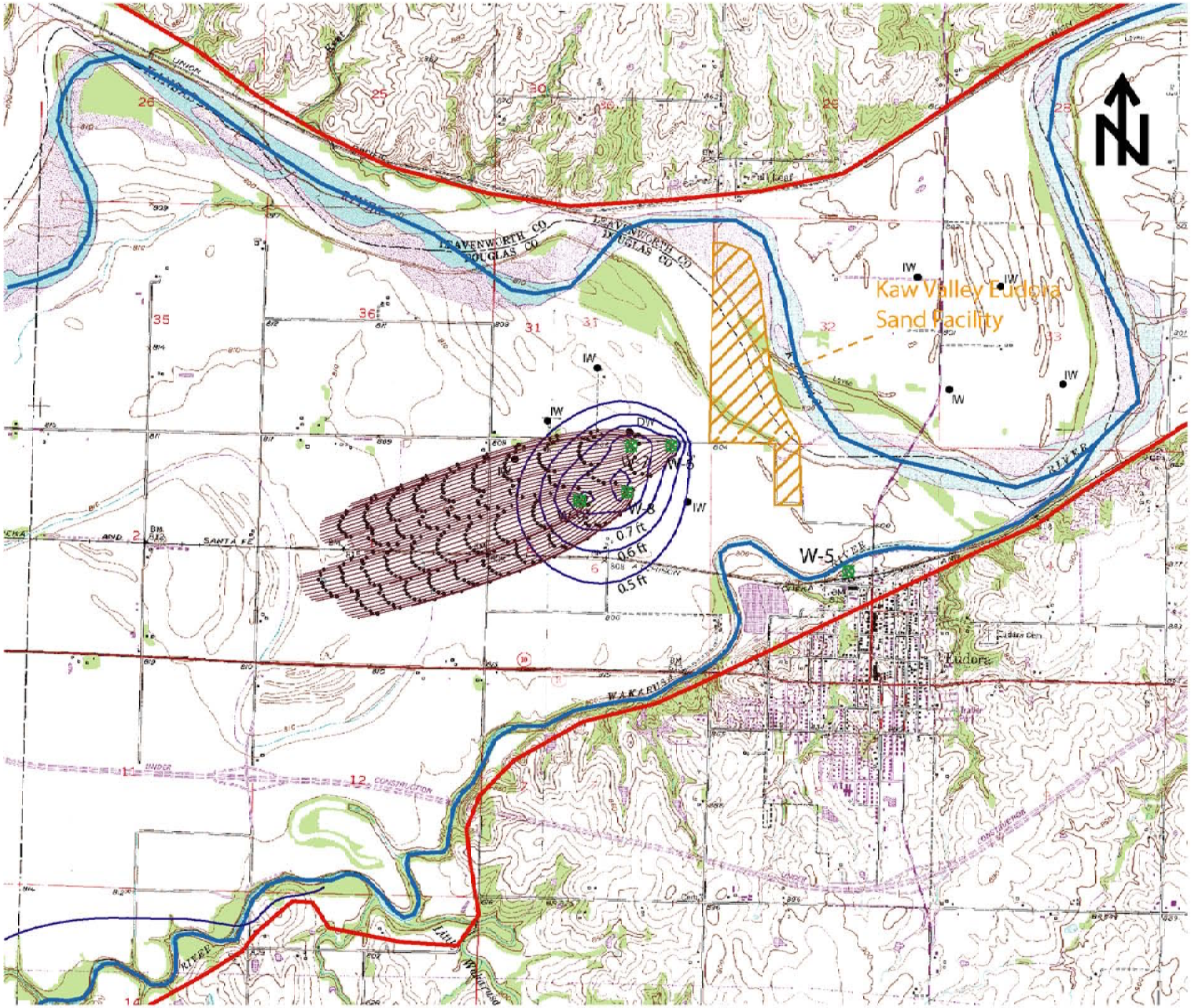


Approximate Scale
0 0.5 1.0 miles
0 2,640 5,280 feet

Legend

- River
- Aquifer Boundary
- Water Table Drawdown (Contour Interval 0.5 feet)
- W-7 City of Eudora Water Supply Well
- IW DW Registered Irrigation or Domestic Well

Exhibit I:
Drawdown at Peak Day Pumpage of 1.4 MGD



Approximate Scale
0 0.5 1.0 miles
0 2,640 5,280 feet

Legend

- River
- Aquifer Boundary
- Water Table Drawdown (Contour Interval 0.1 feet)
- W-7 City of Eudora Water Supply Well
- IW DW Registered Irrigation or Domestic Well
- Flowpaths to Pumping Wells (Tick Marks = 1 year travel time)

Exhibit J:
Groundwater Flow Paths to Eudora Wells at 227.77 MGY Pumpage