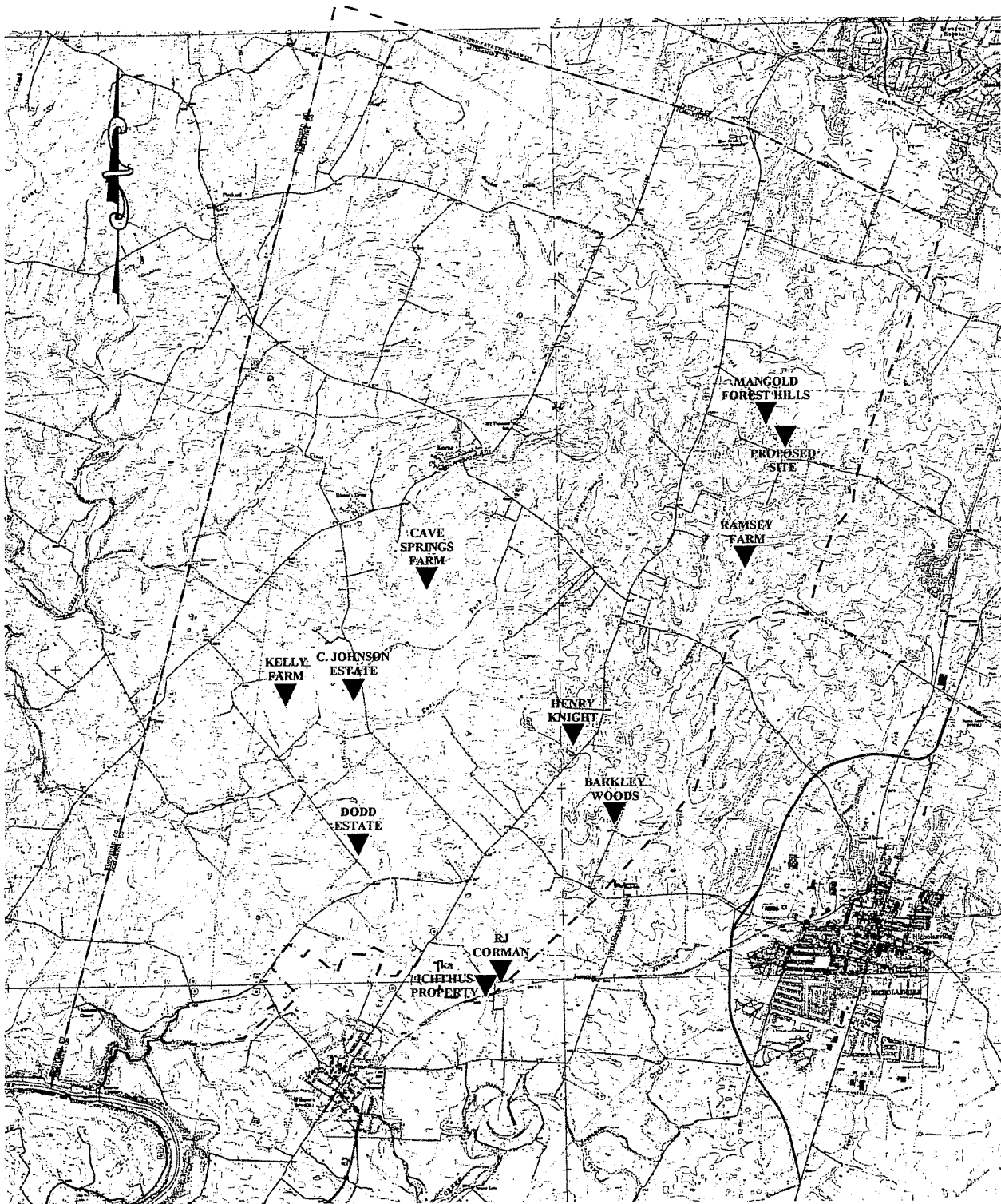


# EXHIBIT VOLUME

RECEIVED

DEC 11 2012

PUBLIC SERVICE  
COMMISSION



**JSEWD**  
**MAP OF POTENTIAL SITES**  
for  
**ELEVATED STORAGE TANK**

TS	IN	SITE	KNIGHT	PROP
	45	68		
BS	2			5.02
AE	1			5.89
FS	3	43-54	25	485.40
				5.16
BS	1			5.25
AE	3			5.30
FS	20			
	21 - 34			
	35			81+00
	36			82+00
	37			83+00
	38			84+00
	39			85+00

W03442

1/28/03

MON 51P BET CAP 5/2 PDC

STK & TANK SITE  
PROFILE 25' NORTH FEED CH

STK & PROPOSED	45	68	970.33
"	"	"	971.21
"	"	"	970.43
"	"	"	969.12
"	"	"	967.59

List Points Report

06/27/2003 08:27

File> q:\accswork\wo3442.crd

Job Description>

Job Number> 0.000 Job Date> 2003.0627

PointNo.	Northing(Y)	Easting(X)	Elev(Z)	Description
1	148113.976	1533715.641	945.000	MON FIP 3338
2	147842.068	1533388.459	949.930	MON FIP 3338
3	148146.531	1533231.253	973.109	MON SIP SS DBL
40	148489.940	1532634.833	972.969	W TANK SITE
11	148368.351	1532572.051	966.313	W PROFILE 08
12	148346.391	1532617.401	965.383	W PROFILE 08
13	148303.066	1532701.307	961.155	W PROFILE 08
14	148277.832	1532751.987	958.984	W PROFILE 08
15	148248.649	1532805.396	957.594	W PROFILE 08
16	148213.677	1532873.208	957.498	W PROFILE 08
17	148173.274	1532947.851	959.237	W PROFILE 08
18	148124.290	1533046.749	963.707	W PROFILE 08
19	148082.411	1533132.825	966.881	W PROFILE 08
20	148043.385	1533205.656	967.257	W PROFILE 08
1	148012.606	1533271.112	965.520	W PROFILE 08
2	147975.499	1533335.129	961.295	W PROFILE 08
3	147934.954	1533405.909	956.202	W PROFILE 08
4	147907.575	1533450.195	953.995	W PROFILE FEN
5	148018.621	1533366.005	962.177	CL PROP US 68
6	148107.896	1533407.277	963.037	CL PROP US 68
7	148200.366	1533451.533	962.340	CL PROP US 68
8	148291.702	1533488.504	961.779	CL PROP US 68
9	148383.120	1533525.785	959.743	CL PROP US 68

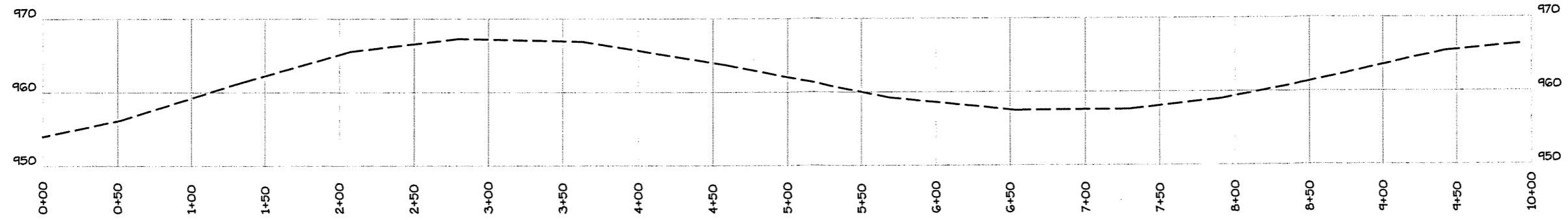
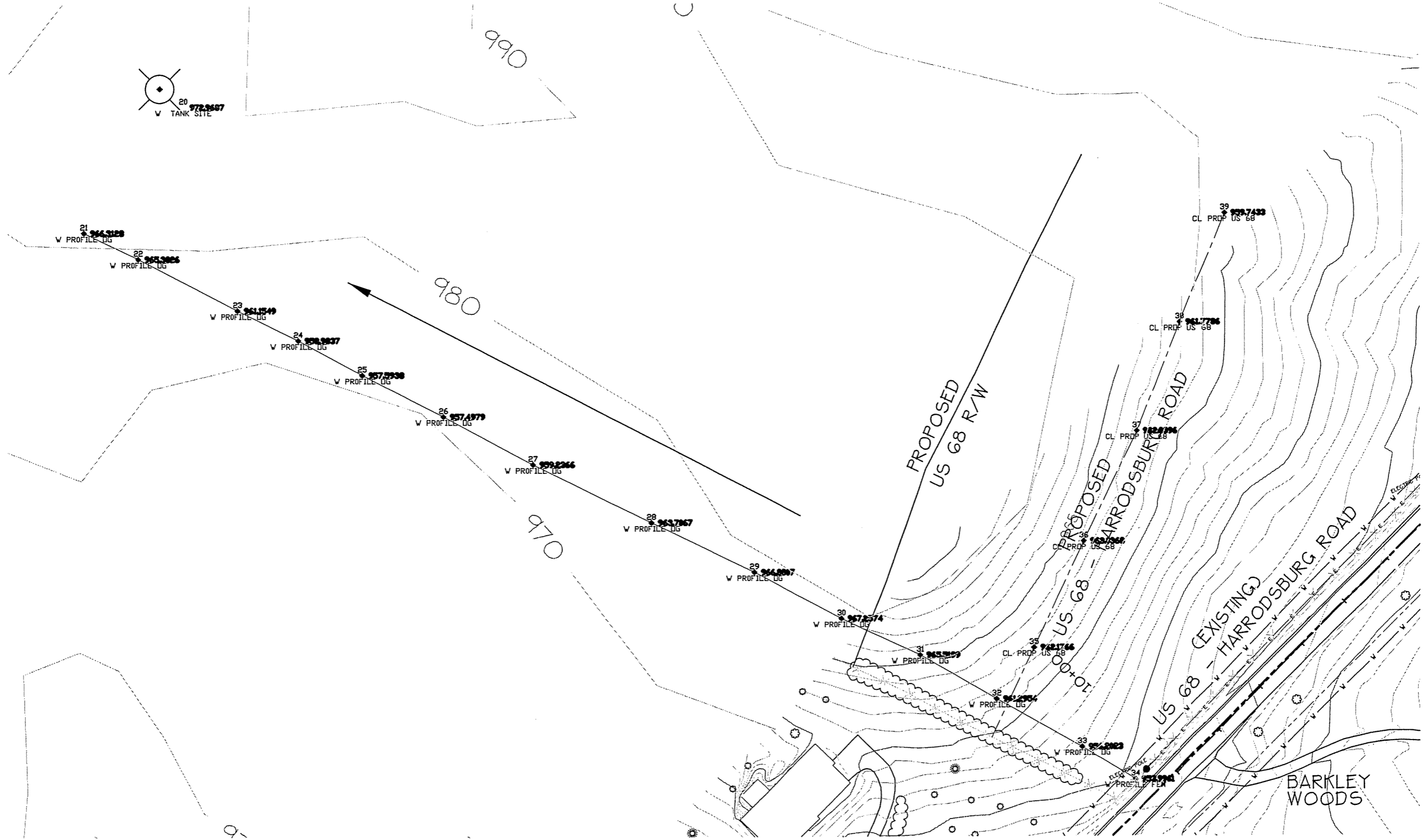
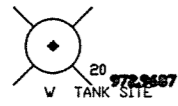
in X: 1532572.051 Max X: 1533715.641

in Y: 147842.068 Max Y: 148489.940

in Z: 945.000 Max Z: 973.109

Number of points listed> 23





PROFILE - FENCE (KNIGHT PROPERTY)

1" = 100'

JERRY W. RAMSEY  
RENAE RAMSEY

ASTINEAU

(29)  
JERRY WAYNE CAMPBELL  
VEVA CAMPBELL  
SEPTIC TANK

PROP. R/W

P.I. 79+66.18  
D = 35° 01' 38" Lt.  
Ts = 1945.83'  
Ls = 275.00'  
Lc = 3227.98'  
f = 1° 22' 30"  
L.T. = 183.34'  
S.T. = 91.67'  
R = 5730.00'  
Es = 279.10'  
e = .029'/'  
Runoff = 275'  
Runout = 190'

(30)  
HENRY H. KNIGHT

Sta. 87+00 L  
= Sta. 50+00

PROP. R/W

N 10° 16' 33" E

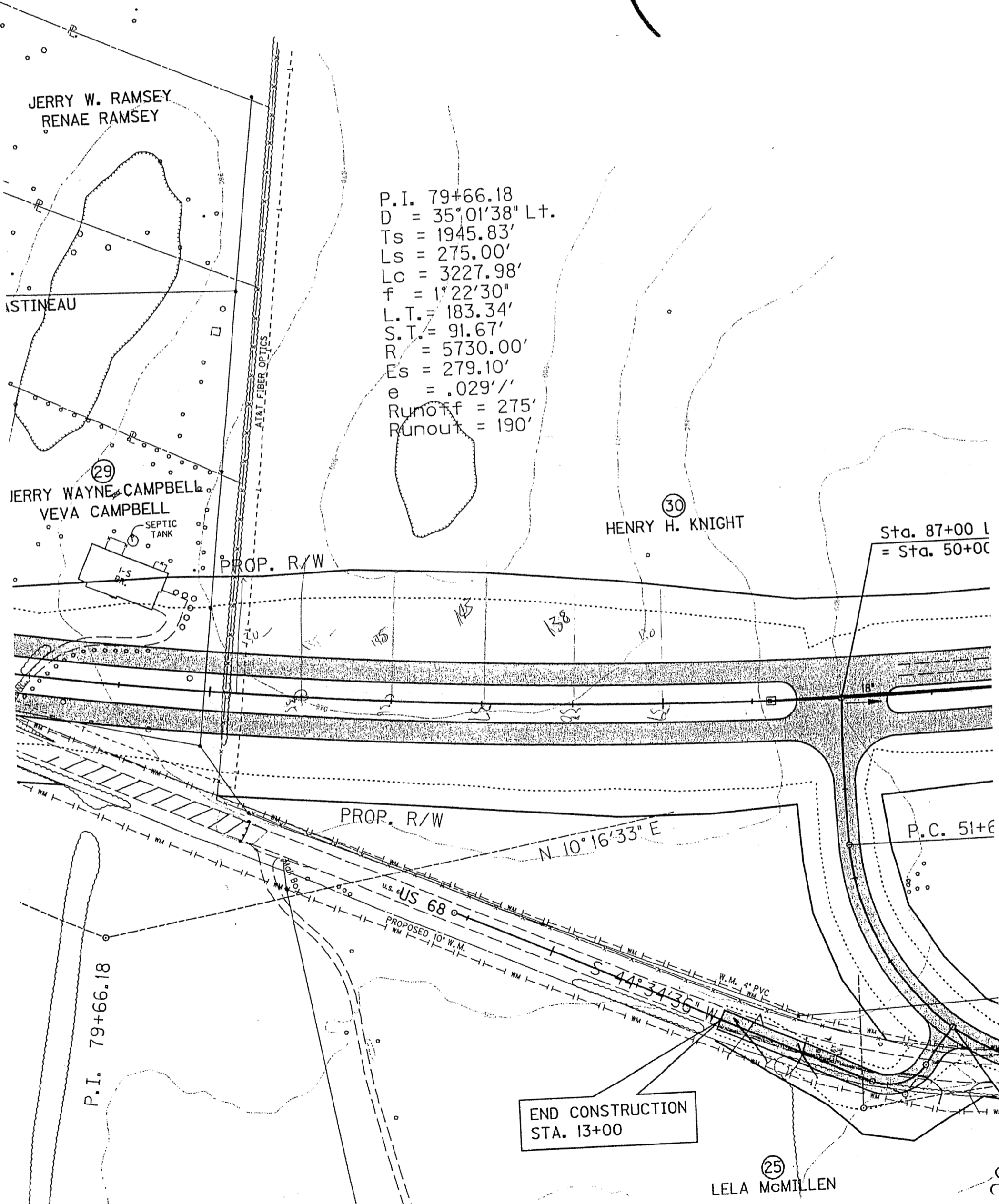
P.C. 51+6

P.I. 79+66.18

U.S. 68  
PROPOSED 10' W.M.

END CONSTRUCTION  
STA. 13+00

(25)  
LELA McMILLEN





# Horne Engineering, Inc.

**FAXED**  
9.23.03  
4:40 pm

216 SOUTH MAIN STREET • NICHOLASVILLE, KENTUCKY 40356 • (859)885-9441 • FAX (859)885-5160

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e-mail: [horneeng@cs.com](mailto:horneeng@cs.com)

September 23, 2003

**FILE COPY**

Ben Hammack  
Switzer Development  
811 Corporate Drive, Suite 303  
Lexington, KY 40503

Via facsimile: 223-5394

JSW  
#3442  
a 3546

Re: Request for Tank Site  
Sue Switzer Farm  
Harrodsburg Road  
Jessamine South Elkhorn Water District

Dear Ben:

This is in response to the questions and stated conditions which you presented in your letter of September 9, 2003. Following is additional information and responses to the specific items you listed in your letter.

First, I think it is appropriate to clarify and redefine my understanding of the specific property that we are discussing. The District wishes to obtain one (1) net acre of property located in the northwesterly part of Mrs. Switzer's farm that will include the existing tank site on the property. However, if there is another site which Mrs. Switzer wishes to propose, the District certainly would entertain and review that proposal. I do not know whether she had in mind an additional site, and if so, whether it was something that was located more to the rear or easterly part of the farm. If so, please advise and we will investigate. The tract, which I understood, would be a tract that fronts 145.2' on Harrodsburg Road and extends back 300' from the Harrodsburg Road right-of-way. This would provide a net area of exactly 43,560 sq. ft. (1-acre).

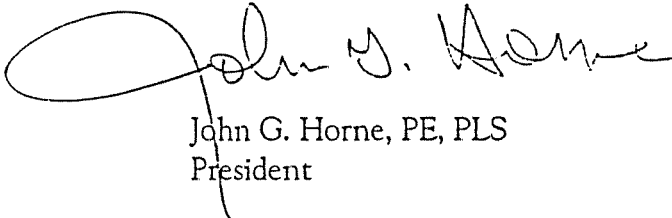
Regarding the price of \$40,000. I have researched some of the prices paid for 5-acre tracts in nearby developed agriculture subdivisions and \$30,000-\$35,000 is closer in range to the monies that are actually being paid for these developed properties. In view of the fact that the property in question is not developed and is raw agricultural land, it would appear that the price of \$30,000 per acre would be in the closer range. To that end, the following is a response to the specific questions and conditions that you listed.

1. Fencing - It is a liability requirement of the District that the water storage tank be enclosed within a security fence. To that extent, the District will construct an 8' chain link security fence around the perimeter of the property which they acquire. The District would have no objection to Mrs. Switzer constructing any type of additional fencing on her side of the property line, of any style and manner which she would wish to do and maintain.
2. The proposed tank is an elevated steel storage tank, similar to that which is currently on site, or a closer model which can be observed at the end of Parks Lane.
3. The District has no objection to planting 6' evergreen trees, 20' on-center along the common property line with Mrs. Switzer. However, I see no justification of constructing earthen berms on the fencing circumference in an attempt to hide a 100' tall tower. The District would agree to establish the screening and maintain through three (3) growing seasons, but cannot be committed to maintaining a live tree in perpetuity.
4. Since it is anticipated that the property would front on Harrodsburg Road, there is no access drive requirement. However, if your client is proposing to offer a site to the interior of the farm, then any access to that property would be via a gravel drive.
5. With the exception of any FAA lighting requirement, the District is not anticipating installing any oversight lighting on the property.
6. Again refer to the response to question # 4, pertaining to the site fronting on Harrodsburg Road.
7. The tank overflow and drain will be directed to the roadway ditch as currently exists.
8. It is and has been the District's policy that they do no permit, nor do they anticipate permitting use of the water tank for cell tower antennae installation.
9. There is not hydraulic requirement for installation of a pump house at this site. Typically, all valve pits and controls to the tank are located in subterranean vaults.
10. There will be a fire hydrant located onsite.

11. The service to any future development on the remaining portion of the farm certainly could be taken from this site. If there is any anticipation of same, I would suggest that the appropriate tee and valving be included with any construction plans which would provide a convenient and ready access to Mrs. Switzer in her future plans.

Please convey these responses and submitted comments to Mrs. Switzer and advise as to your decision. If it would be more convenient to meet or discuss this with a conference call, I am available at your disposal.

Sincerely,  
HORNE ENGINEERING, INC.



John G. Horne, PE, PLS  
President

JGH/jt

cc: Jerry Haws  
Glenn T. Smith  
Engr/3442  
Engr/3467  
Corr.



SWITZER  
DEVELOPMENT

September 9, 2003

Mr. John Horne  
Horne Engineering  
216 S. Main Street  
Nicholasville, KY 40356

RE: Sue Switzer Farm - Harrodsburg Road

145.2' x 300'

Dear John:

After conversations with Sue Switzer and Ron, we are writing to obtain further information as what will be constructed on the one-acre parcel. Sue will agree to sell one acre for \$40,000 based on the following conditions and questions being addressed:

30K

1. What type of fence will be constructed? If a chain link fence is installed, a wood fence must be constructed on the remaining farm side. How often will the fence be replaced? What will be the height of the fence?

chain  
Farm then  
maintain

only

2. Is this an elevated tank or ground tank? Concrete or steel?

3. Screening must be included with the project. A berm with trees needs to be included. What is the landscape plan? Language in the agreement to replace dead trees and shrubs.

NO

20' 9"

3 yr or so soon

old

4. Will the access drive be from Harrodsburg Road? Gravel or blacktop?

5. Will the site have lighting? If so, will it be on all the time or just when someone is at the site?

now anticipated - as req'd.

NO

6. Will a waterline easement be needed from the tank?

front US-68

7. When draining the tank, where will the water go?

same place

DITCH

8. Cell tower antennae will not be permitted without Ms. Switzer's written approval.

le

Don't know

9. Is a pump house building being built on the site? If so, what size and type?

yes 10. Will a FH be located on the site?

yes 11. Can service be taken off this site for future development on the farm?

Please review and fax (223-5394) this information as soon as possible as Ms. Switzer is dividing the farm into five-acre tracts.

Sincerely,



Ben Hammack

BH/jld

**QUICK FAX™ OfficeMax**

Date: 9-11-03	# Of Pages: 2	From: [Signature]
To: Jerry Laws	Co./Dept: JSEWD	Phone: 885-9441
Fax: 858-8498	Phone: 885-9441	E-Mail:
Note:		

**FAKED**

# Horne Engineering, Inc.

216 SOUTH MAIN STREET • NICHOLASVILLE, KENTUCKY 40356 • (859)885-9441 • FAX (859)885-5160

ENGINEERS • LAND SURVEYORS • PLANNERS  
e-mail: [horneeng@cs.com](mailto:horneeng@cs.com)

November 4, 2003

Jerry Haws, Chairman  
Jessamine South Elkhorn Water District  
940 Pekin Pike  
Wilmore, KY 40390

**FILE COPY**

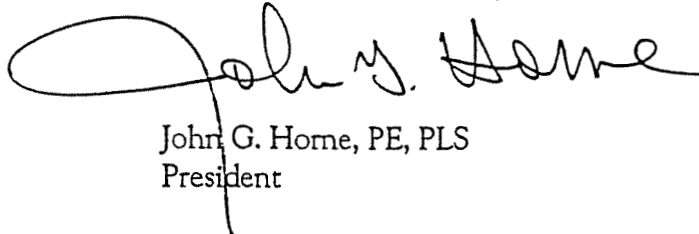
23546

Re: Water Tank Site  
Sue Switzer Property - Catnip Hill Pike  
Jessamine South Elkhorn Water District

Dear Jerry:

Attached, please find a copy of the Memorandum of Understanding received from Ms. Sue Switzer regarding the potential of purchasing 1-acre of her property to be utilized as an elevated water storage tank site. It is my recommendation that the District accept her conditions and that the District's attorney be instructed to prepare a contract for her review and execution.

Sincerely,  
HORNE ENGINEERING, INC.



John G. Horne, PE, PLS  
President

JGH/jt  
enc.

cc: Glenn T. Smith  
Engr/3442  
Engr/3467  
Corr.

# Horne Engineering, Inc.

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---

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*e-mail: horneeng@cs.com*

## MEMORANDUM

To: Sue Switzer  
1121 Catnip Hill Road  
Nicholasville, KY 40356

From: John G. Horne PE, PLS  
Consulting Engineer

Date: November 4, 2003

Subject: Memorandum of Understanding of Acquisition of Tank Site, Jessamine South Elkhorn Water District

---

Following is a compilation of the points of discussion and agreement reached with our current negotiation regarding the acquisition of a tank site for the Jessamine South Elkhorn Water District.

- The existing elevated storage tank located on the northwest corner of your property will be landscaped on the south and east side. The landscape plantings will be planted on your property and will consist of a minimum of 6' evergreen trees, planted 20' on center, with a minimum of three (3) - 6' evergreen trees planted on each of the south and east side, and two (2) flowering trees (dogwood and crab apple) on each side.
- Upon payment of \$40,000, you will convey 1-acre (approximately 200' x 218') property located in the northeast corner of your property (Wilkinson and Rash corner).
- You will grant a 30' utility and access easement from Catnip Hill for the purposes of accessing the tank site. Jessamine South Elkhorn Water District will construct a 10' gravel drive for purposes of access and will maintain same.
- The District will construct an 8' security fence around the perimeter of the tank site.

- The District will apply for, and obtain an Encroachment Permit from the Kentucky Department of Highways for purposes of an entrance from Catnip Hill Pike onto the gravel access drive. They will construct the entrance, along with a gated access.
- The District agrees to maintain both the existing and proposed tank in an orderly and workmanlike manner.

The above is the contents of your agreement. If you are in agreement, please indicate your acceptance of the conditions and I will transmit the information with a request that they prepare a contract for your review and execution.

Submitted by: John G. Home  
John G. Home

Date: 11/4/03

Accepted by: Sue Switzer  
Sue Switzer

Date: 11/4/03

JGH/jt

cc: Jerry M. Haws  
Glenn T. Smith  
Bruce E. Smith  
Engr/3442  
Engr/3467  
Corr.



# Horne Engineering, Inc.

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e-mail: [horneeng@cs.com](mailto:horneeng@cs.com)

November 24, 2003

**FILE COPY**

d 3546

Ron Switzer  
811 Corporate Drive  
Lexington, KY 40503

Re: Purchase Contract  
Elevated Storage Tank Site  
Sue C. Switzer Property  
Jessamine South Elkhorn Water District

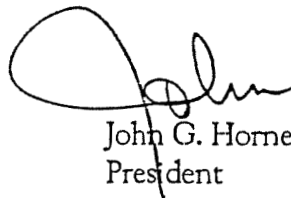
Dear Ron:

Enclosed please find a copy of purchase contract pertaining to the property Jessamine South Elkhorn Water District proposes to purchase from Ms. Switzer. The document has been executed by Jerry Haws, Chairman. I believe the contract covers all the points which I have previously discussed with both you and Sue.

The District is anxious to begin survey and subsurface investigation, but I thought it best to wait for you to have a chance to review the document.

Should you have any questions or require additional information regarding this matter, please contact me at (859) 885-9441.

Sincerely,  
HORNE ENGINEERING, INC.



John G. Home, PE, PLS  
President

JGH/jt

enc.

cc: Sue Switzer  
Jerry Haws  
Bruce E. Smith  
Glenn T. Smith  
Engr/3442  
Engr/3467  
Corr.

Q:\ProjectDir\sewd\WO3442\RSwitzerPurchase.ltr

# Horne Engineering, Inc.

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---

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e-mail: [horneeng@cs.com](mailto:horneeng@cs.com)

November 24, 2003

Sue Switzer  
1121 Catnip Hill Road  
Nicholasville, KY 40356

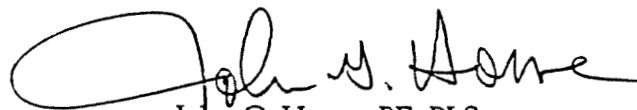
Re: Purchase Contract  
Elevated Storage Tank Site  
Jessamine South Elkhorn Water District

Dear Sue:

Enclosed please find two (2) copies of the purchase contract for your review and execution. Please sign and retain one for your records, returning the other in the enclosed stamped envelope.

Knowing your desire to have Ron review, I am forwarding him a copy. If you or he has any questions or require additional information regarding this matter, please contact me at (859) 885-9441.

Sincerely,  
HORNE ENGINEERING, INC.



John G. Horne, PE, PLS  
President

JGH/jt  
enc.

cc: Jerry Haws  
Bruce E. Smith  
Glenn T. Smith  
Engr/3442  
Engr/3467  
Corr.

## PURCHASE CONTRACT

**THIS AGREEMENT** is made and entered into this \_\_\_\_ day of November, 2003, by and between Sue Switzer, aka Sue C. Switzer, single, of 1121 Catnip Hill Pike, Nicholasville, Kentucky, 40356 hereinafter SELLER, and Jessamine-South Elkhorn Water District, a Kentucky rural water District created under KRS Chapter 74, of 117 South Main Street, Nicholasville, Kentucky, 40356, hereinafter BUYER.

**NOW, THEREFORE**, for and in consideration of the mutual promises contained herein, the SELLER and the BUYER agree as follows:

1. The SELLER agrees to sell and the BUYER agrees to purchase that certain parcel of real estate located in Jessamine County, Kentucky, which is more particularly described as one (1) acre, configured in a parcel approximately 200 'x 218', which is to be located near the northeast corner of the property depicted in the plat of record at Plat Cabinet 9, Slide 204, Jessamine County Clerk's office. Also to be conveyed as part of this contract is a 30' wide utility and access easement from the above described parcel leading to Catnip Hill Road. The BUYER shall cause a plat of the one (1) acre parcel and easement to be made that shall be subject to the approval of SELLER. All of the foregoing shall be known hereinafter as either the "Property" or the "Premises".

2. The purchase price which shall be paid by the BUYER to the SELLER is \$40,000.00

3. This transaction shall close within 30 days time following the satisfaction of the BUYER's contingencies set forth herein. At the closing, the Seller will convey to the BUYER by general warranty deed an unencumbered, marketable title to the Property, subject to any restrictions imposed by zoning and building ordinances, all other restrictions imposed by law or ordinance, and subject to any condition as a survey or inspection of the Premises might disclose. At closing, BUYER will pay to the SELLER the agreed purchase price hereunder.

Possession of the Property purchased hereunder shall be delivered to the BUYER on the date of the closing of this transaction.

4. SELLER promises that the Property sold hereunder be delivered to BUYER at closing in as good condition as it was as of the date of this Agreement. The risk of loss or damage to the Premises prior to the date of closing is assumed by SELLER, and in the event the Premises sold hereunder are rendered unusable for BUYER's intended use of the Premises as an elevated water storage facility site and access to same, SELLER, at its sole option and discretion, may terminate and void this contract at any time prior to closing.

5. All taxes shall be pro-rated as of the date of closing.

6. The parties further agree that as part of the consideration for the sale and purchase hereunder that the BUYER shall be permitted to construct an elevated water storage tank on the one-acre parcel which it shall maintain in a reasonable manner. The BUYER further agrees to construct and maintain a 10' wide gravel driveway inside the 30' foot wide access easement from Catnip Hill . Lastly, the BUYER will enclose the one-acre parcel with an 8' high security fence around the perimeter and will also place a gate at the entrance to the access easement from Catnip Hill Road. All of the foregoing provisions shall survive the conveyance of the Property from SELLER to the BUYER.

7. As further consideration, the District agrees to landscape at the site of the existing elevated water storage tank on SELLER's property on the south and east sides and plant on the edge of Seller's property adjoining the south and east sides of the subject parcel three (3) evergreen trees per side on 20' centers which shall be a minimum 6' in height and plant on each such side a minimum of two flowering trees (either dogwood or crab apple).

8. The BUYER's obligation to purchase is contingent upon the following:

- a. receiving an encroachment permit from the Commonwealth of Kentucky to access the one-acre parcel from Catnip Hill Road; and
- b. a subsurface survey to confirm that the one-acre parcel is suitable for the construction of the elevated facility.

9. The SELLER represents and warrants that there are no unpaid claims of contractors, materialmen, laborers or any person entitled to assert a statutory lien which would give rise to a lien against the Property.

10. Buyer may, prior to closing, through its employees, representatives or agents, make such further inspection of the Property which Buyer deems necessary or desirable. Buyer shall have the right to have one or more surveys of the Property completed and to make such soil tests and other tests of the Property.

11. The SELLER represents and warrants that the Property is not contaminated with or by any hazardous or toxic substances and such representation and warranty shall survive the closing of this transaction and the conveyance to BUYER.

12. This contract constitutes and is the entire agreement and understanding between the parties hereto and it supercedes and replaces all prior discussions, understandings, negotiations, and agreements (verbal or written) made or had prior to the date of this contract. This contract shall not be changed, altered, modified, amended, or supplemented unless done in a similar writing signed by all of the parties hereto.

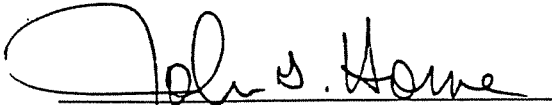
"SELLER"

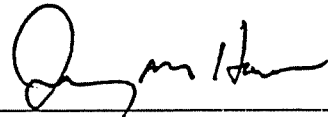
\_\_\_\_\_  
WITNESS

\_\_\_\_\_  
SUE SWITZER

\_\_\_\_\_  
DATE

"BUYER"

  
\_\_\_\_\_  
WITNESS

BY:  \_\_\_\_\_ 11-24-03  
CHAIRMAN, DATE  
JESSAMINE-SOUTH ELKHORN  
WATER DISTRICT

# Horne Engineering, Inc.

16 SOUTH MAIN STREET • NICHOLASVILLE, KENTUCKY 40356 • (859)885-9441 • FAX (859)885-5160

---

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e-mail: [homeeng@cs.com](mailto:homeeng@cs.com)

## MEMORANDUM

To: Sue Switzer  
1121 Catnip Hill Road  
Nicholasville, KY 40356

# 3546

From: John G. Horne PE, PLS  
Consulting Engineer

Date: December 8, 2003

Subject: Reply to memorandum addressed to Sue Switzer from Ron Switzer, pertaining to points of consideration regarding sale of tank site property.

---

Sue, I thought this would be the best way to discuss the points that Ron brought up regarding the purchase contract which you now have under consideration pertaining to the purchase of the tank site property by Jessamine South Elkhorn Water District. Following is a list of each of the eight (8) points that Ron listed. I am forwarding a copy of this memorandum to Ron so that he will have the information at hand should you wish to further discuss the matter, with him.

1. I thought tank was to be located at corner next to Catnip Hill Road. Since they want property on northeast corner then they are utilizing another acre or so with easement plus the fact that this will be a road that will distract from development of lots that run parallel to easement.

Response: I have attached a copy of the easterly portion of your plat which was recently recorded (October 29, 2003) pertaining to the subdividing of two lots of your property fronting on Harrodsburg Road. As I indicated on the copy of that portion of the plat, easements currently exist around the complete circumference of the property. Regarding the area in question (ie; the eastern portion), there are two (2) easements. One is a future road widening easement for Clays Mill Road, and the other is an adjacent 20' utility easement. I would propose to you that the District utilize the same position of the 20' utility easement for their access and waterline easement. Consequently, there would be no further encumbrance on your property of any additional easements over that which you have already put to record. In addition, I have sketched in the proposed site which the District wishes to purchase. This is the same area that I indicated to you when we rode over the property.

2. **There needs to be more planting materials around tank.**

Response: I don't know if there is some confusion from Ron as to the proposed planting material. As you and I discussed, the District is proposing to place screening trees around the EXISTING FENCE of the EXISTING TANK SITE. Because this site is so small is the reason that we are proposing to only plant three trees on each side. Probably in order to get the three trees on the side, we will have to reduce the spacing from the typically accepted spacing of 20' on center, to something smaller. That was the reason that I suggested to you a specific number rather than spacing. I do believe that because of the small area of the existing tank, the five trees that are proposed on each side would be more than adequate to provide screening.

3. **There needs to be language to maintain tank and fencing both around proposed tank and existing tank.**

Response: I don't believe that I would object to language pertaining to maintenance of the tank and fencing being placed in the contract. In fact, based on your comments as regards the fence around the existing tank, I believe that it would be proper to include language that when the fencing was completed on the new tank site that the fence around the existing tank be removed and replaced with new fencing.

4. **There needs to be language regarding the maintenance of grass in easement area.**

Response: Since the District is not proposing to fence off the existing easements which they propose to use, and since they would be still be a part of the pasture and would be available to the cattle, I think that they would be maintained in the same manner as the rest of the pasture.

5. **There needs to be provision for no cell phone or other attachments to tower.**

Response: It is the District's policy that they do not lease or provide anchorage on their tanks for any cell phone transmission. However, telemetry equipment, lightning protection and possibly FAA signal lighting may be required for this tank. They by no means would want to preclude any availability to them to meet FAA or other governmental agency requirements for protection and operation. However, I would be comfortable in recommending that no cell phone transmission be allowed on the tank.

6. **Green slats need to be inserted in the fencing around the tower.**

Response: Since the proposed tank would be in the rear portion of the property and would only be seen by an occasional cow browsing by, I don't believe that the insertion of screening slats in the chain-link fence would be of any benefit. In fact, I believe it would be a distraction to the ambience of the installation. I have field-checked the general area and I believe that you would concur with me that any future

development of this property would have a residential structure located near the front portion of the lot and subsequently and it would be impossible to see the tank site fence from the front of any proposed lot.

**7. Will there be a fire hydrant on site?**

Response: There will be a fire hydrant installed at the tank site, and I can also visualize that due to the distribution piping changes necessary to supply the tank, that additional hydrants will be located on the Catnip Hill area. In addition, one would anticipate that with upgrading of the distribution piping that there would probably be opportunity to install a fire hydrant near your existing residence. I believe that I would be comfortable in recommending to the Commissioners that if possible, one be installed as a part of this project.

**8. You need to either get more compensation or possibly credit on future water bills in exchange for easement.**

Response: As we have previously discussed, I think that the offer for the acre is very generous in regards to the undeveloped status of the property. As I discussed in response to Question #1, it does not appear to me that the District is in fact requesting any additional easements or encumbrance over that which you have already put to record. Consequently, I don't believe that there is justification for further compensation. As regards to credit on future water bills, the District is prohibited by PSC regulations from "trading" water services for any kind of benefit or value.

These are my thought regarding the points brought up by Ron. Please review this and if either you or Ron so desire to discuss it further, please feel free to call me at 885-9441.

JGH/jt

enc.

cc: Ron Switzer  
Board of Commissioners  
Bruce E. Smith  
Glenn T. Smith  
Engr/3442  
Engr/3536  
Engr/3467  
Corr.



*Switzer, McGaughey & Company, P.C.*

*Certified Public Accountants*

223-2834

TO: John Horne

COMPANY: Horne Engineering

FAX NUMBER: 885-5160

DATE: 12-4-03

NUMBER OF PAGES INCLUDING COVER SHEET: 2

FROM: Ron Switzer

ADDITIONAL MESSAGE

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

CONFIDENTIALITY NOTICE

The documents accompanying this telecopy transmission contain confidential information belonging to the sender which is legally privileged. The information is intended only for the use of the individual(s) or entity named above. If you are not the intended recipient, you are hereby notified that any disclosure, copying, distribution or the taking of any action in reliance on the contents of this telecopied information is strictly prohibited. If you have received this telecopy in error, please immediately notify us by telephone at the number listed above to arrange for return of the original documents to us. Thank you.

IF ALL PAGES ARE NOT RECEIVED, PLEASE CONTACT THE RECEPTIONIST AT THE ABOVE NUMBER.

RON SWITZER  
4206 MILITARY PI ;  
LEXINGTON KY

**RONALD C. SWITZER**  
**811 CORPORATE DRIVE · SUITE 303**  
**LEXINGTON, KENTUCKY 40503**  
**PHONE: 858-223-8355**

**DATE:** December 4, 2003  
**TO:** Sue Switzer  
**C/C:** John Horne  
**FROM:** Ron Switzer

Sue, there are points you should consider regarding the sale of property to the water district.

1. I thought tank was to be located at corner next to Catnip Hill Road. Since they want property on northeast corner then they are utilizing another acre or so with easement plus the fact that this will be a road that will distract from development of lots that run parallel to easement.
2. There needs to be more planting materials around tank.
3. There needs to be language to maintain tank and fencing both around proposed tank and existing tank.
4. There needs to be language regarding the maintenance of grass in easement area.
5. There needs to be provision for no cell phone or other attachments to tower.
6. Green slats need to be inserted in the fencing around the tower.
7. Will there be a fire hydrant on site?
8. You need to either get more compensation or possibly credit on future water bills in exchange for easement.

If the above cannot be satisfactorily concluded, then I advise you forget the sale due to damage to any proposed future development.

# Horne Engineering, Inc.

5 SOUTH MAIN STREET • NICHOLASVILLE, KENTUCKY 40356 • (859)885-9441 • FAX (859)885-5160

ENGINEERS • LAND SURVEYORS • PLANNERS  
e-mail: [horneeng@cs.com](mailto:horneeng@cs.com)

January 6, 2004

**FILE COPY**

Sue Switzer  
1121 Catnip Hill Road  
Nicholasville, KY 40356

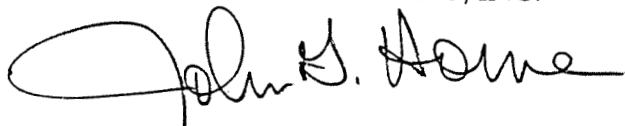
Re: Purchase Contract  
Elevated Tank Site  
Catnip Tank Site  
Jessamine South Elkhorn Water District

Dear Sue:

Enclosed please find two (2) executed copies of the Purchase Contract, reflecting the revisions which we discussed. I have forwarded a copy to Ron for his review.

Please sign and return one copy in the enclosed envelope. In the meantime, should you have any questions or require additional information regarding this matter, please contact me at (859) 885-9441.

Sincerely,  
HORNE ENGINEERING, INC.



John G. Horne, PE, PLS  
President

JGH/jt  
enc.

cc: Ron Switzer  
Leon Taylor  
Bruce E. Smith  
Glenn T. Smith  
Engr/3546  
Engr/3553  
Corr.

## PURCHASE CONTRACT

**THIS AGREEMENT** is made and entered into this \_\_\_\_ day of January, 2004, by and between Sue Switzer, aka Sue C. Switzer, single, of 1121 Catnip Hill Pike, Nicholasville, Kentucky, 40356 hereinafter SELLER, and Jessamine-South Elkhorn Water District, a Kentucky rural water District created under KRS Chapter 74, of 117 South Main Street, Nicholasville, Kentucky, 40356, hereinafter BUYER.

**NOW, THEREFORE**, for and in consideration of the mutual promises contained herein, the SELLER and the BUYER agree as follows:

1. The SELLER agrees to sell and the BUYER agrees to purchase that certain parcel of real estate located in Jessamine County, Kentucky, which is more particularly described as one (1) acre, and which is to be located near the northeast corner of the property depicted in the plat of record at Plat Cabinet 9, Slide 204, Jessamine County Clerk's office. The BUYER shall cause a plat of the one (1) acre parcel to be made that shall be subject to the approval of SELLER. All of the foregoing shall be known hereinafter as either the "Property" or the "Premises". It is understood and agreed that BUYER shall use the existing 20' wide general utility easement, already depicted on the aforementioned plat and located along the eastern boundary of SELLER's property, for the installation of its waterline. It is further understood and agreed that BUYER shall use the aforementioned easement and an adjoining and parallel 25' road widening easement as vehicular access to and from the Property.

2. The purchase price which shall be paid by the BUYER to the SELLER is \$40,000.00

3. This transaction shall close within 30 days time following the satisfaction of the BUYER's contingencies set forth herein. At the closing, the Seller will convey to the BUYER by general warranty deed an unencumbered, marketable title to the Property, subject to any restrictions imposed by zoning and building ordinances, all other restrictions imposed by law or ordinance, and subject to any condition as a survey or inspection of the Premises might disclose. At closing, BUYER will pay to the SELLER the agreed purchase price hereunder.

Possession of the Property purchased hereunder shall be delivered to the BUYER on the date of the closing of this transaction.

4. SELLER promises that the Property sold hereunder be delivered to BUYER at closing in as good condition as it was as of the date of this Agreement. The risk of loss or damage to the Premises prior to the date of closing is assumed by SELLER, and in the event the Premises sold hereunder are rendered unusable for BUYER's intended use of the Premises as an elevated water storage facility site and access to same, BUYER, at its

sole option and discretion, may terminate and void this contract at any time prior to closing.

5. All taxes shall be pro-rated as of the date of closing.

6. The parties further agree that as part of the consideration for the sale and purchase hereunder that the BUYER shall be permitted to construct an elevated water storage tank on the one-acre parcel which it shall maintain in a reasonable manner. The BUYER further agrees to construct and maintain in a reasonable manner a 10' wide gravel driveway inside the outer boundaries of the aforementioned 20' wide general utility and the adjoining 25' road widening easement which will ingress and egress from the Property onto Catnip Hill. Lastly, the BUYER will enclose the one-acre parcel with an 8' high security fence around the perimeter and will also place a gate at the entrance to the gravel driveway from Catnip Hill Road. All of the foregoing provisions shall survive the conveyance of the Property from SELLER to the BUYER.

7. As further consideration, the District agrees to landscape at the site of the existing elevated water storage tank on SELLER's property on the south and east sides and plant on the edge of Seller's property adjoining the south and east sides of the subject parcel three (3) evergreen trees per side on 20' centers which shall be a minimum 6' in height and plant on each such side a minimum of two flowering trees (either dogwood or crab apple). BUYER also agrees to replace the existing chain link fence at the site with an 8' high security fence.

8. The BUYER's obligation to purchase is contingent upon the following:

a. receiving an encroachment permit from the Commonwealth of Kentucky to access the one-acre parcel from Catnip Hill Road; and

b. a subsurface survey to confirm that the one-acre parcel is suitable for the construction of the elevated facility; and

c. an opinion from BUYER's counsel that a general utility easement and road widening easement may be used for vehicular access to and from the Property.

9. The SELLER represents and warrants that there are no unpaid claims of contractors, materialmen, laborers or any person entitled to assert a statutory lien which would give rise to a lien against the Property.

10. Buyer may, prior to closing, through its employees, representatives or agents, make such further inspection of the Property which Buyer deems necessary or desirable. Buyer shall have the right to have one or more surveys of the Property completed and to make such soil tests and other tests of the Property.

11. The SELLER represents and warrants that the Property is not contaminated with or by any hazardous or toxic substances and such representation and warranty shall survive the closing of this transaction and the conveyance to BUYER.

12. This contract constitutes and is the entire agreement and understanding between the parties hereto and it supercedes and replaces all prior discussions, understandings, negotiations, and agreements (verbal or written) made or had prior to the date of this contract. This contract shall not be changed, altered, modified, amended, or supplemented unless done in a similar writing signed by all of the parties hereto.

“SELLER”

\_\_\_\_\_  
WITNESS

\_\_\_\_\_  
SUE SWITZER

\_\_\_\_\_  
DATE

“BUYER”

*Judith Shacker*  
\_\_\_\_\_  
WITNESS

BY:

*Sean Taylor* 1-07-04  
\_\_\_\_\_  
CHAIRMAN, DATE  
JESSAMINE-SOUTH ELKHORN  
WATER DISTRICT

# Horne Engineering, Inc.

6 SOUTH MAIN STREET • NICHOLASVILLE, KENTUCKY 40356 • (859)885-9441 • FAX (859)885-5160

ENGINEERS • LAND SURVEYORS • PLANNERS

e-mail: [horneeng@cs.com](mailto:horneeng@cs.com)

January 15, 2004

Diana Clark  
Jessamine South Elkhorn Water District  
117 South Main Street, PO Box 731  
Nicholasville, KY 40356

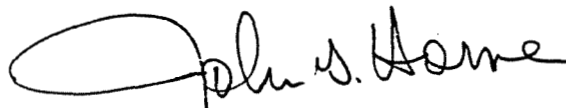
Re: Purchase Contract  
Sue Switzer Property  
Catnip Hill Pike  
Jessamine South Elkhorn Water District

Dear Diana:

Enclosed please find copy of the purchase contract from Sue Switzer, signed, sealed and delivered. I would strongly urge you to find a safe repository for this, one that you can put your hand on quickly because if getting the purchase contract is any indication of getting the deed, we will need to rely on it strongly.

Should you have any questions or require additional information regarding this matter, please contact me at (859) 885-9441.

Sincerely,  
HORNE ENGINEERING, INC.



John G. Horne, PE, PLS  
President

JGH/jt  
enc.

cc: Leon Taylor  
Bruce E. Smith  
Engr/3546  
Engr/3553  
Corr.

**FILE COPY**

## PURCHASE CONTRACT

THIS AGREEMENT is made and entered into this 14 day of January, 2004, by and between Sue Switzer, aka Sue C. Switzer, single, of 1121 Catnip Hill Pike, Nicholasville, Kentucky, 40356 hereinafter SELLER, and Jessamine-South Elkhorn Water District, a Kentucky rural water District created under KRS Chapter 74, of 117 South Main Street, Nicholasville, Kentucky, 40356, hereinafter BUYER.

NOW, THEREFORE, for and in consideration of the mutual promises contained herein, the SELLER and the BUYER agree as follows:

1. The SELLER agrees to sell and the BUYER agrees to purchase that certain parcel of real estate located in Jessamine County, Kentucky, which is more particularly described as one (1) acre, and which is to be located near the northeast corner of the property depicted in the plat of record at Plat Cabinet 9, Slide 204, Jessamine County Clerk's office. The BUYER shall cause a plat of the one (1) acre parcel to be made that shall be subject to the approval of SELLER. All of the foregoing shall be known hereinafter as either the "Property" or the "Premises". It is understood and agreed that BUYER shall use the existing 20' wide general utility easement, already depicted on the aforementioned plat and located along the eastern boundary of SELLER's property, for the installation of its waterline. It is further understood and agreed that BUYER shall use the aforementioned easement and an adjoining and parallel 25' road widening easement as vehicular access to and from the Property.

2. The purchase price which shall be paid by the BUYER to the SELLER is \$40,000.00

3. This transaction shall close within 30 days time following the satisfaction of the BUYER's contingencies set forth herein. At the closing, the Seller will convey to the BUYER by general warranty deed an unencumbered, marketable title to the Property, subject to any restrictions imposed by zoning and building ordinances, all other restrictions imposed by law or ordinance, and subject to any condition as a survey or inspection of the Premises might disclose. At closing, BUYER will pay to the SELLER the agreed purchase price hereunder.

Possession of the Property purchased hereunder shall be delivered to the BUYER on the date of the closing of this transaction.

4. SELLER promises that the Property sold hereunder be delivered to BUYER at closing in as good condition as it was as of the date of this Agreement. The risk of loss or damage to the Premises prior to the date of closing is assumed by SELLER, and in the event the Premises sold hereunder are rendered unusable for BUYER's intended use of the Premises as an elevated water storage facility site and access to same, BUYER, at its



sole option and discretion, may terminate and void this contract at any time prior to closing.

5. All taxes shall be pro-rated as of the date of closing.

6. The parties further agree that as part of the consideration for the sale and purchase hereunder that the BUYER shall be permitted to construct an elevated water storage tank on the one-acre parcel which it shall maintain in a reasonable manner. The BUYER further agrees to construct and maintain in a reasonable manner a 10' wide gravel driveway inside the outer boundaries of the aforementioned 20' wide general utility and the adjoining 25' road widening easement which will ingress and egress from the Property onto Catnip Hill. Lastly, the BUYER will enclose the one-acre parcel with an 8' high security fence around the perimeter and will also place a gate at the entrance to the gravel driveway from Catnip Hill Road. All of the foregoing provisions shall survive the conveyance of the Property from SELLER to the BUYER.

7. As further consideration, the District agrees to landscape at the site of the existing elevated water storage tank on SELLER's property on the south and east sides and plant on the edge of Seller's property adjoining the south and east sides of the subject parcel three (3) evergreen trees per side on 20' centers which shall be a minimum 6' in height and plant on each such side a minimum of two flowering trees (either dogwood or crab apple). BUYER also agrees to replace the existing chain link fence at the site with an 8' high security fence.

8. The BUYER's obligation to purchase is contingent upon the following:

a. receiving an encroachment permit from the Commonwealth of Kentucky to access the one-acre parcel from Catnip Hill Road; and

b. a subsurface survey to confirm that the one-acre parcel is suitable for the construction of the elevated facility; and

c. an opinion from BUYER's counsel that a general utility easement and road widening easement may be used for vehicular access to and from the Property.

9. The SELLER represents and warrants that there are no unpaid claims of contractors, materialmen, laborers or any person entitled to assert a statutory lien which would give rise to a lien against the Property.

10. Buyer may, prior to closing, through its employees, representatives or agents, make such further inspection of the Property which Buyer deems necessary or desirable. Buyer shall have the right to have one or more surveys of the Property completed and to make such soil tests and other tests of the Property.

11. The SELLER represents and warrants that the Property is not contaminated with or by any hazardous or toxic substances and such representation and warranty shall survive the closing of this transaction and the conveyance to BUYER.

12. This contract constitutes and is the entire agreement and understanding between the parties hereto and it supercedes and replaces all prior discussions, understandings, negotiations, and agreements (verbal or written) made or had prior to the date of this contract. This contract shall not be changed, altered, modified, amended, or supplemented unless done in a similar writing signed by all of the parties hereto.

“SELLER”

John S. Home  
WITNESS

Sue C. Switzer 1/14/04  
SUE SWITZER DATE

“BUYER”

Judith Thacker  
WITNESS

BY: Sean Taylor 1-07-04  
CHAIRMAN, DATE  
JESSAMINE-SOUTH ELKHORN  
WATER DISTRICT

# Horne Engineering, Inc.

216 SOUTH MAIN STREET NICHOLASVILLE, KENTUCKY 40356 (859)885-9441 FAX (859)885-5160

September 18, 2002

Mr. Keith Flora  
Bank One Kentucky  
201 E. Main Street  
Lexington, KY 40507

**FILE COPY**

# 3442

Re: Proposed Storage Tank Site  
Cave Springs Farm  
Jessamine South Elkhorn Water District

Dear Mr. Flora:

Pursuant to our recent telephone conversation relative to the desire of the Jessamine South Elkhorn Water District to obtain a site for a new elevated storage tank in the vicinity of Keene, I am presenting the following and the enclosed material and details, for your consideration.

NEED - Currently, the District has a total storage capacity of 550,000 gallons situated in two tanks in the northern part of the District. Because of the increase demands over the years, it is becoming necessary that the District construct additional storage.

Their plan is to construct an additional 500,000 gallon elevated storage tank. Due to the expansion and increase demand in the southern portion, the District has elected to place this additional storage in the southern area.

Site location for an elevated storage tank is quite restrictive. Only areas of certain elevation can be used. Fortunately, Cave Spring Farm does have such a site.

LOCATION - The hydraulics of the District's system requires a potential tank site to have a mean sea level elevation (MSL) of 950 or greater. The horse barn complex located on KY-169 has this elevation, however, I presumed that from the owner's standpoint this area would not be an acceptable alternative. I would point out that from the standpoint of horse farm operations, an elevated tank is compatible and a half-million gallons of water next to a horse barn is good fire insurance.

Assuming the owners would not prefer to have the storage tank near the barn complex, we searched for other suitable sites on the farm. We found one and it is located near the Clear Creek Estates Subdivision. The site is indicated on the enclosed copy of the aerial photograph.

SITE - The size of the required site is one-square acre ( 208.71' x 208.71'). It is the District's policy that all storage tanks be fenced. Therefore, an 8' chain link security fence would be constructed on the site's boundary.

The District, being a public body, depends on government funds for their major construction projects. These agencies require that the District hold title to any land upon which improvements are made. Typically on a storage tank site, there is a reversion clause in the deed, that the land reverts to the Grantor if it ceases to be used for a storage tank.

Because the District is a public nonprofit organization existing solely to provide potable water to families in its boundary, they do not pay for easements or normally for tank sites. If deeding the property is a problem, then perhaps some manner of an automatic renewal, long term lease (excess 40 years) or easement might be worked out. From the District's standpoint, any arrangement satisfactory to the Farmer Home Administration is acceptable. However, history has proven to us, the process of deed with reversion is the simplest and most acceptable.

ACCESS - As indicated on the photograph, we would propose to access the site via a 20' easement from the end of Creek Wood Way, which is a county road stubbing into the Cave Spring Farm property from the Clear Creek Estates Subdivision.

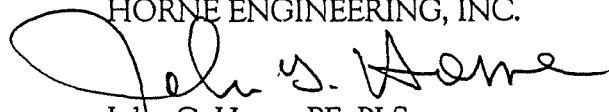
From an onsite visit, I am comfortable that a gravel drive could be constructed which would follow the contour and miss all trees. I believe it would be best to leave the drive unfenced, however, if the owners prefer, a woven wire fence could be constructed. Access would be controlled by a locked gate. Providing double locks would also allow the farm tenant access.

WATERLINE EASEMENT - To provide enhanced water quality and hydraulic would require construction of a loop line from Keene Road (KY-1267) to Creek Wood Way. This would necessitate a twenty-foot waterline easement across a southerly portion of the farm. This waterline easement is indicated on the copy of the enclosed photograph.

On behalf of the District, I would request that you and the owners consider this request. Granting this request would allow the District to make system improvements that would enhance water quality and quantity for the Cave Springs Farm and its neighbors.

Should you have any questions, or require further information regarding this matter, please feel free to contact me at (859)-885-9441.

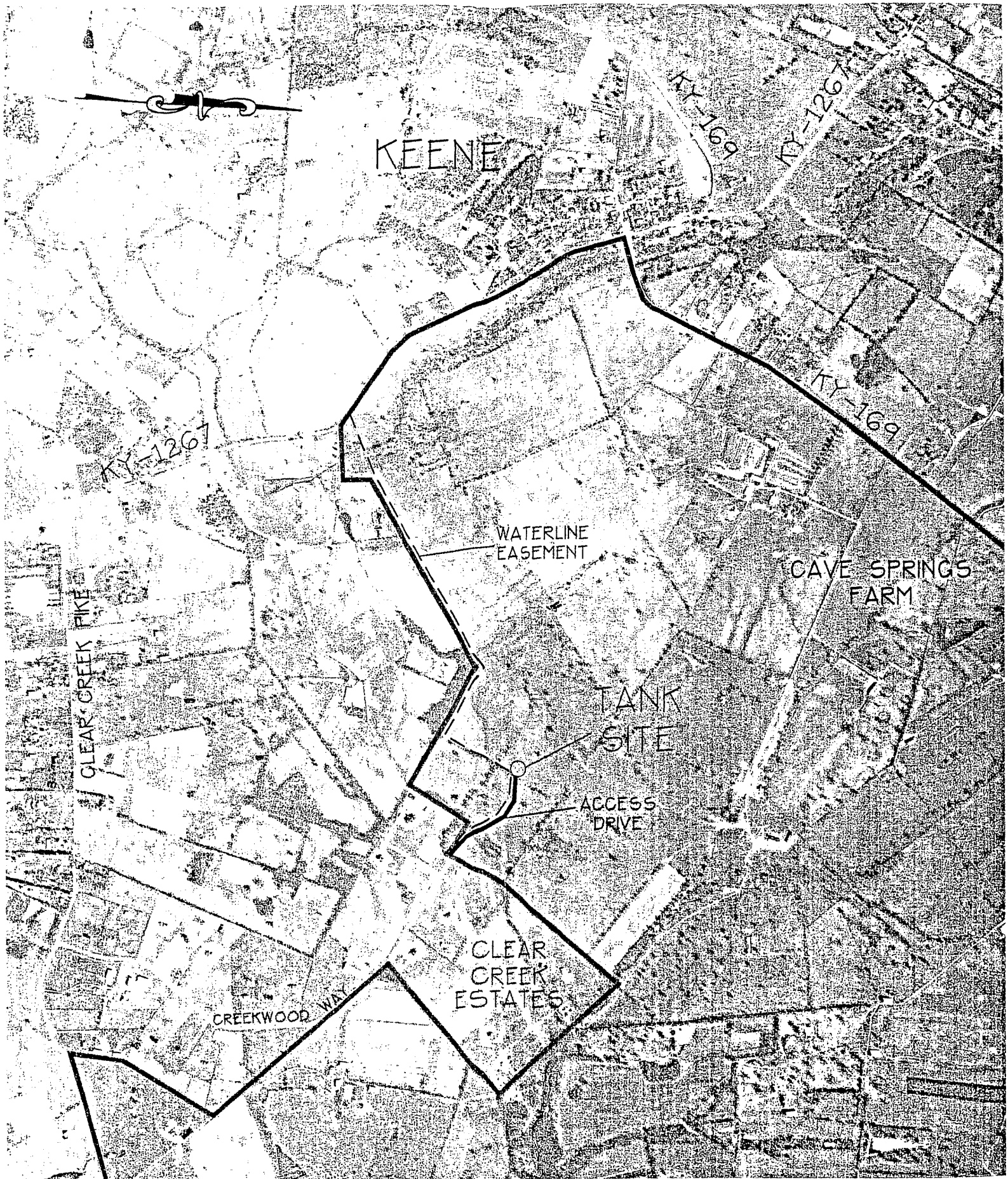
Sincerely,  
HORNE ENGINEERING, INC.



John G. Horne PE, PLS  
President

JGH/jt  
enc.

cc: Board of Commissioners  
Glenn T. Smith  
Engr/3442  
Engr/3394  
Corr.



KEENE

CAVE SPRINGS FARM

CLEAR CREEK ESTATES

CLEAR CREEK PIKE

CREEKWOOD WAY

TANK SITE

ACCESS DRIVE

WATERLINE EASEMENT

KY-169

KY-1267

KY-1267

KY-169



# Home Engineering, Inc.

216 SOUTH MAIN STREET • NICHOLASVILLE, KENTUCKY 40356 • (859)885-9441 • FAX (859)885-5160

---

ENGINEERS • LAND SURVEYORS • PLANNERS

*email@homeeng.com*

## MEMORANDUM

**FILE COPY**

To: Board of Commissioners  
Jessamine South Elkhorn Water District

3683

From: John G. Home PE, PLS  
Consulting Engineer

Date: January 3, 2006

Subject: Proposed Relocation of 1 Million Gallon Storage, Requested by Barry Mangold/Forest Hills Development

---

Subsequent to the December meeting wherein Mr. Mangold requested the consideration of the District as to relocation of the proposed 1 million gallon elevated storage tank on the Switzer property, I have met on several occasions with Mr. Mangold to discuss his request. Subsequent to those meetings, I have obtained a copy of the topographic map of the residual areas of the Forest Hills development on which I have indicated a comparable 1-acre tract that meets the dimensional requirements and the elevation requirements of that of the Switzer tract. Mr. Mangold's engineer/surveyor has staked the location of this tract as well as the footprint of the tank, and Mr. Mangold has visited this layout and has verbally confirmed to me that he is in agreement with the location of the tract.

I relayed to Mr. Mangold that it was my opinion that the Commissioner would not be receptive to a relocation of this tank unless they were presented with a proposition that would assure them of a no net cost. I stated to Mr. Mangold that it was my initial calculation that the District had incurred a cost of approximately \$15,000, for engineering, subsurface exploration, surveying and platting, legal and administrative costs for the current Switzer tract. Consequently, I felt that before they could consider accepting a gift of a 1-acre tract that they would also have to be assured of reimbursement of these costs. Mr. Mangold stated to me that he was in agreement with this and he would be willing to reimburse the District for the total cost that they had incurred.

Additionally, I conveyed to Mr. Mangold that I felt the Commission would want to be assured that the tract was usable as an elevated tank location site and consequently that subsurface exploration would have to be done for confirmation. I suggest that since Qore Engineering was his engineer for the Forest Hills project and that they had completed the subsurface work on the Switzer tract that perhaps he would want to retain Qore Engineering to conduct this subsurface exploration on behalf of the District. Mr. Mangold concurred in this suggestion.

In conclusion, I suggested that since he had indicated his complete agreement to affect the transfer of the construction the elevated tank to a donated site on the residual area of the Forest Hills Subdivision, and since Mr. Mangold indicated that he would be unable to attend the January meeting due to being out of the country, that if the Commission was in favor of this situation that they instruct their attorney to draw up an agreement which could be executed and presented at the February meeting. Mr. Mangold requested that should the Commission concur in this matter that he would be happy to execute the agreement and be present at the February meeting for confirmation.

JGH/jt

cc: Barry Mangold  
Bruce E. Smith  
Glenn T. Smith  
Engr/3569  
Engr/3683  
Engr/3710  
Corr.

# Horne Engineering, Inc.

216 SOUTH MAIN STREET • NICHOLASVILLE, KENTUCKY 40356 • (859)885-9441 • FAX (859)885-5160

---

ENGINEERS • LAND SURVEYORS • PLANNERS

*email@horneeng.com*

January 28, 2006

**FILE COPY**

Bruce E. Smith  
Moynahan, Irvin & Smith  
110 N. Main Street  
Nicholasville, KY 40356

# 3683

Re: Mangold Agreement  
Tank Relocation  
Forest Hills Subdivision  
Harrodsburg Road

Dear Bruce:

From my notes, the following is my understanding of the points to be included in the agreement with Mr. Mangold regarding his proposal to donate an acre to relocated the Catnip Hill Road storage tank.

1. Mangold will convey fee simple, one (1) acre of land with required access, location, approved by the District, suitable for construction of the elevated storage tank. He is to provide all cost of platting and deed preparation.
2. The District's engineer has met with Mr. Mangold and indicated a suitable area. Mr. Mangold has approved the area as has been monumented in the field (Is a location map necessary?).
3. Mangold will construct a 12' gravel roadway consisting of 6", #2 stone and 4" DGA surface from the end of Road B to the tank site and provide a recorded access easement for the roadway.
4. Mangold will retain and pay for a subsurface investigation, suitable to the District, that will confirm the foundation capability of the area to support a 1.0 million gallon elevated storage tank.
5. Mangold will reimburse the District for the following costs which they have previously incurred regarding development of the Switzer tract.



Administration	\$ 279.20
*Legal	\$ 1,729.55
Geotechnical	\$ 4,625.00
<u>Engineering/Surveying</u>	<u>\$ 6,866.25</u>
Total	\$13,500.00

\* Does not include cost of this agreement.

Please check your notes to see if I have missed anything. In the meantime, should you have any questions or require additional information regarding this matter, please contact me at (859) 885-9441.

Sincerely,  
HORNE ENGINEERING, INC.



John G. Horne, PE, PLS  
President

JGH/jt

cc: Barry Mangold  
JSEWD Commissioners  
Glenn T. Smith  
Engr/3683  
Engr.3569  
Engr/3710  
Corr.

**Judith Thacker**

---

**From:** Judith Thacker [Judy@HorneEng.com]  
**Sent:** Tuesday, January 24, 2006 6:05 PM  
**To:** 'afiehler@qore.net'  
**Subject:** Wilkinson Water Tower  
**Attachments:** water\_tower.crd; wilkinson\_water\_tower.dwg

JSEWD  
WD # 3683

Here are the files as requested. Please contact our office if you have any questions.

Judy Thacker  
Horne Engineering, Inc.  
(859)885-9441  
judy@horneeng.com

# Horne Engineering, Inc.

216 SOUTH MAIN STREET • NICHOLASVILLE, KENTUCKY 40356 • (859)885-9441 • FAX (859)885-5160

ENGINEERS • LAND SURVEYORS • PLANNERS  
*email@horneeng.com*

December 27, 2005

**FILE COPY**

Sue Switzer  
1121 Catnip Hill Road  
Nicholasville, KY 40356

Re: Waterline Easement  
Storage Tank Site  
Harrodsburg Road

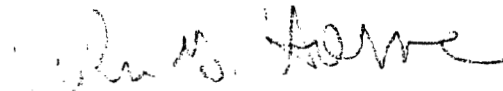
Dear Sue:

Enclosed please find the easement for construction of the watermain connection to the existing Harrodsburg Road elevated tank.

Please sign on the second page and return to Bruce Smith, via the enclosed envelope. Bruce says that if you will phone him to confirm signing that he will notarize the document.

If you have any questions or if there is anything further I can do, please contact me at (859) 885-9441.

Sincerely,  
HORNE ENGINEERING, INC.



John G. Horne, PE, PLS  
President

JGH/jt  
enc.

cc: Bruce E. Smith  
Glenn T. Smith  
Engr/3569  
Engr/3683  
Engr/3625  
Corr.

**EASEMENT**

**THIS DEED OF EASEMENT** made this \_\_\_\_ day of December, 2005, by and between SUE SWITZER (aka Sue C. Switzer), single, of 1121 Catnip Hill Road, Nicholasville, Kentucky 40356, hereinafter GRANTOR, and JESSAMINE-SOUTH ELKHORN WATER DISTRICT, a Kentucky rural water district created under KRS Chapter 74 , whose mailing address is 1007 South Main Street, Nicholasville, Kentucky 40356, hereinafter GRANTEE;

**THAT WHEREAS,** the GRANTOR is the owner of a parcel of real estate located in Jessamine County, Kentucky, described in Deed Books 151 and 222 at Pages 77 and 94, respectively, Jessamine County Clerk's office [Plat Cabinet 9, Slides 204, 277 and 289 and Plat Cabinet 10, Slide 43] and the GRANTEE desires to obtain a waterline easement across a portion of said parcel owned by the GRANTOR;

**NOW THEREFORE,** the GRANTOR, in consideration of the sum of ONE DOLLAR and NO/100 (\$1.00) paid by the GRANTEE, receipt of which is hereby acknowledged, and for the further consideration of the mutual covenants contained herein, does hereby give, grant and convey unto the GRANTEE, its successors and assigns forever, the permanent right to construct, operate, repair, reconstruct and remove a waterline and appurtenances thereto over a portion of the property owned by the GRANTOR, more particularly described as follows:

A strip of land twenty (20') feet in width contiguous to the easterly and southerly side of existing Harrodsburg Road 50,000 gallon elevated storage tank of the Jessamine-South Elkhorn Water District as more particularly described on Exhibit "A" attached hereto.

Together with the right to use such additional land on either side of the above described easement as may be reasonably necessary for the initial construction, operation, inspection, maintenance, repair, reconstruction and removal of said waterline. This easement is perpetual, runs with the land and is binding upon the heirs, successors and assigns of the GRANTOR.

**TO HAVE AND TO HOLD** said easement with all rights, privileges, appurtenances and improvements thereunto belonging unto the GRANTEE, its successors and assigns forever, for the purposes and uses herein designated.

The GRANTEE shall have and hereby granted the perpetual right to enter upon the land of the GRANTOR for reasonable ingress to and egress from the above-described permanent waterline easement.

The GRANTOR does hereby release and relinquish unto the GRANTEE, its successors and assigns forever, all of their right, title and interest in the above-described property, including all exemptions allowed by law, and does hereby covenant to and with the said GRANTEE, its successors and assigns, that they are lawfully seized in fee simple of said property and have good right to sell and convey the same as herein done; and that they will **WARRANT GENERALLY** said title.

GRANTOR further represents and warrants to GRANTEE that they have no prior agreements, mortgages, contracts or other obligations that prohibit or restrict them from granting the above-described easements and that the terms of this easement do not violate any such agreements, contracts of GRANTOR related to the subject property.

The GRANTEE hereby agrees to restore the surface and subsurface area of the easement, after any work is done thereon, to substantially the same condition which existed prior to the work being initiated; and the GRANTEE shall not be responsible for any damage done to and shall not be obligated to repair or replace any structures or other improvements made to or constructed on the surface that are within the easement area described herein.

**IN TESTIMONY WHEREOF**, Witness the hands of the GRANTOR on the date first above written.

---

SUE SWITZER

COMMONWEALTH OF KENTUCKY  
COUNTY OF JESSAMINE, SCT...

Subscribed, sworn to and acknowledged before me by SUE SWITZER, single,  
GRANTOR, on December \_\_\_\_\_, 2005.

My Commission expires: \_\_\_\_\_.

\_\_\_\_\_  
Notary Public, State-at-Large

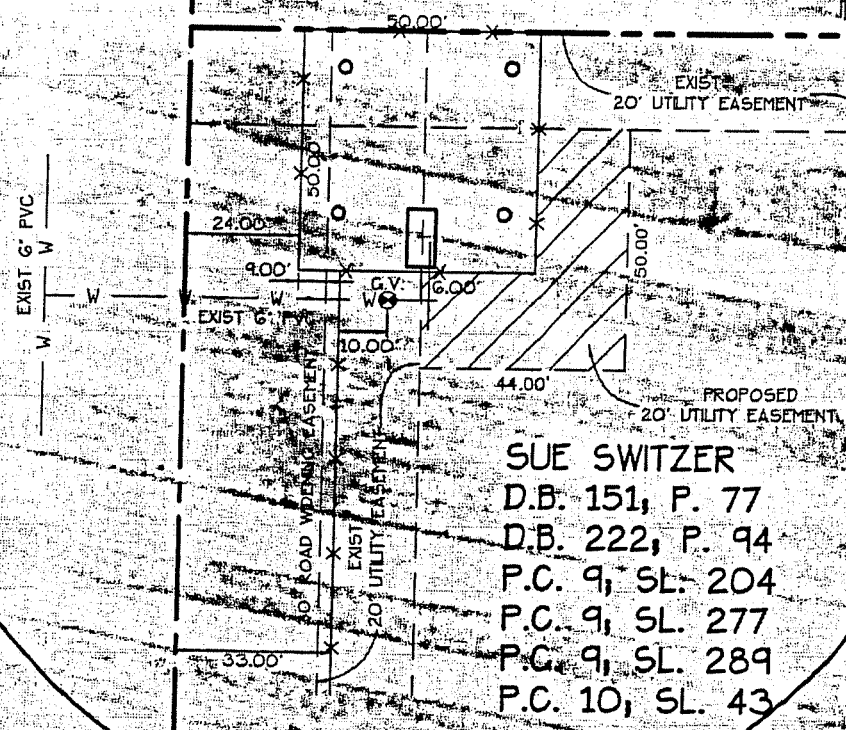
PREPARED BY:

BY: \_\_\_\_\_  
BRUCE E. SMITH, ESQ.  
110 North Main Street  
Nicholasville, Kentucky 40356  
(859) 887-1200

HARRODSBURG ROAD US-68

Q US-68

FOREST HILLS OF KY. LLC  
D.B. 548, P. 544



SCALE: 1" = 40'

EXHIBIT  
"A"

EXHIBIT  
WATERLINE EASEMENT  
TANK SITE  
SWITZER PROPERTY  
HARRODSBURG ROAD  
JESSAMINE SOUTH ELKHORN  
WATER DISTRICT

# Horne Engineering, Inc.

216 SOUTH MAIN STREET • NICHOLASVILLE, KENTUCKY 40356 • (859)885-9441 • FAX (859)885-5160

ENGINEERS • LAND SURVEYORS • PLANNERS  
*email@horneeng.com*

December 13, 2005

FILE COPY

Bruce E. Smith  
Moynahan, Irvin & Smith  
110 N. Main Street  
Nicholasville, KY 40356

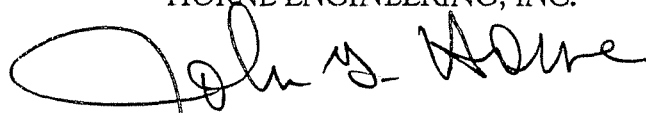
Re: Switzer Easement  
Tank Site • Harrodsburg Road  
Jessamine South Elkhorn Water District

Dear Bruce:

Enclosed please find copy of the boundary description and attached Exhibit A related to an easement which Ms. Switzer has verbally agreed to execute. Her deed sources are listed on the exhibit.

When ready, please give me a call and I will be glad to assist in coordinating the execution of the document. In the meantime, should you have any questions or require additional information regarding this matter, please contact me at (859) 885-9441.

Sincerely,  
HORNE ENGINEERING, INC.



John G. Horne, PE, PLS  
President

JGH/jt

enc.

cc: Sue Switzer  
Nick Strong  
Glenn T. Smith  
Christian Ach  
Engr/3569  
Engr/3583  
Engr/3625  
Corr.



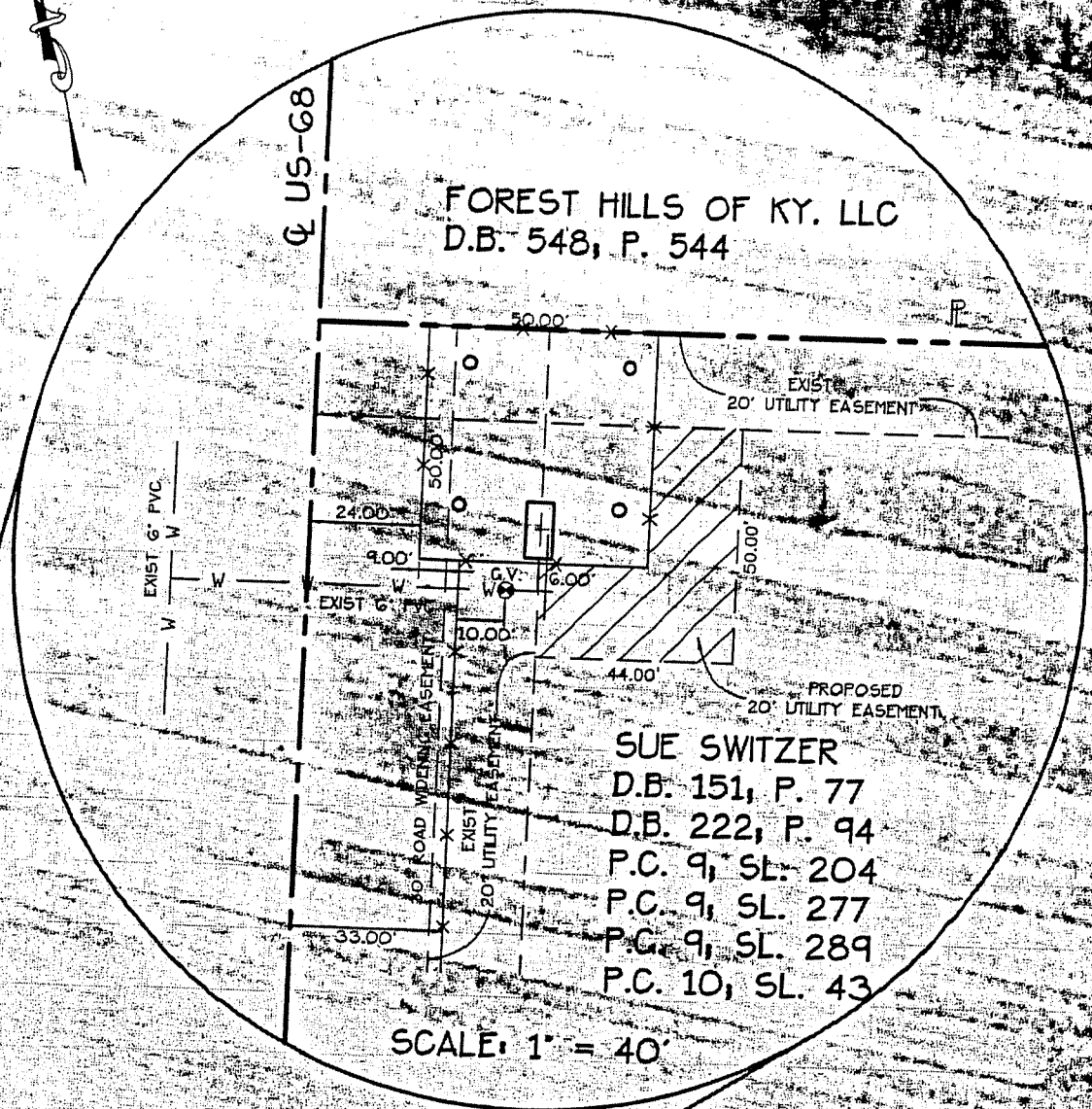
BOUNDARY DESCRIPTION  
Waterline Easement  
Tank Site - Switzer Property  
Harrodsburg Road  
Jessamine South Elkhorn Water District

A strip of land twenty (20') feet in width contiguous to the easterly and southerly side of the existing Harrodsburg Road, 50,000 gallon elevated storage tank of Jessamine South Elkhorn Water District as more particularly shown on the attached Exhibit A.

HARRODSBURG ROAD US-68

US-68

FOREST HILLS OF KY. LLC  
D.B. 548, P. 544



SUE SWITZER  
 D.B. 151, P. 77  
 D.B. 222, P. 94  
 P.C. 9, SL. 204  
 P.C. 9, SL. 277  
 P.C. 9, SL. 289  
 P.C. 10, SL. 43

SCALE: 1" = 40'

EXHIBIT A  
 WATERLINE EASEMENT  
 TANK SITE  
 SWITZER PROPERTY  
 HARRODSBURG ROAD  
 JESSAMINE SOUTH ELKHORN  
 WATER DISTRICT

# Horne Engineering, Inc.

216 SOUTH MAIN STREET • NICHOLASVILLE, KENTUCKY 40356 • (859)885-9441 • FAX (859)885-5160

ENGINEERS • LAND SURVEYORS • PLANNERS

*email@horneeng.com*

December 1, 2005

Ben Hammack  
Switzer Development  
811 Corporate Drive, Suite 303  
Lexington, KY 40503

**FILE COPY**

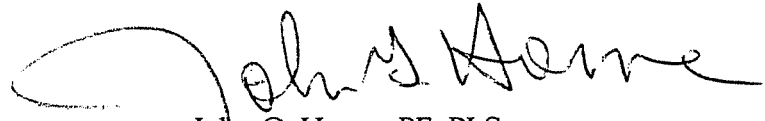
Via facsimile: 223-5394

Re: Boundary Description  
Tank Site - Switzer Property  
Jessamine South Elkhorn Water District

Dear Ben:

Attached is an Exhibit and boundary description of the requested waterline easement. Please note that the request is to fill in between two other easements of record. Please review and call me at (859) 885-9441 with any questions.

Sincerely,  
HORNE ENGINEERING, INC.



John G. Horne, PE, PLS  
President

JGH/jt  
enc.

cc: Board of Commissioners  
Christian Ach  
Glenn T. Smith  
Bruce E. Smith  
Engr/3683  
Engr/3569  
Engr/3625  
Corr.

# Horne Engineering, Inc.

216 SOUTH MAIN STREET NICHOLASVILLE, KENTUCKY 40356 (859)885-9441 FAX (859)885-5160

July 3, 2002

Ronald Lane  
R.J. Corman Railroad Group  
One Jay Station  
Nicholasville, KY 40356

**FILE COPY**  
W0 3372

Re: Tanksite - Drake Lane Loop  
R.J. Corman Property  
Jessamine South Elkhorn Water  
District

Dear Ronald:

Pursuant to our meeting onsite, and subsequent discussion on Monday, July 1, 2002, I instructed our survey crew to complete some initial field surveys regarding the suggested alternate to the tanksite. Attached, please find a copy of the plot of that survey drawn on the sheet that was previously furnished to you. Following is an outline of the major points of consideration that were discussed at the Monday meeting and my understanding of the possible points of agreement between Jessamine South Elkhorn Water District and Mr. R. J. Corman.

1. The tower site was shifted from that initially proposed to a position at a property corner as indicated on the drawing. In addition, the suggested size was reduced from the requested 1-acre to approximately ½-acre in size. In the field, the shifted position of the tanksite appeared to be at a lower elevation than that which was initially proposed. The shift in location necessitated a realignment of the access corridor. However, it is my assumption that the primary access would still be from the Drake Lane area. Following are specific points that I would wish for you to consider regarding each of these three items.

Size - The proposed size of 160' x 160' would be very difficult to site the half-million gallon storage tank. With the necessary access point and valving appurtenances, a more appropriate size would be one of 180' x 180'. However, a dimension of 160' x 200' could be workable if the long access was oriented generally in the direction of the ridge line. Please consider this request for increase in size.

Elevation - Although it appeared in the field that this requested spot was substantially lower than the proposed site, it did not

turn out to be that way from the actual survey. In reality, the two sites are very close to the same elevation, consequently, there will be no difficulty with regards to the elevation in the relocation of the site.

Access - It was my understanding that in return for relocation and reduction in size of the tanksite that Mr. Corman was willing to provide a paved access to the tanksite in the future. It was further my understanding that this access would be coupled with construction that he is proposing regarding an entrance improvement and a paved access from the Drake Lane to the interior of this property. I see no problem in deferring the final location of the paving of this access to some point in the future, however, it would be necessary to provide some type of temporary access that would allow construction and maintenance of the property until this final and permanent access was constructed.

2. The current alignment that we are proposing for the waterline was shown to be on the roadway side of the fence line for the interior roadway network from US-68. Since that proposal, there has been extensive landscaping of that area and I would propose that we show a realignment of the waterline to the field side of the fence rather than to the interior roadway portion of the fence.
3. Based on conversations, this and prior meetings, I am in a position to recommend to the Board of Commissioners of the Jessamine South Elkhorn Water District that a joint agreement between them and R.J. Corman be entered into that would allow for construction of the Drake Lane loop line in accordance with the following general agreement.

JESSAMINE SOUTH ELKHORN WATER DISTRICT TO FURNISH:

- a) Furnish all pipe and materials including stone bedding and concrete anchoring necessary to construct the waterline.
- b) Provide professional engineering and legal services for preparation of the construction plans and necessary agreements and easements for the project.
- c) Furnish an approved minor subdivision plat meeting the requirements of Jessamine Joint Planning Commission sufficient for conveyance of the tanksite.
- d) Provide construction inspection to ensure compliance with approved plans and specifications.
- e) Make application to and obtain the necessary encroachment permit from the Kentucky Department of Transportation for the US-68 highway crossing.

- f) Submit plans to the Kentucky Division of Water for necessary approval of the waterline extension.
- g) Obtain separate contractor and pay cost of providing the bore and casing for the US-68 waterline crossing.
- h) Complete the Clear Creek tie-in and extend the proposed watermain extension through the bore and casing to Corman's side of US-68 for continuation by Corman.
- i) Complete the Drake Lane tie-in and furnish a mainline valve for connection by Corman.
- j) Provide bacteriological sampling and testing costs.
- k) Furnish gravel for temporary access road.

R. J. CORMAN TO FURNISH:

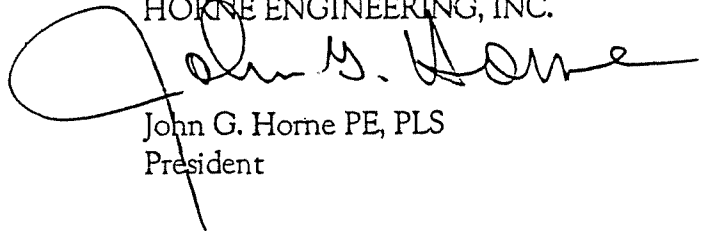
- a) All necessary labor and equipment to install the proposed watermain extension per approved plans and specifications
- b) R. J. Corman to have plan review and input on the plans regarding the location of the line and appurtenances.
- c) Furnish seed and seeding of disturbed areas upon completion of construction.
- d) Furnish a paved 10' permanent access road to the tanksite at some date in the future.
- e) During the interim between now and the furnishing of the permanent paved access road, construct and furnish a temporary gravel access along an alignment agreed to by Corman from the Drake Lane to the tanksite area. Jessamine South Elkhorn Water District to furnish the gravel.
- f) Deed the agreed upon tanksite area by general warranty deed with a reversion clause that the property is to revert to the adjoining properties of R. J. Corman's heirs and assigns if it ceases to be used as an elevated storage tank site.

- g) Provide necessary labor and equipment to test and disinfect the constructed watermain.
- h) Obtain execution of waterline easements prepared and furnished by Jessamine South Elkhorn Water District.

Please review this and the enclosed material and inform this office of any additions, deletions or changes which you feel are necessary. Anticipating that you agree in principle to the enclosed material, I would like to recommend to the board of Commissioners at their July meeting that they agree in principle to this proposal and that the attorneys for each party proceed to formalize this proposal in a legal document.

Should you have any questions, or require further information regarding this matter, please feel free to contact me at (859)-885-9441.

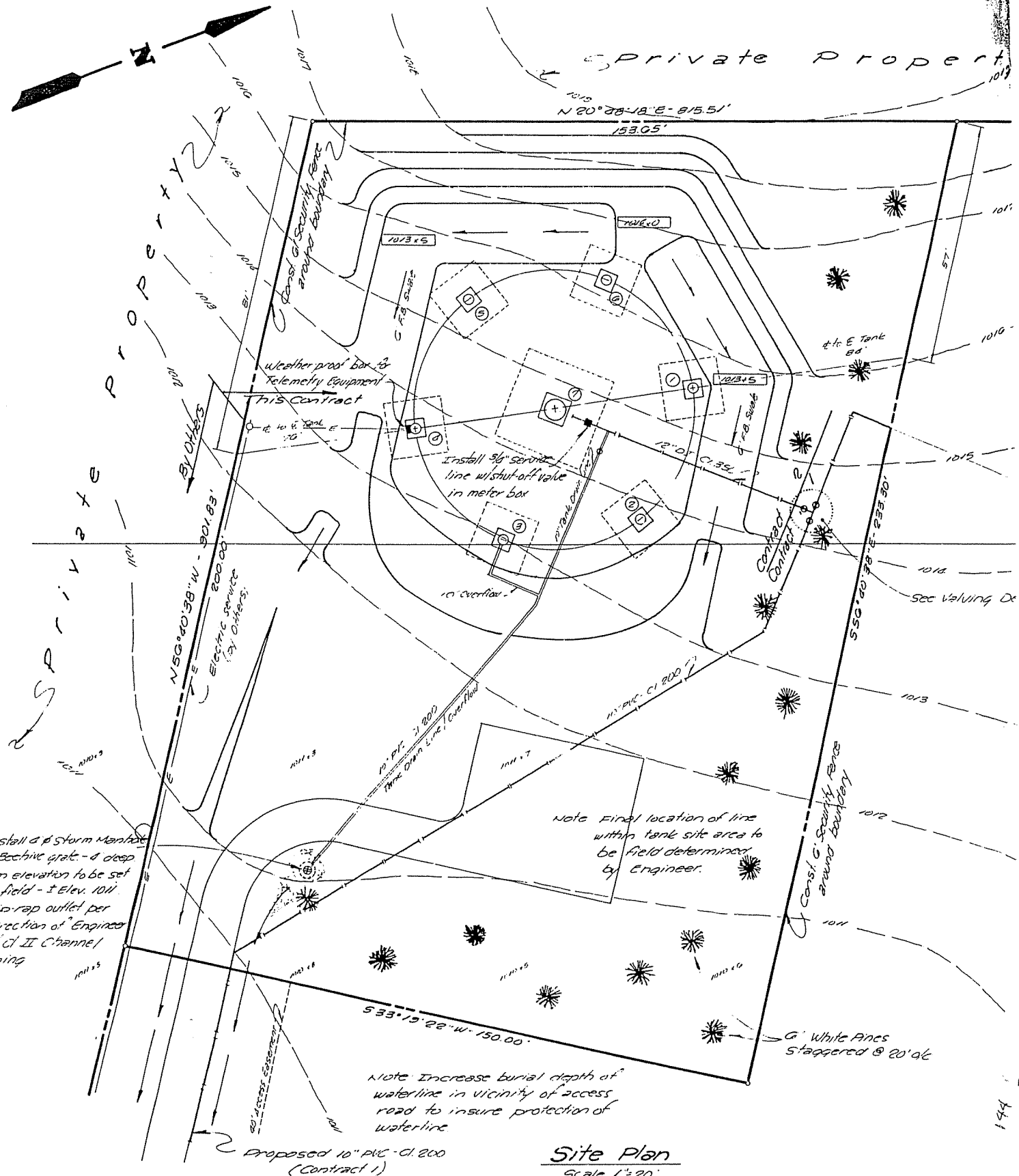
Sincerely,  
HORNE ENGINEERING, INC.



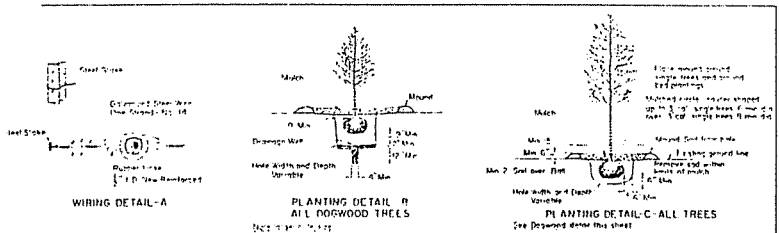
John G. Horne PE, PLS  
President

JGH/jt  
enc.

cc: Board of Commissioners  
Glenn T. Smith  
Bruce E. Smith  
Engr/3372  
Engr/3394  
Corr.



**Site Plan**  
Scale 1"=20'



154

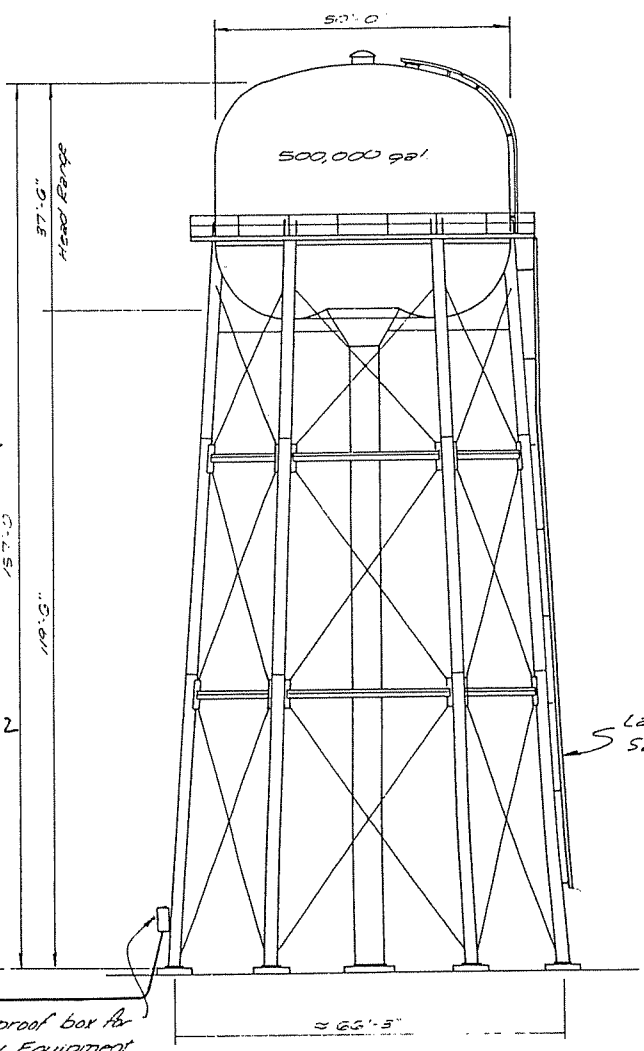


2

Elev 1172.0  
Overflow

- Pair # 7
  - Footing Top 1005.417
  - Test 1 (2-17-93)
  - Test 2 Pair Top 1015.0 (2-19-93)
- Pair # 1
  - Footing Top 1004.92
  - Test 7 (2-29-93)
  - Test 9 Pair Top (2-30-93)
- Pair # 2
  - Footing Top 1005.00 (2-30-93)
  - Test 8 (2-30-93)
  - Test 10 Pair Top (3-5-93)
- Pair # 3
  - Footing Top 1004.42 (2-23-93)
  - Test 3 (2-23-93)
  - Test 6 Pair Top (2-25-93)

used 8" PVC - C1,200  
(Contract I)

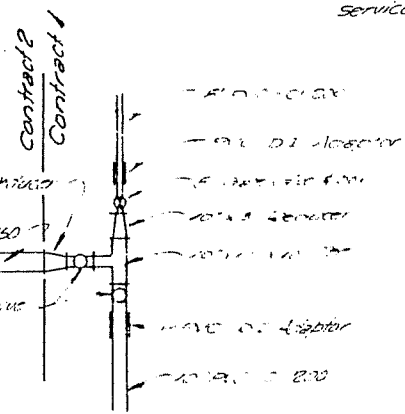


Overflow Alarm - Elev.  
 Pump Off - Elev.  
 Pump On - Elev.

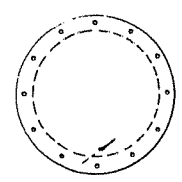
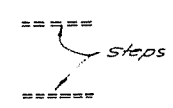
E.O. LEVEL  
The Footers

weather proof box for  
 Telemetry Equipment  
 under ground to  
 service pole this contract

Elevation  
 Not to Scale



Valving Detail  
 Not to Scale







STEVEN L. BESHEAR  
GOVERNOR

DEPARTMENT FOR LOCAL GOVERNMENT  
OFFICE OF THE GOVERNOR  
1024 CAPITAL CENTER DRIVE, SUITE 340  
FRANKFORT, KENTUCKY 40601-8204  
PHONE (502) 573-2382 FAX (502) 573-2939  
TOLL FREE (800) 346-5606  
WWW.DLG.KY.GOV

TONY WILDER  
COMMISSIONER

June 17, 2011

Mr. John Horne  
Horne Engineering, Inc.  
216 South Main Street  
Nicholasville, KY 40356

RE: CATNIP HILL PIKE 1.0 MG ELEVATED STORAGE TANK  
WX21113016  
SAI# KY20110427-0603  
CFDA# 10.760

Dear Mr. Horne:

The Kentucky State Clearinghouse, which has been officially designated as the Commonwealth's Single Point of Contact (SPOC) pursuant to Presidential Executive Order 12372, has completed its evaluation of your proposal. The clearinghouse review of this proposal indicates there are no identifiable conflicts with any state or local plan, goal, or objective. Therefore, the State Clearinghouse recommends this project be approved for assistance by the cognizant federal agency.

Although the primary function of the State Single Point of Contact is to coordinate the state and local evaluation of your proposal, the Kentucky State Clearinghouse also utilizes this process to apprise the applicant of statutory and regulatory requirements or other types of information which could prove to be useful in the event the project is approved for assistance. Information of this nature, if any, concerning this particular proposal will be attached to this correspondence.

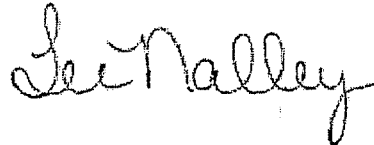
You should now continue with the application process prescribed by the appropriate funding agency. This process may include a detailed review by state agencies that have authority over specific types of projects.

This letter signifies only that the project has been processed through the State Single Point of Contact. It is neither a commitment of funds from this agency or any other state or federal agency.

**The results of this review are valid for one year from the date of this letter.**  
Continuation or renewal applications must be submitted to the State Clearinghouse annually. An application not submitted to the funding agency, or not approved within one year after completion of this review, must be re-submitted to receive a valid intergovernmental review.

If you have any questions regarding this letter, please feel free to contact my office at 502-573-2382.

Sincerely,

A handwritten signature in cursive script that reads "Lee Nalley". The signature is written in black ink and is positioned below the word "Sincerely,".

Lee Nalley  
Kentucky State Clearinghouse

Attachments

The Office of State Budget Director has made the following advisory comment pertaining to State Application Identifier Number KY201104270603

Pinkerton, Geoff: No comments

The Natural Resources has made the following advisory comment pertaining to State Application Identifier Number KY201104270603

This review was based upon the information that was provided by the applicant through the Clearinghouse for this project. An endorsement of this project does not satisfy, or imply, the acceptance or issuance of any permits, certifications or approvals that may be required from this agency under Kentucky Revised Statutes or Kentucky Administrative Regulations. Such endorsement means this agency has found no major concerns from the review of the proposed project as presented other than those stated as conditions or comments.

Division for Air Quality (John Gowins, 502-564-3999)

Kentucky Division for Air Quality Regulation 401 KAR 63:010 Fugitive Emissions states that no person shall cause, suffer, or allow any material to be handled, processed, transported, or stored without taking reasonable precaution to prevent particulate matter from becoming airborne. Additional requirements include the covering of open bodied trucks, operating outside the work area transporting materials likely to become airborne, and that no one shall allow earth or other material being transported by truck or earth moving equipment to be deposited onto a paved street or roadway. Please note the Fugitive Emissions Fact Sheet located at <http://air.ky.gov/Pages/OpenBurning.aspx>

Kentucky Division for Air Quality Regulation 401 KAR 63:005 states that open burning is prohibited. Open Burning is defined as the burning of any matter in such a manner that the products of combustion resulting from the burning are emitted directly into the outdoor atmosphere without passing through a stack or chimney. However, open burning may be utilized for the expressed purposes listed on the Open Burning Brochure located at <http://air.ky.gov/Pages/OpenBurning.aspx>

The Division also suggests an investigation into compliance with applicable local government regulations.

The proposed project is subject to Division of Water (DOW) jurisdiction because the following are or appear to be involved: CONSTRUCT A 1.0 MG ELEVATED STORAGE TANK. Prior approval must be obtained from the DOW before construction can begin.

When submitting plans and specifications, the applicant must cite the State Application Identifier: KY201104270603

This project is consistent with the JESSAMINE County Water Management Plan. It is approved for water management planning. It is approved for water withdrawal by the Water Quantity Management Section of DOW.

JESSAMINE SOUTH ELKHORN WATER DISTRICT PROPOSES TO CONSTRUCT A 1.0 MG ELEVATED STORAGE TANK ON PROPERTY WHICH THEY OWN ON CATNIP HILL PIKE. THE PROPOSED SITE IS IN CLOSE PROXIMITY TO THE DISTRICT'S EXISTING ELEVATED STORAGE FOR THE NORTHWEST SERVICE AREA AND WILL BE CONSTRUCTED AT THE EXISTING HYDRAULIC GRADIENT. THEREFORE, ADDITIONAL BOOSTER PUMPING WILL NOT BE REQUIRED. Completion of this project will result in improved services to 2200 households, 60 commercial entities and 3 other entities.

The Engineering Section of the Water Infrastructure Branch has no objections to the proposed project. Plans and specifications along with hydraulic analysis of the proposed project must be submitted to the Division of Water's Water Infrastructure Branch by a registered professional engineer in Kentucky. A written approval must be received from the Division of Water prior to beginning construction.

Best management practices shall be used to reduce runoff from the project into adjacent streams. John Brumley, Environmental Scientist II, 564-3410

If the construction area disturbed is equal to or greater than 1 acre, the applicant will need to apply for a Kentucky Pollutant Discharge Elimination System (KPDES) storm water discharge permit.

Utility line projects that cross a stream will require a Section 404 permit from the US Army Corps of Engineers and a 401 Water Quality Certification from DOW.

The Kentucky Division of Water supports the goals of EPA's Sustainable Infrastructure Initiative. This Initiative seeks to promote sustainable practices that will help to reduce the potential gap between funding needs and spending at the local and national level. The Sustainable Infrastructure Initiative will guide our efforts in changing how Kentucky views, values, manages, and invests in its water infrastructure. This website, [www.epa.gov/waterinfrastructure/](http://www.epa.gov/waterinfrastructure/), contains information that will help you ensure your facility and operations are consistent with and can benefit from the aims of the Sustainable Infrastructure Initiative.

The Heritage Council has made the following advisory comment pertaining to State Application Identifier Number KY201104270603

The applicant must ensure compliance with the Advisory Council on Historic Preservation's Rules and Regulations for the Protection of Historic and Cultural Properties (36CRF, Part 800) pursuant to the National Historic Preservation Act of 1966, the National Environmental Policy Act of 1969, and Executive Order 11593.

If the project design or boundaries change, this office should be consulted to determine the nature and extent of additional documentation that may be needed. In the event of the unanticipated discovery of an archaeological site or object of antiquity, the discovery should be reported to the Kentucky Heritage Council and to the Kentucky Office of State Archaeology in the Anthropology Department at the University of Kentucky in accordance with KRS 164.730. In the event that human remains are encountered during project activities all work should be immediately stopped in the area and the area cordoned off, and in accordance with KRS 72.020 the county coroner and local law enforcement must be contacted immediately. After complying with KRS 72.020, the unanticipated discovery of human remains must be reported to the Kentucky Heritage Council and the Kentucky Office of State Archaeology in the Anthropology Department at the University of Kentucky in accordance with KRS 164.730.

The Fish & Wildlife has made the following advisory comment pertaining to State Application Identifier Number KY201104270603

To minimize impacts to the aquatic environment the Kentucky Dept. of Fish & Wildlife Resources recommends that erosion control measures be developed and implemented prior to construction to reduce siltation into waterways located within the project area. Such erosion control measures may include, but are not limited to silt fences, staked straw bales, brush barriers, sediment basins, and diversion ditches. Erosion control measures will need to be installed prior to construction and should be inspected and repaired regularly as needed. Please contact Dan Stoelb, Wildlife Biologist, @ 502-564-7109 ex. 4453 or Daniel.stoelb@ky.gov if you have further questions or require additional information.

The Housing, Building, Construction has made the following advisory comment pertaining to State Application Identifier Number KY201104270603  
no comment

The Labor Cabinet has made the following advisory comment pertaining to State Application Identifier Number KY201104270603

PW RATES MAY APPLY IF CONSTRUCTION IS OVER \$250K THRESHOLD. CONTACT KY LABOR CABINET AT 502 564 3534

**The Transportation has made the following advisory comment pertaining to State Application Identifier Number KY201104270603**

**Blair (7), Bret: In the event construction activities encroach upon state maintained right of way, it may become necessary to obtain a standard encroachment permit. Permit requests and questions may be directed to Daniel Kucela, District Seven Highway Dept. Permits Engr. @ 763 W. New Circle Road, Lexington, KY 40512. Phone (859) 246-2355 or email at daniel.kucela@ky.gov.  
[Reviewer: Bret Blair, Transportation Engineer II / 859.246.2355 / bret.blair@ky.gov]**

**The Health and Family Services has made the following advisory comment pertaining to State Application Identifier Number KY201104270603**

**The Cabinet for Health and Family Services supports this grant application and would encourage the project coordinators and managers, to the extent possible or necessary, to coordinate thier local-regional project activities with the public health resources in the region.**

**The Kentucky Housing Corporation has made the following advisory comment pertaining to State Application Identifier Number KY201104270603  
No comments.**

**Thacker, Judith**

---

**From:** Nalley, Lee (DLG) [Lee.Nalley@ky.gov]  
**Sent:** Wednesday, April 06, 2011 7:56 AM  
**To:** judy@horneeng.com  
**Subject:** RE: Catnip Hill Pike 1.0 MG Elevated Storage Tank KY200708131128

This is too old to update. You will need to put it in the clearinghouse again for a new review. You will need to withdraw this one. Lee

Ms. Lee Nalley  
Department for Local Government  
Office of the Governor  
KY State Clearinghouse, Office of Federal Grants  
1024 Capital Center Dr., Suite 340  
Frankfort, KY 40601  
(502)573-2382 ext. 274  
FAX (502)573-1519

---

**From:** Thacker, Judith [mailto:judy@horneeng.com]  
**Sent:** Tuesday, April 05, 2011 5:01 PM  
**To:** Nalley, Lee (DLG)  
**Subject:** Catnip Hill Pike 1.0 MG Elevated Storage Tank

Dear Lee,

Please update the evaluation for this project:

Catnip Hill Pike 1.0 MG Elevated Storage Tank  
CFDA: 10.760  
WX21113016  
SAI KY200708131128

Also, please advise if I need to do anything further.

Thanks,

*Judy Thacker*  
**Horne Engineering, Inc.**  
216 S. Main Street  
Nicholasville, KY 40356  
p 859. 885. 9441 f 859. 885. 5160

THIS MESSAGE IS INTENDED ONLY FOR THE USE OF THE INDIVIDUAL OR ENTITY TO WHICH IT IS ADDRESSED AND MAY CONTAIN INFORMATION THAT IS PRIVILEGED, CONFIDENTIAL AND PROHIBITED FROM DISCLOSURE UNDER APPLICABLE LAW. If the reader of this message is not the intended recipient or is not the employee of agent responsible for delivering the message to the intended recipient, you are hereby notified that any dissemination, distribution, forwarding or copying of this communication is strictly prohibited. If you have received this communication in error, please notify the sender immediately by e-mail or telephone and DELETE the original message immediately. Thank you for your cooperation.





STEVEN L. BESHEAR  
GOVERNOR

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TONY WILDER  
COMMISSIONER

April 5, 2010

Mr. Will Hagan  
Horne Engineering, Inc.  
216 S. Main Street  
Nicholasville, KY 40356

RE: Catnip Hill Pike 1.0 MG Elevated Storage Tank  
CFDA: 10.760  
WX21113016  
SAI: KY200708131128

Dear Mr. Hagan:

Pursuant to your request, the State Clearinghouse will update its evaluation of SAI# **KY200708131128**. The State Clearinghouse has contacted appropriate state agencies and determined its previous comments regarding this proposal are still valid.

Please consider this correspondence as official notification that the State Clearinghouse is reaffirming its previous correspondence. This endorsement remains valid for a period of one (1) year from the date of this letter.

If you have any questions regarding this matter, please feel free to contact the State Clearinghouse at 502-573-2382.

Sincerely,

A handwritten signature in cursive script that reads "Lee Nalley".

Lee Nalley  
Kentucky State Clearinghouse



ERNIE FLETCHER  
GOVERNOR

GOVERNOR'S OFFICE FOR LOCAL DEVELOPMENT  
OFFICE OF THE GOVERNOR  
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[www.kentucky.gov](http://www.kentucky.gov)

September 21, 2007

Ms. Judith Thacker  
Horne Engineering, Inc.  
216 S. Main Street  
Nicholasville, KY 40356

**RE:** Catnip Hill Pike 1.0 MG Elevated Storage Tank  
WX21113016  
SAI# KY20070813-1128  
CFDA# 10.760

Dear Ms. Thacker:

The Kentucky State Clearinghouse, which has been officially designated as the Commonwealth's Single Point of Contact (SPOC) pursuant to Presidential Executive Order 12372, has completed its evaluation of your proposal. The clearinghouse review of this proposal indicates there are no identifiable conflicts with any state or local plan, goal, or objective. Therefore, the State Clearinghouse recommends this project be approved for assistance by the cognizant federal agency.

Although the primary function of the State Single Point of Contact is to coordinate the state and local evaluation of your proposal, the Kentucky State Clearinghouse also utilizes this process to apprise the applicant of statutory and regulatory requirements or other types of information which could prove to be useful in the event the project is approved for assistance. Information of this nature, if any, concerning this particular proposal will be attached to this correspondence.

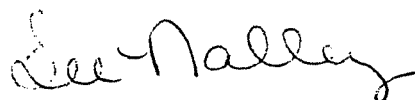
You should now continue with the application process prescribed by the appropriate funding agency. This process may include a detailed review by state agencies that have authority over specific types of projects.

This letter signifies only that the project has been processed through the State Single Point of Contact. It is neither a commitment of funds from this agency or any other state or federal agency.

**The results of this review are valid for one year from the date of this letter.**  
Continuation or renewal applications must be submitted to the State Clearinghouse annually.  
An application not submitted to the funding agency, or not approved within one year after completion of this review, must be re-submitted to receive a valid intergovernmental review.

If you have any questions regarding this letter, please feel free to contact my office at 502-573-2382.

Sincerely,

A handwritten signature in cursive script that reads "Lee Nalley".

Lee Nalley  
Kentucky State Clearinghouse

Attachments

Cc: Bluegrass ADD  
KIA  
Rural Development

The Housing, Building, Construction has made the following advisory comment pertaining to State Application Identifier Number KY200708131128

no comment

The Health and Family Services has made the following advisory comment pertaining to State Application Identifier Number KY200708131128

This project does not directly impact CHFS.

The Office of State Budget Director has made the following advisory comment pertaining to State Application Identifier Number KY200708131128

Endorsed by Vicki Goins

The Kentucky Housing Corporation has made the following advisory comment pertaining to State Application Identifier Number KY200708131128

no comments

The Heritage Council has made the following advisory comment pertaining to State Application Identifier Number KY200708131128

The project will have no effect on any property listed in or eligible for listing in the National Register of Historic Places. Further, an archaeological survey will not be necessary. Therefore, we have no objection to the project.

The Fish & Wildlife has made the following advisory comment pertaining to State Application Identifier Number KY200708131128

Based on the information provided, the Kentucky Department of Fish & Wildlife Resources has no comments concerning the proposed project.

The Labor Cabinet has made the following advisory comment pertaining to State Application Identifier Number KY200708131128

Prevailing Wage Rates are applicable please contact the Kentucky Department of Labor at 502-564-3070 to obtain the proper rates

The Transportation has made the following advisory comment pertaining to State Application Identifier Number KY200708131128

Goodpaster (D7), Stuart:

In the event that construction encroaches upon the right-of-way of state maintained facilities, it may become necessary to obtain a Standard Encroachment permit from the Transportation Cabinet. Permit questions and/or requests may be directed to Kelly A. Baker, P.E., District Seven Permits Engineer. Address: 763 New Circle Road, Building #2, Lexington, Kentucky 40512. Telephone: (859) 246-2355.

Additionally, as progress on the project develops, it may be helpful to coordinate construction activities with residential and or commercial development in the area of construction.

The Natural Resources has made the following advisory comment pertaining to State Application Identifier Number KY200708131128

This review was based upon the information that was provided by the applicant through the Clearinghouse for this project. An endorsement of this project does not satisfy, or imply, the acceptance or issuance of any permits, certifications or approvals that may be required from this agency under Kentucky Revised Statutes or Kentucky Administrative Regulations. Such endorsement means this agency has found no major concerns from the review of the proposed project as presented other than those stated as conditions or comments.

The proposed project is subject to Division of Water (DOW) jurisdiction because the following are or appear to be involved: water storage tank construction. Prior approval must be obtained from the DOW before construction can begin. The applicant must cite the State Application Identifier (SAI #KY200708131128) when submitting plans and specifications.

This project is consistent with the Jessamine County Water Management Plan. It is approved for water management planning. It is approved for water withdrawal by the Water Quantity Management Section of DOW. From the application data, DOW ascertains that a stream construction permit application will need to be submitted to our office for further review of this project.

Jessamine South Elkhorn Water District proposes to construct a 1.0 million gallon elevated storage tank on property which they own on Catnip Hill Pike. The proposed site is in close proximity to the District's existing elevated storage for the northwest service area and will be constructed at the existing hydraulic gradient. Therefore, additional booster pumping will not be required. Completion of this project will provide improved water service to 2,200 households, 60 commercial entities, and 3 miscellaneous entities (schools, churches, etc.). There are no objections to the proposed project. However, final plans and specifications along with hydraulic analysis of the proposed project (including fill/drain cycles of the tank to justify adequate tank turn over) must be submitted to the Division of Water's Drinking Water Branch by a registered professional engineer in Kentucky. The applicant must receive a written approval from the Division of Water prior to the beginning of the construction.

Remove the WX21151016 designation from the elevated storage tank and designate it as WX21113016 in the mapping portal.

If the construction area disturbed is equal to or greater than 1 acre, the applicant will need to apply for a Kentucky Pollutant Discharge Elimination System (KPDES) storm water discharge permit.

Utility line projects that cross a stream will require a Section 404 permit from the US Army Corps of Engineers and a 401 Water Quality Certification from DOW.



ERNIE FLETCHER  
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September 21, 2007

Ms. Judith Thacker  
Horne Engineering, Inc.  
216 S. Main Street  
Nicholasville, KY 40356

FILE COPY  
2569

RE: Catnip Hill Pike 1.0 MG Elevated Storage Tank  
WX21113016  
SAI# KY20070813-1128  
CFDA# 10.760

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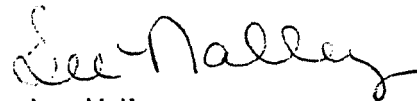
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Lee Nalley  
Kentucky State Clearinghouse

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TONY WILDER  
COMMISSIONER

April 5, 2010

Mr. Will Hagan  
Horne Engineering, Inc.  
216 S. Main Street  
Nicholasville, KY 40356

RE: **Catnip Hill Pike 1.0 MG Elevated Storage Tank**  
CFDA: **10.760**  
**WX21113016**  
SAI: **KY200708131128**

Dear Mr. Hagan:

Pursuant to your request, the State Clearinghouse will update its evaluation of SAI# **KY200708131128**. The State Clearinghouse has contacted appropriate state agencies and determined its previous comments regarding this proposal are still valid.

Please consider this correspondence as official notification that the State Clearinghouse is reaffirming its previous correspondence. This endorsement remains valid for a period of one (1) year from the date of this letter.

If you have any questions regarding this matter, please feel free to contact the State Clearinghouse at 502-573-2382.

Sincerely,

Lee Nalley  
Kentucky State Clearinghouse

# ENDANGERED SPECIES SURVEY

For the  
Proposed 1.0 MG  
Elevated Storage and  
And  
Ancillary Piping  
For  
Northwest Service Area

Prepared For:  
Jessamine South Elkhorn Water District  
November 2009

Prepared By:

Hal Bryan  
And  
Heather Bryan

## INTRODUCTION

Hal Bryan Inc. was contracted by the Jessamine South Elkhorn Water District to complete a field survey for the presence of rare species prior to construction of a water line expansion in Jessamine County, Ky. The proposed line begins just north of Catnip Hill Road and runs northeast to end at Brannon Road. The corridor extends north through heavily grazed pasture to the proposed 1.0 MG elevated storage tank site location at the top of the hill. The line then continues to run northeast behind Forest Hills subdivision and concludes at Brannon Road to the north.

Most of the land has been cultivated at some point, and over 90 percent of the proposed water line easement, as well as the entire one acre sector for the storage building, is currently in heavily grazed pasture, and recently developed lots. As a result, most potential habitat for listed species has been destroyed.

The federal Endangered Species Act requires that a valid, scientific investigation for these species be completed utilizing the most current information and accepted methods. There are two species listed as federally protected in Jessamine County, running buffalo clover, *Trifolium stoloniferum* and the Indiana bat, *Myotis sodalis*.

## DESCRIPTION

Running buffalo clover is a federally threatened native clover that originally was one of the primary components of the savannahs of central Kentucky. Burning by Native Americans and the nomadic nature of the bison herds played a part in early propagation. Competition from non-native species and excessive grazing and tilling practices have nearly extirpated the clover in central Kentucky. It survives in relic populations in old cemeteries and other isolated areas where the earth has not been significantly disturbed by development and cultivation.

The threatened native clover can be distinguished from non-native species by larger leaf size and absence of the arrow-shaped water mark typical of most clovers. The runners extend from the base of the stems of the plants. Unique to this species, purple capped white flowers are present on a stem with leaflets, as opposed to flowers extending directly from the stalk.

The federally endangered Indiana bat hibernates in caves and abandoned mines throughout most of the Commonwealth. In the fall they forage for insects in forests up to five miles from these hibernacula to build reserves for hibernation. Their primary foraging zone consists of mid to late successional forests with trees with sloughing bark (for fall foraging) and/or hollow or dead trees for use as maternity colonies in the summer months. The very small amount of forested land was covered with an early successional forest dominated by exotic shrubs and very young trees, not preferred habitat of *Myotis sodalis*.

## METHODS

A records search of *Trifolium stoloniferum* revealed no current known populations of the endangered running buffalo clover within the proposed corridor, or surrounding areas. Mapping showed few zones along the proposed corridor, which fit the habitat of the native clover. While running buffalo clover prefers slight disturbance and lack of canopy cover for establishment, current grazing and tilling practices are not conducive to its survival.

Two basic communities were discovered within suggested water line expansion, open field and a small young forest area. The field area is dominated by fescue (*Festuca, sp.*) pasture and crop corridor containing exotic white clover, (*Trifolium repense*), thistle, (*Cirsium discolor*), hairy aster, (*Aster pilosis*) and pigweed, (*Amaranthus hybridus*). The area was heavily grazed and currently occupied by cattle and included the acre associated with the storage facility.

The small forested corridor was adjacent to a sod farm and cultivated area comprised of a early to mid-successional forest and dominated by shrub honeysuckle, (*Lonicera tartarica*) and hackberry, (*Celtis occidentalis*). The herb layer is comprised mostly of blackberry, (*Rubus sp.*) ground ivy, (*Glechoma hederacea*) and wild rye, (*Elymus virginiana*) There were no trees with sloughing bark or of large enough size to be of use to foraging *M. sodalis*

## CONCLUSION

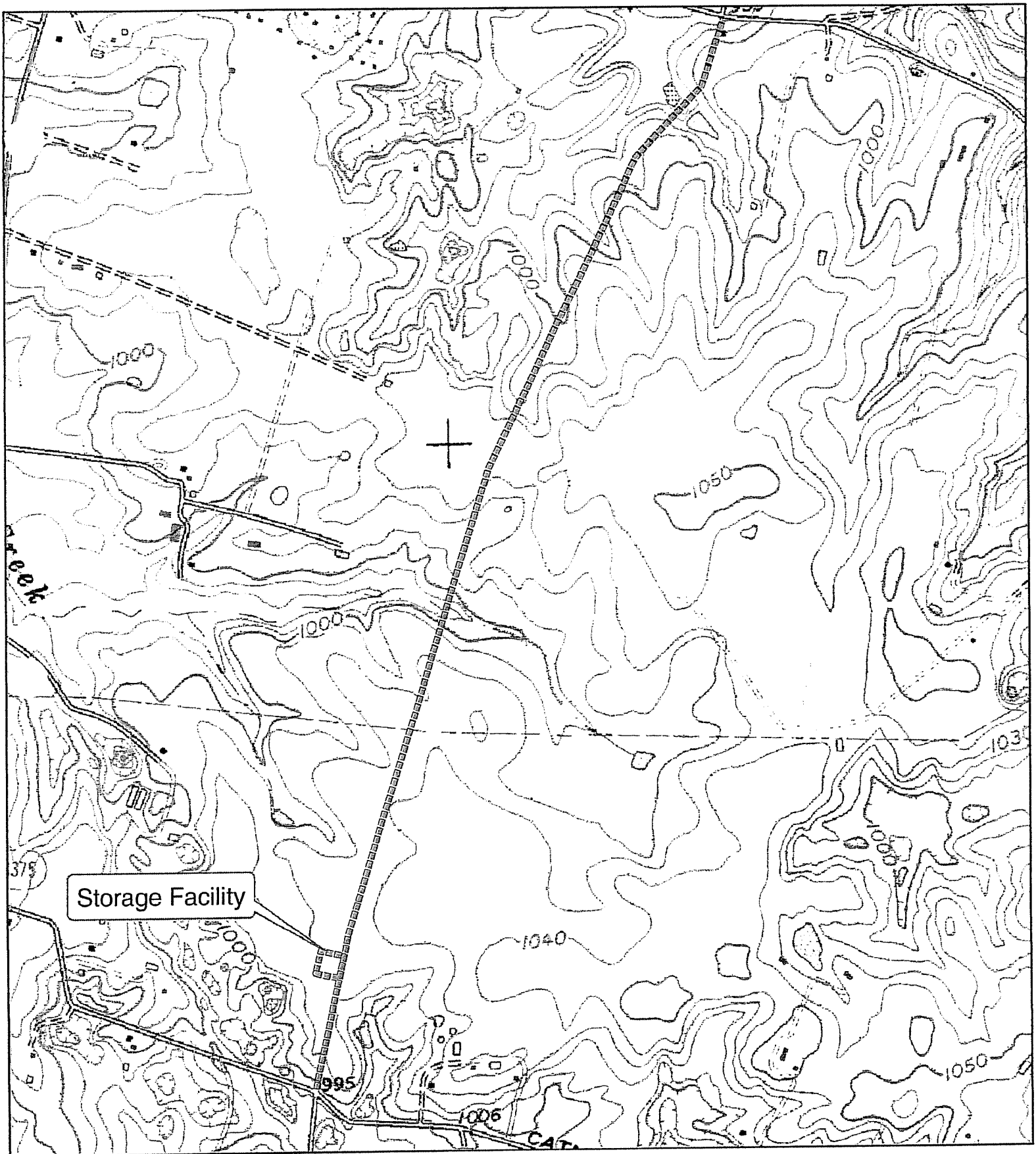
Surveys were conducted for the federally endangered running buffalo clover and Indiana bat foraging habitat. No subjects or suitable habitat were located along the proposed water main corridor. The approximately 1 acre area proposed elevated storage facility and adjacent ancillary piping corridor in Jessamine County, have been heavily cultivated and grazed, eliminating potential habitat for both running buffalo clover and the Indiana bat.



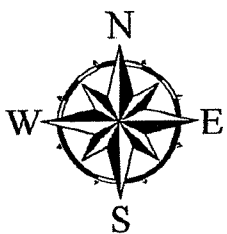
**Small Forested Area Adjacent to Sod Farm**



**Location of Proposed Elevated Storage Station**



# Northwest Service Area Storage Site



Water Line

0 1,150 2,300 4,600 6,900 9,200  
Feet



STEVEN L. BESHEAR  
GOVERNOR

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TONY WILDER  
COMMISSIONER

April 10, 2012

Mr. John Horne  
Horne Engineering, Inc.  
216 South Main Street  
Nicholasville, KY 40356

**RE: CATNIP HILL PIKE 1.0 MG ELEVATED STORAGE TANK  
WX21113016  
SAI# KY20110427-0603  
CFDA# 10.760**

Dear Mr. Horne:

Pursuant to your request, the State Clearinghouse will update its evaluation of SAI# **KY20110427-0603**. The State Clearinghouse has contacted appropriate state agencies and determined its previous comments regarding this proposal are still valid.

Please consider this correspondence as official notification that the State Clearinghouse is reaffirming its previous correspondence. This endorsement remains valid for a period of one (1) year from the date of this letter.

If you have any questions regarding this matter, please feel free to contact the State Clearinghouse at 502-573-2382.

Sincerely,

Lee Nalley  
Kentucky State Clearinghouse





# Horne Engineering, Inc.

216 SOUTH MAIN STREET • NICHOLASVILLE, KENTUCKY 40356 • (859)885-9441 • FAX (859)885-5160

ENGINEERS • LAND SURVEYORS • PLANNERS

*email@horneeng.com*

**FILE COPY**

December 7, 2009

Lori Stahlgren  
Kentucky Heritage Council  
Archaeology Review Coordinator  
300 Washington Street  
Frankfort, KY 40601

Re: Unserved Areas - II  
WX 21113029 & WX 21113004  
DWSRF # A0714  
Jessamine South Elkhorn Water District

Dear Lori:

Attached, please find three (3) copies of the Cultural Resource Survey for the areas your office designated in the September 18, 2009 letter. Also included in the survey is a tank site survey which is not applicable to this project and therefore should be disregarded.

Please note that CRA's conclusion states that although "historic debris scatter" existed, "... cultural resource clearance for the water tank and waterlines is recommended."

Upon review of the referenced report, please forward a letter of your concurrence to this office. However, in the meantime, should you have any questions and/or comments, please contact me at (859) 885-9441.

Sincerely,  
HORNE ENGINEERING, INC.

  
Will Hagan  
Project Manager

WHH/jt  
enc.

cc: JSEWD w/enc  
Engr/3865 w/enc  
Engr/3569 w/enc  
Engr/3862  
Corr.

Contract Publication Series 09-227

A CULTURAL RESOURCE SURVEY OF THE  
PROPOSED CONSTRUCTION OF A  
TANK SITE AND WATER LINES FOR THE  
JESSAMINE SOUTH ELKHORN WATER DISTRICT  
NORTHWEST DISTRIBUTION SYSTEM UPGRADE IN  
JESSAMINE AND WOODFORD COUNTIES, KENTUCKY



by  
*Lisa J. Kelley*  
with contributions by  
*Jennifer M. Faberson and Fred Banschbach*

Prepared for



and



Prepared by



Lexington, KY | Hurricane, WV  
Beverly Hills, OH | Evansville, IN | Mt. Vernon, IL  
Longmont, CO | Sheridan, WY

**A CULTURAL RESOURCE SURVEY OF THE  
PROPOSED CONSTRUCTION OF A  
TANK SITE AND WATERLINES FOR THE  
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by

Lisa J. Kelley

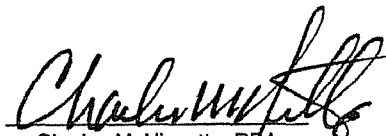
With contributions by Jennifer M. Faberson and Fred Banschbach

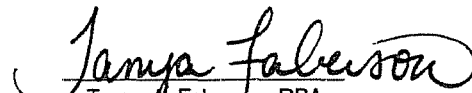
*Prepared for*

Will Hagan  
Horne Engineering, Inc.  
216 S. Main Street  
Nicholasville, Kentucky 40356  
Phone: (859) 885-9441

*Prepared by*

Cultural Resource Analysts, Inc.  
151 Walton Avenue  
Lexington, Kentucky 40508  
Phone: (859) 252-4737  
Fax: (859) 254-3747  
Email: [cmniquette@crai-ky.com](mailto:cmniquette@crai-ky.com)  
CRA Project No.: K09H008

  
Charles M. Niquette, RPA  
Co-Principal Investigator

  
Tanya A. Faberson, RPA  
Co-Principal Investigator

December 2, 2009

Lead Agency: Kentucky Infrastructure Authority  
OSA Project Registration No.: FY10\_6211

## ABSTRACT

On November 5 and 9, 2009, Cultural Resource Analysts, Inc., personnel completed a phase I cultural resource survey of the proposed Northwest Distribution System Upgrade to the Jessamine South Elkhorn Water District in northern Jessamine and southern Woodford Counties, Kentucky. The survey was conducted at the request of Will Hagan of Horne Engineering, Inc., on behalf of the Jessamine South Elkhorn Water District. The survey area consisted of a 6-m (20-ft) linear corridor with an approximate length of 1.1 km (.7 miles) and one .4-ha (1-acre) block. The project area covered approximately 1.1 ha (2.6 acres) and was surveyed in its entirety.

Prior to the field survey, a records review was conducted at the Office of State Archaeology. No previous surveys or sites were located within the current project area. The field investigation consisted of intensive pedestrian survey supplemented with screened shovel tests and bucket augers. As a result of the survey, one previously unrecorded multicomponent archaeological site (15Wd109) was documented. The portion of the site within the project area, a historic debris scatter and prehistoric lithic scatter, demonstrated little to no integrity and a lack of research potential. Survey work was limited to the current project area, and the eastern and western boundaries of the site could not be defined due to project area limitations. If developments are revised to include additional areas outside of the current project boundary, further investigation will be required.

Because of the lack of integrity, the portion of Site 15Wd109 within the current project area is recommended not eligible for the National Register of Historic Places. No sites listed in, or eligible for, the National Register of Historic Places will be affected by the proposed project, and cultural resource clearance is recommended for the project.

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# I. INTRODUCTION

On November 5 and 9, 2009, Cultural Resource Analysts, Inc. (CRA), personnel conducted an archaeological survey of three sections of proposed waterlines and a water tank in Jessamine and Woodford Counties, Kentucky (Figure 1). The survey was conducted at the request of Horne Engineers, Inc. on behalf of the Jessamine South Elkhorn Water District. Lisa Kelley, Ken Case, and Dave Stephenson participated in the survey, which required 33 hours to complete. Office of State Archaeology (OSA) Geographic Information Systems (GIS) data requested by CRA on October 22, 2009, was returned on October 26, 2009. The results were researched by Heather Barras of CRA at the OSA on November 9, 2009. The OSA project registration number is FY10\_6211. The scope of work is included as Appendix A.

# Project Description

The project proposes to construct a one-million gallon water tank and buried waterlines that will connect with existing lines. These proposed developments are intended to alleviate problems associated with safe and affordable water supply as well as to prepare to meet potable and fire demands for future community growth in northern Jessamine and southern Woodford Counties (Figure 2). Disturbances from the proposed project include a .6-m (2-ft) wide trench for 15.2-cm (6-in) PVC waterlines, an associated 1.2–1.8 m (4–6 ft) for waterline equipment passage and earth moving construction for the tank.

The survey area consisted of three 6-m (20-ft) linear corridors with a total approximate length of 1.1 km (.65 mi) and one .4-ha (1-acre) block (Figure 3). The entire project covered approximately 1.1 ha (2.6 acres). The proposed tank location is located at the end of

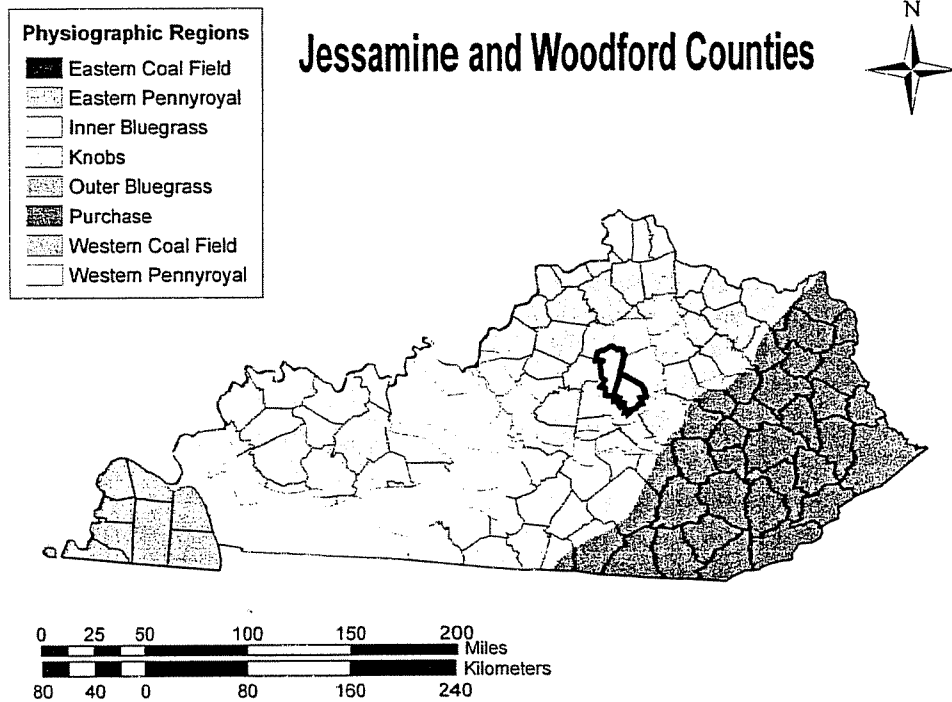


Figure 1. Map of Kentucky showing the location of Woodford and Jessamine Counties.



Chinkpin Road and covers a 60-x-60-m (200-x-200-ft) area. It is situated in an upland cattle pasture in the northeast corner of the property abutting fences on its north, east, and south sides. From the tank location, a section of proposed waterline extends south for approximately 293 m (961 ft) to meet up with existing lines on the north side of Catnip Hill Road. Another section of waterline is located in a horse pasture off of an extension of Rhineheimer Lane on Ramsey Farm. The waterline proposes to extend north off of Jessamine Creek for approximately 276 m (904 ft) towards a modern residential home. The last section of proposed waterline is located just north of the Woodford/Jessamine County line and extends west through a grassy upland field to cross an unnamed drainage. After the drainage, the waterline turns to the west and follows a fenceline that crosses hill slopes to meet existing lines at the end of a driveway. The entire length of this section is approximately 482 m (1,580 ft). The entirety of the project area is contained in easements located on private land.

## Purpose of Study

This study was conducted to comply with Section 106 of the National Historic Preservation Act. This utilities project is federally funded, and therefore considered an undertaking subject to 106 review.

The purpose of this survey was to assess any potential effects the new bypass might have on identified cultural resources. To do this, we followed these objectives:

- identify prehistoric and historic archaeological sites located within the project area

- determine, to the extent possible, the age and cultural affiliation of sites

- establish the vertical and horizontal boundaries of sites

- establish the degree of site integrity and potential for intact cultural deposits to be present.

For the purposes of this assessment, a site was defined as “any location where human behavior has resulted in the deposition of

artifacts, or other evidence of purposive behavior at least 50 years of age” (Sanders 2001:2). Cultural deposits less than 50 years of age were not considered sites in accordance with “Archeology and Historic Preservation: the Secretary of the Interior’s Standards and Guidelines” and were not assessed as part of this study (National Park Service 1983).

The following is a description of the project area, previous research and cultural history of the area, field and laboratory methods, materials recovered, and results of this study. It conforms to the *Specifications for Conducting Fieldwork and Preparing Cultural Resource Assessment Reports* (Sanders 2001). Cultural material, field notes, records, and site photographs will be curated with the University of Louisville, in Louisville, Kentucky.

## Summary of Findings

No previously recorded sites were identified within the project area during the OSA file search. One archaeological site (15Wd109) was recorded during the current cultural resource survey. Site 15Wd109 is a multicomponent historic and prehistoric artifact scatter. The portions of the site within the project area had a paucity of artifacts and shallow deposits that offered little research value. These areas lacked archaeological integrity and are recommended not eligible for the National Register of Historic Places (NRHP). However, the eastern and western boundary of the site could not be defined due to project limitations. If future developments extend outside of the current project boundaries, further investigation may be needed in these areas.

No sites listed in, or eligible for, the NRHP will be affected by the proposed project; therefore, resource clearance is recommended for the project.

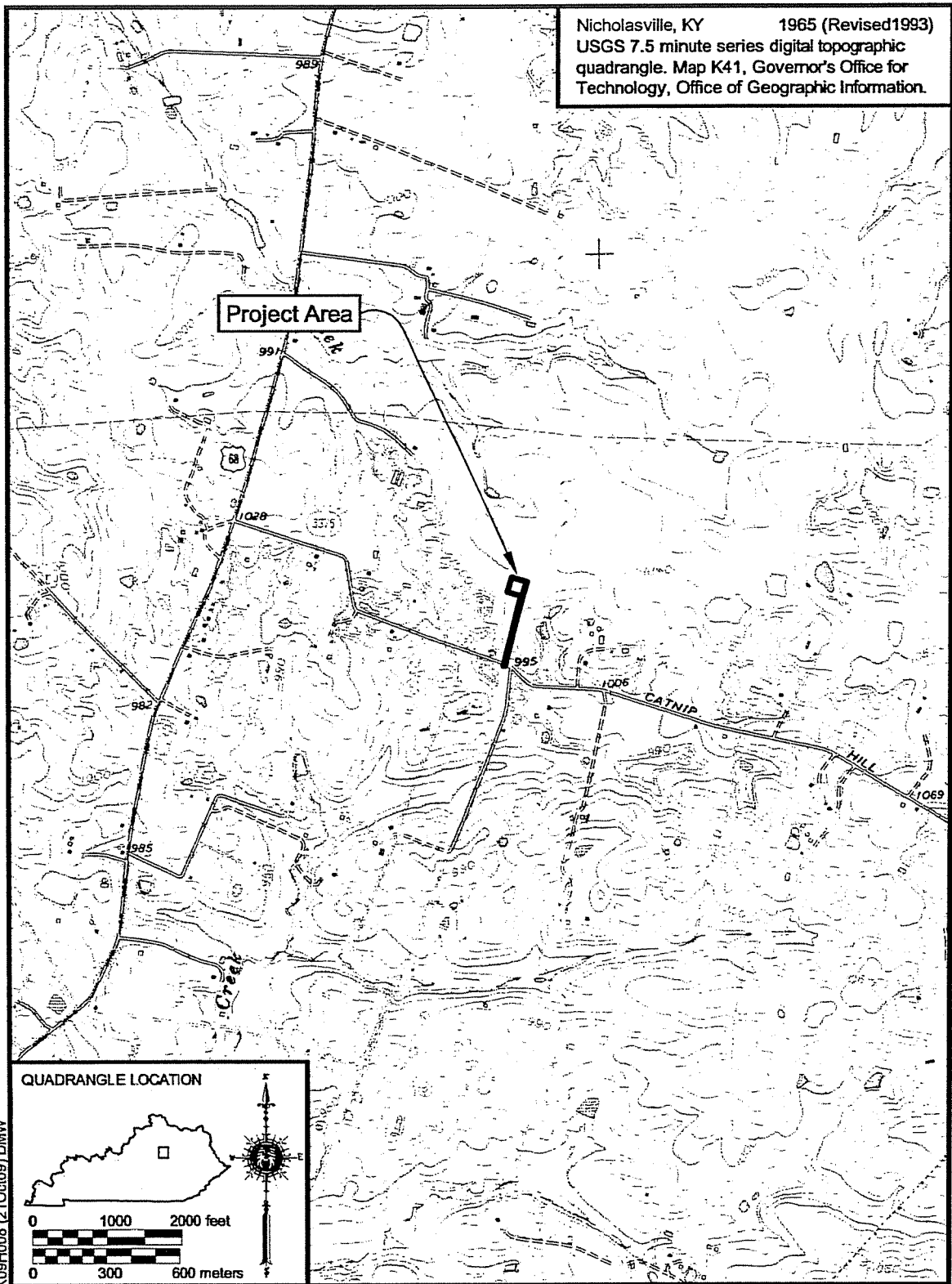


Figure 2a. Location of project area on topographic quadrangle.

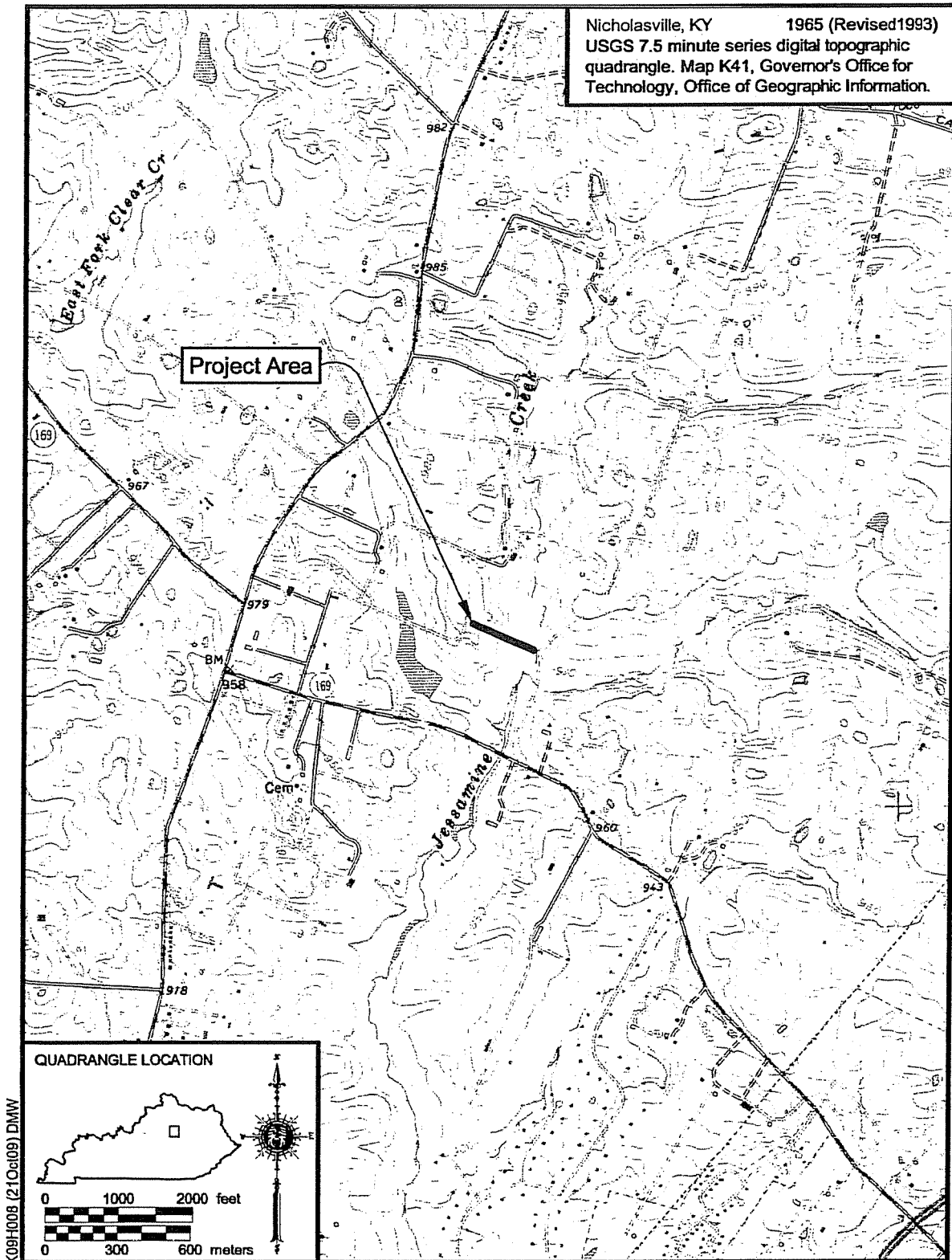


Figure 2b. Location of project area on topographic quadrangle.

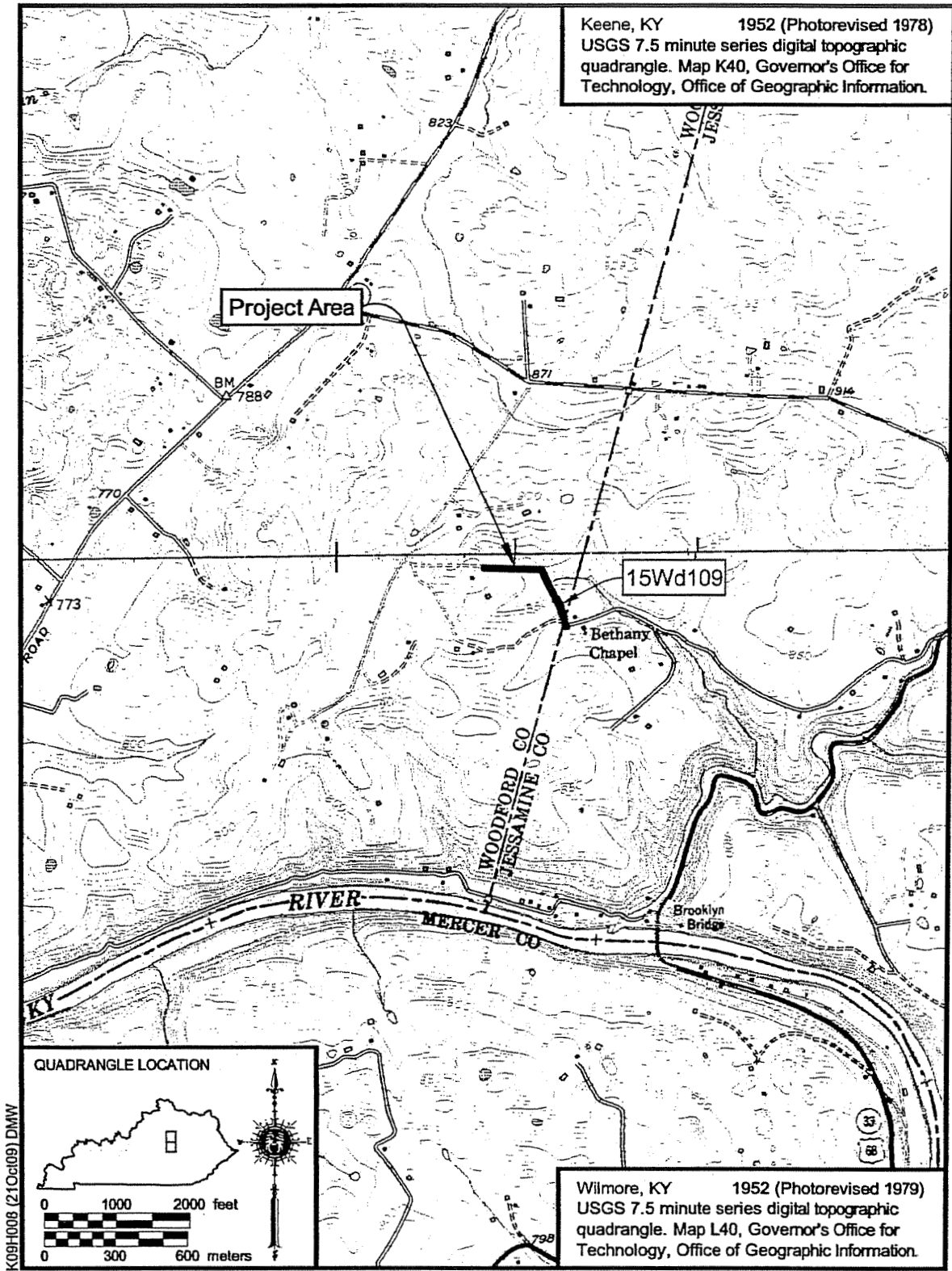


Figure 2c. Location of project area on topographic quadrangle.

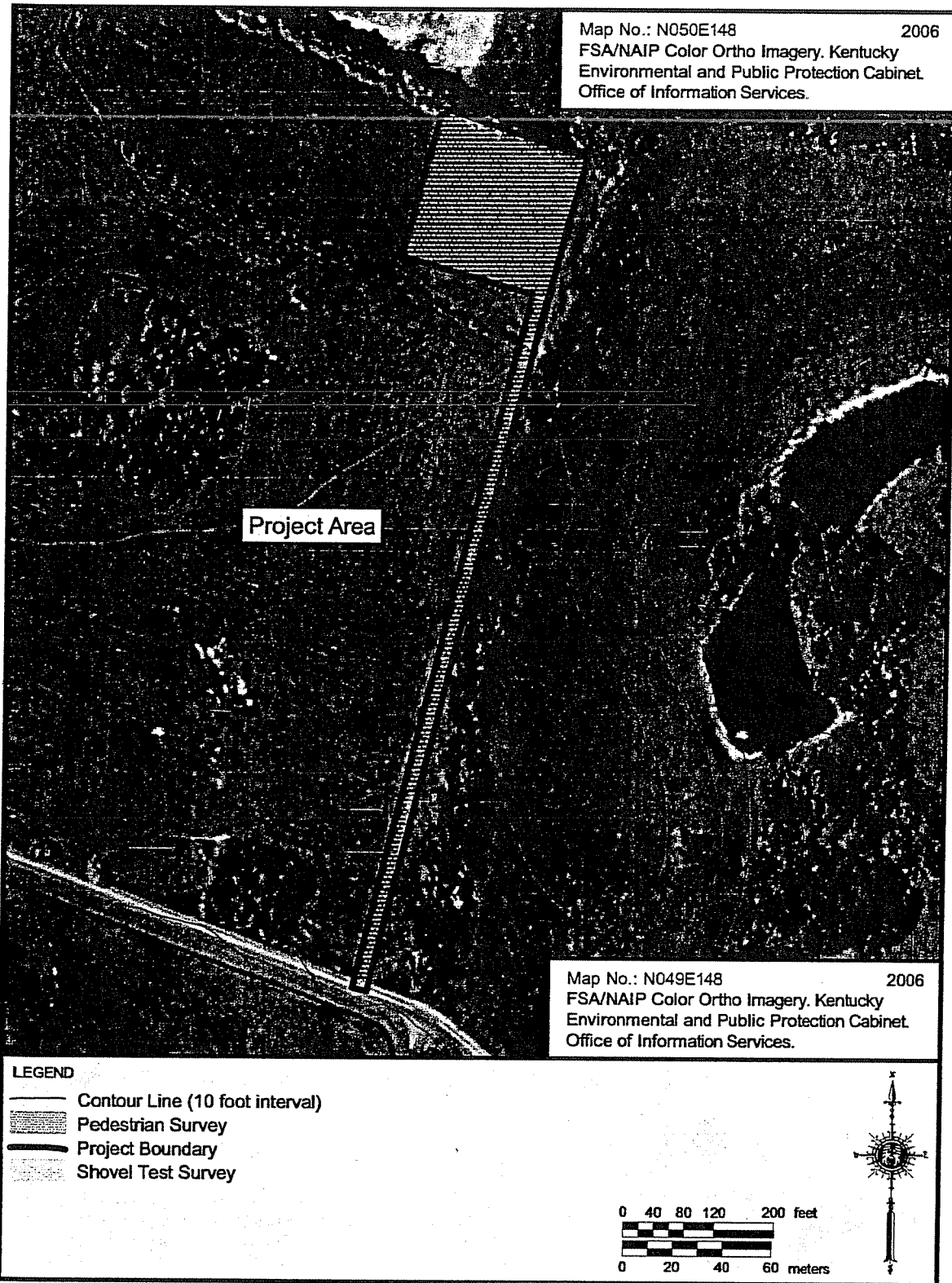


Figure 3a. Project area plan map.

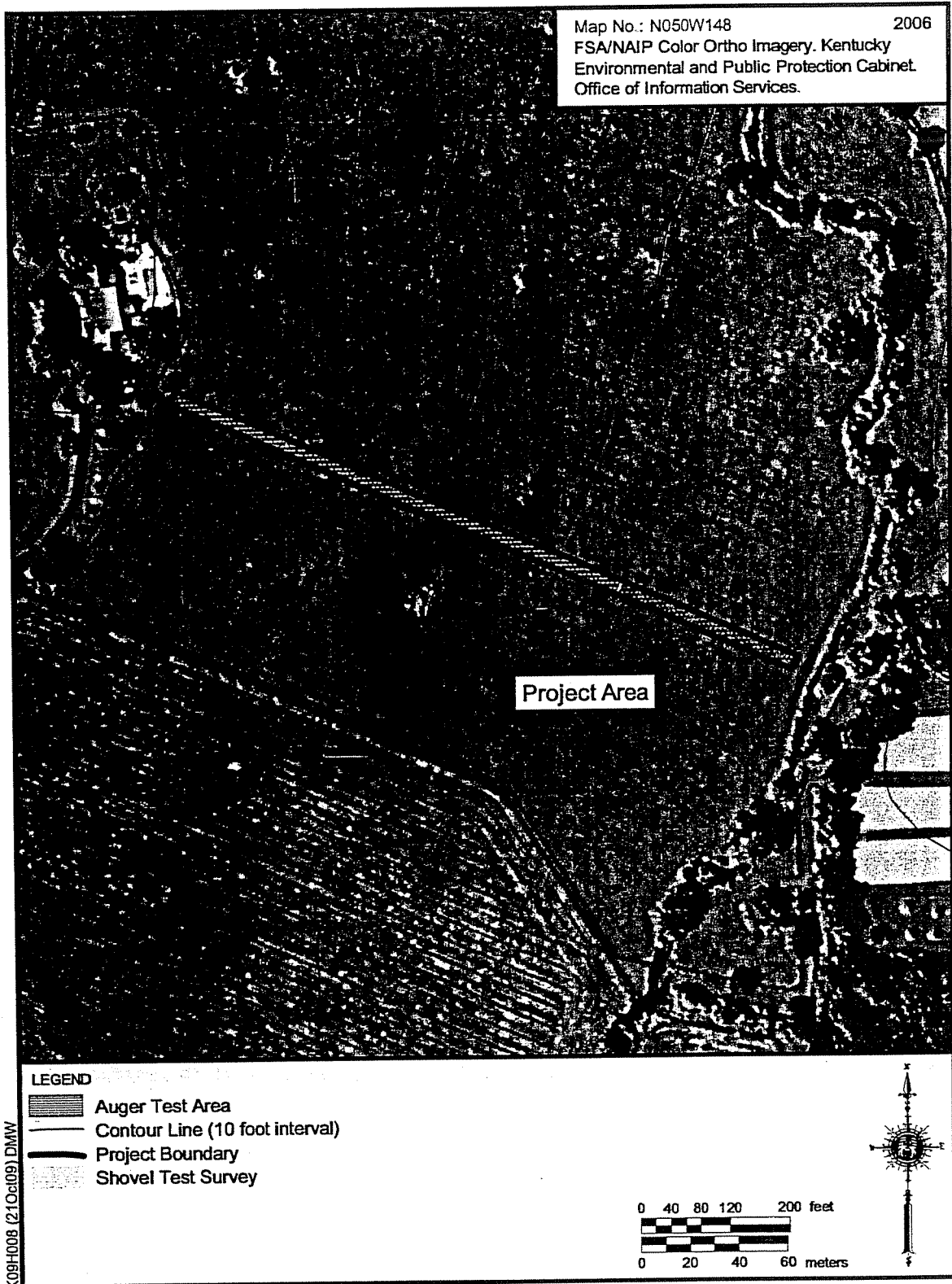


Figure 3b. Project area plan map.

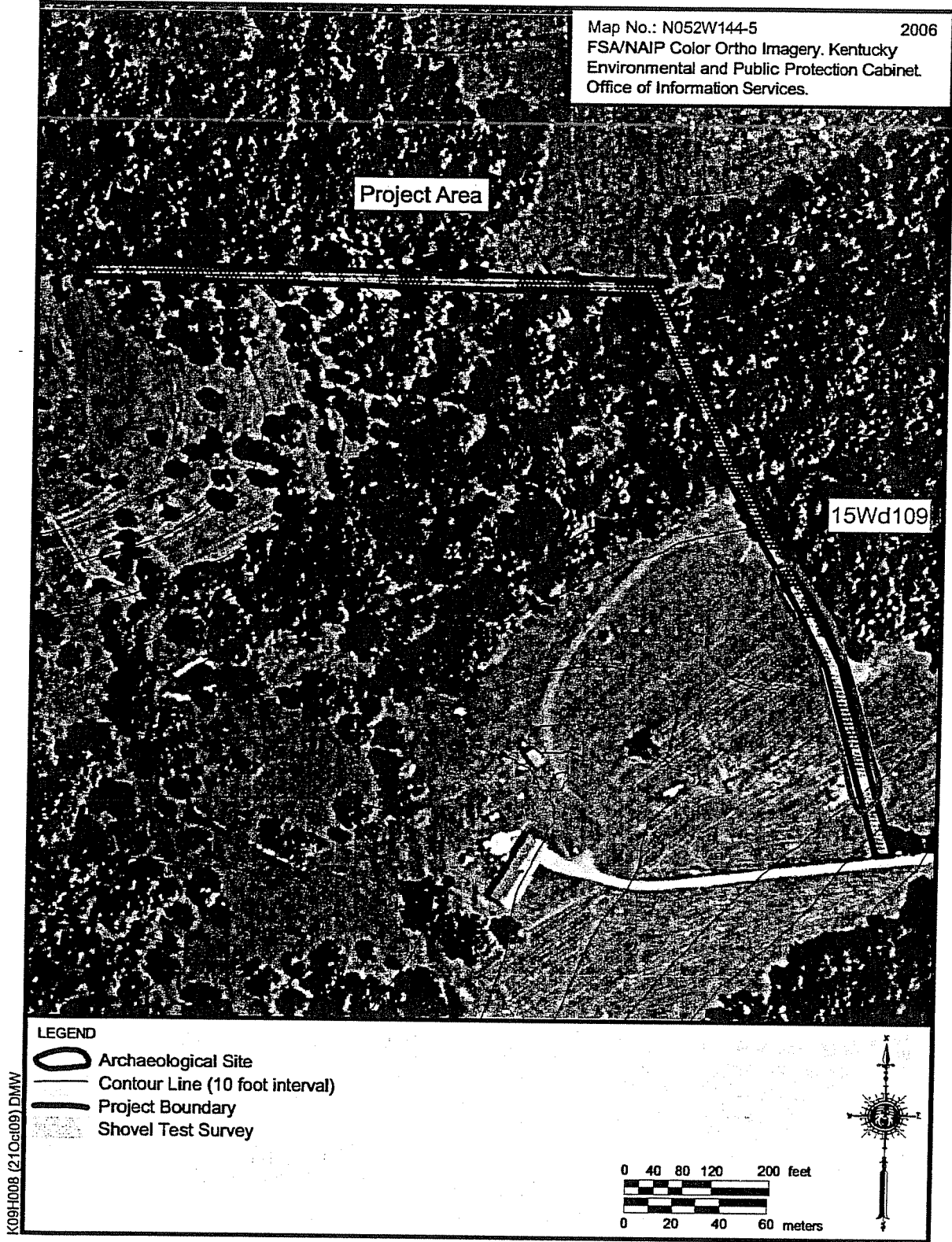


Figure 3c. Project area plan map.

## II. ENVIRONMENTAL SETTING

### Physiography

Jessamine and Woodford Counties lie within the Bluegrass physiographic region of Kentucky, situated primarily within the Inner Bluegrass region (McGrain and Currens 1978:42, 76). The terrain of Jessamine County is generally gently to mildly rolling, but becomes more hilly to the southeast and covers 45,066 ha (111,360 acres). The topography of Woodford County is also gently rolling to moderately rolling uplands and covers 49,988 ha (123,520 acres).

The geologic formations specific to the area are the sedimentary rocks of the upper and middle Ordovician series (McDonald et al. 1983). The Inner Bluegrass is underlain by limestone of the Cynthiana, Lexington, and High Bridge formations. The High Bridge Formation is along the Kentucky River gorge and contains the oldest exposed rock in the state (McDonald et al. 1983:2). The Lexington Formation, comprised primarily of a phosphatic shaly limestone, underlies most of the Inner Bluegrass.

The youngest rocks exposed are calcareous shale, siltstone, and limestone of the Eden and Garrard Formations (McDonald et al. 1983:2). Most of the county is part of an eroded peneplain with gentle or undulating topography. In steep areas, the exposed rocks are less resistant to weathering and streams have cut deep, narrow valleys, creating gorges. Limestone bluffs occur where short tributary streams flow through the gorges to the Kentucky River (McDonald et al. 1983:2). Additional information concerning the local geology and available lithic resources is provided in the materials recovered section of this report.

The highest point in Jessamine county is on a ridge approximately 5.0 km (3.0 mi) north of Nicholasville at 327 m (1,072 ft) above mean seal level (AMSL). The lowest elevation in the

county is 152 m (497 ft) AMSL, the normal pool level of the Kentucky River where it leaves the county near Brooklyn Bridge (McGrain and Currens 1978:42). The highest elevation in Woodford County is 305 m (1,000 ft) on a ridge north of Dry Ridge Pike, southeast of Versailles. The lowest elevation is 1,538 m (469 ft), the normal pool level of the Kentucky River where it leaves the county (McGrain and Currens 1978).

Both counties are located within the Kentucky River drainage system (Figure 4). All surface water eventually drains into the Kentucky River. Hickman, Jessamine and East Fork Creeks are the major streams in Jessamine County and Grier, Clear and Glenn's Creeks and Buck Run are the major streams in Woodford County.

### Soils

Four soil associations have been mapped in Jessamine County and three in Woodford County. Associations found in both counties include the Maury-McAfee, the McAfee-Maury-Fairmount, and the Fairmount-Rock outcrop. The Eden-Culleoka soil association is only found in Jessamine County.

Soils within the Maury-McAfee association comprise approximately 38 percent of Jessamine County and 40 percent of Woodford county soils (McDonald et al 1982: 3). These soils are generally deep to moderately deep, well drained loamy soils (McDonald et al. 1983:3).

The McAfee-Maury-Fairmount association contains deep to shallow, well-drained loamy and clayey soils found in the rolling and hilly upland areas of the county. Karsts and sinkholes are common where this soil association is mapped. This association comprises 40 percent of Jessamine County and 50 percent of Woodford County soils. (McDonald et al. 1983:4).

The Fairmount-Rock outcrop soil association contains shallow, well-drained clay soils and limestone outcrops on the bluffs of the Kentucky River. Predominantly long, very steep slopes and massive limestone



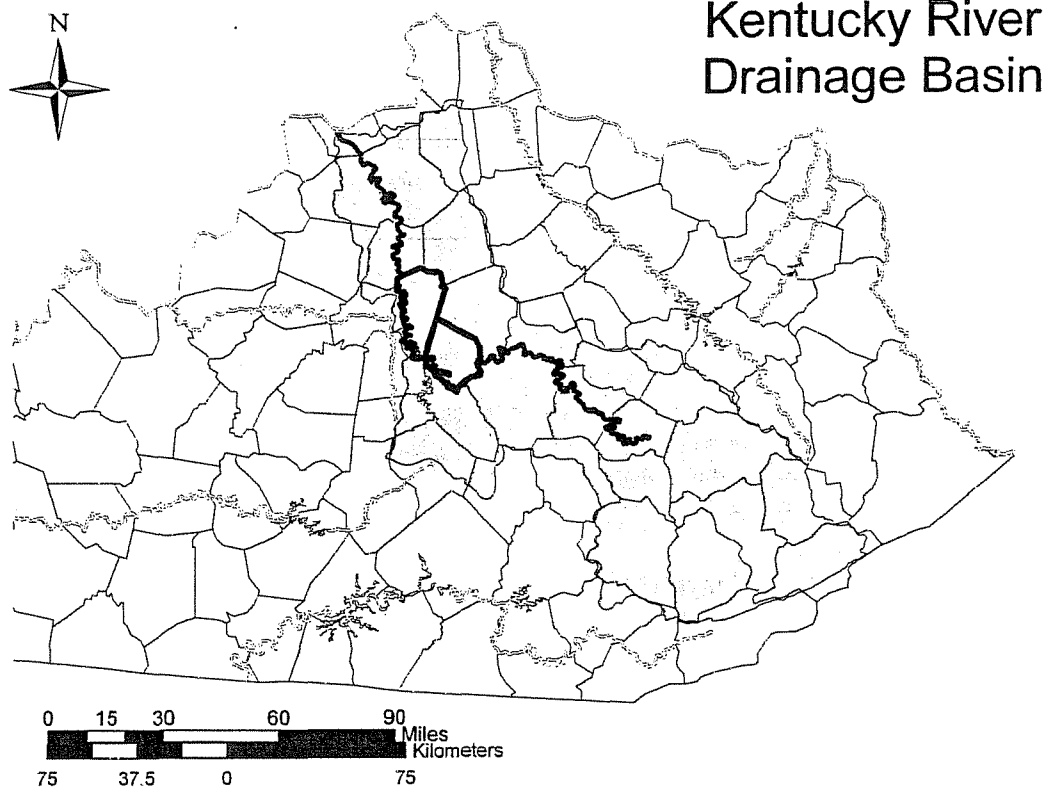


Figure 4. Kentucky River Drainage System.

outcrops or palisades and narrow ridgetops are associated with this soil unit. These soils make up approximately 10 percent of the each county (McDonald et al. 1983:4).

The Eden-Culleoka soil association includes moderately deep, well-drained loamy and clayey soils that are found on hilly and steep uplands. This soil association occupies approximately 12 percent of Jessamine County and occurs only in the southeastern part of the county.

Within the project area, soils are composed of Fairmount flaggy silty clay, Faywood silt loam, Lowell silt loam, Maury silt loam, and McAfee silt loam.

The Maury series soils are "formed in a thin mantle of silt and in underlying material weathered from phosphatic limestone." Maury silt loam (2–6 percent slopes) occurs on ridgetops and is described as having a dark brown surface layer with a subsoil of brown heavy silt loam. Erosion hazard is moderate in

cultivated areas (McDonald et al. 1983:15–16).

McAfee silt loam (6–12 percent slopes) occurs on irregularly shaped, rolling ridgetops and near the headwaters of drainages. Having formed in clayey material weathered from phosphatic limestone (McDonald et al. 1983:40–41), a typical profile includes a dark brown silt loam underlain by a subsoil of brown heavy silty clay loam. Limestone bedrock can occur at shallow depths, between 51 cm (20 in) and 102 cm (40 in) below the ground surface (bgs). Erosion is a severe hazard for this soil in cultivated areas (McDonald et al. 1983:17).

The Lowell series is characterized by deep, well-drained soils formed in clayey residuum of interbedded limestone and shale. The soils generally occur on fairly broad ridges and along heads of drainages on slopes ranging between 2 and 12 percent. (McDonald et al. 1983:39). A typical profile may exhibit a

brown silt loam over a deep layer of strong brown silty clay finally changing to a mottled yellowish brown and light gray clay.

The Fairmount flaggy silty clay soils are typically more shallow over bedrock than other soil series. They form in residuum of weathered limestone and thin layers of shale and occur primarily on moderately steep to very steep hillsides and less extensively on sloping convex ridgetops (McDonald et al. 1983:36). The typical profile is described as having a dark brown silty clay underlain by a subsoil of brown clay.

The Faywood series occurs mainly on rolling ridgetops and strongly sloping hillsides. The slopes range between 2 and 30 percent. A typical profile is described as a dark grayish silt loam over a yellowish brown subsoil (McDonald et al. 1983:36).

## Climate

The climate in this area of Kentucky is continental in character and temperature and precipitation levels fluctuate widely. The prevailing winds are westerly; therefore, most of the storms cross the state in a west to east pattern. Low-pressure storms that originate in the Gulf of Mexico and move in a northeasterly direction across Kentucky contribute the greater proportion of precipitation received by the state. Warm, moist, tropical air masses from the Gulf predominate during the summer months when humidity levels also remain quite high. As storms move through the state, occasional hot and cold periods of short duration may be experienced. During the spring and fall, storm systems tend to be less severe and have a smaller frequency, thus resulting in less radical extremes in temperature and rainfall (Anderson 1975).

The mean maximum temperature in the Inner Bluegrass area in January is 41 degrees Fahrenheit and the mean minimum temperature is 24 degrees Fahrenheit. The temperature range for July is approximately 86–Fahrenheit. Precipitation level averages kept during the same period indicate that the

same area receives approximately 115 cm (45 in) annually (McDonald et al. 1983).

## *Prehistoric Climate*

Climatic conditions during the terminal Pleistocene and Holocene ages represent a series of transitions in temperature, rainfall, and seasonal patterns (Anderson 2001; Niquette and Donham 1985:6–8; Shane et al. 2001). These transitions created a wide range of ecological variation, which altered survival strategies of human populations. One can posit a link between certain climatic events and the development of prehistoric cultures in the eastern woodlands of North America (Anderson 2001). Human responses to environmental factors are varied though, and not all cultural change was “determined” by climatic events.

The Wisconsin glacial maximum occurred approximately 21,400 years B.P., or 18,000 radiocarbon years before present (rcbp) (Anderson 2001; Delcourt and Delcourt 1987). The landscape at that time was quite different from that of today. Much of the mid-continent consisted of periglacial tundra dominated by boreal conifer and jack-pine forests. Sea levels were approximately 100 m (328 ft) below present levels, and because so much water was contained by the glaciers, the coastal plains were approximately twice the size they are today (Anderson 2001:152). During the Wisconsin glacial epoch, eastern North America was populated by a variety of faunal species, including megafaunal taxa such as mastodon, mammoth, saber-toothed tiger, and Pleistocene horse, as well as by modern taxa such as white-tailed deer, raccoon, and rabbit.

A general warming trend and concomitant glacial retreat was under way by circa 15,000 B.P. (Anderson 2001; Shane 1994). After 14,000 B.P., the boreal forest gave way to a mixed conifer/northern hardwoods forest complex. By 10,000 B.P., southern Indiana was probably on the northern fringes of expanding deciduous forests (Delcourt and Delcourt 1987:92–98). Pollen records from the Gallipolis Lock and Dam on the Ohio River near Putnam County, West Virginia, reveal that all the important arboreal taxa of mixed

mesophytic forest had arrived in the region by 9000–8500 B.P. (Fredlund 1989:23). Reidhead (1984:421) indicates that the generalized hardwood forests were well established in southeastern Indiana and southwest Ohio by about 8200 B.P.

Prior to approximately 13,450 B.P., conditions were harsh but capable of supporting human populations. It now appears that some people inhabited North America at this time (Adovasio et al. 1998; Dillehay 1997; McAvoy and McAvoy 1997). Populations were probably small, scattered, and not reproductively viable (Anderson 2001). The Inter-Allerod Cold Period, circa 13,450–12,900 B.P., witnessed the spread of Clovis populations across the continent (Anderson 2001). This period was followed by the rapid onset of a cooling event known as the Younger Dryas, during which megafauna species became extinct, vegetation changed dramatically, and temperature fluctuated dramatically. The Younger Dryas corresponded with the end of the Clovis culture, which gave way to a variety of subregional cultures across eastern North America. The rapid climate change, perhaps as short as 10–40 years, may have been a factor in this settlement shift.

The beginning of the Holocene age (circa 11,300–12,700 B.P.) is associated with rapidly warming temperatures, decreases in cloud cover, and generalized landscape instability (Delcourt 1979:270; Webb and Bryson 1972:107). Temperature increases during this period are estimated to have been three times greater than later Holocene fluctuations (Webb and Bryson 1972:107). During the early Holocene, rapid increases in boreal plant species occurred on the Allegheny Plateau in response to the retreat of the Laurentide ice sheet from the continental United States (Maxwell and Davis 1972:517–519; Whitehead 1973:624). At lower elevations, deciduous species were returning after having migrated to southern Mississippi Valley refugia during the Wisconsin advances (Delcourt and Delcourt 1981:147). The climate during the early Holocene was considerably cooler than the modern climate,

and extant species in upper altitude zones of the Allegheny Plateau reflect conditions similar to the Canadian boreal forest region (Klippel and Parmalee 1982; Maxwell and Davis 1972:515–516). Conditions at lower elevations were less severe and favored the transition from boreal to mixed mesophytic species. At Cheek Bend Cave in the Nashville Basin, an assemblage of small animals from the Late Pleistocene confirms the environmental changes that took place during the Pleistocene to Holocene transition, and the resulting extinction of Pleistocene megafauna and establishment of modern fauna in this area (Klippel and Parmalee 1982).

Traditionally, Middle Holocene (circa 8900–5700 B.P./8000–5000 rcbp) climate conditions were thought to be consistently dryer and warmer than the present (Delcourt 1979:271; Klippel and Parmalee 1982; Wright 1968). In this model, the influx of westerly winds during the Hypsithermal climatic episode contributed to periods of severe moisture stress in the Prairie Peninsula and to an eastward advance of prairie vegetation (Wright 1968). Prairies expanded in central Indiana between 8000 and 7000 B.P. (Webb et al. 1983). Pollen data from Hamilton and Marion Counties in central Indiana indicate an oak/hickory dominance of the forest complex and warm, dry conditions sometime after about 8000 B.P. (Engelhardt 1960, 1965).

More recent research (Anderson 2001; Shane et al. 2001:32–33) suggests that the Middle Holocene was marked by considerable local climatic variability. Paleoclimatic data indicate a period of more pronounced seasonality characterized by warmer summers and cooler winters. This evidence is supported by ice core data that show no appreciable decrease in continental ice volume, which would be expected with an increase in global temperature (Hu et al. 1999). However, Webb et al.'s (1983) hypothesis of increased aridity during this period is still valid for much of the region. Delcourt (1979:274) identified Middle Holocene moisture stress along the Cumberland Plateau in Tennessee. Paleoecological data indicate that xeric conditions were not as extreme in this area as

in the Midwest, where a considerable advance of prairie vegetation occurred. In fact, because of shifting tropical air masses, the southern and central Appalachians may have experienced increased precipitation at this time (Delcourt and Delcourt 1997).

The Hypsithermal episode probably influenced adaptive strategies at this time. Stafford (1994) suggests that changing vegetation resulted in heterogeneous upland resource availability in southern Indiana. In this model, the patchy resource base was exploited through a logistical collector strategy, a change from the generalized foraging of the preceding period. In the southeast, the increased seasonal extremes, expansion of pine forests at the expense of oaks, and increasingly xeric conditions probably caused significant social stress to Middle Archaic populations. This stress may have been ameliorated by the consolidation of peoples into riparian settings where hardwood forests persisted (Anderson 2001).

The earliest distinguishable Late Holocene climatic episode began circa 5000 B.P. and ended circa 3000 B.P. This episode is associated with the establishment of essentially modern deciduous forest communities in the southern highlands and increased precipitation across most of the mid-continental United States (Delcourt 1979:270; Maxwell and Davis 1972:517-519; Shane et al. 2001; Warren and O'Brien 1982:73). Changes in local and extra-local forests after about 4800 B.P. may also have been the result of anthropogenic influences. Fredlund (1989:23) reports that the Gallipolis pollen record showed increasing local disturbance of the vegetation from circa 4800 B.P. to the present, a disturbance that may have been associated with the development and expansion of horticulture activity. Based on a study of pollen and wood charcoal from the Cliff Palace Pond in Jackson County, Kentucky, Delcourt and Delcourt (1997:35-36) recorded the replacement of a red cedar-dominated forest with a forest dominated by fire-tolerant taxa (oaks and chestnuts) around 3000 B.P. The change is associated with increased local wildfires (both natural and

culturally augmented) and coincided with increases in cultural utilization of upland (mountain) forests.

Beginning circa 2800 B.P., generally warm conditions, probably similar to those of the twentieth century, prevailed until the onset of the Neo-Boreal episode, or Little Ice Age, around 700 B.P. Despite this trend, brief climatic fluctuations occurred during this period. Some of these fluctuations have been associated with adaptive shifts in midwestern prehistoric subsistence and settlement systems. For example, the Middle Woodland Hopewellian florescence is temporally correlated with the relatively mild sub-Atlantic climatic episode (Griffin 1961). Likewise, the culture's decline corresponds roughly to the Vandal Minimum (circa A.D. 400-800), a period of global temperature decline. Struvever and Vickery (1973) suggest a possible correlation between the onset of a cooler, moister period (circa 1600 B.P.) and increased use of *Polygonum* by Late Woodland groups in the Midwest (Struvever and Vickery 1973:1215-1216). During this same period (1600-1300 B.P.), warmer temperatures have been inferred for the Great Plains and dryer conditions for the Upper Great Lakes (Baerreis et al. 1976; Warren and O'Brien 1982). Other fluctuations during the Late Holocene are similarly non-uniform across the mid-continental United States; however, the interfaces of all fluctuations are generally consistent. Local paleoecological evidence is required to determine the kinds of climatic fluctuations Woodland populations experienced during the Pacific episode. Given evidence of fluctuations elsewhere, changes most likely occurred circa 1700 B.P., 1300 B.P., and 900 B.P., with a possible earlier change circa 2300 B.P.

Studies of historic weather patterns and tree-ring data by Fritts et al. (1979) have indicated that climatological averages are "unusually mild" when compared to seventeenth- to nineteenth-century trends (Fritts et al. 1979:18). The study suggests that winters were generally colder, weather anomalies were more common, and unusually severe winters were more frequent between

A.D. 1602 and A.D. 1899 than after A.D. 1900. Cooler, moister conditions are associated with the Neo-Boreal episode, which began circa 700 B.P. and coincided with minor glacial advances in the northwest and Europe (Denton and Karlen 1973; Warren and O'Brien 1982:73). This episode is viewed by Warren and O'Brien as a causal factor in vegetation pattern shifts in northeast Missouri (Warren and O'Brien 1982:74-76). Fluctuations in the Neo-Boreal episode appear to have varied locally (Baerreis et al. 1976:50-52; Warren and O'Brien 1982:73).

The effects of the Neo-Boreal episode, which ended during the mid- to late-nineteenth century, have not been studied in detail for this region. It appears that the area experienced less radical temperature decreases during the Late Neo-Boreal than did the upper Midwest and northern Plains (Fritts et al. 1979), so it follows that related changes in extant vegetation would be more difficult to detect. It is probably safe to assume that average temperatures were at least a few degrees cooler during the late Prehistoric and early Historic periods. The frequency of severe winters and average winter precipitation were probably greater as well. Several scholars (e.g., Anderson 2001; Griffin 1961; Grove 1988) have observed that the beginning of the Little Ice Age disrupted prehistoric cultures in the Eastern Woodlands. Anderson (2001:166) relates the agricultural difficulties brought on by the climatic downturn to "increased warfare and settlement nucleation, and decreased long distance exchange and monumental construction."

## Vegetation

The Bluegrass physiographic province is located within the Western Mesophytic Forest (Braun 1950:146). The major vegetation types in this region form a complex mosaic that is strongly influenced by underlying geologic strata. This is in strong contrast to the situation in the Mixed Mesophytic Forest to the east. The forests in the Inner Bluegrass are generally less luxuriant than those in the Appalachian Plateau and have a greater

tendency toward dominance of a few species (Braun 1950:122-123).

The transition from extensive, mixed Mesophytic communities in the far eastern part of the state to extensive oak and oak-hickory communities in central and western Kentucky is well marked despite the more generalized mosaic pattern and the presence of large prairie areas (Braun 1950:123). While old forest trees remain on large estates, there are no extensive areas of original vegetation outside of the river gorges in the Bluegrass, and it is impossible to reconstruct a picture of the original forest conditions (Braun 1950:125).

The western Mesophytic forest is dominated by oak and hickory, but a wide variety of other species are represented. Beech trees are not represented naturally in the Inner Bluegrass forest; however, beech trees are part of the forested areas in the Outer Bluegrass.

Oak-chestnut and oak-hickory communities occupy upper slopes and ridgetops. Pine is dominant on ridgetops where rock outcrops occur. Beech and white oak are located where shale is the underlying rock. Oak, oak-hickory, and oak-pine communities comprise the modern day eastern Kentucky forest community (Niquette and Henderson 1984).

At the time of early Euro-American exploration and settlement, vegetation in the region included vast tracts of mixed deciduous forest with canebrakes and grassy openings (Sutton and Sutton 1987).

## Description of the Project Area

The project area is located in the Inner Bluegrass physiographic region in northern Jessamine and southern Woodford Counties near U.S. 68 (Harrodsburg Road). In three sections, the 6-m wide survey corridor follows fences, crosses fields and traverses slopes for approximately 1.1 km. The survey corridor covers approximately 1.1 ha and disturbance will occur at elevations between 250 and 311 m (820 and 1,020 ft) AMSL.

The project area is situated among rolling hills with gradual slopes separated by intermittent drainages that run into the low valleys of the Kentucky River, and Jessamine and Sinking Creeks. An unnamed drainage of the Kentucky River is the lowest elevation point in the project area. The vegetation varies according to topographical situation but for the most part the ground surface visibility was less than 15 percent. The project area in Jessamine County was situated entirely in cattle and horse pasture (Figure 5), and the Woodford County section was primarily tree-covered slopes with areas of grassy ridgetops. The forested areas consisted of deciduous trees, vines, ferns, wildflowers and small shrubs (Figure 6). Tree fall and leaf litter obscured visibility in forested areas. Exposed areas of surface visibility existed in areas of heavy livestock activity and eroding slopes. Some small areas of exposed limestone rock outcrop were noted on the slopes in Woodford County. The survey corridor was relatively undisturbed, with the exception of livestock activity and a small bulldozed area near Site 15Wd109.

Soils in undisturbed areas on ridgetops generally consisted of very dark to dark grayish brown (10YR 3/2–10YR 4/2) silt loam from the surface to depths ranging from 0 to 55 cm (0 to 22 in) over a subsoil of dark yellowish to yellowish brown (10YR 4/6–10YR 5/6) silty clay. On slopes, the depth to subsoil generally decreased and rock content increased.

Two bucket auger profiles on the floodplain of Jessamine Creek exhibited deep soils consisting of a 0–40 cm (0–16 in) very dark grayish brown (10YR 3/2) silt loam over a 40–80 cm (16–31 in) layer of very dark grayish brown (10YR 3/2) silty clay with light iron oxides and manganese depletions. At approximately 80 cm below ground surface (bgs) light mottles of yellowish brown (10YR 5/8) sandy clay were noted and increased in percentage with depth. Augers were terminated in a horizon of increased clay content and heavy iron and manganese depletions at depths ranging from 90 to 120 cm (35 to 47 in) bgs.



Figure 5. Overview of cattle pasture just north of Catnip Hill Road, facing northeast.



Figure 6. Overview of forested areas in Woodford County, facing west.

Near the western terminus of the project area in Woodford County, a portion of stone fence was noted (Figure 7). It is just outside of the project area of potential effect (APE) and will not be impacted from the proposed developments.

### III. PREVIOUS RESEARCH AND CULTURAL OVERVIEW

Prior to initiating fieldwork, a search of records maintained by the NRHP (available online at: <http://www.nr.nps.gov/nrloc1.htm>) and the OSA (FY10\_6211) was conducted to: 1) determine if the project area had been previously surveyed for archaeological resources; 2) identify any previously recorded archaeological sites that were situated within

the project area; 3) provide information concerning what archaeological resources could be expected within the project area; and 4) provide a context for any archaeological resources recovered within the project area. The OSA file search was conducted between October 22 and November 9, 2009. The work at the OSA consisted of a review of professional survey reports and records of archaeological sites for an area encompassing a 2-km radius of the project footprint. To further characterize the archaeological resources in the general area, the OSA archaeological site database for the county was reviewed and synthesized. The review of professional survey reports and archaeological site data in the county provided basic information on the types of archaeological resources that were likely to occur within the project area and the landforms that were most likely to contain these resources. The results are discussed below. The 2-km radius included areas within



Figure 7. Stone fence outside of project area, facing northwest.

the Keene, Nicholasville, and Wilmore, Kentucky, quadrangles (USGS 1952a, 1965 and 1952c).

OSA records revealed that nine previous professional phase I archaeological surveys have been conducted within a 2-km radius of the project area. These surveys resulted in the recordation of thirty sites (15Js28, 15Js29, 15Js30, 15Js31, 15Js32, 15Js33, 15Js34, 15Js35, 15Js36, 15Js37, 15Js48, 15Js55, 15Js56, 15Js57, 15Js58, 15Js146, 15Js148, 15Js149, 15Js150, 15Js151, 15Js152, Js172, 15Wd65, 15Wd66, 15Wd67, 15Wd68, 15Wd69, 15Wd70, 15Wd71, and 15Wd72.) within the 2-km search radius. Additionally, the OSA had twelve other sites (15Fa72, 15Fa98, 15Fa231, 15Js10, 15Js11, 15Js133, 15Js134, 15Js153, 15Wd32, 15Wd52, 15Wd53, and 15Wd56) within the search radius that are not associated with a project/report on file. None of these previously recorded sites are within the current project

area and there will be no effect to these resources from the developments associated with the proposed waterlines and tank site.

## Previous Archaeological Surveys

In 1977 and 1978, the Kentucky Heritage Commission (now the Kentucky Heritage Council [KHC]) conducted an archaeological survey of twelve Kentucky counties that resulted in the documentation of thirty-seven previously unidentified archaeological sites in Jessamine County (Weinland and Fenwick 1979). The surveys were designed to sample diverse areas of the state, to update and increase the inventory of sites, and to create an archaeological site database. Investigation methods were limited to interviews with local informants and collectors and pedestrian survey of landforms with good ground surface visibility. Of the total archaeological sites



recorded (15Js19 and 15Js22 through 15Js57), fourteen were located within the 2-km radius of the current project area. Weinland and Fenwick (1979) included no recommendations for further work at the sites and provided no indication of NRHP eligibility.

In 1989 the Program for Cultural Resource Assessment (PCRA) at the University of Kentucky conducted a cultural resource survey of a proposed water intake structure, a pumping station, a water treatment plant and associated waterlines (O'Malley 1989). The survey was conducted at the request of the Kentucky-American Water Company. The project measured 7.4 ha (18.3 acres) and was investigated by pedestrian survey, shovel testing, and backhoe trenching. Eight sites (15Wd65, 15Wd66, 15Wd67, 15Wd68, 15Wd69, 15Wd70, 15Wd71, and 15Wd72) were located as a result of the investigation. Sites 15Wd65–15Wd67, 15Wd70, and 15Wd71 were recommended not eligible for the NRHP and no further work was recommended. Sites 15Wd68, 15Wd69 and 15Wd72 were considered potentially significant and avoidance or further testing was recommended.

CRA conducted an archaeological survey of portions of the proposed upgrade of U.S. 68 in Jessamine and Fayette Counties in 1995 (Hand 1995). The Jessamine County portion of the project area measured 5.5 ha (13.8 acres) and was investigated through pedestrian survey and shovel testing. No archaeological sites were identified and no further work was recommended.

CRA also conducted an archaeological survey of a proposed 9.0 km (5.6 mi) long corridor for the reconstruction of U.S. 68 in 1999 (Bybee 1999). The project area covered a total of 71.6 ha (179 acres), the majority of which was investigated through pedestrian survey supplemented with shovel testing. The survey resulted in the reinvestigation of two archaeological sites (15Js2 and 15Js58) and the identification of eleven archaeological sites (15Js142–15Js152). Most sites were historic farms and residences dating from the nineteenth through twentieth centuries that had

ephemeral prehistoric components. Eight sites were not considered eligible for the NRHP and no further work was recommended. The five remaining sites, 15Js142, 15Js144, 15Js145, 15Js150, and 15Js151, could not be assessed for NRHP eligibility and further work was recommended. Additional work was carried out at four of the sites by CRA in 2001; only one of the sites, 15Js150, was recommended as eligible for listing in the NRHP. The evaluation of 15Js144 could not be completed (Rotman and Moore 2003). Site 15Js150 was subjected to data recovery by AMEC Earth and Environmental, Inc., but the results of the investigations have not yet been published. The NRHP evaluation of 15Js144 was recently completed by CRA, and the site is recommended as not eligible for the NRHP (Faberson 2008).

On January 5, 2000, .8 ha (2.0 acres) were investigated for a phase I archaeological survey by Cultural Horizons, Inc., personnel (Holland and Stallings 2000). The survey was for an electric power substation and access road in Jessamine County and was conducted at the request of East Kentucky Power Cooperative, Inc. Fieldwork consisted of shovel testing and no sites were located as a result.

CRA conducted an archaeological survey of proposed temporary construction easements and minor modifications along the selected alternate for the reconstruction of U.S. 68 in 2005 and 2006 (Bybee 2006). The project area measured 13.6 ha (34.0 acres) and was investigated through pedestrian survey supplemented with screened shovel testing. The survey resulted in the reinvestigation of two previously recorded archaeological sites (15Js144 and 15Js145), neither of which could be assessed for NRHP eligibility.

Bluestone Research, LLC, conducted an archaeological survey of a proposed waterline in 2006 (Morton and Blake 2006). The project area size was not listed and field methods consisted of pedestrian survey and shovel testing. The survey resulted in the identification of two prehistoric archaeological sites (15Js172 and 15Js173). Further work was

recommended for 15Js172 and no further work was recommended for 15Js173.

Environment and Archaeology, LLC completed an archaeology report for a cellular tower in Jessamine County in 2006 (Breetzke 2006). In July of the same year, approximately .04 ha (.11 acres) of tower location and access road were investigated by pedestrian and shovel testing. No sites were located as the result of fieldwork and no further work was recommended.

CRA conducted additional archaeological investigations of proposed temporary construction easements and minor modifications along the selected alternate for the reconstruction of U.S. 68 in 2007 (Bybee 2007). The project area measured .8 ha (1.9 acres), all of which was investigated through pedestrian survey supplemented with screened shovel testing. No archaeological sites were recorded and no further work was recommended. In 2008 another addendum to the same project was conducted by CRA (Bybee 2008). The investigation consisted of six parcels of land covering a total of 3.5 ha (8.7 acres), all of which was investigated through intensive pedestrian survey supplemented with screened shovel testing and visual inspection of exposed ground surfaces. Two sites (15Js58 and 15Js175) were located as a result of fieldwork. The portions of the sites within the project area were not recommended for the NRHP and project clearance was recommended.

## Archaeological Site Data

The OSA records show that, prior to this survey, 163 archaeological sites had been recorded in Jessamine County (Table 1). More than half of these (55.8 percent) are prehistoric open habitations without mounds. Other prevalent sites types in Jessamine County include sites classified as “undetermined” (11.7 percent), historic farm/residence sites (10.4 percent), military sites (4.3 percent), sites classified as “other” 6, 3.7 percent), caves (3.1 percent), isolated burials (2.5 percent), and isolated finds (2.5 percent). All

other site types each comprise less than 2 percent of the county total.

The landform locations of sites in Jessamine County were examined to determine the likelihood of encountering sites on similar landforms within the project area. Most of the recorded sites in Jessamine County have been located on dissected uplands (46 percent). Archaeological sites have also been documented on hillsides (25.2 percent), undissected uplands (18.4 percent), floodplains (7.4 percent), terraces (2.5 percent), and unspecified landforms (.6 percent). Site types located on dissected uplands are primarily made up of open habitation without mounds (46.7 percent) and historic farm/residences (17.3 percent). Hillsides contain primarily open habitation without mounds (73.1 percent) and caves (9.8 percent). Most sites situated on undissected uplands are also open habitation without mounds (56.7 percent) and site types on terraces are dominantly historic farm/residences (75 percent).

According to available data, 102 archaeological sites have been recorded in Woodford County (Table 2). The site data indicates that the majority of archaeological sites recorded in Woodford County consist overwhelmingly of open habitation sites without mounds (78.4 percent). Other site types in the county include historic farm/residences (5.9 percent), earthen mounds/mound complexes (4 percent), non-earth mounds (2.9 percent), rockshelters/caves (2.9 percent), cemeteries (1 percent), and other undetermined site types (5.8 percent).

The majority of sites in Woodford County are located on dissected uplands (44.1 percent), undissected uplands (26.5 percent) and hillsides (17.7 percent). Most of the sites situated on dissected and undissected uplands are open habitations without mounds (82.2 and 85.1 percent) and historic farm/residences (4.4 and 7.4 percent). Site types located on hillsides are also predominately open habitations without mounds (66.7 percent) followed by rockshelters (11.1 percent).

**Table 1. Summary of Selected Information for Previously Recorded Archaeological Sites in Jessamine County, Kentucky. Data Obtained from OSA and May Contain Coding Errors.**

Site Type:	N	%
Cave	5	3.07
Cemetery	2	1.23
Historic Farm/Residence	17	10.43
Industrial	3	1.84
Isolated Burials	4	2.45
Isolated Find	4	2.45
Military	7	4.29
Open Habitation With Mounds	2	1.23
Open Habitation Without Mounds	91	55.83
Other	6	3.68
Stone Mound	1	0.61
Undetermined	19	11.66
Unspecified	2	1.23
<b>Total</b>	<b>163</b>	<b>100</b>
Time Periods Represented:	N	%
Paleoindian	5	2.46
Archaic	31	15.27
Woodland	17	8.37
Late Prehistoric	27	13.3
Indeterminate Prehistoric	61	30.05
Historic	56	27.59
Unspecified	6	2.96
<b>Total</b>	<b>203*</b>	<b>100</b>
Landform:	N	%
Dissected Uplands	75	46.01
Floodplain	12	7.36
Hillside	41	25.15
Terrace	4	2.45
Undissected Uplands	30	18.4
Unspecified	1	0.61
<b>Total</b>	<b>163</b>	<b>100</b>

\* One site may represent more than one time period.

**Table 2. Summary of Selected Information for Previously Recorded Archaeological Sites in Woodford County, Kentucky. Data Obtained from OSA and May Contain Coding Errors.**

Site Type:	N	%
Cave	1	0.98
Cemetery	1	0.98
Earth Mound	2	1.96
Historic Farm/Residence	6	5.88
Mound Complex	2	1.96
Non-mound Earthwork	3	2.94
Open Habitation Without Mounds	80	78.43
Other	1	0.98
Rockshelter	2	1.96
Stone Mound	1	0.98
Undetermined	3	2.94
<b>Total</b>	<b>102</b>	<b>100</b>
Time Periods Represented:	N	%
Paleoindian	5	3.62
Archaic	23	16.67
Woodland	23	16.67
Late Prehistoric	23	16.67
Indeterminate Prehistoric	41	29.71
Historic	17	12.32
Unspecified	6	4.35
<b>Total</b>	<b>138*</b>	<b>100</b>

Landform:	N	%
Dissected Uplands	45	44.12
Floodplain	9	8.82
Hillside	18	17.65
Terrace	3	2.94
Undissected Uplands	27	26.47
<b>Total</b>	<b>102</b>	<b>100</b>

\* One site may represent more than one time period

## Map Data

In addition to the file search, a review of available maps was initiated to help identify potential historic properties (structures) or historic archaeological site locations within the proposed project area. The following maps were reviewed.

1861 Topographical Map of the Counties of Bourbon, Fayette, Clark, Jessamine, and Woodford (Hewitt and Hewitt)

1877 Atlas of Bourbon, Clark, Fayette, Jessamine, and Bourbon Counties, Kentucky (Beers and Lanagan)

1941a General Highway Map of Jessamine County, Kentucky (Kentucky Department of Highways [KDOH])

1941b General Highway Map of Woodford County, Kentucky (KDOH)

1951 General Highway Map of Jessamine County, Kentucky (Kentucky State Highway Department [KSHD])

1952a (photorevised 1978) Keene, Kentucky, 7.5-minute series topographic quadrangle (United States Geological Survey [USGS])

1952b Wilmore, Kentucky 7.5-minute series topographic quadrangle (USGS)

1952c (photorevised 1979) Wilmore, Kentucky 7.5-minute series topographic quadrangle (USGS)

1953 Nicholasville, Kentucky, 7.5-minute series topographic quadrangle (USGS)

1954 General Highway Map of Woodford County, Kentucky (KSHD)

1958 General Highway Map of Jessamine County, Kentucky (KSHD)

1959 Nicholasville, Kentucky, 7.5-minute series topographic quadrangle (USGS)

1965 (photorevised 1993) Nicholasville, Kentucky, 7.5-minute series topographic quadrangle (USGS)

The researched maps indicated that only one map structure was located near the study corridor. This map structure is first depicted on the 1952 Wilmore map on the border of Jessamine and Woodford Counties (Figure 8). This structure is near the vicinity of 15Wd109 and is discussed further in the results section of this report.

## Survey Predictions

Considering the known distribution of sites in the county, the available information on site types recorded, and the nature of the present project area, certain predictions were possible regarding the kinds of sites that might be encountered within the project area. Jessamine and Woodford Counties have a moderate to high number of archaeological sites recorded. The linear project corridor crosses various terrains and based on OSA site data, it is expected that uplands will have the highest potential for the location of archaeological sites. Prehistoric open habitation sites were the primary site types expected, but historic residences were also considered a possibility.

## Cultural Overview

### Paleoindian Period (before 8000 B.C.)

It has been recognized that the Paleoindian cultural tradition in the northeastern United States originated with the Clovis culture, a widespread, homogeneous New World culture typified by a distinctive lithic assemblage. The most distinctive members of this assemblage are lanceolate shaped, often fluted, hafted bifaces (Maggard and Stackelbeck 2008). The presence of other artifact types in these Paleoindian assemblages, such as chert knives, scrapers, unifacial tools, and blades, is consistent across the eastern United States. These types of artifacts have been recovered from Clovis sites such as Holcombe Beach in Michigan (Fitting et al. 1966), Debert in Nova

Scotia (MacDonald 1968), Martens in Missouri (Martens et al. 2004; Morrow 1998, 2000), and Topper in South Carolina (Goodyear and Steffy 2003).

Clovis components are not well represented in Kentucky, but they have been identified at sites such as Adams, Adams Mastodon, Big Bone Lick, Clay's Ferry Crevice, and Parrish (Tankersley 1996). The artifacts in the Clovis toolkit represent predominantly hunting, butchering, and hide-working activities. Bone tools (e.g., awls, needles, flakers, and possibly shaft straighteners) and ornaments are assumed to have been used but have not been recovered because of unfavorable environmental conditions (Griffin 1978:226).

Post-Pleistocene adaptive strategies were geared for coping with a harsh, but rapidly changing, environment. In general, Paleoindian sites are reflective of areas where small groups of people, perhaps no more than 50 individuals (Tankersley 1996:21), would perform specific tasks of short duration. This type of site casts a very low archaeological profile across the landscape. It has been argued that the earliest subsistence strategies in the eastern United States were not typified by a focus on the harvest of megafauna, but rather by a balanced hunting economy based on the exploitation of migratory game—especially caribou—and supplemented by foraged food (Fitting et al. 1966:103–104; Ritchie and Funk 1973:336; Tankersley 1996:22; Walker et al. 2001).

### Archaic Period (8000–1000 B.C.)

As Griffin (1978:226) states, “a purely arbitrary division is made between the earlier fluted point hunter and their direct descendants,” yet typological comparisons of artifact assemblages begin to take on distinctly regional characteristics with time. The Archaic period is customarily divided into three subperiods: Early (8000–6000 B.C.), Middle (6000–3500 B.C.), and Late (3500–1000 B.C.) (Jefferies 2008). By the Early Archaic, the last glaciers had retreated and the arctic-like boreal

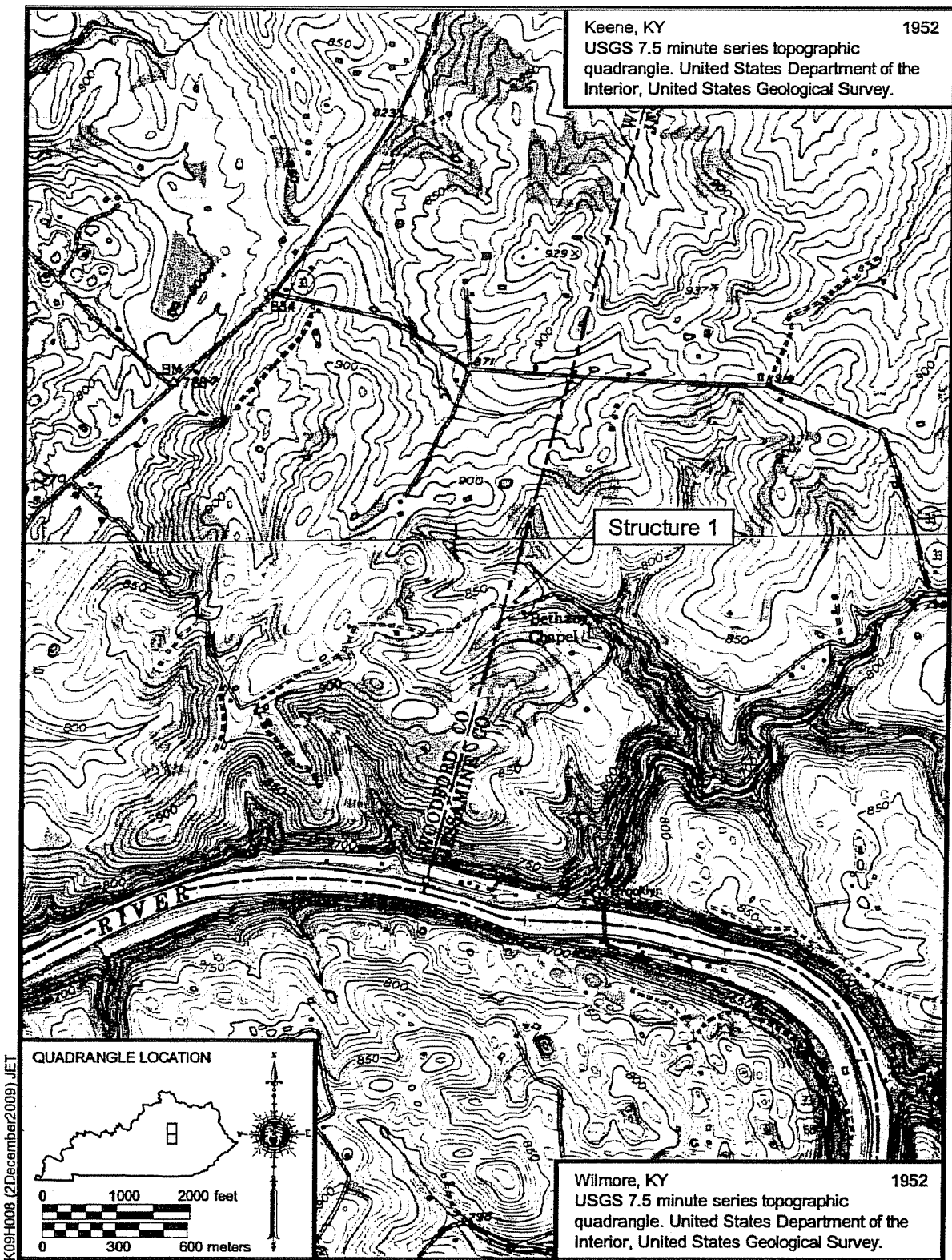


Figure 8. Map Structure 1 on the USGS 1952 Wilmore quadrangle.

forest was developing into the eastern deciduous forest. By the Middle Archaic subperiod, the environment was much as it is today. This subperiod is marked by the introduction of groundstone tools, some of which have been interpreted as plant processing implements. At the beginning of the Late Archaic subperiod, the modern deciduous climax forest covered the entire eastern United States. In response to the changing environment and concurrent changes in plant and animal communities, Archaic period peoples developed a more diversified subsistence strategy that included a shift to exploitation of riverine ecosystems and, perhaps, the beginnings of a planned seasonal round exploitation strategy (Winters 1967:32, 1969).

The typical artifact assemblage representative of the Archaic period is composed of corner- and side-notched, or stemmed, hafted bifaces, increasing in both quantity and stylistic variation through time but accompanied by a decrease in quality of individual workmanship. Corner- and side-notched forms appear earlier in the sequence, whereas stemmed bifaces appear later (Jefferies 2008).

Judging from the greater frequency with which Late Archaic sites appear among sites that are recognized in the prehistoric record, a population increase may be postulated. Moreover, evidence of longer, more intensive site occupation suggests, in some cases, the possibility of extended habitation in parts of the state (Jefferies 2008).

## **Woodland Period (1000 B.C.–A.D. 900)**

Griffin (1978:231) notes that during the Late Archaic subperiod there was “considerable evidence for the long distance movement of goods.” The interregional movement of goods provided a structure for the transmission of information as well. During this period of interregional dynamism, there was a trend towards a more sedentary lifestyle with increasingly elaborate burial ceremonialism and, possibly, stratified social

organization. These trends, along with the appearance of fired ceramic vessels, mark the transition between Archaic and Woodland peoples (Griffin 1978).

The Woodland period, like the preceding Archaic period, is divided into three subperiods: Early Woodland (1000–200 B.C.), Middle Woodland (200 B.C.–A.D. 400), and Late Woodland (A.D. 400–900) (Applegate 2008). Overall, the Woodland period witnessed a continuation and elaboration of cultural practices that began during the Late Archaic subperiod. Woodland peoples became increasingly dependent on the cultivation of plant foods, which allowed for a more sedentary lifestyle. Except for the latter part of the Late Woodland subperiod, subsistence practices remained similar to the Archaic subsistence patterns, which is to say a combination of hunting, plant food gathering, and fishing in a seasonal round exploitation pattern. It is within the Woodland period that highly visible site types, such as mounds and enclosures, were constructed (Applegate 2008).

## **Late Prehistoric Period (A.D. 900–1650)**

In addition to an increase in cultural integration and cultural complexity, the Late Prehistoric period witnessed a rapidly growing dependence upon horticulture in the subsistence activities of native populations. Cultural materials are assigned to the Late Prehistoric period by the presence of seemingly diagnostic artifacts, such as mixed limestone and shell or purely shell tempered pottery and triangular projectile points. Temporal assignment based on the presence of triangular points can be misleading, since they first appeared during the Late Woodland period. The Late Prehistoric period in this region of Kentucky is referred to as Fort Ancient (Henderson 2008).

During the Fort Ancient period, there was an increased reliance on agriculture, an increase in sedentism, and an increase in the complexity of sociopolitical organization. Subsistence practices focused on the

cultivation of corn and beans. This was supplemented with hunting, fishing, and wild plant collecting. Many Fort Ancient villages were circular or elliptical and “exhibit distinct activity areas that encircle a central plaza: domestic/habitation, storage/trash disposal, and mortuary” (Henderson 2008:745). Some, but not all, of these circular villages were surrounded by a palisade.

Cultures with a somewhat similar level of development included Pisgah in the Appalachian Summit, Mississippian in the middle Mississippi River area, and the Plaquemine culture of the lower Mississippi River area. A Late Woodland level of society continued in the Midwest, the Great Lakes, the Northeast, and the piedmont and coastal areas of the Middle Atlantic until European contact (Geier 1992:279–280). The Fort Ancient period is dated between approximately A.D. 900 and 1650.

## **Protohistoric and Historic Aboriginal Period (A.D. 1650–1814)**

By the beginning of the seventeenth century A.D., the Ohio River valley was populated by several sedentary cultural groups (Schwartz 1967). After 1680, the cultural fabric of these groups was severely stressed and then reshaped in the wake of shifting fur trade patterns (Hunt 1940), which resulted in the increasing displacement of resident Native-American groups by newly arriving Native Americans (Hunter 1978:588).

After A.D. 1724, Native-American tribes, who we can identify as the Shawnee, were present in the region, having been pushed westward from the east (i.e., from the Susquehanna drainage of Pennsylvania) by the expansion of European settlement (McConnell 1992:21). The origins of the Shawnee are not clear, but they can be identified on the Ohio River by A.D. 1750 (or later) at sites such as Bentley and Old Fort Earthworks (named for the nearby Middle Woodland earthworks) (Henderson et al. 1986:131–137; Henderson et

al. 1992:270–278; Pollack and Henderson 1984).

The conflicts between the Shawnee and other groups of the middle Ohio (e.g., Delaware, Miami, Piankashaw, and Wyandot) lasted through the War of 1812. They are a part of the conflict between the French and British and later the British and the new American Colonies (Hammack 1992:928–929; McBride and McBride 2008; O’Donnell 1992:815).

## ***Historic Period***

The first Europeans to visit Kentucky included explorers, trappers, traders, and surveyors. It was in the 1750s, when the English Crown attempted to colonize the Ohio Valley, that the first organized attempt to settle Kentucky occurred. This attempt stimulated the formation of land companies that sent surveyors into the area (McBride and McBride 2008:909). One of these, the Ohio Land Company, sent a surveyor into Kentucky in 1751. The French and Indian War that erupted in 1754 disrupted this early exploration (Talbert 1992:689).

In 1763, England's King George III set aside the land west of the Appalachians for Indians and English fur traders and closed the area to permanent settlement. His decree was ignored, however, and further colonial exploration and development could not be stopped. One man who took advantage of the commercial expansion westward was Daniel Boone. Boone first explored Kentucky in 1767, and by 1769, he had explored much of the Red and Kentucky River valleys. Harrodsburg was established soon after in 1774, followed by Boonesboro in 1775. The western movement of the American frontier pushed the Native Americans further and further west, and Kentucky was one of the places where they decided to take a stand. In response, Governor Dunmore (of Virginia) waged two large campaigns in the Ohio Valley (later known as Dunmore's War), and the Native Americans were defeated. Dunmore's War opened Kentucky for settlement, although some hostilities continued after this time (Nickell 1992:96–98; Stone 1992:571).

Before Kentucky was made a state, it was originally a part of Virginia that was named the Kentucky District. The Kentucky District, formed from Kentucky County, Virginia, by the Virginia legislature in 1780 to provide settlers better access to seats of government, contained three counties: Fayette, Lincoln, and Jefferson. These three counties were later divided and subdivided into the 120 counties that presently make up the Commonwealth of Kentucky. The Kentucky District became the Commonwealth of Kentucky on June 1, 1792 (Clark 1988).

## A History of Jessamine County, Kentucky

Jessamine County was formed from a portion of Fayette County on December 19, 1798, to become the thirty-sixth county in Kentucky and was named for Jessamine Creek. It is bordered by Fayette County on the north, Madison County on the east, Garrard County on the south, and Mercer and Woodford Counties to the west (Bryant 1992:469; Long 1995:240; Rennick 1987:153). Jessamine County has an area of 448 sq km (173 sq mi), and Nicholasville is the county seat.

The area was first settled in the late 1770s. In 1779, John, Jacob, and Samuel Hunter claimed a 364-ha (900-acre) tract along Hickman Creek, and a number of German families from Pennsylvania and Maryland also settled along Jessamine Creek (Bryant 1992:469). Mills were the first industry in the county, and in 1782, a stone mill was constructed on Jessamine Creek. One was also established near present day Keene in 1794. Several small distilleries were then established by the early 1800s (Gibbs 1980:2).

Because the soil was very favorable to the growth of hemp, it quickly became the primary cash crop in Jessamine County. The county's fields produced an abundance of hemp plants with heavy fiber, and they often yielded more hemp per acre than any other county. Hemp also produced a high return for land use and slave labor. Three slaves could

cultivate an estimated 20.6 ha (51 acres) of the crop (Gibbs 1980).

By 1850, the county had 26,500.9 total agricultural ha (65,485 acres), 17,119.9 ha (42,304 acres) of which were improved. The total value of farms and equipment in the county was \$3.35 million, which ranked Jessamine County as eighth in the region. Farmers in the county produced 35,880 bushels of wheat and 725,891 bushels of corn, while raising \$498,050 worth of livestock. These figures are low when compared to other Inner-Bluegrass counties, but Jessamine County contains fewer square miles than many of these other counties (Amos 1988:81–83).

Early Jessamine County transportation routes generally followed old buffalo traces or Indian trails, but by 1800, twenty-nine roads had been surveyed. The Commonwealth of Kentucky started construction on the Lexington-Harrodsburg Turnpike but soon abandoned the project. John LaFon, a Jessamine County resident, took control of the construction, and under his leadership the road was completed in 1847. The construction of this road created a nearly direct transportation link to Perryville (Gibbs 1980:5).

Jessamine County grew steadily in the first half of the nineteenth century. In 1800, an estimated 5,461 people lived in the county. That number was almost doubled by 1850 to 10,249. Demographic data also indicates the importance of slavery to the early agricultural success of the county. In 1790, 40.7 percent of households owned slaves, and by 1820, the county was 30 percent black. In 1860, 40.1 percent of the population was black, and only 96 of these African Americans were free blacks (Collins 1950: 266; Lucas 1992:xx).

During the Civil War, Jessamine County was home to one of the Union Army's most important installations at Camp Nelson near the confluence of Hickman Creek and the Kentucky River. The 1,618.7-ha (4,000-acre) facility was originally a quartermaster post, commissary depot, recruitment and training center, and a hospital. Between 1863 and the end of the war, 3,060 black refugees fleeing slavery entered the camp, and several black



regiments were assembled there, despite their being forced into building railroads and suffering other abuses. After the war, it became the primary center for emancipating former slaves (Sears 1992:158; Stewart and McBride 1994:11-13).

Following the Civil War, the county's economy flourished. In 1870, Jessamine County produced \$435,390 worth of agricultural goods, and its farms were worth \$3.5 million. Farmers also produced 1.8 million pounds of hemp and 2,200 pounds of tobacco in 1870 (Collins 1950:266). Distilling also remained an integral part of the county's economy. In 1875, the E.J. Curley Distillery was established at Camp Nelson. It was a complex of several limestone buildings, known locally as the Great Stone Manor. By 1884, Curley operated distilleries on either side of the river and produced 100 barrels of bourbon each day. The E.J. Curley Distillery closed in 1971 (Bryant 1992:469).

Manufacturing also boomed after the Civil War. In 1870, the county had only 22 manufacturing firms, but during the next decade the number jumped to 61. Although there was a sharp decline in firms by 1890, the number rebounded to 57 in 1900. Manufacturing firms in Jessamine County primarily produced carriages, wagons, and hemp bagging (Amos 1988).

Although established by civic effort in the 1850s, the railroad did not impact the county until after the Civil War. Seventeen miles of a trunk line of the Cincinnati-Southern Railroad already passed through the county when, in 1876, the Cincinnati-Southern railway company completed construction of an 84 m (275 ft) tall and 114 m (375 ft) long bridge over the Kentucky River. This bridge increased rail traffic through the county and spurred the development of Wilmore (Amos 1988).

In the late nineteenth century, Jessamine County experienced slow but steady population growth. After an initial decline from 9,465 residents in 1860 to 8,638 in 1870, the population increased steadily until it was 11,925 in 1900. By the middle of the twentieth

century, 12,458 people lived in Jessamine County, and by then it was generally considered a suburb of Lexington. In 1990, the county population swelled to 30,508, and by 2000, it had increased to 39,041, a 28 percent growth rate (United States Bureau of the Census 1990, 2000).

## A History of Woodford County, Kentucky

Woodford County, established in 1789, was the ninth and last county in Kentucky created by the Virginia General Assembly. It was named for General William Woodford, who died as a prisoner of the British in New York during the Revolution.

Originally, the county contained 2,080 sq mi and covered much of northern Kentucky. Between 1792 and 1795, it was reduced to its present day 190 sq mi by the creation of Scott and Franklin Counties (Long 1995:462-463).

Most of the early Woodford County settlers migrated from Virginia, although many came from Maryland, North Carolina, and Pennsylvania. Among them was John Craig, a Virginian and brother of Elijah Craig. He established a station near Clear Creek in 1783, two years after his station near Lexington burned. Other early settlements included George Blackburn's Station, Germany Station, Elijah Pepper's Station, Lewis Sublett's Station, and Thompson's Station (O'Malley 1987:298; Railey 1968:4).

Like many other bluegrass counties, Woodford experienced rapid growth in the early nineteenth century. By 1800, 6,624 people lived in the county, and that number nearly doubled to 12,207 by 1820. Most early Woodford residents were farmers who tended between 25 and 100 acres. Others cultivated between 100 and 400 acres. Corn and wheat were the primary crops in the early agricultural economy and were grown for personal consumption and to feed animals. Hemp and tobacco were grown for export (Amos 1988:18-19; Kidd et al 1981:5).

When local growers started producing an excess of corn, distilleries were established

along the Kentucky River in the Millville area of the northwestern portion of the county. Later, it was home to Elijah Pepper's "Old Crow" and Col. Edmund Taylor's "Old Taylor" brands of bourbon (Vore 1989:24).

Woodford County farms were also successful livestock producers and breeders. One of the region's most successful cattleman was Robert A. J. Alexander. Although he was known for the fine quality of horses bred on his farm, he put most of his resources in building a herd of blooded stock. He sometimes paid several thousand dollars for imported bulls, and by 1856, nearly one-third of his herd was imported.

The quality of Alexander's herd benefited his neighbors, who paid \$50 per calf for two of his bulls that stood for the public. By 1850, Woodford County was home to 4,896 cattle and 5,364 horses valued at \$500,913. Also by 1850, 94 percent of the county's land was improved and ranked ninth in the state with \$4.4 million worth of farms and implements. Growers produced 51,250 bushels of wheat (fourth in region) and 812,490 bushels of corn (ninth in region) (Amos 1988:76-77).

After initial rapid growth, the county's population stabilized in the first half of the nineteenth century. Between 1820 and 1850, the population only increased by a little more than 400 people to 12,423. Woodford County was unique in Kentucky because by 1850 more than half of its population were slaves. In that year 6,367 were slaves and 6,047 were whites and free blacks. By 1860, slaves made up 52.9 percent of the population (Amos 1988; Collins 1882:261; Lucas 1992:xx).

In 1847, Lewis L. Pinkerton and James Ware Parrish organized the Kentucky Female Orphan School at Midway. Its mission was to prepare disadvantaged women for teaching careers, a bold experiment for its time. The school later became known as Midway College, and in the 1990s was still a women's college, the only in Kentucky (Kleber 1981:636).

Only one major skirmish of the Civil War occurred in Woodford County. Confederate

General John Hunt Morgan and his cavalry passed through the county in July, 1862, and discovered the pursuit of a trainload of Union troops from Frankfort while at Midway. The Rebel horseman tore up the tracks and waited for battle, but the train returned to Frankfort once the troops were informed of Morgan's presence. Later in the war Union General Stephen G. Burbridge executed four Confederate guerillas in Woodford in retaliation for the activities of Marcellus Jerome Clarke, a.k.a. "Sue Mundy" (Kleber 1981:966-967; Vore 1989:23).

The Civil War had a profound impact on the county, despite there being little activity there. Prior to the war more than half of its residents were held in slavery, but they were freed in 1865. Between 1860 and 1870, the county's population dropped from 11,219 to 8240, a 26.5 percent drop. Neighboring Fayette County grew by more than 4,000 people during the same decade.

Throughout the last half of the nineteenth century, Woodford County continued to be among the region's and the state's top producers of agricultural goods. In 1870, growers produced 2.1 million pounds of hemp, 17 percent of the state's total output and second behind Fayette County. While among the state's leaders for hemp production, local farmers produced no tobacco in 1870. The total estimated value of all agricultural production in Woodford for 1870 was \$827,961. Livestock was worth a total of \$830,937 that year (Collins 1882:267; Amos 1988: 132-134).

Although the first railroad in Woodford was the Lexington and Ohio, constructed in 1833, railroads did not have a significant impact on the county until after the Civil War. In 1885, W.H. Graddy and Robert Wallace led an effort to connect Versailles to the railroad at Midway, and by the end of the year, the line was moving goods and livestock in and out of the town. In 1889, the Louisville Southern purchased the Versailles and Midway Railroad and extended it to Georgetown, providing Versailles direct access to the Cincinnati, New Orleans, and Texas Pacific Railroad. The

Louisville Southern completed construction of Young's High Bridge at Tyrone connecting Louisville, Lawrenceburg, and Versailles by rail in 1889 (Munson and Parrish 1989:164-165).

In 1890, the Richmond, Nicholasville, Irvine and Beattyville Railroad (affectionately known as the Riney-B) completed a line that linked Versailles, Fort Garrett, and Pinckard together and connected to other towns in the Bluegrass. The Louisville and Nashville Railroad acquired the company in 1909 and extended a line to the distilleries at Millville. The L&N used the line until it was abandoned in 1932 (Munson and Parrish 1989:48, 166).

In 1905, the Central Kentucky Traction Company constructed an electric interurban line between Lexington and Versailles. Two years later an electric railway was constructed between Versailles and Frankfort. In 1911 these two companies were merged with the Bluegrass Traction Company to form the Kentucky Traction and Terminal Company. By the early twentieth century, Versailles was well linked for both passenger and freight travel to the major cities of the region (Bogart 1998).

Woodford County agriculture also went through a major transition at the start of the century. Because of cheaper roping manufactured overseas and the decline of the deep South cotton plantations, the Kentucky hemp market declined. Woodford farmers turned to burley tobacco as their primary cash crop. In 1899, local growers produced more than 5 million pounds of tobacco.

In an effort to break the American Tobacco Company's monopoly of the Kentucky market, local growers pooled their crops and formed the Woodford County Board of Control and the Burley Tobacco Society in 1907. They succeeded in breaking the ATC's monopoly, which allowed for independently owned warehouses.

By 1909, growers produced \$876,525 worth of tobacco in Woodford. Leaf averaged just over 12 cents a pound, but by 1919, it was bringing over 45 cents a pound, a 269 percent

increase (Kidd et al 1981:26-27; Amos 1988:136-137).

By 1900, Woodford's population had rebounded from its low in 1870 to 13,134, but that number declined to 10,981 by 1930.

Rand McNally located a printing plant just outside of Versailles in 1962 after the county issued \$3.6 million worth of bond to finance its construction. Texas Instruments and the Kuhlman Company both located manufacturing plants in the county in the second half of the twentieth century.

The county's population grew from 11,913 in 1960 to 14,434 in 1970, a growth rate of 21 percent. By 1990, the number increased to 19,955.

## IV. METHODS

This section describes the methods used during the survey. Site-specific field methods are discussed in further detail in the Site Description section of this report. Laboratory methods specific to the individual analyses are discussed in the specific analysis sections of this report.

### Field Methods

The survey area included three areas of proposed water transmission lines and a one water tank. The survey corridor was approximately 1.1 km long and 6-m (20-ft) wide and covered approximately 1.1 ha. The project area was determined in part by mapping as well as personal communications provided by Horne Engineering, Inc. Some flagging was noted in the section of the project in Woodford County, but for the most part, the project area was largely determined by an on-site tour with personnel from Horne Engineering, Inc. The entire project area was subjected to an intensive pedestrian survey supplemented by screened shovel testing and bucket augers. This was conducted by surveying one transect down the center of the 6-m wide survey corridor. All exposed areas were walked and visually examined for indications of cultural material and features.

Shovel testing was conducted at 20-m (66-ft) intervals on undisturbed, relatively flat terrain with poor surface visibility. These areas included rolling hills, ridgetops, terraces, and floodplains. Shovel testing was utilized at the tank site, on the Ramsey farm and in Woodford County. Additionally, bucket auger testing was utilized on the floodplain of Jessamine Creek. Two augers were conducted at intervals of 20-m and were conducted in alluvial soils to determine the possibility of buried deposits. A hand-operated bucket auger with a 10-cm (4-in) opening was used. Sediments were removed in approximately 10-cm levels. All subsurface tested soil was screened through .64 cm (.25-in) mesh hardware cloth. All exposed areas were walked and visually examined for indications of cultural material and features. One field just north of Cat Nip Hill Road had excellent visibility due to heavy cattle grazing and traffic. Outside of livestock activity, the entire project area was relatively undisturbed. Figure 3 depicts the survey methods used in the project area.

When a site was encountered, a 30-m tape measure and Global Positioning System (GPS) unit were used to confirm the site's placement within the project area. At Site 15Wd109, shovel tests were conducted at 20-m intervals, and additional shovel tests were excavated at 10-m intervals around positive shovel tests. These were conducted at shorter intervals to determine site boundaries and artifact density. In all cases including survey methods, shovel tests measured not less than 35 cm in diameter and extended well into subsoil. Shovel tests were excavated in levels. The plowzone or topsoil was removed as one level. After the top level was removed, 10-cm arbitrary levels were excavated. All fill removed from the tests was screened through .25-in mesh hardware cloth, and the sidewalls and bottoms were examined for cultural material and features. All artifacts recovered from shovel tests were bagged by shovel test number and level. Surface collection was also used in areas with good visibility during site recording to examine the artifact classes present, the density of these materials, and their

distribution. All artifacts recovered were bagged by provenience.

A Magellan Mobile Mapper was utilized for collecting all field global positioning system (GPS) data. GPS points were taken at all ends of survey corridors as well as control points for geo-referencing with aerials and topographic maps. A site sketch map of the site was created depicting the location of all shovel tests, areas of surface collection, features, project boundaries, site boundaries, and other physiographic features. A datum was placed and GPS data collected for its location.

## Laboratory Methods

All cultural material recovered from the project was transported to CRA for processing and analysis. Initial processing of the recovered artifacts involved washing all artifacts, sorting the artifacts into the major material classes (i.e., ceramic, faunal, historic, and lithic) for further analysis, and assigning catalog numbers. Catalog numbers consisted of the site number and a unique number for each provenience lot or diagnostic specimen. Each prehistoric modified implement (e.g., biface, uniface) received a unique catalog number. Historic artifacts received a unique catalog number for each material group and class by provenience. Non-diagnostic material, such as flake debris, was cataloged by provenience lot where all flakes in the same provenience received the same number.

The methods, specifics, and results of subsequent analysis are discussed in each of the specific analysis sections of this report. All cultural materials, field notes, records, and site photographs will be curated at the University of Louisville, in Louisville, Kentucky.

## V. MATERIALS RECOVERED

Prehistoric and historic materials were recovered from the cultural resource Site 15Wd109. The assemblage is described below. In addition, an inventory of materials

recovered from the sites listed by provenience is presented in the individual site descriptions section of this report.

*Fred Banschbach*

## Lithic Analysis

Lithic remains recovered from 15Wd109 consisted of three pieces (7.8 g) of flake debris larger than .25 in (.64 cm), two pieces of flake debris smaller than .25 in and one biface fragment (14.2 g) (Table 3). The flakes were recovered from three separate shovel test probes, and the biface fragment was recovered from the surface. The two flakes smaller than .25 in were not analyzed.

**Table 3. Summary of Lithic Material Recovered from the Project Area.**

Class	Count	Weight (grams)
Flakes>.25 inch	3	7.8 g
Flakes<.25 inch	2	n/a
Bifaces	1	14.2
Total	6	22.0

The analysis of flake debris involved the recording of several attributes, including flake size, weight, raw material type, presence of cortex, and probable stage of lithic reduction during which the flake was produced. Reduction stage follows Magne's (1985) definitions and was determined by the number of facets on the platform or the number of flake scars on the dorsal surface. Early stage reduction is defined as core reduction, middle stage as the first half of tool production, and late stage as the second half of tool production and subsequent maintenance. For flakes that retain platforms, zero to one facet on the platform indicates early stage, two facets

indicate middle stage, and three or more facets indicate late stage. Biface thinning is a specialized form of late stage reduction. A biface thinning flake is defined as a flake with a lipped platform having three or more facets. For non-platform bearing flakes, dorsal flake scars were counted instead of platform facets; zero to one dorsal flake scars indicate early stage, two scars middle stage, and three or more flake scars late stage. Stage of reduction was not determined for blocky debris or flakes smaller than .25 inch.

One early stage flake (6.6 g) and two middle stage flakes (1.2 g) were recovered from 15Wd109. The early stage flake and one middle stage flake were recovered from STP 1 at a depth of 0–15 cm bgs. The remaining middle stage flake was recovered from STP 1a at a depth of 0–15 cm bgs.

Material type was determined by comparison with a sample collection housed at CRA. The area surrounding the project area could be considered raw material rich as there are chert sources in immediate proximity to the site. The project area lies within the Wilmore geological quadrangle. Geologic maps indicate chert occurs naturally on the quadrangle, primarily in the form of pebbles and nodules (Cressman and Hrabar 1970). Lithic resources are summarized in Table 4. Three of the formations listed on the Wilmore quadrangle contain chert. These are the high-level fluvial deposits, the Curdsville Limestone Member of the Lexington Limestone Formation, and the Tyrone Limestone Formation (Cressman and Hrabar 1970).

**Table 4. Summary of Geologic Formations on the Wilmore Geologic Quadrangle Map.**

Formation	Age	Chert Present	Chert Name
Alluvium	Quaternary	N	-
Camp Nelson Limestone	Ordovician	N	-
Clays Ferry	Ordovician	N	-
Curdsville Limestone Member of Lexington Limestone	Ordovician	Y	Curdsville
High level fluvial deposits	Quaternary or Tertiary	Y	Unnamed / Indeterminate
Lexington Limestone	Ordovician	N	-
Oregon	Ordovician	N	-
Tyrone Limestone	Ordovician	Y	Tyrone

The high-level fluvial deposits contain an unnamed chert that occurs within gravels in the form of pebbles. These gravels consist of rounded quartz, quartzite, and chert pebbles.

Gatus (1987) provides a description of Curdsville chert. It is characterized as having a semi-vitreous luster and is generally a fine-grained to coarse-grained chert that is medium light gray to medium dark blue in color. The matrix is often speckled with calcite granules and/or small fossil fragments. Inclusions consist of calcite crystals and laminae. Curdsville occurs as thin beds approximately two inches thick and can be procured from outcrops of the Ordovician Curdsville Limestone of the Lexington Limestone Formation in central Kentucky along the Kentucky River (Gatus 1987).

Gatus (1987) provides a description of Tyrone chert. It is characterized as having a dull to moderate luster and is generally a very fine-grained chert. Colors range from light gray, light brown, to medium brown. Inclusions consist of calcite crystals and thin laminations that are often mottled. Tyrone occurs as irregular nodules and can be procured from outcrops of the Middle Ordovician Tyrone Limestone Formation in central Kentucky in the vicinity of the Kentucky River (Gatus 1987).

Gatus (1980) provides a description of Grier chert. It is characterized as having a dull to moderate luster and is generally a fine to coarse-grained chert that is light gray, light brownish-gray, to medium brownish-gray in color. Inclusions include pelecypods, crinoids and bryozoan fragments. Grier occurs as nodules, or as blocks in residuum. It can be procured from outcrops of the Ordovician Grier Limestone Formation in the central and southern portion of the Inner and Outer Bluegrass areas of Kentucky (Gatus 1980).

Brassfield chert typically exhibits a moderate to semi-vitreous luster and is generally a fine-grained chert. It is gray and tan in color, and occasionally mottled with blue-gray patches. White flecks are common inclusions. Brassfield can be procured from outcrops of the Silurian Brassfield Dolomite

Formation in the Eastern Knobs, from the eastern edge of the Outer Bluegrass, and in south-central Kentucky. It occurs as flattened nodules approximately 4–7 cm thick and 10 cm long (Amick 1987).

One middle stage flake was Tyrone chert, one early stage flake was Grier chert, and one middle stage flake was too burnt to type to a specific raw material. The biface fragment was manufactured from Brassfield chert.

## Modified Implements

One biface fragment (14.2 g) was recovered from the surface of 15Wd109. Artifact #001 was a proximal fragment of a middle stage biface manufactured from Brassfield chert. This artifact exhibited both hard and soft hammer scars, had an excurvate base, and was broken due to an incipient fracture plane.

## Results

Lithic artifacts recovered from 15Wd109 appear to be the result of short-term occupations. The small number of items and lack of variety suggest short-term or specialized use of this site. There is nothing in the small lithic assemblage to suggest when the occupation(s) took place. Little more can be inferred from this small sample.

## Historic Material

*Jennifer M. Faberson*

## Methods

The historic assemblage includes artifacts classified and grouped according to a scheme originally developed by Stanley South (1977). South believed that his classification scheme would present patterns in historic site artifact assemblages that would provide cultural insights. Questions of historic site function, the cultural background of a site's occupants, and regional behavior patterns were topics to be addressed using this system.

South's system was widely accepted and adopted by historical archaeologists. However, some have criticized South's model on

theoretical and organizational grounds (Orser 1988; Wesler 1984). One criticism is that the organization of artifacts is too simplistic. Swann (2002) observed that South's groups have the potential to be insufficiently detailed. She suggested the use of sub-groups to distinguish between, for example, candleholders used for religious purposes and those used for general lighting. Others, such as Sprague (1981), have criticized South's classification scheme for its limited usefulness on late nineteenth- and early-twentieth-century sites, sites which include an array of material culture—such as automobile parts—not considered by South. Despite its shortcomings, most archaeologists recognize the usefulness of South's classification system to present data.

Stewart-Abernathy (1986), Orser (1988), and Wagner and McCorvie (1992) have subsequently revised this classification scheme. In this report, artifacts were grouped into the following categories: domestic, architecture, and maintenance and subsistence. The artifacts recovered during this project are summarized in Table 5.

**Table 5. Historic Artifacts Recovered According to Functional Group.**

Group	Total	Percent
Architecture	2	13.3
Domestic	12	80
Maint/Subsis	1	6.7
Totals	15	100

Grouping artifacts into these specific categories makes it more efficient to associate artifact assemblages with historic activities or site types. One primary change associated with the refinement of these categories is reassigning artifacts associated with the "Miscellaneous and Activities" under South's (1977) original system. Considering the potential variety of historic dwellings and outbuildings within the project area, a refinement of the artifact groupings was considered important to perhaps observe whether the distribution of specific artifact groups would produce interpretable patterns related to activity areas or structure types.

Each one of these groups and associated artifacts is discussed in turn.

Information on the age of artifacts as described in the artifact tables is derived from a variety of sources cited in the discussion of the materials recovered. The beginning and ending dates cited need some clarification. Usually, an artifact has specific attributes that represent a technological change, an invention in the manufacturing process, or simple stylistic changes in decoration. These attribute changes usually have associated dates derived from historical and archaeological research. For example, bottles may have seams that indicate a specific manufacturing process patented in a certain year. The bottle then can be assigned a "beginning," or incept, date for the same year of the patent. New technology may eliminate the need for the same patent and the bottle would no longer be produced. The "ending," or terminal, date will be the approximate time when the new technology took hold and the older manufacturing processes are no longer in use.

Specific styles in ceramic decorations are also known to have changed. Archaeological and archival researchers have defined time periods when specific ceramic decorations were manufactured and subsequently went out of favor (e.g., Lofstrom et al. 1982; Majewski and O'Brien 1987). South's (1977) mean ceramic dating technique uses this information. The dates presented here should not be considered absolute but are the best estimates of an artifact's age available at this time. A blank space indicates that the artifact could not be dated or, alternately, that the period of manufacture was so prolonged that the artifact was being manufactured before America was colonized. An open-ended terminal date was assigned for artifacts that may be acquired today. The rationale for presenting dates for the artifacts recovered is to allow a more precise estimate of the time span the site was occupied, rather than the mean occupation date of a site.

A summary of the artifacts recovered follows. A complete inventory of the historic artifacts can be found in Appendix B.

## Materials Recovered by Functional Group

There were 15 historic artifacts recovered from this site during the current survey. The following provides a descriptive discussion of the types and age of artifacts recovered from Site 15Wd109.

### ***Architecture Group (N = 2)***

The architecture group is comprised of artifacts directly related to buildings, as well as those artifacts used to enhance the interior or exterior of buildings. These artifacts consisted entirely of window glass.

#### **Flat Glass (n = 2)**

Cylinder glass was developed in the late eighteenth century to enable the inexpensive production of window glass. With this method, glass was blown into a cylinder and then cut flat (Roenke 1978:7). This method of producing window glass replaced that of crown glass production, which dates back to the Medieval period and was capable of fabricating only very small, usually diamond-shaped, panes (Roenke 1978:5). Cylinder glass was the primary method of window glass production from the late eighteenth century through the early twentieth century, at which time cylinder glass windows were slowly replaced by plate glass windows. Plate glass window production became mechanized after 1900 but did not become a commercial success in the United States until around 1917 (Roenke 1978:11).

Cylinder window glass has been shown to gradually increase in thickness through time and can be a useful tool for dating historic sites. Several dating schemes and formulas have been devised that use average glass thickness to calculate building construction or modification dates. These include Ball (1984), Roenke (1978), and Chance and Chance (1976) to name a few. Like previously derived formulas, Moir (1987) developed a window glass dating formula to estimate the initial construction dates for structures built primarily during the nineteenth century. Although Moir (1987:80) warns that analysis

on structures built prior to 1810 or later than 1915 have shown poor results, most research in this area shows the regression line extending back beyond 1810 (Moir 1977; Roenke 1978). Hence, dates calculated back to 1785 were considered plausible. Sample size is also a consideration when using the Moir window glass regression formula. According to Moir (1987:78), sample sizes also need to be “reasonable and not collected from a point or two” in order to accurately date the construction of a building. For the purposes of this investigation, a “reasonable” sample size is considered 25 window glass sherds.

Each fragment of flat glass was measured for thickness and recorded to the nearest hundredth of a millimeter using digital calipers. The differences between cylinder window glass, mirror glass, and plate glass were in part determined by the thickness and wear of each flat glass fragment. Although Moir (1987:80) states that dating window glass after 1915 is not as reliable for dating sites, for our purposes, window glass that measured 2.41 mm (dating to 1916) was included in the calculations because according to Roenke (1978:11), plate glass does not become widely or successfully produced in the United States until 1917. Two flat glass sherds were recovered from this site. Both of these were window glass dating to 1912 and 1915.

### ***Domestic Group (N = 12)***

Artifacts included in the domestic group consisted of ceramics (n = 10) and container glass (n = 2).

The ceramic inventory consisted of a variety of refined and utilitarian wares dating from the late eighteenth century through the twentieth century. A full description of ceramic types recovered from the project area is listed below, followed by descriptions of other domestic group artifacts.

#### **Ceramics (n = 10)**

The ceramics recovered were grouped into three major ware types: whiteware (n = 2), redware (n = 4), and stoneware (n = 4). Ceramics within each of these ware groups were separated into decorative types that have



temporal significance. Each of these ware groups is reviewed below, followed by discussions of associated decorative types.

### Whiteware (n = 2)

As a ware type, whiteware includes all refined earthenware that possesses a relatively non-vitreous, white to grayish-white clay body. Undecorated areas on dishes exhibit a white finish under clear glaze. This glaze is usually a variant combination of feldspar, borax, sand, nitre, soda, and china clay (Wetherbee 1980:32). Small amounts of cobalt were added to some glazes, particularly during the period of transition from pearlware to whiteware and during early ironstone manufacture. Some areas of thick glaze on whiteware may, therefore, exhibit bluish or greenish-blue tinting. Weathered paste surfaces are often buff or off-white and vary considerably in color from freshly exposed paste (Majewski and O'Brien 1987).

Most whiteware produced before 1840 had some type of colored decoration. These decorations are often used to designate ware groups (i.e., edgeware, polychrome, and colored transfer print). Most of the decorative types are not, however, confined to whiteware. Therefore, decoration alone is not a particularly accurate temporal indicator or actual ware group designator (Price 1981).

The most frequently used name for undecorated whiteware is the generic "ironstone," which derives from "Ironstone China" patented by Charles Mason in 1813 (Mankowitz and Haggart 1957). For purposes of clarification, ironstone will not be used when referring to whiteware. Ironstone is theoretically harder and denser than whiteware produced prior to circa 1840. Manufacturer variability is, however, considerable and precludes using paste as a definite ironstone identifier or as a temporal indicator. Consequently, without independent temporal control, whiteware that is not ironstone is difficult to identify, as is early vs. later ironstone. For our analysis, the primary determining factor in classification of a sherd as whiteware was the hardness and porosity of the ceramic paste. Decorative types observed

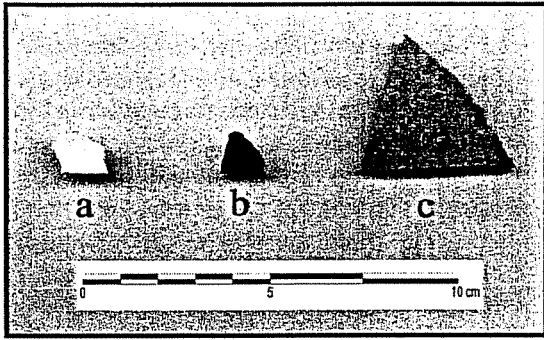
on the whiteware sherds in our assemblage are summarized and defined in the following discussions.

### PLAIN/UNDECORATED (N = 2)

This decorative type includes vessels with no decoration. While some researchers such as Lofstrom et al. (1982:10) and Wetherbee (1980) include molded designs with "plain" whiteware, we agree with Majewski and O'Brien (1987:153) that molded vessels should be grouped on their own. Plain whiteware vessels became very popular following the Civil War and continued in popularity throughout the late nineteenth and early twentieth centuries (Faulkner 2000). Bacteriological research emerged after the Civil War, and it was not long before it became widely known that there is a link between bacteria and disease (Duffy 1978:395). Since bacteria could not be seen with the naked eye, it was commonly thought that plain, undecorated wares were best suited for maintaining and serving clean, bacteria-free food. Hence, bacteriological research helped spur the rise in popularity of undecorated vessels, which resulted in increasing competition between whiteware and ironstone manufacturers.

Purity crusades also indirectly helped increase the popularity of plain, white vessels in the late nineteenth and early twentieth centuries as social reformers—many of whom were white and middle class—focused on cleaning up city streets, improving sanitation, and ridding cities of disease epidemics. Part of this crusade was the public promotion of purity at the dinner table. Unfortunately, many of these white public health reformers were also motivated by Social Darwinist ideas, and sanitation problems and disease epidemics were often blamed on African Americans and East-European immigrants who were stereotyped as being the harbingers of disease and social decay (Friedman 1970:123).

Two undecorated, or plain, whiteware sherds were recovered during the current survey (Figure 9a). These sherds were dated from 1830 to the present (Majewski and O'Brien 1987:119). While these sherds may



**Figure 9. Historic ceramics recovered:**  
 (a) plain/undecorated whiteware from STP 3; (b) solid brown glazed redware from STP 3; (c) salt glazed stoneware from STP2a.

have come from plain vessels, it should be noted that many of these sherds may be undecorated parts of decorated vessels.

#### **Coarse Redware (n = 4)**

This ceramic type was regularly used as a utilitarian ware in Kentucky from approximately 1780 until 1840, when its popularity was supplanted by stoneware (O'Malley 1997). Redware was generally manufactured from rather unrefined clays and fired at relatively low temperatures, and if glaze was used, then it was almost always lead-based. Most redware was made into hollowware vessels thrown on a wheel (O'Malley 1997), and since redware bodies tend to be quite porous, interior glazing was common on those vessels intended to hold liquids (Ramsay 1947:128). Decorative types may take the form of colored slips, colored glazes, and incising.

Four coarse redware sherds were recovered during the current survey at this site. One clear lead-glazed redware sherd was identified dating from 1780 to 1840. Three solid black/brown sherds were found dating from 1780 to 1840 as well (Figure 9b).

#### **Stoneware (n = 4)**

Stoneware served as the "daily use" pottery of America, particularly rural America, after its introduction during the last decade of the eighteenth century. By 1850, this ware generally replaced coarse redware as the primary utilitarian ware used in American

households. Stoneware is a semi-vitreous ware manufactured of a naturally fine, but dense, clay. The pottery was fired longer and to a higher temperature than earthenwares; a kiln temperature of at least 1,200 to 1,250 degrees celsius had to be obtained (Cameron 1986:319; Dodd 1964:274–275). As a result, stoneware generally exhibits a hard body and a very homogeneous texture. The paste may vary from gray to brown, depending on the clay source, and length and intensity of the firing.

Because this ware is fired at such high temperatures, its body is nonporous and well suited to liquid storage. Stoneware, as mentioned, was not typically manufactured as a refined ware (such as its cousin, ironstone, or eighteenth-century refined white salt-glazed stoneware), and hence, it was, for the most part, utilized for utilitarian activities associated with jars, churns, crocks, tubs, jugs, mugs, pans, and pots. These vessels were typically glazed, with salt glazing and slip glazing most common.

Although refined salt glazing was practiced in England during the eighteenth century, by 1780, the production of English salt-glazed tableware had been virtually supplanted by the manufacture of cream colored earthenwares (Lewis 1950:29). The salt-glazing technique continued to be utilized for utilitarian vessels, however, and was eventually introduced to the United States in the early-nineteenth century. Salt glazing was accomplished by introducing sodium chloride into the kiln during the firing process, at which point the salt quickly volatilized. The vapor reacted with the clay to form a sodium aluminum silicate glaze (see Billington 1962:210; Dodd 1964:239). The surface of the glaze is typically pitted, having what is commonly known as an "orange peel" effect.

Stoneware may also be coated with a colored slip (a suspension of fine clay and pigment). The Albany slip—named after the rich brown clay found near Albany, New York—first appeared in the 1820s. Initially, it was mainly used for the interior of stoneware vessels. However, by the 1850s, it was also

used as an exterior glaze. Bristol glaze, an opaque white slip, was introduced late in the nineteenth century. When used in combination with Albany slip, Bristol-glazed stoneware vessels have a general date range of 1880–1925 (Ketchum 1983:19; Raycraft and Raycraft 1990:5).

A third glaze often used on stoneware is the alkaline glaze. Like the Albany slip, it was developed in the 1820s. The basic alkaline glaze is made up of wood ash, clay, and sand. Other additions may be slaked lime, ground glass, iron foundry cinders, or salt. These additions affected the color and texture of the glaze. Colors vary from olive to brown to a gray-green or yellowish hue, depending on adjustments in proportion of ingredients (Ketchum 1991:9). Although not as prevalent, alkaline glazing has been used in combination with salt glazing. This causes the stoneware vessel to exhibit the colors of alkaline glazing with the pitted texture of a salt glaze.

The stoneware sherds recovered reflect two of the three glazes described above in a variety of combinations. The most common exterior treatment was salt-glaze ( $n = 3$ ) (Figure 9c). The other exterior treatment identified was Albany slip ( $n = 1$ ). As discussed above, the recovered stoneware dates from around 1780 through the early to mid-twentieth century.

### ***Container Glass (n = 2)***

A variety of container glass was recovered during the current survey. Research by Baugher-Perlin (1982), Jones and Sullivan (1985), and Toulouse (1972) was used to date glass containers. Glass color was the only attribute that could be used for dating those fragments that were not identifiable as to type of manufacture.

The approximate date of manufacture for bottles and bottle fragments recovered from the project area was established by determining the manufacturing process associated with the bottle (i.e., creation of the base and lip of the container) and using any patent or company manufacturing dates embossed on the bottle.

The lip on a bottle can be informative. A lipping tool, patented in the United States in 1856, smoothes and shapes the glass rim into a more uniform edge than a hand-smoothed lip or “laid-on ring.” Certain types or styles of lips were associated with specific contents; for example, medicines were often contained in bottles with prescription lips (Jones and Sullivan 1985). A “sheared,” or unfinished, bottle lip typically dates before 1880.

Lipping tools were used throughout the middle and end of the nineteenth century until the advent of the fully automatic bottle machine (ABM) in 1903. It should be noted, however, that as automated bottle manufacture became available after the turn of the twentieth century (see below), tooled finishes continued to be produced—albeit in steadily decreasing numbers. That is, there is a lag time between tooled finishes and ABM finishes, and although ABM glass is given an incept date of 1903, most tooled-glass vessel sherds will be given a terminal date around the 1920s due to this lag time, unless other diagnostic characteristics are observed enabling one to give it an earlier terminal date.

The manufacturing process can be roughly divided into three basic groups including free blown, blown in mold (BIM), and machine manufactured (ABM) vessels (Baugher-Perlin 1982:262–265). Only BIM and ABM glass was recovered from the current project. Each process will be discussed separately.

### ***Blown in Mold (BIM) (N = 1)***

Most molded bottles are constructed in pieces and have distinctive seams. The dip mold was used from the late seventeenth through the mid-nineteenth century (Baugher-Perlin 1982:262). It leaves no seams, unless glass adhered to the edges of the bottle mold as it was attached to the free blown shoulder and bottle neck. The key mold, on the other hand, was a type of two-piece mold that was used from circa 1750–1880 (Jones and Sullivan 1985:27). Key mold seams cross the base and are concealed in the corners of a flat-sided body.

The turn paste mold was used from circa 1870 to the early twentieth century and does not contain seams because the glass is blown into a container that is spun. The glass conforms to the mold from the centrifugal force produced. Vessels formed from this process usually have faint horizontal lines from the spinning process. The three-part mold has seams running around the shoulder of the vessel and partially up the neck of the vessel. This style of mold lost popularity around 1870. The blow back mold was another mold type, and this was used in the manufacture of jars such as the distinctive Mason jar, which was patented in 1858.

Embossing on container glass vessels was made possible by engraving the mold the glass was blown into. This was first conducted in the mid-eighteenth century and continued into the twentieth century. The panel bottle came into popular existence around 1860, and the shape of this vessel was useful because the name of the commodity or the manufacturing company could be changed on the bottle form by substituting a different “slug-plate” into the mold. This process can be identified through the distinctive seams, since they follow the rectangular shape of the nameplate. The date of the manufacturer’s patent on the bottle and the name of the company, when present, can often be utilized to determine a date of manufacture for the container.

The finish is the top part of the neck of a bottle or jar made to fit the cork or other closure used to seal the vessel. The finish is often simply referred to as either the lip or rim. Glass factories in the late-nineteenth and early-twentieth centuries produced a wide variety of finishes for their containers (Jones and Sullivan 1985:78). Finishes were formed by manipulating the glass at the end of the bottle neck, by shaping glass added to the end of the neck, by the lipping tool, or by being blown into a mold (Jones and Sullivan 1985:79). The term “finish” originated with the mouth-blown bottle manufacturing process where the last step in the completion of a finished bottle was to “finish the lip.”

Mouth-blown bottles were removed from the blowpipe by two primary methods: either through the cracking-off process or by shearing the neck off of the blowpipe. Once this was completed, the bottle was reheated in a furnace to smooth out the sharp edges where the blowpipe was detached (Lindsey 2008). This method, referred to as fire polishing, was completed even if no specific finish was to be formed. Once this method was complete, a finish could be either added or formed on the top of the bottle neck. These finish types included a laid-on ring, a rolled finish, a flared or flanged finish, an applied finish, and a tooled finish. The most commonly found finish types are the applied finish and the tooled finish. An applied finish was created when applied hot glass is added at the point where the blowpipe was removed. This applied hot glass was manipulated with various tools in order to form a wide variety of finish styles (Lindsey 2008). A tooled finish was created by reheating the severed end of the bottle near the neck. Once reheating or refiring the end of the neck was accomplished, a lipping tool was inserted into the neck of the bottle and rotated while squeezing the jaws to form the finish desired.

Only one glass fragment was assigned to the BIM category. This sherd was aqua glass and was dated before 1920 (Jones & Sullivan 1985; Lindsey 2008; Miller and Sullivan 1984).

### **Automatic Bottle Machine (ABM) (n = 1)**

The Owens automatic bottle-making machine was patented in 1903 and creates suction scars and distinctive seams that run up the length of the bottle neck and onto the lip. This ABM mold provides a firm manufacturing date at the beginning of the twentieth century. Another automatic bottle machine called the Individual Section was also used in the commercial production of bottles. This machine was widely used starting in 1925 and by 1940 became the most widely used bottle manufacturing device (Jones and Sullivan 1985:39). This bottle machine was more cost effective than the Owens machine, which was no longer used after 1955.

One glass fragment was assigned to the ABM category during the current survey. This sherd was green glass with an enameled label. This glass sherd was dated from 1935 to the present (Jones and Sullivan 1985; Paul and Parmalee 1973:57).

### ***Maintenance and Subsistence Group (n = 1)***

The maintenance and subsistence group contains artifacts related to general maintenance activities on a farmstead. These artifacts were grouped into classes containing non-food containers, electrical, farming and gardening, hunting and fishing, stable and barn activities, general hardware, general tools, transportation, and fuel-related items such as coal. One of these classes was represented in the historic assemblage recovered from this site.

#### **General Hardware (n = 1)**

This class of artifacts includes a wide variety of hardware fasteners and items used for a variety of purposes. One iron/steel fence staple was recovered from this site. This item was not assigned a specific date.

## **Discussion**

There were 15 historic artifacts recovered during the current survey at this site. The material collected is discussed in detail above, and summarized below in the site discussion.

Two architectural group items were recovered from this site. Both of these items were window glass dating to 1912 and 1915.

The domestic group (n = 12) contained ceramics (n = 10) and container glass (n = 2). The ceramic inventory consisted of stoneware (n = 4), coarse redware (n = 4), and whiteware (n = 2).

The whiteware recovered (n = 2) was identified as plain/undecorated and dated from 1830 to the present. The stoneware assemblage included three salt glazed/unglazed sherds dating from 1780 to 1925 and one Albany slip/unidentified sherd dating from 1830 to 1925. The redware

assemblage included three brown glazed sherds and one clear lead glazed sherd. All of the redware dated from 1780 to 1840.

Container glass included BIM and ABM glass. One BIM glass fragment was recovered. This sherd was aqua glass and was dated before 1920. One ABM glass fragment was also recovered. This sherd was green glass and exhibited enameling. This sherd was dated from 1935 to the present.

One maintenance and subsistence group artifact was recovered. This item was an iron/steel fence staple. No specific date was assigned to this item.

Artifacts recovered from 15Wd109 generally range in date from the late eighteenth century through the twentieth century, but the popularity trends of these items indicate that the site most likely dates from the early nineteenth century through the early twentieth century. While few in number, the architectural remains support that a structure may have been present, and the domestic artifacts support the residential use of the site. The assortment of ceramic types, as well as the container glass, support that food was prepared, stored, and consumed. It is interesting to note, however, the distinct lack of other material classes commonly recovered from early nineteenth century residential sites such as buttons, toys, furnishings, and bone, among other things. Unfortunately, the 1861 map as well as the 1877 map do not indicate a structure at this site; however, a structure is present near the project area on the 1952 Wilmore, Kentucky map. It is possible that the area may represent an early nineteenth century dump locale, as opposed to the actual house location since no evidence of structural remains such as foundation components were observed in the field.

## **VI. RESULTS**

During the course of the current survey, one previously unrecorded archaeological site (15Wd109) was documented. A description of the site is presented below, and the location is depicted on Figure 2.

## 15Wd109

**Elevation:** 256 m (840 ft) AMSL  
**Component(s):** Historic and prehistoric  
**Site type(s):** Historic debris and lithic scatters  
**Size:** 549 sq m (5,900 sq ft)  
**Distance to nearest water:** 50 m (164 ft)  
**Direction to nearest water:** South  
**Type and extent of previous disturbance:** Some historic earthmoving at south end of site.  
**Topography:** Ridgetop and slope among rolling uplands  
**Vegetation:** Mixed grass  
**Ground surface visibility:** 0–15 percent  
**Aspect:** Flat  
**Recommended NRHP status:** Not eligible

### Site Description

Site 15Wd109 is a multi-component historic artifact scatter and a prehistoric lithic scatter. The site is located within the Inner Bluegrass physiographic region and extends north off of the Woodford and Jessamine County line. The site is at an elevation of 256 m (840 ft) AMSL on the crest and slope at the

northeast end of a short finger ridge among rolling upland topography. Two unnamed drainages run along the north and south sides of the ridge and confluence at its tip. The drainages empty into another unnamed tributary which empties into the Kentucky River, approximately 1.2 km (.8 mi) to the south. The site area is located in a grassy field that is lined with deciduous trees (Figure 10). The ground surface visibility was very low due to dense grasses, but patches of rock outcrop, eroded slopes and historic disturbance provided additional visibility. The average ground surface visibility was between 0–15 percent.

The historic component at the site contains a light artifact scatter. The artifact scatter may be associated with a historic structure (Figure 11). There is a map structure located within the vicinity of Site 15Wd109 on the 1952 USGS Wilmore 7.5-minute series quadrangle map. No structure appears at this location on any earlier maps. The structure is depicted just south of the Jessamine and Woodford County border outside of the current project boundary



Figure 10. Overview of Site 15Wd109 facing northwest



Figure 11. Overview of south end of site with disturbance, facing northeast.

and approximately 35–50 m (115–165 ft) east of the site boundary.

The prehistoric component consists of five flakes in three shovel tests and one biface recovered from the surface.

The site was defined by positive shovel tests and surface collections within the project area. The project area is a linear 6-m wide corridor that extends north off of a driveway that separates the two counties. As mapped for the current project, the site measures 90 m (295 ft) north to south by 6-m east to west (Figure 12). The site as recorded for the current investigation covers .06 ha (.14 acres). The eastern and western boundaries extend outside of the current project boundary. The site area is relatively undisturbed, outside of some earthmoving around the area of historic material distribution and soil erosion on slopes.

## Investigation Methods

The site was first identified during subsurface testing. Due to the limited project area, only one transect of shovel tests was

conducted down the center of the project corridor in a north to south direction. Eleven shovel tests were conducted at 10-m (33-ft) intervals to determine the presence and density of cultural materials. All artifacts located within the shovel tests were collected. Only one area of the site had sufficient visibility for a surface collection cell that measured 6-x-10 m. This area was located on the south end of the site near the historic concentration. A 20-m buffer of negative testing results were required for determination of site boundaries. The north boundary was defined by negative shovel tests as well as downward sloping topography. The southern boundary ends at the modern driveway.

No shovel testing or surface collection was conducted outside of the project area. These areas were only given a cursory investigation, photographed and mapped. The location of all features, collection cell locations, shovel tests, project boundaries, fences, and other topographical features were recorded using a hand-held GPS Magellan Mobile Mapper unit.

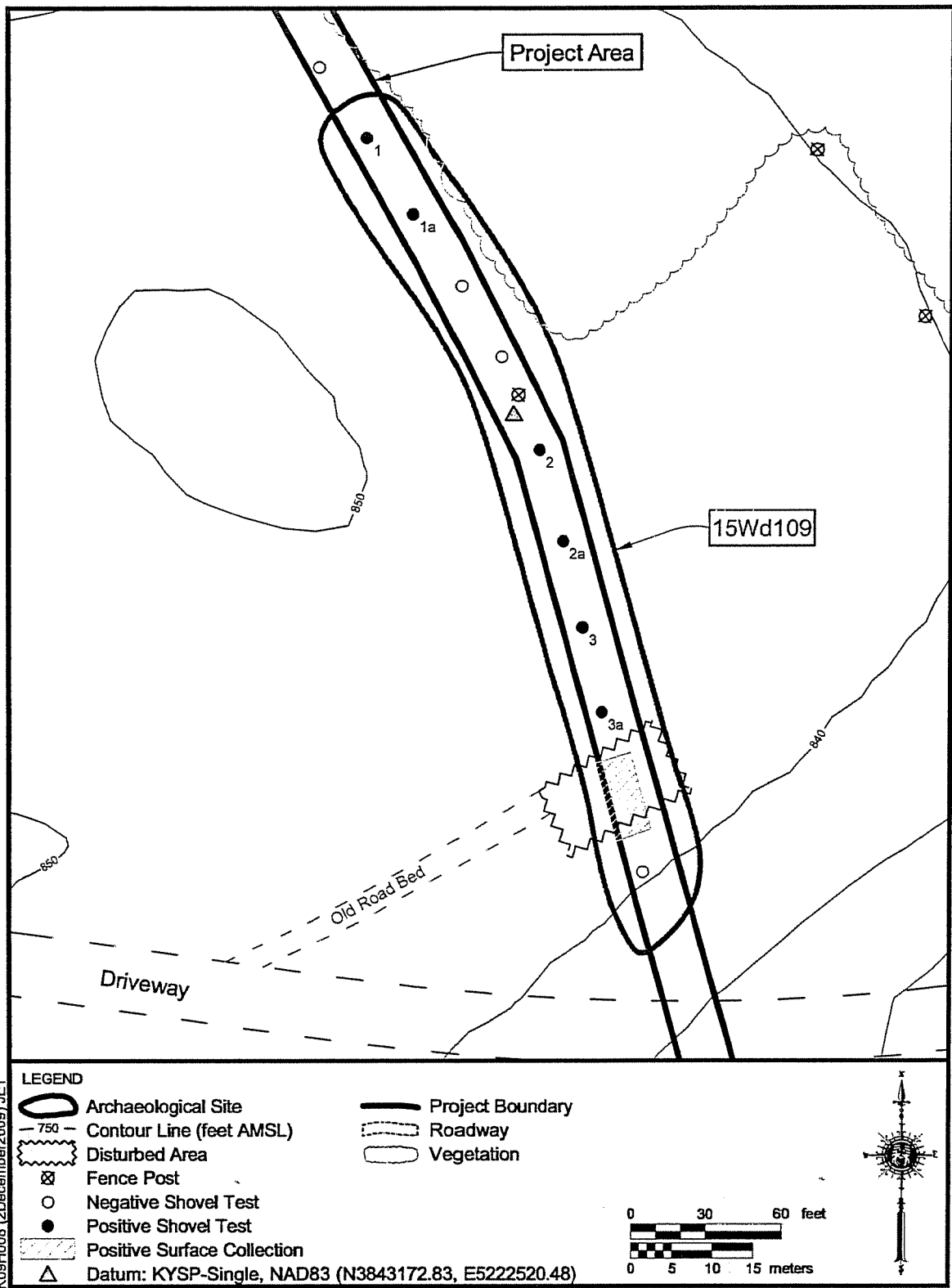


Figure 12. Schematic plan map of Site 15Wd109.



## Depositional Context

Shovel tests for the majority of the site revealed a very dark to dark grayish brown (10YR 3/2--10YR 4/2) silt loam topsoil over a subsoil of dark yellowish to yellowish brown (10YR 4/6--10YR 5/6) silty clay loam with manganese inclusions (Figure 13). The shovel tests on the top of the ridge exhibited an additional grayish brown (10YR 5/2) silt loam zone between the topsoil and subsoil. The depth to subsoil ranged from 15–27 cm (6–11 in). Additionally, the shovel tests nearest the historic artifact distribution demonstrated mottling of the two zones and a significant amount of coal and coal slag. Shovel tests at the very southern end of the project area had high concentrations of coal and virtually no soil remaining.

Site 15Wd109 was located on topography mapped as Faywood silt loam and Fairmount silty clay. The Faywood map unit is consistent with soils found on the ridgetop that exhibits a lower clay and rock content than that of the Fairmount unit that consist of soils located on the slopes. Rock outcrop indicates severe erosion.

## Artifacts

Both historic and prehistoric artifacts were recovered from Site 15Wd109 (Table 6). The prehistoric artifacts recovered from the site included five unmodified flakes and a biface fragment. More than one raw material is

represented. Five of the six lithics recovered were located on top of the landform.

Historic artifacts recovered were stoneware, redware, undecorated whiteware, flat glass, and bottle glass. Limestone was noted but not collected and was not like the natural limestone outcropping seen on the ground surface, instead it was likely a manuport utilized for masonry material. Historic artifacts were only recovered from the south half of the site on the southern slope of the landform.

From the artifact distribution there is a clear distinction between the two components, though there is a slight overlap near the center of the site. The prehistoric component favors the top of the landform, while the historic component is located more on the sideslope.

A faint rectangular bulldozed area and old road bed was noted between shovel test 3a and the surface collection area. The disturbed area measures 16 m (53 ft) east to west by 9 m (30 ft) north to south and the road bed extends off the east edge of the disturbance to the west. The project corridor cuts a small swath through the center of the disturbance and the entire road bed is outside of the current project area. This area may have been an outbuilding or structure, however; no footers, foundation, or other intact features were located. The area just south of the disturbance has a high density of coal and slag on the surface as well as below surface.

Table 6. Artifacts Recovered From Site 15Wd109.

Provenience	Depth	Contents	Historic Count	Prehistoric Count	Total Count
STP 1	0–15	1 flake	0	1	1
STP 1a	0–15	2 flakes	0	2	2
STP 2	0–10	2 flakes and 1 fence staple	1	2	3
STP 2a	0–10	1 stoneware	1	0	1
STP 3	0–25	1 stoneware, 2 whiteware, 3 redware and 1 flat glass	7	0	7
STP 3a	0–10	1 redware and 1 bottle glass	2	0	2
Surface	Surface	1 biface, 2 pieces of stoneware, 1 green bottle and 1 flat glass	4	1	5
Totals			15	6	21

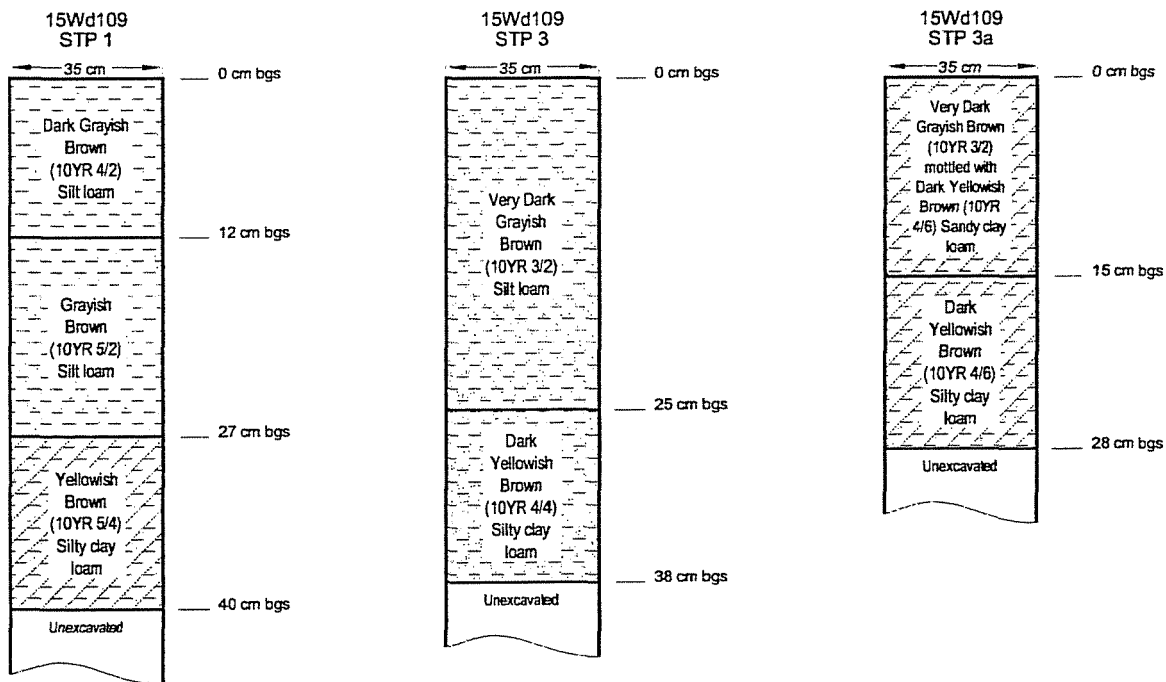


Figure 13. Representative soil profile from 15Wd109.

## Summary and National Register Evaluation

The prehistoric component consists of six lithics that were located within the top 27 cm of topsoil. No diagnostics artifacts, firecracked rock, burned earth, charcoal or features were located. The paucity of artifacts associated with this component does not yield information that is likely to be significant to the prehistory of the area and is recommended not eligible for inclusion in the NRHP.

The historic component consists of a light historic artifact scatter. A large bulldozed area and old road bed disturbance is located near the historic artifact distribution and has diminished site integrity. All artifacts were recovered from disturbed context. Subsurface artifacts located were in a mixed, disturbed soil and as such also have a lack of integrity. Based on historic maps, a structure was located in the vicinity of this site; however, no intact features remain, and the shallow soil deposits exhibit little to no potential for significant buried historic material. The portion of the site within the project area does not appear to meet the criteria for inclusion in

the NRHP and additional archaeological work in this area would not produce significant information beyond what has been collected.

Only the portions of Site 15Wd109 within the current project boundary were investigated and can be evaluated. It is likely that the site extends outside of the site boundary as recorded for the current project. No further work is recommended for the portion of the site that falls within the current project boundary. If future developments extend outside of the current project boundaries, further investigation, including archival research, may be needed for these areas.

## VII. CONCLUSIONS, RECOMMENDATIONS, AND TREATMENT

Note that a principal investigator or field archaeologist cannot grant clearance to a project. Although the decision to grant or withhold clearance is based, at least in part, on the recommendations made by the field investigator, clearance may be obtained only

through an administrative decision made by the Kentucky Infrastructure Authority (KIA), in consultation with the State Historic Preservation Office (the KHC).

If any previously unrecorded archaeological materials are encountered during construction activities, the KHC should be notified immediately at (502) 564-6662. If human skeletal material is discovered, construction activities should cease, and the KHC, the local coroner, and the local law enforcement agency must be notified, as described in KRS 72.020.

The archaeological survey for the proposed developments associated with the South Elkhorn Water District Northwest Distribution project resulted in the discovery of one previously unrecorded archaeological site. Site 15Wd109 is recommended not eligible for the NRHP. The portion of the site within the project area, a historic debris scatter and prehistoric lithic scatter, demonstrated poor integrity and lack of research potential. No further work is recommended for the portion within the project area. The eastern and western boundaries of the site could not be defined and the site likely extends in these directions. The portion outside of the project area was not evaluated for the current project and may need to be assessed at a later date if developments are revised and impact these areas. Because no sites listed in, or eligible for, the NRHP will be affected by the proposed project, cultural resource clearance for the water tank and waterlines is recommended.

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## **APPENDIX A. SCOPE OF WORK**

## Proposal for Cultural Resource Survey

October 5, 2009

Submitted to:

Will Hagan  
Horne Engineering, Inc.  
216 S. Main Street  
Nicholasville, KY 40356  
p 859. 885. 9441 f 859. 885. 5160

### ***Project Identification***

Northwest Distribution System Upgrade  
1.0MG Tank Site and Ancillary Water Line and Pekin Lane and Rhineheimer Lane Water Lines  
Jessamine South Elkhorn Water District  
Jessamine and Woodford County, Kentucky

### ***Project Area to be Studied***

A one-million gallon elevated storage tank site, which will be located on a 200' x 200' site with an additional 10,000LF of PVC waterline (8" to 12"). Pekin Lane is noted on the attached exhibit as #1 (highlighted by a thick light blue line) and Rhineheimer Lane is noted as # 5 (highlighted by a thick light blue line). The total footage for both Pekin and Rhineheimer areas totals 2,800 LF.

## Scope of Services

The cultural resource investigations will be conducted in accordance with current Kentucky State Historic Preservation Office.

### ***Task 1: File Search/Archival Research***

A review of the archaeological site files at the Kentucky Office of the State Archaeologist (OSA) will be conducted for the proposed project plus a two kilometer buffer. The records review will serve to determine if the project area has been previously surveyed for cultural resources, are there know archaeological resources in the project area, and if the area has not been previously surveyed to assess the potential for, and the kinds of, cultural resources that may be located within the project area. The results of the records review will be detailed in the final report.

### ***Task 2: Field Research***

An intensive field survey will be completed for the tank site and portions of the water lines located outside of existing highway and utility corridors. The field investigation will consist of an intensive survey following standard archaeological methods (i.e., pedestrian, shovel testing, augering). The portions of the project area that cross terrain with good surface visibility (for example plowed/cultivated fields) or characterized by steep slopes (creek bank) will be subject to pedestrian

survey. This entails a walking, visual inspection of the ground surface to identify historic and prehistoric artifacts. Portions of the project that are located on relatively flat terrain with poor surface visibility will have to be shovel tested. This assessment method requires the excavation of screened shovel tests measuring 35 cm in diameter at intervals of 20 m. The phase I investigation will survey only the undisturbed ground within the project area (i.e., areas outside the existing construction rights-of-way). Limited bucket augering may be conducted on alluvial landforms to determine the nature and extent of Holocene alluvium and the potential for the presence of significant deeply buried archaeological sites.

All archaeological sites discovered within the intensive survey area will be recorded following current SHPO specifications.

### ***Task 3: Report***

The results of the archival and field research will be documented in a detailed written report. The report will conform to Kentucky SHPO specifications. The report will describe all cultural resources located during the study and make recommendations for their treatment in relation to potential impacts. In addition, site survey forms will be prepared for each archaeological site recorded and submitted to OSA. A historic structure form will be completed for each historic structure documented and submitted to the Kentucky Heritage Council (KHC).

### ***Deliverables***

Seven copies of the report will be submitted to Horne for distribution to reviewing agencies. CRA will make any necessary revisions to the report requested by the agencies.

### ***Schedule***

CRA can initiate the study within 5-10 business days of NTP. The field survey will take about one day, although additional time would be necessary if sites are found. The report of the study can be submitted to Horn within 15-25 working days of the completion of the fieldwork, depending on the results.

## **Fee proposal**

The following assumptions have been made when preparing the scope of work and estimated cost for this project. These are not intended to be all-inclusive, and it is recognized that unforeseen changes and circumstances may result during the course of the project. Should these situations arise, CRA will, in a timely manner, address specific scope or budget issues with the client to reach an agreement for any needed contract modifications and additional compensation per our standard rate schedule.

- There will be no issues or delays in obtaining access to project areas.
- Not more than 13,000 LF will be needed to be intensively surveyed for the current undertaking.
- Formal site testing or mitigation of adverse effect (excavation, HABS/HAER recording, etc.) is not considered a component of this proposal. Similarly, the preparation of site testing plans, mitigation plans, data recovery plans, etc. are beyond the scope of this proposal.
- Formal meetings with clients, agencies, tribes or others are beyond the scope of this proposal.
- Any safety training or drug testing is not included





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### To Be Provided By Client

The Client will provide CRA the following:

1. Project description
2. The name of the permitting or funding agency
3. Permitting or funding agency identification number
4. Project mapping in electronic format (Autocad, Microstation, or Arch View shape files). If electronic mapping is not provided additional fees will be accrued on a time and materials basis.

FOR Cultural Resource Analysts:

Signed: \_\_\_\_\_

Name: Steven D. Creasman, RPA  
Position: Executive Vice President

Proposal Accepted by:

Signed: \_\_\_\_\_

Name:  
Position:

## **APPENDIX B. HISTORIC ARTIFACT INVENTORY**

# Horne Engineering, Inc.

216 SOUTH MAIN STREET • NICHOLASVILLE, KENTUCKY 40356 • (859)885-9441 • FAX (859)885-5160

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ENGINEERS • LAND SURVEYORS • PLANNERS  
*email@horneeng.com*

## MEMORANDUM

To: Steven D. Creasman, MA, RPA  
Cultural Resource Analysis  
151 Walton Avenue  
Lexington, KY 40508

From: Will Hagan *WH*  
Project Engineer

Date: October 13, 2009

Subject: Elevated Storage Tank Project

---

Pursuant to your request, I am providing the following :

1. Project description

Jessamine-South Elkhorn Water District proposes to construction a 1-million gallon elevated storage tank on property they own near Catnip Hill Pike. The proposed site is in close proximity to the District's existing elevated storage tank for the Northwest Service Area and will be constructed at the existing hydraulic gradient. This project will require additional parallel waterlines to meet peak potable and fire demands for current and anticipated growth.

2. The name of the permitting or funding agency

Blue Grass Area Development District

3. Permitting or funding agency identification number(s)

WX21113016

4. Project mapping - electronic format

See attached CD-ROM

The exhibit sent to your office shows the general area, but I wish to meet your foreman onsite the day before, or morning of the field work. This will allow us to specifically show you the areas needed to be surveyed. Also, please give me a few days notice before proceeding so that I can contact the property owners.

WHH/jt

cc: Glenn T. Smith  
Bruce E. Smith  
Engr/3569  
Engr/3862  
Corr.

Q:\ProjectDir\sewd\WO3569\CRA-CreasemanProjectInfo.mem



## Proposal for Cultural Resource Survey

October 5, 2009

Submitted to:

Will Hagan  
Horne Engineering, Inc.  
216 S. Main Street  
Nicholasville, KY 40356  
p 859. 885. 9441 f 859. 885. 5160

### ***Project Identification***

Northwest Distribution System Upgrade  
1.0MG Tank Site and Ancillary Water Line and Pekin Lane and Rhineheimer Lane Water Lines  
Jessamine South Elkhorn Water District  
Jessamine and Woodford County, Kentucky

### ***Project Area to be Studied***

A one-million gallon elevated storage tank site, which will be located on a 200' x 200' site with an additional 10,000LF of PVC waterline (8" to 12"). Pekin Lane is noted on the attached exhibit as #1 (highlighted by a thick light blue line) and Rhineheimer Lane is noted as # 5 (highlighted by a thick light blue line). The total footage for both Pekin and Rhineheimer areas totals 2,800 LF.

## Scope of Services

The cultural resource investigations will be conducted in accordance with current Kentucky State Historic Preservation Office.

### ***Task 1: File Search/Archival Research***

A review of the archaeological site files at the Kentucky Office of the State Archaeologist (OSA) will be conducted for the proposed project plus a two kilometer buffer. The records review will serve to determine if the project area has been previously surveyed for cultural resources, are there know archaeological resources in the project area, and if the area has not been previously surveyed to assess the potential for, and the kinds of, cultural resources that may be located within the project area. The results of the records review will be detailed in the final report.

### ***Task 2: Field Research***

An intensive field survey will be completed for the tank site and portions of the water lines located outside of existing highway and utility corridors. The field investigation will consist of an intensive survey following standard archaeological methods (i.e., pedestrian, shovel testing, augering). The portions of the project area that cross terrain with good surface visibility (for example plowed/cultivated fields) or characterized by steep slopes (creek bank) will be subject to pedestrian

survey. This entails a walking, visual inspection of the ground surface to identify historic and prehistoric artifacts. Portions of the project that are located on relatively flat terrain with poor surface visibility will have to be shovel tested. This assessment method requires the excavation of screened shovel tests measuring 35 cm in diameter at intervals of 20 m. The phase I investigation will survey only the undisturbed ground within the project area (i.e., areas outside the existing construction rights-of-way). Limited bucket augering may be conducted on alluvial landforms to determine the nature and extent of Holocene alluvium and the potential for the presence of significant deeply buried archaeological sites.

All archaeological sites discovered within the intensive survey area will be recorded following current SHPO specifications.

### ***Task 3: Report***

The results of the archival and field research will be documented in a detailed written report. The report will conform to Kentucky SHPO specifications. The report will describe all cultural resources located during the study and make recommendations for their treatment in relation to potential impacts. In addition, site survey forms will be prepared for each archaeological site recorded and submitted to OSA. A historic structure form will be completed for each historic structure documented and submitted to the Kentucky Heritage Council (KHC).

### ***Deliverables***

Seven copies of the report will be submitted to Horne for distribution to reviewing agencies. CRA will make any necessary revisions to the report requested by the agencies.

### ***Schedule***

CRA can initiate the study within 5-10 business days of NTP. The field survey will take about one day, although additional time would be necessary if sites are found. The report of the study can be submitted to Horn within 15-25 working days of the completion of the fieldwork, depending on the results.

## **Fee proposal**

If the intensive survey results in no cultural resources being found, we will complete the study for the lump sum price of \$5,200. If cultural resources are found during the field survey, there will be an additional charge of \$1,900 for each archaeological site that has to be documented.

Terms are payment in full within 30 calendar days of the receipt of Cultural Resource Analysts, Inc., invoice.

The following assumptions have been made when preparing the scope of work and estimated cost for this project. These are not intended to be all-inclusive, and it is recognized that unforeseen changes and circumstances may result during the course of the project. Should these situations arise, CRA will, in a timely manner, address specific scope or budget issues with the client to reach an agreement for any needed contract modifications and additional compensation per our standard rate schedule.

- There will be no issues or delays in obtaining access to project areas.



- Not more than 13,000 LF will be needed to be intensively surveyed for the current undertaking.
- Formal site testing or mitigation of adverse effect (excavation, HABS/HAER recording, etc.) is not considered a component of this proposal. Similarly, the preparation of site testing plans, mitigation plans, data recovery plans, etc. are beyond the scope of this proposal.
- Formal meetings with clients, agencies, tribes or others are beyond the scope of this proposal.
- Any safety training or drug testing is not included

### To Be Provided By Client

The Client will provide CRA the following:

1. Project description
2. The name of the permitting or funding agency
3. Permitting or funding agency identification number
4. Project mapping in electronic format (Autocad, Microstation, or Arch View shape files). If electronic mapping is not provided additional fees will be accrued on a time and materials basis.

FOR Cultural Resource Analysts:

Signed: \_\_\_\_\_

Name: Steven D. Creasman, RPA  
Position: Executive Vice President

Proposal Accepted by:

Signed: \_\_\_\_\_

Name:  
Position:

Table B-1. Historic Artifact Inventory

Bag	Site	Unit #	Dep	Cat #	Group	Class Definition	Type Definition	Combined Attributes	Count	Vessel Part	Vessel Type	Function	MinDate	MaxDate
3	15Wd109	STP 2	0-10 cm bgs	1	Maint/Subsist	General Hardware	Staple	Fence Staple, Iron / Steel	1					
4	15Wd109	STP 2a	0-10 cm bgs	2	Domestic	Ceramics	Stoneware	Salt glazed exterior, Unglazed interior	1	Body			1780	1925
5	15Wd109	STP 3	0-25 cm bgs	3	Domestic	Ceramics	Whiteware	Undecorated	2	Body			1830	
5	15Wd109	STP 3	0-25 cm bgs	4	Domestic	Ceramics	Stoneware	Albany slipped exterior, Eroded interior	1	Body			1830	1925
5	15Wd109	STP 3	0-25 cm bgs	5	Domestic	Ceramics	Coarse Redware	Clear lead glazed exterior	1	Body			1780	1840
5	15Wd109	STP 3	0-25 cm bgs	5	Domestic	Ceramics	Coarse Redware	Brown lead glazed exterior	1	Body			1780	1840
5	15Wd109	STP 3	0-25 cm bgs	5	Domestic	Ceramics	Coarse Redware	Brown lead glazed exterior, Brown lead glazed interior	1	Body			1780	1840
5	15Wd109	STP 3	0-25 cm bgs	5	Architecture	Flat Glass	Window Glass	2.37	1				1912	1912
6	15Wd109	STP 3a	0-10 cm bgs	7	Domestic	Ceramics	Coarse Redware	Brown lead glazed exterior, Brown lead glazed interior	1				1780	1840
6	15Wd109	STP 3a	0-10 cm bgs	8	Domestic	Container Glass	Blown in Mold	Aqua glass	1	Body	Miscellaneous bottle	Bottle - Jar		1920
7	15Wd109	Surface 1	- Surface	9	Domestic	Ceramics	Stoneware	Salt glazed exterior, Unglazed interior	1	Rim	Mixing bowl	Utility Vessel	1780	1925
7	15Wd109	Surface 1	- Surface	9	Domestic	Ceramics	Stoneware	Salt glazed exterior, Unglazed interior	1	Body			1780	1925
7	15Wd109	Surface 1	- Surface	10	Domestic	Container Glass	ABM	Green glass, Enameled label	1	Body	Miscellaneous bottle	Bottle - Jar	1935	
7	15Wd109	Surface 1	- Surface	11	Architecture	Flat Glass	Window Glass	2.4	1				1915	1915



Prepared For

Jessamine South Elkhorn Water District  
c/o Horne Engineering, Inc.  
216 South Main Street  
Nicholasville, Kentucky 40356

Prepared by

QORE™, Inc.  
422 Codell Drive  
Lexington, Kentucky 40509

Report of Geotechnical Exploration  
for  
**1,000,000 GALLON WATER TANK**  
**SWITZER PROPERTY**  
Jessamine County, Kentucky  
QORE Project No. 24302766  
March 11, 2004

© QORE™, Inc., All Rights Reserved



March 11, 2004

Jessamine South Elkhorn Water District  
c/o Horne Engineering, Inc.  
216 South Main Street  
Nicholasville, Kentucky 40356

Attention: Mr. John Horne, PE, PLS

Subject: **Report of Geotechnical Exploration**  
**1,000,000 GALLON WATER TANK – SWITZER PROPERTY**  
Jessamine County, Kentucky  
QORE Project No. 24302766

Dear Mr. Horne:

QORE, Inc. has completed the geotechnical exploration for your project. The purpose of this exploration was to obtain subsurface data at the site pursuant to developing site preparation and foundation recommendations for the proposed construction. We conducted this project according to our proposal No. Lex1665, dated February 26, 2004. This report explains our understanding of the project, documents our findings, and presents our conclusions and engineering recommendations. After you have reviewed our report, we recommend either a meeting or a telephone conference to discuss our recommendations.

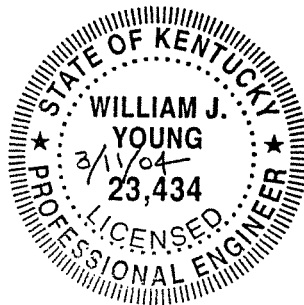
QORE appreciates the opportunity to be of service to the Jessamine South Elkhorn Water District and Horne Engineering, Inc. We look forward to helping you through project completion. If you have any questions, please call.

Respectfully submitted,

**QORE, Inc.**

A handwritten signature in black ink, appearing to read "Will J. Young", written over a circular professional engineer seal.

William J. Young, P.E.  
Project Engineer  
Licensed Kentucky 23,434



A handwritten signature in black ink, appearing to read "Craig S. Lee", written in a cursive style.

Craig S. Lee, P.E.  
Senior Geotechnical Engineer

Attachments: Report of Geotechnical Exploration  
Appendices

S:\projects\2004 projects\24302766\24302766r01

**REPORT OF GEOTECHNICAL EXPLORATION**  
**1,000,000 GALLON WATER TANK – SWITZER PROPERTY**  
**Jessamine County, Kentucky**  
**QORE Project No. 24302766**

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APPENDIX B	Test Boring Records Field Procedures
APPENDIX C	Laboratory Data Laboratory Procedures

**REPORT OF GEOTECHNICAL EXPLORATION**  
**1,000,000 GALLON WATER TANK – SWITZER PROPERTY**  
**Jessamine County, Kentucky**  
QORE Project No. 24302766

**INTRODUCTION**

QORE, Inc. conducted a geotechnical exploration for the proposed 1,000,000 Gallon Water Tank located on the Switzer Farm near the intersection of Catnip Hill Road and U.S. 68 (Harrodsburg Road) in Jessamine County, Kentucky. We provided our services according to our proposal no. Lex1665, dated February 26, 2004. The purpose of our work was to explore the subsurface soil, rock, and groundwater conditions at the location of the proposed tank and to provide recommendations for adapting the site for the proposed construction. This report explains our understanding of the project, documents our findings, and presents our conclusions and engineering recommendations.

**SITE DESCRIPTION**

The proposed tank site is located on the Switzer property in a grassy farm field, on a hilltop, near the intersection of Catnip Hill Road and Rhineheimer Way in Jessamine County, Kentucky. The tank site area is relatively level, with a gentle slope to the northeast. Based on the topographic survey provided by Horne Engineering, Inc., elevations within the tank area vary by approximately one foot, and range from 1022 to 1023 feet (assumed mean sea level).

**PROJECT INFORMATION**

The information provided to QORE included two topographic surveys of the possible tank site, a photocopied USGS topographic map showing the site location, and a prototype foundation plan prepared by Caldwell Tanks. The information provided indicates that the proposed tank will be an elevated 1,000,000 gallon water storage tank. The proposed design indicates eight legs with a center riser. According to the provided drawings, the legs of the tank are positioned on a 35 feet radius from the center riser, and will be situated at 45 degree angles. The prototype foundation plan provided by Caldwell Tanks indicates a bearing elevation 8½ feet below the ground surface at each leg location.

**SITE GEOLOGY**

A review of the U.S.G.S. geologic quadrangle map of the *Nicholasville Quadrangle, Kentucky* (GQ-767, 1968) indicates the site is located near the interface of the Tanglewood Limestone

Member and the Brannon Member of the Lexington Limestone of the Middle and Upper Ordovician Geologic Ages.

The Tanglewood Limestone Member consists of Limestone and minor shale. The limestone is light gray, medium to coarse grained, and thin to thick bedded with tabular beds dominant. The limestone is also phosphatic, siliceous in part, and bioclastic. The shale is medium gray, limy, thin bedded and mostly interlaminated with shaly limestone in thin partings between limestone beds. Chert nodules and silicified limestone in some beds yield a porous, cherty residuum in moderate to light reddish orange soil.

The Brannon Member consists primarily of limestone and shale, interbedded. The limestone (50 percent) is medium to dark gray, micrograined, some medium grained, locally siliceous or cherty, and tabular bedded in beds less than ½ foot thick. The shale is medium to dark gray, locally brownish-gray, limy and thin bedded. This unit weathers to a light gray to light yellowish-brown soil.

At this site, the contact of the Tanglewood Limestone and the Brannon Member is mapped at approximate elevation 1020, with the Tanglewood Limestone generally lying at a higher elevation than the Brannon Member.

Several sinkholes are mapped approximately 1000 feet to the west and southwest of the proposed tank site. However, a review of the geologic maps of this portion of Jessamine County indicates that the mapped sinkholes lie primarily in the Grier Formation, at elevations below 1000 feet M.S.L. (mean sea level). Only four mapped sinkholes were found within the Brannon Member in this portion of the county, with the nearest occurring approximately one mile north of the project site, at or below elevation 1000. According to the provided topographic information, the surface elevations at the proposed tank site range from 22 to 23 feet above this elevation.

During our review of the USGS Quadrangle mapping, we noted a mapped wetlands within approximately 500 feet to the west of the project site. The wetlands is mapped at approximate elevation 1020, but is not mapped on the tank site. However, we have not been retained to determine the presence of, nor delineate wetlands, and our geotechnical personnel have not been trained to recognize wetland areas in the field. QORE has trained wetlands scientists on staff and can provide these services under a separate contract, if desired.

At the project site, the auger refusal elevations indicate a consistent top of non-weathered rock elevation (level rock surface), the recovered rock cores consist of shaley limestone, which is less susceptible to solutioning, and the recovered rock cores revealed high rock quality designation (RQD) and recovery (REC) percentages.

The rock cores obtained in this exploration (borings B-2 and B-6) confirm that the tank site is underlain by the Brannon Member of the Lexington Limestone. This is further evidenced by top of core elevations of approximately 1011 feet M.S.L., which corresponds with the mapped elevations of the Brannon Member on the Geologic Quadrangle map.

All areas underlain by potentially soluble rock (i.e. – limestone or dolomite) are at some risk due to sinkhole activity. The rock cores obtained in this exploration did not indicate sinkhole activity.

## **EXPLORATION METHODS**

### **Field Exploration**

We drilled eight borings, one at each of the proposed legs, to explore the subsurface conditions at the tank location. The provided prototype foundation plan indicated a bearing elevation 8 ½ feet below the ground surface at each leg. Therefore, no soil sampling was performed in the upper six feet (borings B-2, B-4, B-6, and B-8) to eight feet (borings B-1, B-3, B-5, and B-7), since this material will be removed during the foundation construction. Soil sampling began near the anticipated bearing elevation in order to determine the composition and quality of the sampled stratum. A project engineer from our office was on-site to observe pertinent site features and surface indications of site geology, to direct drilling operations, and to record and log the results of the soil sampling and rock coring. Horne Engineering, Inc. staked the test boring locations in the field prior to the arrival of the engineer and drilling personnel. The soil test boring elevations were interpolated to the nearest ½ foot from the provided topographic map of the area, and should be considered approximate. We numbered the borings B-1 through B-8, to correspond with leg numbering system on the provided site map. We obtained soil samples using a split-barrel sampler driven by a safety hammer system according to ASTM D1586. We also obtained rock core samples using a NX wire line core barrel, which produced cores of 1<sup>7</sup>/<sub>8</sub>" diameter in two of the borings (B-2 and B-6). The stratification lines shown on the boring records represent the approximate boundaries between soil or rock types. The transitions may be more gradual than shown.

Field sampling and testing procedures used by QORE are in general accordance with ASTM procedures and established geotechnical engineering practice. Appendix B contains brief descriptions of field procedures.

### **Laboratory Testing**

Recovered soil and rock samples were transported to our office for logging and laboratory testing. We performed unconfined compression tests on representative rock core samples obtained below the weathered rock zone. The tested rock core samples consisted primarily of calcareous shale with limestone partings. Since we anticipated a rock bearing foundation, laboratory testing was not performed on the recovered soil samples. Laboratory testing by QORE is in general accordance with ASTM procedures. Appendix C contains the results of our laboratory testing and brief descriptions of laboratory procedures.

### **SUBSURFACE CONDITIONS**

All eight borings penetrated a seven to nine inch thick layer of topsoil. The topsoil was underlain by approximately 7½ feet of orangish brown soil that was black mottled and generally moist and stiff. Standard penetration resistances ranged from 11 to 19 blows per foot (bpf), indicating a stiff to very stiff consistency soil. Below the orangish-brown soil was a thin layer (approximately one foot) of orangish-tan to tan soil that was black and light gray mottled, generally moist and very stiff. This orangish-tan to tan soil horizon extended to rock. The orangish-tan to tan soil exhibited standard penetration resistances from 22 to 50+ bpf. The inflated standard penetration test resistance N-values for the orangish-tan to tan soil can be attributed to the presence of a weathered rock layer above auger refusal. We interpreted this layer as weathered rock.

All eight soil borings encountered auger refusal, at depths ranging from 9.7 feet (at boring B-3) to 11.4 feet (at borings B-6 and B-8).

Weathered rock zones were encountered above auger refusal in all of the borings, and ranged from one foot to two feet in thickness. After auger refusal was obtained, the subsequent rock coring indicated that the upper 19 feet of the underlying bedrock is comprised of calcareous shale (60%) and limestone (40%). The calcareous shale is dark gray, and the limestone is generally gray, medium to coarse grained, crystalline and fossiliferous. The recovery of rock core (REC) varied from 96 to 100 percent. The rock quality designation (RQD) varied from 78

to 100 percent. RQD is an indicator of the quality of the bedrock bedding and structure. RQD values in the 78 to 100 percent range indicate a good to excellent rock quality. No core water was lost during the coring process in either boring.

Groundwater was not encountered in any of the soil borings at the completion of soil augering. Since water is used during core drilling, water level readings could not be obtained in borings B-2 and B-6. The borings were backfilled with soil at the completion of augering due to safety concerns. Groundwater levels fluctuate with time due to seasonal rainfall, locally heavy precipitation events, construction activities, and other site-specific factors. Therefore, future groundwater levels may be encountered within the depths explored by our borings. It is common to encounter groundwater at the soil/rock interface in areas underlain by limestone. Unconfined compression tests were performed on four representative rock core samples. These samples were selected at depths which we believe will be near the foundation bearing elevation. These tests indicated ultimate unconfined compression strengths ranging from 93 ksf to 331 ksf (kips per square foot).

## CONCLUSIONS AND RECOMMENDATIONS

### GENERAL DISCUSSION

Based on the subsurface conditions encountered in our borings, our analyses, and our experience, we believe the site is adaptable for construction of the proposed 1,000,000 gallon water tank. We identified one key issue that we believe will impact the proposed construction – **a weathered bedrock zone above auger refusal.**

We recommend that the proposed tank bear on the non-weathered calcareous shale and limestone bedrock that underlies the weathered bedrock zone. Several foundation systems are feasible for this type of project, with the most practical being spread footings or drilled shafts. Recommendations for foundation preparation and design criteria for spread footing and drilled shaft foundation systems are presented in the following paragraphs.



## EARTHWORK RECOMMENDATIONS

### Stripping

All topsoil and organic materials should be stripped in construction areas to prepare the area for construction. The stripping can be limited to the immediate construction area. Based on field observations at the time of drilling, expect stripping depths of about ¾ foot to 1 foot to penetrate the root mat into the underlying soil stratum. The removed topsoil should be spread in “landscape” areas only, outside of the construction area. Organic material should not be utilized as fill material.

## FOUNDATION RECOMMENDATIONS

We recommend that the proposed tank bear on the non-weathered calcareous shale and limestone bedrock that underlies the weathered bedrock zone. Recommendations for foundation preparation and design criteria for spread footing and drilled shaft foundation systems are presented in following paragraphs. The anticipated foundation bearing elevations are tabulated below.

Boring Number	Surface Elevation*	Top of Weathered Rock Elevation	Anticipated Bearing Elevation
B-1	1022	1013	1011
B-2	1022	1013	1011
B-3	1022	1013	1012
B-4	1022.5	1013.5	1012
B-5	1023	1014	1012.5
B-6	1023	1012.5	1011.5
B-7	1023	1013.5	1012
B-8	1022.5	1013	1011

\* Surface elevations were interpolated to the nearest ½ foot from the provided topographic map of the area, and should be considered approximate.

The current seismic design procedures outlined in the NEHRP (National Earthquake Hazard Reduction Program) guidelines mandate structural design loads be based on the seismic coefficients of the site. Based on the results of our exploration and the geology of the area, we recommend a site seismic classification of “B”. This classification is further defined in Table 1615.1.1 in the 2002 Kentucky Building Codes Manual.

### Spread Footing Foundation Design

Support the spread footing foundations on the non-weathered bedrock zone (approximate elevations 1011 to 1012.5) that underlies the weathered bedrock zone. We recommend use of a maximum allowable bearing pressure of **60 ksf** (kips per square foot) to size spread footings supported by the non-weathered bedrock. Actual foundation embedment will be based on the lateral loads imparted by the tank to the foundation elements and should be considered by the tank foundation designer.

### Spread Footing Foundation Construction

The tank foundation excavations will be large enough to allow observation of the bearing conditions. After the foundation excavations are completed, the bearing material at each footing location should be approved by a QORE representative prior to placement of the reinforcing steel and concrete. Significant deviations from the specified or anticipated conditions should be reported to the owner's representative and to the foundation designer. The reinforcing steel should be clean and dry prior to concrete placement.

### Drilled Shaft Foundation Design

The drilled shafts should be sized using a maximum allowable rock bearing pressure of **60 ksf** (kips per square foot) for bearing on the non-weathered bedrock that underlies the weathered rock zone. This allowable bearing pressure is based on the assumption that the bearing material for each shaft will be observed and approved by QORE personnel. Experience indicates that excessive rock excavation and cost over-runs occur more often if a testing firm unfamiliar with the subsurface conditions and design assumptions are retained to inspect the drilled shaft excavations. Total and differential settlements of foundations bearing on competent bedrock, using the recommended bearing pressure, should be about ¼ inch or less.

### Drilled Shaft Construction Considerations

The following construction considerations are recommended for drilled shaft construction:

- Clean the foundation bearing area so it is nearly level or suitably benched and is free of ponded water or loose material.
- Provide a minimum drilled shaft diameter of 30 inches to reasonably enter the drilled pier excavation for cleaning, bottom preparation, and inspection.

- If groundwater is encountered during rock removal for the drilled shaft foundations, make provisions for groundwater removal from the drilled shaft excavation. Groundwater conditions at this site may require the use of special procedures to achieve a satisfactory foundation installation. If water is flowing into the drilled shaft at less than 20 gallons per minute, pumps may be used to maintain less than 2 inches of water in the drilled shaft during cleaning and inspection. After approval of the bearing surface, the pumps should be pulled and concreting commenced immediately. If more than 20 gallons per minute are flowing into the drilled shaft, the water level should be allowed to stabilize before attempting to place the concrete. For this condition, concrete placement should be accomplished using a tremie pipe, or concrete pumping equipment.
- Specify concrete slumps ranging from 4 to 7 inches for the drilled shaft construction. These slumps are recommended to fill irregularities along the sides and bottom of the drilled shaft, displace water as it is placed, and permit placement of reinforcing cages into the fluid concrete.
- Retain QORE personnel to observe foundation excavations after the bottom of the hole is leveled, cleaned of any mud or extraneous material, and de-watered.
- Install a temporary protective steel casing to prevent sidewall collapse, prevent excessive mud and water intrusion, and to allow workers to safely enter, clean and inspect the drilled shaft.
- Inspect the drilled shaft excavation after the bottom of the hole is leveled, cleaned of any mud or extraneous material, and de-watered.
- Clean the socket "face" prior to concrete placements. Cleaning will require hand cleaning or washing if a mud smear forms on the face of the rock. The geotechnical engineer should approve the rock socket surface prior to concrete placement.

- The protective steel casing may be extracted as the concrete is placed provided a sufficient head of concrete is maintained inside the steel casing to prevent soil or water intrusion into the newly placed concrete.
- Direct the concrete placement into the drilled shaft through a centering chute to reduce side flow or segregation.

#### Drilled Shaft Rock Excavation

Our borings encountered weathered rock conditions. Our experience with the Brannon formation indicates the rock may weather irregularly; however, the results of this exploration indicate a relatively consistent rock surface. Actual rock embedment into the non-weathered zone must be determined by the tank foundation designer once the actual tank loads are known.

Our experience indicates general drilled shaft construction and delineation of "rock" in the excavation is greatly facilitated if suitable drilling equipment is used. We recommend the use of a drill capable of producing at least 500,000 inch-pounds of torque and 35,000 pounds of downward force. Additionally, we recommend that rock be defined as material which cannot be penetrated by a heavy-duty earth auger with hardened teeth at a rate in excess of 3 inches per minute.

#### Drilled Shaft Quality Control Requirements

We recommend that the drilled shaft construction be observed by a QORE geotechnical engineer. The observation should address the following items:

- Top location within tolerances
- Correct plan dimensions
- Plumbness within tolerances
- Materials excavated agree with borings
- Statement of bottom cleanliness
- Construction procedure

Drilled shafts with diameters of 30 inches or greater are large enough to allow a down-hole inspection of the bearing conditions. At least one, 1½- to 2-inch diameter probe hole must be drilled at least 5 feet into the rock-bearing material for all drilled shafts. These probe holes are usually drilled with a pneumatic percussion drill. The engineer should check the probe hole using

a hooked-end steel feeler rod to assess the rock continuity. If this check indicates a discontinuous or compressible seam in the rock, the drilled shaft should be excavated deeper. Additional probe holes may be required by the geotechnical engineer to check foundations supported on marginal material. Significant deviations from the specified or anticipated conditions should be reported to the owner's representative and to the foundation designer.

### **FOLLOW-UP SERVICES**

Our services should not end with the submission of this geotechnical report. QORE should be kept involved throughout the design and construction process to maintain continuity and to verify that our recommendations are properly interpreted and implemented. To achieve this, we should review project plans and specifications with the designers to see that our recommendations are fully incorporated. We also should be retained to monitor and test the site preparation and foundation construction. If we are not allowed the opportunity to continue our involvement on this project, we cannot be held responsible for the recommendations in this report.

Site preparation and foundation construction will be a critical aspect of this project. Our familiarity with the site and with the foundation recommendations will make us a valuable part of your construction quality assurance team. In addition, a qualified engineering technician should observe and test all structural concrete and steel. Only experienced, qualified persons trained in geotechnical engineering and familiar with foundation construction should be allowed to monitor and test foundations. Normally, full-time monitoring of the site work and foundation installation is appropriate.

### **LIMITATIONS**

This report has been prepared for the exclusive use of the Jessamine South Elkhorn Water District and their designers for specific application to the project site. Our conclusions and recommendations have been prepared using generally accepted standards of geotechnical engineering practice in the Commonwealth of Kentucky. No other warranty is expressed or implied. This company is not responsible for the conclusions, opinions, or recommendations of others based on these data.

Our conclusions and recommendations are based on the design information furnished to us, the data obtained from our subsurface exploration, and our past experience. They do not reflect

variations in the subsurface conditions that are likely to exist between our borings and in unexplored areas of the site. These variations result from the variability of the soils and bedrock at this site. If such variations become apparent during construction, it will be necessary for us to re-evaluate our conclusions and recommendations based upon on-site observation of the conditions.

If the overall design or location of the 1,000,000 gallon water tank is changed, the recommendations contained in this report must not be considered valid unless our firm reviews the changes and our recommendations modified and verified in writing. When the design is finalized, we should be given the opportunity to provide the additional service of reviewing the foundation plan, grading plan, and applicable portions of the project specifications. This review will allow us to check whether these documents are consistent with the intent of our recommendations.

We recommend that the owners retain these services and that QORE be allowed to continue our involvement in the project through these phases of construction. Our firm is not responsible for interpretation of the data contained in this report by others, nor do we accept any responsibility for job site safety, which is the sole responsibility of the contractor.

# Important Information About Your Geotechnical Engineering Report

*Subsurface problems are a principal cause of construction delays, cost overruns, claims, and disputes.*

*The following information is provided to help you manage your risks.*

## **Geotechnical Services Are Performed for Specific Purposes, Persons, and Projects**

Geotechnical engineers structure their services to meet the specific needs of their clients. A geotechnical engineering study conducted for a civil engineer may not fulfill the needs of a construction contractor or even another civil engineer. Because each geotechnical engineering study is unique, each geotechnical engineering report is unique, prepared *solely* for the client. *No one except you* should rely on your geotechnical engineering report without first conferring with the geotechnical engineer who prepared it. *And no one—not even you—*should apply the report for any purpose or project except the one originally contemplated.

## **Read the full report**

Serious problems have occurred because those relying on a geotechnical engineering report did not read it all. Do not rely on an executive summary. Do not read selected elements only.

## **A Geotechnical Engineering Report Is Based on A Unique Set of Project-Specific Factors**

Geotechnical engineers consider a number of unique, project-specific factors when establishing the scope of a study. Typical factors include: the client's goals, objectives, and risk management preferences; the general nature of the structure involved, its size, and configuration; the location of the structure on the site; and other planned or existing site improvements, such as access roads, parking lots, and underground utilities. Unless the geotechnical engineer who conducted the study specifically indicates otherwise, *do not rely on a geotechnical engineering report* that was:

- not prepared for you,
- not prepared for your project,
- not prepared for the specific site explored, or
- completed before important project changes were made.

Typical changes that can erode the reliability of an existing geotechnical engineering report include those that affect:

- the function of the proposed structure, as when

it's changed from a parking garage to an office building, or from a light industrial plant to a refrigerated warehouse,

- elevation, configuration, location, orientation, or weight of the proposed structure,
- composition of the design team, or
- project ownership.

As a general rule, *always* inform your geotechnical engineer of project changes—even minor ones—and request an assessment of their impact. *Geotechnical engineers cannot accept responsibility or liability for problems that occur because their reports do not consider developments of which they were not informed.*

## **Subsurface Conditions Can Change**

A geotechnical engineering report is based on conditions that existed at the time the study was performed. *Do not rely on a geotechnical engineering report* whose adequacy may have been affected by: the passage of time; by man-made events, such as construction on or adjacent to the site; or by natural events, such as floods, earthquakes, or groundwater fluctuations. *Always* contact the geotechnical engineer before applying the report to determine if it is still reliable. A minor amount of additional testing or analysis could prevent major problems.

## **Most Geotechnical Findings Are Professional Opinions**

Site exploration identifies subsurface conditions *only* at those points where subsurface tests are conducted or samples are taken. Geotechnical engineers review field and laboratory data and then apply their professional judgment to render an *opinion* about subsurface conditions throughout the site. Actual subsurface conditions may differ—sometimes significantly—from those indicated in your report. Retaining the geotechnical engineer who developed your report to provide construction observation is the most effective method of managing the risks associated with unanticipated conditions.

## **APPENDIX A**

**Site Location / Topographic Map**

**Boring Location Plan**



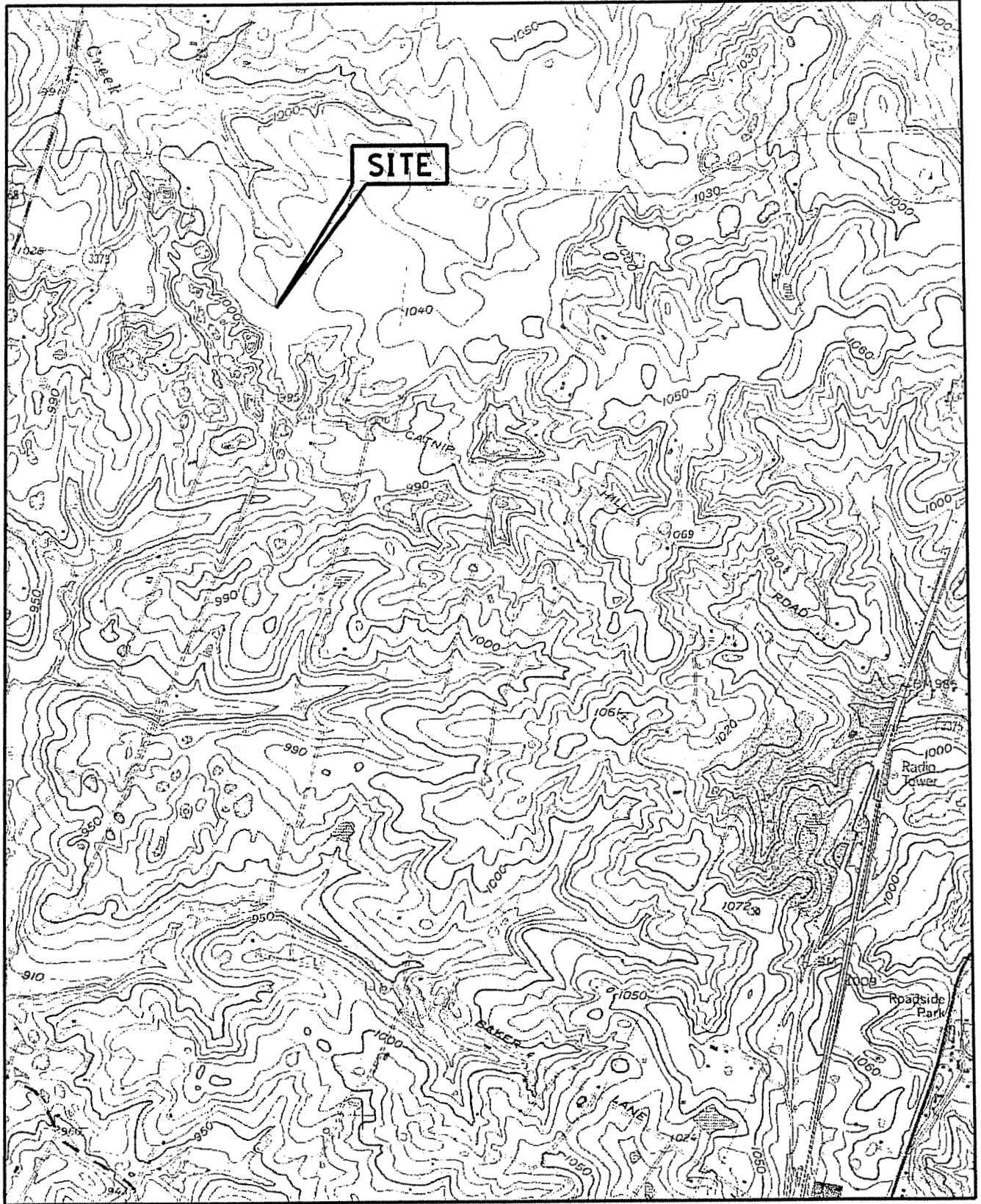
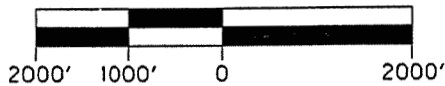


FIGURE 1



SOURCE

USGS Topographical Map, Nicholasville, Kentucky  
Quadrangle, Dated 1965, Revised 1993.



**SITE LOCATION / TOPOGRAPHIC MAP**  
**1,000,000 GALLON WATER TANK - SWITZER PROPERTY**

LOCATION: Jessamine Co., Kentucky    OORE PROJECT NUMBER: 24302766

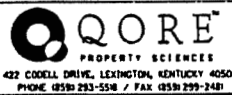
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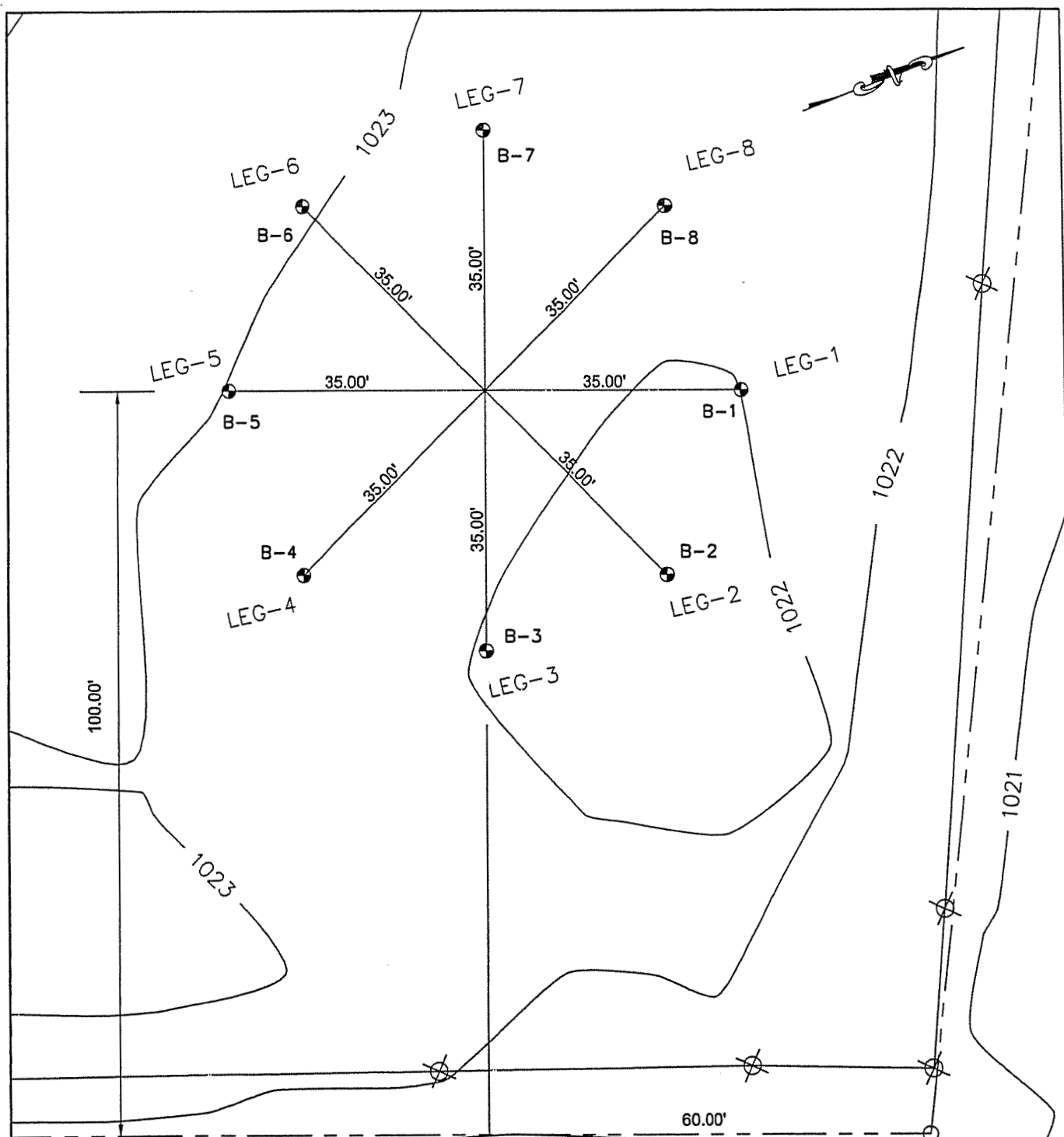
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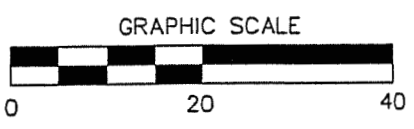
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GULLY

EX. PLAN



LEGEND:	
	SOIL BORING LOCATION

SOURCE:  
Soil Boring Location Plan adapted from drawing provided by Horne Engineering, Inc.

**FIGURE 2**  
**BORING LOCATION PLAN**  
**1,000,000 GALLON WATER TANK - SWITZER PROPERTY**

LOCATION: JESSAMINE CO., KENTUCKY	QORE PROJECT NUMBER: 24302766
<b>JESSAMINE SOUTH ELKHORN WATER DISTRICT</b>	
SCALE: <u>As Shown</u>	
DATE: <u>7-27-04</u>	
DRAWN BY: <u>DRT</u>	
CHECKED BY: <u>JT</u>	

**QORE**  
PROPERTY SERVICES  
422 EDDALL DRIVE, LEAMINGTON, KENTUCKY 40006  
PHONE (502) 763-5810 / FAX (502) 299-2481

## **APPENDIX B**

**Test Boring Records**

**Field Procedures**

## TEST BORING RECORD LEGEND

### FINE AND COARSE GRAINED SOIL INFORMATION

COARSE GRAINED SOILS (SANDS & GRAVELS)		FINE GRAINED SOILS (SILTS & CLAYS)			PARTICLE SIZE	
N	Relative Density	N	Consistency	Qu, KSF Estimated		
0-4	Very Loose	0-1	Very Soft	0-0.5	Boulders	Greater than 300 mm (12 in)
5-10	Loose	2-4	Soft	0.5-1	Cobbles	75 mm to 300 mm (3 to 12 in)
11-20	Firm	5-8	Firm	1-2	Gravel	4.74 mm to 75 mm (3/16 to 3 in)
21-30	Very Firm	9-15	Stiff	2-4	Coarse Sand	2 mm to 4.75 mm
31-50	Dense	16-30	Very Stiff	4-8	Medium Sand	0.425 mm to 2 mm
Over 50	Very Dense	Over 31	Hard	8+	Fine Sand	0.075 mm to 0.425 mm
					Silts & Clays	Less than 0.075 mm









































The **STANDARD PENETRATION TEST** as defined by ASTM D 1586 is a method to obtain a disturbed soil sample for examination and testing and to obtain relative density and consistency information. A standard 1.4-inch I.D./2-inch O.D. split-barrel sampler is driven three 6-inch increments with a 140 lb. hammer falling 30 inches. The hammer can either be of a trip, free-fall design, or actuated by a rope and cathead. The blow counts required to drive the sampler the final two increments are added together and designate the N-value defined in the above tables.

### ROCK PROPERTIES

ROCK QUALITY DESIGNATION (RQD)		ROCK HARDNESS	
Percent RQD	Quality	Very Hard:	Rock can be broken by heavy hammer blows.
0-25	Very Poor	Hard:	Rock cannot be broken by thumb pressure, but can be broken by moderate hammer blows.
25-50	Poor	Moderately Hard:	Small pieces can be broken off along sharp edges by considerable hard thumb pressure; can be broken with light hammer blows.
50-75	Fair	Soft:	Rock is coherent but breaks very easily with thumb pressure at sharp edges and crumbles with firm hand pressure.
75-90	Good	Very Soft:	Rock disintegrates or easily compresses when touched; can be hard to very hard soil.
90-100	Excellent		

	<u>Length of Rock Core Recovered</u>	X100		<u>Core Diameter</u>	<u>Inches</u>
Recovery =	Length of Core Run	63 REC	BQ	1-7/16	
		NQ	NQ	1-7/8	
		43 RQD	HQ	2-1/2	
RQD =	<u>Sum of 4 in. and longer Rock Pieces Recovered</u>	X100			
	Length of Core Run				

### SYMBOLS

KEY TO MATERIAL TYPES				SOIL PROPERTY SYMBOLS	
	Topsoil		High Plasticity Inorganic Silt or Clay	N:	Standard Penetration, BPF
	Asphalt		Organic Silts/Clays	M:	Moisture Content, %
	Crushed Limestone		Well-Graded Gravel	LL:	Liquid Limit, %
	Fill Material		Poorly-Graded Gravel	PI:	Plasticity Index, %
	Shot-rock Fill		Silty Gravel	Qp:	Pocket Penetrometer Value, TSF
	Low Plasticity Inorganic Silt		Clayey Gravel	Qu:	Unconfined Compressive Strength Estimated Qu, TSF
	High Plasticity Inorganic Silt		Well-Graded Sand	$\gamma_d$ :	Dry Unit Weight, PCF
	Low Plasticity Inorganic Clay		Poorly-Graded Sand	F:	Fines Content
	High Plasticity Inorganic Clay		Silty Sand	<b>SAMPLING SYMBOLS</b>	
	Low Plasticity Inorganic Silt or Clay		Clayey Sand		Undisturbed Sample
					Split-Spoon Sample
					Rock Core Sample
					Auger or Bag Sample
					No Sample Recovery
					Water Level After Drilling
					Extended Time Reading
					Amphibolite
					Metagraywacke
					Phyllite
	Peat		Limestone		
	Sandstone		Siltstone		
	Claystone		Weathered Rock		
	Dolomite		Granite		
	Gneiss		Schist		

PROJECT: 1,000,000 Gallon Water Tank - Switzer Property		JOB NO: 24302766	REPORT NO:
PROJECT LOCATION: Jessamine County, Kentucky			
ELEVATION: 1,022.0		BORING STARTED: 2/23/2004	BORING COMPLETED: 2/23/2004
DRILLING METHOD: 4" SFA		RIG TYPE: B-34	HAMMER: Safety
GROUNDWATER (ft): Dry upon completion of drilling		BORING DIAMETER (IN): 4	SHEET 1 OF 1
Remarks: Partly Sunny with temperatures in the 30's Prototype Foundation Plan indicated Bearing Elevation 8.5 Feet below ground surface. Sampling started at 8.0 Feet.			

Groundwater	ELEV. (FT.)	DEPTH (FT.)	MATERIAL DESCRIPTION	Lithology	Sample Type	Recovery (in)	RQD (%)	Qu	STANDARD PENETRATION RESISTANCE (N)					BLOWS /6"		
									0	10	20	30	40		50	
	1022.0	0	TOPSOIL (8 inches)													
	1021.3		AUGERED TO 8.0 FEET, NO SAMPLES TAKEN.													
		5	FAT CLAY (CH), orangish-brown with black mottling, moist													
	1014.0		FAT CLAY (CH), VERY STIFF, orangish-tan to tan with light gray and black mottling, moist			15										
	1013.0	10	Weathered SHALE and LIMESTONE, with clay seams													10 - 20 - 50/5
	1010.7		AUGER REFUSAL AT 11.3 FEET.													
		15														
		20														
		25														
		30														
		35														

CRAIG2\_24302766.GPJ\_QOR\_CORP.GDT\_3/11/04



# TEST BORING RECORD

BORING NO: **B-2**

PROJECT: 1,000,000 Gallon Water Tank - Switzer Property		JOB NO: 24302766	REPORT NO:
PROJECT LOCATION: Jessamine County, Kentucky			
ELEVATION: 1,022.0	BORING STARTED: 2/23/2004		BORING COMPLETED: 2/23/2004
DRILLING METHOD: 4" SFA	RIG TYPE: B-34		HAMMER: Safety
GROUNDWATER (ft): N/A		BORING DIAMETER (IN): 4	SHEET 1 OF 1

Remarks: Partly Sunny with temperatures in the 30's  
 Prototype Foundation Plan indicated Bearing Elevation 8.5 Feet below ground surface. Sampling started at 6.0 Feet.

Groundwater	ELEV. (FT.)	DEPTH (FT.)	MATERIAL DESCRIPTION	Lithology	Sample Type	Recovery (in)	RQD (%)	Qu	STANDARD PENETRATION RESISTANCE (N)					BLOWS /6"		
									0	10	20	30	40		50	
	1022.0	0	TOPSOIL (8 inches)													
	1021.3		AUGERED TO 6.0 FEET, NO SAMPLES TAKEN.													
		5	FAT CLAY (CH), with few chert fragments, STIFF, orangish-brown with black mottling, moist			13										6 - 6 - 5
	1014.5		FAT CLAY (CH), VERY STIFF, orangish-tan and light gray with black mottling, moist			12										13 - 22 - 50/4
	1013.0	10	Weathered SHALE and LIMESTONE, with clay seams													
	1011.0		AUGER REFUSAL AT 11.0 FEET. BEGIN CORING AT 11.0 FEET.					2303 psi 651 psi								
		15	Calcareous SHALE (60%) and LIMESTONE (40%), medium grained, crystalline, gray, fossiliferous			100%	100%									
		20														
		25														
		30	LIMESTONE, gray, medium to coarse grained, crystalline													
	992.1		CORING TERMINATED AT 31.0 FEET.													
	991.0															
		35														

CRAIG2 24302766.GPJ QOR\_CORP.GDT 3/11/04

PROJECT: 1,000,000 Gallon Water Tank - Switzer Property	JOB NO: 24302766	REPORT NO:
PROJECT LOCATION: Jessamine County, Kentucky		
ELEVATION: 1,022.0	BORING STARTED: 2/23/2004	BORING COMPLETED: 2/23/2004
DRILLING METHOD: 4" SFA	RIG TYPE: B-34	HAMMER: Safety
GROUNDWATER (ft): Dry upon completion of drilling	BORING DIAMETER (IN): 4	SHEET 1 OF 1

Remarks: Partly Sunny with temperatures in the 30's  
 Prototype Foundation Plan indicated Bearing Elevation 8.5 Feet below ground surface. Sampling started at 8.0 Feet.

Groundwater	ELEV. (FT.)	DEPTH (FT.)	MATERIAL DESCRIPTION	Lithology	Sample Type	Recovery (in)	RQD (%)	Qu	STANDARD PENETRATION RESISTANCE (N)					BLOWS /6"	
									0	10	20	30	40		50
	1022.0	0	TOPSOIL (8 1/2 inches)												
	1021.3		AUGERED TO 8.0 FEET, NO SAMPLES TAKEN.												
		5	FAT CLAY (CH), with few chert fragments, orangish-brown with black mottling, moist												
	1014.0		FAT CLAY (CH), VERY STIFF, orangish-tan and light gray, moist			15									
	1013.0		Weathered SHALE and LIMESTONE, with clay seams												
	1012.3	10	AUGER REFUSAL AT 9.7 FEET.												10 - 16 - 50/3
		15													
		20													
		25													
		30													
		35													

CRAIG2 24302766.GPJ QOR\_CORP.GDT 3/11/04



# TEST BORING RECORD

BORING NO: **B-4**

PROJECT: 1,000,000 Gallon Water Tank - Switzer Property		JOB NO: 24302766	REPORT NO:
PROJECT LOCATION: Jessamine County, Kentucky			
ELEVATION: 1,022.5	BORING STARTED: 2/23/2004		BORING COMPLETED: 2/23/2004
DRILLING METHOD: 4" SFA	RIG TYPE: B-34		HAMMER: Safety
GROUNDWATER (ft): Dry upon completion of drilling		BORING DIAMETER (IN): 4	SHEET 1 OF 1

Remarks: Partly Sunny with temperatures in the 30's  
 Prototype Foundation Plan indicated Bearing Elevation 8.5 Feet below ground surface. Sampling started at 6.0 Feet.

Groundwater	ELEV. (FT.)	DEPTH (FT.)	MATERIAL DESCRIPTION	Lithology	Sample Type	Recovery (in)	RQD (%)	Qu	STANDARD PENETRATION RESISTANCE (N)					BLOWS /6"		
									0	10	20	30	40		50	
	1022.5	0	TOPSOIL (7 inches)													
	1021.8		AUGERED TO 6.0 FEET, NO SAMPLES TAKEN.													
		5	FAT CLAY (CH), with few chert fragments, STIFF, orangish-brown with black mottling, moist													
	1015.0		FAT CLAY (CH), VERY STIFF, orangish-tan and light gray with black mottling, moist			16										11 - 9 - 9
	1013.5		Weathered SHALE and LIMESTONE, with clay seams			14										8 - 15 - 50/3
	1012.3	10	AUGER REFUSAL AT 10.2 FEET.													
		15														
		20														
		25														
		30														
		35														

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# TEST BORING RECORD

BORING NO: **B-5**

PROJECT: 1,000,000 Gallon Water Tank - Switzer Property		JOB NO: 24302766	REPORT NO:
PROJECT LOCATION: Jessamine County, Kentucky			
ELEVATION: 1,023.0	BORING STARTED: 2/23/2004		BORING COMPLETED: 2/23/2004
DRILLING METHOD: 4" SFA	RIG TYPE: B-34		HAMMER: Safety
GROUNDWATER (ft): Trace at bottom of boring		BORING DIAMETER (IN): 4	SHEET 1 OF 1

Remarks: Partly Sunny with temperatures in the 30's  
 Prototype Foundation Plan indicated Bearing Elevation 8.5 Feet below ground surface. Sampling started at 8.0 Feet.

Groundwater	ELEV. (FT.)	DEPTH (FT.)	MATERIAL DESCRIPTION	Lithology	Sample Type	Recovery (in)	RQD (%)	Qu	STANDARD PENETRATION RESISTANCE (N)					BLOWS /6"	
									0	10	20	30	40		50
	1023.0	0	TOPSOIL (7 1/2 inches)	SL											
	1022.3		AUGERED TO 8.0 FEET, NO SAMPLES TAKEN.												
		5	FAT CLAY (CH), with few chert fragments, orangish-brown with black mottling, moist												
	1015.0		FAT CLAY (CH), VERY STIFF, orangish-tan and light gray with black mottling, moist			14									
	1014.0		Weathered SHALE and LIMESTONE, with clay seams												11 - 17 - 50/3
	1012.6	10	AUGER REFUSAL AT 10.4 FEET.												
		15													
		20													
		25													
		30													
		35													

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PROJECT: 1,000,000 Gallon Water Tank - Switzer Property		JOB NO: 24302766	REPORT NO:
PROJECT LOCATION: Jessamine County, Kentucky			
ELEVATION: 1,023.0	BORING STARTED: 2/23/2004		BORING COMPLETED: 2/23/2004
DRILLING METHOD: 4" SFA	RIG TYPE: B-34		HAMMER: Safety
GROUNDWATER (ft): N/A		BORING DIAMETER (IN): 4	SHEET 1 OF 1

Remarks: Partly Sunny with temperatures in the 30's  
 Prototype Foundation Plan indicated Bearing Elevation 8.5 Feet below ground surface. Sampling started at 6.0 Feet.

Groundwater	ELEV. (FT.)	DEPTH (FT.)	MATERIAL DESCRIPTION	Lithology	Sample Type	Recovery (in)	RQD (%)	Qu	STANDARD PENETRATION RESISTANCE (N)					BLOWS /6"		
									0	10	20	30	40		50	
	1023.0	0	TOPSOIL (8 inches)													
	1022.3		AUGERED TO 6.0 FEET, NO SAMPLES TAKEN.													
		5	FAT CLAY (CH), with few chert fragments, STIFF, orangish-brown with black mottling, moist			18										7 - 5 - 6
	1015.5		FAT CLAY (CH), VERY STIFF, orangish-tan and light gray with black mottling, moist			16										7 - 9 - 13
	1012.5	10	Weathered SHALE and LIMESTONE, with clay seams			10										11 - 17 - 50/0
	1011.6		AUGER REFUSAL AT 11.4 FEET. BEGIN CORING AT 11.4 FEET.					1717 psi								
		15	Calcareous SHALE (60%) and LIMESTONE (40%), gray, medium grained, crystalline, fossiliferous			97%	78%	1138 psi								
		20														
		25														
		30														
	991.8		LIMESTONE, gray, medium to coarse grained, crystalline													
	991.6		CORING TERMINATED AT 31.4 FEET.													
		35														

CRAIG2 24302766.GPJ QOR\_CORP.GDT 3/11/04



# TEST BORING RECORD

BORING NO: **B-7**

PROJECT: 1,000,000 Gallon Water Tank - Switzer Property		JOB NO: 24302766	REPORT NO:
PROJECT LOCATION: Jessamine County, Kentucky			
ELEVATION: 1,023.0	BORING STARTED: 2/23/2004		BORING COMPLETED: 2/23/2004
DRILLING METHOD: 4" SFA	RIG TYPE: B-34		HAMMER: Safety
GROUNDWATER (ft): Dry upon completion of drilling		BORING DIAMETER (IN): 4	SHEET 1 OF 1
Remarks: Partly Sunny with temperatures in the 30's Prototype Foundation Plan indicated Bearing Elevation 8.5 Feet below ground surface. Sampling started at 8.0 Feet.			

Groundwater	ELEV. (FT.)	DEPTH (FT.)	MATERIAL DESCRIPTION	Lithology	Sample Type	Recovery (in)	RQD (%)	Qu	STANDARD PENETRATION RESISTANCE (N)					BLOWS /6"			
									0	10	20	30	40		50		
	1023.0	0	TOPSOIL (8 inches)														
	1022.3		AUGERED TO 8.0 FEET, NO SAMPLES TAKEN.														
		5	FAT CLAY (CH), with few chert fragments, orangish-brown with black mottling, moist														
	1015.0		FAT CLAY (CH), VERY STIFF, orangish-tan and light gray with black mottling, moist			18											
	1013.5	10	Weathered SHALE and LIMESTONE, with clay seams			4											13 - 21 - 18
	1011.8		AUGER REFUSAL AT 11.2 FEET.														50/5
		15															
		20															
		25															
		30															
		35															

CRAIGZ\_24302766.GPJ QOR\_CORP.GDT 3/11/04



# TEST BORING RECORD

BORING NO: **B-8**

PROJECT: 1,000,000 Gallon Water Tank - Switzer Property		JOB NO: 24302766	REPORT NO:
PROJECT LOCATION: Jessamine County, Kentucky			
ELEVATION: 1,022.5	BORING STARTED: 2/23/2004		BORING COMPLETED: 2/23/2004
DRILLING METHOD: 4" SFA	RIG TYPE: B-34		HAMMER: Safety
GROUNDWATER (ft): Dry upon completion of drilling		BORING DIAMETER (IN): 4	SHEET 1 OF 1
Remarks: Partly Sunny with temperatures in the 30's Prototype Foundation Plan indicated Bearing Elevation 8.5 Feet below ground surface. Sampling started at 6.0 Feet.			

Groundwater	ELEV. (FT.)	DEPTH (FT.)	MATERIAL DESCRIPTION	Lithology	Sample Type	Recovery (in)	RQD (%)	Qu	STANDARD PENETRATION RESISTANCE (N)					BLOWS /6"	
									0	10	20	30	40		50
	1022.5	0	TOPSOIL (7 inches)												
	1021.8		AUGERED TO 6.0 FEET, NO SAMPLES TAKEN.												
		5	FAT CLAY (CH), with few chert fragments, STIFF, orangish-brown with black mottling, moist			18									9 - 9 - 10
	1015.0		FAT CLAY (CH), VERY STIFF, orangish-tan and light gray with some black mottling, moist			17									12 - 17 - 23
	1013.0	10	Weathered SHALE and LIMESTONE, with clay seams			2									50/2
	1011.1		AUGER REFUSAL AT 11.4 FEET.												
		15													
		20													
		25													
		30													
		35													

CRAIG2 24302766.GPJ QOR\_CORP.GDT 3/1/04

## FIELD TESTING PROCEDURES

**Field Operations:** The general field procedures employed by QORE Property Sciences are summarized in ASTM D 420 which is entitled "Investigating and Sampling Soils and Rocks for Engineering Purposes." This recommended practice lists recognized methods for determining soil and rock distribution and ground water conditions. These methods include geophysical and in situ methods as well as borings.

Borings are drilled to obtain subsurface samples using one of several alternate techniques depending upon the subsurface conditions. These techniques are:

- a. Continuous 2-1/2 or 3-1/4 inch I.D. hollow stem augers;
- b. Wash borings using roller cone or drag bits (mud or water);
- c. Continuous flight augers (ASTM D 1425).

These drilling methods are not capable of penetrating through material designated as "refusal materials." Refusal, thus indicated, may result from hard cemented soil, soft weathered rock, coarse gravel or boulders, thin rock seams, or the upper surface of sound continuous rock. Core drilling procedures are required to determine the character and continuity of refusal materials.

The subsurface conditions encountered during drilling are reported on a field test boring record by the driller. The record contains information concerning the boring method, samples attempted and recovered, indications of the presence of various materials such as coarse gravel, cobbles, etc., and observations between samples. Therefore, these boring records contain both factual and interpretive information. The field boring records are on file in our office.

The soil and rock samples plus the field boring records are reviewed by a geotechnical engineer. The engineer classifies the soils in general accordance with the procedures outlined in ASTM D 2488 and prepares the final boring records that are the basis for all evaluations and recommendations.

The final boring records represent our interpretation of the contents of the field records based on the results of the engineering examinations and tests of the field samples. These records depict subsurface conditions at the specific locations and at the particular time when drilled. Soil conditions at other locations may differ from conditions occurring at these boring locations. Also, the passage of time may result in a change in the subsurface soil and ground water conditions at these boring locations. The lines designating the interface between soil or refusal materials on the records and on profiles represent approximate boundaries. The transition between the materials may be gradual. The final boring records are included with this report. The detailed data collection methods used during this study are discussed on the following pages.

**Soil Test Borings:** Soil test borings were made at the site at locations shown on the attached Boring Plan. Soil sampling and penetration testing were performed in accordance with ASTM D 1586.

The borings were made by mechanically twisting a 5-5/8" outer diameter auger into the soil. At regular intervals, the drilling tools were removed and samples obtained with a standard 1.4 inch I.D., 2 inch O.D., spill tube sampler. The sampler was first sealed 6 inches to penetrate any loose cuttings, then driven an additional foot with blows of a 140-pound hammer falling 30 inches. The number of hammer blows required to drive the sampler the final foot was recorded and is designated the "penetration resistance".

Representative portions of the samples, thus obtained, were placed in glass jars and transported to the laboratory. In the laboratory, the samples were examined to verify the driller's field classifications. Test Boring Records are attached which graphically show the soil descriptions and penetration resistances.

**Soil Auger Soundings:** Soil auger soundings were made at the site at the locations shown on the attached Boring Location Plan. The soundings were performed by mechanically twisting a steel auger into the soil. However, unlike the soil test borings, a smaller diameter solid stem auger was used and no spill-tube samples were obtained. The driller provided a general description of the soil encountered by observing the soils brought to the surface by the twisting auger. The auger was advanced until refusal materials were encountered and the refusal depth was noted by the driller. The auger is then withdrawn and the depths to water or caved materials are then measured and recorded by the driller.

Soil auger soundings provide a rapid, economical method of obtaining the approximate bedrock depth, groundwater depth, and general soil conditions at locations where detailed soil testing and sampling is not required.

**Undisturbed Sampling:** Spill tube samples are suitable for visual examination and classification tests but are not sufficiently intact for quantitative laboratory testing. For quantitative testing, relatively undisturbed samples are obtained by pushing sections of 3 inch O.D., 16 gauge, steel or brass tubing (Shelby tube) into the soil at the desired sampling levels. This procedure is described by ASTM D 1587. Each tube, together with the encased soil, is carefully removed from the ground, made airtight and transported to the laboratory. Locations and depths of undisturbed samples are shown on the "Test Boring Record."

**Water Level Readings:** Water table readings are normally taken in conjunction with borings and are recorded on the "Test Boring Records". These readings indicate the approximate location of the hydrostatic water table at the time of our field investigation. Where impervious soils are encountered (clayey soils) the amount of water seepage into the boring is small, and it is generally not possible to establish the location of the hydrostatic water table through water level readings. The ground water table may also be dependent upon the amount of precipitation at the site during a particular period of time. Fluctuations in the water table should be expected with variations in precipitation, surface run-off, evaporation and other factors.

The time of boring water level reported on the boring records is determined by field crews as the drilling tools are advanced. The time of boring water level is detected by changes in the drilling rate, soil samples obtained, etc. Additional water table readings are generally obtained at least 24 hours after the borings are completed. The time lag of at least 24 hours is used to permit stabilization of the ground water table which has been disrupted by the drilling operations. The readings are taken by dropping a weighted line down the boring or using an electrical probe to detect the water level surface. Occasionally the borings will cave-in, preventing water level readings from being obtained or trapping drilling water above the caved-in zone. The cave-in depth is also measured and recorded on the boring records.

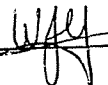
## **APPENDIX C**

**Laboratory Data**

**Laboratory Procedures**

SUMMARY OF LABORATORY TEST DATA

BORING NO.	SAMPLE DEPTH, FT.	SAMPLE TYPE*	USCS	NATURAL MOISTURE CONTENT, PERCENT	ATTERBERG LIMITS			MAX. DRY DENSITY PCF / OPTIMUM MOISTURE %	UNIT WEIGHT PCF		UNCONFINED COMPRESSIVE STRENGTH PSI	%FINER NO. 200	SPECIFIC GRAVITY	CBR
					L.L.	P.L.	P.I.		WET	DRY				
B-2	11.5-12.0	CORE							147.6	2,303				
B-2	12.5-13.0	CORE							142.3	651				
B-6	11.6-12.1	CORE							150.8	1,717				
B-6	12.5-13.0	CORE							148.6	1,138				

Table Checked By: 

\* SS = Split-Spoon Sample (ASTM D 1586) UD = Undisturbed Sample (ASTM D 1587) BG = Bulk Bag Sample  
 CORE = Rock Core

**QORE, INC.**  
 Lexington, Kentucky  
 Project Name: One Million Gallon Water Tank  
 Project Number: 24302766

## LABORATORY TESTING PROCEDURES

**Soil Classification:** Soil classifications provide a general guide to the engineering properties of various soil types and enable the engineer to apply past experience to current problems. In our investigations, samples obtained during drilling operations are examined in our laboratory and visually classified by an engineer. The soils are classified according to consistency (based on number of blows from standard penetration tests), color and texture. These classification descriptions are included on our "Test Boring Records."

The classification system discussed above is primarily qualitative and for detailed soil classification two laboratory tests are necessary: grain size tests and plasticity tests. Using these test results the soil can be classified according to the AASHTO or Unified Classification Systems (ASTM D 2487). Each of these classification systems and the in-place physical soil properties provides an index for estimating the soil's behavior. The soil classification and physical properties obtained are presented in this report.

**Compaction Tests:** Compaction tests are run on representative soil samples to determine the dry density obtained by a uniform compactive effort at varying moisture contents. The results of the test are used to determine the moisture content and unit weight desired in the field for similar soils. Proper field compaction is necessary to decrease future settlements, increase the shear strength of the soil and decrease the permeability of the soil.

The two most commonly used compaction tests are the Standard Proctor test and the Modified Proctor test. They are performed in accordance with ASTM D 698 and D 1557, respectively. Generally, the Standard Proctor compaction test is run on samples from building or parking areas where small compaction equipment is anticipated. The Modified compaction test is generally performed for heavy structures, highways, and other areas where large compaction equipment is expected. In both tests a representative soil sample is placed in a mold and compacted with a compaction hammer. Both tests have four alternate methods.

Test	Method	Hammer Wt./Fall	Mold Diam.	Run on Matl. Finer Than	No. of Layers	No. of Blows/Layer
Standard	A	5.5 lb./12"	4"	No. 4 sieve	3	25
D 698	B	5.5 lb./12"	4"	3/8" sieve	3	25
	C	5.5 lb./12"	6"	3/4" sieve	3	56

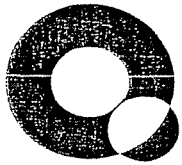
Test	Method	Hammer Wt./Fall	Mold Diam.	Run on Matl. Finer Than	No. of Layers	No. of Blows/Layer
Modified	A	10 lb./18"	4"	No. 4 sieve	5	25
D 1557	B	10 lb./18"	4"	3/8" sieve	5	25
	C	10 lb./18"	6"	3/4" sieve	5	56

The moisture content and unit weight of each compacted sample is determined. Usually 4 to 5 such tests are run at different moisture contents. Test results are presented in the form of a dry unit weight versus moisture content curve. The compaction method used and any deviations from the recommended procedures are noted in this report.

**Atterberg Limits:** Portions of the samples are taken for Atterberg Limits testing to determine the plasticity characteristics of the soil. The plasticity index (PI) is the range of moisture content over which the soil deforms as a plastic material. It is bracketed by the liquid limit (LL) and the plastic limit (PL). The liquid limit is the moisture content at which the soil becomes sufficiently "wet" to flow as a heavy viscous fluid. The plastic limit is the lowest moisture content at which the soil is sufficiently plastic to be manually rolled into thin threads. The liquid limit and plastic limit are determined in accordance with ASTM D 4318.

**Moisture Content:** The Moisture Content is determined according to ASTM D 2216.





**Q O R E**<sup>TM</sup>  
PROPERTY SCIENCES

422 Codell Drive  
Lexington, KY 40509  
859-293-5518 • Fax: 859-299-2481  
www.qore.net

**LETTER OF TRANSMITTAL**

**FILE COPY**  
3569  
3683

**TO:** \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

DATE 1-31-2006	JOB NO. 24303921
RE: Forest Hills 1,000,000 Gallon Water Tank	

**ATTN:** Mr. Barry Mangold

We are sending you via messenger as described below:

COPIES	DATE	NO	DESCRIPTION
			Geotechnical Report for 1,000,000 Gallon Water Tank
			- Forest Hills

These are transmitted  For review and comment  For your use  As requested  \_\_\_\_\_

**Remarks:** \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**COPY TO:** John Horne - 2 bound - 1 unbound  
\_\_\_\_\_  
\_\_\_\_\_

**QORE FILE:** 2006 Projects / 24303921  
\_\_\_\_\_

If enclosures are not as noted, please notify us immediately.

**SIGNED:** \_\_\_\_\_

# Horne Engineering, Inc.

216 SOUTH MAIN STREET • NICHOLASVILLE, KENTUCKY 40356 • (859)885-9441 • FAX (859)885-5160

ENGINEERS • LAND SURVEYORS • PLANNERS  
*email@horneeng.com*

January 31, 2006

Diana Clark  
Jessamine South Elkhorn Water District  
107 South Main Street, PO Box 731  
Nicholasville, KY 40356

FILE COPY

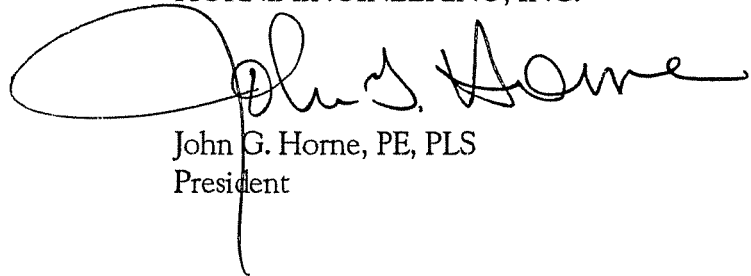
Re: Geotechnical Report  
Proposed Relocation Site  
Forest Hills Subdivision  
Harrodsburg Road  
Jessamine South Elkhorn Water District

Dear Diana:

Enclosed, for your records, please find a copy of the Geotechnical Report for the site of the relocation of the proposed Catnip Hill 1.0 million gallon elevated storage tank.

Should you have any questions or require additional information regarding this matter, please contact me at (859) 885-9441.

Sincerely,  
HORNE ENGINEERING, INC.



John G. Horne, PE, PLS  
President

JGH/jt  
enc.

cc: Nick Strong  
Engr/3569  
Engr/3683  
Engr/3710  
Corr.

# Horne Engineering, Inc.

16 SOUTH MAIN STREET • NICHOLASVILLE, KENTUCKY 40356 • (859)885-9441 • FAX (859)885-5160

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ENGINEERS • LAND SURVEYORS • PLANNERS

e-mail: [horneeng@cs.com](mailto:horneeng@cs.com)

March 4, 2004

Craig S. Lee, PE  
QORE Property Sciences  
422 Codell Drive  
Lexington, KY 40509

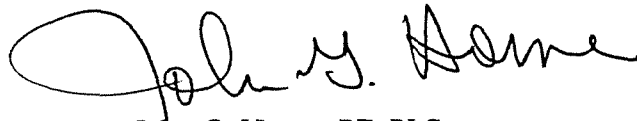
Re: Proposal for Geotechnical Exploration  
1,000,000 GALLON WATER TANK-  
SWITZER PROPERTY  
Nicholasville, Kentucky  
QORE Proposal Number LEX 1665

Dear Craig:

Enclosed please find one (1) copy of the proposal executed by Leon Taylor, Chairman of Jessamine South Elkhorn Water District.

Thank you for your assistance in this matter and if there is any further requirement, please contact me at (859) 885-9441.

Sincerely,  
HORNE ENGINEERING, INC.



John G. Horne, PE, PLS  
President

JGH/jt  
enc.

cc: Leon Taylor w/enc.  
Glenn T. Smith w/enc.  
Engr/3546  
Engr/3553  
Corr.



February 26, 2004

Jessamine South Elkhorn Water District  
c/o Horne Engineering, Inc.  
216 South Main Street  
Nicholasville, KY 40356

Attention: Mr. John Horne, PE, PLS

Subject: **Proposal for Geotechnical Exploration  
1,000,000 GALLON WATER TANK – SWITZER PROPERTY  
Nicholasville, Kentucky  
QORE Proposal Number LEX 1665**

Dear Mr. Horne:

The Lexington, Kentucky office of QORE™ Inc. (QORE) is pleased to submit this proposal for providing a geotechnical exploration for your project. Since 1969, QORE has provided geotechnical engineering, environmental consulting and construction monitoring and materials testing services on thousands of projects throughout the Southeast. We are currently recognized by *Engineering News Record* magazine as a top 200-design firm.

#### **WHY A GEOTECHNICAL EXPLORATION**

The geotechnical engineer provides foundation design and site preparation recommendations, which reflect the unique combination of structural loads and site grading for the specific site conditions. The experienced geotechnical engineer develops a model of the subsurface conditions based on a discrete sampling of the soil and rock. Engineering properties such as compressibility, shrink-swell, and strength are established by laboratory testing. Our report typically provides remedial measures for identified problem areas, a discussion of your risk associated with the construction and design recommendations for economical and functional foundation construction and site preparation. During construction the geotechnical engineer observes the actual conditions and verifies that his assumptions (based on discrete sampling) are valid.

## **HOW DOES A GEOTECHNICAL EXPLORATION BENEFIT THE OWNER**

By understanding the engineering properties of the soil and rock, the geotechnical engineer can develop economical foundation and site preparation recommendations that provide the desired performance. After all, the less money the Owner spends in foundation and site preparation costs, the more the Owner can spend on the tank. *Conservative design recommendations resulting from an inexperienced engineer or an inadequate exploration can cost the owner literally thousands of dollars in unnecessary over-design or change orders associated with "unanticipated" conditions.* Historically, many of these change orders involve site-grading issues that the inexperienced engineer simply did not recognize. Because geotechnical engineering is as much art as it is applied science, the experience of the engineer is very important.

## **PROJECT DESCRIPTION**

Our understanding of your project is based on conversations with Mr. John Horne, P.E., P.L.S., site location maps, and drawings depicting the proposed leg locations and proposed foundation types. We understand that a new water tank will be constructed on the Switzer Farm, located near the intersection of Catnip Hill Road and U.S. Highway 68 (Harrodsburg Road) in Jessamine County, Kentucky. The tank will be an elevated, steel tank holding approximately 1,000,000 gallons of water. The total height of the tank was not provided.

Based on our experience in Jessamine County and the preliminary drawings from Caldwell Tanks, we assumed that the foundations will bear on bedrock. We also assumed the maximum tolerable total settlement will be ½ inch, with a maximum differential settlement of ¼ inch between adjacent support legs.

## **SCOPE OF SERVICES**

The proposed exploration and related analyses will be based on our experience with subsurface conditions in the project area, the proposed foundation types and typical construction techniques and site preparation methods. We will assign a project geotechnical engineer to perform the work associated with your project. Our work will be directed and supervised by one of our senior geotechnical engineers, Mr. Craig S. Lee, P.E.

At your request, we propose to drill eight borings spaced at 45 degrees on a 35 feet radius around the proposed tank center. Each boring will be advanced to auger refusal, which we anticipate to average about 11 feet. We will advance two of these borings 20 feet into rock to explore the rock conditions. Several sinkholes are mapped approximately 1,000 feet west and southwest of the proposed tank site. The rock cores will enable us to verify the continuity and consistency of the underlying rock.

*Our project engineer will supervise the drilling operations and log the samples as they are recovered. We do not rely on driller's logs or interpretations. We think your project deserves a more professional approach and attention. This improves the quality of the subsurface information by allowing the engineer to adjust the drilling and sampling program to reflect the actual conditions in the field. The higher quality of the data allows us to be far less conservative in our design recommendations. We found that the slight increase in fee is more than offset in construction costs savings realized from more reasonable design assumptions and recommendations.*

Our geotechnical engineer will examine the recovered samples and visually classify them according to the Unified Soil Classification System (USCS) (ASTM D-2488). On the basis of the anticipated conditions, we propose to perform the following laboratory tests:

- Unconfined compression tests (rock)

After our analyses are complete, we will issue a written report describing the exploration and outlining our recommendations. The report will include the following

- A brief review of our test procedures and the results of all testing conducted.
- A review of area and site geologic conditions, surface topographical features and site conditions.
- A discussion of subsurface conditions and relevant physical properties.
- A review of any specific geotechnical conditions which may affect the design or construction of the project.
- A summary of recommended general design and construction criteria for the project foundations.

## **COMPENSATION**

On the basis of the workscope describe herein, we propose a **lump sum fee of \$4,625.00** for the work scope described above. If conditions are encountered which differ from the anticipated, we will notify your office of the revised workscope and the associated fee for performing the work. This proposal assumes the boring locations are accessible to a truck-mounted drill rig. Delay time associated with site problems or dozer rental for providing access to the boring locations has not been included in the cost of this proposal and will be borne by the client. Difficult moving (down) time may be charged at a rate of \$125 per hour. However, we will notify you prior to accruing the charges.

## **SCHEDULE**

Based upon our present schedule, we can begin this project within one to two working days after we receive written authorization. We expect the project to take approximately two weeks to complete. We can normally provide preliminary verbal recommendations soon after the drilling has been completed.

## **AUTHORIZATION**

To authorize us to proceed with the proposed exploration, please sign the attached Proposal Acceptance Sheet and return one complete copy to us. Any exceptions to this proposal or special requirements not covered in the proposal should be listed on the Proposal Acceptance Sheet. Please note that the Terms and Conditions attached to the Proposal Acceptance Sheet are part of this proposal.

## **LIMITATIONS**

We will contact the local utility locators prior to mobilizing to the site. The utility location services will only mark public utility lines; therefore, we will need assistance in locating private lines or underground structures, and we request that the Client provide us with any drawings depicting on-site utilities. Our firm cannot be held responsible for damage to utility lines or subsequent loss of service if utility locations are not made known to us or are mislocated by others.

We assume that the Client will obtain right-of-entry into the site for our drilling equipment and personnel. Also, moving the drilling equipment around the site and drilling the borings will leave some areas disturbed. While we will try to limit site disturbance, our fee does not include re-landscaping or otherwise restoring the site to its original condition. Our services will include

backfilling the borings with the auger cuttings, unless otherwise directed. Over time, you should expect some settlement of the backfilled material. Please inform us if your requirements are any different.

We have not been retained to determine the presence of, nor delineate wetlands, and our geotechnical personnel have not been trained to recognize wetland areas. Thus, we accept no responsibility for damage to areas classified as wetlands that are not made known to us prior to our entry onto the site. If desired, we would be pleased to provide a proposal for an appropriate wetlands evaluation of the site.

We should be informed of any possible contamination on the site prior to drilling to prevent spreading of the contamination. If contaminated soil, or groundwater is encountered during drilling, it is possible that the contamination may be spread to other soil zones or aquifers that were not previously contaminated. Because it is impossible to eliminate the risk of encountering existing contamination during drilling and because the geotechnical exploration is an essential aspect of the services that we are providing, our firm is not responsible for any claim which may arise as a result of contamination allegedly caused by the geotechnical exploration.

We should be informed of any known or suspected soil or groundwater contamination at the site. If contamination is known or suspected, we will handle the drill cuttings and fluids as waste materials and place them in labeled containers for proper removal and disposal. If this is a concern, we would be pleased to provide a cost estimate for placing the soil cuttings and fluids in drums and having the drums disposed.

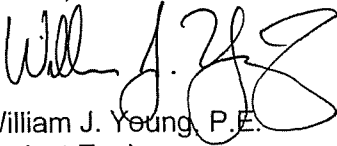
Our fee includes discussion and interpretation of our findings with other members of the design team, but does not include meetings concerning construction or changes in design. The fee also does not include review of construction documents such as plans and specifications. We would be pleased to provide unit fee estimates for these additional services.



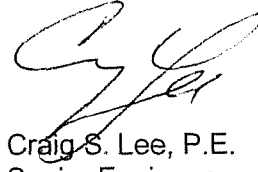
**CONCLUSION**

We appreciate your consideration of QORE for this work. We look forward to working with you on this and future projects.

Sincerely,  
QORE, Inc.



William J. Young, P.E.  
Project Engineer



Craig S. Lee, P.E.  
Senior Engineer

S:\proposals\2004 Proposals\LEX 1665

Attachments: Proposal Acceptance Sheet/Terms and Conditions



PROPOSAL ACCEPTANCE SHEET

Description of Services GEOTECHNICAL EXPLORATION
Project Name 1,000,000 GALLON WATER TANK - SWITZER PROPERTY
Project Location JESSAMINE COUNTY, KENTUCKY
Proposal Number & Date LEX 1665 dated February 26, 2004 Consultant Craig S. Lee, P.E.
Location of QORE Office Performing Services 422 Codell Drive, Lexington, Kentucky 40509

FOR PAYMENT OF CHARGES:

Charge Invoice to the Account of:
Firm JESSAMINE SOUTH ELKHORN WATER DISTRICT
Address P.O. Box 731 City NICHOLASVILLE
State KENTUCKY Zip Code 40350 Phone Number 881-0589
Attention: - Title

FOR APPROVAL OF CHARGES:

If the invoice is to be mailed for approval to someone other than the account charged, please indicate where to mail the invoice in the space below.

Firm HORNE ENGINEERING, INC
Address 216 S. MAIN City NICHOLASVILLE
State KENTUCKY Zip Code 40350 Phone Number 885-9441
Attention: JOHN HORNE Title

PROPERTY OWNER IDENTIFICATION (If other than above):

Firm
Address
State Zip Code City
Attention: Title

SPECIAL INSTRUCTIONS:

PAYMENT TERMS:

Compensation will be in accordance with the proposal referenced above. Invoices will be issued monthly. Client agrees to pay all charges not in dispute within 30 days of receipt of invoice and recognizes that charges not paid within 30 days are subject to a late payment charge of 1.5 percent of the balance due for each additional month or fraction thereof that undisputed charges remain unpaid. Charges held in dispute will be called to the attention of QORE within 10 days of receipt of invoice. Client agrees to pay cost of collection, including reasonable attorney's fees, if invoices are collected by law or through an attorney. Client further agrees that QORE has the right to suspend or terminate service if undisputed charges are not paid within 45 days of receipt of QORE invoice and agrees to waive any claim against QORE and to indemnify, defend and hold QORE harmless from and against any claims arising from QORE's suspension or termination due to Client's failure to provide timely payment.

PROPOSAL ACCEPTANCE:

The Terms and Conditions of this Proposal, including the Terms on this page and the reverse hereof are:

Accepted this 3 day of MARCH, 2004

JESSAMINE SOUTH ELKHORN WATER DISTRICT
Print or type individual, firm or corporate body name

Signature of authorized representative

LEON TAYLOR - CHAIRMAN
Print or type name of authorized representative and title

## TERMS AND CONDITIONS

### 1. STANDARD OF CARE

Client recognizes that subsurface conditions may vary from those observed at locations where borings, surveys, or explorations are made, and that site conditions may change with time. Data, interpretations, and recommendations by QORE Inc. (QORE) will be based solely on information available to QORE. QORE is responsible for those data, interpretations, and recommendations, but will not be responsible for other parties' interpretations or use of the data. Services performed by QORE under this Agreement are expected by Client to be conducted in a manner consistent with the level of care and skill ordinarily exercised by members of the geotechnical engineering profession practicing contemporaneously under similar conditions in the locality of the project. Under no circumstance is any warranty, expressed or implied, made in connection with the providing of geotechnical engineering.

### 2. RISK ALLOCATION

Many risks potentially affect QORE by virtue of entering into this Agreement to perform professional engineering services on behalf of Client. The principal risk is the potential for human error by QORE. For Client to obtain the benefit of a fee which includes a nominal allowance for dealing with QORE's liability, Client agrees to limit QORE's liability to Client and to all other parties for claims arising out of QORE's performance of the services described in this Agreement. The aggregate liability of QORE will not exceed \$50,000 or the amount of our fee, whichever is greater, for negligent professional acts, errors, or omissions. The limit of professional liability can be increased to a maximum of \$1,000,000.00 upon client written request provided that client agrees to pay an additional consideration of 10 percent of the total fee or \$500,00, whichever is greater. The additional charge is because of the greater risk assumed and is not a charge for additional professional liability insurance. Client agrees to indemnify and hold harmless QORE from and against all liabilities in excess of the monetary limit established above.

Limitations on liability and indemnities in this Agreement are business understandings between the parties voluntarily and knowingly entered into and shall apply to all theories of recovery including, but not limited to, breach of contract, warranty, tort (including negligence), strict or statutory liability, or any other cause of action, except for willful misconduct or gross negligence. The parties also agree that Client will not seek damages in excess of the limitations indirectly through suits with other parties who may join QORE as a third-party defendant. Parties mean Client and QORE and their officers, employees, agents, affiliates, and subcontractors.

Both Client and QORE agree that they will not be liable to each other, under any circumstances, for special, indirect, consequential, or punitive damages arising out of or related to this Agreement.

### 3. DISPUTE RESOLUTION COSTS

Should third-party dispute resolution be required through litigation, arbitration, or an alternative dispute resolution method, the nonprevailing party shall reimburse the prevailing party for the prevailing party's documented legal costs in addition to whatever judgement or settlement sums may be due. Such costs shall include reasonable attorney's fees, court costs, consultant and expert witness fees, and other documented expenses as well as the value of time spent by the prevailing party and its employees to research the issues, discuss the matter with attorneys, etc. Insofar as QORE is concerned, the value of time spent shall be based upon QORE's prevailing fee schedule.

### 4. SITE ACCESS AND SITE CONDITIONS

Client will grant or obtain free access to the site for all equipment and personnel necessary for QORE to perform the work set forth in this Agreement. Client will notify any and all possessors of the project site that Client has granted QORE free access to the site. QORE will take reasonable precautions to minimize damage to the site, but it is understood by Client that, in the normal course of work, some damage may occur and the correction of such damage is not part of this Agreement unless so specified in the Proposal.

Client is responsible for accurately providing the locations for all subterranean structures and utilities and wetland sensitive areas. QORE will take reasonable precautions to avoid known subterranean structures and wetland sensitive areas, and Client waives any claim against QORE, and agrees to defend, indemnify, and hold QORE harmless from any claim or liability for injury or loss, including costs of defense, arising from damage done to subterranean structures and utilities and, unless QORE has been contracted to delineate wetland areas on the site, to wetland sensitive areas not identified or accurately located. In addition, Client agrees to compensate QORE for any time spent or expenses incurred in defense of any such claim, with compensation to be based on QORE's prevailing fee schedule and expense reimbursement policy.

### 5. SAFETY

Should our company provide observations or monitoring services at the job site during construction, Client agrees that, in accordance with the generally accepted construction practice, the contractor will be solely and completely responsible for working conditions on the job site, including safety of all persons and property during the performance of the work and compliance with OSHA regulations. These requirements will apply continuously and will not be limited to normal working hours. Any monitoring of the contractor's procedures conducted by our company does not include review of the adequacy of the contractor's safety measures in, on, adjacent to, or near the construction site.

### 6. MONITORING

If QORE is retained by Client to provide a site representative for the purpose of monitoring specific portions of construction work or other field activities as set forth in the Proposal, then this phrase applies. For the specified assignment, QORE will report observations and professional opinions to Client. No action of QORE or QORE's site representative can be construed as altering any Agreement between Client and others. QORE will report to Client any observed geotechnically related work which, in QORE's professional opinion, does not conform with plans and specifications. The QORE representative has no right to reject or stop work of any agent of the Client. Such rights are reserved solely for Client. Furthermore, QORE's presence on site does not in any way guarantee the completion or quality of the performance of the work of any party retained by Client to provide field or construction-related services.

QORE will not be responsible for and will not have control or charge of specific means, methods, techniques, sequences, or procedures of construction or other field activities selected by any agent of the Client.

### 7. SAMPLING OR TEST LOCATION

Unless otherwise stated, the fees in this proposal do not include costs associated with survey of the site for the accurate horizontal and vertical locations of tests. Field tests or boring locations described in a report or shown on sketches are based upon information furnished by others or estimates made in the field by our representatives. Such dimensions, depths, or elevations should be considered as approximations unless otherwise stated. If the client specifies the test or boring location, we reserve the right to deviate a reasonable distance from the location specified.

### 8. SAMPLE DISPOSAL

Unless otherwise requested, test specimens or samples will be disposed of immediately upon completion of test, and other drilling samples or specimens will be disposed of 60 days after submission of our report. Upon written request, we will retain test specimens or drilling samples for a mutually acceptable storage charge and period of time.

### 9. DISCOVERY OF UNANTICIPATED HAZARDOUS MATERIALS

Client represents that Client has made a reasonable effort to evaluate if hazardous materials are on or near the project site, and that Client has informed QORE of Client's findings relative to the possible presence of such materials.

Hazardous materials may exist at a site where there is no reason to believe they could or should be present. QORE and Client agree that the discovery of unanticipated hazardous materials constitutes a changed condition mandating a renegotiation of the scope of work or termination of services. QORE and Client also agree that the discovery of unanticipated hazardous materials may make it necessary for QORE to take immediate measures to protect health and safety. Client agrees to compensate QORE for any equipment decontamination or other costs incident to the discovery of unanticipated hazardous material.

QORE agrees to notify client when unanticipated hazardous materials or suspect hazardous materials are encountered. Client agrees to make any disclosures required by law to the appropriate governing agencies. Client also agrees to hold QORE harmless for any and all consequences of disclosures made by QORE which are required by governing law. In the event that the project site is not owned by Client, Client recognizes that it is Client's responsibility to inform the property owner of the discovery of unanticipated hazardous materials or suspected hazardous materials.

Notwithstanding any other provision of the Agreement, Client waives any claim against QORE and, to the maximum extent permitted by law, agrees to defend, indemnify, and save QORE harmless from any claim, liability, and/or defense costs for injury or loss arising from QORE's discovery of unanticipated hazardous materials or suspected hazardous materials, including, but not limited to, any costs created by delay of the project and any cost associated with possible reduction of the property's value.

### 10. TERMINATION

This Agreement may be terminated by either party seven (7) days after written notice in the event of any breach of any provision of this Agreement or in the event of substantial failure of performance by the other party, or if Client suspends the work for more than three (3) months. In the event of termination, QORE will be paid for services performed prior to the date of termination plus reasonable termination expenses, including, but not limited to, the cost of completing analyses, records, and reports necessary to document the job status at the time of termination.

### 11. OWNERSHIP OF DOCUMENTS

All documents including, but not limited to, drawings, specifications, reports, boring logs, field notes, laboratory test data, calculations, and estimates prepared by our firm as instruments of service pursuant to this Agreement shall be the sole property of QORE. Client agrees that all documents of any nature furnished to Client or Client's agents or designees, if not paid for, will be returned upon demand and will not be used by Client for any purpose whatsoever. Client further agrees that under no circumstances shall any document produced by our firm, pursuant to this Agreement, be used at any location for any project not expressly provided for in this Agreement without our written permission. At the request and expense of Client, we will provide Client with copies of documents created in the performance of this work for a period not exceeding five years following submission of the report or reports contemplated by this Agreement.

### 12. GOVERNING LAW AND SURVIVAL

The validity, interpretation, and performance of this Agreement shall be governed by the law of the State in which the QORE office, identified as "Consultant" on the Proposal Acceptance Sheet for this project, is located. In addition, QORE and Client agree to submit to the personal and exclusive jurisdiction and venue of said State with respect to any claims which may arise under this Agreement. If any of the provisions contained in this Agreement are held illegal, invalid, or unenforceable, the enforceability of the remaining provisions will not be impaired. Limitations of liability and indemnities will survive termination of this Agreement for any cause.



METHOD OF SURVEY

THIS SURVEY WAS CONDUCTED VIA RANDOM OFFSET TRAVERSE WITH RADIAL CORNER TIES, AT AN UNADJUSTED TRAVERSE PRECISION OF 1:38353 USING A TOPCON GTS 3 C TOTAL STATION ADJUSTMENT OF TRAVERSE BY GRABALL METHOD. COMPUTATIONS WERE COMPLETED USING SURV-CADD SOFTWARE. BEARINGS DETERMINED FROM HEASURED ANGLES, NORTH ROTATED TO BEARING OF N 67°15'00" E (TRAVERSE OF A PREVIOUS SURVEY). THIS SURVEY CONSTITUTES A CLASS 'B' SURVEY.

ENTRANCE PIPE NOTE

PURSUANT TO SECTION 4.02 OF THE JESSAMINE COUNTY SUBDIVISION REGULATIONS ANY INSTALLED ENTRANCE PIPE SHALL BE APPROPRIATELY SIZED PER REQUIREMENTS OF THE JESSAMINE COUNTY ROAD DEPARTMENT SUPERVISOR. A MINIMUM SIZE OF 15" SHALL BE REQUIRED.

CERTIFICATE OF ACCURACY

I HEREBY CERTIFY THAT THE PLAN SHOWN AND DESCRIBED HEREON IS A TRUE AND CORRECT SURVEY TO THE ACCURACY REQUIRED BY THE WILMORE-JESSAMINE COUNTY JOINT PLANNING COMMISSION AND THAT THE MEASUREMENTS HAVE BEEN PLACED AS SHOWN HEREON TO THE SPECIFICATIONS OF THE JESSAMINE COUNTY ENGINEER OR OTHER AUTHORIZED OFFICER.



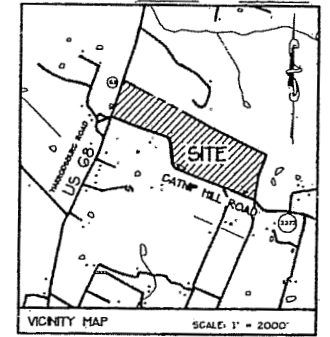
John B. Horne 5-10-04 DATE

CERTIFICATE OF OWNERSHIP AND DEDICATION

I (WE) HEREBY CERTIFY THAT I AM (WE ARE) THE OWNER(S) OF THE PROPERTY SHOWN AND DESCRIBED HEREON AND THAT I (WE) HEREBY ADOPT THIS PLAN OF THE SUBDIVISION WITH MY (OUR) FREE CONSENT, ESTABLISH THE HOURLY BUILDING RESTRICTION LINES, AND DEDICATE ALL STREETS, ALLEYS, WALKS, PARKS AND OTHER OPEN SPACES TO PUBLIC OR PRIVATE USE AS SHOWN IN ACCORDANCE WITH THE WILMORE AND JESSAMINE COUNTY SUBDIVISION REGULATIONS, UNLESS OTHERWISE NOTED.

John C. Switzer 5/10/04 DATE

PLAT CABINET 9 SLIDE



J.S.E.W.D. WATER TOWER LEASE D.B. 111, P. 204 D.B. 113, P. 304 P.C. 7, SL. 155-A 043-00-00-003.00

HARRODS CUB. LLC D.B. 303, P. 533 D.B. 303, P. 528 D.B. 434, P. 304 P.C. 7, SL. 155-A 043-00-00-004.00

SPRING HOUSE GARDENS, LLC D.B. 337, P. 140 P.C. 8, SL. 23 043-00-00-005.00

ROBERT K. + CNDR G. SALLEY D.B. 327, P. 189 D.B. 327, P. 165 P.C. 8, SL. 23 043-00-00-009.01

ROBERT K. + CNDR G. SALLEY D.B. 370, P. 590 043-00-00-029.00

ALBERT NELSON GREEN D.B. 305, P. 272 043-00-00-032.00

KENNETH LEE + SARAH RANSKY D.B. 344, P. 545 043-00-00-033.00

MARGARET RASH D.B. 277, P. 310 053-00-00-005.00

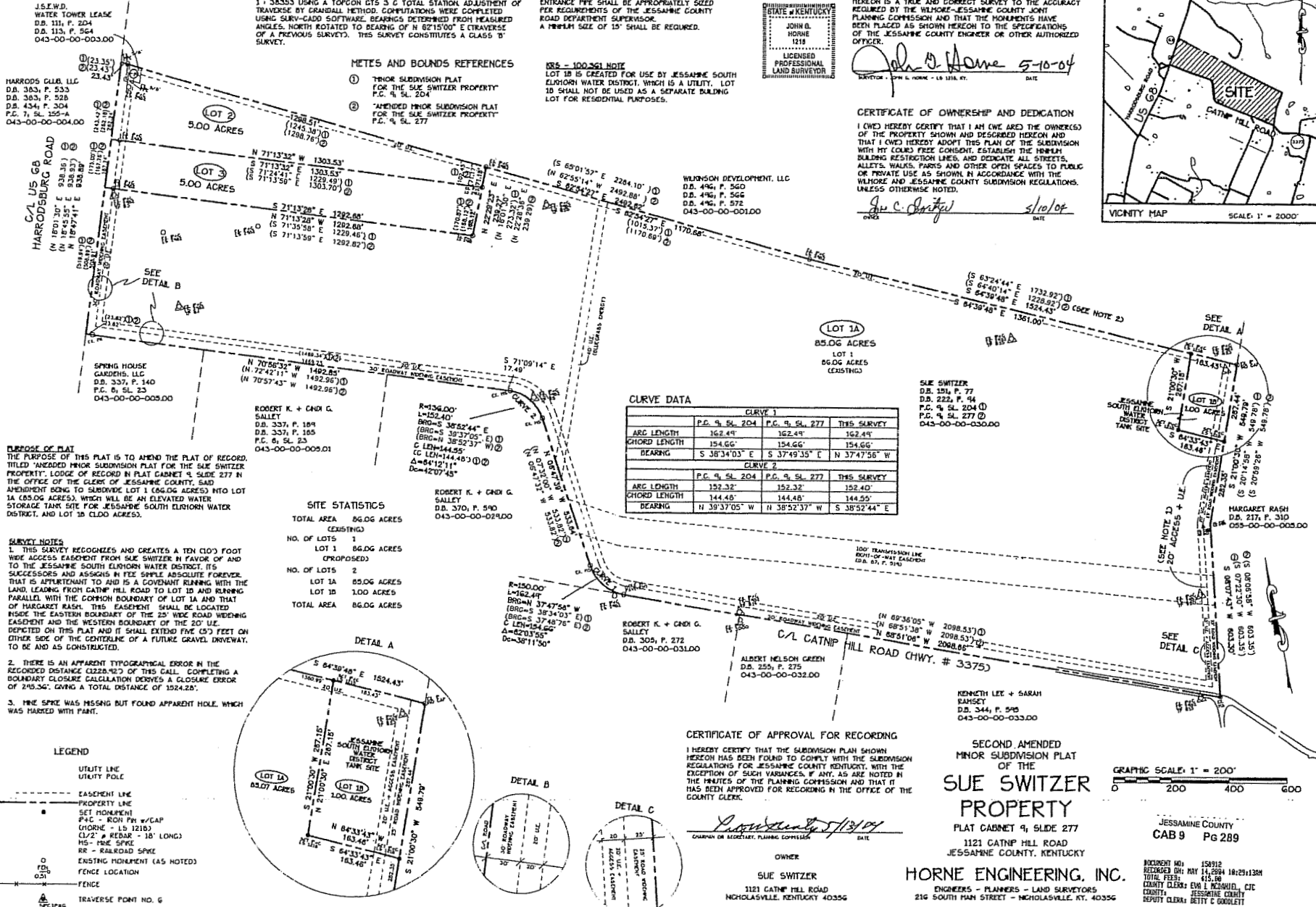
WILKINSON DEVELOPMENT, LLC D.B. 496, P. 560 D.B. 496, P. 566 D.B. 496, P. 572 043-00-00-001.00

METES AND BOUNDS REFERENCES

- 1. "TRUCK SUBDIVISION PLAT FOR THE SUE SWITZER PROPERTY" P.C. 4, SL. 204
2. "AMENDED TRUCK SUBDIVISION PLAT FOR THE SUE SWITZER PROPERTY" P.C. 4, SL. 277

RES - 100-561-NOTE

LOT 1B IS CREATED FOR USE BY JESSAMINE SOUTH ELKHORN WATER DISTRICT, WHICH IS A UTILITY. LOT 1B SHALL NOT BE USED AS A SEPARATE BUILDING LOT FOR RESIDENTIAL PURPOSES.

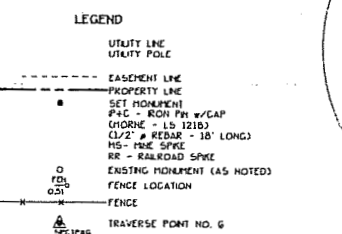


PURPOSE OF PLAT: THE PURPOSE OF THIS PLAT IS TO AMEND THE PLAT OF RECORD, TITLED "AMENDED TRUCK SUBDIVISION PLAT FOR THE SUE SWITZER PROPERTY..."

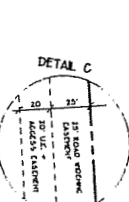
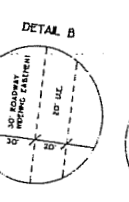
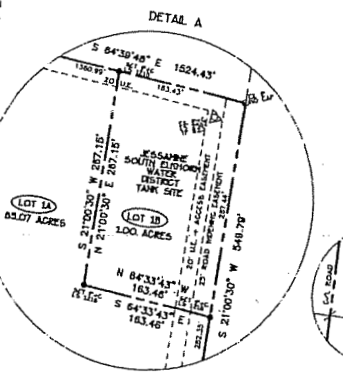
SURVEY NOTES: 1. THIS SURVEY RECOGNIZES AND CREATES A TEN (10') FOOT WIDE ACCESS EASEMENT FROM SUE SWITZER IN FAVOR OF AND TO THE JESSAMINE SOUTH ELKHORN WATER DISTRICT...

2. THERE IS AN APPARENT TYPOGRAPHICAL ERROR IN THE RECORDED DISTANCE (1328.12') OF THIS CALL, COMPLETING A BOUNDARY CLOSURE CALCULATION DENOTES A CLOSURE ERROR OF 2'45.36', GIVING A TOTAL DISTANCE OF 1324.28'.

3. THE SPIKE WAS MISSING BUT FOUND APPARENT HOLE, WHICH WAS MARKED WITH PAINT.



CURVE DATA table with columns for CURVE 1 and CURVE 2, and rows for ARC LENGTH, CHORD LENGTH, BEARING, P.C., P.T., and TANGENT.



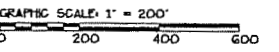
CERTIFICATE OF APPROVAL FOR RECORDING: I HEREBY CERTIFY THAT THE SUBDIVISION PLAN SHOWN HEREON HAS BEEN FOUND TO COMPLY WITH THE SUBDIVISION REGULATIONS FOR JESSAMINE COUNTY, KENTUCKY...

Signature of Chairman or Secretary, Planning Commission, dated 5/13/04.

SECOND AMENDED MINOR SUBDIVISION PLAT OF THE SUE SWITZER PROPERTY PLAT CABINET 9, SLIDE 277 1121 CATNIP HILL ROAD JESSAMINE COUNTY, KENTUCKY

HORNE ENGINEERING, INC. ENGINEERS - PLANNERS - LAND SURVEYORS

216 SOUTH MAIN STREET - NICHOLASVILLE, KY. 40356 DATE: 04/24/2004 CAD: 01\_301 FILE: G:\SEC5\WORK\W03346\PLAT.DWG



JESSAMINE COUNTY CAB 9 Pg 289

DOCUMENT NO: 158312 RECORDED ON: MAY 14, 2004 10:25:13AM TOTAL FEES: 145.00 COUNTY CLERK: EVA L. REYNOLDS, CTC COUNTY ENGINEER: JESSAMINE COUNTY REPUTY CLERK: BETTY C. GOODLETT

WO 3546

Resection		
#	1	5.10
#	2	5.29
Stone	3	5.54
<hr/>		
Start	TRANSVERSE	
BS	1	5.10
T	3	5.54
FS	4	5.29
	5	
	6	
	7	
<hr/>		
BS	3	
T	4	5.435
FS	8	5.145
	9	
	10	
	11	
<hr/>		
BS	4	5.04
T	8	
FS	12	5.4

Sunny 42° 1-29-04

BB  
AB

Boundary

Mon IS# 7 in W03275  
 Mon IS# 33 in W03275  
 Mon FIP 2982

Mon FIP 2982 TP "TP" (4)  
 Mon FIP 2982 # 3 Rebar  
 Mon FIP 2982 3 Rebar  
 Mon FIP 2982 " "

Mon FIP 2982 TP  
 Mon FIP 1/8" Corner FIP  
 Mon FIP 5/8" Corner FIP  
 Mon FIP

W03546

cloudy  
140°

1-30-04

BB  
MB

BS 4 5.04  
A 8 5.64  
FS 12

13  
14 TP 5.425

BS 8  
A 14 5.56  
FS 15 TP 5.30

~~16~~

↓ BS 15  
A 14 5.56  
FS 16 5.36

17

BS 14  
A 16 5.56  
FS 18

19

BS 14  
A 15 5.56  
FS 20 TP 5.54

21

mon FMS  
mon FMS  
mon FIP TP 2982

mon FIP TP 2982

mon FIP SS OBL  
mon FIP CDP 3000

mon FMS  
mon FMS

mon FIP 2982 TP  
mon FMS

WO 3546

BS	15		
π	20		5.68
FS	22	TP	5.24
BS	20		
π	22	-	5.51
FS	23	TP	5.395
	24		
BS	22		
π	23		5.545
FS	25		5.31
	26		
BS	23		
π	25		5.578
FS	28		5.35
	27		
BS	25		
π	28		5.505
FS	29		5.25
	30		
	31		
BS	28		
π	29		5.515
FS	32		5.20

cloudy 16"

1-30-04

BB  
MB

MON FIP 2982 TP

MON FIP 2982 TP

MON FIP #5 Rebar 2982

MON FIP 2982 TP

MON FIP NOCAP #5 Rebar

MON FIP 2982 TP

(Create Start out for for)

MON TIE 3 TP

MON FIP 2053

MON FIP 2053 #5 Rebar

MON TIE 1 TP



WO 2046

Position (1)	23	5.48
(2)	25	5.19
Store Point	33	5.75

BS 23 5.48

Λ 33 5.19

FS 34 - 53

54/70

55-69

71-76

77-84

85-95

96 - 353

BS 23 5.48

Λ 25 5.43

FS 354 - 355 / 359

356

- 357

358

360

361 - 364

Rainy/cloudy  
40°

Feb 2-04  
Topo

BB  
MB

Fen WW

Fen WW @ Intersection

Fen WW @ old Post

Fen WW @ old Post

Fen WW

Gully E

Topo

Fen WW @ New metal Post

< Fen WW @ old Post with New  
old Fence Wire >

Fen WW @ old Post with New

Fen WW @ CROSS Fence

Fen WW @ New wood Post

Fen WW @ old Post

W0.3546

BS

3

5.27

X

5

5.48

FS

365 - 369

Cloudy 38°

Feb 2-04

BB

MB

Fcn WW 201d Post

3546 SveSwitzer

2-10-04

BB  
MB

Reservation

1	23	5.15	
2	22	5.215	
#	370	5.43	
BS	23	5.15	
A	370	5.43	
FS	371	5.27	
	372-408		
	409-423		
BS	371	5.17	
A	370	5.373	
FS	424-445		
	446-493		
	494-495		
BS	370	5.5	
A	371	5.43	
FS	496-523		
	524-547		
	548-560		
	561-595		

mon SIP by Reservation

mon SIP SS DBL  
Fen WW  
Topo

Gully Centerline  
Topo  
E PP

Fen WW  
Topo  
Gully Centerline  
Topo

3546 Svc SWITZER

BS	20	5.41
π	15	5.34
FS	371	
	596-644/646-659	
	645	
	660-700	
	701-719	
	720	
	721-724	
	725-726	
	727-728	
	729	
	730-733	
	734-751	
	752-763	
BS	15	5.08
π	645	5.33
FS	764	
	765-775	
	776-786	
	787-790	

2-10-04

BB  
MB

check  
 EOP  
 Mon Small 20penny Temp  
 Fen WW  
 Fen Wooded Plank  
 TEL PP UC to OH  
 Tel PP  
 Tel Guy Wire  
 Tel Box GTE  
 Sign Telephone Cable Underground ↔  
 Ditch ♀  
 Ditch ♀

Post: Warning (Alltel) Fiber optic  
 Fen WW buried cable  
 EOP  
 Ditch ♀

3546

2-20-04

FB  
MB

BS  
T  
FS

25	5.285
23	5.20
791	
792	
793	
794	
795	
796	
797	
798	
799	

Stone Pt



800
801
802
803
804
805
806
807
808

Set Stake

" "

Tower Center

Leg-1
Leg-2
Leg-3
Leg-4
Leg-5
Leg-6
Leg-7
Leg-8

3546 SWIT COR

BS	28	
<u>  </u>	25	5.445
FS	813	

BS	25	
<u>  </u>	28	5.48
FS	814	5.02
	215	

BS	28	
<u>  </u>	814	5.29
FS	811	

BS	28	
<u>  </u>	3	5.455
FS	817	

	818	
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BS	14	5.385
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<u>  </u>	8	5.53
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FS	819	
----	-----	--

	820	
--	-----	--

BS	14	
----	----	--

<u>  </u>	16	5.45
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FS	821	
----	-----	--

	822	
--	-----	--

4-27-04

BB  
MB

mon FIP 2982 #5 Rebar

mon FIP 2982 SS DBL  
mon FIP 2982 #5 Rebar

mon FIP 2982 #5 Rebar

mon FIP 2982 #5 Rebar

mon FIP 2982 #5 Rebar

mon FMS

mon FMS

mon FMS

mon Hole in Pavement w/Bar  
mark

3,5416 SWI call

BS	23
T	33
FS	34
	35
	36

5-4-04  
Boundary/Tone site

BIR  
mC

mon	SIP	Horne	PC
mon	SIP	Horne	PC
MON	SIP	Horne	PC





26	NON FIP 2982 TP	AR237.1746	91.0000	12.535	5.545	5.500	152751.807	1540056.819	1021.210
27	NON FIP NOCAP	ARO.5802	90.0000	1732.920	5.545	5.500	163547.379	1541617.157	1021.738
28	CALC COR	AR167.7079	89.4511	1660.420	5.578	5.050	163768.148	1541117.332	1021.130
29	NON FIP 2982 TP	ARO.5802	90.0000	17.329	5.578	5.050	162759.465	1540041.117	1021.441
30	NON FIP NOCAP	ARO.5802	90.0000	17.329	5.578	5.050	162759.465	1540041.117	1021.441

Page 1 of 2

31	NON FIP NOCAP	ARO.5802	90.0000	1732.920	5.578	5.050	163547.379	1541617.157	1021.738
32	NON FIP 2982 TP	AR103.2279	90.3410	1508.500	5.505	5.250	164100.375	1539646.141	1029.617
33	NON TIE 3	AR257.3209	90.4122	298.925	5.505	4.870	164056.432	1541194.296	1029.230
34	NON FIP 2053	AR206.2439	90.2731	952.080	5.505	6.600	164536.910	1540554.794	1022.475
35	NON FIP 2053	AR242.5128	90.2118	1955.065	5.515	5.200	165993.816	1539159.000	1017.819

Closure Results

Starting Point 3: N 164100.044 E 1539646.029 Z 513.227  
 Closing Reference Point 3: N 164100.044 E 1539646.029 Z 1030.093  
 Ending Point 29: N 164100.375 E 1539646.141 Z 1029.617  
 Azimuth Error : 18042'48"  
 North Error : 0.33092  
 East Error : 0.11210  
 Vertical Error: -0.47598  
 1st Dist Error : 0.34940  
 2nd Dist Error : 0.59045  
 Traverse Lines: 10  
 Sideshot Traverses: 1  
 Sideshots: 21  
 Horiz Dist Traversed: 9449.119  
 Slope Dist Traversed: 9450.590  
 Closure Precision: 1 to 27044

# PROCESS - CRANDALL

SWITZER  
W03546

12/02/2006 10:15

## Process Results

Raw File: D:\BDC\PLM03546\W03546\W03546.PW5  
 Job File: D:\BDC\PLM03546\W03546\W03546.Page 2 of 2  
 Scale Factor: 1.000000

Correct for Earth Curvature: OFF

Starting Point (z): N 15400.014 E 1539646.029 Z 1030.191

End Sight Point (z): N 15470.290 E 1539159.007 Z 1018.216

Stn	Inst	Rod	Northing	Easting	Elev				
1	AR	74.5852	90.0148	446.565	5.540	5.290	163678.949	1539794.686	1030.109
ION FIP 2982 TP									
2	AR	27.4890	89.3909	515.050	5.540	4.870	163895.637	1540118.771	1033.887
ION FIP 2982									
3	AR	152.2446	90.2304	215.060	5.540	4.870	163940.259	1539789.965	1029.820
ION FIP 2982									
4	AR	33.4031	90.2223	374.945	5.540	4.870	164454.018	1539759.642	1028.022
ION FIP 2982									
5	AR	135.1255	89.4735	1276.405	5.435	5.145	163124.003	1540944.131	1035.003
ION FIP 2982 TP									
6	AR	18.2909	90.1552	849.585	5.435	7.000	164528.406	1539780.475	1024.673
ION FPIPE 5/8									
7	AR	17.1906	90.1006	802.655	5.435	5.500	164481.048	1539764.911	1027.136
ION FPIPE 5/8									
8	AR	81.5133	90.3035	317.350	5.435	4.870	163642.542	1539479.444	1027.851
ION FPK									
9	AR	0.0072	90.5014	102.503	5.540	4.870	163168.487	1541952.01	1034.115
ION FMS									
10	AR	37.0313	91.0703	88.570	5.540	4.870	163036.980	1540060.535	1034.150
ION FMS									
11	AR	11.2808	91.4303	1027.580	5.640	5.425	162260.254	1541499.923	1004.426
ION FIP TP 2982									
12	AR	144.4359	90.2523	1625.840	5.560	5.300	161651.913	1543007.673	992.681
ION FIP TP 2982									
13	AR	176.3946	92.3816	438.705	5.560	5.360	162400.294	1541084.665	984.472
ION FIP									
14	AR	74.5401	87.4117	29.905	5.560	4.870	162231.183	1541496.424	1006.286
ION FIP 3000									
15	AR	224.4804	85.5525	142.465	5.520	4.870	162527.405	1541021.128	995.209
ION FMS									
16	AR	350.0714	92.5436	44.790	5.520	4.870	162393.489	1541128.883	982.800
ION FMS									
17	AR	79.1058	85.5646	356.855	5.560	5.540	162001.149	1543076.544	1017.926
ION FIP 2982 TP									
18	AR	167.2338	88.5518	67.255	5.560	4.870	161640.967	1543074.020	994.637
ION FMS									
19	AR	152.2447	89.5017	239.360	5.580	5.240	162255.785	1541112.690	1013.111
ION FIP 2982 TP									
20	AR	16.0026	90.0737	339.805	5.510	5.395	162741.922	1541114.915	1024.131
ION FIP 2982 TP									
21	AR	246.5633	91.4235	27.055	5.510	4.870	162238.243	1541159.588	1022.043
ION FIP 2982									
22	AR	90.0641	89.5635	749.160	5.545	5.310	162996.182	1542610.223	1040.730
ION FIP 2982 TP									
23	AR	237.1746	91.1058	42.695	5.545	5.500	162751.507	1543356.510	1021.213
ION FIP NO CAP									
24	AR	0.5502	90.0000	1732.920	5.545	5.500	163547.373	1541817.157	1021.132
ION COR									

ION FIP 2982 TP  
 7 ARO.5502 30.0000 17.329 5.578 5.350 162759.465 154034.117 1021.441  
 ION FIP NOCAP  
 8 ARO.5502 30.0000 17.329 5.578 5.350 162759.465 154034.117 1021.441  
 Page 1 of 5

ION FIP NOCAP  
 7 ARO.5502 90.0000 1732.920 5.578 5.350 163547.370 1541917.157 1021.441  
 ION FIP 2982 TP  
 9 ARL53.2229 90.0410 1508.520 5.505 5.230 154100.375 1539546.141 1029.517  
 ION TIE 1  
 10 AR287.2270 90.4120 709.325 5.515 4.870 154056.472 1541134.296 1028.270  
 ION FIP 2053  
 11 AR206.2489 90.2701 952.080 5.505 5.600 164536.010 1539554.794 1022.475  
 ION FIP 2053  
 12 AR242.5108 90.2118 1955.065 5.515 5.200 155993.816 1539159.300 1017.819  
 ION TIE 1

Before Results (Before Angle Balance)

Starting Point 3: N 164100.044 E 1539646.029 Z 510.227

Closing Reference Point 0: N 164100.044 E 1539646.029 Z 1030.093

Ending Point 29: N 164100.375 E 1539646.141 Z 1029.517

azimuth Error = 18042'43"

birth Error = 0.33092

last Error = 0.11210

vertical Error = -0.47598

lx Dist Error = 0.34940

rl Dist Error = 0.59045

traverse Lines > 10

sideShots > 22

horiz Dist Traversed: 9449.119

slope Dist Traversed: 9450.590

figure Precision: 1 in 27044

angle Balance

angular Errors: 0.002065256 for 11 traverse sides

adjusting Each Angle: 0.000187751

Point	Horizontal Angle	Zenith Angle	Slope Dist	Inst HT	Rod HT	Northing	Easting	Elev
Description								
AR174.5850	90.0148		446.565	5.540	5.270	1509794.690	163678.950	1030.109
ON FIP 2982 TP								
AR127.4800	89.3909		515.050	5.540	4.870	1540118.771	163808.307	1037.867
ON FIP 2982								
AR182.2446	90.2704		215.060	5.540	4.870	1539789.965	163940.257	1029.330
ON FIP 2982								
AR33.4031	90.2223		374.945	5.540	4.870	1539769.642	164454.018	1028.322
ON FIP 2982								
AR135.1253	89.4735		1276.405	5.435	5.145	1540944.145	163124.025	1035.009
ON FIP 2982 TP								
AR18.2909	90.1552		849.585	5.435	7.000	1539780.472	164528.407	1024.623
ON FPIPE 5/8								
AR17.1906	90.1006		802.655	5.435	5.500	1539764.908	164481.049	1027.566
ON FPIPE 5/8								
AR282.5123	90.3035		317.350	5.435	4.870	1539479.448	163642.540	1037.551
ON FPK								
AR1.0022	90.5314		102.305	5.640	4.870	1540852.030	163168.507	1034.195
ON FMS								
AR233.3313	91.0300		88.570	5.640	4.870	1540960.551	163037.003	1034.156
ON FMS								
AR211.2806	91.4303		1027.580	5.540	5.425	1541499.966	162260.291	1004.426
ON FIP TP 2982								
AR144.4357	90.2523		1625.690	5.560	5.300	1543007.703	161157.013	992.031
ON FIP TP 2982								
AR175.1946	91.1818		438.705	5.560	5.350	1541084.539	163461.713	984.011
ON FIP								
AR74.5401	87.4117		39.305	5.560	4.870	1541499.462	162231.220	1006.298

18 AR228.4808 85.5315 747.160 5.520 4.870 1541071.114 16257.117 1017.210  
 40N FIP  
 19 AR311.0714 85.5646 811.700 5.520 4.870 1541128.384 16293.424 994.080  
 Page 1 of 5

20 AR79.1135 85.5646 356.855 5.560 5.540 1549075.587 16200.1245 1017.210  
 40N FIP 2982 TP  
 21 AR167.1358 88.5718 67.255 5.560 4.870 1549074.080 161641.163 994.080  
 40N FIP  
 22 AR182.2445 88.5817 209.360 5.680 5.240 1548132.721 162293.880 1029.617  
 40N FIP 2982 TP  
 23 AR188.0933 90.0637 539.825 5.510 5.395 1549314.914 162747.039 1022.007  
 40N FIP 2982 TP  
 24 AR246.5688 91.4235 27.055 5.510 4.870 1549159.394 162938.340 1022.849  
 40N FIP 2982  
 25 AR90.0639 89.5305 749.160 5.545 5.370 1542610.203 161095.241 1029.720  
 40N FIP 2980 TP  
 26 AR237.1746 91.1358 42.655 5.545 1.500 1549356.508 162751.119 1021.441  
 40N FIP NUCAP  
 27 AR0.5502 90.0000 1732.920 5.545 5.350 1541817.135 163547.447 1021.441  
 40N FIP  
 28 AR187.3022 89.4511 1680.420 5.578 5.350 1541117.549 163763.085 1031.190  
 40N FIP 2982 TP  
 27 AR0.5502 90.0000 17.329 5.578 5.350 1540341.115 162759.578 1021.441  
 40N FIP NUCAP  
 27 AR0.5502 90.0000 17.329 5.578 5.350 1540341.115 162759.578 1021.441  
 40N FIP NUCAP  
 27 AR0.5502 90.0000 1732.920 5.578 5.350 1541817.135 163547.447 1021.441  
 40N FIP 2982 TP  
 29 AR165.3227 90.0410 1508.580 5.505 5.250 1539546.028 164100.178 1029.617  
 40N TIE 3  
 3 AR257.3299 90.4122 298.325 5.505 4.870 1541194.199 164056.975 1029.206  
 40N FIP 2053  
 31 AR206.2439 90.2731 952.080 5.505 5.600 1540554.648 164535.900 1022.475  
 40N FIP 2053  
 32 AR242.5126 90.2118 1955.065 5.515 5.200 1539158.997 165993.570 1017.319  
 40N TIE 1

Closure Results (After Angle Balance)  
 Traverse Lines: 10  
 Side Shots: 22  
 Starting Coordinates: N 164100.044 E 1539546.028 Z 513.227  
 Closing Reference Point 3: N 164100.044 E 1539546.028 Z 1030.190  
 Ending Coordinates: N 164100.178 E 1539546.028 Z 1029.617  
 Azimuth Error: 0.59029" S  
 North Error: 0.13358  
 East Error: -0.00113  
 Vertical Error: -0.47598  
 4x Dist Error: 0.12356  
 5L Dist Error: 0.49436  
 Total Hz Dist Traversed: 9449.11895  
 Total S/ Dist Traversed: 9450.59000  
 Closure Precision: 1 in 70750  
 Crandall Closure  
 Adjusted Point Comparison

Point#	Original Northing	Original Easting	Adjusted Northing	Adjusted Easting	Dist	Bearing
1	163678.750	1539794.690	163678.928	1539794.638	0.023	S 19006'41" E
3	163124.025	1540944.145	163124.001	1540944.157	0.027	S 27003'09" E
14	162250.291	1541499.965	162250.283	1541500.000	0.068	S 00029'20" E
19	161652.005	1541907.708	161651.947	1541907.766	0.167	S 29058'07" E
20	162001.245	1548076.587	162001.163	1548076.616	0.087	S 15018'44" E
22	162293.583	1548132.721	162293.785	1548132.746	0.101	S 14010'35" E
23	162747.039	1549314.914	162741.939	1549314.926	0.134	S 05011'57" E
25	162998.241	1542610.203	162996.109	1542610.219	0.102	S 04014'58" E





List Points Report

File: G:\SOURCES\DRP\W003546\w003546.crd

Job Description)

Job Number: 0,0 Job Date: 2004.0202

#	Stn.	Northing(Y)	Easting(X)	Elev(Z)	Description
1		163993.390	1539159.007	1018.216	MON IS 7 W00275
2		163475.271	1539299.756	0.000	MON 33 W03275
3		164100.044	1539546.079	1030.093	MON FIP 2982
4		163678.928	1539794.698	1030.109	MON FIP 2982 TP
5		163895.637	1540118.771	1033.887	MON FIP 2982
6		163940.259	1539789.965	1029.320	MON FIP 2982
7		164454.018	1539769.642	1028.322	MON FIP 2982
8		163124.001	1540944.157	1035.009	MON FIP 2982 TP
9		164538.385	1539780.479	1024.223	MON FPIPE 5/8
10		164481.027	1539764.915	1027.686	MON FPIPE 5/8
11		163642.518	1539479.456	1027.351	MON FPA
12		163168.483	1540352.041	1034.155	MON FMS
13		163046.373	1540560.553	1034.155	MON FMS
14		162260.233	1541500.000	1004.426	MON FIP TP 2982
15		161651.947	1543007.766	992.681	MON FIP TP 2982
16		162400.299	1541084.672	984.432	MON FIP 2982
17		162231.152	1541496.497	1006.298	MON FIP 3000
18		162527.404	1541021.127	995.209	MON FMS
19		162393.489	1541128.883	982.808	MON FMS
20		162001.163	1543076.616	1017.926	MON FIP 2982 TP
21		161641.005	1543074.113	994.637	MON FMS
22		162233.785	1543132.746	1023.011	MON FIP 2982 TP
23		162741.899	1543314.926	1022.087	MON FIP 2982 TP
24		162238.245	1543159.419	1022.843	MON FIP 2982
25		162996.108	1542610.213	1023.720	MON FIP 2982 TP
26		162751.486	1543356.520	1021.213	MON FIP NOCAP
27		163547.351	1541817.167	1021.441	MON FIP 2982 TP
28		163767.947	1541117.568	1031.190	MON FIP 2982 TP
29		164100.044	1539646.029	1029.617	MON TIE 3
30		164056.287	1541194.208	1028.236	MON FIP 2053
31		164535.763	1540554.667	1022.475	MON FIP 2053
32		165993.570	1539158.997	1017.819	MON TIE 1
33		162688.181	1542992.798	1025.245	MON SIP RESULT
34		162506.079	1543251.766	1023.604	FEN WW
35		162511.205	1543241.565	1024.488	FEN WW
36		162525.093	1543211.324	1024.332	FEN WW
37		162545.545	1543167.311	1025.486	FEN WW
38		162580.040	1543035.316	1025.914	FEN WW
39		162609.245	1543035.356	1025.270	FEN WW
40		162639.892	1542971.394	1023.608	FEN WW
41		162658.844	1542932.451	1022.754	FEN WW
42		162673.789	1542900.433	1023.038	FEN WW
43		162693.253	1542859.853	1022.947	FEN WW
44		162727.395	1542787.661	1023.272	FEN WW
45		162758.190	1542722.065	1023.728	FEN WW
46		162771.213	1542694.287	1022.924	FEN WW
47		162829.722	1542656.678	1021.195	FEN WW
48		162877.757	1542625.054	1021.371	FEN WW
49		162925.234	1542594.702	1020.864	FEN WW
50		162958.064	1542606.532	1022.949	FEN WW
51		162997.180	1542620.677	1024.303	FEN WW
52		163024.384	1542630.915	1023.974	FEN WW
53		163054.393	1542642.436	1021.476	FEN WW
54		163084.498	1542653.529	1018.037	FEN WW INTERST
55		163156.756	1542414.012	1020.877	FEN WW OLD POST
56		163156.034	1542515.255	1022.169	FEN WW OLD POST
57		163125.191	1542563.935	1020.345	FEN WW OLD POST
58		163099.978	1542626.980	1018.751	FEN WW OLD POST

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50	162174.534	1542577.956	1016.788	FEN WW OLD POST
51	162030.012	1542734.174	1014.150	FEN WW OLD POST
52	162999.862	1542846.747	1017.921	FEN WW OLD POST
53	162961.405	1542914.710	1017.738	FEN WW OLD POST
54	162934.05	1542979.181	1017.631	FEN WW OLD POST
	162904.897	1543041.197	1015.392	FEN WW OLD POST
55	162877.885	1543089.480	1018.423	FEN WW OLD POST
56	162850.247	1543147.770	1020.752	FEN WW OLD POST
57	162832.824	1543184.518	1021.874	FEN WW OLD POST
58	162800.173	1543253.007	1021.738	FEN WW OLD POST
59	162764.366	1543329.247	1021.326	FEN WW OLD POST
70	162755.100	1543348.526	1021.249	FEN WW INTRST
71	162732.204	1543399.306	1021.798	FEN WW OLD POST
72	162692.349	1543324.688	1022.108	FEN WW OLD POST
73	162631.092	1543301.991	1022.526	FEN WW OLD POST
74	162601.102	1543289.593	1023.117	FEN WW OLD POST
75	162555.806	1543271.780	1023.535	FEN WW OLD POST
76	162498.406	1543248.882	1023.743	FEN WW OLD POST
77	162487.849	1543263.965	1023.886	FEN WW
78	162520.408	1543276.908	1023.404	FEN WW
79	162558.878	1543292.002	1023.336	FEN WW
80	162601.243	1543308.305	1023.025	FEN WW
81	162654.157	1543329.465	1022.594	FEN WW
82	162695.992	1543345.770	1022.205	FEN WW
83	162723.044	1543356.063	1021.792	FEN WW
84	162770.252	1543373.867	1021.307	FEN WW
85	162778.482	1543368.687	1020.802	GULLY CL
86	162746.945	1543356.041	1021.080	GULLY CL
87	162777.664	1543348.519	1021.157	GULLY CL
88	162695.953	1543336.104	1021.234	GULLY CL
89	162661.279	1543324.498	1021.591	GULLY CL
90	162625.089	1543309.606	1021.679	GULLY CL
91	162592.654	1543297.443	1021.809	GULLY CL
92	162565.682	1543286.620	1022.092	GULLY CL
93	162530.686	1543273.745	1022.554	GULLY CL
94	162507.214	1543263.791	1022.728	GULLY CL
95	162482.632	1543252.851	1022.894	GULLY CL
96	162464.364	1543275.123	1022.325	TOPO
97	162490.879	1543293.697	1022.414	TOPO
98	162519.823	1543306.200	1022.310	TOPO
99	162547.988	1543317.749	1022.370	TOPO
100	162574.492	1543329.440	1022.426	TOPO
01	162602.757	1543339.717	1022.428	TOPO
02	162631.206	1543352.613	1022.116	TOPO
03	162658.857	1543364.680	1021.835	TOPO
04	162692.312	1543380.070	1021.586	TOPO
05	162730.389	1543392.774	1021.199	TOPO
06	162760.371	1543405.587	1021.454	TOPO
07	162771.694	1543388.344	1020.852	TOPO
08	162780.070	1543372.757	1020.751	TOPO
09	162790.553	1543354.970	1020.777	TOPO
10	162772.836	1543341.383	1020.572	TOPO
11	162788.989	1543344.454	1020.699	TOPO
12	162790.378	1543340.166	1020.047	TOPO
13	162801.149	1543312.813	1020.237	TOPO
14	162817.472	1543282.377	1020.542	TOPO
15	162830.381	1543260.594	1020.386	TOPO
16	162841.974	1543291.014	1020.686	TOPO
17	162855.013	1543203.888	1020.416	TOPO
18	162872.540	1543173.341	1019.532	TOPO
19	162884.147	1543148.385	1019.043	TOPO
20	162899.866	1543116.101	1017.209	TOPO
21	162919.587	1543084.984	1015.478	TOPO

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117	162910.711	1543064.515	1011.359	TOPD
118	162940.796	1543093.647	1013.615	TOPD
119	162951.950	1543001.786	1011.194	TOPD
120	162970.496	1542966.360	1009.792	TOPD
121	162984.746	1542929.494	1009.907	TOPD
122	162996.699	1542898.742	1010.901	TOPD
123	163013.229	1542862.386	1010.098	TOPD
124	163025.570	1542829.231	1010.902	TOPD
125	163041.263	1542799.907	1011.532	TOPD
126	163061.049	1542763.443	1012.236	TOPD
127	163081.477	1542718.626	1013.322	TOPD
128	163105.796	1542680.006	1014.028	TOPD
129	163122.658	1542639.640	1015.564	TOPD
130	163104.914	1542636.759	1016.475	TOPD
131	163082.010	1542621.388	1020.950	TOPD
132	163060.290	1542611.879	1022.511	TOPD
133	163037.945	1542602.949	1023.444	TOPD
134	163014.799	1542593.127	1023.162	TOPD
135	162989.922	1542583.071	1021.380	TOPD
136	162956.170	1542573.046	1019.323	TOPD
137	162930.974	1542561.601	1016.076	TOPD
138	162900.570	1542574.761	1015.946	TOPD
139	162870.125	1542545.031	1016.649	TOPD
140	162836.717	1542618.913	1016.709	TOPD
141	162806.173	1542638.214	1017.248	TOPD
142	162774.329	1542658.350	1018.391	TOPD
143	162748.806	1542678.161	1019.627	TOPD
144	162730.351	1542711.040	1021.366	TOPD
145	162709.997	1542752.938	1021.120	TOPD
146	162692.779	1542786.130	1020.380	TOPD
147	162678.296	1542821.741	1020.332	TOPD
148	162661.919	1542859.114	1020.319	TOPD
149	162647.908	1542889.655	1020.376	TOPD
150	162636.008	1542912.781	1019.402	TOPD
151	162633.753	1542920.112	1021.301	TOPD
152	162611.500	1542905.569	1022.132	TOPD
153	162643.189	1542941.067	1022.301	TOPD
154	162627.033	1542934.813	1020.422	TOPD
155	162612.659	1542966.077	1021.422	TOPD
156	162595.488	1542999.694	1022.749	TOPD
157	162576.192	1543033.250	1024.199	TOPD
158	162558.800	1543067.542	1025.204	TOPD
159	162541.457	1543103.124	1025.741	TOPD
160	162525.160	1543137.504	1025.609	TOPD
161	162510.741	1543171.665	1025.132	TOPD
162	162495.863	1543208.778	1024.424	TOPD
163	162489.137	1543232.272	1024.596	TOPD
164	162506.122	1543239.661	1024.317	TOPD
165	162471.714	1543244.770	1024.424	TOPD
166	162540.491	1543251.629	1024.479	TOPD
167	162560.520	1543256.095	1024.324	TOPD
168	162572.402	1543235.351	1023.986	TOPD
169	162546.325	1543224.073	1024.206	TOPD
170	162560.914	1543194.381	1024.637	TOPD
171	162589.249	1543204.076	1024.321	TOPD
172	162605.100	1543176.764	1024.932	TOPD
173	162582.798	1543161.013	1025.398	TOPD
174	162594.748	1543129.159	1025.795	TOPD
175	162621.362	1543139.122	1025.423	TOPD
176	162640.069	1543106.778	1025.420	TOPD
177	162615.246	1543092.213	1025.900	TOPD
178	162630.786	1543057.458	1025.644	TOPD
179	162658.866	1543058.905	1025.510	TOPD

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186	162651.765	1542911.620	1025.219	TOPD
187	162636.754	1542901.2608	1025.116	TOPD
188	162650.187	1542981.254	1024.671	TOPD
189	162668.902	1542980.587	1024.407	TOPD
190	162694.189	1542981.067	1025.348	TOPD
191	162716.499	1542972.161	1025.166	TOPD
192	162689.931	1542957.147	1024.589	TOPD
193	162668.795	1542046.860	1024.141	TOPD
194	162384.457	1542910.243	1024.165	TOPD
195	162708.775	1542925.805	1024.770	TOPD
196	162730.885	1542904.181	1024.935	TOPD
197	162742.067	1542902.755	1024.937	TOPD
198	162728.277	1542889.951	1024.395	TOPD
199	162702.670	1542881.252	1024.199	TOPD
200	162720.157	1542850.087	1024.370	TOPD
201	162741.927	1542861.282	1024.642	TOPD
202	162760.328	1542870.010	1024.946	TOPD
203	162778.299	1542835.619	1024.972	TOPD
204	162754.446	1542822.352	1024.711	TOPD
205	162732.960	1542811.619	1024.304	TOPD
206	162748.196	1542781.167	1024.861	TOPD
207	162769.631	1542790.135	1025.142	TOPD
208	162788.548	1542800.136	1025.199	TOPD
209	162807.076	1542765.742	1025.317	TOPD
210	162794.982	1542756.196	1025.218	TOPD
211	162764.318	1542747.736	1024.962	TOPD
212	162777.990	1542719.448	1024.956	TOPD
213	162802.394	1542731.795	1025.289	TOPD
214	162818.726	1542740.806	1025.612	TOPD
215	162833.893	1542708.955	1025.430	TOPD
216	162805.592	1542692.565	1024.932	TOPD
217	162784.707	1542704.955	1024.652	TOPD
218	162813.528	1542692.874	1024.802	TOPD
219	162857.357	1542677.501	1024.614	TOPD
220	162882.096	1542656.736	1024.377	TOPD
221	162917.308	1542628.887	1024.197	TOPD
222	162912.352	1542626.913	1024.295	TOPD
223	162921.450	1542658.258	1024.699	TOPD
224	162910.141	1542686.509	1025.034	TOPD
225	162878.893	1542674.992	1025.130	TOPD
226	162854.246	1542719.336	1025.761	TOPD
227	162844.246	1542705.436	1024.935	TOPD
228	162881.113	1542756.838	1024.322	TOPD
229	162852.033	1542747.032	1025.396	TOPD
230	162837.825	1542779.768	1024.973	TOPD
231	162864.361	1542792.964	1023.559	TOPD
232	162851.379	1542826.901	1022.618	TOPD
233	162832.854	1542818.664	1024.162	TOPD
234	162810.509	1542848.256	1024.176	TOPD
235	162836.271	1542859.241	1022.134	TOPD
236	162822.879	1542892.654	1021.871	TOPD
237	162805.707	1542887.169	1023.549	TOPD
238	162790.335	1542880.005	1024.379	TOPD
239	162768.184	1542911.936	1024.683	TOPD
240	162730.793	1542920.474	1023.837	TOPD
241	162806.258	1542928.754	1022.055	TOPD
242	162794.626	1542910.005	1022.892	TOPD
243	162772.121	1542952.205	1024.227	TOPD
244	162752.049	1542942.217	1024.462	TOPD
245	162742.516	1542974.831	1025.013	TOPD
246	162761.685	1542982.950	1024.462	TOPD
247	162781.320	1542992.900	1023.377	TOPD

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252	162721.438	1543450.177	1025.044	TOPD
253	162727.117	1543056.380	1024.258	TOPD
254	162744.116	1543101.799	1024.011	TOPD
255	162751.811	1543353.901	1024.924	TOPD
256	162759.045	1543124.177	1024.708	TOPD
257	162765.874	1543137.084	1024.225	TOPD
258	162771.656	1543169.639	1020.850	TOPD
259	162780.543	1543150.843	1024.191	TOPD
260	162787.017	1543174.088	1023.914	TOPD
261	162793.962	1543208.534	1023.270	TOPD
262	162801.356	1543242.957	1024.869	TOPD
263	162808.871	1543230.696	1023.311	TOPD
264	162816.666	1543262.449	1023.837	TOPD
265	162825.945	1543282.548	1023.628	TOPD
266	162831.048	1543301.032	1023.188	TOPD
267	162839.802	1543274.752	1022.968	TOPD
268	162848.952	1543307.116	1022.864	TOPD
269	162858.142	1543313.615	1022.266	TOPD
270	162868.624	1543293.626	1021.664	TOPD
271	162879.725	1543271.192	1022.296	TOPD
272	162891.303	1543237.303	1023.525	TOPD
273	162903.797	1543245.294	1023.101	TOPD
274	162916.970	1543212.240	1022.468	TOPD
275	162931.009	1543199.118	1023.085	TOPD
276	162944.152	1543165.327	1023.497	TOPD
277	162958.915	1543176.694	1022.628	TOPD
278	162973.610	1543142.346	1022.805	TOPD
279	162988.402	1543138.995	1023.699	TOPD
280	162999.073	1543095.071	1023.650	TOPD
281	163005.505	1543105.353	1022.858	TOPD
282	163010.594	1543070.342	1021.793	TOPD
283	163018.256	1543059.897	1022.350	TOPD
284	163027.119	1543024.291	1022.308	TOPD
285	163037.703	1543036.019	1020.298	TOPD
286	163044.387	1543000.820	1018.870	TOPD
287	163051.091	1542988.041	1020.943	TOPD
288	163058.216	1542951.286	1020.078	TOPD
289	163066.563	1542962.616	1017.504	TOPD
290	163077.804	1542926.724	1016.404	TOPD
291	163088.824	1542914.237	1013.167	TOPD
292	163098.873	1542881.075	1018.661	TOPD
293	163108.737	1542891.103	1015.984	TOPD
294	163117.211	1542854.946	1018.252	TOPD
295	163128.511	1542844.215	1019.119	TOPD
296	163139.683	1542809.726	1021.382	TOPD
297	163152.378	1542820.433	1017.042	TOPD
298	163163.999	1542784.138	1018.426	TOPD
299	163174.290	1542775.257	1021.557	TOPD
300	163187.045	1542740.179	1023.189	TOPD
301	163195.802	1542750.748	1019.977	TOPD
302	163207.697	1542714.045	1021.728	TOPD
303	163215.947	1542706.078	1023.932	TOPD
304	163227.787	1542673.658	1024.559	TOPD
305	163238.130	1542684.208	1022.817	TOPD
306	163249.769	1542653.133	1023.885	TOPD
307	163261.366	1542542.232	1024.789	TOPD
308	163269.408	1542670.906	1024.130	TOPD
309	163279.659	1542652.718	1021.311	TOPD
310	163286.789	1542662.547	1019.637	TOPD
311	163294.854	1542673.348	1018.503	TOPD
312	163303.432	1542673.765	1020.520	TOPD
313	163311.374	1542699.564	1016.660	TOPD
314	163312.834	1542692.172	1020.101	TOPD

314	1530111.247	1542711.1500	1011.1198	TOPG
315	1530201.388	1542708.1177	1017.1378	TOPG
316	1530301.138	1542750.6029	1016.418	TOPG
317	1530401.444	1542756.453	1016.1100	TOPG
318	1532983.910	1542757.1512	1017.942	TOPG
319	153266.275	1542786.007	1018.727	TOPG
	153381.754	1542794.308	1015.415	TOPG
321	1532990.609	1542798.725	1015.877	TOPG
322	1532975.530	1542820.753	1014.883	TOPG
323	1532954.162	1542819.409	1015.598	TOPG
324	1532939.643	1542850.381	1014.727	TOPG
325	1532961.468	1542864.965	1014.269	TOPG
326	1532943.494	1542898.038	1014.479	TOPG
327	1532917.434	1542887.267	1015.036	TOPG
328	1532904.518	1542919.629	1015.147	TOPG
329	1532928.167	1542932.270	1014.750	TOPG
330	1532914.838	1542957.600	1015.170	TOPG
331	1532887.543	1542953.826	1015.761	TOPG
332	1532877.470	1542991.440	1016.596	TOPG
333	1532894.697	1543001.643	1016.479	TOPG
334	1532791.607	1543035.874	1017.800	TOPG
335	1532854.774	1543035.418	1016.234	TOPG
336	1532848.217	1543047.063	1015.648	TOPG
337	1532862.316	1543071.818	1019.494	TOPG
338	1532849.791	1543105.753	1020.917	TOPG
339	1532834.537	1543098.878	1020.643	TOPG
340	1532833.944	1543135.685	1021.922	TOPG
341	1532818.759	1543127.147	1021.912	TOPG
342	1532795.404	1543159.808	1022.324	TOPG
343	1532817.589	1543172.033	1022.416	TOPG
344	1532800.535	1543206.561	1021.897	TOPG
345	1532778.413	1543194.766	1022.362	TOPG
346	1532765.484	1543225.146	1022.281	TOPG
347	1532787.787	1543238.468	1022.291	TOPG
348	1532774.249	1543270.311	1022.176	TOPG
349	1532759.248	1543259.621	1021.837	TOPG
350	1532736.596	1543292.075	1021.736	TOPG
351	1532759.735	1543304.032	1022.022	TOPG
352	1532746.151	1543328.354	1021.783	TOPG
353	1532729.947	1543320.544	1022.165	TOPG
354	1532739.575	1543408.177	1020.298	FEN WW NEW METAL
355	1532667.190	1543261.539	1006.961	FEN WW NEW METAL
356	1532832.623	1542017.380	1004.447	FEN WW OLD POST
357	1532494.685	1541798.071	989.943	FEN WW OLD POST
358	1532889.309	1541781.580	989.900	FEN WW NEW METAL
359	153276.158	1541435.442	1017.055	FEN WW NEW METAL
360	1532702.899	1541365.136	1025.219	FEN WW OLD NEW
361	1532716.037	1541064.865	1021.145	FEN WW OLD POST
362	153256.540	1541136.480	1030.184	FEN WW OLD POST
363	153217.117	1541181.387	1031.553	FEN WW OLD POST
364	153207.622	1541067.045	1028.030	FEN WW OLD POST
365	154050.571	1540709.759	1012.202	FEN WW OLD POST
366	154154.546	1540504.695	1027.156	FEN WW OLD POST
367	154252.013	1540318.592	1030.323	FEN WW OLD POST
368	154353.635	1540087.942	1025.473	FEN WW OLD POST
369	154494.019	1539848.048	1025.572	FEN WW OLD POST

96

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C  
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Number of points listed: 369

List Points Report

02/13/2004 08:56

File: G:\SCEESWORK\W03546\w03546.crd

Job Description:

Job Number: G.O Job Date: 2004.0202

PointNo.	Northing(Y)	Easting(X)	Elev(Z)	Description
370	162351.343	1543031.348	1021.268	MON SIP RESECT
371	161942.316	1542995.686	1011.644	MON SIP SS DBL
372	162458.699	1543233.344	1023.696	FEN WW
373	162449.472	1543229.136	1023.627	FEN WW
374	162422.511	1543219.726	1023.502	FEN WW
375	162377.123	1543198.402	1023.527	FEN WW
376	162347.129	1543187.903	1023.478	FEN WW
377	162321.042	1543177.393	1022.992	FEN WW
378	162291.427	1543167.481	1023.076	FEN WW
379	162258.164	1543155.059	1022.934	FEN WW
380	162242.728	1543151.186	1023.077	FEN WW
381	162215.112	1543148.132	1022.995	FEN WW
3	162188.282	1543142.601	1022.681	FEN WW
382	162157.759	1543138.866	1022.825	FEN WW
384	162126.802	1543134.639	1022.509	FEN WW
385	162097.110	1543130.656	1022.094	FEN WW
386	162065.705	1543126.596	1021.667	FEN WW
387	162031.372	1543122.498	1021.500	FEN WW
388	162008.486	1543119.222	1020.906	FEN WW
389	162003.256	1543138.157	1021.683	FEN WW
390	162016.548	1543140.006	1021.555	FEN WW
391	162032.906	1543141.652	1022.171	FEN WW
392	162057.713	1543144.952	1022.284	FEN WW
393	162085.876	1543148.876	1022.469	FEN WW
394	162115.910	1543153.335	1022.629	FEN WW
395	162146.929	1543156.183	1022.790	FEN WW
396	162171.637	1543159.323	1022.997	FEN WW
397	162196.036	1543162.656	1022.999	FEN WW
398	162229.079	1543166.674	1022.851	FEN WW
399	162257.522	1543171.333	1022.784	FEN WW
400	162281.530	1543181.136	1022.669	FEN WW
401	162305.498	1543190.390	1022.695	FEN WW
402	162329.301	1543199.146	1022.391	FEN WW
403	162357.345	1543209.765	1022.753	FEN WW
404	162386.157	1543223.113	1022.293	FEN WW
405	162412.355	1543232.893	1022.809	FEN WW
406	162440.072	1543243.736	1022.915	FEN WW
407	162459.638	1543252.330	1023.280	FEN WW
408	162477.111	1543259.220	1023.336	FEN WW
409	162453.660	1543273.675	1022.323	TOPO
410	162432.130	1543261.666	1021.835	TOPO
411	162403.463	1543249.882	1021.125	TOPO
412	162369.730	1543238.422	1020.544	TOPO
413	162338.277	1543226.118	1020.576	TOPO
414	162308.528	1543212.667	1020.764	TOPO

FENCE

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423

116	162212.728	1543130.728	1021.180	TOPO
117	162206.222	1543151.661	1021.284	TOPO
118	162169.640	1543166.8.2	1021.527	TOPO
119	162134.162	1543181.998	1022.119	TOPO
120	162096.684	1543178.251	1022.024	TOPO
121	162059.667	1543174.064	1022.102	TOPO
122	162023.752	1543158.969	1021.795	TOPO
123	161998.132	1543156.832	1021.912	TOPO
124	162476.295	1543250.185	1022.731	GULLY CL
125	162464.508	1543245.654	1022.693	GULLY CL
126	162451.613	1543239.715	1022.773	GULLY CL
127	162429.779	1543231.527	1022.700	GULLY CL

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Topo

128	162406.963	1543222.456	1022.813	GULLY CL
129	162387.721	1543214.508	1022.611	GULLY CL
130	162371.455	1543206.368	1022.502	GULLY CL
131	162349.096	1543199.151	1022.481	GULLY CL
132	162326.787	1543190.139	1022.381	GULLY CL
133	162299.985	1543179.899	1022.518	GULLY CL
134	162277.830	1543170.932	1022.409	GULLY CL
135	162255.332	1543164.131	1022.611	GULLY CL
136	162234.917	1543159.252	1022.654	GULLY CL
137	162207.442	1543154.706	1022.716	GULLY CL
138	162180.065	1543151.255	1022.748	GULLY CL
139	162158.534	1543149.517	1022.379	GULLY CL
140	162137.883	1543146.461	1021.955	GULLY CL
141	162113.701	1543144.721	1021.597	GULLY CL
142	162085.108	1543139.380	1020.839	GULLY CL
143	162057.532	1543136.794	1020.429	GULLY CL
144	162035.652	1543133.267	1019.837	GULLY CL
145	162006.395	1543129.465	1019.156	GULLY CL

Gully

146	162012.018	1543102.365	1020.292	TOPO
147	162015.616	1543077.290	1017.657	TOPO
148	162021.842	1543050.532	1014.453	TOPO
149	162053.249	1543055.251	1012.952	TOPO
150	162049.820	1543073.630	1016.394	TOPO
151	162045.119	1543104.226	1020.170	TOPO
152	162075.934	1543110.431	1020.563	TOPO
153	162080.408	1543079.992	1016.336	TOPO
154	162084.220	1543058.772	1012.121	TOPO
155	162115.624	1543062.056	1013.915	TOPO
156	162112.315	1543085.224	1017.607	TOPO
157	162106.613	1543111.802	1020.152	TOPO
158	162139.679	1543117.904	1020.680	TOPO
159	162145.789	1543092.617	1019.724	TOPO
160	162152.311	1543063.052	1016.877	TOPO
161	162186.458	1543068.324	1019.139	TOPO
162	162182.579	1543093.769	1020.876	TOPO
163	162177.300	1543119.248	1021.685	TOPO
164	162210.740	1543124.965	1022.691	TOPO
165	162216.896	1543099.249	1021.618	TOPO
166	162218.585	1543071.898	1020.340	TOPO
167	162250.475	1543077.433	1020.965	TOPO
168	162245.842	1543093.879	1021.774	TOPO
169	162236.248	1543125.364	1023.259	TOPO
170	162269.180	1543135.714	1023.635	TOPO
171	162276.977	1543111.199	1022.680	TOPO
172	162284.528	1543086.409	1022.267	TOPO
173	162317.279	1543095.320	1023.216	TOPO
174	162310.240	1543122.083	1023.136	TOPO
175	162300.371	1543146.359	1024.003	TOPO
176	162331.312	1543160.284	1023.921	TOPO
177	162341.065	1543135.662	1023.591	TOPO
178	162352.901	1543110.107	1023.731	TOPO

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493

182	162407.230	1543171.067	1024.6919	TOPO
181	162404.591	1543170.701	1024.045	TOPO
180	162403.543	1543136.435	1024.100	TOPO
180	162405.503	1543159.733	1024.100	TOPO
184	162415.525	1543135.598	1024.685	TOPO
185	162447.553	1543145.711	1024.743	TOPO
186	162438.752	1543170.752	1024.234	TOPO
187	162425.321	1543195.951	1024.210	TOPO
188	162453.479	1543210.918	1024.420	TOPO
189	162463.523	1543184.924	1024.234	TOPO
190	162472.263	1543161.089	1024.809	TOPO

Page 2 of 7

191	162490.780	1543169.883	1024.838	TOPO
192	162483.127	1543194.059	1024.278	TOPO
193	162473.725	1543216.693	1024.439	TOPO
194	162111.433	1542784.965	986.841	E PP
195	162008.851	1543117.659	1020.962	E PP
196	161986.471	1543116.115	1020.846	FEN WW
197	161957.013	1543112.054	1019.831	FEN WW
198	161926.486	1543107.497	1018.096	FEN WW
199	161897.883	1543102.941	1016.085	FEN WW
200	161872.680	1543098.831	1013.648	FEN WW
201	161841.637	1543095.503	1009.458	FEN WW
202	161813.528	1543091.712	1006.054	FEN WW
203	161787.584	1543088.043	1003.771	FEN WW
204	161757.870	1543083.749	1001.321	FEN WW
205	161727.871	1543079.086	999.909	FEN WW
206	161696.040	1543074.387	999.436	FEN WW
207	161671.932	1543070.460	997.085	FEN WW
208	161663.595	1543064.421	996.142	FEN WW
209	161666.090	1543057.524	996.469	FEN WW
210	161649.643	1543097.137	996.503	FEN WW
211	161668.761	1543093.874	997.799	FEN WW
212	161694.812	1543096.136	999.353	FEN WW
213	161720.119	1543099.256	1001.113	FEN WW
214	161742.684	1543102.348	1002.221	FEN WW
215	161770.892	1543104.559	1004.013	FEN WW
216	161796.330	1543107.551	1006.074	FEN WW
217	161823.922	1543112.253	1008.910	FEN WW
218	161855.028	1543117.525	1012.177	FEN WW
219	161880.818	1543120.074	1014.527	FEN WW
220	161912.879	1543124.804	1017.564	FEN WW
221	161937.054	1543128.317	1019.208	FEN WW
222	161964.948	1543133.089	1020.801	FEN WW
223	161982.277	1543136.447	1021.523	FEN WW
224	161979.205	1543143.681	1021.724	TOPO
225	161977.702	1543155.324	1021.555	TOPO
226	161950.099	1543152.112	1020.886	TOPO
227	161951.454	1543140.158	1021.199	TOPO
228	161925.721	1543134.980	1019.965	TOPO
229	161922.670	1543148.722	1019.827	TOPO
230	161893.510	1543145.124	1018.179	TOPO
231	161897.610	1543132.569	1018.580	TOPO
232	161868.884	1543129.944	1016.047	TOPO
233	161863.638	1543141.767	1015.855	TOPO
234	161833.215	1543136.048	1013.257	TOPO
235	161837.329	1543125.119	1012.830	TOPO
236	161808.943	1543121.763	1010.420	TOPO
237	161808.070	1543131.349	1011.098	TOPO
238	161777.783	1543125.072	1007.752	TOPO
239	161781.933	1543116.465	1007.921	TOPO
240	161753.677	1543114.249	1005.033	TOPO
241	161752.343	1543120.883	1005.371	TOPO
242	161721.289	1543114.194	1003.459	TOPO

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FENCE

Topo

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544	161696.871	1543100.631	1000.581	TOPO
545	161690.829	1543118.203	1001.570	TOPO
546	161680.041	1543111.674	998.496	TOPO
547	161675.890	1543097.954	997.867	TOPO
548	161655.821	1543073.554	994.908	GULLY CL
549	161674.445	1543088.355	995.958	GULLY CL
	161704.508	1543088.587	995.718	GULLY CL
	161732.085	1543091.992	997.710	GULLY CL
552	161755.474	1543092.231	999.413	GULLY CL
553	161784.293	1543095.824	1001.607	GULLY CL
Page 6 of 7				
554	161815.996	1543100.704	1004.784	GULLY CL
555	161845.896	1543105.182	1007.956	GULLY CL
556	161874.670	1543109.980	1010.753	GULLY CL
557	161904.954	1543114.626	1013.563	GULLY CL
558	161935.074	1543119.342	1015.687	GULLY CL
559	161960.686	1543123.614	1017.283	GULLY CL
560	161981.576	1543125.195	1018.085	GULLY CL
561	161980.899	1543097.525	1019.752	TOPO
562	161989.599	1543065.965	1016.878	TOPO
563	161996.267	1543041.026	1014.785	TOPO
564	161965.059	1543031.868	1014.140	TOPO
565	161959.788	1543046.158	1014.489	TOPO
566	161951.018	1543070.601	1017.139	TOPO
567	161944.453	1543095.650	1019.026	TOPO
568	161913.335	1543089.892	1017.008	TOPO
569	161919.904	1543070.452	1015.892	TOPO
570	161928.990	1543039.524	1012.504	TOPO
571	161996.319	1543029.952	1009.514	TOPO
572	161890.428	1543048.528	1011.696	TOPO
573	161881.765	1543081.772	1013.770	TOPO
	161847.221	1543078.598	1009.213	TOPO
575	161851.125	1543066.440	1008.509	TOPO
576	161858.480	1543044.005	1008.349	TOPO
577	161865.070	1543024.177	1006.649	TOPO
578	161831.185	1543018.622	1003.068	TOPO
579	161827.707	1543032.894	1003.949	TOPO
580	161824.096	1543056.500	1003.964	TOPO
581	161819.132	1543078.678	1005.594	TOPO
582	161784.766	1543073.287	1002.359	TOPO
583	161790.002	1543055.723	1000.461	TOPO
584	161795.174	1543036.626	1000.228	TOPO
585	161800.507	1543017.017	1000.026	TOPO
586	161769.087	1543005.438	997.801	TOPO
587	161731.774	1543031.161	998.280	TOPO
588	161754.846	1543055.686	998.693	TOPO
589	161750.987	1543071.550	1000.033	TOPO
590	161716.448	1543064.351	999.059	TOPO
591	161723.199	1543037.240	997.298	TOPO
592	161727.871	1543009.712	995.177	TOPO
593	161696.644	1543002.819	995.247	TOPO
594	161689.337	1543031.722	996.089	TOPO
595	161682.860	1543055.263	997.156	TOPO
596	161539.246	1543056.718	986.380	EOP
597	161569.944	1543058.123	987.408	EOP
598	161593.045	1543058.315	988.684	EOP
599	161613.436	1543056.833	990.775	EOP
600	161630.185	1543051.398	992.637	EOP
601	161642.401	1543041.411	993.861	EOP
602	161648.065	1543034.742	993.926	EOP
603	161656.767	1543007.930	993.564	EOP
604	161668.799	1542978.099	993.361	EOP
605	161685.088	1542934.802	991.899	EOP
606	161702.653	1542889.830	989.055	EOP

Gully

Topo



300	161748.632	1542771.915	983.216	EOP
309	161767.062	1542725.062	983.231	EOP
310	161768.539	1542662.137	982.855	EOP
312	161801.404	1542637.167	982.452	EOP
313	161812.760	1542605.379	982.592	EOP
314	161826.493	1542571.944	982.634	EOP
315	161841.231	1542504.015	982.967	EOP
316	161856.325	1542542.082	982.340	EOP

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317	161844.147	1542672.216	984.000	EOP
318	161830.648	1542699.854	983.020	EOP
319	161819.547	1542635.999	982.463	EOP
320	161801.611	1542681.870	982.519	EOP
321	161788.974	1542720.250	982.200	EOP
322	161777.313	1542747.873	984.171	EOP
323	161762.644	1542786.477	985.859	EOP
324	161743.999	1542833.093	987.142	EOP
325	161730.552	1542865.496	988.089	EOP
326	161713.579	1542908.259	989.861	EOP
327	161699.625	1542945.694	991.911	EOP
328	161691.782	1542968.980	992.786	EOP
329	161676.592	1543011.217	994.015	EOP
330	161660.336	1543051.936	994.531	EOP
331	161652.687	1543071.178	994.907	EOP
332	161641.895	1543093.212	995.214	EOP
333	161629.200	1543111.255	995.247	EOP
334	161616.031	1543125.199	995.252	EOP
335	161592.737	1543158.527	995.171	EOP
336	161546.551	1543195.173	995.157	EOP
337	161511.438	1543229.864	995.210	EOP
338	161472.004	1543269.367	995.297	EOP
339	161436.691	1543306.155	994.853	EOP
340	161414.523	1543329.881	993.563	EOP
341	161398.089	1543350.807	991.438	EOP
342	161385.058	1543374.243	989.055	EOP
343	161360.631	1543373.860	990.181	EOP
344	161376.144	1543348.925	991.935	EOP

EOP

345	161375.384	1543335.005	992.061	MON TEMP NATL
346	161366.768	1543394.060	993.027	EOP
347	161404.368	1543311.429	994.126	EOP
348	161420.103	1543291.600	914.465	EOP
349	161458.225	1543257.746	994.545	EOP
350	161495.952	1543221.213	994.861	EOP
351	161532.510	1543184.650	995.091	EOP
352	161569.018	1543148.640	994.882	EOP
353	161591.557	1543125.785	994.628	EOP
354	161606.140	1543110.182	994.439	EOP
355	161607.902	1543098.857	993.189	EOP
356	161601.379	1543087.127	991.333	EOP
357	161586.422	1543078.171	989.195	EOP
358	161566.255	1543072.194	987.406	EOP
359	161539.217	1543068.745	986.169	EOP

EOP

360	161537.931	1543079.431	987.650	FEN WW
361	161567.980	1543083.082	988.778	FEN WW
362	161592.600	1543087.640	989.947	FEN WW
363	161595.241	1543109.444	992.757	FEN WW
364	161577.284	1543127.116	992.843	FEN WW
365	161545.880	1543157.841	991.572	FEN WW
366	161517.646	1543186.541	990.073	FEN WW
367	161480.595	1543211.522	992.126	FEN WW
368	161441.778	1543258.747	991.674	FEN WW
369	161410.481	1543289.411	992.482	FEN WW
370	161387.100	1543315.350	992.197	FEN WW

FENCE

672	161331.660	1543260.845	990.741	FEN WW
673	161345.431	1543260.216	988.989	FEN WW
674	161399.911	1543260.552	990.552	FEN WW
675	161410.241	1543343.300	982.990	FEN WW
676	161430.709	1543319.649	995.176	FEN WW
677	161446.318	1543303.314	996.193	FEN WW
	161475.656	1543277.257	996.371	FEN WW
	161509.253	1543244.610	996.280	FEN WW

680	161532.676	1543221.241	996.584	FEN WW
681	161558.981	1543194.821	997.683	FEN WW
682	161589.088	1543164.494	996.976	FEN WW
683	161615.957	1543137.111	997.253	FEN WW
684	161638.861	1543113.855	997.241	FEN WW
685	161653.471	1543098.876	997.710	FEN WW
686	161664.716	1543100.736	998.118	FEN WW
687	161674.048	1543005.691	996.299	FEN WW
688	161682.981	1543012.968	995.209	FEN WW
689	161694.911	1542979.300	994.535	FEN WW
690	161708.607	1542948.558	993.046	FEN WW
691	161718.302	1542918.605	992.886	FEN WW
692	161732.829	1542888.150	989.826	FEN WW
693	161755.900	1542795.792	986.604	FEN WW
694	161777.621	1542762.407	985.934	FEN WW
695	161796.005	1542716.494	982.618	FEN WW
696	161820.597	1542654.061	981.048	FEN WW
697	161828.795	1542633.005	980.977	FEN WW
698	161845.982	1542588.181	978.808	FEN WW
699	161854.189	1542566.321	980.553	FEN WW
700	161863.501	1542542.167	983.414	FEN WW
701	161816.179	1542523.780	989.236	FEN WP
7	161804.516	1542553.765	985.196	FEN WP
703	161795.572	1542576.979	982.452	FEN WP
704	161778.518	1542620.963	980.809	FEN WP
705	161765.865	1542653.656	979.315	FEN WP
706	161757.110	1542676.364	978.776	FEN WP
707	161742.540	1542714.147	979.322	FEN WP
708	161723.689	1542762.747	980.197	FEN WP
709	161703.872	1542813.884	982.106	FEN WP
710	161689.120	1542851.892	983.721	FEN WP
711	161672.671	1542894.267	986.677	FEN WP
712	161661.400	1542926.127	988.485	FEN WP
713	161644.112	1542967.568	989.708	FEN WP
714	161629.610	1543004.821	989.090	FEN WP
715	161621.290	1543018.904	988.764	FEN WP
716	161609.148	1543028.475	987.946	FEN WP
717	161592.332	1543033.888	986.999	FEN WP
718	161573.278	1543035.257	986.156	FEN WP
719	161536.055	1543034.802	985.922	FEN WP

720	161542.315	1543035.407	986.090	TEL PP OH US
721	161581.009	1543083.290	989.427	TEL PP
722	161652.570	1543098.326	995.704	TEL PP
723	161580.220	1543015.364	995.421	TEL PP
724	161744.085	1542849.421	988.549	TEL PP
725	161674.745	1543031.612	996.294	TEL GW
726	161663.280	1543089.079	995.748	TEL GW
727	161651.810	1543088.929	995.627	TEL BOX GTE
7	161663.962	1543056.654	995.951	TEL BOX GTE
729	161663.544	1543056.951	996.191	SIGN TEL US

30	161541.891	1543071.095	986.270	DITCH CL
31	161568.205	1543075.396	987.290	DITCH CL
32	161588.688	1543082.221	989.185	DITCH CL
33	161597.606	1543089.931	990.668	DITCH CL
34	161401.419	1543350.850	990.718	DITCH CL

TEL

DITCH | 763

736	161432.529	1543120.795	994.549	DITCH CL
737	161435.529	1543110.180	994.549	DITCH CL
738	161455.347	1543137.071	994.612	DITCH CL
739	161477.687	1543277.288	994.894	DITCH CL
740	161499.012	1543248.355	994.889	DITCH CL
741	161520.909	1543224.186	994.949	DITCH CL
742	161542.942	1543204.298	994.961	DITCH CL

9  
DITCH

743	161563.278	1543181.992	994.962	DITCH CL
744	161578.405	1543163.971	994.961	DITCH CL
745	161601.388	1543143.260	995.015	DITCH CL
746	161620.588	1543123.148	994.898	DITCH CL
747	161633.014	1543119.424	994.897	DITCH CL
748	161643.505	1543092.349	994.509	DITCH CL
749	161653.172	1543075.642	994.485	DITCH CL
750	161660.818	1543055.803	994.210	DITCH CL
751	161666.948	1543039.971	994.095	DITCH CL
752	161690.600	1542976.942	992.873	DITCH CL
753	161699.378	1542952.098	991.773	DITCH CL
754	161709.211	1542923.832	989.892	DITCH CL
755	161719.911	1542896.979	988.380	DITCH CL
756	161732.009	1542868.966	987.382	DITCH CL
757	161743.441	1542840.804	986.605	DITCH CL
758	161755.490	1542810.658	985.986	DITCH CL
759	161768.397	1542778.065	984.881	DITCH CL
760	161781.621	1542742.711	983.310	DITCH CL
761	161793.567	1542713.350	982.508	DITCH CL
762	161807.432	1542678.180	981.739	DITCH CL
763	161832.569	1542641.221	980.300	DITCH END CL
764	161843.401	1543048.516	986.072	POST ALL PILL US
765	161886.768	1543387.726	988.572	FEN WW
766	161878.750	1543409.024	985.745	FEN WW
767	161875.214	1543424.194	984.598	FEN WW
768	161872.223	1543456.094	982.544	FEN WW
769	161871.047	1543471.807	982.595	FEN WW
770	161867.405	1543516.879	984.631	FEN WW
771	161832.638	1543515.456	983.781	FEN WW
772	161834.580	1543488.733	982.786	FEN WW
773	161838.379	1543435.184	982.042	FEN WW
774	161842.882	1543399.671	987.662	FEN WW
775	161849.980	1543370.304	989.725	FEN WW
776	161879.509	1543385.734	983.631	EOP
777	161872.881	1543407.376	987.036	EOP
778	161867.216	1543432.149	985.774	EOP
779	161865.548	1543446.604	985.662	EOP
780	161863.425	1543476.074	985.639	EOP
781	161860.297	1543516.981	986.475	EOP
782	161843.632	1543515.042	986.339	EOP
783	161845.795	1543495.957	986.056	EOP
784	161846.556	1543452.267	986.161	EOP
785	161850.995	1543423.315	987.031	EOP
786	161856.966	1543397.823	983.562	EOP
787	161893.463	1543361.379	989.693	DITCH CL
788	161889.471	1543383.827	988.183	DITCH CL
789	161877.175	1543400.775	986.826	DITCH CL
790	161877.121	1543413.245	985.491	DITCH CL

TEC

FENCE

EOP

DITCH

3659 SWITZER

Benchmark TANK TOWER (PARKS)

STA	+BS	HI	-FS	Elev
T1	3.60	1023.012	—	1019.402

0.51	1011.924	12.028	1010.914
------	----------	--------	----------

0.32	996.994	14.75	996.674
------	---------	-------	---------

11.603	1008.017	0.58	996.414
--------	----------	------	---------

8.76	1015.087	1.69	1006.327
------	----------	------	----------

5398	1016.982	3.503	1011.584
------	----------	-------	----------

Bm	1.017	1016.572	1.427	<u>1015.555</u>
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3291

2-6-06

①

Benchmark RRS found in east  
 of DEL 8" Hackberry, N. Side of  
 Parks Lane, 15' East of Mailbox  
 # 6268 (Bm T-1 from F.B.  
 LSEWD Water Tanks 1993 P.1)

( Bm Top of Southern most  
 Anchor BOLT in Southern most Pier  
 Closest to Parks Lane )

3659 SWITZER

Bm TO TANK (PARKS Lane)

STA	BS	HI	FS	Elev
1.846	1002.178	16.24	1000.222	
9.41	1003.653	7.935	994.243	
12.39	1015.683	0.41	1003.243	
8.07	1022.523	1.18	1014.453	
-	-	3.11	1019.413	
			(1019.402)	

STA	Bm T-1	TOTANK	Harrisburg Road	Elev
T-1	3.72	1023.122		1019.402
	5.51	1027.284	1.348	1021.774
	2.685	1023.454	6.515	1020.769
	4.207	1021.461	6.20	1017.254
	10.85	1028.961	3.35	1018.111
	5.69	1031.931	2.72	1026.241
	4.93	1031.191	5.67	1026.261
#5		4.25		1026.941

2-6-06

(2)

LJH  
3/10/08

Tie Bm T-1 +0.011

Bm T-1 RRS

Control #5 FIP 3275 Coord File

3401 2001 TO TANK  
Harrodburg

STA #5	13.0	1030.49	1026.941
	2.995	1030.157	3.328 1027.162
	2.24	1031.217	1.70 1028.557
	5.91	1032.187	5.07 1026.227
	0.725	1027.512	4.07 1027.167
	2.948	1024.611	6.225 1021.667
	2.575	1021.934	5.25 1019.361
	5.58	1023.986	3.53 1018.406
	4.392	1026.512	1.866 1022.12
	2.617	1019.361	5.763 1010.749
		3.864	1019.502

2-1-06

(3)

Mon #5 Harrod's Club

NW corner of NW 1/4 TANK SITE  
Harrod's Club Road  
club

Tie T-1

3564 Bm T-1 to tank on  
Harrodsburg, Pa.

STA	BS	HI	FS	Elev
T-1	3.739	1023.141		1019.402
	4.797	1025.90	2032	1021.103
	3.46	1026.10	722	1022.64
	0.59	1028.04	665	1019.45
	2.775	1017.86	4455	1015.085
-	6.555	1024.765	365	1014.21
	8.515	1026.477	2803	1017.962
	7.268	1031.635	2.11	1024.367
	3.907	1031.953	3589	1028.046
	5.04	1029.653	7.34	1024.613
	5.41	1029.868	5195	1024.455
#5	3.254	1030.187	2.935	<u>1026.933</u>

2-7-06

(4)

Benchmark T-1 Parks Loop  
See PG-1 for description

mon #5 W03275 Harrods Club

356" BMT-1 TO TANK ON  
HARRISBURG RD

2-7-06

(5)

STA	BS	HI	FS	ELEV
			3.03	<u>1027.157</u>
			3.254	1024.933 ✓ +5 check
	3.16	1030.093	3.254	1026.933
	1.61	1028.553	3.12	1026.973
	5.67	1028.328	5.325	1027.258
-	4.23	1031.98	1.178	1027.75
	1.27	1028.11	5.14	1026.84
	0.96	1022.438	6.632	1021.478
	3.218	1018.824	6.832	1015.606
	4.00	1017.179	5.645	1013.179
-	6.66	1018.259	5.58	1011.599
	6.40	1021.999	2.66	1015.599
	6.24	1026.092	2.147	1019.852

(NW corner bolt on NW Pier  
Tank site Harrisburg Road US 68)  
(across from Harrisburg Rd)



3659 Bmtg Park Loop  
TO TANK on Harmsling Road

STA	BS	HI	FS	Elev
	1.595	1023.027	4.66	1021.132

BMT-1			3.635	1019.392
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27-06

BB  
BW

100  
100.327

Bench Tie T-1 Parks Lane  
-0.510

TANK (Harradsburg Road) TO  
PROPOSED SITES SWITZER  
FOREST HILLS

STA	BS	HT	FE	NW
0.08	1027.237			<u>1027.157</u>
1.843	1022.56	6.28		1020.957
2.207	1018.557	6.45		1016.35
4.302	1016.679	6.18		1012.377
1.083	1011.617	6.45		1010.534
0.220	1003.337	8.50		1013.117
1.20	997.417	7.120		996.217
998.866	6.567	5.118		992.299
1001.616	6.34	3.59		995.276
1004.224	6.492	3.884		997.732
5.327	1005.574	3.677		1000.547
3.215	1003.579	5.51		1000.364

2 5.08

6.45

1012  
1011

(Top NW Anchor bolt on NW Pier  
Harradsburg Road Tank Site across  
From Harrads Ridge)

Herricks Rd Tank TO Forest Hills & Switzer  
proposed sites

2-8-06

BB  
JW

Sta	BS	HI	FS	Flv
	5525	1003.019	6.085	1007.174
	3978	1002.715	4.282	998.737
	569	1003.185	5.22	997.495
	6544	1005.597	4.132	999.053
	4483	1005.917	4.533	1001.064
	3626	1002.697	6.476	999.871
	3928	1000.358	6.267	996.43
	3.72	997.786	6.292	994.066
	7.331	998.719	6.398	991.388
	8.243	1004.031	2.931	995.788
	5.364	1006.742	2.653	1001.378
	4.168	1006.358	4.552	1002.19

(Mag nail)

USGS Tank TO proposed SWITZER &  
FOREST HILLS SITE

STA	BS	HI	FS	Elev
	6.533	1001.673	3.258	1003.1

	8.327	1016.038	1.922	1017.7
--	-------	----------	-------	--------

	12.872	1027.552	1.358	1014.68
--	--------	----------	-------	---------

BM				
		0.415	<u>1027.137</u>	
	129.208	129.208	-0.02	

STA	BS	HI	FS	Elev
	7.368	1006.105		998.737
	7.16	1010.704	2.561	1003.54

	6.02	1014.70	2.024	1008.68
--	------	---------	-------	---------

	6.532	1017.852	3.380	1011.32
--	-------	----------	-------	---------

	8.168	1023.73	2.29	1015.562
--	-------	---------	------	----------

	5.600	1026.605	2.725	1021.005
--	-------	----------	-------	----------

	4.55	1024.789	6.366	1020.239
--	------	----------	-------	----------

	4.24	1025.759	3.27	<u>1021.519</u>
--	------	----------	------	-----------------

2-8-06

BS  
BW

BM NW corner of [unclear] on [unclear] (1027.157)

may nail

Bm RRS IN 3' dia TREE (2.0' up) FOREST HILLS TAN SITE, along Fence Line

USGS Tank to proposed SWITZER to  
Forest Hills

STA	BS	HI	FS	FINV
	2.002	1022142	5317	1020447
	2.965	1017167	8224	1014202
	8.303	1021217	3663	1013504
	6.067	1025474	244	1019367
	2.40	1025493	2211	<u>1023093</u>
	4.127	1021013	8607	1016882
	3.49	<del>1012483</del> 1011503	6020	1014793
	3.368	<del>1012441</del> 1008961	591	1012573 <del>1005293</del>
	4.81	1013209 1006629	7.142	1008794 <u>1001819</u>
	5.177	1013398 <del>1006478</del>	5388	1008721 <del>1001301</del>
	2.582	1011331 <del>1004201</del>	4.67	1005122 <del>1001202</del>

2-8-06

BB  
BW

Bm RRS in 1/2" DIA tree (13' tall)  
Approx 80' West FROM SWITZER / FOREST  
HILLS PEAK Co. road. Next TO Fence Line  
(RRS is FOR The SWITZER Tank)

Harrsburg Rd TANK TO SWITZER & TANK

2-8-06

BB  
BW

STA	BS	HI	FS	Elev
	2.41	<del>998.75</del> 1002.87	7.85	<del>998.74</del> 1002.96
			7.122	<del>998.748</del> (10.011)

Tie mag (998.737)

NO 35/9 JEFWD  
PACER LANE TANK

Sunny 58°

B.INDA  
RT 300

4-29-2010

①

826

827

MON SMAA - Baseline

MON SMAA - Baseline

FB: JSBWD WATER TANKS 2010

Wd 869 1911

Sunny 71°

CATNIP, HILL TAKE TOPO

828 - 850

851 - 861

862

863 - 866

867

868 - 872

871 - 873

874 - 877

878 - 879

880 - 885

886 - 887

888 - 919

950

951 - 954

955 - 971

972

R. Wain

Triptic RR GPS

4-30-10

(2)

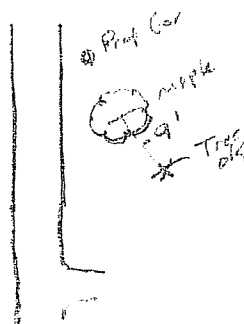
EOP

TOPS Pavement

MAN FIP + CAP

E- transformer

Tree 0.40' maple o/s



N  
↑

Slo Top

Slo Top

Slope Toe

Slo Top

Slo Top

ST Pipe Inv. - Add 15"

TOPO

FH.

WS BU

TOPO

Tree 0.20' maple



W0356A JEF W03  
CATNIP HILL TANK SITE

Shaded 75%

B. V. K. W. R.  
Tombstone 89 61%

4-30-12

(3)

973 - 976  
\* 977  
978  
979  
980  
981  
982

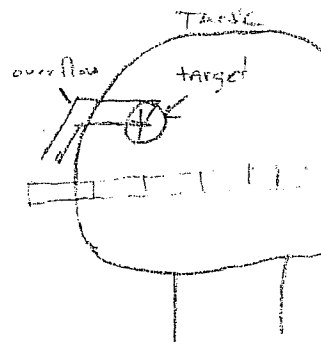
E-transformer  
MON SIP Ctrl Point  
1.5' dia lid (plumbing inside (irrigation))  
IRRIGATION VALVE  
MON FIP Ctrl Pt.  
MON FIP Ctrl Pt.  
MON FIP Horne

- TRIANGULATION FOR PARKS LN  
TANK -

	<u>A #</u>	<u>Elev</u>	<u>Ht</u>
BS	826	1025.942	5.482
T	827	1030.412	5.364

<u>HA</u>	<u>VA</u>	
267.1958	84.4545	"
267.2015	275.1423	

Parks Ln. Overflow  
Std. Scope 1170.64'  
Reverse Scope 1170.67'



SEE PAGE 19 FOR TANK OVERFLOW  
ELEVATIONS

W. 3567 JSEWD

0007  
76

REPAIR T

4-30-10

(4)

TANK TRIANGULATION

		<u>FLV.</u>	<u>HI</u>
BS	826		5.472
I	827	1030.412	5.364

<u>HA</u>	<u>VA</u>
73.0841	86.1234
73.0847	273.4735

HARRISBURG Rd. TANK OVERFLOW

Sta. Scope 1169.11'

Reverse Scope 1169.11'

		<u>FLV.</u>	<u>HI</u>
BS	827		
I	826	1025.942'	5.588'

<u>HA</u>	<u>VA</u>
66.5902	85.0113
66.5906	274.5901

PARKS Lw. OVERFLOW

Sta. Scope 1170.66'

Reverse Scope 1170.74'

<u>HA</u>	<u>VA</u>
249.1041	85.5500
249.1050	274.0520

HARRISBURG Rd. OVERFLOW

Sta. Scope 1169.07'

Reverse Scope 1168.95'

SEE PAGE 19 FOR OVERFLOW ELEVATIONS

W 0 35 09 NSEWD

Sunny  
108°

B. Inair T

5-3-10

(5)

	<u>Elev.</u>	<u>HI</u>
BS	826	
T	827	1030.412 5.39

HA.  
Zel. 1638  
Zel. 1642

VA.  
90.4530  
269.1439

5.29'

BM - SLP  
Std. Scope  
Reverse Scope

Paris La Tunc

	<u>Elev.</u>	<u>HI</u>
BS	827	
T	826	1025.4942 5.679'

HA.

VA

5.445'

BM - SLP - Harrodchane Rd. Tunc  
Std. Scope  
Reverse Scope

no 256A JSKWB

B. W. HUB  
W. HUB

5-8-10

983

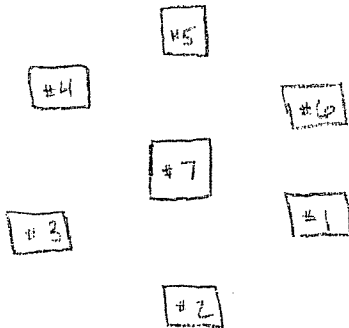
BM- S. Hub

Elev 1010.629'

Level loop plu of Arks Ln.  
TANK leg Falls.

N  
4  
↑

STA	BS	HI	FS	Elev
BM.	6.64			1010.629 ✓
		1017.269		
#1		2.06		1015.209
#2		2.05		1015.214
#3		2.04		1015.221
#4		2.049		1015.22
#5		2.045		1015.224
#6		2.02		1015.249
#7		2.058		1015.211
BM.		6.64		1010.629 ✓



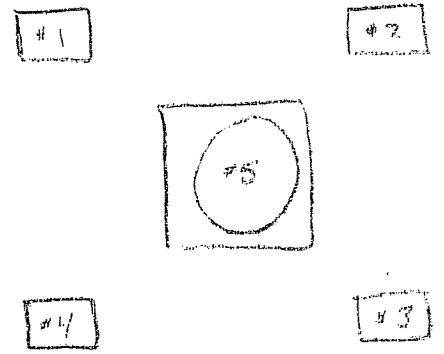
984

Level Loop plu of HAZZARDOUS WASTE TANK  
by PROS

BM - SPTS in Edge of Median  
IN Eastern EOM, 110' South of existing  
50,000 gal. water tank.



STA	BS	HI	FS	Elev
BM2	0.265			1029.757 ✓
		1030.022		
#1			3.465'	1026.56'
#2			3.43'	1026.59'
#3			3.453	1026.57
#4			3.453	1024.57
#5			3.495	1026.53
BM2	0.265			1029.757 ✓



Level check into Ex. BM

STA	BS	HI	FS	Elev
BM2	4.709			1029.757 ✓
		1034.466		
Ex BM T-5			3.935	1030.53
BM2	4.709			1029.757 ✓

Ex BM T-5 - Loose in hole of well (Ex Elev. 1030.91)

NO 3569 189 W

SUN

B.M. TEMP  
1019.68

5 3-12

985

(Elev. 1019.68')

B.M. Temp S. Hub - TO LEAD TO CORNER

GPS Elevation w/ Elevation

Road to Forest, Hill, etc.

Point 1000 + 1000 = 2000

Water Tanks.

Elevation check into E. RA

STA	IC	SL	FS	Elev
B.M. TEMP	6.17			1019.68 ✓
		1025.85		
E. BM		4.51		1021.34
B.M. TEMP		6.17		1019.68 ✓

WA 3509 12000

Sunny 30° 8 WIND

5-7-10

91

FIELD SUMMARY FOR 5-5-10

WE USED THE GPS ON KY NORTH  
STATE PLANE COORDINATES & NAD 83  
DATA TO CHECK INTO EXISTING BALS  
THAT WERE USED ON THE EXISTING TANKS.

ALL WERE CONSISTENTLY OFF GRID,  
EXCEPT FOR BMT-5, A RRS IN USUAL  
TREE SOUTH OF HARBORLAND RD. TANK,  
(LOCAL WATER TANKS 1995 1/2)  
WHICH WAS OFF GRID. THAT TREE  
WAS VERY LOW & TREE TRUNK WAS  
ROTTEN & DAMAGED BADLY.

W 3529 7870

B. WILKINSON  
W. 3529

5-4-15

(4)

STA	BS	HI	FS	FIN
B/M EX	4.835			1021.519
		1020.354		
TP1	12.01		13.83	1021.807
		1024.834		
B/M	6.055		1.51	1023.774
		1024.339		
TP3	1.105		4.355	1025.004
		1026.109		
B/M EX			4.422	1021.517

1. RFS IN TRENCH ALONG SWITCH / FOOTING LINE

TP 1P ON OTHER SIDE TANK SIDE

TIE-IN EX ON W. SIDE

- CHECK SO B/M WITH GPC to COMPARE FLOW -

983

987

BACK UP (set with level loop)  
MAN F/I Control



WS 7509 TTT

Temp 76° B. VINEY

5-5-10

(11)

CHAMP TANK 800 712

W. HARRIS

BS	962	5.27
T	977	5.552
FC	988	
	994 - 991	
	992	
	998 - 996	
	997 - 1008	
	1004 - 1008	

MON FIR HORNE  
NE WIL PIC  
NE WIL 90°  
Fence WLD  
Tee Campy  
TAP

W. 20, 10, 10, 10

Sunny  
71°

B. W. T.  
W. P. W. M.  
T. P. C. M.

5-7-12

12

BS	862	532
$\bar{A}$	977	564
101	1019	
	1011	
	1011	
	1012	

B. W. T. SERIES in tree  
Tree material 1.0'  
B. W. T. SERIES in tree  
Tree 1.0'

USE 5569 USENS

SUBJECT B.M. #1  
W. 1/2 1/4

6/25/13

(13)

PROP. LAMP STAND

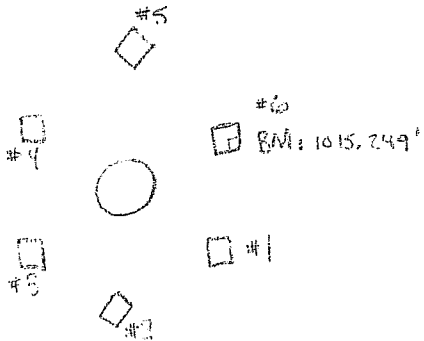
↓

SF - BM

BM = CHISELED SQUARE ON FACILITY  
CORNER OF NORTHEAST LEG CONCRETE  
PAD

ELEN. 1015.249'

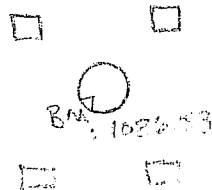
N  
↑



HARDING ROAD

BM CHISELED SQUARE ON CENTER CONCRETE  
PAD AT SOUTHWEST CORNER

ELEN. 1026.53'



WINDY JSEWD

Sun, 9/1

8:00

6-13-10

(14)

FOREST TANK SITE

TRAIL E. SF

1038

1039

1040

1041

1042

1043

1044

1045

1046

LEG 3 Ground

LEG 2

LEG 1

LEG 4

LEG 5

LEG 6

LEG 7

LEG 8

TREE CENTER GROUND

No 3569 19145

Ford's Hill, TANZ S 12

Friday

BWR T  
W 12:00

6-16-10

151

BS 802 5.70

FS 777 5559

FS 1072 - 1070

1071

1072

1073

1074

1075

1076

1077

1078

1079

1080

1081

1082

1083

1084

1085

1086

1087

1088

1089

1090

1091

E Profile

(GPS 10)

Tree

2.80 Triple

0.50

0.40

1.60 Double

1.0

0.60

2.0 Double

1.10

0.80

1.0

0.90

0.60

0.70

0.60

0.80

0.60

0.70

0.70

0.90

0.60

1.30

Wc 3569 JSEWD  
Forest Hills Camp Site

5/10/70

B. White  
with legs

6-11-73

(10)

BS 862

T 977

FS 1092

1093

1094

1095

1096

1097

1098

1099

1100

1101

1102

1103

1104

1105

1106

1107

1108

1109

1110

1111

1112

1113

1114

Tree 1.10

1.0

2.30 Dangle

1.50

1.20

1.20

1.30

2.0 Triple

1.50

1.40

0.90

1.30

2.0

1.70

1.0

1.0

1.20

0.70

↓ 0.60

Beehive Ground

Tree 1.20

↓ 0.80

Beehive Ground

Wb 3564 JSEWD  
Forest Hill TRASH SITE  
(use 3564 - 3000) - KY North Zone

Survey 117°

BWP  
Triangle of WIF

6-16-10

(17)

BM - TIP

SETUP ON FOR MONTS.  
Submit results to J. S. G. W.

BEFORE O.P.S.

N: 162711.210

E: 1543216.168

Elev: 1017.678

AFTER O.P.S.

N: 162698.198

E: 1543218.797

Elev: 1023.374

Wed 8/12/03

7-12-03

NOTE

BIR WAS SET AFTER running level loop from Paris in tank. We sat up on RM for 30 minutes w/ GPS on foot stat to gather information. We submitted it to OPUS for results. See page 17 for those results.

THE OPUS ELEVATIONS WAS THE HIGHEST OF THE 3 THAT WE HAD AND THEY ARE:

OPUS: 1023.37

Level: 1023.324

RTK: 1023.27

JOHN & LCH decided to use RTK ELEVATIONS FOR THE REMAINDER OF THE PROJECT.



NO 3509 TRENDS

TANK OVERFLOW ELEVATIONS

US-68 50,000 GAL TANK

<u>SHOT FROM</u>	<u>ELEV</u>	<u>SLOPE</u>
# 826	1168.01	DIRECT
# 826	1168.95	REVERSE
# 827	1169.11	DIRECT
# 827	1169.11	REVERSE

PARKS LANE

<u>SHOT FROM</u>	<u>ELEV.</u>	<u>SLOPE</u>
# 826	1170.66	DIRECT
# 826	1170.74	REVERSE
# 827	1170.74	DIRECT
# 827	1170.67	REVERSE

RW

8-6-2010

(19)

SEE PAGES 3-4 FOR TRIANGULATION ANGLES

AVERAGE TANK ELEVATIONS

US-68 50,000 GAL

1169.05'

PARKS LANE

1170.68' PIPE INJECT ONLY

THIS TANK HAS A 12" WEIR BOX, SO BY ADDING 12" TO ORIGINAL OVERFLOW, THE ACTUAL WATER OVERFLOW ELEVATION IS

1171.68' W/ WEIR BOX





**FLOOD PLAIN NOTE**

A REVIEW OF THE FEMA FLOOD ZONING AND FLOODWAY MAP, CORRECTION PLAN NUMBER 12484-0004A, DATED JANUARY 24, 1992 INDICATES THIS PROPERTY IS ABOVE THE CLASS OF THE 100 YEAR FLOOD.

**ZONING NOTE:**

THE CHANGE IN ZONING IS REQUIRED FOR THE DEVELOPMENT - TRACTS 1-3 GENERAL APPLICABLE FOR CLUSTER DEVELOPMENT ALL SUBDIVISIONS PROPERTY ZONED A-1

**SETBACK REQUIREMENTS**

MINIMUM FRONT YARD 50'  
MINIMUM REAR YARD 25'  
MINIMUM SIDE YARD 10'  
MINIMUM ROAD FRONTAGE 150'

**TEMPORARY TURNAROUND NOTE**

A TEMPORARY TURNAROUND SHALL BE PROVIDED AT THE END OF ALL STRAIGHT DRIVE PORTION OF ANY LOT USED FOR THE TEMPORARY TURNAROUND SHALL REVERT BACK TO THE PROPERTY OWNER AT THE END OF THE ROAD IS CUTTING INTO ADJACENT PROPERTY IN ACCORDANCE WITH SUBDIVISION REGULATION 4.06.1. ACTUAL TURNAROUND PROVISIONS WILL BE SHOWN ON THE CONSTRUCTION PLAN.

**SCREENING NOTE**

SCREENING SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS AS REQUIRED BY LOCAL ZONING ORDINANCE 2.02.03.01, AND 4.06 AND 4.06.1 SUBDIVISION REGULATION 4.06.1.

**HOMEOWNERS ASSOCIATION NOTE**

ALL BUILDING CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE SUBDIVISIONS AND COVENANTS AS SHOWN IN DEED BOOK 308, PAGE 308.

**RESIDUAL LAND NOTE:**

THE REMAINDER OF UNDEVELOPED ACRES OF THIS TRACTS COMBINING OF 107.8 ACRES AS SHOWN ON THE PLAN RECORDED IN PLAT COUNTY IS BEING LEFT IN THE OFFICE OF THE JESSAMINE COUNTY CLERK SHALL BE SUBJECT TO ACCELERATE USE OR OTHER SPACE USE FOR THE SUBDIVISION AND SUBJECTIVE TO BE A PHYSICAL EXAMINATION AND CONFORMITY WITH THE LAWS, THIS AGREEMENT AND INSTRUMENT SHALL TERMINATE ONLY AT SUCH TIME AS THE PROPERTY IS ADDED INTO A LOT. THIS AGREEMENT SHALL TERMINATE ONLY AT SUCH TIME AS THE PROPERTY IS ADDED INTO A CITY FOR A HOME CLASSIFICATION CHANGE TO SINGLE FAMILY RESIDENTIAL USE, RESTRICTED TO ONLY TO SINGLE FAMILY HOME LOTS IN THE CLUSTERING ASSOCIATION FOR THE PROPERTY TRACTS 0 ACRES AS SHOWN.

**SIGHT DISTANCE NOTE**

THIS PROPOSED INTERSECTION WITH U.S. 68 SHALL MEET THE SIGHT DISTANCE REQUIREMENTS AS STATED IN SUBDIVISION REGULATION 4.06.1.

**CERTIFICATE OF OWNERSHIP AND DEDICATION**

I (WE) DO HEREBY CERTIFY THAT I AM (WE ARE) THE OWNER(S) OF THE PROPERTY SHOWN AND DESCRIBED HEREON, AND THAT I (WE) HEREBY ADOPT THIS PLAN OF THE SUBDIVISION WITH MY (OUR) FREE CONSENT, ESTABLISH THE NEIGHBORHOOD RESTRICTION LINES AND DEDICATE ALL STREETS, ALLEYS, WALKS, PARKS AND OTHER OPEN SPACES TO PUBLIC OR PRIVATE USE AS SHOWN, IN ACCORDANCE WITH THE WILSON AND JESSAMINE COUNTY SUBDIVISION REGULATIONS, UNLESS OTHERWISE NOTED.

*Darrin K. Darnell* 2-2-06  
DATE

**CERTIFICATE OF ACCURACY**

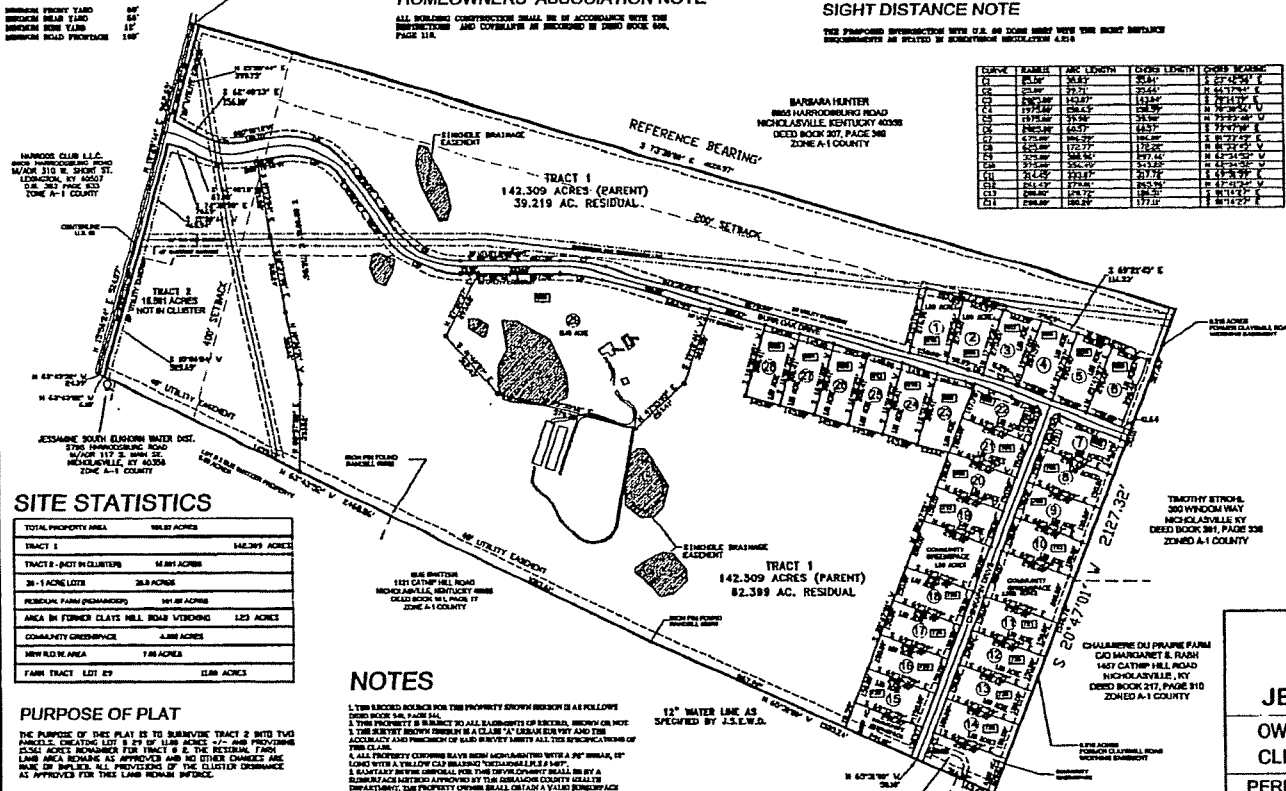
I DO HEREBY CERTIFY THAT THE PLAN SHOWN AND DESCRIBED HEREON IS A TRUE AND CORRECT SURVEY TO THE ACCURACY REQUIRED BY THE WILSON AND JESSAMINE COUNTY JOINT PLANNING COMMISSION AND THAT THE MONUMENTS HAVE BEEN PLACED AS SHOWN HEREON TO THE SPECIFICATIONS OF THE JESSAMINE COUNTY ENGINEER OR APPROVED OFFICE.

*Darrin K. Darnell* 2-02-06  
DATE

**CERTIFICATE OF APPROVAL FOR RECORDING**

I DO HEREBY CERTIFY THAT THE SUBDIVISION PLAN SHOWN HEREON HAS BEEN FOUND TO COMPLY WITH THE SUBDIVISION REGULATIONS FOR JESSAMINE COUNTY, KENTUCKY, WITH THE EXCEPTION OF SUCH VARIANCES, IF ANY, AS NOTED IN THE NOTES OF THE PLANNING COMMISSION AND THAT IT HAS BEEN APPROVED FOR RECORDING IN THE OFFICE OF THE COUNTY CLERK.

CLERK OF COUNTY OR SECRETARY, PLANNING COMMISSION DATE

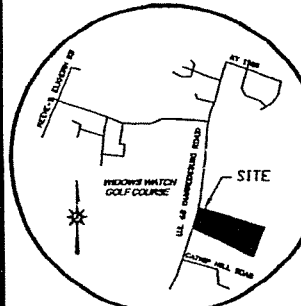


**SITE STATISTICS**

TOTAL PROPERTY AREA	WILDS ACRES
TRACT 1	142.309 ACRES
TRACT 2	142.309 ACRES
TRACT 1 - BOTT IN CLUSTER	14.811 ACRES
38-1 ACRE LOTS	38.8 ACRES
RESIDUAL FARM (REMARKED)	101.01 ACRES
AREA IN FORMER CLAYS HILL ROAD VETERANS	123 ACRES
COMMUNITY GREENSPACE	4.38 ACRES
NEW ROADWAY	1.86 ACRES
FARM TRACT LOT 29	12.86 ACRES

**PURPOSE OF PLAT**

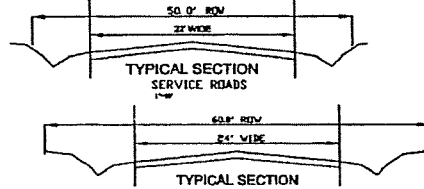
THE PURPOSE OF THIS PLAT IS TO SUBDIVIDE TRACT 2 INTO TWO PARCELS, CREATING LOT 2 OF 1.18 ACRES AND LOT 3 OF 1.18 ACRES. THE TOTAL AREA OF TRACT 2 IS 2.36 ACRES. THE RESIDUAL FARM LAND AREA REMAINING AS APPROVED AND NO OTHER CHANGES ARE MADE OR IMPLIED. ALL PROVISIONS OF THE CLUSTER ZONING AS APPROVED FOR THIS LAND REMAIN IN EFFECT.



**VICINITY MAP**  
1" = 3000'

**NOTES**

1. THIS RECORD REFERS TO THE PROPERTY SHOWN HEREON AS IT FOLLOWS DEED BOOK 308, PAGE 308.
2. THIS PROPERTY IS BEING RECORDED IN PLAT COUNTY, KENTUCKY.
3. THE BOTT IN CLUSTER SHALL BE A CLUSTER OF LOTS AND THE ACCURACY AND PRECISION OF SAID SURVEY LIMITS ALL THE SPECIFICATIONS OF THIS PLAN.
4. ALL PROPERTY CORNERS SHALL BE MARKED WITH A 1/4" IRON PIN, 12" LONG WITH THE YELLOW CAP BEARING THE NUMBER OF THE LOT.
5. SUFFICIENT SURVEY DATA FOR THIS DEVELOPMENT SHALL BE BY A SURVEYOR LICENSED AND APPROVED BY THE JESSAMINE COUNTY ENGINEER. THE PROPERTY OWNER SHALL OBTAIN A VALID SURVEY OF THE SITE AND SHALL BE RESPONSIBLE FOR THE ACCURACY OF THE SURVEY. A SURVEY OF THE SITE SHALL BE PROVIDED TO THE JESSAMINE COUNTY ENGINEER FOR REVIEW AND APPROVAL.
6. ALL LOTS SHALL BE ACCURATELY SURVEYED AND EACH SHALL BE A LOT OF 1.18 ACRES.
7. ALL CORNERS SHALL BE MARKED WITH A 1/4" IRON PIN, 12" LONG WITH THE YELLOW CAP BEARING THE NUMBER OF THE LOT.
8. ALL CORNERS SHALL BE MARKED WITH A 1/4" IRON PIN, 12" LONG WITH THE YELLOW CAP BEARING THE NUMBER OF THE LOT.
9. ALL CORNERS SHALL BE MARKED WITH A 1/4" IRON PIN, 12" LONG WITH THE YELLOW CAP BEARING THE NUMBER OF THE LOT.
10. ALL CORNERS SHALL BE MARKED WITH A 1/4" IRON PIN, 12" LONG WITH THE YELLOW CAP BEARING THE NUMBER OF THE LOT.
11. ALL LOTS SHALL BE ACCURATELY SURVEYED AND EACH SHALL BE A LOT OF 1.18 ACRES.
12. ALL LOTS SHALL BE ACCURATELY SURVEYED AND EACH SHALL BE A LOT OF 1.18 ACRES.

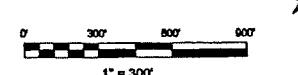


**LEGEND**

- 1/4" IRON PIN SET WITH YELLOW CAP LABELS DEED BOOK 308, PAGE 308
- IRON PIN FOUND
- INDICATE DRAINAGE EASEMENT
- EXISTING FENCE
- PROPOSED FENCE SEE LANDSCAPE PLAN

**ENTRANCE PIPE**

IT SHALL BE THE RESPONSIBILITY OF EACH PROPERTY OWNER TO DESIGN APPROPRIATE DRAINAGE PIPING AT EACH PROPERTY ENTRANCE ON A 1/4" IRON PIPE.



DARRIN K. DARNELL  
P.L.S. # 5487

**MINOR SUBDIVISION PLAT**  
**FOREST HILLS**  
5785 HARRODSBURG ROAD  
JESSAMINE COUNTY, KENTUCKY

OWNERS / CLIENT: FOREST HILLS, LLC  
P.O. BOX 1047  
LEXINGTON, KY 40588

PERFORMED AND PREPARED BY: DARRIN K. DARNELL P.L.S.  
395 RETRAC ROAD  
LEXINGTON, KY 40503  
(859) 298-8718

DATE OF SURVEY	DATE OF PLOT	JOB NO.	PLOT NO.
AUGUST/2005	1/17/2006	18845 X-0438	X-0436C

DOCUMENT NO. 18845 X-0438  
RECORDED ON: FEBRUARY 14, 2006 08:11:33AM  
TOTAL FEES: \$15.00  
COUNTY CLERK: ENO L. MCNAMIS, CJC  
COUNTY: JESSAMINE COUNTY  
DEPUTY CLERK: NICOLE MURPHY  
BOOK 0810 PAGES 123 - 123

JESSAMINE COUNTY  
CAB10 Pg 123

**FLOOD PLAIN NOTE**

A REVIEW OF THE FEMA FLOOD BOUNDARY AND FLOODWAY MAP, CHANGEMIN PLAN NUMBER 8143-0008, DATED SEPTEMBER 14, 1993, REVEALS THAT PROPERTY IS WITHIN THE LIMITS OF THE 100 YEAR FLOOD.

**ZONING NOTE:**

NO CHANGE IN ZONING IS REQUIRED FOR THIS DEVELOPMENT - ZONE A-1 GENERAL AGRICULTURE FOR CLIENT DEVELOPMENT - ALL SUBDIVISION PROPERTIES ZONE A-1

**SETBACK REQUIREMENTS**

NORMAL FRONT YARD 40'  
 SIDEWALK REAR YARD 10'  
 SIDEWALK SIDE YARD 10'  
 SIDEWALK FRONT YARD 100'

**TEMPORARY TURNAROUND NOTE**

A TEMPORARY TURNAROUND SHALL BE PROVIDED AT THE END OF ALL NEW STRAIGHT AND PORTION OF ANY LOT USED FOR THE TEMPORARY TURNAROUND SHALL REVERT BACK TO THE PROPERTY OWNER AT SUCH A TIME THAT SAID ROAD IS EXTENDED INTO ADJACENT PROPERTIES IN ACCORDANCE WITH SUBDIVISION REGULATION 4.223. ACTUAL TURNAROUND CONFIGURATION WILL BE SHOWN ON THE CONSTRUCTION PLANS.

**SCREENING NOTE**

SCREENING SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS AS REQUIRED BY LOCAL ZONING DISTANCE 2.27.03, 01, 04, AND (4) AND SUBDIVISION REGULATION 4.86.

**HOMEOWNERS ASSOCIATION NOTE**

ALL BUILDING CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE RESTRICTIONS AND COVENANTS AS RECORDED IN DEED BOOK PAGE

**RESIDUAL LAND NOTE:**

THE RESIDUAL OR REMOVED ACREAGE OF THESE TRACTS COMBINATION OF 106.178 ACRES AS SHOWN ON THE PLAN RECORDED IN DEED BOOK 207, PAGE 388. ALL PORTION OF THIS RESIDUAL COUNTY CLERK SHALL BE RESTRICTED TO AGRICULTURAL USE OR OPEN SPACE USE. IN THE OFFICE OF THE RESIDUAL COUNTY CLERK SHALL BE RESTRICTED AND CONTIGUOUS BOUNDING WITH THE LAND. THIS EASEMENT AND RESTRICTION SHALL TERMINATE ONLY IF APPLIED INTO A CITY FOR A SOME CLASSIFICATION CHANGE TO SINGLE FAMILY RESIDENTIAL USE, RESTRICTED TO BE RESTRICTED TO SINGLE FAMILY HOME LOTS IN THE CLUSTERS ASSOCIATED WITH THE PARENT TRACTS (1 ACRES OR LARGER).

THIS EASEMENT AND RESTRICTION IS RECORDED UNDER THE CLUSTER EASEMENT AGREEMENT AMONG THE TURNOR GROUP OF RESIDUAL COUNTY AND IS RECORDED IN DEED COURT ORDER BOOK 24 PAGE 224 IN THE OFFICE OF THE RESIDUAL COUNTY CLERK.

**SIGHT DISTANCE NOTE**

THE PROPOSED INTERSECTION WITH U.S. 69 SHALL MEET WITH THE SIGHT DISTANCE REQUIREMENTS AS STATED IN SUBDIVISION REGULATION 4.110

**CERTIFICATE OF OWNERSHIP AND DEDICATION**

I (WE) DO HEREBY CERTIFY THAT I AM (WE ARE) THE OWNER(S) OF THE PROPERTY SHOWN AND DESCRIBED HEREON, AND THAT I (WE) HEREBY ADOPT THIS PLAN OF THE SUBDIVISION WITH MY (OUR) FREE CONSENT, ESTABLISH THE MINIMUM BUILDING RESTRICTION LINES AND DEDICATE ALL STREETS, ALLEYS, WALKS, PARKS, AND OTHER OPEN SPACES TO PUBLIC OR PRIVATE USE AS SHOWN, IN ACCORDANCE WITH THE REGULATION AND JESSAMINE COUNTY SUBDIVISION REGULATIONS, UNLESS OTHERWISE NOTED.

*Barry Mangel* 1/23/07  
 OWNER OF RECORD DATE

**CERTIFICATE OF ACCURACY**

I DO HEREBY CERTIFY THAT THE PLAN SHOWN AND DESCRIBED HEREON IS A TRUE AND CORRECT SURVEY TO THE ACCURACY REQUIRED BY THE REGULATION AND JESSAMINE COUNTY JOINT PLANNING COMMISSION AND THAT THE MONUMENTS HAVE BEEN PLACED AS SHOWN HEREON OR AUTHORIZED OFFICER.

*Darrin K. Darnell* 1/23/07  
 DARRIN K. DARNELL, P.L.S. # 3497 DATE

**CERTIFICATE OF APPROVAL FOR RECORDING**

I DO HEREBY CERTIFY THAT THE SUBDIVISION PLAN SHOWN HEREON HAS BEEN FOUND TO COMPLY WITH THE SUBDIVISION REGULATIONS FOR JESSAMINE COUNTY, KENTUCKY, WITH THE EXCEPTION OF SUCH VARIANCES, IF ANY, AS NOTED BY THE MEMBER OF THE PLANNING COMMISSION AND THAT IT HAS BEEN APPROVED FOR RECORDING BY THE OFFICE OF THE COUNTY CLERK.

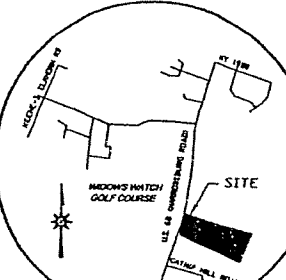
CHAIRMAN OR SECRETARY, PLANNING COMMISSION DATE

**SITE STATISTICS**

TOTAL PROPERTY AREA	148.87 ACRES
TRACT 1	142.309 ACRES
TRACT 2 - 5-PINE (8) ACRES	15.000 ACRES
36 - 1 ACRE LOTS	36.0 ACRES
RESIDUAL FARM (REMANENT)	142.178 ACRES
AREA IN FORMER CLAYE HILL ROAD RIGHT-OF-WAY	1.23 ACRES
COMMUNITY GREENSPACE	4.369 ACRES
NEW R.O.W. AREA	7.06 ACRES
FARM TRACT LOT 29	11.00 ACRES

**PURPOSE OF PLAT**

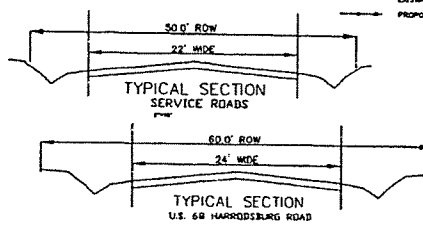
THE PURPOSE OF THIS PLAT IS TO CREATE THREE (3) FIVE ACRE TRACTS FROM TRACT 1 OF THE RECORDED PLAT IN DEED BOOK 143 CLINE 143 AND TO CONVEY TO THE AGRI ACRES REMAINING FROM TRACT 1 TO THE PARENT RESIDUAL FARM TRACT WITH THE RESIDUAL FARM LAND AREA REMAINING AS APPROVED WITH THE AGREEMENT OF THE RESIDUAL FARM AND NO OTHER CHANGE OF NAME OR IMPROVE ALL PROVISIONS OF THE CLUSTER EASEMENT AS APPROVED FOR THIS LAND REMAIN SERVICE.



**VICINITY MAP**  
 1" = 3000'

**NOTES**

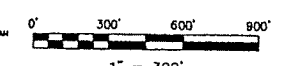
1. THE RECORDED RECORDS FOR THIS PROPERTY EASEMENT ARE AS FOLLOWS: DEED BOOK 143, PAGE 143; DEED BOOK 143, PAGE 143; DEED BOOK 143, PAGE 143; DEED BOOK 143, PAGE 143.
2. THIS PROPERTY IS SUBJECT TO ALL EASEMENTS OF RECORD, KNOWN OR NOT.
3. THE SURVEY SHOWN HEREON IS A CLEAR 1/4 SECTION SURVEY AND THE ACCURACY AND PRECISION OF SAID SURVEY LIMITS ALL THE DIMENSIONS OF THIS CLUSTER.
4. ALL PROPERTY CORNERS SHALL BE MARKED WITH A 1/2" IRON PIPE, 1/2" LONG WITH A YELLOW CAP, UNLESS OTHERWISE SPECIFIED.
5. ANY SURVEY CORNER FOR THIS DEVELOPMENT SHALL BE BY A 1/2" IRON PIPE, 1/2" LONG WITH A YELLOW CAP, UNLESS OTHERWISE SPECIFIED.
6. DISCREPANCY BETWEEN THIS SURVEY AND ANY OTHER SURVEY OF THIS CLUSTER SHALL BE CORRECTED TO THIS SURVEY.
7. CONVEYANCE OF THIS PROPERTY TO THE AGRI ACRES SHALL BE BY A 1/2" IRON PIPE, 1/2" LONG WITH A YELLOW CAP, UNLESS OTHERWISE SPECIFIED.
8. ALL COMMUNITY GREENSPACE SHALL BE MAINTAINED WITH A 1/2" IRON PIPE, 1/2" LONG WITH A YELLOW CAP, UNLESS OTHERWISE SPECIFIED.
9. ALL COMMUNITY GREENSPACE SHALL BE MAINTAINED WITH A 1/2" IRON PIPE, 1/2" LONG WITH A YELLOW CAP, UNLESS OTHERWISE SPECIFIED.
10. ALL COMMUNITY GREENSPACE SHALL BE MAINTAINED WITH A 1/2" IRON PIPE, 1/2" LONG WITH A YELLOW CAP, UNLESS OTHERWISE SPECIFIED.
11. ALL LOTS SHALL BE ACCESSED BY THE INTERNAL STREET, NO OTHER DIRECT ACCESS SHALL BE ALLOWED FROM THE EXTERIOR ON THIS PROPERTY.



- LEGEND**
- IRON PIPE SET WITH YELLOW CAP (LABELED CORNER, P.L.S. # 3497)
  - IRON PIPE FOUND
  - ▨ SPHONOLE DRAINAGE EASEMENT
  - EXISTING FENCE
  - - - PROPOSED FENCE SEE LANDSCAPE PLAN

**ENTRANCE PIPE**

IT SHALL BE THE RESPONSIBILITY OF EACH PROPERTY OWNER TO LOCATE AND MAINTAIN DRAINAGE PIPES AT EACH PROPERTY ENTRANCE ON 15' DIA. PIPES.



DARRIN K. DARNELL  
 P.L.S. # 3497

CURVE	RADIUS	ARC LENGTH	CHORD LENGTH	CHORD BEARING
C1	2500'	36.87'	36.87'	S 87° 22' 00" E
C2	2500'	36.87'	36.87'	S 87° 22' 00" E
C3	2500'	36.87'	36.87'	S 87° 22' 00" E
C4	2500'	36.87'	36.87'	S 87° 22' 00" E
C5	2500'	36.87'	36.87'	S 87° 22' 00" E
C6	2500'	36.87'	36.87'	S 87° 22' 00" E
C7	2500'	36.87'	36.87'	S 87° 22' 00" E
C8	2500'	36.87'	36.87'	S 87° 22' 00" E
C9	2500'	36.87'	36.87'	S 87° 22' 00" E
C10	2500'	36.87'	36.87'	S 87° 22' 00" E
C11	2500'	36.87'	36.87'	S 87° 22' 00" E
C12	2500'	36.87'	36.87'	S 87° 22' 00" E

**MINOR SUBDIVISION PLAT**

**FOREST HILLS**  
 5785 HARRODSBURG ROAD  
 JESSAMINE COUNTY, KENTUCKY

OWNERS / CLIENT FOREST HILLS OF KENTUCKY, LLC.  
 P.O. BOX 1047  
 LEXINGTON, KY 40588

PERFORMED AND PREPARED BY  
 DARRIN K. DARNELL PLS  
 395 RETRAC ROAD  
 LEXINGTON, KY 40503  
 (502) 296-8716

1" = 300'	SHEET 1 OF 1	ZONED	A-1
DATE OF SURVEY	DATE OF PLOT	JOB NO.	PLOT NO.
AUGUST/2005	1/23/2007	X-0436	X-0436D

JESSAMINE COUNTY  
**CAB10 Pg 224**

THE COUNTY CLERK HAS RECORDED THIS PLAT IN DEED BOOK 207, PAGE 388. THE COUNTY CLERK HAS RECORDED THIS PLAT IN DEED BOOK 207, PAGE 388. THE COUNTY CLERK HAS RECORDED THIS PLAT IN DEED BOOK 207, PAGE 388.





8. MOTION BY GEORGE DEAN  
SECONDED BY BURCH HAGER

THAT IT IS HEREBY ORDERED BY THE COURT TO APPROVE THE LOWEST AND  
BEST BID FROM CENTRAL KENTUCKY LANDFILL FOR COUNTY CLEAN UP AND  
PASSING.

VOTING FOR 6 AGAINST 0

9. MOTION BY TIM VAUGHAN  
SECONDED BY GEORGE DEAN

THAT IT IS HEREBY ORDERED BY THE COURT TO APPROVE THE LOWEST AND  
BEST BID FROM CENTRAL KENTUCKY LANDFILL FOR TACK HOE FOR COUNTY  
CLEAN UP AND PASSING.

VOTING FOR 6 AGAINST 0

10. MOTION BY TERRY MECKSTROTH  
SECONDED BY BURCH HAGER

THAT IT IS HEREBY ORDERED BY THE COURT TO TAKE BURR OAK DRIVE AND  
CHINKAPIN DRIVE INTO COUNTY ROAD SYSTEM AND PASSING.

VOTING FOR 6 AGAINST 0

11. MOTION BY TERRY MECKSTROTH  
SECONDED BY TIM VAUGHAN

THAT IT IS HEREBY ORDERED BY THE COURT TO TAKE KEENE MANOR CIRCLE  
AND KEENE MANOR WAY INTO THE COUNTY ROAD SYSTEM AND PASSING.

VOTING FOR 6 AGAINST 0



MINUTES  
Joint Planning Commission  
February 8, 2011

The Jessamine County-City of Wilmore Joint Planning Commission met in regular session Tuesday, February 8, 2011 at 7:00 p.m. in the Jessamine County Courthouse Fiscal Court Meeting room with Chairman Peter Beaty presiding. Also present were Jane Ball, James McKinney, Dave Carlstedt, Isaiah Surbrook, Charles Fuller, Eric Zabilka, John Osborne, and Don Colliver. Staff members present were Donna M. Hager and Attorney Bruce E. Smith. Also present was Dal Harper, Consultant, Blue Grass Area Development District, Joe Young, Consulting Engineer, S & ME Engineers, and Stephanie Schloemer, Court Reporter, Associated Reporting Services.

The minutes of the previous meeting (October 12, 2010) were approved as distributed.

The Building Permit Recap was submitted and reviewed.

**Road Reports for Keene Manor Subdivision and Forest Hills Subdivision** were reviewed and approved with the recommendation to Jessamine County Fiscal Court to be accepted into the county road system. The motion was made by Mr. McKinney and seconded by Mr. Osborne. The motion passed by a vote of 7-0. (Mr. Carlstedt was not present for this vote)

The first item of business was a **Public Hearing for a Proposed Amendment, Section 3.221 of the Jessamine County Zoning Ordinance relative to permitted uses (wineries in the A-1 Zone)**. Proposed and Existing wording was submitted to Commission Members prior to the meeting. Dal Harper, Consultant, Blue Grass Area Development District, stated that this proposal comes as a recommendation from the Ordinance Update Review Committee and that the intent is to add small wineries licensed under KRS243.155 and farm wineries licensed under the provisions of KRS243.156 to the list of permitted and/or accessory uses as appropriate in the A-1 Zone. It was noted that wineries are becoming a way for farmers to continue to use their land for agricultural purposes and that this needs to be addressed in the ordinances allowing this as a permitted use. There was discussion from Commission Members and Attorney Bruce E. Smith as to the proposed wording and some slight changes were proposed. There was no public comment. After discussion from Commission Members, Mr. Harper, and Mr. Smith, Mr. McKinney made the motion to approve the proposed amendment to read: Agricultural uses, including but not limited to small farm wineries, as a permitted use. The motion was seconded by Mrs. Ball and passed by a vote of 8-0.

The second item of business was a **Public Hearing for a Proposed Amendment, Section 3.222 of the Jessamine County Zoning Ordinance relative to permitted uses (wineries) in the A-1 Zone**. Proposed and Existing wording was submitted to Commission Members prior to the meeting. Dal Harper, Consultant, Blue Grass Area Development District, stated that this proposal comes as a recommendation from the Ordinance Update Review Committee and that the intent is to add small wineries licensed under KRS243.155 and farm wineries licensed under the provisions of KRS243.156 to the list of permitted and accessory uses as appropriate in the A-1 Zone and that this proposal is for clarification only. Attorney Bruce E. Smith suggested to the Commission that the proposed language is not needed and



Northwest

RUN DATE: 12/04/12 15:39  
TERMINAL: 1

JESSAMINE - SOUTH ELKHORN WATER DIST  
HISTORY TRACKING BY ACCOUNT NUMBER  
MONTHLY LISTING (BILLING/USAGE) FOR 01/06 THRU 12/06

PAGE 1  
program 10-2-7

SERVICE: W WATER  
MINIMUM AVERAGE USAGE: NONE

ACCOUNT RANGE: 01-0000 THRU 49-9999

U = USAGE      AU = AVERAGE USAGE      UA () = NUMBER OF USAGE ADJUSTMENTS INCLUDED IN USAGE

REPORT TOTALS

	NUMBER OF BILLS	TOTAL USAGE	AVERAGE USAGE
JAN 06	1939	131299.	67.
FEB 06	1945	109292.	56.
MAR 06	1959	108782.	55.
APR 06	1970	122123.	62.
MAY 06	1986	121855.	61.
JUN 06	1994	173155.	86.
JUL 06	2038	229319.	112.
AUG 06	2035	219298.	107.
SEP 06	2048	253341	123.
OCT 06	2063	142901.	69.
NOV 06	2054	137410.	66.
DEC 06	2038	122336.	60.
	=====	=====	=====
TOTALS	24069	1871116..	77..

Northwest

RUN DATE: 12/04/12 15:41  
T    NAL: 1

JESSAMINE - SOUTH ELKHORN WATER DIST  
HISTORY TRACKING BY ACCOUNT NUMBER  
MONTHLY LISTING (BILLING/USAGE) FOR 01/07 THRU 12/07

PAGE    1  
program 10-2-7

SERVICE: W WATER  
MINIMUM AVERAGE USAGE: NONE

ACCOUNT RANGE: 01-0000 THRU 49-9999

U = USAGE    AU = AVERAGE USAGE    UA() = NUMBER OF USAGE ADJUSTMENTS INCLUDED IN USAGE

REPORT TOTALS

	NUMBER OF BILLS	TOTAL USAGE	AVERAGE USAGE
JAN 07	2037	130350.	64
FEB 07	2042	124634.	61.
MAR 07	2044	114742.	56.
APR 07	2050	124000.	60.
MAY 07	2079	132049.	63.
JUN 07	2119	297967.	140.
JUL 07	2136	298688.	139.
AUG 07	2147	279071.	130.
SEP 07	2152	389810.	181.
OCT 07	2164	261559.	120.
NOV 07	2165	240032.	110.
DEC 07	2127	135675.	63.
	=====	=====	=====
T    3	25262	2528584	100

Northwest

RUN DATE: 12/04/12 15:42

JESSAMINE - SOUTH ELKHORN WATER DIST

PAGE 1

T NAL: 1

HISTORY TRACKING BY ACCOUNT NUMBER

program 10-2-7

MONTHLY LISTING (BILLING/USAGE) FOR 01/08 THRU 12/08

SERVICE: W WATER

ACCOUNT RANGE: 01-0000 THRU 49-9999

MINIMUM AVERAGE USAGE: NONE

U = USAGE AU = AVERAGE USAGE UA() = NUMBER OF USAGE ADJUSTMENTS INCLUDED IN USAGE

REPORT TOTALS

	NUMBER OF BILLS	TOTAL USAGE	AVERAGE USAGE
JAN 08	2111	125149.	59.
FEB 08	2108	124537.	59.
MAR 08	2115	118773.	56.
APR 08	2122	123763.	58.
MAY 08	2158	146790.	68.
JUN 08	2196	193774.	88.
JUL 08	2220	272720.	122.
AUG 08	2239	299085.	133.
SEP 08	2234	346932.	155.
OCT 08	2230	336460.	150.
NOV 08	2235	238493.	106.
DEC 08	2181	116374.	53.
	=====	=====:	=====
T 3	26149	2442854	93.

Northwest

RUN DATE: 12/04/12 15:42  
F IAL: 1

JESSAMINE - SOUTH ELKHORN WATER DIST  
HISTORY TRACKING BY ACCOUNT NUMBER  
MONTHLY LISTING (BILLING/USAGE) FOR 01/09 THRU 12/09

PAGE 1  
program 10-2-7

SERVICE: W WATER  
MINIMUM AVERAGE USAGE: NONE

ACCOUNT RANGE: 01-0000 THRU 49-9999

U = USAGE    AU = AVERAGE USAGE    UA() = NUMBER OF USAGE ADJUSTMENTS INCLUDED IN USAGE

REPORT TOTALS

	NUMBER OF BILLS	TOTAL USAGE	AVERAGE USAGE
JAN 09	2152	146134.	67.
FEB 09	2153	146476.	68.
MAR 09	2146	97411.	45.
APR 09	2150	120098	55.!
MAY 09	2183	134471	61.!
JUN 09	2224	202504	91.
JUL 09	2241	219827.	98.
AUG 09	2243	229835.	102.
SEP 09	2248	197968.	88.
OCT 09	2237	204031.	91.
NOV 09	2199	124701.	56.!
DEC 09	2177	122037.	56.
	=====	=====	=====
T	26353	1945497.	73.

Northwest

RUN DATE: 12/04/12 15:43  
T NAL: 1

JESSAMINE - SOUTH ELKHORN WATER DIST  
HISTORY TRACKING BY ACCOUNT NUMBER  
MONTHLY LISTING (BILLING/USAGE) FOR 01/10 THRU 12/10

PAGE 1  
program 10-2-7

SERVICE: W WATER  
MINIMUM AVERAGE USAGE: NONE

ACCOUNT RANGE: 01-0000 THRU 49-9999

U = USAGE      AU = AVERAGE USAGE      UA() = NUMBER OF USAGE ADJUSTMENTS INCLUDED IN USAGE

REPORT TOTALS

	NUMBER OF BILLS	TOTAL USAGE	AVERAGE USAGE
JAN 10	2173	136029.0	62.
FEB 10	2169	132886.0	61.
MAR 10	2167	121915.0	56.
APR 10	2174	122615.0	56.
MAY 10	2231	158272.0	70.
JUN 10	2251	190521.0	84.
JUL 10	2261	263958.0	116.
AUG 10	2265	208478.0	92.
SEP 10	2274	304141.0	133.
OCT 10	2268	286473.0	126.
NOV 10	2259	210456.0	93.
DEC 10	2218	124890.0	56.
=====			
TOTAL	26710	2260638.0	84.0

**JSEWD - Northwest - 2011**

<b>Date</b>	<b>Customers</b>	<b>Usage</b>	<b>Average Usage</b>
Jan	2203	13,334,610	6,053
Feb	2198	12,191,420	5,547
Mar	2200	11,946,390	5,430
Apr	2209	10,420,610	4,717
May	2221	12,307,180	5,541
Jun	2254	19,486,700	8,645
Jul	2310	25,959,840	11,238
Aug	2309	28,009,970	12,131
Sep	2283	24,852,160	10,886
Oct	2294	14,507,050	6,324
Nov	2259	13,753,490	6,088
Dec	2227	7,576,940	3,402
Totals	26967	194,346,360	86,002



**JSEWD - Northwest - 2012**

<b>Date</b>	<b>Customers</b>	<b>Usage</b>	<b>Average Usage</b>
Jan	2223	11,468,580	5,159
Feb	2218	12,303,890	5,547
Mar	2224	11,492,550	5,168
Apr	2229	12,846,440	5,763
May	2254	15,233,600	6,758
Jun	2316	24,110,230	10,410
Jul	2332	39,867,690	17,096
Aug	2346	23,293,890	9,929
Sep	2338	26,637,660	11,393
Oct	2333	18,595,750	7,971
Nov	2300	16,300,240	7,087
Dec			
Totals	25113	212,150,520	92,281

Southeast

RUN DATE: 12/04/12 15:43

JESSAMINE - SOUTH ELKHORN WATER DIST

PAGE 1

TOTAL: 1

HISTORY TRACKING BY ACCOUNT NUMBER

program 10-2-7

MONTHLY LISTING (BILLING/USAGE) FOR 01/06 THRU 12/06

SERVICE: W WATER

ACCOUNT RANGE: 50-0000 THRU 59-9999

MINIMUM AVERAGE USAGE: NONE

U = USAGE      AU = AVERAGE USAGE      UA() = NUMBER OF USAGE ADJUSTMENTS INCLUDED IN USAGE

REPORT TOTALS

	NUMBER OF BILLS	TOTAL USAGE	AVERAGE USAGE
JAN 06	377	17023	45.
FEB 06	374	15757	42.
MAR 06	372	14283	38.
APR 06	372	15280	41.
MAY 06	373	15651	42.
JUN 06	373	19250.	51.
JUL 06	375	23092.	61.
AUG 06	374	22072.	59.
SEP 06	378	17952.	47.
OCT 06	380	15064.	39.
NOV 06	378	20878.	55.
DEC 06	378	16171	42.
	=====	=====	=====
TOTAL	3 4504	212478..	47

Southwest

RUN DATE: 12/04/12 15:44

JESSAMINE - SOUTH ELKHORN WATER DIST

PAGE 1

TOTAL: 1

HISTORY TRACKING BY ACCOUNT NUMBER

program 10-2-7

MONTHLY LISTING (BILLING/USAGE) FOR 01/07 THRU 12/07

SERVICE: W WATER

ACCOUNT RANGE: 50-0000 THRU 59-9999

MINIMUM AVERAGE USAGE: NONE

U = USAGE AU = AVERAGE USAGE UA() = NUMBER OF USAGE ADJUSTMENTS INCLUDED IN USAGE

REPORT TOTALS

	NUMBER OF BILLS	TOTAL USAGE	AVERAGE USAGE
JAN 07	377	15662.	41.
FEB 07	374	17846.	47.
MAR 07	372	16560	44
APR 07	372	16263	43
MAY 07	374	16983	45
JUN 07	377	23399	62
JUL 07	378	26504	70.
AUG 07	380	22000.	57.
SEP 07	384	24503.	63.
OCT 07	389	16418.	42.
NOV 07	383	20023.	52.
DEC 07	381	15904.	41.
=====	=====	=====	=====
TOTAL	4541	232069.	51.

South east

RUN DATE: 12/04/12 15:44  
T NAL: 1

JESSAMINE - SOUTH ELKHORN WATER DIST  
HISTORY TRACKING BY ACCOUNT NUMBER  
MONTHLY LISTING (BILLING/USAGE) FOR 01/08 THRU 12/08

PAGE 1  
program 10-2-7

SERVICE: W WATER  
MINIMUM AVERAGE USAGE: NONE

ACCOUNT RANGE: 50-0000 THRU 59-9999

U = USAGE AU = AVERAGE USAGE UA() = NUMBER OF USAGE ADJUSTMENTS INCLUDED IN USAGE

REPORT TOTALS

	NUMBER OF BILLS	TOTAL USAGE	AVERAGE USAGE
JAN 08	378	17613.	46.
FEB 08	378	16562.	43
MAR 08	374	14783.	39
APR 08	374	17835	47
MAY 08	376	16761	44
JUN 08	385	19906	51
JUL 08	393	22555	57
AUG 08	408	22398	54.
SEP 08	413	28552.	69.
OCT 08	419	22780.	54.
NOV 08	422	22625.	53.
DEC 08	425	16784.	39.
	=====	=====	=====
T	4745	239159.	50.

SouthEast

RUN DATE: 12/04/12 15:44

JESSAMINE - SOUTH ELKHORN WATER DIST

PAGE 1

"NAL: 1

HISTORY TRACKING BY ACCOUNT NUMBER

program 10-2-7

MONTHLY LISTING (BILLING/USAGE) FOR 01/09 THRU 12/09

SERVICE: W WATER

ACCOUNT RANGE: 50-0000 THRU 59-9999

MINIMUM AVERAGE USAGE: NONE

U = USAGE AU = AVERAGE USAGE UA() = NUMBER OF USAGE ADJUSTMENTS INCLUDED IN USAGE

REPORT TOTALS

	NUMBER OF BILLS	TOTAL USAGE	AVERAGE USAGE
JAN 09	421	18846.	44.8
FEB 09	424	18922.	44.6
MAR 09	426	13852.	32.5
APR 09	429	16454.	38.4
MAY 09	428	17993.	42.0
JUN 09	430	23431.	54.5
JUL 09	432	20905.	48.4
AUG 09	432	21052.	48.7
SEP 09	436	24310.	55.8
OCT 09	442	22880.	51.8
NOV 09	438	22340.	51.0
DEC 09	437	18200.	41.6
=====			
TOTAL	5175	239191.0	46.2

RUN DATE: 12/04/12 15:45

JESSAMINE - SOUTH ELKHORN WATER DIST

PAGE 1

TOTAL: 1

HISTORY TRACKING BY ACCOUNT NUMBER

program 10-2-7

MONTHLY LISTING (BILLING/USAGE) FOR 01/10 THRU 12/10

SERVICE: W WATER

ACCOUNT RANGE: 50-0000 THRU 59-9999

MINIMUM AVERAGE USAGE: NONE

U = USAGE AU = AVERAGE USAGE UA() = NUMBER OF USAGE ADJUSTMENTS INCLUDED IN USAGE

REPORT TOTALS

	NUMBER OF BILLS	TOTAL USAGE	AVERAGE USAGE
JAN 10	438	17364.7	39.4
FEB 10	439	19456.1	44.3
MAR 10	436	15060.	34.5
APR 10	432	16817.	38.9
MAY 10	439	20122.1	45.8
JUN 10	443	22931.1	51.8
JUL 10	448	25876.	57.8
AUG 10	449	19179.	42.7
SEP 10	450	25508.	56.7
OCT 10	449	22545.	50.2
NOV 10	442	18007.	40.7
DEC 10	436	16157.	37.1
=====			
TOTAL	5301	239028.1	45.1

**JSEWD - Southeast - 2011**

<b>Date</b>	<b>Customers</b>	<b>Usage</b>	<b>Average Usage</b>
Jan	435	1,770,660	4,070
Feb	435	1,754,030	4,032
Mar	437	1,649,000	3,773
Apr	434	1,424,780	3,283
May	438	1,803,860	4,118
Jun	441	2,208,320	5,008
Jul	443	2,026,680	4,575
Aug	445	2,400,920	5,395
Sep	447	2,361,850	5,284
Oct	451	1,592,670	3,531
Nov	449	1,681,800	3,746
Dec	436	1,447,140	3,319
Totals	5291	22,121,710	50,134

**JSEWD - Southeast - 2012**

<b>Date</b>	<b>Customers</b>	<b>Usage</b>	<b>Average Usage</b>
Jan	439	1,589,200	3,620
Feb	440	1,616,300	3,673
Mar	435	1,549,610	3,562
Apr	438	1,625,990	3,712
May	443	1,624,170	3,666
Jun	446	2,224,790	4,988
Jul	448	3,368,260	7,518
Aug	451	3,754,000	8,324
Sep	454	2,545,260	5,606
Oct	449	1,564,150	3,484
Nov	450	1,733,930	3,853
Dec			
Totals	4893	23,195,660	52,006





United States Department of Agriculture  
Rural Development  
Shelbyville Area Office

**FILE COPY**

May 10, 2011

Jessamine-South Elkhorn Water District  
P.O. Box 731  
Nicholasville, KY 40356

**FILE COPY**

RE: 2011 Application Water System Improvements Project  
1 Million Gallon Elevated Storage Tank (Catnip Hill)

Dear Chairman:

This letter confirms your request to withdraw the preapplication as requested by letter dated May 4, 2011. The application and all related material are being placed in a withdrawn status and will be retained for 24 months.

Please contact this office if we may be of assistance to you in the future.

Sincerely,

*Phyllis P. Stutzon*  
Phyllis P. Stutzon, Area Specialist  
Acting Area Director

CC: Thomas G. Fern, State Director

# Horne Engineering, Inc.

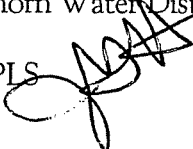
216 SOUTH MAIN STREET • NICHOLASVILLE, KENTUCKY 40356 • (859)885-9441 • FAX (859)885-5160

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ENGINEERS • LAND SURVEYORS • PLANNERS  
*email@horneeng.com*

## MEMORANDUM

To: Board of Commissioners  
Jessamine South Elkhorn Water District

From: John G. Horne, PE, PLS  
Consulting Engineer 

Date: April 22, 2011

Subject: RD Loan Request

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Because of the time and effort involved in the application and processing of a RD Loan, and since the District has elected to pursue financing with KRWA, I have taken the liberty to draft a letter to John Johnson informing him of same.

It goes without saying that correction and editing is completely within your purview.

JGH/jt  
enc.

cc: Glenn T. Smith  
Bruce E. Smith  
Engr/3569  
Engr/3933  
Corr.

# Jessamine-South Elkhorn Water District

802 South Main Street, P.O. Box 731

Nicholasville, Kentucky 40356

Phone: (859) 881-0589 Fax: (859) 881-5080

April 22, 2011

John E. Johnson  
USDA, Rural Development  
90 Howard Drive, Suite 3  
Shelbyville, KY 40065

Dear John:

Due to extenuating circumstances regarding the proposed Catnip Hill Elevated Storage Tank Project, the District's Board of Commissioners has elected to pursue funding through a bond issue by KRWA. We understand that RD has a large request for funding and we felt it best to advise you accordingly.

Thank you for your and the agency's help and assistance on past and current projects, and we look forward to possible future team efforts.

Sincerely,  
JESSAMINE-SOUTH ELKHORN WATER DISTRICT

L. Nicholas Strong, Chairman



United States Department of Agriculture  
Rural Development  
Shelbyville Area Office

April 18, 2011

Jessamine South Elkhorn Water District  
PO Box 731  
Nicholasville, KY 40340

RE: Water System Improvements Project  
1 Million Gallon Tank

Dear Mr. Strong:

This letter is an update to the letter dated April 8, 2008 and January 4, 2011 regarding the District's planned application.

An application was submitted in 2006 for the water tank. The application was placed in withdrawn status on June 11, 2007. A new application with supporting checklist items is required. The previous withdrawn application was reviewed with some items pulled forward for your updated application as noted below. A copy of items previously submitted and a part of this application was provided to the District.

An application packet and checklist to assist with preparation of your request was previously provided. The present market interest rate now in effect is 4.75. The interest rate is subject to change quarterly and will be determined at time of loan obligation and loan closing. The loan term may extend up to 40 years including 2 years interest only.

The following items have been pulled forward from the previous application or received from the District or Engineer.

**Checklist item No.:**

1. Notice of Intent to File Application / Request for Statement of Qualifications – newspaper tear sheet showing date and newspaper name. All components must be completed per sample provided – Attachment to KY AN No. 007 (1780) **Completed and pulled forward from 2006 application.**
2. SF Form 424, Pre-Application – Received April 11, 2011  
[http://www.grants.gov/techlib/424\\_20090131.doc](http://www.grants.gov/techlib/424_20090131.doc)
3. IRS Taxpayer Identification Number **Completed and pulled forward from 2006 application.**

90 Howard Drive • Suite 3 • Shelbyville, KY 40065  
Phone: (502) 633-3294 • Fax: (502) 633-0552 • TDD: (859) 224-7422 • Web: <http://www.rurdev.usda.gov/ky>

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1400 Independence Avenue, SW, Washington, DC 20250-9410  
or call (800) 795-3272 (voice) or (202) 720-6382 (TDD).

4. DUNS Number (Information is available on the clearinghouse website listed below regarding obtaining a DUNS number) **Completed and pulled forward from 2006 application.**
  - a. CCR registration complete
8. Advertisement of Request for Statement of Qualifications – See requirements listed in item number one (1) – All components must be completed per sample provided – Attachment to KY AN No. 007 (1780) **Completed and pulled forward from 2006 application.**
9. Minutes of negotiations with best qualified engineering firm(s). **Completed and pulled forward from 2006 application.**

**Two copies of the following items are needed per attached checklist RD-KY 1780-10, revised October 2008, for a complete pre-application.**

2. Updated project description and cost breakdown
  - a. budget information- construction programs  
<http://apply07.grants.gov/apply/forms/sample/SF424C-V1.0.pdf>
  - b. assurance agreement- construction programs  
<http://www.grants.gov/techlib/SF424D-V1.1.pdf>
5. Kentucky State Clearinghouse comments – **Endorsement valid till April 5, 2011**  
A link to clearinghouse information is: <http://www.gold.ky.gov/clearinghouse/>.
6. Applicant's statement that needed credit is not available at reasonable rates and terms and two bank letters stating amount and terms requested by your organization and availability of credit including potential rates and terms. RUS Bulletin 1780-22.
10. If indebted, certified copy of each outstanding bond ordinance (Non FmHA/ RUS bonds only), promissory note, lease agreement, etc.
11. Audit or Financial report for each of the past three (3) fiscal years (audits for the years ending December 31, 2009, 2010 **and** a year to date financial statement). – by system
12. Copy of Rate Schedule for each applicable utility (water and sewer).
13. Applicant's documentation of the population of proposed service area, median household income of servicing area, existing health or sanitary hazards to be removed by the proposed project. Please complete the Application Processing Guide (see attachment), noting project area and MHI per county/ city divisions and ineligible areas. Areas located inside of the city limits of Nicholasville are ineligible for assistance due to population exceeding 10,000 according to the 2000 census.

Instructions for pulling census tract areas: Log onto the website listed;  
[http://factfinder.census.gov/servlet/DatasetMainPageServlet?lang=en&ts=224584562608&ds\\_name=DEC\\_2000\\_SF1\\_U&program=DEC](http://factfinder.census.gov/servlet/DatasetMainPageServlet?lang=en&ts=224584562608&ds_name=DEC_2000_SF1_U&program=DEC)  
Then, go to Thematic Maps on the right hand column Select "County subdivision"

Kentucky  
County  
Specific Census Tracts  
Map It

14. Legislation, court order, or other evidence of establishment, and legal opinion stating date duly incorporated and still in continued existence. See Sample Guide attorney's opinion and previous information provided that needs to be updated.
15. Agreement for Engineering Services, with KY Attachment I – Four (4) copies. (EJCDC Form) **Agreement approved by Rural Development dated 5/23/2006 is not valid for this application. EJCDC agreement to be submitted as referenced in an e-mail to John Horne dated February 1, 2011.**
16. Preliminary Engineering Report, in accordance with RD Guides, RUS Bulletin 1780-2 Water Facilities and/or 1780-3 Wastewater Facilities. A link to the Bulletins is <http://www.usda.gov/rus/water/regs-bulletins.htm>
18. Certification Regarding Debarment Suspension – AD 1047.
26. Notice of Public Information Meeting with Publishers Affidavit, and Minutes of the Meeting. Notice must be at least ten (10) days prior to the meeting.

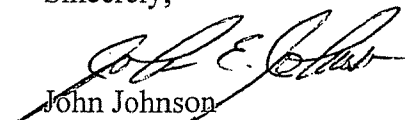
Please note the RUS Bulletin 1794A-602, Guide for preparing the Environmental Report for Water and Environmental Program Proposals.

<http://www.usda.gov/rus/water/ees/pdf/RUS%20Bulletin%201794A-602%20032708.pdf>

Information and forms for the loan programs are available by contacting this office and/or checking the Rural Development homepage at <http://www.rurdev.usda.gov/>.

Should you need assistance please contact this office.

Sincerely,

  
John Johnson  
Acting Area Director

Enclosure(s)

Cc: Thomas G. Fern, State Director – USDA Rural Development  
John Horne, P.E. – Horne Engineering, Inc.  
Julie Anderson, State Engineer, USDA Rural Development



**United States Department of Agriculture  
Rural Development  
Shelbyville Area Office**

May 10, 2005

Jessamine South Elkhorn Water District  
Attn. Mr. L. Nicholas Strong, Vice Chairman  
PO Box 731  
Nicholasville, KY 40356

Dear Mr. Strong:

Please allow me to introduce myself. My name is John Johnson and I am now working with Rural Development in Shelbyville as an Area Specialist. I have taken Anthony Hollinsworth's job and I am working with the Jessamine South Elkhorn loan request.

Rural Development is in receipt of the application dated May 2, 2005. The following information is needed for a complete application. Please refer to the enclosed checklist RD 1780-10 (Rev. 10/2001), for form numbers and assistance by item number listed below. The automated form site may be found at <http://www.rurdev.usda.gov/>:

1. Notice of Intent to file Application- newspaper tear sheet (complete page showing date and newspaper name)
2. Application attachments: authorizing resolution adopted by Governing Body; USGS Topo map w/ project area defined; general highway map w/ project area defined
4. State Clearinghouse comments from Dept. of Local Government
5. Applicant's statement that the needed credit is or is not available from commercial or other credit sources at reasonable rates and terms including letters regarding availability of credit from two lenders, RUS Bulletin 1780-22
7. If Indebted, certified copy of each outstanding bond ordinance (non-FmHA / RUS bonds only), KIA Loan Assistance Agreements, KACO Lease Agreements, etc.
10. copy of rate Schedule for each water and sewer utilities
11. Internal Revenue Service (IRS) Taxpayer Identification Number and DUNS number
12. Applicant's documentation relative to priority selection criteria points (population of proposed service area, median household income of servicing area, existing health or sanitary hazards to be removed by the proposed project with verification from health department if hazard exists, RUS Bulletin 1780-1

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"USDA is an equal opportunity provider, employer and lender."  
To file a complaint of discrimination write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14<sup>th</sup> and Independence Avenue, SW, Washington, DC 20250-9410 or call (202) 720-5964 (voice or TDD).

13. Legislation, Court Order, or other evidence of establishment, and legal opinion stating date duly incorporated and still in continued existence
14. Advertisement of Request for Qualifications for Engineering Services (tear sheet from newspaper with statewide circulation)
15. Minutes of negotiations with best qualified engineering firm(s)
16. Agreement for Engineering Services, with KY. Attachment I (four copies), FmHA1942-19, Ky RUS Bulletin 1780-1, Attachment 1
17. Preliminary Engineering Report, in accordance with RD Guides(four copies), RUS Bulletin 2 or 3
18. Request for Environmental Information w/ attachments, RD 1940-20
19. Certification Regarding Debarment, AD 1047

Sincerely,

*for*  AS  
W. Gene Floyd  
Area Director

Cc: John G. Horne, Project Engineer  
Kenneth Slone, State Director, Rural Development



**Thacker, Judith**

---

**From:** Percifield, Betty - Shelbyville, KY [betty.percifield@ky.usda.gov]  
**Sent:** Monday, April 18, 2011 1:32 PM  
**To:** 'jessaminesouth@windstream.net'  
**Cc:** John Horne (john@horneeng.com); judy@horneeng.com; johnson, john - Shelbyville, KY  
**Subject:** 1 million gallon tank project  
**Attachments:** JSE WD Pre-App.pdf

April 18, 2011

Attached is a letter outlining items received and items still needed in order to move forward with application processing.

Should you have questions or need further assistance please contact me or John Johnson, Area Specialist at the Shelbyville Area Office.

Hard copies of the letter will be mailed.

Thank you,

Betty S. Percifield | Area Technician  
Rural Development  
U.S. Department of Agriculture  
90 Howard Drive, Suite 3 | Shelbyville, KY 40065  
Phone: (502) 633-3294 ext. 4 | Fax: (502) 633-0552

[www.rurdev.usda.gov](http://www.rurdev.usda.gov)

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"Estamos dedicados al futuro de las comunidades rurales"



**United States Department of Agriculture  
Rural Development  
Shelbyville Area Office**

April 18, 2011

Jessamine South Elkhorn Water District  
PO Box 731  
Nicholasville, KY 40340

RE: Water System Improvements Project  
1 Million Gallon Tank

Dear Mr. Strong:

This letter is an update to the letter dated April 8, 2008 and January 4, 2011 regarding the District's planned application.

An application was submitted in 2006 for the water tank. The application was placed in withdrawn status on June 11, 2007. A new application with supporting checklist items is required. The previous withdrawn application was reviewed with some items pulled forward for your updated application as noted below. A copy of items previously submitted and a part of this application was provided to the District.

An application packet and checklist to assist with preparation of your request was previously provided. The present market interest rate now in effect is 4.75. The interest rate is subject to change quarterly and will be determined at time of loan obligation and loan closing. The loan term may extend up to 40 years including 2 years interest only.

The following items have been pulled forward from the previous application or received from the District or Engineer.

**Checklist item No.:**

1. Notice of Intent to File Application / Request for Statement of Qualifications – newspaper tear sheet showing date and newspaper name. All components must be completed per sample provided – Attachment to KY AN No. 007 (1780) **Completed and pulled forward from 2006 application.**
2. SF Form 424, Pre-Application – Received April 11, 2011  
[http://www.grants.gov/techlib/424\\_20090131.doc](http://www.grants.gov/techlib/424_20090131.doc)
3. IRS Taxpayer Identification Number **Completed and pulled forward from 2006 application.**

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Phone: (502) 633-3294 • Fax: (502) 633-0552 • TDD: (859) 224-7422 • Web: <http://www.rurdev.usda.gov/ky>

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1400 Independence Avenue, SW, Washington, DC 20250-9410  
or call (800) 795-3272 (voice) or (202) 720-6382 (TDD).

4. DUNS Number (Information is available on the clearinghouse website listed below regarding obtaining a DUNS number) **Completed and pulled forward from 2006 application.**
  - a. CCR registration complete
8. Advertisement of Request for Statement of Qualifications – See requirements listed in item number one (1) – All components must be completed per sample provided – Attachment to KY AN No. 007 (1780) **Completed and pulled forward from 2006 application.**
9. Minutes of negotiations with best qualified engineering firm(s). **Completed and pulled forward from 2006 application.**

**Two copies of the following items are needed per attached checklist RD-KY 1780-10, revised October 2008, for a complete pre-application.**

2. Updated project description and cost breakdown
  - a. budget information- construction programs  
<http://apply07.grants.gov/apply/forms/sample/SF424C-V1.0.pdf>
  - b. assurance agreement- construction programs  
<http://www.grants.gov/techlib/SF424D-V1.1.pdf>
5. Kentucky State Clearinghouse comments -- **Endorsement valid till April 5, 2011**  
A link to clearinghouse information is: <http://www.gold.ky.gov/clearinghouse/>.
6. Applicant's statement that needed credit is not available at reasonable rates and terms and two bank letters stating amount and terms requested by your organization and availability of credit including potential rates and terms. RUS Bulletin 1780-22.
10. If indebted, certified copy of each outstanding bond ordinance (Non FmHA/ RUS bonds only), promissory note, lease agreement, etc.
11. Audit or Financial report for each of the past three (3) fiscal years (audits for the years ending December 31, 2009, 2010 **and** a year to date financial statement). – by system
12. Copy of Rate Schedule for each applicable utility (water and sewer).
13. Applicant's documentation of the population of proposed service area, median household income of servicing area, existing health or sanitary hazards to be removed by the proposed project. Please complete the Application Processing Guide (see attachment), noting project area and MHI per county/ city divisions and ineligible areas. Areas located inside of the city limits of Nicholasville are ineligible for assistance due to population exceeding 10,000 according to the 2000 census.

Instructions for pulling census tract areas: Log onto the website listed;  
[http://factfinder.census.gov/servlet/DatasetMainPageServlet?\\_lang=en&\\_ts=224584562608&\\_ds\\_name=DEC\\_2000\\_SF1\\_U&\\_program=DEC](http://factfinder.census.gov/servlet/DatasetMainPageServlet?_lang=en&_ts=224584562608&_ds_name=DEC_2000_SF1_U&_program=DEC)  
Then, go to Thematic Maps on the right hand column Select "County subdivision"

Kentucky  
County  
Specific Census Tracts  
Map It

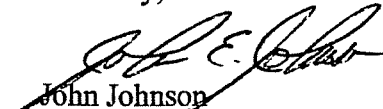
14. Legislation, court order, or other evidence of establishment, and legal opinion stating date duly incorporated and still in continued existence. See Sample Guide attorney's opinion and previous information provided that needs to be updated.
15. Agreement for Engineering Services, with KY Attachment I – Four (4) copies. (EJCDC Form) **Agreement approved by Rural Development dated 5/23/2006 is not valid for this application. EJCDC agreement to be submitted as referenced in an e-mail to John Horne dated February 1, 2011.**
16. Preliminary Engineering Report, in accordance with RD Guides, RUS Bulletin 1780-2 Water Facilities and/or 1780-3 Wastewater Facilities. A link to the Bulletins is <http://www.usda.gov/rus/water/regs-bulletins.htm>
18. Certification Regarding Debarment Suspension – AD 1047.
26. Notice of Public Information Meeting with Publishers Affidavit, and Minutes of the Meeting. Notice must be at least ten (10) days prior to the meeting.

Please note the RUS Bulletin 1794A-602, Guide for preparing the Environmental Report for Water and Environmental Program Proposals.  
<http://www.usda.gov/rus/water/ees/pdf/RUS%20Bulletin%201794A-602%20032708.pdf>

Information and forms for the loan programs are available by contacting this office and/or checking the Rural Development homepage at <http://www.rurdev.usda.gov/> .

Should you need assistance please contact this office.

Sincerely,

  
John Johnson  
Acting Area Director

Enclosure(s)

Cc: Thomas G. Fern, State Director – USDA Rural Development  
John Horne, P.E. – Horne Engineering, Inc.  
Julie Anderson, State Engineer, USDA Rural Development

**\*LETTER OF TRANSMITTAL\***

email@horneeng.com

HORNE ENGINEERING, INC.  
216 SOUTH MAIN STREET  
NICHOLASVILLE, KY 40356  
Ph. (859) 885-9441

CONSULTING ENGINEERS  
LAND SURVEYORS  
PLANNERS  
Fax (859)885-5160

**FILE COPY**

To: John E. Johnson  
USDA, Rural Development  
90 Howard Drive, Suite 3  
Shelbyville, KY 40065

Date: April 6, 2011

Re: 1.0 MG Elevated Storage , Project #3569

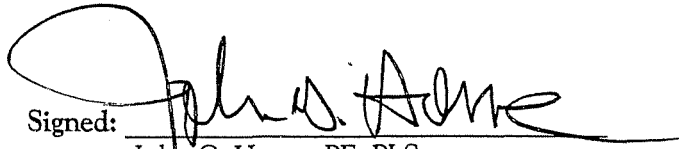
WE ARE SENDING YOU ATTACHED:

COPIES	DATE, W.O. # and/or DWG. #	DESCRIPTION
1	#3569	Application for Federal Assistance SF-424 - 1.0 MG Elevated Storage , Project #3569

THESE ARE TRANSMITTED as checked below:

- |                                     |                        |                          |                       |
|-------------------------------------|------------------------|--------------------------|-----------------------|
| <input type="checkbox"/>            | For approval           | <input type="checkbox"/> | Approved as submitted |
| <input checked="" type="checkbox"/> | For your use           | <input type="checkbox"/> | Approved as noted     |
| <input type="checkbox"/>            | For your records/files | <input type="checkbox"/> | As requested          |
| <input type="checkbox"/>            | Other:                 | <input type="checkbox"/> | For your review       |

COMMENTS:

Signed:   
 John G. Horne, PE, PLS  
 President

cc: Engr/3569  
Engr/3933  
Corr.

Application for Federal Assistance SF-424		Version 02
<b>*1. Type of Submission:</b> <input type="checkbox"/> Preapplication <input checked="" type="checkbox"/> Application <input type="checkbox"/> Changed/Corrected Application		<b>*2. Type of Application</b> * If Revision, select appropriate letter(s) <input type="checkbox"/> New <input checked="" type="checkbox"/> Continuation <input type="checkbox"/> Revision <b>*Other (Specify)</b> _____
<b>3. Date Received:</b>		<b>4. Applicant Identifier:</b> 1.0 MG Elevated Storage, Project# 3569
<b>5a. Federal Entity Identifier:</b>		<b>*5b. Federal Award Identifier:</b>
<b>State Use Only:</b>		
<b>6. Date Received by State:</b>		<b>7. State Application Identifier:</b>
<b>8. APPLICANT INFORMATION:</b>		
<b>*a. Legal Name:</b> Jessamine South Elkhorn Water District		
<b>*b. Employer/Taxpayer Identification Number (EIN/TIN):</b> 61-6089391		<b>*c. Organizational DUNS:</b> 040 511 052
<b>d. Address:</b>		
<b>*Street 1:</b> <u>802 South Main Street</u>		
Street 2: _____		
<b>*City:</b> <u>Nicholasville</u>		
County: <u>Jessamine</u>		
<b>*State:</b> <u>KY</u>		
Province: _____		
<b>*Country:</b> <u>USA</u>		
<b>*Zip / Postal Code</b> <u>40356</u>		
<b>e. Organizational Unit:</b>		
Department Name: _____		Division Name: _____
<b>f. Name and contact information of person to be contacted on matters involving this application:</b>		
Prefix: <u>Mr.</u>		<b>*First Name:</b> <u>John</u>
Middle Name: <u>George</u>		
<b>*Last Name:</b> <u>Horne</u>		
Suffix: _____		
Title: <u>Consulting Engineer</u>		
Organizational Affiliation: HORNE ENGINEERING, INC.		
<b>*Telephone Number:</b> 859-885-9441		<b>Fax Number:</b> 859-885-5160
<b>*Email:</b> john@horneeng.com		

**Application for Federal Assistance SF-424**

Version 02

**\*9. Type of Applicant 1: Select Applicant Type:**

D. Special District Government

Type of Applicant 2: Select Applicant Type:

Type of Applicant 3: Select Applicant Type:

\*Other (Specify)

**\*10 Name of Federal Agency:**

Rural Development

**11. Catalog of Federal Domestic Assistance Number:**

10-418 \_\_\_\_\_

CFDA Title:

RD Loan \_\_\_\_\_

**\*12 Funding Opportunity Number:**

\_\_\_\_\_

\*Title:

\_\_\_\_\_

**13. Competition Identification Number:**

\_\_\_\_\_

Title:

\_\_\_\_\_

**14. Areas Affected by Project (Cities, Counties, States, etc.):**

Service territory of Jessamine South Elkhorn Water District, being the northeasterly portion of Jessamine County, KY

**\*15. Descriptive Title of Applicant's Project:**

Construct 1.0 MG elevated storage tank with associated piping to existing distribution system to maintain regulatory storage and distribution capability.

**Application for Federal Assistance SF-424**

Version 02

**16. Congressional Districts Of:**

\*a. Applicant: Sixth

\*b. Program/Project: Sixth

**17. Proposed Project:**

\*a. Start Date: 2011

\*b. End Date: 2012

**18. Estimated Funding (\$):**

*a. Federal	_____	1,500,000
*b. Applicant	_____	0
*c. State	_____	1,000,000
*d. Local	_____	0
*e. Other	_____	0
*f. Program Income	_____	0
*g. TOTAL	_____	2,500,000

**\*19. Is Application Subject to Review By State Under Executive Order 12372 Process?**

- a. This application was made available to the State under the Executive Order 12372 Process for review on 08-13-07
- b. Program is subject to E.O. 12372 but has not been selected by the State for review.
- c. Program is not covered by E. O. 12372

**\*20. Is the Applicant Delinquent On Any Federal Debt? (If "Yes", provide explanation.)**

Yes       No

21. \*By signing this application, I certify (1) to the statements contained in the list of certifications\*\* and (2) that the statements herein are true, complete and accurate to the best of my knowledge. I also provide the required assurances\*\* and agree to comply with any resulting terms if I accept an award. I am aware that any false, fictitious, or fraudulent statements or claims may subject me to criminal, civil, or administrative penalties. (U. S. Code, Title 218, Section 1001)

\*\* I AGREE

\*\* The list of certifications and assurances, or an internet site where you may obtain this list, is contained in the announcement or agency specific instructions

**Authorized Representative:**

Prefix: Mr.      \*First Name: L.

Middle Name: Nicholas

\*Last Name: Strong

Suffix: \_\_\_\_\_

\*Title: Chairman 

\*Telephone Number: 859-621-6200

Fax Number: 859-259-1614

\* Email: NickOCIS@aol.com

\*Signature of Authorized Representative:

\*Date Signed:



**Application for Federal Assistance SF-424**

Version 02

**\*Applicant Federal Debt Delinquency Explanation**

The following should contain an explanation if the Applicant organization is delinquent of any Federal Debt.

\*\*\* Not Applicable \*\*\*



United States Department of Agriculture  
Rural Development  
Shelbyville Area Office

January 4, 2011

Jessamine South Elkhorn Water District  
PO Box 731  
Nicholasville, KY 40340

RE: Water System Improvements Project  
1 Million Gallon Tank

Dear Mr. Strong:

This letter is an update to the letter dated April 8, 2008 regarding the District's planned application. A meeting is planned with John Horne, project engineer, and I to discuss submitting a preapplication. Attached is an application processing guide that we will discuss when we meet.

An application was submitted in 2006 for the water tank. The application was placed in withdrawn status on June 11, 2007. A new application with supporting checklist items is required. The previous withdrawn application was reviewed with some items pulled forward for your updated application as noted below. A copy of items previously submitted and a part of this application will be provided to the District.

Enclosed is an application packet and checklist to assist with preparation of your request. The present market interest rate now in effect is 4.25. The interest rate is subject to change quarterly and will be determined at time of loan obligation and loan closing. The loan term may extend up to 40 years including 2 years interest only.

**Two copies of the following items are needed per attached checklist RD-KY 1780-10, revised October 2008, for a complete pre-application.**

**Checklist item No.:**

✓ 1. Notice of Intent to File Application / Request for Statement of Qualifications – newspaper tear sheet showing date and newspaper name. All components must be completed per sample provided – Attachment to KY AN No. 007 (1780) **Completed and pulled forward from 2006 application.**

- ↓
2. SF Form 424, Pre-Application w/ project description and cost breakdown  
[http://www.grants.gov/techlib/424\\_20090131.doc](http://www.grants.gov/techlib/424_20090131.doc)  
a. budget information- construction programs  
<http://apply07.grants.gov/apply/forms/sample/SF424C-V1.0.pdf>  
b. assurance agreement- construction programs

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Phone: (502) 633-3294 • Fax: (502) 633-0552 • TDD: (859) 224-7422 • Web: <http://www.rurdev.usda.gov/ky>

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1400 Independence Avenue, SW, Washington, DC 20250-9410  
or call (800) 795-3272 (voice) or (202) 720-6382 (TDD).

<http://www.grants.gov/techlib/SF424D-V1.1.pdf>

✓ 3. IRS Taxpayer Identification Number **Completed and pulled forward from 2006 application.**

✓ 4. DUNS Number (Information is available on the clearinghouse website listed below regarding obtaining a DUNS number) **Completed and pulled forward from 2006 application.**

5. Kentucky State Clearinghouse comments

A link to clearinghouse information is: <http://www.gold.ky.gov/clearinghouse/>.

6 Applicant's statement that needed credit is not available at reasonable rates and terms and two bank letters stating amount and terms requested by your organization and availability of credit including potential rates and terms. RUS Bulletin 1780-22.

*FORM + 2 BANK letters rate + DISTRICT + BANK letter amount*

8 If indebted, certified copy of each outstanding bond ordinance (Non FmHA/ RUS bonds only), promissory note, lease agreement, etc. *til service*

9 Audit or Financial report for each of the past three (3) fiscal years (audits for the years ending December 31, 2007, 2008, and 2009).

10 Copy of Rate Schedule for each applicable utility (water and sewer).

11 Applicant's documentation of the population of proposed service area, median household income of servicing area, existing health or sanitary hazards to be removed by the proposed project. Please complete the Application Processing Guide (see attachment), noting project area and MHI per county/ city divisions and ineligible areas. Areas located inside of the city limits of Nicholasville are ineligible for assistance due to population exceeding 10,000 according to the 2000 census.

Instructions for pulling census tract areas: Log onto the website listed; [http://factfinder.census.gov/servlet/DatasetMainPageServlet?lang=en&ts=224584562608&ds\\_name=DEC\\_2000\\_SF1\\_U&program=DEC](http://factfinder.census.gov/servlet/DatasetMainPageServlet?lang=en&ts=224584562608&ds_name=DEC_2000_SF1_U&program=DEC)

Then, go to Thematic Maps on the right hand column Select "County subdivision"

Kentucky

County

Specific Census Tracts

Map It

12 Legislation, court order, or other evidence of establishment, and legal opinion stating date duly incorporated and still in continued existence. See Sample Guide attorney's opinion and previous information provided that needs to be updated.

✓ 13 Advertisement of Request for Statement of Qualifications – See requirements listed in item number one (1) – All components must be completed per sample provided – Attachment to KY AN No. 007 (1780) **Completed and pulled forward from 2006 application.**

✓ 14 Minutes of negotiations with best qualified engineering firm(s). **Completed and pulled**

Copy

forward from 2006 application.

✓ 15 Agreement for Engineering Services, with KY Attachment I – Four (4) copies. (EJCDC Form) **Our records indicate an agreement was approved by Rural Development dated 5/23/2006. This agreement will need to be reviewed by Julie Anderson, State Engineer, to determine if still in effect for this application.**

16 Preliminary Engineering Report, in accordance with RD Guides, RUS Bulletin 1780-2 Water Facilities and/or 1780-3 Wastewater Facilities. A link to the Bulletins is <http://www.usda.gov/rus/water/regs-bulletins.htm>

18 Certification Regarding Debarment Suspension – AD 1047.

26 Notice of Public Information Meeting with Publishers Affidavit, and Minutes of the Meeting. Notice must be at least ten (10) days prior to the meeting.

Please note the RUS Bulletin 1794A-602, Guide for preparing the Environmental Report for Water and Environmental Program Proposals.

<http://www.usda.gov/rus/water/ees/pdf/RUS%20Bulletin%201794A-602%20032708.pdf>

Information and forms for the loan programs are available by contacting this office and/or checking the Rural Development homepage at <http://www.rurdev.usda.gov/> .

Should you need assistance please contact this office.

Sincerely,



John Johnson  
Acting Area Director

Enclosure(s)

Cc: Thomas G. Fern, State Director – USDA Rural Development  
John Horne, P.E. – Horne Engineering, Inc.  
X Julie Anderson, State Engineer, USDA Rural Development

Expert  
in  
BUG Agreements



**United States Department of Agriculture  
Rural Development  
Shelbyville Area Office**

April 8, 2008

John G. Horne, Project Engineer  
C/o Horne Engineering, Inc,  
216 South Main Street  
Nicholasville, KY 40356

Re: Jessamine South Elkhorn Water District, 1 million gallon water tank project

Dear Mr. Horne:

This letter is a follow-up to letters dated August 2, 2007 and January 22, 2008. This office received a preapplication on August 1, 2007 requesting \$2,150,000 assistance.

**The following information has been received:**

**Checklist Item:**

1. Notice of Intent to file application (included in advertisement of request for Engineering services.
2. SF 424, Application for Federal Assistance dated 7/27/2007
3. IRS Taxpayer ID number
4. DUNS Number
6. State Clearinghouse comments from Dept. of Local Government- dated 9/21/07
7. RUS Bulletin 1780-22, Eligibility certification
10. 2004, 2005 and 2006 Audit Reports- received with annual management reports.
11. Rate Schedule for each utility
14. Advertisement of request for engineering services
15. Minutes of Negotiations with best qualified engineering firm
16. Agreement for Engineering Services
18. Request for Environmental Information
19. AD 1047, Certification regarding Debarment Suspension

**The following information is needed for a complete application.** Please refer to the checklist **RD 1780-10 (Rev. 2/2007)**, for form numbers and assistance by item number listed below. The automated form site may be found at <http://www.rurdev.usda.gov/>:

**Checklist Item:**

2. Application attachments: authorizing resolution adopted by Governing Body; USGS Topo map w/ project area defined; general highway map w/ project area defined
7. Letters regarding availability of credit from two lenders stating amount loan requested, rate and terms available.

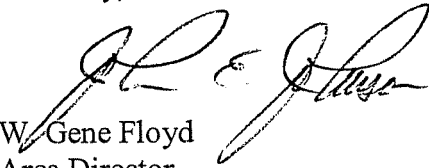
90 Howard Drive • Suite 3 • Shelbyville, KY 40065  
Phone: (502) 633-3294 XT 4 • Fax: (502) 633-0552 • TDD: (859) 224-7422 • Web: <http://www.rurdev.usda.gov/ky>

Committed to the future of rural communities.

9. If Indebted, certified copy of each outstanding bond ordinance (non-FmHA / RUS bonds only), KIA Loan Assistance Agreements, KACO Lease Agreements, etc., including bank loan agreement.
12. Applicant's documentation relative to priority selection criteria points (population of proposed service area, median household income of servicing area, existing health or sanitary hazards to be removed by the proposed project with verification from health department if hazard exists, RUS Bulletin 1780-1
13. Legislation, Court Order, or other evidence of establishment, and legal opinion stating date duly incorporated and still in continued existence
17. Preliminary Engineering Report, in accordance with RD Guides(four copies), RUS Bulletin 1780- 2

Please submit the information required for a complete application within 30 days.  
Contact this office if we may be of assistance to you with this project! I look forward to working with you to assist the Jessamine South Elkhorn Water District!

Sincerely,

*for*   
W. Gene Floyd  
Area Director

Cc: Jessamine South Elkhorn Water District  
Kenneth Slone, State Director, Kentucky State Rural Development Office

# Horne Engineering, Inc.

216 SOUTH MAIN STREET • NICHOLASVILLE, KENTUCKY 40356 • (859)885-9441 • FAX (859)885-5160

ENGINEERS • LAND SURVEYORS • PLANNERS  
email@horneeng.com

April 4, 2008

FILE COPY

John E. Johnson  
USDA, Rural Development  
90 Howard Drive, Suite 3  
Shelbyville, KY 40065

Re: 1 MG Elevated Storage Tank  
Catnip Hill Site  
Jessamine South Elkhorn Water District

Dear John :

Enclosed please find the following executed forms for the referenced project.

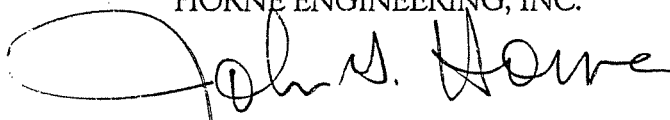
Eligibility Certificate - RUS 1780-22

Environment Application - RD 1940-20

Debarment - AD-1047

Should you have any questions or require additional information regarding this matter, please contact me at (859) 885-9441.

Sincerely,  
HORNE ENGINEERING, INC.



John G. Horne, PE, PLS  
President

JGH/jt  
enc.

cc: Nick Strong  
Glenn T. Smith  
Engr/3569  
Engr/3830  
Corr.

U.S. DEPARTMENT OF AGRICULTURE

**Certification Regarding Debarment, Suspension, and Other  
Responsibility Matters - Primary Covered Transactions**

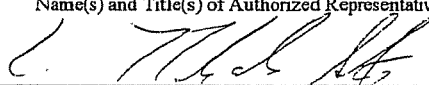
This certification is required by the regulations implementing Executive Order 12549, Debarment and Suspension, 7 CFR Part 3017, Section 3017.510, Participants' responsibilities. The regulations were published as Part IV of the January 30, 1989 Federal Register (pages 4722-4733). Copies of the regulations may be obtained by contacting the Department of Agriculture agency offering the proposed covered transaction.

**(BEFORE COMPLETING CERTIFICATION, READ INSTRUCTIONS ON REVERSE)**

- (1) The prospective primary participant certifies to the best of its knowledge and belief, that it and its principals:
  - (a) are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency;
  - (b) have not within a three-year period preceding this proposal been convicted of or had a civil judgement rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;
  - (c) are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (1)(b) of this certification; and
  - (d) have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.
- (2) Where the prospective primary participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

Jessamine South Elkhorn Water District - 1MG Elevated Water  
Organization Name PR/Award Number or Project Name  
Storage Tank

L. Nicholas Strong, Chairman - Jessamine South Elkhorn Water District  
Name(s) and Title(s) of Authorized Representative(s)

  
Signature(s)

5-5-08  
Date



**REQUEST FOR ENVIRONMENTAL INFORMATION**

Name of Project	IMG Elevated Water Storage Tank
Location	Jessamine S-Elkhorn Water Dist

- Item 1a.** Has a Federal, State, or Local Environmental Impact Statement or Analysis been prepared for this project?  
 Yes  No  Copy attached as EXHIBIT I-A.
- 1b.** If "No," provide the information requested in Instructions as EXHIBIT I.
- Item 2.** The State Historic Preservation Officer (SHPO) has been provided a detailed project description and has been requested to submit comments to the appropriate Rural Development Office.  Yes  No Date description submitted to SHPO 9-21-07
- Item 3.** Are any of the following land uses or environmental resources either to be affected by the proposal or located within or adjacent to the project site(s)? (Check appropriate box for every item of the following checklist).

	Yes	No	Unknown		Yes	No	Unknown
1. Industrial.....	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	19. Dunes.....	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2. Commercial.....	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	20. Estuary.....	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3. Residential.....	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	21. Wetlands.....	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4. Agricultural.....	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	22. Floodplain.....	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
5. Grazing.....	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	23. Wilderness..... (designated or proposed under the Wilderness Act)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
6. Mining, Quarrying.....	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	24. Wild or Scenic River..... (proposed or designated under the Wild and Scenic Rivers Act)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
7. Forests.....	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	25. Historical, Archeological Sites..... (Listed on the National Register of Historic Places or which may be eligible for listing)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
8. Recreational.....	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	26. Critical Habitats..... (endangered/threatened species)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
9. Transportation.....	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	27. Wildlife.....	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
10. Parks.....	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	28. Air Quality.....	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
11. Hospital.....	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	29. Solid Waste Management.....	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
12. Schools.....	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	30. Energy Supplies.....	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
13. Open spaces.....	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	31. Natural Landmark..... (Listed on National Registry of Natural Landmarks)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
14. Aquifer Recharge Area.....	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	32. Coastal Barrier Resources System.....	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
15. Steep Slopes.....	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>				
16. Wildlife Refuge.....	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>				
17. Shoreline.....	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>				
18. Beaches.....	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>				

**Item 4.** Are any facilities under your ownership, lease, or supervision to be utilized in the accomplishment of this project, either listed or under consideration for listing on the Environmental Protection Agency's List of Violating Facilities?  Yes  No

3-5-07  
(Date)

Signed: [Signature]  
(Applicant)

Jessamine South Elkhorn Water District  
Chairman +

(Title)

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collections is 0575-0094. The time required to complete this information collection is estimated to average 6 to 10 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

**WATER AND WASTE  
ELIGIBILITY CERTIFICATION**

**Certification for commercial credit and outstanding judgments**

The undersigned certifies, to the best of their knowledge and belief, that:

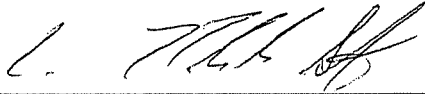
1. The organization is unable to finance the proposed project from its own resources or through commercial credit at reasonable rates and terms.
2. No outstanding judgment has been obtained and recorded by the United States of America in a Federal Court (other than in the United States Tax Court).

**JESSAMINE SOUTH ELKHORN WATER DISTRICT**

Name of Organization

**L. Nicholas Strong , Chairman**

Name of Authorized Official



Signature

5-5-08.

Date

# Horne Engineering, Inc.

216 SOUTH MAIN STREET • NICHOLASVILLE, KENTUCKY 40356 • (859)885-9441 • FAX (859)885-5160

ENGINEERS • LAND SURVEYORS • PLANNERS  
email@horneeng.com

July 27, 2007

John E. Johnson  
USDA, Rural Development  
90 Howard Drive, Suite 3  
Shelbyville, KY 40065

**FILE COPY**

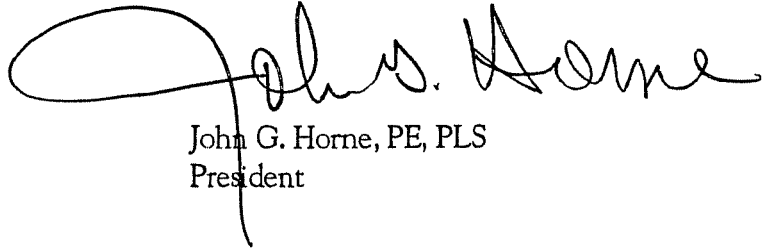
Re: SFS 424 Form - WX 21113016  
Application for Federal Assistance  
1 MG Elevated Storage Tank Project  
Jessamine South Elkhorn Water District

Dear John:

Enclosed please the executed copy of SF 424 for the referenced project.

Should you have any questions or require additional information regarding this matter, please contact me at (859) 885-9441.

Sincerely,  
HORNE ENGINEERING, INC.



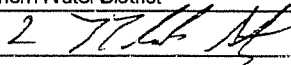
John G. Horne, PE, PLS  
President

JGH/jt  
enc.

cc: Nick Strong  
Glenn T. Smith  
Engr/3569  
Engr/3786  
Corr.

*app file*

APPLICATION FOR  
FEDERAL ASSISTANCE

1. TYPE OF SUBMISSION: Application		2. DATE SUBMITTED July 27, 2007	Applicant Identifier Project No. 3569	
<input checked="" type="checkbox"/> Construction	Pre-application <input type="checkbox"/> Construction	3. DATE RECEIVED BY STATE	State Application Identifier	
<input type="checkbox"/> Non-Construction	<input type="checkbox"/> Non-Construction	4. DATE RECEIVED BY FEDERAL AGENCY	Federal Identifier	
5. APPLICANT INFORMATION				
Legal Name: Jessamine South Elkhorn Water District		Organizational Unit: Department: Rural Water District		
Organizational DUNS: 040511052		Division:		
Address: Street: 107 S. Main Street, PO Box 731		Name and telephone number of person to be contacted on matters involving this application (give area code)		
City: Nicholasville		Prefix: Mr.	First Name: John	
County: Jessamine		Middle Name G.		
State: KY		Last Name Home		
Zip Code 40356	Suffix: PE, PLS			
Country: USA		Email: john@horneeng.com		
6. EMPLOYER IDENTIFICATION NUMBER (EIN): 61-6089391		Phone Number (give area code) (859) 885-9441	Fax Number (give area code) (859) 885-5160	
8. TYPE OF APPLICATION: <input checked="" type="checkbox"/> New <input type="checkbox"/> Continuation <input type="checkbox"/> Revision If Revision, enter appropriate letter(s) in box(es) (See back of form for description of letters.) Other (specify)		7. TYPE OF APPLICANT: (See back of form for Application Types) G- Special District (Rural Water) Other (specify)		
10. CATALOG OF FEDERAL DOMESTIC ASSISTANCE NUMBER: TITLE (Name of Program): Rural Water and Waste Disposal Systems for Rural Communities		9. NAME OF FEDERAL AGENCY: Rural Development		
12. AREAS AFFECTED BY PROJECT (Cities, Counties, States, etc.): Northwest Jessamine County		11. DESCRIPTIVE TITLE OF APPLICANT'S PROJECT: Construct 1.0 million gallon elevated storage tank with associated piping to existing distribution system to maintain regulatory storage and distribution capacity.		
13. PROPOSED PROJECT Start Date: 07/01/2008		14. CONGRESSIONAL DISTRICTS OF: a. Applicant Sixth		
Ending Date: 06/30/2009		b. Project Sixth		
15. ESTIMATED FUNDING:		16. IS APPLICATION SUBJECT TO REVIEW BY STATE EXECUTIVE ORDER 12372 PROCESS?		
a. Federal	\$ 2,100,000 <sup>00</sup>	a. Yes. <input checked="" type="checkbox"/> THIS PREAPPLICATION/APPLICATION WAS MADE AVAILABLE TO THE STATE EXECUTIVE ORDER 12372 PROCESS FOR REVIEW ON DATE: July 27, 2007		
b. Applicant	\$ 50,000 <sup>00</sup>	b. No. <input type="checkbox"/> PROGRAM IS NOT COVERED BY E. O. 12372		
c. State	\$ <sup>00</sup>	<input type="checkbox"/> OR PROGRAM HAS NOT BEEN SELECTED BY STATE FOR REVIEW		
d. Local	\$ <sup>00</sup>	17. IS THE APPLICANT DELINQUENT ON ANY FEDERAL DEBT?		
e. Other	\$ <sup>00</sup>	<input type="checkbox"/> Yes If "Yes" attach an explanation. <input type="checkbox"/> No		
f. Program Income	\$ <sup>00</sup>			
g. TOTAL	\$ 2,150,000 <sup>00</sup>			
18. TO THE BEST OF MY KNOWLEDGE AND BELIEF, ALL DATA IN THIS APPLICATION/PREAPPLICATION ARE TRUE AND CORRECT. THE DOCUMENT HAS BEEN DULY AUTHORIZED BY THE GOVERNING BODY OF THE APPLICANT AND THE APPLICANT WILL COMPLY WITH THE ATTACHED ASSURANCES IF THE ASSISTANCE IS AWARDED.				
a. Authorized Representative				
Prefix Mr.	First Name L.	Middle Name Nicholas		
Last Name Strong	Suffix			
b. Title Chairman - Jessamine South Elkhorn Water District	c. Telephone Number (give area code) (859) 881-0589			
d. Signature of Authorized Representative 	e. Date Signed 07/27/07			

## INSTRUCTIONS FOR THE SF-424

Public reporting burden for this collection of information is estimated to average 45 minutes per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to the Office of Management and Budget, Paperwork Reduction Project (0348-0043), Washington, DC 20503.

**PLEASE DO NOT RETURN YOUR COMPLETED FORM TO THE OFFICE OF MANAGEMENT AND BUDGET. SEND IT TO THE ADDRESS PROVIDED BY THE SPONSORING AGENCY.**

This is a standard form used by applicants as a required face sheet for pre-applications and applications submitted for Federal assistance. It will be used by Federal agencies to obtain applicant certification that States which have established a review and comment procedure in response to Executive Order 12372 and have selected the program to be included in their process, have been given an opportunity to review the applicant's submission.

Item:	Entry:	Item:	Entry:																
1.	Select Type of Submission.	11.	Enter a brief descriptive title of the project. If more than one program is involved, you should append an explanation on a separate sheet. If appropriate (e.g., construction or real property projects), attach a map showing project location. For preapplications, use a separate sheet to provide a summary description of this project.																
2.	Date application submitted to Federal agency (or State if applicable) and applicant's control number (if applicable).	12.	List only the largest political entities affected (e.g., State, counties, cities).																
3.	State use only (if applicable).	13.	Enter the proposed start date and end date of the project.																
4.	Enter Date Received by Federal Agency Federal identifier number. If this application is a continuation or revision to an existing award, enter the present Federal Identifier number. If for a new project, leave blank.	14.	List the applicant's Congressional District and any District(s) affected by the program or project																
5.	Enter legal name of applicant, name of primary organizational unit (including division, if applicable), which will undertake the assistance activity, enter the organization's DUNS number (received from Dun and Bradstreet), enter the complete address of the applicant (including country), and name, telephone number, e-mail and fax of the person to contact on matters related to this application.	15.	Amount requested or to be contributed during the first funding/budget period by each contributor. Value of in kind contributions should be included on appropriate lines as applicable. If the action will result in a dollar change to an existing award, indicate only the amount of the change. For decreases, enclose the amounts in parentheses. If both basic and supplemental amounts are included, show breakdown on an attached sheet. For multiple program funding, use totals and show breakdown using same categories as item 15.																
6.	Enter Employer Identification Number (EIN) as assigned by the Internal Revenue Service.	16.	Applicants should contact the State Single Point of Contact (SPOC) for Federal Executive Order 12372 to determine whether the application is subject to the State intergovernmental review process.																
7.	Select the appropriate letter in the space provided. <table style="width: 100%; border: none;"> <tr> <td style="width: 50%;">A. State</td> <td style="width: 50%;">I. State Controlled</td> </tr> <tr> <td>B. County</td> <td>Institution of Higher Learning</td> </tr> <tr> <td>C. Municipal</td> <td>J. Private University</td> </tr> <tr> <td>D. Township</td> <td>K. Indian Tribe</td> </tr> <tr> <td>E. Interstate</td> <td>L. Individual</td> </tr> <tr> <td>F. Intermunicipal</td> <td>M. Profit Organization</td> </tr> <tr> <td>G. Special District</td> <td>N. Other (Specify)</td> </tr> <tr> <td>H. Independent School District</td> <td>O. Not for Profit Organization</td> </tr> </table>	A. State	I. State Controlled	B. County	Institution of Higher Learning	C. Municipal	J. Private University	D. Township	K. Indian Tribe	E. Interstate	L. Individual	F. Intermunicipal	M. Profit Organization	G. Special District	N. Other (Specify)	H. Independent School District	O. Not for Profit Organization	17.	This question applies to the applicant organization, not the person who signs as the authorized representative. Categories of debt include delinquent audit disallowances, loans and taxes.
A. State	I. State Controlled																		
B. County	Institution of Higher Learning																		
C. Municipal	J. Private University																		
D. Township	K. Indian Tribe																		
E. Interstate	L. Individual																		
F. Intermunicipal	M. Profit Organization																		
G. Special District	N. Other (Specify)																		
H. Independent School District	O. Not for Profit Organization																		
8.	Select the type from the following list: <ul style="list-style-type: none"> <li>• "New" means a new assistance award.</li> <li>• "Continuation" means an extension for an additional funding/budget period for a project with a projected completion date.</li> <li>• "Revision" means any change in the Federal Government's financial obligation or contingent liability from an existing obligation. If a revision enter the appropriate letter:  <table style="width: 100%; border: none;"> <tr> <td style="width: 50%;">A. Increase Award</td> <td style="width: 50%;">B. Decrease Award</td> </tr> <tr> <td>C. Increase Duration</td> <td>D. Decrease Duration</td> </tr> </table> </li> </ul>	A. Increase Award	B. Decrease Award	C. Increase Duration	D. Decrease Duration	18.	To be signed by the authorized representative of the applicant. A copy of the governing body's authorization for you to sign this application as official representative must be on file in the applicant's office. (Certain Federal agencies may require that this authorization be submitted as part of the application.)												
A. Increase Award	B. Decrease Award																		
C. Increase Duration	D. Decrease Duration																		
9.	Name of Federal agency from which assistance is being requested with this application.																		
10.	Use the Catalog of Federal Domestic Assistance number and title of the program under which assistance is requested.																		



United States Department of Agriculture  
Rural Development  
Shelbyville Area Office

3569  
FILE COPY

August 2, 2007

John G. Horne, Project Engineer  
C/o Horne Engineering, Inc,  
216 South Main Street  
Nicholasville, KY 40356

Re: Jessamine South Elkhorn Water District, 1 million gallon water tank project

Dear Mr. Horne:

This letter acknowledges receipt of the updated SF 424 application. It is our understanding that the KIA approval for a \$1.7 million loan does not involve this project.

**The following information has been received:**

**Checklist Item:**

1. Notice of Intent to file application (included in advertisement of request for Engineering services.
2. Application for Federal Assistance updated 7/27/2007
3. IRS Taxpayer ID number
4. DUNS Number
10. 2004, 2005 and 2006 Audit Reports- received with annual management reports.
11. Rate Schedule for each utility
14. Advertisement of request for engineering services
15. Minutes of Negotiations with best qualified engineering firm
16. Agreement for Engineering Services

**The following information is needed for a complete application.** Please refer to the checklist **RD 1780-10 (Rev. 2/2007)**, for form numbers and assistance by item number listed below. The automated form site may be found at <http://www.rurdev.usda.gov/>:

**Checklist Item:**

2. Updated SF 424, Application for Federal Assistance and Application attachments: authorizing resolution adopted by Governing Body; USGS Topo map w/ project area defined; general highway map w/ project area defined
6. State Clearinghouse comments from Dept. of Local Government
7. Applicant's statement that the needed credit is or is not available from commercial or other credit sources at reasonable rates and terms including letters regarding availability of credit from two lenders, RUS Bulletin 1780-22

90 Howard Drive • Suite 3 • Shelbyville, KY 40065  
Phone: (502) 633-3294 XT 4 • Fax: (502) 633-0552 • TDD: (859) 224-7422 • Web: <http://www.rurdev.usda.gov/ky>

Committed to the future of rural communities.

"USDA is an equal opportunity provider, employer and lender."  
To file a complaint of discrimination write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14<sup>th</sup> and Independence Avenue, SW, Washington, DC 20250-9410 or call (202) 720-5964 (voice or TDD).

9. If Indebted, certified copy of each outstanding bond ordinance (non-FmHA / RUS bonds only), KIA Loan Assistance Agreements, KACO Lease Agreements, etc., including bank loan agreement.
12. Applicant's documentation relative to priority selection criteria points (population of proposed service area, median household income of servicing area, existing health or sanitary hazards to be removed by the proposed project with verification from health department if hazard exists, RUS Bulletin 1780-1
13. Legislation, Court Order, or other evidence of establishment, and legal opinion stating date duly incorporated and still in continued existence
17. Preliminary Engineering Report, in accordance with RD Guides(four copies), RUS Bulletin 1780- 2
18. Request for Environmental Information w/ attachments, RD 1940-20
19. Certification Regarding Debarment, AD 1047

Please submit the information required for a complete application within 30 days.  
Contact this office if we may be of assistance to you with this project! I look forward to working with you to assist the Jessamine South Elkhorn Water District!

Sincerely,

*W. Gene Floyd*

W. Gene Floyd  
Area Director

Cc: Jessamine South Elkhorn Water District  
Kenneth Slone, State Director, Kentucky State Rural Development Office

# Horne Engineering, Inc.

216 SOUTH MAIN STREET • NICHOLASVILLE, KENTUCKY 40356 • (859)885-9441 • FAX (859)885-5160

ENGINEERS • LAND SURVEYORS • PLANNERS

*email@horneeng.com*

FILE COPY

June 25, 2007

John E. Johnson  
USDA, Rural Development  
90 Howard Drive, Suite 3  
Shelbyville, KY 40065

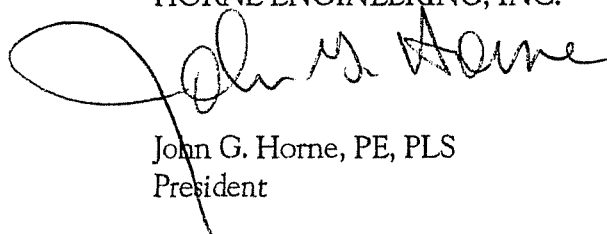
Re: 1M Gallon Water Storage Tank  
Catnip Hill Pike  
Jessamine South Elkhorn Water District  
Jessamine County, Kentucky

Dear Mr. Johnson:

This is response to our telephone conversation of several weeks ago in regard to your letter of June 11, 2007 pertaining to continuation of the referenced project. As I advised in our conversation, we have recently been instructed by the Board of Commissioners to resurrect this project and continue on with the project with the anticipation of a possible construction bid letting in late spring 2008. Accordingly would you please review the file and contact me with the status of the current checklist items and a listing of those items yet to be completed

In the meantime if I may clarify this request or other concerns, please contact me at (859) 885-9441.

Sincerely,  
HORNE ENGINEERING, INC.



John G. Horne, PE, PLS  
President

JGH/jt

cc: Board of Commissioners  
Engr/3569  
Engr/3786  
Corr.





**United States Department of Agriculture  
Rural Development  
Shelbyville Area Office**

June 28, 2007

John G. Horne, Project Engineer  
C/o Horne Engineering, Inc,  
216 South Main Street  
Nicholasville, KY 40356

Re: Jessamine South Elkhorn Water District, 1 million gallon water tank project

Dear Mr. Horne:

A letter dated June 11, 2007 regarding withdrawal of the application was mailed from this office. You responded on June 12, 2007 by phone and by letter dated June 25, 2007 that the District is interested in continuing with the project. This letter updates the checklist items required by the February 2007 checklist enclosed. A new application is required at this time. Please contact this office to schedule a meeting to discuss the project and for assistance.

It is our understanding that KIA approved a \$1.7 million loan for this project. Please update this office on funds approved for this project.

**The following information has been received:**

**Checklist Item:**

1. Notice of Intent to file application (included in advertisement of request for Engineering services.
2. Application for Federal Assistance
3. IRS Taxpayer ID number
4. DUNS Number
10. 2004, 2005 and 2006 Audit Reports- received with annual management reports.
11. Rate Schedule for each utility
14. Advertisement of request for engineering services
15. Minutes of Negotiations with best qualified engineering firm
16. Agreement for Engineering Services

**The following information is needed for a complete application.** Please refer to the attached checklist **RD 1780-10 (Rev. 2/2007)**, for form numbers and assistance by item number listed below. The automated form site may be found at <http://www.rurdev.usda.gov/>:

90 Howard Drive • Suite 3 • Shelbyville, KY 40065  
Phone: (502) 633-3294 XT 4 • Fax: (502) 633-0552 • TDD: (859) 224-7422 • Web: <http://www.rurdev.usda.gov/ky>

*Committed to the future of rural communities.*

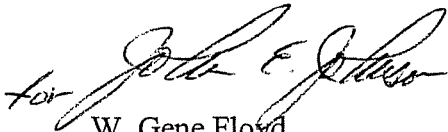
"USDA is an equal opportunity provider, employer and lender."  
To file a complaint of discrimination write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14<sup>th</sup> and Independence Avenue, SW, Washington, DC 20250-9410 or call (202) 720-5964 (voice or TDD).

**Checklist Item:**

2. Updated SF 424, Application for Federal Assistance and Application attachments: authorizing resolution adopted by Governing Body; USGS Topo map w/ project area defined; general highway map w/ project area defined
6. State Clearinghouse comments from Dept. of Local Government
7. Applicant's statement that the needed credit is or is not available from commercial or other credit sources at reasonable rates and terms including letters regarding availability of credit from two lenders, RUS Bulletin 1780-22
9. If Indebted, certified copy of each outstanding bond ordinance (non-FmHA / RUS bonds only), KIA Loan Assistance Agreements, KACO Lease Agreements, etc., including bank loan agreement.
12. Applicant's documentation relative to priority selection criteria points (population of proposed service area, median household income of servicing area, existing health or sanitary hazards to be removed by the proposed project with verification from health department if hazard exists, RUS Bulletin 1780-1
13. Legislation, Court Order, or other evidence of establishment, and legal opinion stating date duly incorporated and still in continued existence
17. Preliminary Engineering Report, in accordance with RD Guides(four copies), RUS Bulletin 1780- 2
18. Request for Environmental Information w/ attachments, RD 1940-20
19. Certification Regarding Debarment, AD 1047

Please contact this office if we may be of assistance to you with this project! I look forward to working with you to assist the Jessamine South Elkhorn Water District!

Sincerely,



W. Gene Floyd  
Area Director

Enclosure: RD 1780-10 (Rev. 2/2007) checklist

Cc: Jessamine South Elkhorn Water District  
Kenneth Slone, Kentucky State RD Office

5.12570



United States Department of Agriculture  
Rural Development  
Shelbyville Area Office

FILE COPY  
3569

February 25, 2009

John G. Horne, Project Engineer  
C/o Horne Engineering, Inc,  
216 South Main Street  
Nicholasville, KY 40356

Re: Jessamine South Elkhorn Water District, 1 million gallon water tank project

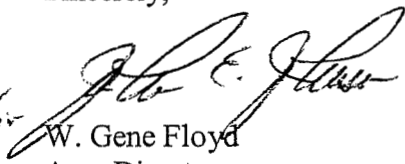
Dear Mr. Horne:

The incomplete preapplication packet was submitted to this office on August 1, 2007. Information required for a complete application has not been received. Please contact this office within 10 days to discuss your application. The application is being placed in withdrawn status and will be retained for 24 months.

The 2009 Economic Stimulus Package contains funds that should assist with projects such as this. Contact this office to discuss the Stimulus Package and potential funding.

Please contact this office if we may be of assistance to you with this project! I look forward to working with you to assist the Jessamine South Elkhorn Water District!

Sincerely,

*for*   
W. Gene Floyd  
Area Director

Encl. Copy of April 8, 2008 letter requesting complete application

Cc: Jessamine South Elkhorn Water District  
Vernon Brown, Acting State Director, Kentucky State RD Office



**United States Department of Agriculture  
Rural Development  
Shelbyville Area Office**

April 8, 2008

John G. Horne, Project Engineer  
C/o Horne Engineering, Inc,  
216 South Main Street  
Nicholasville, KY 40356

Re: Jessamine South Elkhorn Water District, 1 million gallon water tank project

Dear Mr. Horne:

This letter is a follow-up to letters dated August 2, 2007 and January 22, 2008. This office received a preapplication on August 1, 2007 requesting \$2,150,000 assistance.

**The following information has been received:**

**Checklist Item:**

1. Notice of Intent to file application (included in advertisement of request for Engineering services.
2. SF 424, Application for Federal Assistance dated 7/27/2007
3. IRS Taxpayer ID number
4. DUNS Number
6. State Clearinghouse comments from Dept. of Local Government- dated 9/21/07
7. RUS Bulletin 1780-22, Eligibility certification
10. 2004, 2005 and 2006 Audit Reports- received with annual management reports.
11. Rate Schedule for each utility
14. Advertisement of request for engineering services
15. Minutes of Negotiations with best qualified engineering firm
16. Agreement for Engineering Services
18. Request for Environmental Information
19. AD 1047, Certification regarding Debarment Suspension

**The following information is needed for a complete application.** Please refer to the checklist **RD 1780-10 (Rev. 2/2007)**, for form numbers and assistance by item number listed below. The automated form site may be found at <http://www.rurdev.usda.gov/>:

**Checklist Item:**

2. Application attachments: authorizing resolution adopted by Governing Body; USGS Topo map w/ project area defined; general highway map w/ project area defined
7. Letters regarding availability of credit from two lenders stating amount loan requested, rate and terms available.

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Phone: (502) 633-3294 XT 4 • Fax: (502) 633-0552 • TDD: (859) 224-7422 • Web: <http://www.rurdev.usda.gov/ky>

Committed to the future of rural communities.

9. If Indebted, certified copy of each outstanding bond ordinance (non-FmHA / RUS bonds only), KIA Loan Assistance Agreements, KACO Lease Agreements, etc., including bank loan agreement.
12. Applicant's documentation relative to priority selection criteria points (population of proposed service area, median household income of servicing area, existing health or sanitary hazards to be removed by the proposed project with verification from health department if hazard exists, RUS Bulletin 1780-1
13. Legislation, Court Order, or other evidence of establishment, and legal opinion stating date duly incorporated and still in continued existence
17. Preliminary Engineering Report, in accordance with RD Guides(four copies), RUS Bulletin 1780- 2

Please submit the information required for a complete application within 30 days.  
Contact this office if we may be of assistance to you with this project! I look forward to working with you to assist the Jessamine South Elkhorn Water District!

Sincerely,

*WJ*  
*for*  
W. Gene Floyd  
Area Director

Cc: Jessamine South Elkhorn Water District  
Kenneth Slone, State Director, Kentucky State Rural Development Office



**United States Department of Agriculture  
Rural Development  
Shelbyville Area Office**

June 11, 2007

John G. Horne, Project Engineer  
C/o Horne Engineering, Inc,  
216 South Main Street  
Nicholasville, KY 40356

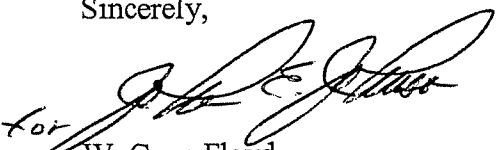
Re: Jessamine South Elkhorn Water District, 1 million gallon water tank project

Dear Mr. Horne:

The incomplete preapplication packet was submitted to this office on May 2, 2005. Information required for a complete application has not been received. Please contact this office within 10 days to discuss your application. The application is being placed in withdrawn status and will be retained for 24 months.

Please contact this office if we may be of assistance to you with this project! I look forward to working with you to assist the Jessamine South Elkhorn Water District!

Sincerely,

*for*   
W. Gene Floyd  
Area Director

Encl. Copy of July 19, 2006 letter requesting complete application

Cc: Jessamine South Elkhorn Water District  
Kenneth Slone, State Director, Kentucky State RD Office

*W0 # 3569*



United States Department of Agriculture  
Rural Development  
Shelbyville Area Office

July 19, 2006

**FILE COPY**

John G. Horne, Project Engineer  
C/o Horne Engineering, Inc,  
216 South Main Street  
Nicholasville, KY 40356

Re: Jessamine South Elkhorn Water District, 1 million gallon water tank project

Dear Mr. Horne:

The preapplication was submitted to this office on May 2, 2005. A letter requesting complete application was mailed from this office on May 10, 2005 with a follow-up letter on January 23, 2006 and May 23, 2006. This letter updates the checklist items with the August 2005 checklist.

**The following information has been received:**

**Checklist Item:**

1. Notice of Intent to file application (included in advertisement of request for Engineering services.
2. Application for Federal Assistance
3. IRS Taxpayer ID number
4. DUNS Number
10. 2003, 2004 and 2005 Audit Reports- received with annual management reports
11. Rate Schedule for each utility
14. Advertisement of request for engineering services
15. Minutes of Negotiations with best qualified engineering firm
16. Agreement for Engineering Services

**The following information is needed for a complete application.** Please refer to the checklist **RD 1780-10 (Rev. 10/2005)**, for form numbers and assistance by item number listed below. The automated form site may be found at <http://www.rurdev.usda.gov/>:

**Checklist Item:**

2. Application attachments: authorizing resolution adopted by Governing Body; USGS Topo map w/ project area defined; general highway map w/ project area defined
6. State Clearinghouse comments from Dept. of Local Government

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Phone: (502) 633-3294 XT 4 • Fax: (502) 633-0552 • TDD: (859) 224-7422 • Web: <http://www.rurdev.usda.gov/ky>

Committed to the future of rural communities.

"USDA is an equal opportunity provider, employer and lender."

To file a complaint of discrimination write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14<sup>th</sup> and Independence Avenue, SW, Washington, DC 20250-9410 or call (202) 720-5964 (voice or TDD).

7. Applicant's statement that the needed credit is or is not available from commercial or other credit sources at reasonable rates and terms including letters regarding availability of credit from two lenders, RUS Bulletin 1780-22
9. If Indebted, certified copy of each outstanding bond ordinance (non-FmHA / RUS bonds only), KIA Loan Assistance Agreements, KACO Lease Agreements, etc., including bank loan agreement.
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13. Legislation, Court Order, or other evidence of establishment, and legal opinion stating date duly incorporated and still in continued existence
17. Preliminary Engineering Report, in accordance with RD Guides(four copies), RUS Bulletin 1780- 2
18. Request for Environmental Information w/ attachments, RD 1940-20
19. Certification Regarding Debarment, AD 1047
20. Civil Rights Impact Analysis Certification, RD 2006-38

Please contact this office if we may be of assistance to you with this project! I look forward to working with you to assist the Jessamine South Elkhorn Water District!

Sincerely,

*for* *JA*  
W. Gene Floyd  
Area Director

Enclosure: RD 1780-10 (Rev. 10/2005) checklist

Cc: Jessamine South Elkhorn Water District  
Kenneth Slone, Kentucky State RD Office





**United States Department of Agriculture  
Rural Development  
Shelbyville Area Office**

July 19, 2006

John G. Horne, Project Engineer  
C/o Horne Engineering, Inc,  
216 South Main Street  
Nicholasville, KY 40356

Re: Jessamine South Elkhorn Water District, 1 million gallon water tank project

Dear Mr. Horne:

The preapplication was submitted to this office on May 2, 2005. A letter requesting complete application was mailed from this office on May 10, 2005 with a follow-up letter on January 23, 2006 and May 23, 2006. This letter updates the checklist items with the August 2005 checklist.

**The following information has been received:**

**Checklist Item:**

1. Notice of Intent to file application (included in advertisement of request for Engineering services.
2. Application for Federal Assistance
3. IRS Taxpayer ID number
4. DUNS Number
10. 2003, 2004 and 2005 Audit Reports- received with annual management reports
11. Rate Schedule for each utility
14. Advertisement of request for engineering services
15. Minutes of Negotiations with best qualified engineering firm
16. Agreement for Engineering Services

**The following information is needed for a complete application.** Please refer to the checklist **RD 1780-10 (Rev. 10/2005)**, for form numbers and assistance by item number listed below. The automated form site may be found at <http://www.rurdev.usda.gov/>:

**Checklist Item:**

2. Application attachments: authorizing resolution adopted by Governing Body; USGS Topo map w/ project area defined; general highway map w/ project area defined
6. State Clearinghouse comments from Dept. of Local Government

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Phone: (502) 633-3294 XT 4 • Fax: (502) 633-0552 • TDD: (859) 224-7422 • Web: <http://www.rurdev.usda.gov/ky>

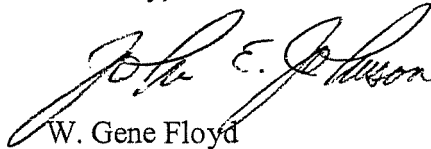
Committed to the future of rural communities.

"USDA is an equal opportunity provider, employer and lender."  
To file a complaint of discrimination write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14<sup>th</sup> and Independence Avenue, SW, Washington, DC 20250-9410 or call (202) 720-5964 (voice or TDD).

7. Applicant's statement that the needed credit is or is not available from commercial or other credit sources at reasonable rates and terms including letters regarding availability of credit from two lenders, RUS Bulletin 1780-22
9. If Indebted, certified copy of each outstanding bond ordinance (non-FmHA / RUS bonds only), KIA Loan Assistance Agreements, KACO Lease Agreements, etc., including bank loan agreement.
12. Applicant's documentation relative to priority selection criteria points (population of proposed service area, median household income of servicing area, existing health or sanitary hazards to be removed by the proposed project with verification from health department if hazard exists, RUS Bulletin 1780-1
13. Legislation, Court Order, or other evidence of establishment, and legal opinion stating date duly incorporated and still in continued existence
17. Preliminary Engineering Report, in accordance with RD Guides(four copies), RUS Bulletin 1780- 2
18. Request for Environmental Information w/ attachments, RD 1940-20
19. Certification Regarding Debarment, AD 1047
20. Civil Rights Impact Analysis Certification, RD 2006-38

Please contact this office if we may be of assistance to you with this project! I look forward to working with you to assist the Jessamine South Elkhorn Water District!

Sincerely,

*for*   
W. Gene Floyd  
Area Director

Enclosure: RD 1780-10 (Rev. 10/2005) checklist

Cc: Jessamine South Elkhorn Water District  
Kenneth Slone, Kentucky State RD Office



**United States Department of Agriculture  
Rural Development  
Shelbyville Area Office**

May 23, 2006

John G. Horne, Project Engineer  
C/o Horne Engineering, Inc,  
216 South Main Street  
Nicholasville, KY 40356

Re: Jessamine South Elkhorn Water District, 1 million gallon water tank project

Dear Mr. Horne:

The preapplication was submitted to this office on May 2, 2005. A letter requesting complete application was mailed from this office on May 10, 2005 with a follow-up letter on January 23, 2006.

**The following information has been received:**

**Checklist Item:**

1. Notice of Intent to file application (included in advertisement of request for Engineering services.
2. Application for Federal Assistance
8. 2004 and 2005 Audit Reports- received with annual management reports
10. Rate Schedule for each utility
11. Internal Revenue Service (IRS) Taxpayer Identification Number and DUNS number- submitted on application
14. Advertisement of request for engineering services
15. Minutes of Negotiations with best qualified engineering firm
16. Agreement for Engineering Services – in state office for approval

**The following information is needed for a complete application.** Please refer to the checklist RD 1780-10 (Rev. 10/2001), for form numbers and assistance by item number listed below. The automated form site may be found at <http://www.rurdev.usda.gov/>:

**Checklist Item:**

2. Application attachments: authorizing resolution adopted by Governing Body; USGS Topo map w/ project area defined; general highway map w/ project area defined
4. State Clearinghouse comments from Dept. of Local Government
5. Applicant's statement that the needed credit is or is not available from commercial or other credit sources at reasonable rates and terms including letters regarding availability of credit from two lenders, RUS Bulletin 1780-22

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Phone: (502) 633-3294 XT 4 • Fax: (502) 633-0552 • TDD: (859) 224-7422 • Web: <http://www.rurdev.usda.gov/ky>

Committed to the future of rural communities.

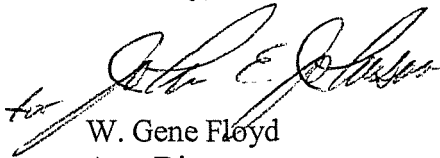
"USDA is an equal opportunity provider, employer and lender."

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7. If Indebted, certified copy of each outstanding bond ordinance (non-FmHA / RUS bonds only), KIA Loan Assistance Agreements, KACO Lease Agreements, etc.
12. Applicant's documentation relative to priority selection criteria points (population of proposed service area, median household income of servicing area, existing health or sanitary hazards to be removed by the proposed project with verification from health department if hazard exists, RUS Bulletin 1780-1
13. Legislation, Court Order, or other evidence of establishment, and legal opinion stating date duly incorporated and still in continued existence
17. Preliminary Engineering Report, in accordance with RD Guides(four copies), RUS Bulletin 1780- 2
18. Request for Environmental Information w/ attachments, RD 1940-20
19. Certification Regarding Debarment, AD 1047

Please contact this office if we may be of assistance to you with this project! I look forward to working with you to assist the Jessamine South Elkhorn Water District!

Sincerely,

A handwritten signature in black ink, appearing to read "W. Gene Floyd", written over a horizontal line.

W. Gene Floyd  
Area Director

Cc: Jessamine South Elkhorn Water District  
Kenneth Slone, Kentucky State RD Office

May 12, 2006

Mr. John Johnson  
USDA, Rural Development  
90 Howard Dr, Suite 3  
Shelbyville, KY 40065

Dear Mr. Johnson:

Enclosed please find a copy of the requested Report on Compliance which was omitted in our financial statement.

Also, enclosed please find minutes from the Special Board Meeting for the Engineering Procurement for the Elevated Storage Tank Project, copies of the publications, and the evaluations from each Commissioner.

If you need any further information, please give me a call.

Sincerely,

Diana Clark  
Office Manager

# Horne Engineering, Inc.

216 SOUTH MAIN STREET • NICHOLASVILLE, KENTUCKY 40356 • (859)885-9441 • FAX (859)885-5160

ENGINEERS • LAND SURVEYORS • PLANNERS  
*email@horneeng.com*

April 25, 2005

**FILE COPY**

Gene Floyd  
USDA, Rural Development  
1900 Midland Trail  
Shelbyville, KY 40065

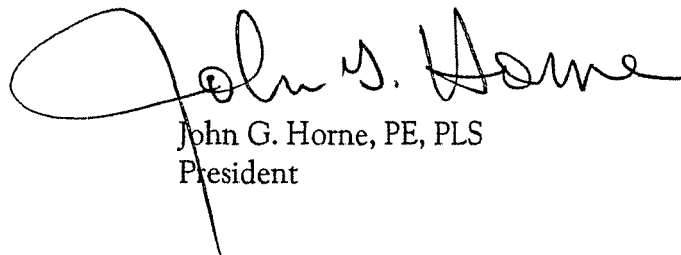
Re: SFS 424 Form  
Application for Federal Assistance  
1 MG Elevated Storage Tank Project  
Jessamine South Elkhorn Water District

Dear Gene:

Enclosed please two (2) executed copies of SF 424 for the referenced project. This is a new project for Jessamine South Elkhorn Water District wherein, they are anticipating a loan from RD.

Should you have any questions or require additional information regarding this matter, please contact me at (859) 885-9441.

Sincerely,  
HORNE ENGINEERING, INC.



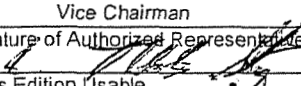
John G. Horne, PE, PLS  
President

JGH/jt  
enc.

cc: Leon Taylor  
Glenn T. Smith  
Engr/3569  
Engr/3625  
Corr.

**APPLICATION FOR  
FEDERAL ASSISTANCE**

Version 7/03

<b>1. TYPE OF SUBMISSION:</b> Application		<b>2. DATE SUBMITTED</b> May 2, 2005	<b>Applicant Identifier</b> Project No. 3569	
<input checked="" type="checkbox"/> <b>Construction</b>	<input type="checkbox"/> <b>Pre-application</b>	<b>3. DATE RECEIVED BY STATE</b>	<b>State Application Identifier</b>	
<input type="checkbox"/> <b>Non-Construction</b>	<input type="checkbox"/> <b>Construction</b>	<b>4. DATE RECEIVED BY FEDERAL AGENCY</b>	<b>Federal Identifier</b>	
<input type="checkbox"/> <b>Non-Construction</b>	<input type="checkbox"/> <b>Non-Construction</b>			
<b>5. APPLICANT INFORMATION</b>				
<b>Legal Name:</b> Jessamine South Elkhorn Water District		<b>Organizational Unit:</b> Department: Rural Water District - KRS 100		
<b>Organizational DUNS:</b> 040 511 052		<b>Division:</b>		
<b>Address:</b> Street: 107 South Main Street, PO Box 731		<b>Name and telephone number of person to be contacted on matters involving this application (give area code)</b> Prefix: Mr. First Name: John		
<b>City:</b> Nicholasville		<b>Middle Name</b> G.		
<b>County:</b> Jessamine		<b>Last Name</b> Horne		
<b>State:</b> KY	<b>Zip Code</b> 40356	<b>Suffix:</b> PE, PLS		
<b>Country:</b> USA		<b>Email:</b> email@horneeng.com		
<b>6. EMPLOYER IDENTIFICATION NUMBER (EIN):</b> 61-6089391		<b>Phone Number (give area code)</b> (859) 885-9441	<b>Fax Number (give area code)</b> (859) 885-5160	
<b>8. TYPE OF APPLICATION:</b> <input checked="" type="checkbox"/> <b>New</b> <input type="checkbox"/> <b>Continuation</b> <input type="checkbox"/> <b>Revision</b> If Revision, enter appropriate letter(s) in box(es) (See back of form for description of letters.) Other (specify) <input type="checkbox"/> <input type="checkbox"/>		<b>7. TYPE OF APPLICANT:</b> (See back of form for Application Types) #9.- Special District (Rural Water) Other (specify)		
<b>10. CATALOG OF FEDERAL DOMESTIC ASSISTANCE NUMBER:</b> ITLE (Name of Program): RD Loan		<b>9. NAME OF FEDERAL AGENCY:</b> Rural Development		
<b>12. AREAS AFFECTED BY PROJECT (Cities, Counties, States, etc.):</b> Jessamine County, Kentucky		<b>11. DESCRIPTIVE TITLE OF APPLICANT'S PROJECT:</b> Construct 1.0 million gallon elevated storage tank with associated piping to existing distribution system to maintain regulatory storage and distribution capacity.		
<b>13. PROPOSED PROJECT</b> Start Date: 01/01/06    Ending Date: 12/31/06		<b>14. CONGRESSIONAL DISTRICTS OF:</b> a. Applicant: Sixth    b. Project: Sixth		
<b>15. ESTIMATED FUNDING:</b>		<b>16. IS APPLICATION SUBJECT TO REVIEW BY STATE EXECUTIVE ORDER 12372 PROCESS?</b>		
a. Federal	\$ 2,100,000 <sup>00</sup>	a. Yes. <input checked="" type="checkbox"/> THIS PREAPPLICATION/APPLICATION WAS MADE AVAILABLE TO THE STATE EXECUTIVE ORDER 12372 PROCESS FOR REVIEW ON DATE: May 2, 2005		
b. Applicant	\$ 50,000 <sup>00</sup>	b. No. <input type="checkbox"/> PROGRAM IS NOT COVERED BY E. O. 12372		
c. State	\$ 0 <sup>00</sup>	<input type="checkbox"/> OR PROGRAM HAS NOT BEEN SELECTED BY STATE FOR REVIEW		
d. Local	\$ 0 <sup>00</sup>			
e. Other	\$ 0 <sup>00</sup>			
f. Program Income	\$ 0 <sup>00</sup>	<b>17. IS THE APPLICANT DELINQUENT ON ANY FEDERAL DEBT?</b>		
g. TOTAL	\$ 2,150,000 <sup>00</sup>	<input type="checkbox"/> Yes If "Yes" attach an explanation. <input checked="" type="checkbox"/> No		
<b>18. TO THE BEST OF MY KNOWLEDGE AND BELIEF, ALL DATA IN THIS APPLICATION/PREAPPLICATION ARE TRUE AND CORRECT. THE DOCUMENT HAS BEEN DULY AUTHORIZED BY THE GOVERNING BODY OF THE APPLICANT AND THE APPLICANT WILL COMPLY WITH THE ATTACHED ASSURANCES IF THE ASSISTANCE IS AWARDED.</b>				
<b>a. Authorized Representative</b>				
<b>Prefix</b> Mr.		<b>First Name</b> L.		<b>Middle Name</b> Nicholas
<b>Last Name</b> Strong		<b>Suffix</b>		
<b>b. Title</b> Vice Chairman		<b>c. Telephone Number (give area code)</b> (859) 881-0589		
<b>Signature of Authorized Representative</b> 		<b>e. Date Signed</b> 05/02/05		

## Budget Information—Construction Programs

Note: Certain Federal assistance programs require additional computations to arrive at the Federal share of project costs eligible for participation. If such is the case you will be notified.			
Cost Classification	a. Total Cost	b. Costs Not Allowable for Participation	c. Total Allowable Costs (Column a-b)
1. Administrative and legal expenses	\$ 110,000 .00	\$ 00 .00	\$ 110,000 .00
2. Land, structures, rights-of-way, appraisals, etc.	\$ 50,000 .00	\$ 00 .00	\$ 50,000 .00
3. Relocation expenses and payments	\$ 00 .00	\$ 00 .00	\$ 00 .00
4. Architectural and engineering fees	\$ 123,750 .00	\$ 00 .00	\$ 123,750 .00
5. Other architectural and engineering fees	\$ 60,000 .00	\$ 00 .00	\$ 60,000 .00
6. Project inspection fees	\$ 76,500 .00	\$ 00 .00	\$ 76,500 .00
7. Site work	\$ 90,000 .00	\$ 00 .00	\$ 90,000 .00
8. Demolition and removal	\$ 00 .00	\$ 00 .00	\$ 00 .00
9. Construction	\$ 1,400,000 .00	\$ 00 .00	\$ 1,400,000 .00
10. Equipment	\$ 10,000 .00	\$ 00 .00	\$ 10,000 .00
11. Miscellaneous	\$ 00 .00	\$ 00 .00	\$ 00 .00
12. <b>Subtotal</b>	\$ 1,920,250 .00	\$ 00 .00	\$ 1,920,250 .00
13. Contingencies (sum of lines 1-11)	\$ 229,750 .00	\$ 00 .00	\$ 229,750 .00
14. <b>Subtotal</b>	\$ 2,150,000 .00	\$ 00 .00	\$ 2,150,000 .00
15. Project (program) income	\$ 00 .00	\$ 00 .00	\$ 00 .00
16. <b>Total Project Costs</b> (subtract #15 from #14)	\$ 2,150,000 .00	\$ 00 .00	\$ 2,150,000 .00
<b>Federal Funding</b>			
17. Federal assistance requested, calculate as follows: Enter eligible costs from line 16c <u>2,150,000</u> Multiply x <u>97.7</u> % (Consult Federal agency for Federal percentage share). Enter the resulting Federal share. ....			\$ 2,100,000 .00



**Thacker, Judith**

---

**From:** Percifield, Betty - Shelbyville, KY [betty.percifield@ky.usda.gov]  
**Sent:** Friday, January 07, 2011 8:56 AM  
**To:** christopher@horneeng.com; John Horne (john@horneeng.com)  
**Cc:** johnson, john - Shelbyville, KY  
**Subject:** Jessamine South Elkhorn Tank  
**Attachments:** JSE 2007 App.pdf; JSE New App.pdf

January 7, 2011

Attached is the 2007 Application (JSE 2007 App.pdf) information that was in the file. Please be aware that it does not appear that all of the pieces to an application are present.

I am including a scanned complete blank application packet (JSE New App.pdf) for your use. Should you have any questions or Rural Development can be of assistance in any way please contact me or John Johnson, Area Specialist.

Thank you,

Betty S. Percifield | Area Technician  
Rural Development  
U.S. Department of Agriculture  
90 Howard Drive, Suite 3 | Shelbyville, KY 40065  
Phone: (502) 633-3294 ext. 4 | Fax: (502) 633-0552

[www.rurdev.usda.gov](http://www.rurdev.usda.gov)

"Committed to the future of rural communities"

"Estamos dedicados al futuro de las comunidades rurales"

1/20/11  
APPLICATION & FORMS  
to be submitted to  
PD.

# Horne Engineering, Inc.

AUG 01 2007  
WJH

216 SOUTH MAIN STREET • NICHOLASVILLE, KENTUCKY 40356 • (859)885-9441 • FAX (859)885-5160

ENGINEERS • LAND SURVEYORS • PLANNERS  
email@horneeng.com

July 27, 2007

John E. Johnson  
USDA, Rural Development  
90 Howard Drive, Suite 3  
Shelbyville, KY 40065

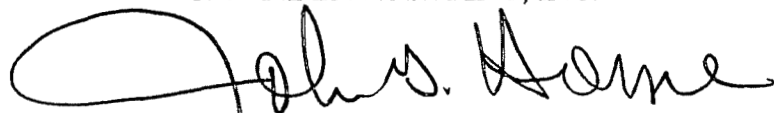
Re: SFS 424 Form - WX 21113016  
Application for Federal Assistance  
1 MG Elevated Storage Tank Project  
Jessamine South Elkhorn Water District

Dear John:

Enclosed please the executed copy of SF 424 for the referenced project.

Should you have any questions or require additional information regarding this matter, please contact me at (859) 885-9441.

Sincerely,  
HORNE ENGINEERING, INC.



John G. Horne, PE, PLS  
President

JGH/jt  
enc.

cc: Nick Strong  
Glenn T. Smith  
Engr/3569  
Engr/3786  
Corr.

## INSTRUCTIONS FOR THE SF-424

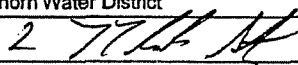
Public reporting burden for this collection of information is estimated to average 45 minutes per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to the Office of Management and Budget, Paperwork Reduction Project (0348-0043), Washington, DC 20503.

**PLEASE DO NOT RETURN YOUR COMPLETED FORM TO THE OFFICE OF MANAGEMENT AND BUDGET. SEND IT TO THE ADDRESS PROVIDED BY THE SPONSORING AGENCY.**

This is a standard form used by applicants as a required face sheet for pre-applications and applications submitted for Federal assistance. It will be used by Federal agencies to obtain applicant certification that States which have established a review and comment procedure in response to Executive Order 12372 and have selected the program to be included in their process, have been given an opportunity to review the applicant's submission.

Item:	Entry:	Item:	Entry:																
1.	Select Type of Submission.	11.	Enter a brief descriptive title of the project. If more than one program is involved, you should append an explanation on a separate sheet. If appropriate (e.g., construction or real property projects), attach a map showing project location. For preapplications, use a separate sheet to provide a summary description of this project.																
2.	Date application submitted to Federal agency (or State if applicable) and applicant's control number (if applicable).	12.	List only the largest political entities affected (e.g., State, counties, cities).																
3.	State use only (if applicable).	13.	Enter the proposed start date and end date of the project.																
4.	Enter Date Received by Federal Agency Federal identifier number. If this application is a continuation or revision to an existing award, enter the present Federal Identifier number. If for a new project, leave blank.	14.	List the applicant's Congressional District and any District(s) affected by the program or project																
5.	Enter legal name of applicant, name of primary organizational unit (including division, if applicable), which will undertake the assistance activity, enter the organization's DUNS number (received from Dun and Bradstreet), enter the complete address of the applicant (including country), and name, telephone number, e-mail and fax of the person to contact on matters related to this application.	15.	Amount requested or to be contributed during the first funding/budget period by each contributor. Value of in kind contributions should be included on appropriate lines as applicable. If the action will result in a dollar change to an existing award, indicate only the amount of the change. For decreases, enclose the amounts in parentheses. If both basic and supplemental amounts are included, show breakdown on an attached sheet. For multiple program funding, use totals and show breakdown using same categories as item 15.																
6.	Enter Employer Identification Number (EIN) as assigned by the Internal Revenue Service.	16.	Applicants should contact the State Single Point of Contact (SPOC) for Federal Executive Order 12372 to determine whether the application is subject to the State intergovernmental review process.																
7.	Select the appropriate letter in the space provided. <table style="width: 100%; border: none;"> <tr> <td style="width: 50%;">A. State</td> <td style="width: 50%;">I. State Controlled Institution of Higher Learning</td> </tr> <tr> <td>B. County</td> <td>J. Private University</td> </tr> <tr> <td>C. Municipal</td> <td>K. Indian Tribe</td> </tr> <tr> <td>D. Township</td> <td>L. Individual</td> </tr> <tr> <td>E. Interstate</td> <td>M. Profit Organization</td> </tr> <tr> <td>F. Intermunicipal</td> <td>N. Other (Specify)</td> </tr> <tr> <td>G. Special District</td> <td>O. Not for Profit Organization</td> </tr> <tr> <td>H. Independent School District</td> <td></td> </tr> </table>	A. State	I. State Controlled Institution of Higher Learning	B. County	J. Private University	C. Municipal	K. Indian Tribe	D. Township	L. Individual	E. Interstate	M. Profit Organization	F. Intermunicipal	N. Other (Specify)	G. Special District	O. Not for Profit Organization	H. Independent School District		17.	This question applies to the applicant organization, not the person who signs as the authorized representative. Categories of debt include delinquent audit disallowances, loans and taxes.
A. State	I. State Controlled Institution of Higher Learning																		
B. County	J. Private University																		
C. Municipal	K. Indian Tribe																		
D. Township	L. Individual																		
E. Interstate	M. Profit Organization																		
F. Intermunicipal	N. Other (Specify)																		
G. Special District	O. Not for Profit Organization																		
H. Independent School District																			
8.	Select the type from the following list: <ul style="list-style-type: none"> <li>• "New" means a new assistance award.</li> <li>• "Continuation" means an extension for an additional funding/budget period for a project with a projected completion date.</li> <li>• "Revision" means any change in the Federal Government's financial obligation or contingent liability from an existing obligation. If a revision enter the appropriate letter: <table style="width: 100%; border: none;"> <tr> <td style="width: 50%;">A. Increase Award</td> <td style="width: 50%;">B. Decrease Award</td> </tr> <tr> <td>C. Increase Duration</td> <td>D. Decrease Duration</td> </tr> </table> </li> </ul>	A. Increase Award	B. Decrease Award	C. Increase Duration	D. Decrease Duration	18.	To be signed by the authorized representative of the applicant. A copy of the governing body's authorization for you to sign this application as official representative must be on file in the applicant's office. (Certain Federal agencies may require that this authorization be submitted as part of the application.)												
A. Increase Award	B. Decrease Award																		
C. Increase Duration	D. Decrease Duration																		
9.	Name of Federal agency from which assistance is being requested with this application.																		
10.	Use the Catalog of Federal Domestic Assistance number and title of the program under which assistance is requested.																		

**APPLICATION FOR  
FEDERAL ASSISTANCE**

1. TYPE OF SUBMISSION: Application		2. DATE SUBMITTED July 27, 2007	Applicant Identifier Project No. 3569	
<input checked="" type="checkbox"/> Construction	<input type="checkbox"/> Pre-application	3. DATE RECEIVED BY STATE	State Application Identifier	
<input type="checkbox"/> Non-Construction	<input type="checkbox"/> Construction	4. DATE RECEIVED BY FEDERAL AGENCY 8/1/2007	Federal Identifier	
<b>5. APPLICANT INFORMATION</b>				
Legal Name: Jessamine South Elkhorn Water District		Organizational Unit Department: Rural Water District		
Organizational DUNS: 040511052		Division:		
Address: Street: 107 S. Main Street, PO Box 731		Name and telephone number of person to be contacted on matters involving this application (give area code) Prefix: Mr. First Name: John		
City: Nicholasville		Middle Name G.		
County: Jessamine		Last Name Home		
State: KY	Zip Code 40356	Suffix: PE, PLS		
Country: USA		Email: john@homeeng.com		
6. EMPLOYER IDENTIFICATION NUMBER (EIN): 61-6089391		Phone Number (give area code) (859) 885-9441	Fax Number (give area code) (859) 885-5160	
8. TYPE OF APPLICATION: <input checked="" type="checkbox"/> New <input type="checkbox"/> Continuation <input type="checkbox"/> Revision If Revision, enter appropriate letter(s) in box(es) (See back of form for description of letters.) Other (specify) <input type="checkbox"/> <input type="checkbox"/>		7. TYPE OF APPLICANT: (See back of form for Application Types) G- Special District (Rural Water) Other (specify)		
10. CATALOG OF FEDERAL DOMESTIC ASSISTANCE NUMBER: TITLE (Name of Program): Rural Water and Waste Disposal Systems for Rural Communities		9. NAME OF FEDERAL AGENCY: Rural Development		
12. AREAS AFFECTED BY PROJECT (Cities, Counties, States, etc.): Northwest Jessamine County		11. DESCRIPTIVE TITLE OF APPLICANT'S PROJECT: Construct 1.0 million gallon elevated storage tank with associated piping to existing distribution system to maintain regulatory storage and distribution capacity.		
13. PROPOSED PROJECT Start Date: 07/01/2008		14. CONGRESSIONAL DISTRICTS OF: a. Applicant Sixth		
Ending Date: 06/30/2009		b. Project Sixth		
15. ESTIMATED FUNDING:		16. IS APPLICATION SUBJECT TO REVIEW BY STATE EXECUTIVE ORDER 12372 PROCESS?		
a. Federal	\$ 2,100,000 <sup>00</sup>	a. Yes. <input checked="" type="checkbox"/> THIS PREAPPLICATION/APPLICATION WAS MADE AVAILABLE TO THE STATE EXECUTIVE ORDER 12372 PROCESS FOR REVIEW ON DATE: July 27, 2007		
b. Applicant	\$ 50,000 <sup>00</sup>	b. No. <input type="checkbox"/> PROGRAM IS NOT COVERED BY E. O. 12372		
c. State	\$ . <sup>00</sup>	<input type="checkbox"/> OR PROGRAM HAS NOT BEEN SELECTED BY STATE FOR REVIEW		
d. Local	\$ . <sup>00</sup>	17. IS THE APPLICANT DELINQUENT ON ANY FEDERAL DEBT?		
e. Other	\$ . <sup>00</sup>	<input type="checkbox"/> Yes If "Yes" attach an explanation. <input type="checkbox"/> No		
f. Program Income	\$ . <sup>00</sup>			
g. TOTAL	\$ 2,150,000 <sup>00</sup>			
18. TO THE BEST OF MY KNOWLEDGE AND BELIEF, ALL DATA IN THIS APPLICATION/PREAPPLICATION ARE TRUE AND CORRECT. THE DOCUMENT HAS BEEN DULY AUTHORIZED BY THE GOVERNING BODY OF THE APPLICANT AND THE APPLICANT WILL COMPLY WITH THE ATTACHED ASSURANCES IF THE ASSISTANCE IS AWARDED.				
a. Authorized Representative				
Prefix Mr.	First Name L.	Middle Name Nicholas		
Last Name Strong	Suffix			
b. Title Chairman - Jessamine South Elkhorn Water District	c. Telephone Number (give area code) (859) 881-0589			
d. Signature of Authorized Representative 	e. Date Signed 07/27/07			

**APPLICATION FOR FEDERAL ASSISTANCE**

<b>1. TYPE OF SUBMISSION:</b> Application		<b>2. DATE SUBMITTED</b> May 2, 2005	<b>Applicant Identifier</b> Project No. 3569	
<input checked="" type="checkbox"/> Construction	<input type="checkbox"/> Construction	<b>3. DATE RECEIVED BY STATE</b>	State Application Identifier	
<input type="checkbox"/> Non-Construction	<input type="checkbox"/> Non-Construction	<b>4. DATE RECEIVED BY FEDERAL AGENCY</b>	Federal Identifier	
<b>5. APPLICANT INFORMATION</b>				
<b>Legal Name:</b> Jessamine South Elkhorn Water District		<b>Organizational Unit:</b> Department: Rural Water District - KRS 100		
<b>Organizational DUNS:</b> 040 511 052		<b>Division:</b>		
<b>Address:</b> Street: 107 South Main Street, PO Box 731		<b>Name and telephone number of person to be contacted on matters involving this application (give area code)</b>		
<b>City:</b> Nicholasville		<b>Prefix:</b> Mr.	<b>First Name:</b> John	
<b>County:</b> Jessamine		<b>Middle Name</b> G.		
<b>State:</b> KY <b>Zip Code</b> 40356		<b>Last Name</b> Horne		
<b>Country:</b> USA		<b>Suffix:</b> PE, PLS		
<b>6. EMPLOYER IDENTIFICATION NUMBER (EIN):</b> 61-6089391		<b>Phone Number (give area code)</b> (859) 885-9441		<b>Fax Number (give area code)</b> (859) 885-5160
<b>8. TYPE OF APPLICATION:</b> <input checked="" type="checkbox"/> New <input type="checkbox"/> Continuation <input type="checkbox"/> Revision If Revision, enter appropriate letter(s) in box(es) (See back of form for description of letters.) Other (specify)		<b>7. TYPE OF APPLICANT:</b> (See back of form for Application Types) #9.- Special District (Rural Water) Other (specify)		
<b>10. CATALOG OF FEDERAL DOMESTIC ASSISTANCE NUMBER:</b> TITLE (Name of Program): RD Loan 10-418		<b>9. NAME OF FEDERAL AGENCY:</b> Rural Development		
<b>12. AREAS AFFECTED BY PROJECT (Cities, Counties, States, etc.):</b> Jessamine County, Kentucky		<b>11. DESCRIPTIVE TITLE OF APPLICANT'S PROJECT:</b> Construct 1.0 million gallon elevated storage tank with associated piping to existing distribution system to maintain regulatory storage and distribution capacity.		
<b>13. PROPOSED PROJECT</b> Start Date: 01/01/06 Ending Date: 12/31/06		<b>14. CONGRESSIONAL DISTRICTS OF:</b> a. Applicant Sixth b. Project Sixth		
<b>15. ESTIMATED FUNDING:</b>		<b>16. IS APPLICATION SUBJECT TO REVIEW BY STATE EXECUTIVE ORDER 12372 PROCESS?</b>		
a. Federal	\$ 2,100,000 <sup>00</sup>	a. Yes. <input checked="" type="checkbox"/> THIS PREAPPLICATION/APPLICATION WAS MADE AVAILABLE TO THE STATE EXECUTIVE ORDER 12372 PROCESS FOR REVIEW ON DATE: May 2, 2005		
b. Applicant	\$ 50,000 <sup>00</sup>	b. No. <input type="checkbox"/> PROGRAM IS NOT COVERED BY E. O. 12372		
c. State	\$ 0 <sup>00</sup>	<input type="checkbox"/> OR PROGRAM HAS NOT BEEN SELECTED BY STATE FOR REVIEW		
d. Local	\$ 0 <sup>00</sup>	<b>17. IS THE APPLICANT DELINQUENT ON ANY FEDERAL DEBT?</b>		
e. Other	\$ 0 <sup>00</sup>	<input type="checkbox"/> Yes If "Yes" attach an explanation. <input checked="" type="checkbox"/> No		
f. Program Income	\$ 0 <sup>00</sup>			
g. TOTAL	\$ 2,150,000 <sup>00</sup>			
<b>18. TO THE BEST OF MY KNOWLEDGE AND BELIEF, ALL DATA IN THIS APPLICATION/PREAPPLICATION ARE TRUE AND CORRECT. THE DOCUMENT HAS BEEN DULY AUTHORIZED BY THE GOVERNING BODY OF THE APPLICANT AND THE APPLICANT WILL COMPLY WITH THE ATTACHED ASSURANCES IF THE ASSISTANCE IS AWARDED.</b>				
<b>a. Authorized Representative</b>				
<b>Prefix</b> Mr.	<b>First Name</b> L.	<b>Middle Name</b> Nicholas		
<b>Last Name</b> Strong		<b>Suffix</b>		
<b>b. Title</b> Vice Chairman		<b>c. Telephone Number (give area code)</b> (859) 881-0589		
<b>d. Signature of Authorized Representative</b>		<b>e. Date Signed</b> 05/02/05		

# Budget Information—Construction Programs

OMB Approval No. 0348-0041

**Note: Certain Federal assistance programs require additional computations to arrive at the Federal share of project costs eligible for participation. If such is the case you will be notified.**

Cost Classification	a. Total Cost	b. Costs Not Allowable for Participation	c. Total Allowable Costs (Column a-b)
1. Administrative and legal expenses	\$ 110,000 .00	\$ 00 .00	\$ 110,000 .00
2. Land, structures, rights-of-way, appraisals, etc.	\$ 50,000 .00	\$ 00 .00	\$ 50,000 .00
3. Relocation expenses and payments	\$ 00 .00	\$ 00 .00	\$ 00 .00
4. Architectural and engineering fees	\$ 123,750 .00	\$ 00 .00	\$ 123,750 .00
5. Other architectural and engineering fees	\$ 60,000 .00	\$ 00 .00	\$ 60,000 .00
6. Project inspection fees	\$ 76,500 .00	\$ 00 .00	\$ 76,500 .00
7. Site work	\$ 90,000 .00	\$ 00 .00	\$ 90,000 .00
8. Demolition and removal	\$ 00 .00	\$ 00 .00	\$ 00 .00
9. Construction	\$ 1,400,000 .00	\$ 00 .00	\$ 1,400,000 .00
10. Equipment	\$ 10,000 .00	\$ 00 .00	\$ 10,000 .00
11. Miscellaneous	\$ 00 .00	\$ 00 .00	\$ 00 .00
12. Subtotal	\$ 1,920,250 .00	\$ 00 .00	\$ 1,920,250 .00
13. Contingencies (sum of lines 1-11)	\$ 229,750 .00	\$ 00 .00	\$ 229,750 .00
14. Subtotal	\$ 2,150,000 .00	\$ 00 .00	\$ 2,150,000 .00
15. Project (program) income	\$ 00 .00	\$ 00 .00	\$ 00 .00
16. Total Project Costs (subtract #15 from #14)	\$ 2,150,000 .00	\$ 00 .00	\$ 2,150,000 .00
<b>Federal Funding</b>			

17. Federal assistance requested, calculate as follows: Enter eligible costs from line 16c 2,150,000 Multiply x 97.7 %  
 (Consult Federal agency for Federal percentage share).  
 Enter the resulting Federal share. ....  
\$ 2,100,000 .00

**INSTRUCTIONS FOR THE SF-424**

Public reporting burden for this collection of information is estimated to average 60 minutes per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to the Office of Management and Budget, Paperwork Reduction Project (0348-0043), Washington, DC 20503.

**PLEASE DO NOT RETURN YOUR COMPLETED FORM TO THE OFFICE OF MANAGEMENT AND BUDGET. SEND IT TO THE ADDRESS PROVIDED BY THE SPONSORING AGENCY.**

This is a standard form (including the continuation sheet) required for use as a cover sheet for submission of preapplications and applications and related information under discretionary programs. Some of the items are required and some are optional at the discretion of the applicant or the Federal agency (agency). Required items are identified with an asterisk on the form and are specified in the instructions below. In addition to the instructions provided below, applicants must consult agency instructions to determine specific requirements.

Item	Entry:	Item	Entry:
1.	<b>Type of Submission:</b> (Required): Select one type of submission in accordance with agency instructions. • Preapplication • Application • Changed/Corrected Application – If requested by the agency, check if this submission is to change or correct a previously submitted application. Unless requested by the agency, applicants may not use this to submit changes after the closing date.	10.	<b>Name Of Federal Agency:</b> (Required) Enter the name of the Federal agency from which assistance is being requested with this application.
		11.	<b>Catalog Of Federal Domestic Assistance Number/Title:</b> Enter the Catalog of Federal Domestic Assistance number and title of the program under which assistance is requested, as found in the program announcement, if applicable.
2.	<b>Type of Application:</b> (Required) Select one type of application in accordance with agency instructions.  • New – An application that is being submitted to an agency for the first time. • Continuation - An extension for an additional funding/budget period for a project with a projected completion date. This can include renewals. • Revision - Any change in the Federal Government's financial obligation or contingent liability from an existing obligation. If a revision, enter the appropriate letter(s). More than one may be selected. If "Other" is selected, please specify in text box provided. A. Increase Award                      B. Decrease Award C. Increase Duration                    D. Decrease Duration E. Other (specify)	12.	<b>Funding Opportunity Number/Title:</b> (Required) Enter the Funding Opportunity Number and title of the opportunity under which assistance is requested, as found in the program announcement.
		13.	<b>Competition Identification Number/Title:</b> Enter the Competition Identification Number and title of the competition under which assistance is requested, if applicable.
		14.	<b>Areas Affected By Project:</b> List the areas or entities using the categories (e.g., cities, counties, states, etc.) specified in agency instructions. Use the continuation sheet to enter additional areas, if needed.
3.	<b>Date Received:</b> Leave this field blank. This date will be assigned by the Federal agency.	15.	<b>Descriptive Title of Applicant's Project:</b> (Required) Enter a brief descriptive title of the project. If appropriate, attach a map showing project location (e.g., construction or real property projects). For preapplications, attach a summary description of the project.
4.	<b>Applicant Identifier:</b> Enter the entity identifier assigned by the Federal agency, if any, or the applicant's control number if applicable.		
5a.	<b>Federal Entity Identifier:</b> Enter the number assigned to your organization by the Federal Agency, if any.	16.	<b>Congressional Districts Of:</b> (Required) 16a. Enter the applicant's Congressional District, and 16b. Enter all District(s) affected by the program or project. Enter in the format: 2 characters State Abbreviation – 3 characters District Number, e.g., CA-005 for California 5th district, CA-012 for California 12th district, NC-103 for North Carolina's 103rd district. • If all congressional districts in a state are affected, enter "all" for the district number, e.g., MD-all for all congressional districts in Maryland. • If nationwide, i.e. all districts within all states are affected, enter US-all. • If the program/project is outside the US, enter 00-000.
5b.	<b>Federal Award Identifier:</b> For new applications leave blank. For a continuation or revision to an existing award, enter the previously assigned Federal award identifier number. If a changed/corrected application, enter the Federal Identifier in accordance with agency instructions.		
6.	<b>Date Received by State:</b> Leave this field blank. This date will be assigned by the State, if applicable.		
7.	<b>State Application Identifier:</b> Leave this field blank. This identifier will be assigned by the State, if applicable.		
8.	<b>Applicant Information:</b> Enter the following in accordance with agency instructions:	17.	<b>Proposed Project Start and End Dates:</b> (Required) Enter the proposed start date and end date of the project.
	<b>a. Legal Name:</b> (Required): Enter the legal name of applicant that will undertake the assistance activity. This is that the organization has registered with the Central Contractor Registry. Information on registering with CCR may be obtained by visiting the Grants.gov website.		
	<b>b. Employer/Taxpayer Number (EIN/TIN):</b> (Required): Enter the Employer or Taxpayer Identification Number (EIN or TIN) as assigned by the Internal Revenue Service. If your organization is not in the US, enter 44-4444444.	18.	<b>Estimated Funding:</b> (Required) Enter the amount requested or to be contributed during the first funding/budget period by each contributor. Value of in-kind contributions should be included on appropriate lines, as applicable. If the action will result in a dollar change to an existing award, indicate only the amount of the change. For decreases, enclose the amounts in parentheses.

	<p><b>c. Organizational DUNS:</b> (Required) Enter the organization's DUNS or DUNS+4 number received from Dun and Bradstreet. Information on obtaining a DUNS number may be obtained by visiting the Grants.gov website.</p>	19.	<p><b>Is Application Subject to Review by State Under Executive Order 12372 Process?</b> Applicants should contact the State Single Point of Contact (SPOC) for Federal Executive Order 12372 to determine whether the application is subject to the State intergovernmental review process. Select the appropriate box. If "a." is selected, enter the date the application was submitted to the State.</p>		
	<p><b>d. Address:</b> Enter the complete address as follows: Street address (Line 1 required), City (Required), County, State (Required, if country is US), Province, Country (Required), Zip/Postal Code (Required, if country is US).</p>	20.	<p><b>Is the Applicant Delinquent on any Federal Debt?</b> (Required) Select the appropriate box. This question applies to the applicant organization, not the person who signs as the authorized representative. Categories of debt include delinquent audit disallowances, loans and taxes. If yes, include an explanation on the continuation sheet.</p>		
	<p><b>e. Organizational Unit:</b> Enter the name of the primary organizational unit (and department or division, (if applicable) that will undertake the assistance activity, if applicable.</p>	21.	<p><b>Authorized Representative:</b> (Required) To be signed and dated by the authorized representative of the applicant organization. Enter the name (First and last name required) title (Required), telephone number (Required), fax number, and email address (Required) of the person authorized to sign for the applicant. A copy of the governing body's authorization for you to sign this application as the official representative must be on file in the applicant's office. (Certain Federal agencies may require that this authorization be submitted as part of the application.)</p>		
	<p><b>f. Name and contact information of person to be contacted on matters involving this applicat</b> required), organizational affiliation (if affiliated with an organization other on: Enter the name (First and last name than the applicant organization), telephone number (Required), fax number, and email address (Required) of the person to contact on matters related to this application.</p>				
9.	<p><b>Type of Applicant:</b> (Required) Select up to three applicant type(s) in accordance with agency instructions.</p> <table border="0" style="width: 100%;"> <tr> <td style="width: 50%; vertical-align: top;"> <ul style="list-style-type: none"> <li>A. State Government</li> <li>B. County Government</li> <li>C. City or Township Government</li> <li>D. Special District Government</li> <li>E. Regional Organization</li> <li>F. U.S. Territory or Possession</li> <li>G. Independent School District</li> <li>H. Public/State Controlled Institution of Higher Education</li> <li>I. Indian/Native American Tribal Government (Federally Recognized)</li> <li>J. Indian/Native American Tribal Government (Other than Federally Recognized)</li> <li>K. Indian/Native American Tribally Designated Organization</li> <li>L. Public/Indian Housing Authority</li> </ul> </td> <td style="width: 50%; vertical-align: top;"> <ul style="list-style-type: none"> <li>M. Nonprofit</li> <li>N. Nonprofit</li> <li>O. Private Institution of Higher Education</li> <li>P. Individual</li> <li>Q. For-Profit Organization (Other than Small Business)</li> <li>R. Small Business</li> <li>S. Hispanic-serving Institution</li> <li>T. Historically Black Colleges and Universities (HBCUs)</li> <li>U. Tribally Controlled Colleges and Universities (TCCUs)</li> <li>V. Alaska Native and Native Hawaiian Serving Institutions</li> <li>W. Non-domestic (non-US) Entity</li> <li>X. Other (specify)</li> </ul> </td> </tr> </table>	<ul style="list-style-type: none"> <li>A. State Government</li> <li>B. County Government</li> <li>C. City or Township Government</li> <li>D. Special District Government</li> <li>E. Regional Organization</li> <li>F. U.S. Territory or Possession</li> <li>G. Independent School District</li> <li>H. Public/State Controlled Institution of Higher Education</li> <li>I. Indian/Native American Tribal Government (Federally Recognized)</li> <li>J. Indian/Native American Tribal Government (Other than Federally Recognized)</li> <li>K. Indian/Native American Tribally Designated Organization</li> <li>L. Public/Indian Housing Authority</li> </ul>	<ul style="list-style-type: none"> <li>M. Nonprofit</li> <li>N. Nonprofit</li> <li>O. Private Institution of Higher Education</li> <li>P. Individual</li> <li>Q. For-Profit Organization (Other than Small Business)</li> <li>R. Small Business</li> <li>S. Hispanic-serving Institution</li> <li>T. Historically Black Colleges and Universities (HBCUs)</li> <li>U. Tribally Controlled Colleges and Universities (TCCUs)</li> <li>V. Alaska Native and Native Hawaiian Serving Institutions</li> <li>W. Non-domestic (non-US) Entity</li> <li>X. Other (specify)</li> </ul>		
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**Application for Federal Assistance SF-424** Version 02

<b>* 1. Type of Submission:</b> <input type="checkbox"/> Preapplication <input type="checkbox"/> Application <input type="checkbox"/> Changed/Corrected Application	<b>* 2. Type of Application:</b> <input type="checkbox"/> New <input type="checkbox"/> Continuation <input type="checkbox"/> Revision	<b>* If Revision, select appropriate letter(s):</b> <input type="text"/> <b>* Other (Specify)</b> <input type="text"/>
--	--	---

<b>* 3. Date Received:</b> <input type="text"/>	<b>4. Applicant Identifier:</b> <input type="text"/>
--	---

<b>5a. Federal Entity Identifier:</b> <input type="text"/>	<b>* 5b. Federal Award Identifier:</b> <input type="text"/>
---	--

**State Use Only:**

<b>6. Date Received by State:</b> <input type="text"/>	<b>7. State Application Identifier:</b> <input type="text"/>
--	--

**8. APPLICANT INFORMATION:**

**\* a. Legal Name:**

<b>* b. Employer/Taxpayer Identification Number (EIN/TIN):</b> <input type="text"/>	<b>* c. Organizational DUNS:</b> <input type="text"/>
--	--

**d. Address:**

<b>* Street1:</b>	<input type="text"/>
<b>Street2:</b>	<input type="text"/>
<b>* City:</b>	<input type="text"/>
<b>County:</b>	<input type="text"/>
<b>* State:</b>	<input type="text"/>
<b>Province:</b>	<input type="text"/>
<b>* Country:</b>	<input type="text" value="USA: UNITED STATES"/>
<b>* Zip / Postal Code:</b>	<input type="text"/>

**e. Organizational Unit:**

<b>Department Name:</b> <input type="text"/>	<b>Division Name:</b> <input type="text"/>
---	---

**f. Name and contact information of person to be contacted on matters involving this application:**

<b>Prefix:</b> <input type="text"/>	<b>* First Name:</b> <input type="text"/>
<b>Middle Name:</b> <input type="text"/>	
<b>* Last Name:</b> <input type="text"/>	
<b>Suffix:</b> <input type="text"/>	

**Title:**

**Organizational Affiliation:**

<b>* Telephone Number:</b> <input type="text"/>	<b>Fax Number:</b> <input type="text"/>
---	---

**\* Email:**

**Application for Federal Assistance SF-424**

Version 02

**9. Type of Applicant 1: Select Applicant Type:**

**Type of Applicant 2: Select Applicant Type:**

**Type of Applicant 3: Select Applicant Type:**

**\* Other (specify):**

**\* 10. Name of Federal Agency:**

**11. Catalog of Federal Domestic Assistance Number:**

**CFDA Title:**

**\* 12. Funding Opportunity Number:**

**\* Title:**

**13. Competition Identification Number:**

**Title:**

**14. Areas Affected by Project (Cities, Counties, States, etc.):**

**\* 15. Descriptive Title of Applicant's Project:**

Attach supporting documents as specified in agency instructions.

Application for Federal Assistance SF-424

Version 02

16. Congressional Districts Of:

\* a. Applicant

\* b. Program/Project

Attach an additional list of Program/Project Congressional Districts if needed.

17. Proposed Project:

\* a. Start Date:

\* b. End Date:

18. Estimated Funding (\$):

\* a. Federal   
\* b. Applicant   
\* c. State   
\* d. Local   
\* e. Other   
\* f. Program Income   
\* g. TOTAL

\* 19. Is Application Subject to Review By State Under Executive Order 12372 Process?

- a. This application was made available to the State under the Executive Order 12372 Process for review on .  
 b. Program is subject to E.O. 12372 but has not been selected by the State for review.  
 c. Program is not covered by E.O. 12372.

\* 20. Is the Applicant Delinquent On Any Federal Debt? (If "Yes", provide explanation.)

Yes  No

21. \*By signing this application, I certify (1) to the statements contained in the list of certifications\*\* and (2) that the statements herein are true, complete and accurate to the best of my knowledge. I also provide the required assurances\*\* and agree to comply with any resulting terms if I accept an award. I am aware that any false, fictitious, or fraudulent statements or claims may subject me to criminal, civil, or administrative penalties. (U.S. Code, Title 218, Section 1001)

\*\* I AGREE

\*\* The list of certifications and assurances, or an internet site where you may obtain this list, is contained in the announcement or agency specific instructions.

Authorized Representative:

Prefix:  \* First Name:

Middle Name:

\* Last Name:

Suffix:

\* Title:

\* Telephone Number:  Fax Number:

\* Email:

\* Signature of Authorized Representative:  \* Date Signed:

**Application for Federal Assistance SF-424**

**Version 02**

**\* Applicant Federal Debt Delinquency Explanation**

The following field should contain an explanation if the Applicant organization is delinquent on any Federal Debt. Maximum number of characters that can be entered is 4,000. Try and avoid extra spaces and carriage returns to maximize the availability of space.

### BUDGET INFORMATION - Construction Programs

*NOTE: Certain Federal assistance programs require additional computations to arrive at the Federal share of project costs eligible for participation. If such is the case, you will be notified.*

COST CLASSIFICATION	a. Total Cost	b. Costs Not Allowable for Participation	c. Total Allowable Costs (Columns a-b)
1. Administrative and legal expenses	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text"/>
2. Land, structures, rights-of-way, appraisals, etc.	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text" value="0.00"/>
3. Relocation expenses and payments	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text" value="0.00"/>
4. Architectural and engineering fees	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text" value="0.00"/>
5. Other architectural and engineering fees	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text" value="0.00"/>
6. Project inspection fees	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text" value="0.00"/>
7. Site work	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text" value="0.00"/>
8. Demolition and removal	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text" value="0.00"/>
9. Construction	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text" value="0.00"/>
10. Equipment	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text" value="0.00"/>
11. Miscellaneous	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text" value="0.00"/>
12. SUBTOTAL (sum of lines 1-11)	\$ <input type="text" value="0.00"/>	\$ <input type="text" value="0.00"/>	\$ <input type="text" value="0.00"/>
13. Contingencies	\$ <input type="text" value="0.00"/>	\$ <input type="text" value="0.00"/>	\$ <input type="text" value="0.00"/>
14. SUBTOTAL	\$ <input type="text" value="0.00"/>	\$ <input type="text" value="0.00"/>	\$ <input type="text" value="0.00"/>
15. Project (program) income	\$ <input type="text"/>	\$ <input type="text" value="0.00"/>	\$ <input type="text" value="0.00"/>
16. TOTAL PROJECT COSTS (subtract #15 from #14)	\$ <input type="text" value="0.00"/>	\$ <input type="text" value="0.00"/>	\$ <input type="text" value="0.00"/>
<b>FEDERAL FUNDING</b>			
17. Federal assistance requested, calculate as follows: (Consult Federal agency for Federal percentage share.) Enter the resulting Federal share.		Enter eligible costs from line 16c Multiply X <input type="text"/> %	\$ <input type="text" value="0.00"/>

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## ASSURANCES - CONSTRUCTION PROGRAMS

OMB Approval No.4040-0009  
Expiration Date 04/30/2008

Public reporting burden for this collection of information is estimated to average 15 minutes per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to the Office of Management and Budget, Paperwork Reduction Project (0348-0042), Washington, DC 20503.

**PLEASE DO NOT RETURN YOUR COMPLETED FORM TO THE OFFICE OF MANAGEMENT AND BUDGET. SEND IT TO THE ADDRESS PROVIDED BY THE SPONSORING AGENCY.**

**NOTE:** Certain of these assurances may not be applicable to your project or program. If you have questions, please contact the Awarding Agency. Further, certain Federal assistance awarding agencies may require applicants to certify to additional assurances. If such is the case, you will be notified.

As the duly authorized representative of the applicant, I certify that the applicant:

1. Has the legal authority to apply for Federal assistance, and the institutional, managerial and financial capability (including funds sufficient to pay the non-Federal share of project costs) to ensure proper planning, management and completion of project described in this application.
2. Will give the awarding agency, the Comptroller General of the United States and, if appropriate, the State, the right to examine all records, books, papers, or documents related to the assistance; and will establish a proper accounting system in accordance with generally accepted accounting standards or agency directives.
3. Will not dispose of, modify the use of, or change the terms of the real property title or other interest in the site and facilities without permission and instructions from the awarding agency. Will record the Federal awarding agency directives and will include a covenant in the title of real property acquired in whole or in part with Federal assistance funds to assure non-discrimination during the useful life of the project.
4. Will comply with the requirements of the assistance awarding agency with regard to the drafting, review and approval of construction plans and specifications.
5. Will provide and maintain competent and adequate engineering supervision at the construction site to ensure that the complete work conforms with the approved plans and specifications and will furnish progressive reports and such other information as may be required by the assistance awarding agency or State.
6. Will initiate and complete the work within the applicable time frame after receipt of approval of the awarding agency.
7. Will establish safeguards to prohibit employees from using their positions for a purpose that constitutes or presents the appearance of personal or organizational conflict of interest, or personal gain.
8. Will comply with the Intergovernmental Personnel Act of 1970 (42 U.S.C. §§4728-4763) relating to prescribed standards of merit systems for programs funded under one of the 19 statutes or regulations specified in Appendix A of OPM's Standards for a Merit System of Personnel Administration (5 C.F.R. 900, Subpart F).
9. Will comply with the Lead-Based Paint Poisoning Prevention Act (42 U.S.C. §§4801 et seq.) which prohibits the use of lead-based paint in construction or rehabilitation of residence structures.
10. Will comply with all Federal statutes relating to non-discrimination. These include but are not limited to: (a) Title VI of the Civil Rights Act of 1964 (P.L. 88-352) which prohibits discrimination on the basis of race, color or national origin; (b) Title IX of the Education Amendments of 1972, as amended (20 U.S.C. §§1681 1683, and 1685-1686), which prohibits discrimination on the basis of sex; (c) Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. §794), which prohibits discrimination on the basis of handicaps; (d) the Age Discrimination Act of 1975, as amended (42 U.S.C. §§6101-6107), which prohibits discrimination on the basis of age; (e) the Drug Abuse Office and Treatment Act of 1972 (P.L. 92-255), as amended relating to nondiscrimination on the basis of drug abuse; (f) the Comprehensive Alcohol Abuse and Alcoholism Prevention, Treatment and Rehabilitation Act of 1970 (P.L. 91-616), as amended, relating to nondiscrimination on the basis of alcohol abuse or alcoholism; (g) §§523 and 527 of the Public Health Service Act of 1912 (42 U.S.C. §§290 dd-3 and 290 ee 3), as amended, relating to confidentiality of alcohol and drug abuse patient records; (h) Title VIII of the Civil Rights Act of 1968 (42 U.S.C. §§3601 et seq.), as amended, relating to nondiscrimination in the sale, rental or financing of housing; (i) any other nondiscrimination provisions in the specific statute(s) under which application for Federal assistance is being made; and (j) the requirements of any other nondiscrimination statute(s) which may apply to the application.

11. Will comply, or has already complied, with the requirements of Titles II and III of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (P.L. 91-646) which provide for fair and equitable treatment of persons displaced or whose property is acquired as a result of Federal and federally-assisted programs. These requirements apply to all interests in real property acquired for project purposes regardless of Federal participation in purchases.
12. Will comply with the provisions of the Hatch Act (5 U.S.C. §§1501-1508 and 7324-7328) which limit the political activities of employees whose principal employment activities are funded in whole or in part with Federal funds.
13. Will comply, as applicable, with the provisions of the Davis-Bacon Act (40 U.S.C. §§276a to 276a-7), the Copeland Act (40 U.S.C. §276c and 18 U.S.C. §874), and the Contract Work Hours and Safety Standards Act (40 U.S.C. §§327-333) regarding labor standards for federally-assisted construction subagreements.
14. Will comply with flood insurance purchase requirements of Section 102(a) of the Flood Disaster Protection Act of 1973 (P.L. 93-234) which requires recipients in a special flood hazard area to participate in the program and to purchase flood insurance if the total cost of insurable construction and acquisition is \$10,000 or more.
15. Will comply with environmental standards which may be prescribed pursuant to the following: (a) institution of environmental quality control measures under the National Environmental Policy Act of 1969 (P.L. 91-190) and Executive Order (EO) 11514; (b) notification of violating facilities pursuant to EO 11738; (c) protection of wetlands pursuant to EO 11990; (d) evaluation of flood hazards in floodplains in accordance with EO 11988; (e) assurance of project consistency with the approved State management program developed under the Coastal Zone Management Act of 1972 (16 U.S.C. §§1451 et seq.); (f) conformity of Federal actions to State (Clean Air) implementation Plans under Section 176(c) of the Clean Air Act of 1955, as amended (42 U.S.C. §§7401 et seq.); (g) protection of underground sources of drinking water under the Safe Drinking Water Act of 1974, as amended (P.L. 93-523); and, (h) protection of endangered species under the Endangered Species Act of 1973, as amended (P.L. 93-205).
16. Will comply with the Wild and Scenic Rivers Act of 1968 (16 U.S.C. §§1271 et seq.) related to protecting components or potential components of the national wild and scenic rivers system.
17. Will assist the awarding agency in assuring compliance with Section 106 of the National Historic Preservation Act of 1966, as amended (16 U.S.C. §470), EO 11593 (identification and protection of historic properties), and the Archaeological and Historic Preservation Act of 1974 (16 U.S.C. §§469a-1 et seq.).
18. Will cause to be performed the required financial and compliance audits in accordance with the Single Audit Act Amendments of 1996 and OMB Circular No. A-133, "Audits of States, Local Governments, and Non-Profit Organizations."
19. Will comply with all applicable requirements of all other Federal laws, executive orders, regulations, and policies governing this program.

* SIGNATURE OF AUTHORIZED CERTIFYING OFFICIAL  	* TITLE  
* APPLICANT ORGANIZATION  	* DATE SUBMITTED  

**WATER AND WASTE  
ELIGIBILITY CERTIFICATION**

**Certification for commercial credit and outstanding judgments**

The undersigned certifies, to the best of their knowledge and belief, that:

- 1. The organization is unable to finance the proposed project from its own resources or through commercial credit at reasonable rates and terms.
- 2. No outstanding judgment has been obtained and recorded by the United States of America in a Federal Court (other than in the United States Tax Court).

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Name of Organization

---

Name of Authorized Official

---

Signature Date



REQUEST FOR STATEMENT OF QUALIFICATIONS and  
NOTICE OF INTENT TO FILE APPLICATION

The \_\_\_\_\_ will accept statements of qualifications from consulting engineering firms for planning, design, construction and other required engineering relating to \_\_\_\_\_. Firms wishing to be considered should send a statement of qualifications, not exceeding 15 pages, to \_\_\_\_\_ by \_\_\_\_\_ a.m. on \_\_\_\_\_.

Statements should include a description of the firm's capabilities and experience in the field of \_\_\_\_\_, résumés of individuals to be assigned to the project, a listing of similar projects along with reference information, a description of the firm's familiarity with the project area and ability to provide responsive service to \_\_\_\_\_. Firms responding to this request will be ranked according to the information submitted. The \_\_\_\_\_ will enter into negotiations with the highest ranked firm to execute an engineering service agreement. If the parties are unable to negotiate a satisfactory agreement, the second ranked firm will be contacted. Once a firm has been selected, all unsuccessful firms will be promptly notified.

Sources of funding will include, but may not be limited to, USDA Rural Utilities Service (RUS) Water and Waste Loan and Grant funds. The formal solicitation of consulting engineering firms is being conducted to fulfill the requirements of RUS Instruction 1780.

The \_\_\_\_\_ reserves the right to reject any and all responses, to waive any technicalities and to negotiate with the respondent who most nearly meets the project requirements. The \_\_\_\_\_ is not responsible or liable for any costs incurred by consultants replying to this request. The \_\_\_\_\_ is an equal opportunity employer and encourages responses from all qualified firms.

\_\_\_\_\_ will be filing an application with the Rural Utilities Service (RUS) for financial assistance to complete the above project scope. A general public meeting will be held in the near future to discuss the proposed project.

**Sample Guide  
Attorney's Opinion Relative to Organization, Authority and  
Continuous Existence**

\_\_\_\_\_ (DATE)

Rural Development  
Office Address

Re: \_\_\_\_\_, \_\_\_\_\_ County, KY  
Organization

As attorney for \_\_\_\_\_ (Organization) in connection with  
\_\_\_\_\_ (proposed Program) with the USDA-Rural Development *Community Programs*  
~~Business and Cooperative Programs~~ in the amount of \$ \_\_\_\_\_, I hereby represent  
and/or warrant the following:

1. This is to certify that I have examined the organizational proceedings of the  
\_\_\_\_\_, \_\_\_\_\_ County,  
KY.
2. Said \_\_\_\_\_ was organized as a legally constituted  
\_\_\_\_\_ (state applicable corporate body) in  
accordance with \_\_\_\_\_ (recite applicable statute)  
of the Commonwealth of Kentucky on \_\_\_\_\_,  
(date).
3. I find further that said \_\_\_\_\_ has been in continuous legal  
existence since its incorporation.
4. The \_\_\_\_\_, \_\_\_\_\_ County, KY, is in good  
standing with the Commonwealth of Kentucky as of this date.
5. Based upon the laws under which it was organized, said entity possess the  
legal authority, power, capacity and right to transact business with the federal  
government and to enter into the loan or grant project at issue. The officer  
executing and delivering the loan documents on behalf of the \_\_\_\_\_  
(Organization) has been duly authorized to do so.

6. Further no significant litigation or material liens, which would affect or threaten the proposed project, are in affect against \_\_\_\_\_ (Organization).

The \_\_\_\_\_ (Organization) is a nonprofit, tax-exempt corporation. Therefore, the \_\_\_\_\_ (Organization) is not in default in the payment of any tax or assessments.

This OPINION is based on the following documentation, certified copies of which are attached:

1. ORGANIZATIONAL PROCEEDINGS

- a. Articles of Incorporation
- b. By-Laws
- c. Applicable KRS Statue

2. EVIDENCE SUPPORTING CONTINUOUS LEGAL EXISTENCE (List and attach any documentation applicable)

3. EVIDENCE SUPPORT PRESENT GOOD STANDING (Attach copies of latest reports filed with the appropriate State offices)

This opinion is being rendered only as of the date hereof, is intended for the sole use of the USDA-Rural Development and its attorney and in connection with the transaction herein described and may not, without the written consent of this attorney, be otherwise relied upon.

If you need further information concerning these matters, please feel free to contact

\_\_\_\_\_  
Respectfully submitted,

\_\_\_\_\_  
Attorney -at-Law

**U.S. DEPARTMENT OF AGRICULTURE**

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**Certification Regarding Debarment, Suspension, and Other  
Responsibility Matters - Primary Covered Transactions**

---

This certification is required by the regulations implementing Executive Order 12549, Debarment and Suspension, 7 CFR Part 3017, Section 3017.510, Participants' responsibilities. The regulations were published as Part IV of the January 30, 1989, Federal Register (pages 4722-4733). Copies of the regulations may be obtained by contacting the Department of Agriculture agency offering the proposed covered transaction.

**(BEFORE COMPLETING CERTIFICATION, READ INSTRUCTIONS ON REVERSE)**

- (1) The prospective primary participant certifies to the best of its knowledge and belief, that it and its principals:
  - (a) are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency;
  - (b) have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;
  - (c) are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (1)(b) of this certification; and
  - (d) have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.
  
- (2) Where the prospective primary participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

Organization Name	PR/Award Number or Project Name
Name(s) and Title(s) of Authorized Representative(s)	
Signature(s)	Date

### Instructions for Certification

1. By signing and submitting this form, the prospective primary participant is providing the certification set out on the reverse side in accordance with these instructions.
2. The inability of a person to provide the certification required below will not necessarily result in denial of participation in this covered transaction. The prospective participant shall submit an explanation of why it cannot provide the certification set out on this form. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective primary participant to furnish a certification or an explanation shall disqualify such person from participation in this transaction.
3. The certification in this clause is a material representation of fact upon which reliance was placed when the department or agency determined to enter into this transaction. If it is later determined that the prospective primary participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause or default.
4. The prospective primary participant shall provide immediate written notice to the department or agency to whom this proposal is submitted if at any time the prospective primary participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.
5. The terms "covered transaction," "debarred," "suspended," "ineligible," "lower tier covered transaction," "participant," "person," "primary covered transaction," "principal," "proposal," and "voluntarily excluded," as used in this clause, have the meanings set out in the Definitions and Coverage sections of the rules implementing Executive Order 12549. You may contact the department or agency to which this proposal is being submitted for assistance in obtaining a copy of those regulations.
6. The prospective primary participant agrees by submitting this form that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency entering into this transaction.
7. The prospective primary participant further agrees by submitting this form that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion - Lower Tier Covered Transactions," provided by the department or agency entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions.
8. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that it is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant may decide the method and frequency by which it determines the eligibility of its principals. Each participant may, but is not required to, check the Nonprocurement List.
9. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of a participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.
10. Except for transactions authorized under paragraph 6 of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause or default.

**Thacker, Judith**

---

**From:** Percifield, Betty - Shelbyville, KY [betty.percifield@ky.usda.gov]  
**Sent:** Wednesday, April 13, 2011 1:33 PM  
**To:** judy@horneeng.com  
**Subject:** Jessamine South Elkhorn  
**Attachments:** 2011 Tank app letter 12011.doc  
April 13, 2011

**FILE COPY**

Judy,

The attached letter dated January 4, 2011 gives an outline of the items we will need. John and I will review and update the letter with a new one to be sent out early next week at the latest.

Thank you,

Betty S. Percifield | Area Technician  
Rural Development  
U.S. Department of Agriculture  
90 Howard Drive, Suite 3 | Shelbyville, KY 40065  
Phone: (502) 633-3294 ext. 4 | Fax: (502) 633-0552

[www.rurdev.usda.gov](http://www.rurdev.usda.gov)

"Committed to the future of rural communities"

"Estamos dedicados al futuro de las comunidades rurales"



**United States Department of Agriculture  
Rural Development  
Shelbyville Area Office**

January 4, 2011

Jessamine South Elkhorn Water District  
PO Box 731  
Nicholasville, KY 40340

RE: Water System Improvements Project  
1 Million Gallon Tank

Dear Mr. Strong:

This letter is an update to the letter dated April 8, 2008 regarding the District's planned application. A meeting is planned with John Horne, project engineer, and I to discuss submitting a preapplication. Attached is an application processing guide that we will discuss when we meet.

An application was submitted in 2006 for the water tank. The application was placed in withdrawn status on June 11, 2007. A new application with supporting checklist items is required. The previous withdrawn application was reviewed with some items pulled forward for your updated application as noted below. A copy of items previously submitted and a part of this application will be provided to the District.

Enclosed is an application packet and checklist to assist with preparation of your request. The present market interest rate now in effect is 4.25. The interest rate is subject to change quarterly and will be determined at time of loan obligation and loan closing. The loan term may extend up to 40 years including 2 years interest only.

**Two copies of the following items are needed per attached checklist RD-KY 1780-10, revised October 2008, for a complete pre-application.**

**Checklist item No.:**

1. Notice of Intent to File Application / Request for Statement of Qualifications – newspaper tear sheet showing date and newspaper name. All components must be completed per sample provided – Attachment to KY AN No. 007 (1780) **Completed and pulled forward from 2006 application.**
2. SF Form 424, Pre-Application w/ project description and cost breakdown  
[http://www.grants.gov/techlib/424\\_20090131.doc](http://www.grants.gov/techlib/424_20090131.doc)
  - a. budget information- construction programs  
<http://apply07.grants.gov/apply/forms/sample/SF424C-V1.0.pdf>
  - b. assurance agreement- construction programs

90 Howard Drive • Suite 3 • Shelbyville, KY 40065  
Phone: (502) 633-3294 • Fax: (502) 633-0552 • TDD: (859) 224-7422 • Web: <http://www.rurdev.usda.gov/ky>

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"USDA is an equal opportunity provider, employer and lender."  
To file a complaint of discrimination write USDA, Director, Office of Civil Rights,  
1400 Independence Avenue, SW, Washington, DC 20250-9410  
or call (800) 795-3272 (voice) or (202) 720-6382 (TDD).

<http://www.grants.gov/techlib/SF424D-V1.1.pdf>

3. IRS Taxpayer Identification Number **Completed and pulled forward from 2006 application.**
4. DUNS Number (Information is available on the clearinghouse website listed below regarding obtaining a DUNS number) **Completed and pulled forward from 2006 application.**
5. Kentucky State Clearinghouse comments  
A link to clearinghouse information is: <http://www.gold.ky.gov/clearinghouse/> .
- 6 Applicant's statement that needed credit is not available at reasonable rates and terms and two bank letters stating amount and terms requested by your organization and availability of credit including potential rates and terms. RUS Bulletin 1780-22.
- 8 If indebted, certified copy of each outstanding bond ordinance (Non FmHA/ RUS bonds only), promissory note, lease agreement, etc.
- 9 Audit or Financial report for each of the past three (3) fiscal years (audits for the years ending December 31, 2007, 2008, and 2009).
- 10 Copy of Rate Schedule for each applicable utility (water and sewer).
- 11 Applicant's documentation of the population of proposed service area, median household income of servicing area, existing health or sanitary hazards to be removed by the proposed project. Please complete the Application Processing Guide (see attachment), noting project area and MHI per county/ city divisions and ineligible areas. Areas located inside of the city limits of Nicholasville are ineligible for assistance due to population exceeding 10,000 according to the 2000 census.  
  
Instructions for pulling census tract areas: Log onto the website listed; [http://factfinder.census.gov/servlet/DatasetMainPageServlet?\\_lang=en&\\_ts=224584562608&\\_ds\\_name=DEC\\_2000\\_SF1\\_U&\\_program=DEC](http://factfinder.census.gov/servlet/DatasetMainPageServlet?_lang=en&_ts=224584562608&_ds_name=DEC_2000_SF1_U&_program=DEC)  
Then, go to Thematic Maps on the right hand column Select "County subdivision"  
Kentucky  
County  
Specific Census Tracts  
Map It
- 12 Legislation, court order, or other evidence of establishment, and legal opinion stating date duly incorporated and still in continued existence. See Sample Guide attorney's opinion and previous information provided that needs to be updated.
- 13 Advertisement of Request for Statement of Qualifications – See requirements listed in item number one (1) – All components must be completed per sample provided – Attachment to KY AN No. 007 (1780) **Completed and pulled forward from 2006 application.**
- 14 Minutes of negotiations with best qualified engineering firm(s). **Completed and pulled**



**forward from 2006 application.**

- 15 Agreement for Engineering Services, with KY Attachment I – Four (4) copies. (EJCDC Form) **Our records indicate an agreement was approved by Rural Development dated 5/23/2006. This agreement will need to be reviewed by Julie Anderson, State Engineer, to determine if still in effect for this application.**
- 16 Preliminary Engineering Report, in accordance with RD Guides, RUS Bulletin 1780-2 Water Facilities and/or 1780-3 Wastewater Facilities. A link to the Bulletins is <http://www.usda.gov/rus/water/regs-bulletins.htm>
- 18 Certification Regarding Debarment Suspension – AD 1047.
- 26 Notice of Public Information Meeting with Publishers Affidavit, and Minutes of the Meeting. Notice must be at least ten (10) days prior to the meeting.

Please note the RUS Bulletin 1794A-602, Guide for preparing the Environmental Report for Water and Environmental Program Proposals.

<http://www.usda.gov/rus/water/ees/pdf/RUS%20Bulletin%201794A-602%20032708.pdf>

Information and forms for the loan programs are available by contacting this office and/or checking the Rural Development homepage at <http://www.rurdev.usda.gov/> .

Should you need assistance please contact this office.

Sincerely,

John Johnson  
Acting Area Director

Enclosure(s)

Cc: Thomas G. Fern, State Director – USDA Rural Development  
John Horne, P.E. – Horne Engineering, Inc.  
Julie Anderson, State Engineer, USDA Rural Development



# Horne Engineering, Inc.

216 SOUTH MAIN STREET • NICHOLASVILLE, KENTUCKY 40356 • (859)885-9441 • FAX (859)885-5160

ENGINEERS • LAND SURVEYORS • PLANNERS

*email@horneeng.com*

August 19, 2010

**FILE COPY**

Gary Larimore  
Kentucky Rural Water Finance Corporation  
3251 Spring Hollow Avenue  
Bowling Green, KY 42104

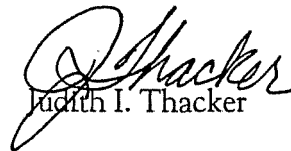
Re: Project Funding  
Catnip Hill 1.0MG Tank Project  
Jessamine South Elkhorn Water District

Dear Mr. Larimore :

Enclosed please find the application with attachments for the Kentucky Rural Water Finance Corporation Flexible-Term Finance Program.

Should you have any questions and/or comments, please contact our office at (859) 885-9441.

Sincerely,  
HORNE ENGINEERING, INC.

  
Judith I. Thacker

JGH/jt  
enc.

cc: Diana Clark w/enc.  
Glenn T. Smith  
Nick Strong  
Engr/3891

Corr.

*Engr 3569*



## Kentucky Rural Water Finance Corporation

Helping utilities finance infrastructure improvements

---

August 20, 2010

**FILE COPY**  
# 3569

Mr. Glenn T. Smith  
Jessamine-South Elkhorn Water District  
802 S. Main Street  
Nicholasville, KY

Dear Mr. Smith:

The purpose of this letter is to acknowledge receipt of your application for funds through the Kentucky Rural Water Finance Corporation (KRWFC). Once eligibility is determined, Morgan Keegan & Company, financial advisor to KRWFC, will be contacting you to coordinate the sale and closing of your loan through the program.

Thank you for your willingness to participate in the KRWFC Flexible Term Finance Program. Should you have any questions, please feel free to contact me.

Sincerely,

Gary Larimore  
Secretary/Treasurer

GL:bs

pc: Bob Pennington, Morgan Keegan & Company  
✓ Judith I. Thacker, Horne Engineering, Inc.



# Kentucky Rural Water Finance Corporation Flexible-Term Finance Program

## APPLICATION

- 1.) Please provide a brief description of the project:  
The Jessamine-South Elkhorn Water District proposes to construct a 1.0 MG elevated storage tank to provide additional storage and flow that is needed to the Northwest Service Area .
- 2.) Project cost: \$2,500,000.
- 3.) Amount to be borrowed (excluding costs of financing) : \$1,500,000.
- 4.) Estimated date construction bids accepted : October 1, 2010
- 5.) Approximate date when financing will be needed: January 1, 2011
- 6.) Please provide audited financial statements for the most current fiscal year and previous two years. (See attached)
- 7.) Please provide year-to-date unaudited financial statements. (See attached)
- 8.) Please provide debt service schedules of existing debt if they are not listed in the audited financial statements. (See attached financial statements)
- 9.) Please provide the following information:

Name of System: Jessamine-South Elkhorn Water District

Manager: <u>Glenn T. Smith</u> Phone Number: <u>859-881-0589</u> Fax: <u>859-881-5080</u> Address: <u>802 S. Main Street</u> Address: <u>Nicholasville, KY 40356</u>  Engineer: <u>Horne Engineering, Inc.</u> Phone Number: <u>859-885-9441</u> Fax: <u>859-885-5160</u> Address: <u>216 S. Main Street</u> Address: <u>Nicholasville, KY 40356</u>	Local CPA: <u>Fain, Mattingly &amp; Assoc, PSC</u> Phone Number: <u>859-885-4499</u> Fax: <u>859-887-4710</u> Address: <u>100 John Sutherland Dr</u> Address: <u>Nicholasville, KY 40356</u>  Local Attorney: <u>Bruce E. Smith</u> Phone Number: <u>859-885-3393</u> Fax: <u>859-885-1152</u> Address: <u>201 S. Main Street</u> Address: <u>Nicholasville, KY 40356</u>
--	---

10.) Total Number of Customers

Year	# of Water Customers	# of Sewer Customers
2009	2614	120
2008	2605	131
2007	2508	112
2006	2416	56
2005	2316	26

11.) Customer Breakdown

Year	WATER		Total
	Residential	Commercial/Other	
2009	2545	69	2614
2008	2539	66	2605
2007	2440	68	2508
2006	2353	63	2416
2005	2256	60	2316

Year	Sewer		Total
	Residential	Commercial/Other	
2009	42	78	120
2008	33	98	131
2007	14	98	112
2006	6	50	56
2005	6	20	26

12.) Five Largest Water Customers (August 2009 – July 2010)

Customer	Annual Sales	Annual Usage	% of Total Usage
Ramsey Farm	32,895.48	5,090,900	2.3
Kroger	12,490.44	2,049,100	1
Southland Christian	10,564.44	1,728,100	.8
Equestrian Woods	7,311.20	1,166,600	.6
Cave Spring Farm	6,150.81	992,890	.5
<b>Totals</b>	<b>69,412.37</b>	<b>11,027,590</b>	<b>5.2</b>

13.) Five Largest Sewer Customers (August 2009 – July 2010)

Customer	Annual Sales	Annual Usage	% of Total Usage
Cracker Barrel	25,107.00	2,510,700	12.5
Kroger	20,491.00	2,049,100	10.2
Fuller Group	18,814.00	1,881,400	9.4
Southland Christian	17,281.00	1,728,100	8.6
Red Robin	10,573.00	1,057,300	5
<b>Totals</b>	<b>92,266.00</b>	<b>9,226,600</b>	<b>45.7</b>

14.) Please attach a copy of the ordinance or tariff containing current rates (if different) along with the date these rates went into effect. (For both water and sewer as applicable.) (See attached)

15.) Names of current Board or Council Members, their titles, and terms of office:

Board/Council Members	Titles	Term
L. Nicholas Strong	Chairman	05/29/12
Jerry Haws	Vice-Chairman	11/13/13
George Dale Robinson	Secretary	09/03/13
John Blackford	Vice-Secretary	12/10/11
James Hall	Treasurer	04/02/14

16.) Date and time of regular meeting:

Date:	First Wednesday of Each Month
Time:	1:00 PM

17.) Provide a brief description of other future finance plans:

None at this time


18.) Provide other information deemed relevant to the financing (if any).

None at this time

Please submit completed application to KRWFC at the following address:

Gary Larimore  
Kentucky Rural Water Finance Corporation  
3251 Spring Hollow Avenue  
Bowling Green, Kentucky 42104

Please sign and date:

  
Authorized Signature

8-19-10  
Date

FOR: District's Service Area

P.S.C. NO. 1

JESSAMINE-SOUTH ELKHORN WATER DISTRICT

SHEET NO. 1

CANCELING P.S.C. NO. \_\_\_\_\_

SHEET NO. \_\_\_\_\_

CLASSIFICATION OF SERVICE

MONTHLY SEWER RATES

FIRST 2,000 Gallons  
ALL OVER 2,000 Gallons

\$20.00 Minimum Bill  
\$10.00 per 1,000 Gallons

DATE OF ISSUE April 21, 2008

DATE EFFECTIVE February 25, 2008

ISSUED BY L. T. [Signature] TITLE: CHAIRMAN

PUBLIC SERVICE COMMISSION OF KENTUCKY EFFECTIVE 2/25/2008 PURSUANT TO 807 KAR 5:011 SECTION 9 (1)
By <u>[Signature]</u> Executive Director

Issued by authority of an Order of the Public Service Commission 0036 dated February 25, 2008.



JESSAMINE-SOUTH ELKHORN  
WATER DISTRICT

FOR: District's Service Area

P.S.C. NO. 2

3rd REVISED SHEET NO. 1

CANCELING P.S.C. NO. 2

2nd REVISED SHEET NO. 1

---

CLASSIFICATION OF SERVICE      I      RATE PER UNIT

---

**CONNECTION FEE SCHEDULE**

(I) 5/8" x 3/4" meter (20 gpm capacity)      \$850.00 per connection

(I) \*1" meter (50 gpm capacity)      \$1,050.00 per connection

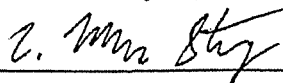
\*All meters larger than 1"      actual cost of installation per connection

Fire Hydrants      actual cost of installation per hydrant

When extraordinary geological and/or topographical conditions are encountered during installation, the added cost incurred due to such conditions shall be billed to the customer. Furthermore, where main line pressure justifies the installation of pressure reduction valves, the added cost shall be billed to the customer

DATE OF ISSUE: February 22, 2008

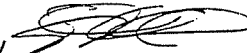
ISSUED BY



DATE EFFECTIVE: March 24, 2008

TITLE: Chairman

BY



Issued by authority of an Order of the Public Service Commission of Kentucky, Case No. 2008-00065 dated March 14, 2008. JSEWD/rate form.3203

PUBLIC SERVICE COMMISSION  
OF KENTUCKY  
EFFECTIVE  
3/24/2008

SECTION 9 (1)

Executive Director

FOR Jessamine Co  
Community, Town or City

P.S.C. KY. NO. \_\_\_\_\_

\_\_\_\_\_ SHEET NO. \_\_\_\_\_

Jessamine South Elkhorn Water District  
(Name of Utility)

CANCELLING P.S.C. KY. NO. \_\_\_\_\_

\_\_\_\_\_ SHEET NO. \_\_\_\_\_

CONTENTS

3/4" x 5/8" Meter:

First 2,000 gallons  
Next 2,000 gallons  
Next 2,000 gallons  
Next 10,000 gallons  
Next 8,000 gallons  
Over 24,000 gallons

\$24.10 Minimum Bill  
6.40 per 1,000 gallons  
6.30 per 1,000 gallons  
6.20 per 1,000 gallons  
6.10 per 1,000 gallons  
6.00 per 1,000 gallons

1" Meter:

First 10,000 gallons  
Next 6,000 gallons  
Next 8,000 gallons  
Over 24,000 gallons

\$74.30 Minimum Bill  
6.20 per 1,000 gallons  
6.10 per 1,000 gallons  
6.00 per 1,000 gallons

2" Meter:

First 24,000 gallons  
Over 24,000 gallons

\$160.30 Minimum Bill  
6.00 per 1,000 gallons

DATE OF ISSUE June 16, 2009  
Month / Date / Year

DATE EFFECTIVE July 5, 2009  
Month / Date / Year

ISSUED BY *L. T. H. H.*  
Month / Date / Year  
(Signature of Officer)

TITLE Chairman

BY AUTHORITY OF ORDER OF THE PUBLIC SERVICE COMMISSION  
IN CASE NO. 2009-00233 DATED 7-14-09

PUBLIC SERVICE COMMISSION  
OF KENTUCKY  
EFFECTIVE  
7/5/2009  
PURSUANT TO 807 KAR 5:011  
SECTION 9 (1)

By *W. D. Pearson*  
Executive Director

FOR Northwest Jessamine County  
Community, Town or City

P.S.C. KY. NO. 2

17<sup>th</sup> Revised SHEET NO. 2

Jessamine-South Elkhorn Water District  
(Name of Utility)

CANCELLING P.S.C. KY. NO. 2

16<sup>th</sup> Revised SHEET NO. 2

RATES & CHARGES

Monthly Water Rates

5/8" x 3/4" Meter:

First 2,000 gallons	\$22.74 Minimum Bill
Next 2,000 gallons	5.72 per 1,000 gallons
Next 2,000 gallons	5.62 per 1,000 gallons
Next 10,000 gallons	5.52 per 1,000 gallons
Next 8,000 gallons	5.42 per 1,000 gallons
Over 24,000 gallons	5.32 per 1,000 gallons

1" Meter:

First 10,000 gallons	\$67.50 Minimum Bill
Next 6,000 gallons	5.52 per 1,000 gallons
Next 8,000 gallons	5.42 per 1,000 gallons
Over 24,000 gallons	5.32 per 1,000 gallons

2" Meter:

First 24,000 gallons	\$143.98 Minimum Bill
Over 24,000 gallons	5.32 per 1,000 gallons

SEE OTHER PAGE FOR NEW RATES /dbk

A \$6.50 per month surcharge will be assessed to all new users served by the water expansion project.

All meters shall be read to the nearest one hundred gallons each month.

DATE OF ISSUE July 9, 2008  
Month / Date / Year

DATE EFFECTIVE July 5, 2008  
Month / Date / Year

ISSUED BY L. Thomas  
(Signature of Officer)

TITLE Chairman

BY AUTHORITY OF ORDER OF THE PUBLIC SERVICE COMMISSION  
IN CASE NO. 2008-00204 DATED July 2, 2008

PUBLIC SERVICE COMMISSION  
OF KENTUCKY  
EFFECTIVE  
7/5/2008  
PURSUANT TO 807 KAR 5:011  
SECTION 9 (1)

By Stephanie Rumba  
Executive Director

JESSAMINE SOUTH ELKHORN WATER DISTRICT  
Balance Sheet - Water District  
July 31, 2010

ASSETS

Current Assets		
Citizens Natl-SE Deprec Resr	\$	141,088.33
Ky Bank - cert of dep		13,025.86
Citizens Natl-SE Proj-Const		1,581.12
Citizens Natl-US 68 Reloc		1,149.31
Citizens Natl-Connection Fees		65,604.17
Farmers Bank-Keene Reconst		2,686.35
Cash on hand		50.00
Town Square-revenue		153,901.84
Town Square-oper & maint		19,711.56
Farmers Bank-bond		21,736.96
Town Square-rental deposits		11,013.36
Farmers Bank-construction		100,934.40
Acct Rec - water		76,454.79
Acct Rec		6,736.82
Acct Rec - meters		7,610.50
Prepaid insurance		11,602.87
		<hr/>
Total Current Assets		634,888.24
Property and Equipment		
Constructed system	10,181,138.95	
Contributed system	4,357,522.00	
Office Building	450,000.00	
Meters	39,527.10	
Services	55,646.48	
Extensions	486,214.00	
Communications	26,559.00	
Accumulated depreciation	(3,671,338.00)	
Construction in Progress	1,689.07	
Construction in Progress	259,008.06	
Citizens-Const-Restricted Res	78,978.80	
NCB-CD-Restricted Res	1,074.38	
Ky Bank - CD - Restricted Res	111,907.14	
		<hr/>
Total Property and Equipment		12,377,926.98
Other Assets		
Unamortized bond costs	38,674.00	
		<hr/>
Total Other Assets		38,674.00
		<hr/>
Total Assets	\$	<u><u>13,051,489.22</u></u>

LIABILITIES AND CAPITAL

Current Liabilities		
Customer deposits	\$	10,685.00
Utility tax payable		6,507.94
State withholding		1,108.65
City withholding		137.00
County withholding		212.35
Sales tax payable		1,391.69
employment taxes payable		(598.66)
Accrued interest payable		1,903.05
Sewer Transactions		(54,611.28)
		<hr/>

Unaudited - For Management Purposes Only

JESSAMINE SOUTH ELKHORN WATER DISTRICT  
Balance Sheet - Water District  
July 31, 2010

Total Current Liabilities		(33,264.26)
Long-Term Liabilities		
Bonds payable	5,000.00	
Rural Dev	2,075,000.00	
KIA	331,249.98	
Notes payable - Farmers Bank	339,985.15	
KIA-KEENE	1,244,874.13	
Notes Pay-Farmers-Office Bldg	421,214.50	
	<hr/>	
Total Long-Term Liabilities		4,417,323.76
Total Liabilities		<hr/> 4,384,059.50
Capital		
Fund Balances	146,023.49	
Grants, Cont. Cap & Connection	8,329,603.69	
Net Income	1,321,002.15	
	<hr/>	
Total Capital		9,796,629.33
Total Liabilities & Capital		<hr/> <hr/> \$ 14,180,688.83

JESSAMINE SOUTH ELKHORN WATER DISTRICT  
Income Statement - Water District  
For the Seven Months Ending July 31, 2010

	Current Month This Year	Current Month Last Year	Year to Date This Year	Year to Date Last Year
<b>Revenues</b>				
Interest Earned	\$ 256.19	\$ 336.91	\$ 3,280.30	\$ 3,465.70
Surcharge - SE	2,912.00	2,808.00	19,981.00	19,441.50
Metered residential water	203,305.84	160,114.36	988,765.29	867,612.60
Water sales	0.00	0.00	0.00	708.75
Metered commercial water	10,431.93	7,399.07	48,215.13	37,901.54
Penalties	2,240.01	2,659.52	13,954.02	11,754.82
Service charges	829.46	826.46	7,956.10	8,526.18
Miscellaneous Income	(180.00)	340.00	3,222.82	2,951.00
Sales tax comp	20.66	21.31	111.41	92.29
Water sales - loss	99.72	972.86	771.72	5,213.76
Water sales - loss	0.00	0.00	0.00	0.00
Bad debt collected	0.00	84.24	280.54	729.66
<b>Total Revenues</b>	<b>219,915.81</b>	<b>175,562.73</b>	<b>1,086,538.33</b>	<b>958,397.80</b>
<b>Cost of Sales</b>				
Water purchased	109,147.72	104,259.37	448,529.59	450,338.70
<b>Total Cost of Sales</b>	<b>109,147.72</b>	<b>104,259.37</b>	<b>448,529.59</b>	<b>450,338.70</b>
<b>Gross Profit</b>	<b>110,768.09</b>	<b>71,303.36</b>	<b>638,008.74</b>	<b>508,059.10</b>
<b>Expenses</b>				
Depreciation expense	0.00	0.00	0.00	0.00
Property Taxes	0.00	0.00	0.00	0.00
Taxes	2,804.69	0.00	2,804.59	3,206.83
Interest Expense	55,669.87	1,829.33	94,645.57	96,706.10
Reimb expense - deprec	0.00	0.00	0.00	0.00
Payroll	20,464.90	19,000.82	138,637.89	128,525.38
Commissioners' Salary	0.00	0.00	0.00	0.00
Payroll taxes	1,624.44	725.52	11,220.10	8,643.37
Employee insurance	3,113.26	2,664.19	16,307.05	18,428.80
Aflac - 501	0.02	0.00	0.02	(273.76)
SEP - retirement	3,071.89	2,956.87	6,070.93	5,828.43
Engineering - oper & maint	5,638.75	8,413.75	27,876.86	37,224.13
Accounting fees	0.00	0.00	9,780.00	10,925.00
Legal - oper & main	399.53	688.28	4,116.93	2,379.59
Meter reading	942.99	1,082.95	7,596.58	8,743.51
EPA monitoring	102.10	493.20	1,456.80	3,469.00
Meter testing	1,190.00	0.00	3,211.00	1,204.70
Maint & repairs	7,596.80	5,923.12	46,456.02	41,048.24
Rent	70.00	0.00	70.00	0.00
Travel	0.00	0.00	955.35	1,073.50
Insurance	20,659.11	22,306.68	25,734.11	25,003.94
Bad debt	1,043.62	440.13	3,542.59	6,509.61
Misc Expense	190.50	150.00	930.50	1,542.26
Telephone	483.14	466.84	2,828.76	3,446.28
Utilities	1,771.62	1,688.93	10,384.18	12,774.97
General office expense	3,032.20	3,166.08	18,409.23	18,165.01
General office expense	0.00	0.00	0.00	0.00
Office Maintenance	0.00	0.00	433.93	28,933.15
Admin costs	0.00	0.00	3,399.76	5,687.98
Service fee	56.67	74.16	501.63	619.20
Reimb expense - oper & main	1,635.94	(7,850.00)	1,519.42	(14,048.15)
Truck O & M	1,269.42	770.49	6,243.69	7,932.92

For Management Purposes Only

JESSAMINE SOUTH ELKHORN WATER DISTRICT  
 Income Statement - Water District  
 For the Seven Months Ending July 31, 2010

	<u>Current Month This Year</u>	<u>Current Month Last Year</u>	<u>Year to Date This Year</u>	<u>Year to Date Last Year</u>
Total Expenses	132,831.46	64,991.34	445,133.59	463,699.99
Net Income	\$ <u>(22,063.37)</u>	\$ <u>6,312.02</u>	\$ <u>192,875.15</u>	\$ <u>44,359.11</u>

**JESSAMINE SOUTH ELKHORN WATER DISTRICT  
WATER AND SEWER DIVISIONS**

**Financial Statements and Supplemental Information**

**December 31, 2009**

**With Independent Auditors' Report Thereon**

**Fain, Mattingly & Associates, P.S.C.  
Certified Public Accountants  
100 John Sutherland Drive, Suite 2  
Nicholasville, Kentucky**



# JESSAMINE SOUTH ELKHORN WATER DISTRICT

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**JESSAMINE SOUTH ELKHORN WATER DISTRICT**  
**Water and Sewer Divisions**

**MANAGEMENT'S DISCUSSION AND ANALYSIS**

The Management Discussion and Analysis (MD&A) offers the readers of the Jessamine South Elkhorn Water District's financial statements this narrative overview and analysis of the financial activities of the Jessamine South Elkhorn Water District, Inc for the fiscal year ended December 31, 2009.

Jessamine South Elkhorn Water District, Inc. (hereafter described as "the District") was established in 1970 under KRS chapter 74 for the purpose of furnishing water service in Jessamine County. In August 1995 the District formed the sewer division to provide collection services for residents of Jessamine County.

The District, consisting of Jessamine South Elkhorn Water District, Water Divisions, and Jessamine South Elkhorn Water District Sewer Division, has been consolidated for reporting purposes. The entities share the same board of commissioners, central offices and employees.

The District is a special district formed for the express purpose of providing water service within the confines of Jessamine County, Kentucky. The Jessamine County Fiscal Court appoints an independent board of commissioners to govern the district. The District operates as an independent entity in that it is legally separate: holds corporate powers of organization: the Fiscal Court does not impose their will upon the district: and the District does not impose financial benefit or burden upon the fiscal court. The primary source of revenue for the District is provided by the.

Highlights

- The District's assets exceeded its liabilities by \$ 13,411,376 (net assets) for the fiscal year reported. This compares to the previous year when assets exceeded liabilities by \$9,324,111.
- Total net assets are comprised of the following:
  - Undesignated funds represent the portion available to maintain the District's continuing obligations to the citizens and creditors.

- The District's enterprise funds reported a total ending fund balance of \$13,411,376 this year. This compares to the prior year ending fund balance of \$9,324,113 showing an increase of \$ 4,087,263 during the current year.
- At the end of the current fiscal year, unreserved fund balance for the Enterprise Fund was \$159,726, or 6.07 % of total Enterprise Fund expenditures including transfers and 2.48 % of total Enterprise Fund revenues including transfers.
- The liabilities for the District in the current year of \$5,862,302. Prior year liabilities were \$5,847,093.

### **Overview of the Financial Statements**

Management's Discussion and Analysis introduces the District's basic financial statements. The basis financial statements include government-wide financial statements which are the same as the proprietary fund statements and notes to the financial statements. The first of these government-wide statements is the *Statement of Net Assets*. This is a statement of the position presenting information that includes all of the District's assets and liabilities, with the difference reported as net assets.

The second government-wide statement is the Statement of Activities which reports how the District's net assets changed during the current fiscal year. All current year revenues and expenses are included regardless of when cash is received or paid.

Business-type activities financial statements show the business-type activities that are intended to recover all or a significant portion of their costs through its activities. The District's business-type activities include development of sewer division and expansion of the water division to serve the citizens of Jessamine County.

Fund Financial Statements are used to maintain control over resources segregated for specific activities or objectives. The District uses funds to ensure and demonstrate compliance with finance-related laws and regulations. The District only has the one fund and one business-type of activity. The District's proprietary fund, an enterprise fund, is reported as the government-wide financials, as they are both presented on the same basis.

The District uses the following funds for the water division:

Revenue Fund – The District deposits cash revenues of the utilities system, and to disburse as prescribed by bond covenants.

Operation and Maintenance Fund – The District deposits amounts equal to the estimated current expense of operating, maintaining, and insuring the system for the next ensuing month. The amounts shall be determined pursuant to the annual budget adopted by the District Board and are to be made to meet the reasonable and necessary expenses.

Bond and Interest Sinking Fund – The District deposits funds each month to fund the next bond and interest payments due on the 1971 bonds outstanding.

Depreciation Fund – The District deposits excess amounts from the Revenue Fund after provisions have first been made for the prescribed deposits, for the purpose of paying unusual or extraordinary maintenance repairs, renewals and replacement, during the life of the bond issues.

Reserve Fund – The District maintains the reserve fund account to meet a requirement that a bond reserve account of at least \$12,000 is to be maintained for the reserve required by the 2000 Bond Agreement

Construction Fund-This fund is to be used to construct additions, extensions, and improvements other than those of the Depreciation Fund.

At this time the sewer division operates one fund for all its activities.

### **Notes to the financial statements**

The accompanying notes to the financial statements provide information essential to a full understanding of the government-wide and fund financial statements. The notes to the financial statements begin immediately following the basic financial statements.

### **Financial Analysis of the Jessamine South Elkhorn Water District as a Whole**

As year-to-year financial information is accumulated on a consistent basis, changes in net assets may be observed and used to discuss the changing financial position of the District as a whole.

The District's net assets at fiscal year-end are \$ 13,411,376. This is an increase of \$4,087,263 over last year's net assets of \$9,324,113. The following table provides a summary of the District's net assets:

	Business-type Activities		09 less 08	
	12/31/2009	12/31/2008	Amount Change	Percent Change
<b>Assets</b>				
Current and other Assets	372,036	690,569	(318,533)	-46.13%
Non-current assets	909,278	967,331	(58,053)	-6.00%
Deferred assets	38,674	48,719	(10,045)	-20.62%
Capital assets	<u>17,953,690</u>	<u>13,453,608</u>	<u>4,500,082</u>	33.45%
<b>Total Assets</b>	<b>19,273,678</b>	<b>15,160,227</b>	<b>4,113,451</b>	<b>27.13%</b>
<b>Liabilities</b>				
Current and other Liabilities	208,745	353,911	(145,166)	-41.02%
Current Long-term Debt	169,556	157,170	12,386	7.88%
Non-Current Long-term Debt	<u>5,484,001</u>	<u>5,336,012</u>	<u>147,989</u>	2.77%
<b>Total Liabilities</b>	<b>5,862,302</b>	<b>5,847,093</b>	<b>15,209</b>	<b>-100.00%</b>
<b>Net Assets</b>				
Invested in Capital Assets,				
Net of depreciation	12,300,133	7,960,426	4,339,707	54.52%
Restricted	462,303	936,100	(473,797)	-50.61%
Unrestricted Unreserved				
Unrestricted-board designated	159,727	(32,413)	192,140	-592.79%
depreciation reserves	<u>489,213</u>	<u>460,000</u>	<u>29,213</u>	6.35%
<b>TOTAL NET ASSETS</b>	<b>13,411,376</b>	<b>9,324,113</b>	<b>4,087,263</b>	<b>23.74%</b>

The District reported positive balances in net assets for proprietary activities. Net assets increased \$ 4,087,263 for proprietary activities. The District's overall financial position increased during fiscal year 2009.

Because the District does not depend heavily upon interest income for operations and does not have any funds invested in the stock market, the decline in investment and market performance did not have a material effect.

Assets of the district have increased primarily due to the construction of water lines in the southeast unserved area, Keene reconstruction and the completion of the U.S 68 relocation project. All of these projects were funded by grants or low interest loans. The projects have been completed and conveyed to the district.

Business-type expenditures during the current fiscal year were \$4,087,263 less than the revenues. The difference is attributable to depreciation.

Comparative data is accumulated and presented to assist analysis. The following table provides a summary of the District's changes in net assets:

	<b>Business-type Activities</b>		<b>Amount Change</b>	<b>Percent Change</b>
	<u>12/31/2009</u>	<u>12/31/2008</u>		
General Revenues				
Water and Sewer Sales	\$ 1,877,571	\$ 2,016,684	\$ (139,113)	
Penalties	22,123	24,450	(2,327)	
Service charges	12,882	43,931	(31,049)	
Miscellaneous revenues	25,411	25,411	25,411	
Total Revenues	<u>1,937,987</u>	<u>2,085,065</u>	<u>(147,078)</u>	-7.05%
Operating expenses	<u>1,820,163</u>	<u>1,882,982</u>	<u>(62,819)</u>	-3.34%
Net operating income	117,824	202,083	(84,259)	-41.70%
Other income	12,333	22,938	(10,605)	
Other expenses	<u>(529,442)</u>	<u>(207,668)</u>	<u>(321,774)</u>	
Subtotal other income/expenses	(517,109)	(184,730)	(332,379)	179.93%
Connection fees & construction Conveyed by developers	239,120	163,288	75,832	
Governmental construction grants	1,069,322	1,069,322	1,069,322	
Subtotal capital income	<u>3,178,106</u>	<u>2,614,220</u>	<u>563,886</u>	61.53%
	4,486,548	2,777,508	1,709,040	
Change in net assets	4,087,263	2,794,861	1,292,402	
Net Assets beginning of year	<u>9,324,113</u>	<u>6,529,252</u>	<u>2,794,861</u>	42.81%
Net Assets end of year	\$ <u><u>13,411,376</u></u>	\$ <u><u>9,324,113</u></u>	\$ <u><u>4,087,263</u></u>	43.84%

As portrayed above and discussed earlier, the District is heavily reliant on revenues from sales of water and sewer services, which provides 98.06% and 98.91% of the District's operating revenues in fiscal years 2009 and 2008.

## **Financial Analysis of the District's Funds**

### **Proprietary funds**

Proprietary funds are reported in the fund statements with a short-term, inflow and outflow of spendable resources focus. This information is useful in assessing resources available at the end of the year in comparison with upcoming financing requirements. The funds reported an ending fund balance of \$13,411,376. Of this year-end total, approximately \$159,727 is unreserved for operations, \$489,213 for Board designated projects, \$462,303 restricted for either debt service or construction and the balance in invested in fixed asset of \$12,300,133.

The total ending fund balances of the proprietary fund shows an increase of \$4,087,263 from the prior year. This increase was due primarily to the increase of lease revenues which began late the prior year and a decrease in the compensation benefits.

### **Enterprise Fund Budgetary Highlights**

The Enterprise Fund budget complied with financial policies approved by the Board of Directors and maintained the core District services.

Budgetary comparison statements are included in the additional supplemental information section of the financial statements for the combined water and sewer fund. These statements and schedules include cash flows designated to the reduction of debt and purchase and construction of assets. Actual results are shown for operations only.

### **Capital Asset and Long-Term Debt Administration**

Depreciation in the amount of \$333,250 was expensed on the statement of activities. During the year the District received conveyed assets valued at \$1,069,322, grants and other connection fees for the construction of assets in the amounts of \$3,178,106 and \$239,121, respectively. Other financing of capital assets were provided by loans and operating funds. Net capital assets increased by \$4,500,082 during the year.

At the end of the year the District had long-term debt consisting of bond issues, notes payable, and interim construction loans. During the current year the District borrowed additional funds of \$316,495, made repayment of \$156,120 in principal. Interest expense paid during the year on long-term debt was \$250,787, of which \$100,161 was capitalized and \$40,057 accrued.

### **Economic Environment and Next Year's Budgets and Rates**

The general outlook for the District for the next year is for some growth in economic activity as a reflection of positive signs in the national economy. We also expect a positive boost in economic activity as a spin-off of the continued growth of the Lexington economy. Jessamine County's close proximity enables us to capitalize on that activity.

The District's future goals are to provide drinking water to every household that wishes to have service, in the designated territory. We also intend to provide sewer service to areas of expansion with special attention to EPA problem zones that create a health hazard to our customers.

The District will continue expansion of their operations, to better serve the citizens of Jessamine county with a reliable water source. This will include some replacement of small or deteriorated pipe and the construction of an additional 1 million gallon elevated tank located at catnip hill Rd and U.S. 68.

### **Contacting the Jessamine South Elkhorn Water District's Financial Management**

This financial report is designed to provide a general overview of the District's finances, comply with finance-related laws and regulations, and demonstrate the Jessamine South Elkhorn Water District's commitment to public accountability. If you have questions about this report or would like to request additional information, contact the District at the following address:

Jessamine South Elkhorn Water District  
802 South Main Street  
Nicholasville, Kentucky 40356





Leta G. Mattingly, CPA  
Nancy J. Clark, CPA  
Veronica L. Roberts

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Charles D. Fain, III, CPA  
(1955-2002)  
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Members of  
Kentucky Society of  
Certified Public Accountants  
American Institute of  
Certified Public Accountants

### Independent Auditors' Report

The Board of Commissioners  
Jessamine South Elkhorn Water District  
Water and Sewer Divisions  
Nicholasville, Kentucky

We have audited the accompanying financial statements of the business-type activities, of the Jessamine South Elkhorn Water District (a special district government organization) as of December 31, 2009, which collectively comprise the District's basic financial statements as listed in the table of contents. These financial statements are the responsibility of the District's management. Our responsibility is to express an opinion on these financial statements based on our audit.

We conducted our audit in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States. These standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audit provides a reasonable basis for our opinion.

In our opinion, the financial statements referred to above present fairly, in all material respects, the respective financial position of the business-type activities, of the Jessamine South Elkhorn Water District, Water and Sewer Divisions as of December 31, 2009, and the respective changes in financial position and cash flows for the year then ended in conformity with accounting principles generally accepted in the United States of America.

In accordance with *Government Auditing Standards*, we have also issued our report dated March 24, 2010, on our consideration of the Jessamine South Elkhorn Water District, Water and Sewer Divisions' internal control over financial reporting and our tests of its compliance with certain provisions of laws, regulations, contracts and grants. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* and should be read in conjunction with this report in considering the results of our audit.

The management discussion and analysis on pages 2 through 7 is presented as required and the budgetary comparison information on page 22 is not a required part of the basic financial statements but is supplemental information required by accounting principles generally accepted in the United States of America. We have applied certain limited procedures, which consisted principally of inquiries of management, regarding the methods of measurement and presentation of the required supplemental information. However, we did not audit the information and express no opinion on it.

Our audit was performed for the purpose of forming an opinion on the financial statements of the District's, basic financial statements. The accompanying supplemental schedules on pages 31 through 36 are presented for purposes of additional analysis and are not a required part of the financial statements. The accompanying schedule of expenditures of federal awards is presented for purposes of additional analysis as required by the United States Office of Management and Budget Circular A-133, "Audits of States, Local Governments, and Non-Profit Organizations", and is also not a required part of the basic financial statements of the District. The combining and individual non-major fund financial statements and the schedule of expenditures of federal awards have been subjected to the auditing procedures applied in the audit of the basic financial statements and, in our opinion, are fairly stated in all material respects in relation to the basic financial statements taken as a whole. The introductory and statistical sections of the management's discussion and analysis have not been subjected to the auditing procedures applied in the audit of the basic financial statements and, accordingly, we express no opinion on them



Fain, Mattingly & Associates, P.S.C.  
Certified Public Accountants

March 24, 2010

**JESSAMINE SOUTH ELKHORN WATER DISTRICT  
WATER AND SEWER DIVISIONS**  
Statement of Net Assets  
December 31, 2009

	Water Division	Sewer Division	Total Business Activities
<u>Assets</u>			
Cash and current assets			
Cash and cash equivalents, unrestricted	\$ 202,854	\$ 54,176	\$ 257,030
Accounts receivable	56,993	46,410	103,403
Prepaid expenses	11,603		11,603
Due to (from) other funds	54,611	(54,611)	0
Cash and cash equivalents, restricted	722,561	186,717	909,278
Total cash and current assets	1,048,622	232,692	1,281,314
<u>Capital Assets</u>			
Land, improvements and construction in process	6,887	5,038,290	5,045,177
Other capital assets, net of depreciation	11,898,868	1,009,645	12,908,513
Total capital assets	11,905,755	6,047,935	17,953,690
Other non-current assets			
Unamortized bond costs	38,674		38,674
Total Assets	\$ 12,993,051	\$ 6,280,627	\$ 19,273,678
<u>Liabilities</u>			
<u>Current Liabilities</u>			
Accounts payable	\$ 125,177	\$ 24,970	\$ 150,147
Payroll taxes payable	1,028		1,028
Customer deposits	10,060	5,550	15,610
Interest payable	1,903	40,057	41,960
Total current liabilities	138,168	70,577	208,745
<u>Current Portion of Debt</u>			
Current notes payable	133,056		133,056
Current bonds payable	36,500		36,500
Total current portion of long-term debt	169,556	0	169,556
<u>Long-term Debt</u>			
Notes payable	2,188,357	1,252,144	3,440,501
Bonds payable	2,043,500		2,043,500
Total long-term debt	4,231,857	1,252,144	5,484,001
Total Liabilities	4,539,581	1,322,721	5,862,302
<u>Net Assets</u>			
Invested in capital assets, net of related debt	7,504,342	4,795,791	12,300,133
Restricted for:			
Debt service	17,667		17,667
Capital projects	102,147	186,717	288,864
Depreciation reserve	13,026		13,026
Operation and maintenance reserve	142,746		142,746
Unreserved, undesignated reported in:			
Unrestricted net assets	184,329	(24,602)	159,727
Board designated net assets	489,213		489,213
Total Net Assets	\$ 8,453,470	\$ 4,957,906	\$ 13,411,376

See accompanying notes to financial statements.

**JESSAMINE SOUTH ELKHORN WATER DISTRICT**  
**WATER AND SEWER DIVISIONS**  
 Combined Statement of Revenues, Expenditures and Changes in Net Assets  
 For The Year Ended December 31, 2009

Functions/Programs	Expenses	Charges for Services	Operating Grants & Contributions Revenues	Capital Grants & Contributions Revenues	Net (Expense) Revenue
Business-type Activities:					
Water Division					
Operating expense	\$ 1,565,900	\$ 1,771,754	\$	\$ 901,992	\$ 1,107,846
Interest expense	190,445				(190,445)
Depreciation expense	322,114				(322,114)
Sewer Division					
Operating expenses	254,263	140,822		3,584,556	3,471,115
Interest expense	9				(9)
Depreciation expense	11,136				(11,136)
Total Business Activities	\$ 2,343,867	\$ 1,912,576	\$ 0	\$ 4,486,548	4,055,257
Revenues					
Investment income - water					11,820
Investment income - sewer					513
Other revenues					25,411
Gain (loss) on disposal of capital assets					(5,738)
Total General Revenues					32,006
Excess of Revenues Over (Under)					
Change in Net Assets					4,087,263
Net assets beginning of year - 1/1/09					9,313,134
Prior period adjustment					10,979
Net assets end of year - 12/31/09					\$ 13,411,376

See accompanying notes to financial statements.

**JESSAMINE SOUTH ELKHORN WATER DISTRICT**  
**WATER AND SEWER DIVISIONS**  
**COMBINED STATEMENT OF CASH FLOWS**  
**PROPRIETARY FUNDS**  
 For The Year Ended December 31, 2009

<b>CASH FLOWS FROM OPERATING ACTIVITIES:</b>	
Cash received from customers	\$ 1,951,099
Other operating receipts	25,190
Cash payments for personnel expenses	(329,767)
Cash payments for goods and services	<u>(1,675,329)</u>
Net cash provided by (used in) operating activities	<u>(28,807)</u>
<b>CASH FLOWS FROM CAPITAL AND RELATED FINANCING ACTIVITIES:</b>	
Net customer deposits	239,121
Grants received	3,178,106
Loss on disposal of capital assets	(5,738)
Borrowings under long-term obligations	316,495
Purchases of capital assets	(3,612,873)
Principal paid on long-term obligations	(156,120)
Interest paid on long-term obligations	<u>(280,800)</u>
Net cash provided by (used in) capital and related financing activities	<u>(321,809)</u>
<b>CASH FLOWS FROM INVESTING ACTIVITIES:</b>	
Income from investments	<u>12,333</u>
Net cash provided by (used in) investing activities	<u>12,333</u>
Net change in cash and cash equivalents	(338,283)
Cash and equivalents, beginning of year	<u>1,504,591</u>
Cash and equivalents, end of year	<u>\$ 1,166,308</u>

See accompanying notes to financial statements.

**JESSAMINE SOUTH ELKHORN WATER DISTRICT**  
**WATER AND SEWER DIVISIONS**  
**STATEMENT OF CASH FLOWS (CONTINUED)**  
**PROPRIETARY FUNDS**  
 For the Year Ended December 31, 2009

	Total
Reconciliation of cash and cash equivalents to the proprietary funds statement of net assets:	
Cash and cash equivalents-unrestricted	\$ 257,030
Cash and cash equivalents-restricted	909,278
Total cash and cash equivalents per the proprietary funds statement of net assets	1,166,308
Reconciliation of income (loss) from operations to net cash flows from operating activities:	
Income (loss) from operations	\$ (215,425)
Depreciation expense	333,250
Provision for bad debts	63,329
(Increase) decrease in operating assets:	
Accounts receivable	(24,804)
Other current assets	(222)
Increase (decrease) in operating liabilities:	
Accounts payable and other accrued expenses	(170,910)
Meter deposits and other liabilities	(14,025)
Net cash provided by (used in) operating activities	\$ (28,807)
Non-cash investing, capital, and financing activities:	
Capitalized interest included in expense paid	\$ 100,161
Capital assets conveyed by developers	1,069,322

See accompanying notes to financial statements.

**JESSAMINE SOUTH ELKHORN WATER DISTRICT  
WATER AND SEWER DIVISIONS  
NOTES TO FINANCIAL STATEMENTS  
December 31, 2009**

**NOTE 1 – SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES**

This summary of significant accounting policies for the Jessamine South Elkhorn Water District, Water and Sewer Divisions (the District) is presented to assist in understanding the District's financial statements. The financial statements and the related notes are representations of the District's management who is responsible for their integrity and objectivity. The accounting policies conform to generally accepted accounting principles and have been consistently applied in the preparation of the financial statements.

**Financial Reporting Entity**

The District, consisting of Jessamine South Elkhorn Water District, Water Divisions, and Jessamine South Elkhorn Water District Sewer Division, has been consolidated for reporting purposes. The entities share the same board of commissioners, central offices and employees.

The District is a special district formed for the express purpose of providing water service within the confines of Jessamine County, Kentucky. The Jessamine County Fiscal Court appoints an independent board of commissioners to govern the district. The District operates as an independent entity in that it is legally separate and holds corporate powers of organization. The Fiscal Court does not impose its will upon the district. The District does not impose financial benefit or burden upon the Fiscal Court.

**Basis of Presentation**

The basic financial statements of the District have been prepared in conformity with generally accepted accounting principles (GAAP) as applied to government units. The District's reporting entity applies all relevant Governmental Accounting Standards Board (GASB) pronouncements, including Statement No. 34, Basic Financial Statements – and Management's Discussion and Analysis, which mandates the new reporting model implemented by the District. The following is a summary of significant accounting policies.

**Basis of Accounting**

The entity-wide financial statements are reported using the economic resources measurement focus and the accrual basis of accounting. Revenues are recorded when earned and expenses are recorded when a liability is incurred, regardless of the timing of related cash flows. Furthermore, both long term and current assets and liabilities are included in the statement of net assets.

The District uses a proprietary enterprise fund to account for the activities of the District which are similar to those found in private business enterprises. The funds were established to account for the acquisition, operation, and maintenance of the District's facilities and services which are predominately self-supported by user charges. Where the District has a periodic determination of net income, it is appropriate to use the funds for capital maintenance, public policy, management control accountability, or other purposes.

**JESSAMINE SOUTH ELKHORN WATER DISTRICT  
WATER AND SEWER DIVISIONS  
NOTES TO FINANCIAL STATEMENTS  
December 31, 2009**

**NOTE 1 – SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (Continued)**

**Measurement Focus and Basis of Accounting**

Measurement focus is a term used to describe “which” transactions are recorded within the financial statements. Basis of accounting refers to “when” transactions are recorded regardless of the measurement focus applied. The District uses the flow of economic resources measurement focus. With this measurement focus, all assets and liabilities associated with the operation of these funds are included on the statement of net assets. The accounting objectives of this measurement focus are the determination of net income, financial position, and cash flows. All assets and liabilities (whether current or non-current) associated with their activities are reported. Proprietary fund equity is classified as net assets. Net assets are segregated into investment in capital assets, restricted, and unrestricted. The operating statement presents increases (e.g. revenues and expenses) in net assets. The District’s financial statements are presented on the accrual basis of accounting. Under this method, revenues are recognized when earned and expenses are recognized when incurred.

**Cash and Investments**

Cash includes amounts in bank accounts and savings. Kentucky Revised Statute 66.480 authorizes the District to invest in obligations of the U.S. Treasury, in bonds or certificates of indebtedness of this state and of its agencies; savings and loan associations insured by an agency of the government of the United States up to the amount so insured; interest bearing deposits in state or national banks chartered in Kentucky and insured by an agency of the United States up to the amount so insured, and in larger amounts, providing such bank pledges as security obligations equal to uninsured amounts.

**Cash and Cash Equivalents**

The District considers all cash, both restricted and unrestricted, as cash and cash equivalents for purposes of the proprietary funds statement of cash flows. The District considers all highly liquid investments with an original maturity of three months or less when purchased to be cash equivalents.

**Use of Estimates**

The preparation of financial statements in conformity with generally accepted accounting principles requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.



**JESSAMINE SOUTH ELKHORN WATER DISTRICT  
WATER AND SEWER DIVISIONS  
NOTES TO FINANCIAL STATEMENTS  
December 31, 2009**

**NOTE 1 – SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (Continued)**

**Capital Assets**

Property, Plant and Equipment of the District are stated at cost and depreciated over their estimated useful lives using the straight line method. Furniture and equipment is depreciated over the useful life of 5-10 years. Capital assets and the depreciation expense on capital assets purchased before the addition of the sewer division are presented as water division assets. Capital assets that are added since the addition of the sewer division have been allocated to both divisions based on current number of customers served at the time of the addition.

Interest costs are capitalized when incurred by proprietary fund on debt where the proceeds are used to finance the construction of fixed assets.

Long-term Obligations - In proprietary fund financial statements, long-term debt and other long-term obligations are reported as liabilities in the statement of net assets.

**Bond Discount/Premiums and Issuance Cost**

In the government-wide financial statements and proprietary fund types in the fund financial statements, bond discount/premiums and issuance costs are capitalized in the year of issue and amortized over the life of the bonds using the straight-line method. In the fund financial statements, governmental fund types recognize bond discounts/premiums (financing uses/sources) and issuance costs (debt service expenditures) during the current period.

**Inventories**

The District has not historically inventoried unsold water, nor accounted for unbilled water or sewer usage as of the year end. Similarly, the District does not accrue costs for water purchases unbilled to it as of the year end. The District does not inventory supplies or similar items unless such items are determined to be significant.

**Equity Classifications**

Equity is classified as net assets and is displayed (if applicable) in the following three components:

Invested in capital assets, net of related debt- Consists of capital assets including restricted capital assets, net of accumulated depreciation and reduced by the outstanding balance of notes or other borrowings that are attributable to the acquisitions, construction, or improvements of those assets.

Restricted Net Assets-Consists of net assets with constraints placed on their use either by (1) external groups such as creditors, grantors, contributors, or laws or regulations of other governments; or (2) laws through constitutional provisions or enabling legislation.

**JESSAMINE SOUTH ELKHORN WATER DISTRICT  
WATER AND SEWER DIVISIONS  
NOTES TO FINANCIAL STATEMENTS  
December 31, 2009**

**NOTE 1 – SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (Continued)**

Unrestricted Net Assets- All other net assets that do not meet the definition of “restricted” or “invested in capital assets, net of related debt.”

**Budget**

State law requires an annual budget for local supporting governments. The budget presentation for the District is not a required statement, but is presented the statement under other supplemental information.

**Income Taxes**

Per state law KRS 154.50-343, title to all property acquired by the District shall vest in the District and shall be exempt from taxations to the same extent as other property used for public purposes. All revenues collected by the District shall also be exempt from taxation.

**Revenues and Expenses/Expenditures**

The primary sources of the District’s revenues are from operating revenues and expenses for proprietary (enterprise) funds that result from providing services. It also includes all revenues and expenses not related to capital and related financing, non-capital financing, or investing activities.

The proprietary funds report expenses relating to the use of economic resources. Proprietary fund expenses are classified by function in the proprietary fund statement of revenues, expenses, and changes in net assets, with detail by natural or object classification provided as supplemental information.

Allocation of administrative and other overhead costs are prorated to the water and sewer divisions based on the number of customers served by each division.

**NOTE 2 – CASH DEPOSITS AND INVESTMENTS**

The investment policies of the District are governed by State statute. Major provisions of the District’s investment policy include:

- Depositories must be FDIC insured banking institutions,
- Depositories must fully insure or collateralize all demand and time deposits and repurchase agreements,
- Securities collateralizing repurchase agreements are to be held by independent third parties.

The District maintains deposits with financial institutions insured by the Federal Deposit Insurance Corporation (FDIC). As allowed by law, the depository bank should pledge securities along with FDIC insurance at least equal to the amount on deposit at all times. As of December 31, 2009, the bank balances were fully insured or collateralized with securities held by the District’s agent in the District’s name.

**JESSAMINE SOUTH ELKHORN WATER DISTRICT  
WATER AND SEWER DIVISIONS  
NOTES TO FINANCIAL STATEMENTS  
December 31, 2009**

**NOTE 2 – CASH DEPOSITS AND INVESTMENTS (Continued)**

**Bank Deposits**

Deposits (cash and certificates of deposits) are carried at cost, which approximates fair value. At December 31, 2009, the carrying amounts of the District's deposits were \$1,166,308 and the bank balances and cash on hand were \$1,229,035 and \$50, respectively. The District's cash deposits are classified as follows:

Category 1. Insured \$1,103,662.

Category 2. Collateralized with securities held by the pledging financial institution  
None.

Category 3. Uncollateralized consists of uncovered balances and cash on hand in the amounts of \$125,425 and \$50 respectively.

	<u>Cash and Cash Equivalents</u>	<u>Board Restricted Cash and Cash Equivalents</u>	<u>Restricted Cash and Cash Equivalents</u>	<u>Total</u>
Revenue Fund	\$ 26,361	\$ 332,787	\$ 10,378	\$ 369,526
Operation and Maintenance Fund	52,264			52,264
Revenue Bond Fund			17,667	17,667
Debt Service Reserve Account			132,368	132,368
Depreciation Fund		13,026		13,026
Construction Fund	124,229	114,187	102,148	340,564
Sewer accounts	<u>54,176</u>		<u>186,717</u>	<u>240,893</u>
Totals	<u>\$ 257,030</u>	<u>\$ 460,000</u>	<u>\$ 449,278</u>	<u>\$ 1,166,308</u>

**Investments**

The District has no monies invested in accounts other than bank checking and savings accounts.

**JESSAMINE SOUTH ELKHORN WATER DISTRICT  
WATER AND SEWER DIVISIONS  
NOTES TO FINANCIAL STATEMENTS  
December 31, 2009**

**NOTE 3 – RECEIVABLES**

Accounts receivable from customers and taxpayers are less an allowance for uncollectible balances. Additions to the allowance are charged to operations in the period in which the receivable becomes impaired. The District provides an allowance based on historical collection experience and a review of the current status of existing receivables. Usually no allowance for utility services has been required. The sewer expansion has created receivables related to reimbursements due from developers, some of which appear uncollectible. An allowance of \$63,329 has been taken.

**NOTE 4 – CAPITAL ASSETS**

The Utility plant is stated at original cost and depreciated over its estimated useful life using the straight-line method. Expenditures for maintenance and repairs are expensed when incurred. Renewals and betterments are capitalized. The range of useful lives used in computing depreciation is as follows:

- Transmission and distribution lines and related components and structures-40years
- Meters and Services-40 years
- Office furnishings 1-10 years
- Office equipment-5 years
- Vehicles-6 years

For the year ending December 31, 2009, total depreciation expense was \$322,114 for the water division and \$11,136 for the sewer division. Completed construction projects were removed from non-depreciable assets and reclassified as depreciable assets. During the year, the District also added a vehicle for the sewer division and relocated and installed the telemetry system at their new location. The following table summarized capital asset activity during the year ended December 31, 2009 is as follows:

Grants received during the year for sewer construction projects were \$2,730,830.

Capitalized interest for the water division is \$33,921. Capitalized interest for the sewer divisions is \$66,240 and is included in work in process.

**JESSAMINE SOUTH ELKHORN WATER DISTRICT  
WATER AND SEWER DIVISIONS  
NOTES TO FINANCIAL STATEMENTS  
December 31, 2009**

**NOTE 4 – CAPITAL ASSETS (Continued)**

	<u>Beginning</u>	<u>Additions</u>	<u>Deletions</u>	<u>Totals</u>
<u>Non-Depreciable</u>				
Construction in process water	\$ 2,192,710	\$ 677,628	\$ 2,863,450	\$ 6,888
Construction in process sewer	2,097,581	2,940,709		5,038,290
Total non-depreciable	<u>4,290,291</u>	<u>3,618,337</u>	<u>2,863,450</u>	<u>5,045,178</u>
<u>Depreciable</u>				
Utility plant/distribution system	11,720,670	3,374,994	56,244	15,039,420
Sewer collection	374,958	653,590		1,028,548
Building	450,000			450,000
Operating equipment/furn	11,634			11,634
Transportation water	19,030			19,030
Transportation sewer		17,032		17,032
Communication water	23,562	26,559		50,121
Communication sewer		1,031		1,031
	<u>12,599,854</u>	<u>4,073,206</u>	<u>56,244</u>	<u>16,616,816</u>
Accumulated Depreciation-Water	(3,399,730)	(322,114)	(50,506)	(3,671,338)
Accumulated Depreciation-Sewer	<u>(25,830)</u>	<u>(11,136)</u>		<u>(36,966)</u>
Total depreciable assets net of depreciation	<u>(3,425,560)</u>	<u>(333,250)</u>	<u>(50,506)</u>	<u>(3,708,304)</u>
Totals	<u>\$ 13,464,585</u>	<u>\$ 7,358,293</u>	<u>\$ 2,869,188</u>	<u>\$ 17,953,690</u>

The District had multiple construction projects which were in process at the beginning of the year. A brief recap of the projects is summarized as follows:

1. North Jessamine Sewer Project whose purpose is to acquire and construct certain facilities and improvements to the waterworks and sewer system in the north Jessamine County area. This project is anticipated to cost \$6,064,000 and is being financed with Grants from the EPA (\$2,850,700), HUD (\$1,000,000), RD Grant (\$941,300) and RD Loan (\$1,272,000). Grant monies of \$2,730,830 and loan proceeds of \$261,752 were received in 2009. Total costs to date are \$4,912,619 and the project is expected to be completed in the upcoming year.

**JESSAMINE SOUTH ELKHORN WATER DISTRICT  
 WATER AND SEWER DIVISIONS  
 NOTES TO FINANCIAL STATEMENTS  
 December 31, 2009**

**NOTE 4 – CAPITAL ASSETS (Continued)**

2. Ash Tree Sewer Project, which will be financed by District Funds, is to expand sewer service to that area of Jessamine County. There was no activity during 2009 and costs to date are \$59,431, but the project is expected to be completed in the upcoming year.
  
3. Unserved Rural Jessamine Water Project: The purpose of this project is to provide potable drinking water to the citizens of Jessamine County. The project is financed by grants from the KIA (\$1,600,000). Grant monies of \$447,276 were received in 2009. Additional costs incurred during 2009 were \$175,178, bringing the project costs to \$1,291,388. The lines were put into use by year end and have been removed from work in process and are included in additions to the depreciable assets.
  
4. US 68 Lines Relocation Project and Keene Reconstruction Project: The purpose of the project is to move lines along US 68 to accommodate that highway's expansion. Costs will be reimbursed by the Kentucky DOT. The re-piping of the Keene system to eliminated line breaks and other issues in that area will be financed by a loan for the KIA for \$1,750,000. Grant monies of \$447,286 and loans of \$54,743 were received in 2009. Costs to date are \$1,471,962 and the new lines have been put into use, therefore they have been removed from work in process and are included in additions to the depreciable assets.

**NOTE 5 – PAYABLES**

Accounts payables consist of payments due to vendors for operations and maintenance of the water and sewer division, construction costs and various taxes related to payroll and sales. A breakdown of payables follows:

Accounts payable water	\$ 115,937
Accounts payable construction	5,784
Accounts payable sewer	24,970
Sales tax payable	1,028
Payroll payables	<u>3,456</u>
Total current payables	<u>\$ 151,175</u>

**JESSAMINE SOUTH ELKHORN WATER DISTRICT  
WATER AND SEWER DIVISIONS  
NOTES TO FINANCIAL STATEMENTS  
December 31, 2009**

**NOTE 6 – LONG-TERM DEBT**

**Notes payable**

- In 1992, the District received a loan from the Kentucky Infrastructure Authority Fund C91-01, in the amount of \$1,924,874. The proceeds of this loan went to finance the infrastructure improvement to the water distribution system. The note represents the District's portion of the of the Kentucky Infrastructure Authority Governmental Agencies Program Revenue Refunding Bonds series K issue C91-01 and currently bears interest at the rate of 3.16%. The District capitalized costs associated with an initial refinancing in the amount of \$57,122 in 2003 and an additional \$18,522 from the succeeding refinancing in 2004 which is being amortized over the remaining life of the issue. The issue matures in June 2013 and bears a weighted average interest rate over the term of the note of 4.29%.

Payments for the loan are as follows:

<u>As of June 30</u>	<u>Principal</u>	<u>Interest &amp; Service fee</u>	<u>Total</u>
2010	\$ 105,000	\$ 20,311	\$ 125,311
2011	110,000	15,140	125,140
2012	117,500	9,481	126,981
2013	<u>60,000</u>	<u>3,234</u>	<u>63,234</u>
Totals	<u>\$ 392,500</u>	<u>\$ 48,166</u>	<u>\$ 440,666</u>

- In 2002, the District received a loan from a local bank with a principal amount of \$400,000. The proceeds were used to complete funding for a \$3,500,000 project in Southeast Jessamine County. In 2007 the note was refinanced at 6.08% for \$358,865 with 11 quarterly payments of \$5,645 and a balloon payment of \$360,688 in April 2010. The District expects to refinance this note at that time. The balance on December 31, 2009 is \$344,390.
- In 2008, the District borrowed \$450,000 to purchase a building for the District's operations. The note is secured by the District's office facilities and bears an annual rate of interest of 5.50%. The note calls for monthly payments of \$2,585 and matures with a balloon payment due in April 2018 of \$375,851. The balance on December 31, 2009 is \$439,308.

**JESSAMINE SOUTH ELKHORN WATER DISTRICT  
WATER AND SEWER DIVISIONS  
NOTES TO FINANCIAL STATEMENTS  
December 31, 2009**

**NOTE 6 – LONG-TERM DEBT (Continued)**

- In June 2007, the District received a loan from Kentucky Infrastructure Authority Fund F07-02 not to exceed \$1,750,000. The proceeds are being used to construct the Keene system water main and hydraulic reinforcement loop lines. The loan interest rate is 3.00% with semi-annual payments of interest commencing with the first draw. Principal is to be repaid in semi-annual payments over a term of 20 years beginning with the initial operations. It is estimated that the first principal payment will be in June 2010. The loan's outstanding principal balance as of December 31, 2009 totals \$1,145,215.
- In 2008, the District received an interim loan in the amount of \$1,752,000 from the Kentucky Rural Water Association (KRWA) for the purpose of construction of its waste water system improvement project in northern Jessamine County. Once construction is completed, (expected in 2010), the loan will be closed with the issuance of bonds. The loan's outstanding principal as of December 31, 2009 totals \$1,252,144.

Payments for the loans are as follows:

	Principal	Interest	Total
2010	\$ 455,915	\$ 55,576	\$ 511,491
2011	116,901	39,256	156,157
2012	124,798	33,200	157,998
2013	67,718	26,533	94,251
2014	8,162	22,856	31,018
2015-2019	402,704	72,641	475,345
Totals	\$ 1,176,198	\$ 250,062	\$ 1,426,260

**Bonds**

- In 1971, the District issued bonds, for \$204,000, to construct a water distribution system. Payments of interest at a 5% annual rate are due annually in January and the bonds mature serially each January 1 through January 2011. These bonds are secured by the water supply and distribution system. The balance on December 31, 2009 is \$5,000.
- In 1999 the District issued revenue bonds Series 2000A for \$1,901,000 and Series 2000B in the amount of \$400,000 the proceeds of which were to finance the expansion of the waters works system, and to be secured by that system. Payments of interest at a 5.25% annual rate are due annually on January 1<sup>st</sup> and the bonds mature serially each January 1 through January 2039. The balance on December 31, 2009 is \$2,075,000.



**JESSAMINE SOUTH ELKHORN WATER DISTRICT  
WATER AND SEWER DIVISIONS  
NOTES TO FINANCIAL STATEMENTS  
December 31, 2009**

**NOTE 6 – LONG-TERM DEBT (Continued)**

At December 31, 2009, the future debt service requirements of the revenue bonds for the water division are as follows:

	<u>Principal</u>	<u>Interest</u>	<u>Total</u>
2010	\$ 36,500	\$ 108,738	\$ 145,238
2011	34,000	106,841	140,841
2012	35,000	105,063	140,063
2013	37,500	103,233	140,733
2014	39,000	101,272	140,272
2015-2019	230,000	473,425	703,425
2020-2024	295,000	406,765	701,765
2025-2029	382,000	320,993	702,993
2030-2034	493,000	210,150	703,150
2035-2038	498,000	66,831	564,831
<b>Totals</b>	<b>\$ <u>2,080,000</u></b>	<b>\$ <u>2,003,311</u></b>	<b>\$ <u>4,083,311</u></b>

The Series 1971 and 2000 bond ordinances established the following accounts, as well as certain requirements as follows:

1. Utilities Revenue Fund – The District agrees to deposit, therein promptly as received from time to time, all cash revenues of the utilities system, and to disburse there from in the manner and order of priorities as described in the following paragraphs.
2. Revenue Bond Fund Principal and Interest Sinking Fund – The District deposits each month an amount equal to one twelfth (1/12) of the amount of interest becoming due on all bonds outstanding on the next ensuing annual interest payment date, plus one twelfth (1/12) of the amount of principal of all bonds outstanding which are maturing on the next ensuing October 1<sup>st</sup>. As of December 31, 2009, the balance in this account (\$17,667) exceeds what is required.
3. Debt Service Reserve Account – A bond reserve account of at least \$12,000 is to be maintained for the 1971 Revenue Bond. The 2000 Bond Agreement calls for monthly reserve accumulations of \$1,190. The District is to maintain a balance equal to the lesser of (1) the maximum amount of principal and interest which will become due and payable on all bonds in any period of twelve months ending January 1, (2) 125% of the average annual amount of principal and interest due on all bonds, or (3) 10% of the proceeds of the bonds. As of December 31, 2009, the accounts that comprise the Debt Service Reserve Account (\$132,368) exceed what is required.

**JESSAMINE SOUTH ELKHORN WATER DISTRICT  
WATER AND SEWER DIVISIONS  
NOTES TO FINANCIAL STATEMENTS  
December 31, 2009**

**NOTE 6 – LONG-TERM DEBT (Continued)**

4. Operation and Maintenance Fund – The District shall deposit an amount equal to the estimated current expense of operating, maintaining, and insuring the system for the next ensuing month. The amounts shall be determined pursuant to the annual budget adopted by the District Board and are to be made to meet the reasonable and necessary expenses. As of December 31, 2009, the total balance of the funds that comprise the Operation and Maintenance Fund exceeds what is required.
5. Depreciation Fund – The District shall deposit amounts from the Revenue Fund after provisions have first been made for the prescribed deposits into the Revenue Bond Fund principal and interest accounts and the Operation and Maintenance Fund, until reaching a balance of \$12,000 to comply with covenants of the Bond Issue of 1971. This fund is for the purpose of paying unusual or extraordinary maintenance repairs, renewals and replacement. \$13,026 has been accumulated as of December 31, 2009, and exceeds the amount required.
6. Construction Fund-This fund is to be used to construct additions, extensions, and improvements other than those of the Depreciation Fund. Bond covenants require funds received during bond sales for construction purposes be segregated and spent for that purpose only. The District holds no restricted funds from bond sales as of December 31, 2009.
7. Sewer accounts-These accounts were opened subsequent to the Bond Agreements and are not restricted by formal Ordinance.

Activity in the long-term obligations of the District during the year ended December 31, 2009 is summarized as follows:

	Balance 12/31/2008	Increases	Decreases	Balance 12/31/2009	Due in one year
KIA Refunding KC91-01	\$ 495,000	\$ -	\$ 102,500	\$ 392,500	\$ 105,000
Farmers Bank Note	352,119	-	7,729	344,390	344,390
Farmers Office Bldg	445,699	-	6,391	439,308	6,526
KRWA Interim	990,392	261,752	-	1,252,144	-
KIA Interim	1,090,472	54,743	-	1,145,215	-
<b>Total loans</b>	<b>3,373,682</b>	<b>316,495</b>	<b>116,620</b>	<b>3,573,557</b>	<b>455,916</b>
Revenue bonds:					
Series 1971	14,000	-	9,000	5,000	5,000
Series 2000	2,105,500	-	30,500	2,075,000	31,500
<b>Total revenue bonds</b>	<b>2,119,500</b>	<b>-</b>	<b>39,500</b>	<b>2,080,000</b>	<b>36,500</b>
<b>Totals</b>	<b>\$ 5,493,182</b>	<b>\$ 316,495</b>	<b>\$ 156,120</b>	<b>\$ 5,653,557</b>	<b>492,416</b>

**JESSAMINE SOUTH ELKHORN WATER DISTRICT  
WATER AND SEWER DIVISIONS  
NOTES TO FINANCIAL STATEMENTS  
December 31, 2009**

**NOTE 7 – COMPENSATION**

Employees for the District are either salary or hourly workers. Some are full-time and some work part-time. The Commissioners on the board receive an annual payment to offset the expenses of serving on the board that is included in payroll. The District offers employees insurance coverage and the option to participate in a retirement program. The Commissioners are not covered by employee health or retirement programs.

Compensation Staff	\$	234,505
Commissioners		30,200
Payroll taxes		20,848
Health insurance		31,750
Pension benefits		<u>11,823</u>
 Totals	 \$	 <u><u>329,126</u></u>

**NOTE 8 – ACCRUED COMPENSATION**

It is the District’s policy to permit employees to accumulate earned but unused vacation leave and sick pay benefits. The policy of the District is to not accrue the cost of vacation or sick leave as unpaid compensated absences are not materially significant.

Vacation days are accrued at 5 days per year for the first year, 10 day up to five years and 15 days from year six on. Unused days may be carried over, but shall not exceed twenty days entering into a new calendar year.

Sick days are earned by employees as on day for every month of employment and may accumulate to a total of no more than seventy-five days.

**NOTE 9 – INSURANCE AND RISK MANAGEMENT**

The District is exposed to various forms of loss associated with the risks of fire, personal liability, theft, vehicular accidents, errors and omissions, fiduciary responsibility and torts, injuries to employees, natural disasters, etc. Each of these risk areas is covered through the purchase of a commercial insurance package. The District has purchased certain policies which are rated including workers’ compensation insurance. Premiums for these policies are based upon the District’s experience to date.

**JESSAMINE SOUTH ELKHORN WATER DISTRICT  
WATER AND SEWER DIVISIONS  
NOTES TO FINANCIAL STATEMENTS  
December 31, 2009**

**NOTE 10 – RESTRICTED AND BOARD RESERVED NET ASSETS**

Certain proprietary funds are restricted for construction funded through long-term debt, permits and connections fees and grant revenues. Net assets restricted for debt service include the excess of assets over certain liabilities restricted for the debt service on revenue bonds. Restricted assets are also reported in various funds for cash deposited in bank accounts legally restricted for specified uses such as the payment of debt service or retainage on capital projects. The restricted assets in the accompanying financial statements are restricted as to use by ordinance, external parties or by board reserve. The following schedule sets forth those net assets reserved and restricted as of December 31, 2009.

	Board Reserved	Restricted Amount	Total Balance
Customer deposits	\$	\$	\$
Connection fees		10,378	10,378
Depreciation Fund	13,026		13,026
Reserve Fund		132,368	132,368
Bond & Interest Fund		17,667	17,667
Construction accounts-Water	114,187	102,147	216,334
Construction accounts-Sewer		186,718	186,718
Board designated accounts	<u>332,787</u>		<u>332,787</u>
Totals	\$ <u>460,000</u>	\$ <u>449,278</u>	\$ <u>909,278</u>

**NOTE 10 – PRIOR PERIOD ADJUSTMENT**

During the testing of beginning balances of fixed assets, it was determined that one item in the water division had been depreciated beyond its historical book value in the amount of \$10,979. Additionally, an asset listed on the sewer division's fixed assets was not included in their balance sheet, but in the water division in the amount of \$25,542. This created an understatement of the capital assets and the fund balance-invested in fixed assets, net of debt. It also overstated the same accounts in the water division's construction account and understated the sewer division's accounts. The beginning fund balance of the construction fund has been increased by \$10,979 and a transfer of \$25,542 from the water to the sewer division has been made.

**JESSAMINE SOUTH ELKHORN WATER DISTRICT  
 WATER AND SEWER DIVISIONS  
 NOTES TO FINANCIAL STATEMENTS  
 December 31, 2009**

**NOTE 11 – SUBSEQUENT EVENTS**

In March 2010, the District issued Series 2008A revenue bonds for \$750,000, Series 2008B revenue bonds for \$522,000, and Series 2009A for \$240,000. Proceeds of the bonds were used to retire interim financing from Kentucky Rural Water Association (KRWA) for the North Jessamine sewer project.

Combined payments on the three bond issues are as follows:

<u>As of January 1</u>	<u>Principal</u>	<u>Interest</u>	<u>Total</u>
2011	\$ 0	\$ 61,013	\$ 61,013
2012	0	61,013	61,013
2013	17,800	61,013	78,813
2014	18,400	60,312	78,712
2015	19,000	59,586	78,586
2016-2020	107,000	285,982	392,982
2021-2025	129,900	263,036	392,936
2026-2030	157,800	234,994	392,794
2031-2035	192,200	200,659	392,859
2036-2040	234,500	158,602	393,102
2041-2045	286,500	107,077	393,577
2046-2050	<u>348,900</u>	<u>43,870</u>	<u>392,770</u>
Totals	<u>\$ 1,512,000</u>	<u>\$ 1,597,157</u>	<u>\$ 3,109,157</u>

**OTHER SUPPLEMENTAL INFORMATION**

JESSAMINE SOUTH ELKHORN WATER DISTRICT  
 COMBINING BALANCE SHEET  
 PROPRIETARY FUNDS  
 December 31, 2009

ASSETS	Revenue Fund	Operations and Maintenance Fund	Bond and Interest Sinking Fund	Depreciation Fund	Reserve Fund	Construction Fund	Sewer Fund	Totals
<u>Current Assets</u>								
Cash and cash equivalents, unrestricted	\$ 26,361	\$ 52,264	\$ -	\$ -	\$ -	\$ 124,229	\$ 54,176	\$ 257,030
Receivables	47,062	1,752	-	-	-	8,179	46,410	103,403
Intra-fund advances	54,611	-	-	-	-	-	(54,611)	-
Prepaid expenses	-	11,603	-	-	-	-	-	11,603
Total Current Assets	<u>128,034</u>	<u>65,619</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>132,408</u>	<u>45,975</u>	<u>372,036</u>
Cash and cash equivalents, restricted	<u>343,165</u>	<u>-</u>	<u>17,667</u>	<u>13,026</u>	<u>132,368</u>	<u>216,335</u>	<u>186,717</u>	<u>909,278</u>
<u>Utility Plant</u>								
<u>Non-depreciable capital assets</u>								
Construction in process	-	-	-	-	-	6,887	5,038,290	5,045,177
<u>Depreciable capital assets</u>								
Pumping Plant and Distribution System	-	-	-	-	-	15,570,206	1,046,611	16,616,817
Less: accumulated depreciation	-	-	-	-	-	(3,671,338)	(36,966)	(3,708,304)
	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>11,905,755</u>	<u>6,047,935</u>	<u>17,953,690</u>
Other Assets-Unamortized bond costs	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>38,674</u>	<u>0</u>	<u>38,674</u>
Total Assets	<u>\$ 471,199</u>	<u>\$ 65,619</u>	<u>\$ 17,667</u>	<u>\$ 13,026</u>	<u>\$ 132,368</u>	<u>\$ 12,293,172</u>	<u>\$ 6,280,627</u>	<u>\$ 19,273,678</u>

See accompanying notes to financial statements.

**JESSAMINE SOUTH ELKHORN WATER DISTRICT**  
**COMBINING BALANCE SHEET**  
**PROPRIETARY FUNDS (Continued)**  
December 31, 2009

**LIABILITIES AND FUND BALANCES**

Liabilities:

Accounts payable	\$ -	\$ 119,393	\$ -	\$ -	\$ -	\$ 5,784	\$ 24,970	\$ 150,147
Sales, utilities and payroll taxes payable	1,028	-	-	-	-	-	-	1,028
Customer deposits	10,060	-	-	-	-	-	5,550	15,610
Accrued interest	-	-	-	-	-	1,903	40,057	41,960
Current portion of long-term debt	-	-	-	-	-	169,556	-	169,556
	<u>11,088</u>	<u>119,393</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>177,243</u>	<u>70,577</u>	<u>378,301</u>
Long-Term Debt								
Notes payable								
Revenue bonds						2,188,357	1,252,144	3,440,501
Total Long-Term Debt						<u>2,043,500</u>	<u>-</u>	<u>2,043,500</u>
Total Liabilities	<u>11,088</u>	<u>119,393</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>4,231,857</u>	<u>1,252,144</u>	<u>5,484,001</u>

Fund balances:

Invested in capital assets, net of related debt						7,504,342	4,795,791	12,300,133
Restricted for:								
Debt service								
Construction fund			17,667					17,667
Depreciation reserve						102,147	186,717	288,864
Operation and maintenance reserve	10,378			13,026				13,026
Unreserved, undesignated reported in:					132,368			142,746
Unrestricted	116,946	(96,013)						
Board designated	<u>332,787</u>	<u>42,239</u>				163,396	(24,602)	159,727
Total Fund Balances	<u>460,111</u>	<u>(53,774)</u>	<u>17,667</u>	<u>13,026</u>	<u>132,368</u>	<u>7,884,072</u>	<u>4,957,906</u>	<u>13,411,376</u>
Total Liabilities and Fund Balances	<u>\$ 471,199</u>	<u>\$ 65,619</u>	<u>\$ 17,667</u>	<u>\$ 13,026</u>	<u>\$ 132,368</u>	<u>\$ 12,293,172</u>	<u>\$ 6,280,627</u>	<u>\$ 19,273,678</u>

See accompanying notes to financial statements.



**JESSAMINE SOUTH ELKHORN WATER DISTRICT**  
**COMBINING STATEMENT OF REVENUES, EXPENDITURES,**  
**AND CHANGES IN FUND BALANCES**  
For the Year Ended December 31, 2009

<u>REVENUES</u>	Revenue Fund	Operations and Maintenance Fund	Bond and Interest Sinking Fund	Depreciation Fund	Reserve Fund	Construction Fund	Sewer Fund	Totals
Water sales	\$ 1,731,499	\$ 5,250	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,736,749
Sewer fees	-	-	-	-	-	-	140,822	140,822
Penalties	22,098	-	-	-	-	-	-	22,123
Service charges	12,882	-	-	-	-	25	-	12,882
Miscellaneous revenues	244	24,490	-	-	-	-	-	25,411
<b>Total Revenues</b>	<u>1,766,723</u>	<u>29,740</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>25</u>	<u>141,499</u>	<u>1,937,987</u>
<u>EXPENDITURES</u>								
Water purchased and sewer usage	-	918,563	-	-	-	-	54,541	973,104
Engineering	-	101,556	-	-	-	-	53,531	155,087
Other professional services	-	5,744	-	-	-	-	3,953	9,697
Legal and accounting	-	17,905	-	-	-	-	7,369	25,274
Commissioners' compensation	-	28,904	-	-	-	-	1,296	30,200
Maintenance and repairs	-	104,213	-	-	-	-	9,757	114,010
Meter readings and testing	-	1,764	-	40	-	-	-	1,764
Truck and travel	-	13,465	-	-	-	-	2,860	16,325
Office and miscellaneous	229	44,039	-	-	-	-	5,266	50,528
Payroll	-	209,800	-	-	-	994	39,670	249,470
Employee insurance, benefits and taxes	-	59,319	-	-	-	-	5,102	64,421
Insurance	-	25,376	-	-	-	-	1,147	26,523
Utilities and telephone	-	26,246	-	-	-	-	3,955	30,201
Bad debts	7,743	-	-	-	-	-	65,816	73,559
<b>Total expenditures</b>	<u>7,972</u>	<u>1,556,894</u>	<u>-</u>	<u>40</u>	<u>-</u>	<u>994</u>	<u>254,263</u>	<u>1,820,163</u>
<b>Excess (deficiency) of revenues over expenditures</b>	<u>1,758,751</u>	<u>(1,527,154)</u>	<u>-</u>	<u>(40)</u>	<u>-</u>	<u>(969)</u>	<u>(112,764)</u>	<u>117,824</u>
Depreciation expense	-	-	-	(40)	-	-	-	-
<b>Net change in net assets from operations</b>	<u>1,758,751</u>	<u>(1,527,154)</u>	<u>-</u>	<u>(40)</u>	<u>-</u>	<u>322,114</u>	<u>11,136</u>	<u>333,250</u>
						(323,083)	(123,900)	(215,426)

See accompanying notes to financial statements.

**JESSAMINE SOUTH ELKHORN WATER DISTRICT**  
**COMBINING STATEMENT OF REVENUES, EXPENDITURES,**  
**AND CHANGES IN FUND BALANCES (Continued)**  
**For the Year Ended December 31, 2009**

	Revenue Fund	Operations and Maintenance Fund	Bond and Interest Sinking Fund	Depreciation Fund	Reserve Fund	Construction Fund	Sewer Fund	Totals
<b>OTHER FINANCING SOURCES(USES):</b>								
Interfund transfers in (out)	\$ (1,962,272)	\$ 1,483,109	\$ 3,000	\$ 21,300	\$ 13,573	\$ 414,539	\$ 26,751	-
Loss(gain) on disposal of capital assets	-	-	-	-	-	(5,738)	-	(5,738)
Interest income	4,915	200	234	1,021	780	4,670	513	12,333
Interest expense	(49)	-	(700)	-	-	(189,696)	(9)	(190,454)
Connection fees	-	8,846	-	-	-	30,138	200,136	239,120
Capital contributions from developers	-	-	-	-	-	415,732	653,590	1,069,322
Capital contributions from grants	-	-	-	-	-	447,276	2,730,830	3,178,106
<b>Total Other Financings Sources (Uses)</b>	<u>(1,957,406)</u>	<u>1,492,155</u>	<u>2,534</u>	<u>22,321</u>	<u>14,353</u>	<u>1,116,921</u>	<u>3,611,811</u>	<u>4,302,689</u>
Change in net assets	(198,655)	(34,999)	2,534	22,281	14,353	793,838	3,487,911	4,087,263
Net assets, beginning of year	658,766	(18,775)	15,133	(9,255)	118,015	7,079,255	1,469,995	9,313,134
Prior period adjustment	-	-	-	-	-	10,979	-	10,979
Net assets, end of year	<u>\$ 460,111</u>	<u>\$ (53,774)</u>	<u>\$ 17,667</u>	<u>\$ 13,026</u>	<u>\$ 132,368</u>	<u>\$ 7,884,072</u>	<u>\$ 4,957,906</u>	<u>\$ 13,411,376</u>

See accompanying notes to financial statements.

**JESSAMINE SOUTH ELKHORN WATER DISTRICT**  
**SCHEDULE OF REVENUES AND EXPENSES -**  
**BUDGET AND ACTUAL**  
For the Year Ended December 31, 2009

	<u>Amended Budget</u>	<u>Actual</u>	<u>Over (Under) Budget</u>
<b>OPERATING REVENUES:</b>			
Water, and sewer service charges:			
Water	\$ 1,946,036	\$ 1,736,749	\$ (209,287)
Sewer	<u>159,237</u>	<u>140,822</u>	<u>(18,415)</u>
Total Electric, Water, and Sewer Service Charges	2,105,273	1,877,571	(227,702)
Penalties and service charges	38,065	35,005	(3,060)
Other	<u>21,926</u>	<u>25,411</u>	<u>3,485</u>
 Total Operating Revenues	 <u>2,165,264</u>	 <u>1,937,987</u>	 <u>(227,277)</u>
 <b>OPERATING EXPENSES:</b>			
<b>Costs of sales</b>			
Water purchased	866,941	918,563	51,622
Sewer usage	<u>46,297</u>	<u>54,541</u>	<u>8,244</u>
Total Cost of Sales	<u>913,238</u>	<u>973,104</u>	<u>59,866</u>
 <b>Operations and Maintenance</b>			
<b>Compensation</b>			
Gross wages	245,451	234,505	(10,946)
Meter reading	15,157	14,965	(192)
Commissioner salaries	30,000	30,200	200
Payroll taxes	21,056	20,848	(208)
Employee insurance	35,835	31,750	(4,085)
Retirement expenses	<u>8,391</u>	<u>11,823</u>	<u>3,432</u>
Total Compensation	<u>355,890</u>	<u>344,091</u>	<u>(11,799)</u>
 <b>Contractual Services</b>			
Engineering water	45,790	101,557	55,767
Engineering sewer	46,815	53,531	6,716
Accounting	12,034	10,456	(1,578)
Legal water	15,891	7,448	(8,443)
Legal sewer	13,183	7,369	(5,814)
Contractual other expenses	<u>8,420</u>	<u>11,461</u>	<u>3,041</u>
Total Contractual Services	<u>142,133</u>	<u>191,822</u>	<u>49,689</u>

See accompanying notes to financial statements.

**JESSAMINE SOUTH ELKHORN WATER DISTRICT**  
**SCHEDULE OF REVENUES AND EXPENSES -**  
**BUDGET AND ACTUAL (Continued)**  
For the Year Ended December 31, 2009

	<u>Amended Budget</u>	<u>Actual</u>	<u>Over (Under) Budget</u>
Materials and supplies			
Office expense water	\$ 30,802	\$ 38,264	\$ 7,462
Office expense sewer	4,503	4,937	434
Other expenses	25,348	7,327	(18,021)
Repairs and maintenance water	125,000	104,253	(20,747)
Repairs and maintenance sewer	813	9,757	8,944
Travel and vehicle	39,156	16,325	(22,831)
Total Materials and Supplies	<u>225,622</u>	<u>180,863</u>	<u>(44,759)</u>
 Utilities, Insurance and Other			
Utilities	15,614	24,716	9,102
Communications	6,251	5,485	(766)
Insurance water	33,055	25,376	(7,679)
Insurance sewer	66	1,147	1,081
Bad debt	15,166	73,559	58,393
Total Utilities, Insurance and Other	<u>70,152</u>	<u>130,283</u>	<u>60,131</u>
Depreciation Expense	<u>100,000</u>	<u>333,250</u>	<u>233,250</u>
Total Operating Expenses	<u>1,807,035</u>	<u>2,153,413</u>	<u>346,378</u>
Total Operating Revenues Less Expenses	<u>358,229</u>	<u>(215,426)</u>	<u>(573,655)</u>
 NON-OPERATING REVENUES (EXPENSES):			
Water and sewer tap fees	54,024	239,121	185,097
Capital contributions from developers		1,069,322	1,069,322
Capital contributions from grants		3,178,106	3,178,106
Income from investments	21,032	12,333	(8,699)
Interest & amortization expense	(144,577)	(190,454)	(45,877)
Gain on sales and disposal of capital assets		(5,738)	(5,738)
Total non-operating revenues(expenses)	<u>(69,521)</u>	<u>4,302,690</u>	<u>4,372,211</u>
CHANGE IN NET ASSETS	<u>288,708</u>	<u>\$ 4,087,264</u>	<u>\$ 3,798,556</u>
Other budgeted cash flows			
Capital construction	(60,000)		
Meters and other capital purchases	(37,461)		
Debt service principal	(149,000)		
	<u>(246,461)</u>		
Budgeted increase in net assets	<u>\$ 42,247</u>		

See accompanying notes to financial statements.



Leta G. Mattingly, CPA  
Nancy J. Clark, CPA  
Veronica L. Roberts

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*Charles D. Fain, III, CPA*  
*(1955-2002)*  
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*Members of  
Kentucky Society of  
Certified Public Accountants  
American Institute of  
Certified Public Accountants*

**Report on Compliance and Internal Control  
Over Financial Reporting Based on an Audit of  
Financial Statements Performed in Accordance  
With Government Auditing Standards**

The Board of Commissioners  
Jessamine South Elkhorn Water District  
Water and Sewer Divisions  
Nicholasville, Kentucky

We have audited the financial statements of the business-type activities of the Jessamine South Elkhorn Water District, Water and Sewer Divisions (District), as of and for the year ended December 31, 2009, which collectively comprise the District's basic financial statements and have issued our report thereon dated March 24, 2010. We conducted our audit in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States.

Internal Control over Financial Reporting

In planning and performing our audit, we considered the Jessamine South Elkhorn Water District, Water and Sewer Division's internal control over financial reporting in order to determine our auditing procedures for the purpose of expressing our opinion on the financial statements, but not for the purpose of expressing an opinion on the effectiveness of the District's internal control over financial reporting. Accordingly, we do not express an opinion on the effectiveness of the District's internal control over financial reporting.

A control deficiency exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions,

to prevent or detect misstatements on a timely basis. A significant deficiency is a control deficiency, or combination of control deficiencies, that adversely affects the District's ability to initiate, authorize, record, process, or report financial data reliably in accordance with generally accepted accounting principles such that there is more than a remote likelihood that a misstatement of the District's financial statements that is more than inconsequential will not be prevented or detected by the District's internal control.

A material weakness is a significant deficiency, or combination of significant deficiencies, that results in more than a remote likelihood that material misstatement of the financial statements will not be prevented or detected by the District's internal control.

Our consideration of internal control over financial reporting was for the limited purpose described in the first paragraph of this section and would not necessarily identify all deficiencies in internal control that might be significant deficiencies or material weaknesses. We did not identify any deficiencies in internal control financial reporting that we consider to be material weaknesses, as defined above.

#### Compliance and Other Matters

As part of obtaining reasonable assurance about whether District's financial statements are free of material misstatement, we performed tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements, noncompliance with which could have a direct and material effect on the determination of financial statement amounts. However, providing an opinion on compliance with those provisions was not an objective of our audit, and accordingly, we do not express such an opinion. The results of our tests disclosed no instances of noncompliance or other matters that are required to be reported under *Government Auditing Standards*.

We noted certain matters that we reported to management of the District in a separate letter dated March 24, 2010.

This report is intended solely for the information and use of management, the audit committee, District and federal awarding agencies and pass-through entities and is not intended to be and should not be used by anyone other than these specified parties.

  
Fain, Mattingly & Associates, P.S.C., CPAs

March 24, 2010



Leta G. Mattingly, CPA  
Nancy J. Clark, CPA  
Veronica L. Roberts

Members of  
Kentucky Society of  
Certified Public Accountants  
American Institute of  
Certified Public Accountants

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Charles D. Fain, III, CPA  
(1955-2002)

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**REPORT ON COMPLIANCE WITH REQUIREMENTS APPLICABLE TO  
EACH MAJOR PROGRAM AND ON INTERNAL CONTROL COMPLIANCE  
REQUIRED BY OMB CIRCULAR A-133**

**Compliance**

We have audited the compliance of the Jessamine South Elkhorn Water District, Water and Sewer Divisions (the District) with the types of compliance requirements described in the U.S. Office of Management and Budget (OMB) *Circular A-133 Compliance Supplement* that are applicable to each of its major federal programs for the ended December 31, 2009. The District's major federal programs are identified in the summary of auditor's results section of the accompanying schedule of findings and questioned costs. Compliance with the requirements of laws, regulations, contracts, and grants applicable to the major federal program, is the responsibility of the Jessamine South Elkhorn Water District's management. Our responsibility is to express an opinion on the District's compliance based on our audit.

We conducted our audit of compliance in accordance with auditing standards generally accepted in the United States of America; the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States; and OMB Circular A-133, *Audits of States, Local Governments and Non-Profit Organizations*. Those standards and OMB Circular A-133 require that we plan and perform the audit to obtain reasonable assurance about whether noncompliance with the types of compliance requirements referred to above could have a direct and material effect on a major federal program occurred. An audit includes examining, on a test basis, evidence about the District's compliance with those requirements and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion. Our audit does not provide a legal determination of the District's compliance with those requirements.

In our opinion, the Jessamine South Elkhorn Water District complied, in all material respects, with the requirements referred to above that are applicable to its major federal program for the year ended December 31, 2009.

## Internal Control Over Compliance

The management of the Jessamine South Elkhorn Water District is responsible for establishing and maintaining effective internal control over compliance with the requirements of laws, regulations, contracts, and grants applicable to federal programs. In planning and performing our audit, we considered the District's internal control over compliance with requirements that could have a direct and material effect on a major federal program in order to determine our auditing procedures for the purpose of expressing our opinion on compliance, but not for the purpose of expressing an opinion on the effectiveness of internal control over compliance. Accordingly, we do not express an opinion on the effectiveness of the District's internal control over compliance.

A *control deficiency* in an entity's internal control over compliance exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to prevent or detect noncompliance with a type of compliance requirement of a federal program on a timely basis. A *significant deficiency* is a control deficiency or combination of control deficiencies, that adversely affects the entity's ability to administer a federal program such that there is more than a remote likelihood that noncompliance with a type of compliance requirement of a federal program that is more than inconsequential will not be prevented or detected by the entity's internal control.

A material weakness is a significant deficiency or combination of significant deficiencies, that results in more than a remote likelihood that material noncompliance with a type of compliance requirement of a federal program will not be prevented or detected by the entity's internal control.

Our consideration of internal control over compliance was for the limited purpose described in the first paragraph of this section and would not necessarily identify all deficiencies in internal control that might be significant deficiencies or material weaknesses. We did not identify any deficiencies in internal control over compliance that we consider to be material weaknesses, as defined above.

This report is intended solely for the information and use of the Chairman, the District Commission and management and federal awarding agencies and pass-through entities and is not intended to be and should not be used by anyone other than these specified parties.



Fain, Mattingly & Associates, P.S.C.  
Certified Public Accountants

March 24, 2010



**JESSAMINE SOUTH ELKHORN WATER DISTRICT**  
**Schedule of Expenditures of Federal Awards**  
**For the Year Ended December 31, 2009**

Federal Grantor/Pass-Through Grantor/Program or Cluster Title	Federal CFDA Number	Agency or Pass Through Number	Federal Expenditures
<u>United States Department of Agriculture</u>			
Waste Water Disposal Systems	10.760	Kentucky Rural Water Association	\$ 261,752
Waste Water Disposal Systems	10.760	Kentucky Rural Water Association	346,100
Total Department of Agriculture			<u>607,852</u>
<u>Department of Transportation (DOT)</u>			
State and Community Highway Safety	20.600	PT-08-30	280,659
Total Department of Transportation			<u>280,659</u>
<u>Dept. of Housing &amp; Urban Development</u>			
Hud Grant-Community Development Block Grant	14.228	CDBG05-023 SX21113004	669,503
Total Department of Housing & Urban Development			<u>669,503</u>
<u>Environmental Protection Agency</u>			
Special Appropriations Water Infrastructure Grant	66.202	XP-96406404-0	1,638,344
Kentucky Infrastructure Authority Assisted Drinking Water	66.468	F07-02	43,586
Total Environmental Agency			<u>1,681,930</u>
Total Federal Expenditures			\$ <u><u>3,239,944</u></u>

**JESSAMINE SOUTH ELKHORN WATER DISTRICT**  
Schedule of Finding and Questioned Costs  
For the Year Ended December 31, 2009

Section I-Summary of Auditors' Results Financial Statements

The auditors' report expresses an unqualified opinion on the financial statements of the Jessamine South Elkhorn Water District.

No material weaknesses were identified in the internal controls over financial reporting.

There were no significant deficiencies not identified to be material in the internal controls over financial reporting.

No instances of noncompliance material to the financial statements of the Jessamine South Elkhorn Water District were disclosed during the audit.

Federal Awards

No material weaknesses were identified in the internal control over major programs.

The auditors' report on compliance for major programs expresses an unqualified opinion.

There are no audit findings disclosed that are required to be reported in accordance with section 510(a) of Circular A-133.

Identification of Major Programs

<u>CFDA Number</u>	<u>Name of Federal Program or Cluster</u>
10.760	Waste Water Disposal Systems for Rural Communities Grant
14.228	HUD Grant for Community Development
20.600	State Community Highway Safety
66.468	Environmental Protection Agency Assisted Drinking Water

Dollar Threshold used to distinguish  
Between type A and type B programs                      \$300,000  
The auditee qualified as a low-risk auditee.

**JESSAMINE SOUTH ELKHORN WATER DISTRICT**  
For the Year Ended December 31, 2009

**Schedule of Finding and Questioned Costs (Continued)**

Section II – Financial Statement Findings

None

Section III – Federal Award Findings and questioned Costs

None

**Summary of Prior Year Findings**

None

**Corrective Action Plan**

Not Applicable

JESSAMINE SOUTH ELKHORN  
WATER DISTRICT  
WATER AND SEWER DIVISIONS  
FINANCIAL STATEMENTS AND  
AUDITOR'S REPORT

DECEMBER 31, 2008

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Michael J. Besten PSC  
CERTIFIED PUBLIC ACCOUNTANT

106 West Vine Street #700 • Lexington, KY 40507

INDEPENDENT AUDITOR'S REPORT

To the Board of Commissioners  
Jessamine South Elkhorn Water District  
Water and Sewer Divisions  
Jessamine County, Kentucky

I have audited the accompanying combined financial statements of the Jessamine South Elkhorn Water District, Water and Sewer Divisions as of and for the years ended December 31, 2008 and 2007, as listed in the table of contents. These combined financial statements are the responsibility of the Jessamine South Elkhorn Water District, Water and Sewer Divisions' management. My responsibility is to express an opinion on these combined financial statements based on my audits.

I conducted my audits in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in Government Auditing Standards, issued by the Comptroller General of the United States. Those standards require that I plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. I believe that my audits provide a reasonable basis for my opinion.

In my opinion, the combined financial statements referred to above present fairly, in all material respects, the respective financial position of Jessamine South Elkhorn Water District, Water and Sewer Divisions as of December 31, 2008 and 2007, and the respective changes in net assets and cash flows for the years then ended in conformity with accounting principles generally accepted in the United States of America.

In accordance with Government Auditing Standards, I have also issued my report dated April 30, 2009 on my consideration of Jessamine South Elkhorn Water District, Water and Sewer Divisions' internal control over financial reporting and on my tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements and other matters. The purpose of that report is to describe the scope of my testing of internal control over financial reporting and compliance and the results of that testing and not to provide an opinion on the internal control over financial reporting or compliance. That report is an integral part of an audit performed in accordance with Government Auditing Standards and should be read in conjunction with this report in considering the results of my audit.

As described in Note A, the District has implemented the new financial reporting model, as required by the provisions of Governmental Accounting Standards Board Statement No. 34, Basic Financial Statements and Management's Discussion and Analysis – For State and Local Governments, as of January 1, 2004. Jessamine South Elkhorn Water District has not presented the Management Discussion and Analysis, and the budgetary comparison schedules that

accounting principles generally accepted in the United States of America has determined is necessary to supplement, although not required to be part of, the basic financial statements.

My audit was performed for the purpose of forming an opinion on the general-purpose financial statements taken as a whole. The accompanying supplemental information is not a required part of the financial statements. Such information has been subjected to the auditing procedures applied in the audit of the general-purpose financial statements and, in my opinion, is fairly stated, in all material respects, in relation to the financial statements taken as a whole.

  
April 30, 2009

JESSAMINE SOUTH ELKHORN WATER DISTRICT  
WATER AND SEWER DIVISIONS  
COMBINED STATEMENT OF NET ASSETS  
DECEMBER 31, 2008 AND 2007

	2008	2007
<b>ASSETS</b>		
<b>Current Assets:</b>		
Cash	\$ 537,260	\$ 373,368
Accounts receivable	141,928	91,854
Prepaid expenses	11,381	9,196
Construction in process	4,290,291	836,130
<b>Total Current Assets</b>	<b>4,980,860</b>	<b>1,310,548</b>
<b>Restricted Cash Accounts:</b>		
Customer deposits	9,790	9,046
Construction accounts	340,350	314,985
Board-designated reserves	472,038	400,000
Reserve accounts for revenue bonds	145,153	128,863
<b>Total Restricted Cash Accounts</b>	<b>967,331</b>	<b>852,894</b>
<b>Utility Plant:</b>		
Pumping plant and distribution system	12,250,438	10,635,958
Sewer property	349,416	289,787
Less, accumulated depreciation	(3,436,537)	(3,137,843)
<b>Net Plant and Distribution System</b>	<b>9,163,317</b>	<b>7,787,902</b>
Deferred Debits - Unamortized Bond Costs	48,719	58,764
<b>Total Assets</b>	<b>\$ 15,160,227</b>	<b>\$ 10,010,108</b>

**LIABILITIES AND RETAINED EARNINGS**

<b>Current Liabilities:</b>		
Current portion of long-term debt	\$ 157,170	\$ 136,048
Accounts payable and accrued expenses	322,085	177,061
Accrued interest	2,191	2,510
Customer deposits	29,635	8,810
<b>Total Current Liabilities</b>	<b>511,081</b>	<b>324,429</b>
<b>Long-Term Debt:</b>		
Notes payable (excludes current portion, \$117,670)	3,256,012	1,047,906
Revenue bonds (excludes current portion, \$39,500)	2,080,000	2,119,500
<b>Total Long-Term Debt</b>	<b>5,336,012</b>	<b>3,167,406</b>
<b>Net Assets:</b>		
Invested in capital assets	7,960,426	5,320,578
Restricted	936,100	435,755
Unrestricted - Unreserved	(43,392)	361,940
Unrestricted - Board-designated depreciation reserves	460,000	400,000
<b>Total Retained Earnings</b>	<b>9,313,134</b>	<b>6,518,273</b>
<b>Total Liabilities and Retained Earnings</b>	<b>\$ 15,160,227</b>	<b>\$ 10,010,108</b>



JESSAMINE SOUTH ELKHORN WATER DISTRICT  
WATER AND SEWER DIVISIONS  
COMBINED STATEMENT OF REVENUES, EXPENSES AND CHANGES IN NET ASSETS  
FOR THE YEARS ENDED DECEMBER 31, 2008 AND 2007

	2008			2007
	Water	Sewer	Total	Totals
<b>Revenues:</b>				
Residential utility sales	\$ 1,783,471	\$ 32,992	\$ 1,816,463	\$ 1,712,182
Commercial utility sales	78,826	121,395	200,221	135,508
Penalties	24,450	-	24,450	24,442
Service charges	43,931	-	43,931	41,124
<b>Total Revenues</b>	<b>1,930,678</b>	<b>154,387</b>	<b>2,085,065</b>	<b>1,913,256</b>
<b>Operating Expenses:</b>				
Water purchased and Sewer Usage	835,313	56,174	891,487	704,133
Depreciation	293,998	4,696	298,694	302,800
Payroll	223,370	-	223,370	205,841
Maintenance and repairs	62,089	206	62,295	89,558
Employee insurance, benefits and taxes	66,247	-	66,247	56,569
Office and miscellaneous	44,290	(1,434)	42,856	28,876
Commissioners' salaries	30,200	-	30,200	30,200
Professional - Legal and Audit	21,726	13,370	35,096	17,766
Insurance	21,576	-	21,576	28,064
Engineering	73,220	42,431	115,651	58,079
Utilities and telephone	24,966	-	24,966	22,196
Rent and moving	38,132	-	38,132	7,800
Truck and travel	13,082	-	13,082	9,913
Bad debts	8,663	-	8,663	3,442
Service fees - KIA bond	2,985	-	2,985	1,425
EPA monitoring	4,358	-	4,358	2,634
Meter readings and testing	3,324	-	3,324	1,229
Allocated overhead	(26,846)	26,846	-	-
<b>Total Operating Expenses</b>	<b>1,740,693</b>	<b>142,289</b>	<b>1,882,982</b>	<b>1,570,525</b>
<b>Operating Income</b>	<b>189,985</b>	<b>12,098</b>	<b>202,083</b>	<b>342,731</b>
<b>Nonoperating Income and (Expenses):</b>				
Interest income	22,139	799	22,938	24,240
Interest expense	(207,668)	-	(207,668)	(180,501)
<b>Income Before Capital Contributions</b>	<b>4,456</b>	<b>12,897</b>	<b>17,353</b>	<b>186,470</b>
<b>Capital Contributions:</b>				
Connection fees and construction contributions	70,670	92,618	163,288	382,354
Governmental grants for construction	2,614,220	-	2,614,220	480,579
<b>Change in Net Assets</b>	<b>2,689,346</b>	<b>105,515</b>	<b>2,794,861</b>	<b>1,049,403</b>
Net Assets - Beginning of Year	6,171,047	347,226	6,518,273	5,468,870
<b>Net Assets - End of Year</b>	<b>\$ 8,860,393</b>	<b>\$ 452,741</b>	<b>\$ 9,313,134</b>	<b>\$ 6,518,273</b>

JESSAMINE SOUTH ELKHORN WATER DISTRICT  
WATER AND SEWER DIVISIONS  
COMBINED STATEMENT OF CASH FLOWS  
FOR THE YEARS ENDED DECEMBER 31, 2008 AND 2007

	2008	2007
Increase (Decrease) in Cash and Cash Equivalents:		
<b>Cash Flows from Operating Activities:</b>		
Cash received from customers	\$ 2,038,688	\$ 1,886,360
Cash paid to suppliers and service providers	(1,445,146)	(1,191,053)
<b>Net Cash Provided by Operating Activities</b>	<b>593,542</b>	<b>695,307</b>
<b>Cash Flows from Investing Activities:</b>		
Interest received	22,938	24,240
<b>Net Cash Provided by Investing Activities</b>	<b>22,938</b>	<b>24,240</b>
<b>Cash Flows from Capital Financing Activities:</b>		
Contributions to capital	2,777,508	862,933
Interest paid	(197,942)	(170,741)
Capital expenditures	(5,128,270)	(957,433)
Principal borrowed	2,530,864	
Principal paid on bond obligations and notes	(341,136)	(133,211)
Net customer deposits	20,825	635
<b>Net Cash Used by Financing Activities</b>	<b>(338,151)</b>	<b>(397,817)</b>
<b>Net Increase in Cash and Cash Equivalents</b>	<b>278,329</b>	<b>321,730</b>
Cash and Cash Equivalents - Beginning of Year	1,226,262	904,532
<b>Cash and Cash Equivalents - End of Year</b>	<b>\$ 1,504,591</b>	<b>\$ 1,226,262</b>
 <b>Reconciliation of Operating Income to Net Cash Provided by Operating Activities:</b>		
Operating income	\$ 202,083	\$ 342,731
Adjustments to reconcile operating income to net cash provided by operating activities:		
Depreciation and amortization	298,694	302,800
(Increase) Decrease in accounts receivable	(50,074)	(25,286)
(Increase) Decrease in prepaid expenses	(2,185)	2,074
Increase (Decrease) in accounts payable and accruals	145,024	72,988
<b>Net Cash Provided by Operating Activities</b>	<b>\$ 593,542</b>	<b>\$ 695,307</b>

JESSAMINE SOUTH ELKHORN WATER DISTRICT  
WATER AND SEWER DIVISIONS  
NOTES TO FINANCIAL STATEMENTS  
DECEMBER 31, 2008 AND 2007

**NOTE 1 – SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES:**

The financial statements of the Jessamine South Elkhorn Water District, Water and Sewer Divisions (the District) are prepared in conformity with accounting principles generally accepted in the United States of America (GAAP). The existing hierarchy provides that accounting guidance should first be sought in statements of the Governmental Accounting Standards Board (GASB). If the GASB has not issued a standard applicable to a situation, then pronouncements of the Financial Accounting Standards Board (FASB) and Accounting principles Board (APB) issued on or before November 30, 1989 are presumed to apply. The following is a summary of the more significant policies:

**Reporting Entity**

The District, consisting of Jessamine South Elkhorn Water District Water Division, and Jessamine South Elkhorn Water District Sewer Division, has been consolidated for reporting purposes. The entities share the same board of commissioners, central offices and employees.

The District is a special district formed for the express purpose of providing water service within the confines of Jessamine County, Kentucky. The Jessamine County Fiscal Court appoints an independent board of commissioners to govern the district. The District operates as an independent entity in that it: is legally separate; holds corporate powers of organization; the Fiscal Court does not impose their will upon the District; and the District does not impose financial benefit or burden upon the Fiscal Court.

**New Accounting Pronouncements**

GASB has issued Statement of Accounting Standards No. 34, *Basic Financial Statements and Management's Discussion and Analysis - for State and Local Governments* (GASB 34). Statement 34 established standards for external financial reporting for all state and local governmental entities which includes a statement of net assets, a statement of activities and changes in net assets and a statement of cash flows. It requires the classification of net assets into three components: invested in capital assets, net of related debt; restricted; and unrestricted. These classifications are defined as follows:

- Invested in capital assets, net of related debt - This component of net assets consists of capital assets including restricted capital assets, net of accumulated depreciation and reduced by the outstanding balance of any bonds, mortgages, notes, or other borrowings that are attributable to the acquisition, construction, or improvement of those assets. If there are significant unspent related debt proceeds at year-end, the portion of the debt attributable to the unspent proceeds is not included in the calculation of "invested in capital assets, net of related debt." Rather, that portion of the debt is included in the same net asset component as the unspent proceeds.

JESSAMINE SOUTH ELKHORN WATER DISTRICT  
WATER AND SEWER DIVISIONS  
NOTES TO FINANCIAL STATEMENTS  
DECEMBER 31, 2008 AND 2007

**Note 1 – SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED):**

- Restricted - This component of net assets consists of constraints placed on net asset use through external constraints imposed by creditors (such as through debt covenants), grantors, contributors, or laws or regulations of other governments or constraints imposed by law through constitutional provisions or enabling legislation.
  
- Unrestricted - This Component of net assets consist of net assets that do not meet the definition of "restricted" or "invested in capital assets, net of related debt."

**Basis of Presentation**

The financial statements are prepared in accordance with accounting principles generally accepted in the United States of America. The District is an individual fund and is accounted for as a business-type activity fund. It is financed and operated in a manner similar to a private business enterprise where the intent of the governing body is that costs (expenses, including depreciation) of providing goods or services to the general public on a continuing basis are financed primarily through user charges.

**Basis of Accounting**

Basis of accounting refers to when revenues and expenses are recognized in the accounts and reported in the financial statements. It relates to the timing of the measurements made, regardless of the measurement focus applied. The District's financial statements are prepared on the accrual basis of accounting. By utilizing this method, revenues are recognized when they are earned, and expenses are recognized as they are incurred.

Operating income reported in the financial statements includes revenues and expenses related to the continuing operation of the fund. Principal operating revenues are charges to customers for sales or services. Principal operating expenses are the costs of providing goods or services and include administrative expenses and depreciation of capital assets. Other revenues and expenses are classified as nonoperating in the financial statements.

When both restricted and unrestricted resources are available for use it is the District's policy to use restricted resources first, then unrestricted resources as needed.

**Use of Estimates and Assumptions**

In preparing financial statements that conform with generally accepted accounting principles, management makes estimates and assumptions that affect the reported amounts of assets and liabilities, disclosure of contingent assets and liabilities at the date of the financial statements and

JESSAMINE SOUTH ELKHORN WATER DISTRICT  
WATER AND SEWER DIVISIONS  
NOTES TO FINANCIAL STATEMENTS  
DECEMBER 31, 2008 AND 2007

**Note 1 – SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED):**

amounts of revenues and expenses reflected during the reporting period. Accordingly, actual results could differ from those estimates.

**Compensated Absences**

Vacation - Vacation days are accrued at the following rate:

- 5 days per year for years 0 – 1;
- 10 days per year for years 2 – 5
- 15 days per year for years 6 – XX.

These days are carried over if unused; however, such carryover days shall not exceed twenty days entering into a calendar year.

Sick - Employees earn one sick day for every month of employment and may accumulate a total of no more than seventy five days.

These unpaid compensated absences, if applicable and materially significant, are recorded as accrued liabilities.

**Cash and Cash Equivalents**

For purposes of the statement of cash flows, the District considers all highly liquid investments with maturity of ninety days or less to be cash equivalents.

**Accounts Receivable**

Trade accounts receivable are stated at the amount management expects to collect from balances outstanding at year-end. Based on management's assessment of the credit history with customers having outstanding balances and current relationships with them, it has concluded that realized losses on balances outstanding at year-end will be immaterial.

**Inventories**

The District has not historically inventoried unsold water, nor accounted for unbilled water or sewer usage as of the year end. Similarly, the District does not accrue costs for water purchases unbilled to it as of the year end. The District does not inventory supplies or similar items unless such items are determined to be significant.

JESSAMINE SOUTH ELKHORN WATER DISTRICT  
WATER AND SEWER DIVISIONS  
NOTES TO FINANCIAL STATEMENTS  
DECEMBER 31, 2008 AND 2007

**NOTE 1 – SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED):**

**Capital and Operating Grants**

Grants that are restricted to the purchase or construction of capital assets are recorded as other income, per GASB 33. The District received \$2,614,220 and \$480,579 in grants for the years ended December 31, 2008 and 2007 respectively.

**Unamortized Debt Discount, Issuance Expense, and Deferred Amount from Refunding**

Original issue discounts, debt issuance expenses, and deferred amounts from the advance refunding of outstanding revenue certificates are appropriately deferred and amortized over the remaining terms of the applicable debt issues or the life of the old debt, whichever is shorter, for deferred amounts from the advance refunding. The amortization expense, reported as a component of interest expense, was \$10,045 for each of the years ended December 31, 2008 and 2007 respectively.

**Capital Assets**

Utility plant is stated at original cost and depreciated over its estimated useful life using the straight-line method. Expenditures for maintenance and repairs are expensed when incurred. Renewals and betterments are capitalized. The range of useful lives used in computing depreciation is as follows: Transmission and Distribution lines and related components and structures – 40 years; Meters and Services – 40 years; Office furnishings – 10 years; Office Equipment – 5 years and Automotive – 6 years. Total depreciation expense was \$298,694 and \$302,800 for the years ended December 31, 2008 and 2007 respectively.

**Income Taxes**

The revenues of the District are exempt from federal and state income taxes.

**NOTE 2 – CASH DEPOSITS AND INVESTMENTS**

The investment policies of the District are governed by State statute. Major provisions of the District's investment policy include: depositories must be FDIC insured banking institutions; depositories must fully insure or collateralize all demand and time deposits and repurchase agreements; and securities collateralizing repurchase agreements are to be held by independent third parties.

JESSAMINE SOUTH ELKHORN WATER DISTRICT  
WATER AND SEWER DIVISIONS  
NOTES TO FINANCIAL STATEMENTS  
DECEMBER 31, 2008 AND 2007

**NOTE 2 – CASH DEPOSITS AND INVESTMENTS (CONTINUED):**

**Bank Deposits**

The fair market value of deposits was equivalent to the reported values, as all deposits are in checking or savings accounts, reported at par. All deposits are secured by \$250,000 of FDIC insurance and by securities held by the Banks in the District's name in the form of pledged collateral and are categorized for level of risk purposes as "Category 1" (Deposits insured or collateralized with securities held by the District or by its agent in the District's name). There were no "Category 2" (Collateralized with securities held by the pledging financial institution's trust department or agent in the District's name) nor were there any "Category 3" (Uncollateralized) deposits.

**Investments**

The District has no monies invested in accounts other than Bank checking and savings accounts.

**NOTE 3 – CONSTRUCTION IN PROCESS:**

As of its year ending in 2008 the District had four projects which were not substantially complete. A summary of those projects is as follows:

- 1) North Jessamine Sewer Project: Costs to date \$2,038,150. This project is anticipated to cost \$6,064,000 and will be financed with Grants from the EPA (\$2,850,700), HUD (\$1,000,000), RD Grant (\$941,300) and RD Loan (\$1,272,000). Grant monies of \$1,044,594 and loan proceeds of \$990,392 were received in 2008.
- 2) Ash Tree Sewer Project: Costs to date \$59,431. Financed by District funds.
- 3) Unserved Rural Jessamine Water Project: Costs to date \$1,215,670. Financed by Grants from the KIA (\$1,600,000). Grant monies of \$752,019 were received in 2008.
- 4) US 68 Lines Relocation Project: Costs to date \$977,040. Costs are reimbursed by the Kentucky DOT. Grant monies of \$817,607 were received in 2008.

JESSAMINE SOUTH ELKHORN WATER DISTRICT  
WATER AND SEWER DIVISIONS  
NOTES TO FINANCIAL STATEMENTS  
DECEMBER 31, 2008 AND 2007

**NOTE 4 – LONG-TERM DEBT:**

The District is obligated on five debt instruments as follows:

- Note payable to the Kentucky Infrastructure Authority in the principal amount of \$495,000. (\$592,500 in 2007) The note represents the District's portion of the KY Infrastructure Authority Governmental Agencies Program Revenue Refunding Bonds Series K issue C91-01 and currently bears interest at the rate of 3.16%. The District capitalized costs associated with an initial refinancing in the amount of \$57,122 in 2003 and an additional \$18,522 from a succeeding refinancing in 2004 which will be amortized over the remaining life of the issue. The issue matures in June 2013 and bears a weighted average interest rate over the term of the note of 4.29%.
- The District is obligated on a note payable to the Farmers Bank in the principal amount of \$352,119 (\$356,603 to Citizens National Bank in 2007). The note is payable \$5,645 quarterly including interest at an annual rate of 6.2% and matures in April 2010.
- The District is obligated on a mortgage note in the current amount of \$445,699. The note is secured by the District's office facilities and bears an annual rate of interest of 5.5%. The note calls for monthly payments of \$2,585 and matures in April 2018.
- The District is obligated on a note payable to the Kentucky Rural Water Authority for advances related to construction on the North Jessamine Sewer Project. To date the KRWA has advanced the District \$990,392 against a commitment of \$1,272,000.
- The District is obligated on a Bond Issuance of 1971 in the remaining principal amount of \$14,000 (\$23,000 in 2007) with an annual interest rate of 5%. These bonds are secured by the water supply and distribution system.
- The District is obligated on Revenue Bonds of 2000 in the remaining principal amount of \$2,105,500 (\$2,134,500 in 2007) with an effective annual interest rate of 5.2%. These bonds are secured by the water supply and distribution system.
- The District is obligated on a note to the Kentucky Infrastructure Authority in the current principal amount of \$1,090,472. The total commitment from the KIA is for \$1,750,000 with the proceeds to be used to construct the Keene system water main and hydraulic reinforcement loop lines.

A summary of principal and interest maturities on the above referenced debt obligations is as set forth on the following page:



JESSAMINE SOUTH ELKHORN WATER DISTRICT  
 WATER AND SEWER DIVISIONS  
 NOTES TO FINANCIAL STATEMENTS  
 DECEMBER 31, 2008 AND 2007

**NOTE 4 – LONG-TERM DEBT (CONTINUED):**

<u>Debt Obligation</u>	<u>Note Balance 12/31/07</u>	<u>Payments (Borrowed) 2008</u>	<u>Note Balance 12/31/2008</u>	<u>Current</u>	<u>Long-Term</u>
KIA Refunding - K C91-01	\$ 592,500	\$ 97,500	\$ 495,000	\$ 102,500	\$ 392,500
Farmers Bank Note	356,603	4,484	352,119	8,500	343,619
Farmers - Office Bldg.	-	(445,699)	445,699	6,670	439,029
KIA & KRWA - Interim	196,851	(1,884,013)	2,080,864	-	2,080,864
Revenue Bonds - 1971	23,000	9,000	14,000	9,000	5,000
Revenue Bonds - 2000	2,134,500	29,000	2,105,500	30,500	2,075,000
<b>Totals</b>	<b>\$ 3,303,454</b>	<b>\$ (2,189,728)</b>	<b>\$ 5,493,182</b>	<b>\$ 157,170</b>	<b>\$ 5,336,012</b>
<b>Maturities of Long-Term Debt (Excludes Interim Notes):</b>	<b>Principal</b>	<b>Interest</b>	<b>Total</b>		
2009	\$ 157,170	\$ 179,227	\$ 336,397		
2010	157,554	171,668	329,222		
2011	160,988	163,853	324,841		
2012	170,423	155,643	326,066		
2013	360,817	137,608	498,425		
2014-2018	686,366	577,467	1,263,833		
2019-2023	281,000	421,457	702,457		
2024-2028	362,500	275,337	637,837		
2029-2033	468,500	234,648	703,148		
2034-2038	607,000	98,525	705,525		
<b>Totals</b>	<b>\$ 3,412,318</b>	<b>\$ 2,415,433</b>	<b>\$ 5,827,751</b>		

**NOTE 5 – INSURANCE AND RISK MANAGEMENT:**

The District is exposed to various forms of loss associated with the risks of fire, personal liability, theft, vehicular accidents, errors and omissions, fiduciary responsibility and torts, injuries to employees, natural disasters, etc. Each of these risk areas is covered through the purchase of a commercial insurance package. The District has purchased certain policies which are rated including workers' compensation insurance. Premiums for these policies are based upon the District's experience to date.

JESSAMINE SOUTH ELKHORN WATER DISTRICT  
 WATER AND SEWER DIVISIONS  
 NOTES TO FINANCIAL STATEMENTS  
 DECEMBER 31, 2008 AND 2007

**NOTE 6 – RESTRICTED AND RESERVED ASSETS:**

The restricted assets in the accompanying financial statements are restricted as to use by ordinance, external parties or by board designation. The following schedule sets forth restricted assets of December 31, 2008:

<u>Restricted Cash Accounts</u>	<u>Balance in Account</u>	<u>Restricted Amount</u>	<u>Excess Balance</u>
Customer Deposits	\$ 9,790	\$ 9,510	\$ 280
Revenue Bonds of 1971 and 2000:			
Depreciation Fund	12,005	12,000	5
Reserve Fund	118,015	114,240	3,775
Bond and Interest Fund	15,133	-	15,133
Construction accounts - Water	197,126	197,126	-
Construction accounts - Sewer	143,224	143,224	-
Board-designated accounts	472,038	460,000	12,038
Total Cash in Restricted Accounts	<u>\$ 967,331</u>	<u>\$ 936,100</u>	<u>\$ 31,231</u>

**NOTE 7 – COMPLIANCE WITH BOND ORDINANCES:**

The District is in compliance with applicable bond ordinances that require maintenance of certain Funds as set forth following:

Revenue Fund – All gross revenues of the District are deposited into this fund and subsequently distributed monthly to the other funds according to the following fund descriptions.

Bond and Interest Sinking Fund – For the retirement of bond and interest obligations, an amount equal to 1/12 of the amount of interest and principal becoming due on the next payment date is deposited monthly into this fund.

Reserve Fund – A bond reserve account of at least \$12,000 is to be maintained for the 1971 Revenue Bond. The Bond Agreement of 2000 calls for monthly reserve accumulations of \$1,190.

Operations and Maintenance Fund – Deposits are to be made to meet the reasonable and necessary expenses of operating and maintaining the District for the current month.

JESSAMINE SOUTH ELKHORN WATER DISTRICT  
WATER AND SEWER DIVISIONS  
NOTES TO FINANCIAL STATEMENTS  
DECEMBER 31, 2008 AND 2007

**NOTE 7 – COMPLIANCE WITH BOND ORDINANCES (CONTINUED):**

Depreciation Fund – Subject to the priority of the above-mentioned funds, deposits are to be made to maintain a fund balance of at least \$12,000 for the Bond Issue of 1971. This fund is for the purpose of paying unusual or extraordinary maintenance, repairs, renewals and replacements.

Construction Fund – This fund is to be used to construct additions, extensions, and improvements other than those of the Depreciation Fund.

Sewer accounts – These accounts were opened subsequent to the Bond Agreements and are not restricted by formal Ordinance .

Michael J. Besten psc  
CERTIFIED PUBLIC ACCOUNTANT

106 West Vine Street #700 • Lexington, KY 40507

REPORT ON INTERNAL CONTROL OVER FINANCIAL REPORTING AND ON COMPLIANCE  
AND OTHER MATTERS BASED ON AN AUDIT OF FINANCIAL STATEMENTS PERFORMED IN  
ACCORDANCE WITH *GOVERNMENT AUDITING STANDARDS*

To the Board of Commissioners  
Jessamine South Elkhorn Water District  
Water and Sewer Divisions  
Jessamine County, Kentucky

I have audited the financial statements of the Jessamine South Elkhorn Water District, Water and Sewer Divisions (the District) as of and for the year ended December 31, 2008 and 2007, and have issued my report thereon dated April 30, 2009 which includes an explanatory paragraph regarding the omission of Management Discussion and Analysis. I conducted my audit in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in Government Auditing Standards, issued by the Comptroller General of the United States.

Internal Control Over Financial Reporting

In planning and performing my audit, I considered the District's internal control over financial reporting as a basis for designing my auditing procedures for the purpose of expressing my opinion on the financial statements, but not for the purpose of expressing an opinion on the effectiveness of the Utilities' internal control over financial reporting. Accordingly, I do not express an opinion on the effectiveness of the Utilities' internal control over financial reporting.

A control deficiency exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to prevent or detect misstatements on a timely basis. A significant deficiency is a control deficiency, or a combination of control deficiencies, that adversely affects the entity's ability to initiate, authorize, record, process, or report financial data reliably in accordance with generally accepted accounting principles such that there is more than a remote likelihood that a misstatement of the entity's financial statements that is more than inconsequential will not be prevented or detected by the entity's internal control.

A material weakness is a significant deficiency, or a combination of significant deficiencies, that results in more than a remote likelihood that a material misstatement of the financial statements will not be prevented or detected by the entity's internal control.

My consideration of the internal control over financial reporting was for the limited purpose described in the first paragraph of this section and would not necessarily identify all deficiencies in the internal control that might be significant deficiencies or material weaknesses. I did not identify any deficiencies in internal control over financial reporting that I consider to be material weaknesses as defined above.

Compliance and Other Matters

As part of obtaining reasonable assurance about whether the District's financial statements are free of material misstatement, I performed tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements, noncompliance with which could have a direct and material effect on the determination of financial statement amounts. However, providing an opinion on compliance with those provisions was not an objective of my audit, and accordingly, I do not express such an opinion. The results of my tests disclosed no instances of noncompliance or other matters that are required to be reported under Government Auditing Standards.

This report is intended solely for the information and use of management, the Board of Directors, the Jessamine Fiscal Court and the Kentucky Public Service Commission and is not intended to be and should not be used by anyone other than these specified parties.

*Michael J. Besten, PSC*

April 30, 2009

SUPPLEMENTAL INFORMATION

SCHEDULE A

JESSAMINE SOUTH ELKHORN WATER DISTRICT  
 BALANCE SHEET  
 DECEMBER 31, 2008  
 (with comparative totals for December 31, 2007)

	Revenue Fund	Operations and Maintenance Fund	Bond and Interest Sinking Fund	Depreciation Fund	Reserve Fund	Construction Fund	Sewer Fund	Totals 2008	Totals 2007
<b>ASSETS</b>									
<b>Current Assets:</b>									
Cash	\$ 220,644	\$ 12,939	\$ -	\$ -	\$ -	\$ 181,721	\$ 121,956	\$ 537,260	\$ 373,368
Accounts receivable	67,300	-	-	-	-	-	74,628	141,928	91,854
Intra-fund advances	24,027	-	-	-	-	-	(24,027)	-	-
Construction in process	-	-	-	-	-	2,192,710	2,097,581	4,290,291	-
Prepaid expenses	-	11,381	-	-	-	-	-	11,381	9,196
<b>Total Current Assets</b>	<b>311,971</b>	<b>24,320</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>2,374,431</b>	<b>2,270,138</b>	<b>4,980,860</b>	<b>474,418</b>
Cash in Restricted Accounts	357,599	-	15,133	12,005	118,015	321,355	143,224	967,331	852,894
<b>Utility Plant:</b>									
Pumping Plant and Distribution System	-	-	-	-	-	12,250,438	349,416	12,599,854	11,761,875
Less, accumulated depreciation	-	-	-	-	-	(3,410,707)	(25,830)	(3,436,537)	(3,137,843)
<b>Net Plant and Distribution System</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>8,839,731</b>	<b>323,586</b>	<b>9,163,317</b>	<b>8,624,032</b>
Other Asset - Unamortized bond costs	-	-	-	-	-	48,719	-	48,719	58,764
<b>Total Assets</b>	<b>\$ 669,570</b>	<b>\$ 24,320</b>	<b>\$ 15,133</b>	<b>\$ 12,005</b>	<b>\$ 118,015</b>	<b>\$ 11,584,236</b>	<b>\$ 2,736,948</b>	<b>15,160,227</b>	<b>\$ 10,010,108</b>
<b>LIABILITIES AND EQUITIES</b>									
<b>Current Liabilities:</b>									
Current portion of long-term debt	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 157,170	\$ -	\$ 157,170	\$ 136,048
Accounts payable	647	42,283	-	-	-	-	256,436	299,366	168,522
Sales, utilities and payroll taxes payable	647	812	-	21,260	-	-	-	22,719	8,539
Accrued interest	-	-	-	-	-	-	-	2,191	2,510
Customer deposits	9,510	-	-	-	-	2,191	-	2,191	2,510
<b>Total Current Liabilities</b>	<b>10,804</b>	<b>43,095</b>	<b>-</b>	<b>21,260</b>	<b>-</b>	<b>159,361</b>	<b>276,561</b>	<b>511,081</b>	<b>324,429</b>
<b>Long-Term Debt:</b>									
Notes payable (Excludes current \$117,670)	-	-	-	-	-	2,265,620	990,392	3,256,012	1,047,906
Revenue bonds (Excludes current \$39,500)	-	-	-	-	-	2,080,000	-	2,080,000	2,119,500
<b>Total Long-Term Debt</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>4,345,620</b>	<b>990,392</b>	<b>5,336,012</b>	<b>3,167,406</b>
<b>Equities:</b>									
Fund Balances	658,766	(52,168)	15,133	(9,255)	118,015	(292,805)	(11,710)	425,976	408,623
Contributions in Aid of Construction	-	33,393	-	-	-	7,372,060	1,481,705	8,887,158	6,109,650
<b>Total Equities</b>	<b>658,766</b>	<b>(18,775)</b>	<b>15,133</b>	<b>(9,255)</b>	<b>118,015</b>	<b>7,079,255</b>	<b>1,469,995</b>	<b>9,313,134</b>	<b>6,518,273</b>
<b>Total Equities and Liabilities</b>	<b>\$ 669,570</b>	<b>\$ 24,320</b>	<b>\$ 15,133</b>	<b>\$ 12,005</b>	<b>\$ 118,015</b>	<b>\$ 11,584,236</b>	<b>\$ 2,736,948</b>	<b>15,160,227</b>	<b>\$ 10,010,108</b>

See accountant's report.

SCHEDULE B

JESSAMINE SOUTH ELKHORN WATER DISTRICT  
 STATEMENT OF RECEIPTS, EXPENDITURES AND EQUITIES  
 FOR THE YEAR ENDED DECEMBER 31, 2008  
 (with comparative totals for the year ended December 31, 2007)

	Water Revenue Fund	Operations & Maintenance Fund	Bond and Interest Sinking Fund	Depreciation Fund	Reserve Fund	Construction Fund	Sewer Fund	Eliminations	Totals 2008	Totals 2007
<b>Receipts:</b>										
Water sales	\$ 1,854,069	\$ 8,228	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,862,297	\$ 1,768,087
Sewer fees	-	-	-	-	-	-	154,387	-	154,387	79,603
Interest income	10,510	304	331	-	1,796	9,198	799	-	22,938	24,240
Penalties	24,450	-	-	-	-	-	-	-	24,450	24,442
Service charges	41,046	-	-	-	-	-	2,885	-	43,931	41,124
Miscellaneous revenues	10,446	1,914	-	-	-	-	-	-	12,360	1,832
Transfers	-	1,453,082	3,000	(25,686)	12,284	311,889	(27,395)	(1,727,174)	-	-
<b>Total Receipts</b>	<b>1,940,521</b>	<b>1,463,528</b>	<b>3,331</b>	<b>(25,686)</b>	<b>14,080</b>	<b>321,087</b>	<b>130,676</b>	<b>(1,727,174)</b>	<b>2,120,363</b>	<b>2,300,205</b>
<b>Expenditures:</b>										
Water purchased and Sewer Usage	-	835,313	-	-	-	-	56,174	-	891,487	704,133
Interest	55	-	-	-	-	206,373	1,240	-	207,668	180,501
Engineering	-	73,220	-	-	-	-	42,431	-	115,651	58,079
EPA monitoring	-	4,358	-	-	-	-	-	-	4,358	2,634
Professional - Legal and Audit	-	21,726	-	-	-	-	13,370	-	35,096	17,766
Commissioners' salaries	-	30,200	-	-	-	-	-	-	30,200	30,200
Maintenance and repairs	-	62,089	-	-	-	-	206	-	62,295	89,558
Meter readings and testing	-	3,324	-	-	-	-	-	-	3,324	1,229
Truck and travel	-	13,082	-	-	-	-	-	-	13,082	9,913
Office and miscellaneous	5	41,992	1,121	-	-	13,532	(1,434)	-	55,216	30,708
Payroll	-	223,370	-	-	-	-	-	-	223,370	205,841
Employee insurance, benefits and taxes	-	66,247	-	-	-	-	-	-	66,247	56,569
Insurance	-	21,530	-	-	-	-	46	-	21,576	28,064
Utilities and telephone	-	23,422	-	-	-	-	1,544	-	24,966	22,196
Rent and moving	-	38,132	-	-	-	-	-	-	38,132	7,800
Bad debts	8,663	-	-	-	-	-	-	-	8,663	3,442
Service fees - KIA bond	-	-	-	-	-	2,985	-	-	2,985	1,425
Allocated overhead	(26,846)	-	-	-	-	-	-	-	-	-
Transfers	1,727,174	-	-	-	-	-	26,846	-	-	-
<b>Total Expenditures</b>	<b>1,709,051</b>	<b>1,458,005</b>	<b>1,121</b>	<b>-</b>	<b>-</b>	<b>222,890</b>	<b>140,423</b>	<b>(1,727,174)</b>	<b>1,804,316</b>	<b>1,899,581</b>
Operating Income - Excludes depreciation	231,470	5,523	2,210	(25,686)	14,080	98,197	(9,747)	-	316,047	489,270
<b>Equities, Beginning of Year</b>	<b>427,296</b>	<b>(17,960)</b>	<b>12,923</b>	<b>16,431</b>	<b>103,935</b>	<b>5,628,422</b>	<b>347,226</b>	<b>-</b>	<b>6,518,273</b>	<b>5,468,870</b>
Additions to system	-	(6,338)	-	-	-	6,338	-	-	-	-
Connection fees	-	-	-	-	-	70,670	-	-	70,670	168,146
Governmental grants	-	-	-	-	-	1,569,626	1,044,594	-	2,614,220	480,579
Construction contributions	-	-	-	-	-	-	92,618	-	92,618	214,208
Depreciation	-	-	-	-	-	(293,998)	(4,696)	-	(298,694)	(302,800)
<b>Equities, End of Year</b>	<b>\$ 658,766</b>	<b>\$ (18,775)</b>	<b>\$ 15,133</b>	<b>\$ (9,255)</b>	<b>\$ 118,015</b>	<b>\$ 7,079,255</b>	<b>\$ 1,469,995</b>	<b>\$ -</b>	<b>\$ 9,313,134</b>	<b>\$ 6,518,273</b>

See Auditor's Report.

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REPORT ON COMPLIANCE WITH REQUIREMENTS  
APPLICABLE TO EACH MAJOR PROGRAM AND ON INTERNAL CONTROL  
OVER COMPLIANCE IN ACCORDANCE WITH OMB CIRCULAR A-133

To the Board of Commissioners  
Jessamine South Elkhorn Water District

**Compliance**

I have audited the compliance of Jessamine South Elkhorn Water District, with the types of compliance requirements described in the U. S. Office of Management and Budget (OMB) Circular A-133 Compliance Supplement that are applicable to each of its major federal programs for the year ended December 31, 2008. Jessamine South Elkhorn's major federal programs are identified in the summary of auditor's results section of the accompanying schedule of findings and questioned costs. Compliance with the requirements of laws, regulations, contracts, and grants applicable to each of its major federal programs is the responsibility of Jessamine South Elkhorn's management. My responsibility is to express an opinion on Jessamine South Elkhorn's compliance based on my audit.

I conducted my audit of compliance in accordance with auditing standards generally accepted in the United States of America; the standards applicable to financial audits contained in Government Auditing Standards, issued by the Comptroller General of the United States and OMB Circular A-133, Audits of States, Local Governments, and Non-Profit Organizations. Those standards and OMB Circular A-133 require that I plan and perform the audit to obtain reasonable assurance about whether noncompliance with the types of compliance requirements referred to above that could have a direct and material effect on a major federal program occurred. An audit includes examining, on a test basis, evidence about Jessamine South Elkhorn's compliance with those requirements and performing such other procedures as I considered necessary in the circumstances. I believe that my audit provides a reasonable basis for my opinion. My audit does not provide a legal determination of Jessamine South Elkhorn's compliance with those requirements.

In my opinion, Jessamine South Elkhorn Water District, complied, in all material respects, with the requirements referred to above that are applicable to each of its major federal programs for the year ended December 31, 2008. However, the results of my auditing procedures disclosed instances of noncompliance with those requirements, which are required to be reported in accordance with OMB Circular A-133 and which are described in the accompanying schedule of findings and questioned costs as items.

**Internal Control Over Compliance**

The management of Jessamine South Elkhorn Water District is responsible for establishing and maintaining effective internal control over compliance with the requirements of laws, regulations, contracts, and grants applicable to federal programs. In planning and performing my

audit, I considered Jessamine South Elkhorn's internal control over compliance with the requirements that could have a direct and material effect on a major federal program in order to determine my auditing procedures for the purpose of expressing my opinion on compliance, but not for the purpose of expressing an opinion on the effectiveness of internal control over compliance. Accordingly, I do not express an opinion on the effectiveness of Jessamine South Elkhorn's internal control over compliance.

A control deficiency in an entity's internal control over compliance exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to prevent or detect noncompliance with a type of compliance requirement of a federal program on a timely basis. A significant deficiency is a control deficiency, or combination of control deficiencies, that adversely affects the entity's ability to administer a federal program such that there is more than a remote likelihood that noncompliance with a type of compliance requirement of a federal program that is more than inconsequential will not be prevented or detected by the entity's internal control.

A material weakness is a significant deficiency, or combination of significant deficiencies, that results in more than a remote likelihood that material noncompliance with a type of compliance requirement of a federal program will not be prevented or detected by the entity's internal control.

My consideration of internal control over compliance was for the limited purpose described in the first paragraph of this section and would not necessarily identify all deficiencies in internal control that might be significant deficiencies or material weaknesses. I did not identify any deficiencies in internal control over compliance that I consider to be material weaknesses, as defined above.

Jessamine South Elkhorn's response to the findings identified in my audit is described in the accompanying schedule of findings and questioned costs. I did not audit Jessamine South Elkhorn's response and, accordingly, I express no opinion on it.

This report is intended solely for the information and use of management, others within the entity, and federal awarding agencies and pass-through entities and is not intended to be and should not be used by anyone other than these specified parties.



Michael J. Besten, PSC  
Lexington, Kentucky  
April 30, 2009

JESSAMINE SOUTH ELKHORN WATER DISTRICT  
 SCHEDULE OF EXPENDITURES OF FEDERAL AWARDS  
 FOR THE YEAR ENDED DECEMBER 31, 2008

Federal Agency Prefix	Extension	Research and Development ?	Name of Federal Program	Amount Expended	Direct Award?	Major Program?	If MP, type of audit report	Audit Findings	
								Type of compliance requirements	Audit finding reference numbers
			Water and Waste Disposal						
10	760	No	Systems for Rural Communities	\$ 990,392	Yes	Yes	U	O	N/A
66	202	No	EPA Grant #XP-96406404-0	\$ 829,361	Yes	Yes	U	O	N/A
14	418	No	HUD Grant WRIS #SX21113004	\$ 215,253	Yes	No		O	N/A
TOTAL FEDERAL AWARDS EXPENDED				<u>\$ 2,035,006</u>					

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SCHEDULE OF FINDINGS AND QUESTIONED COSTS

**Section I – Summary of Auditor's Results**

*Financial Statements:*

Type of audit report issued	Unqualified
Material weakness(es) identified?	No
Significant deficiency(ies) identified that are not considered to be material	None reported
Noncompliance material to financial statements noted?	No

*Federal Awards:*

Internal control over major programs:	
Material weakness(es) identified?	No
Significant deficiency(ies) identified that are not considered to be material	None reported
Type of auditor's report issued on compliance for major programs	Unqualified
Any audit findings that are required to be reported in accordance with section 510(a) of OMB Circular A-133?	No

Identification of major programs:

<u>CFDA No.</u>	<u>Name of Federal Program</u>
10-760	Water and Waste Disposal Systems for Rural Communities
XP/96406404/0	US Environmental Protection Agency / SPAP

**Section II – Financial Statement Findings**

There were no reportable financial statement findings noted.

**Section III – Federal Awards Findings and Questioned Costs**

There were no reportable federal award findings or questioned costs noted.

JESSAMINE SOUTH ELKHORN  
WATER DISTRICT  
WATER AND SEWER DIVISIONS  
FINANCIAL STATEMENTS AND  
AUDITOR'S REPORT

DECEMBER 31, 2007

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Michael J. Besten PSC  
CERTIFIED PUBLIC ACCOUNTANT

106 West Vine Street #700 • Lexington, KY 40507

INDEPENDENT AUDITOR'S REPORT

To the Board of Commissioners  
Jessamine South Elkhorn Water District  
Water and Sewer Divisions  
Jessamine County, Kentucky

I have audited the accompanying combined financial statements of the Jessamine South Elkhorn Water District, Water and Sewer Divisions as of and for the years ended December 31, 2007 and 2006, as listed in the table of contents. These combined financial statements are the responsibility of the Jessamine South Elkhorn Water District, Water and Sewer Divisions' management. My responsibility is to express an opinion on these combined financial statements based on my audits.

I conducted my audits in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in Government Auditing Standards, issued by the Comptroller General of the United States. Those standards require that I plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. I believe that my audits provide a reasonable basis for my opinion.

In my opinion, the combined financial statements referred to above present fairly, in all material respects, the respective financial position of Jessamine South Elkhorn Water District, Water and Sewer Divisions as of December 31, 2007 and 2006, and the respective changes in net assets and cash flows for the years then ended in conformity with accounting principles generally accepted in the United States of America.

In accordance with Government Auditing Standards, I have also issued my report dated March 25, 2008 on my consideration of Jessamine South Elkhorn Water District, Water and Sewer Divisions' internal control over financial reporting and on my tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements and other matters. The purpose of that report is to describe the scope of my testing of internal control over financial reporting and compliance and the results of that testing and not to provide an opinion on the internal control over financial reporting or compliance. That report is an integral part of an audit performed in accordance with Government Auditing Standards and should be read in conjunction with this report in considering the results of my audit.

As described in Note A, the District has implemented the new financial reporting model, as required by the provisions of Governmental Accounting Standards Board Statement No. 34, Basic Financial Statements and Management's Discussion and Analysis – For State and Local Governments, as of January 1, 2004. Jessamine South Elkhorn Water District has not presented the Management Discussion and Analysis, and the budgetary comparison schedules that

Jessamine South Elkhorn Water District - Audit Report.

accounting principles generally accepted in the United States of America has determined is necessary to supplement, although not required to be part of, the basic financial statements.

My audit was performed for the purpose of forming an opinion on the general-purpose financial statements taken as a whole. The accompanying supplemental information in Schedules A and B is not a required part of the financial statements. Such information has been subjected to the auditing procedures applied in the audit of the general-purpose financial statements and, in my opinion, is fairly stated, in all material respects, in relation to the financial statements taken as a whole.

*Michael J. Benton, PSC*

March 25, 2008



JESSAMINE SOUTH ELKHORN WATER DISTRICT  
WATER AND SEWER DIVISIONS  
COMBINED STATEMENT OF NET ASSETS  
DECEMBER 31, 2007 AND 2006

	2007	2006
<b>ASSETS</b>		
Current Assets:		
Cash	\$ 373,368	\$ 660,354
Accounts receivable	91,854	66,568
Prepaid expenses	9,196	11,270
<b>Total Current Assets</b>	<b>474,418</b>	<b>738,192</b>
Restricted Cash Accounts:		
Customer deposits	9,046	8,357
Construction accounts	314,985	134,084
Board-designated reserves	400,000	-
Reserve accounts for revenue bonds	128,863	101,737
<b>Total Restricted Cash Accounts</b>	<b>852,894</b>	<b>244,178</b>
Utility Plant:		
Pumping plant and distribution system	11,273,255	10,588,024
Sewer property	488,620	216,418
Less, accumulated depreciation	(3,137,843)	(2,835,043)
<b>Net Plant and Distribution System</b>	<b>8,624,032</b>	<b>7,969,399</b>
Deferred Debits - Unamortized Bond Costs	58,764	68,809
<b>Total Assets</b>	<b>\$ 10,010,108</b>	<b>\$ 9,020,578</b>
<b>LIABILITIES AND RETAINED EARNINGS</b>		
Current Liabilities:		
Current portion of long-term debt	\$ 136,048	\$ 139,281
Accounts payable and accrued expenses	177,061	104,073
Accrued interest	2,510	2,795
Customer deposits	8,810	8,175
<b>Total Current Liabilities</b>	<b>324,429</b>	<b>254,324</b>
Long-Term Debt:		
Notes payable (excludes current portion, \$98,048)	1,047,906	1,139,884
Revenue bonds (excludes current portion, \$38,000)	2,119,500	2,157,500
<b>Total Long-Term Debt</b>	<b>3,167,406</b>	<b>3,297,384</b>
Net Assets:		
Invested in capital assets	5,320,578	4,601,543
Restricted	435,755	205,740
Unrestricted - Unreserved	361,940	661,587
Unrestricted - Board-designated depreciation reserves	400,000	-
<b>Total Retained Earnings</b>	<b>6,518,273</b>	<b>5,468,870</b>
<b>Total Liabilities and Retained Earnings</b>	<b>\$ 10,010,108</b>	<b>\$ 9,020,578</b>

JESSAMINE SOUTH ELKHORN WATER DISTRICT  
WATER AND SEWER DIVISIONS  
COMBINED STATEMENT OF REVENUES, EXPENSES AND CHANGES IN NET ASSETS  
FOR THE YEARS ENDED DECEMBER 31, 2007 AND 2006

	2007			2006
	Water	Sewer	Total	Totals
<b>Revenues:</b>				
Residential utility sales	\$ 1,699,839	\$ 12,343	\$ 1,712,182	\$ 1,379,388
Commercial utility sales	68,248	67,260	135,508	87,727
Penalties	24,442	-	24,442	19,488
Service charges	41,124	-	41,124	41,305
<b>Total Revenues</b>	<b>1,833,653</b>	<b>79,603</b>	<b>1,913,256</b>	<b>1,527,908</b>
<b>Operating Expenses:</b>				
Water purchased and Sewer Usage	671,340	32,793	704,133	532,445
Depreciation	302,800	-	302,800	276,402
Payroll	205,841	-	205,841	181,724
Maintenance and repairs	89,255	303	89,558	59,453
Employee insurance, benefits and taxes	56,569	-	56,569	54,522
Office and miscellaneous	28,942	(66)	28,876	20,665
Commissioners' salaries	30,200	-	30,200	29,600
Professional - Legal and Audit	17,766	-	17,766	30,719
Insurance	28,064	-	28,064	21,903
Engineering	39,660	18,419	58,079	40,369
Utilities and telephone	22,196	-	22,196	16,417
Rent	7,800	-	7,800	7,800
Truck and travel	9,913	-	9,913	8,552
Bad debts	3,442	-	3,442	2,487
Service fees - KIA bond	1,425	-	1,425	1,560
EPA monitoring	2,634	-	2,634	1,995
Meter readings and testing	1,229	-	1,229	2,048
Allocated overhead	(25,734)	25,734	-	-
<b>Total Operating Expenses</b>	<b>1,493,342</b>	<b>77,183</b>	<b>1,570,525</b>	<b>1,288,661</b>
<b>Operating Income</b>	<b>340,311</b>	<b>2,420</b>	<b>342,731</b>	<b>239,247</b>
<b>Nonoperating Income and (Expenses):</b>				
Interest income	23,948	292	24,240	20,875
Interest expense	(180,501)	-	(180,501)	(185,603)
<b>Income Before Capital Contributions</b>	<b>183,758</b>	<b>2,712</b>	<b>186,470</b>	<b>74,519</b>
<b>Capital Contributions:</b>				
Connection fees and construction contributions	168,146	214,208	382,354	210,978
Governmental grants for construction	480,579	-	480,579	23,367
<b>Change in Net Assets</b>	<b>832,483</b>	<b>216,920</b>	<b>1,049,403</b>	<b>308,864</b>
Net Assets - Beginning of Year	5,331,581	137,289	5,468,870	5,160,006
<b>Net Assets - End of Year</b>	<b>\$ 6,164,064</b>	<b>\$ 354,209</b>	<b>\$ 6,518,273</b>	<b>\$ 5,468,870</b>

JESSAMINE SOUTH ELKHORN WATER DISTRICT  
WATER AND SEWER DIVISIONS  
COMBINED STATEMENT OF CASH FLOWS  
FOR THE YEARS ENDED DECEMBER 31, 2007 AND 2006

	2007	2006
Increase (Decrease) in Cash and Cash Equivalents:		
Cash Flows from Operating Activities:		
Cash received from customers	\$ 1,886,360	\$ 1,519,670
Cash paid to suppliers and service providers	(1,191,053)	(958,750)
<b>Net Cash Provided by Operating Activities</b>	<b>695,307</b>	<b>560,920</b>
Cash Flows from Investing Activities:		
Interest received	24,240	20,875
<b>Net Cash Provided by Investing Activities</b>	<b>24,240</b>	<b>20,875</b>
Cash Flows from Capital Financing Activities:		
Contributions to capital	862,933	234,345
Interest paid	(170,741)	(178,266)
Capital expenditures	(957,433)	(438,925)
Principal paid on bond obligations and notes	(133,211)	(134,350)
Net customer deposits	635	635
<b>Net Cash Used by Financing Activities</b>	<b>(397,817)</b>	<b>(516,561)</b>
<b>Net Increase in Cash and Cash Equivalents</b>	<b>321,730</b>	<b>65,234</b>
Cash and Cash Equivalents - Beginning of Year	904,532	839,298
<b>Cash and Cash Equivalents - End of Year</b>	<b>\$ 1,226,262</b>	<b>\$ 904,532</b>
Reconciliation of Operating Income to Net Cash Provided by Operating Activities:		
Operating income	\$ 342,731	\$ 239,247
Adjustments to reconcile operating income to net cash provided by operating activities:		
Depreciation and amortization	302,800	276,402
(Increase) Decrease in accounts receivable	(25,286)	(7,250)
(Increase) Decrease in prepaid expenses	2,074	(838)
Increase (Decrease) in accounts payable and accruals	72,988	53,359
<b>Net Cash Provided by Operating Activities</b>	<b>\$ 695,307</b>	<b>\$ 560,920</b>

JESSAMINE SOUTH ELKHORN WATER DISTRICT  
WATER AND SEWER DIVISIONS  
NOTES TO FINANCIAL STATEMENTS  
DECEMBER 31, 2007 AND 2006

**NOTE 1 – SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES:**

The financial statements of the Jessamine South Elkhorn Water District, Water and Sewer Divisions (the District) are prepared in conformity with accounting principles generally accepted in the United States of America (GAAP). The existing hierarchy provides that accounting guidance should first be sought in statements of the Governmental Accounting Standards Board (GASB). If the GASB has not issued a standard applicable to a situation, then pronouncements of the Financial Accounting Standards Board (FASB) and Accounting principles Board (APB) issued on or before November 30, 1989 are presumed to apply. The following is a summary of the more significant policies:

**Reporting Entity**

The District, consisting of Jessamine South Elkhorn Water District Water Division, and Jessamine South Elkhorn Water District Sewer Division, has been consolidated for reporting purposes. The entities share the same board of commissioners, central offices and employees.

The District is a special district formed for the express purpose of providing water service within the confines of Jessamine County, Kentucky. The Jessamine County Fiscal Court appoints an independent board of commissioners to govern the district. The District operates as an independent entity in that it: is legally separate; holds corporate powers of organization; the Fiscal Court does not impose their will upon the District; and the District does not impose financial benefit or burden upon the Fiscal Court.

**New Accounting Pronouncements**

GASB has issued Statement of Accounting Standards No. 34, *Basic Financial Statements and Management's Discussion and Analysis - for State and Local Governments* (GASB 34). Statement 34 established standards for external financial reporting for all state and local governmental entities which includes a statement of net assets, a statement of activities and changes in net assets and a statement of cash flows. It requires the classification of net assets into three components: invested in capital assets, net of related debt; restricted; and unrestricted. These classifications are defined as follows:

- Invested in capital assets, net of related debt - This component of net assets consists of capital assets including restricted capital assets, net of accumulated depreciation and reduced by the outstanding balance of any bonds, mortgages, notes, or other borrowings that are attributable to the acquisition, construction, or improvement of those assets. If there are significant unspent related debt proceeds at year-end, the portion of the debt attributable to the unspent proceeds is not included in the calculation of "invested in capital assets, net of related debt." Rather, that portion of the debt is included in the same net asset component as the unspent proceeds.

JESSAMINE SOUTH ELKHORN WATER DISTRICT  
WATER AND SEWER DIVISIONS  
NOTES TO FINANCIAL STATEMENTS  
DECEMBER 31, 2007 AND 2006

**Note 1 – SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED):**

- Restricted - This component of net assets consists of constraints placed on net asset use through external constraints imposed by creditors (such as through debt covenants), grantors, contributors, or laws or regulations of other governments or constraints imposed by law through constitutional provisions or enabling legislation.
- Unrestricted - This Component of net assets consist of net assets that do not meet the definition of "restricted" or "invested in capital assets, net of related debt."

**Basis of Presentation**

The financial statements are prepared in accordance with accounting principles generally accepted in the United States of America. The District is an individual fund and is accounted for as a business-type activity fund. It is financed and operated in a manner similar to a private business enterprise where the intent of the governing body is that costs (expenses, including depreciation) of providing goods or services to the general public on a continuing basis are financed primarily through user charges.

**Basis of Accounting**

Basis of accounting refers to when revenues and expenses are recognized in the accounts and reported in the financial statements. It relates to the timing of the measurements made, regardless of the measurement focus applied. The District's financial statements are prepared on the accrual basis of accounting. By utilizing this method, revenues are recognized when they are earned, and expenses are recognized as they are incurred.

Operating income reported in the financial statements includes revenues and expenses related to the continuing operation of the fund. Principal operating revenues are charges to customers for sales or services. Principal operating expenses are the costs of providing goods or services and include administrative expenses and depreciation of capital assets. Other revenues and expenses are classified as nonoperating in the financial statements.

When both restricted and unrestricted resources are available for use it is the District's policy to use restricted resources first, then unrestricted resources as needed.

**Use of Estimates and Assumptions**

In preparing financial statements that conform with generally accepted accounting principles, management makes estimates and assumptions that affect the reported amounts of assets and liabilities, disclosure of contingent assets and liabilities at the date of the financial statements and

JESSAMINE SOUTH ELKHORN WATER DISTRICT  
WATER AND SEWER DIVISIONS  
NOTES TO FINANCIAL STATEMENTS  
DECEMBER 31, 2007 AND 2006

**Note 1 – SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED):**

amounts of revenues and expenses reflected during the reporting period. Accordingly, actual results could differ from those estimates.

**Compensated Absences**

Vacation - Vacation days are accrued at the following rate:

- 5 days per year for years 0 – 1;
- 10 days per year for years 2 – 5
- 15 days per year for years 6 – XX.

These days are carried over if unused; however, such carryover days shall not exceed twenty days entering into a calendar year.

Sick - Employees earn one sick day for every month of employment and may accumulate a total of no more than seventy five days.

These unpaid compensated absences, if applicable and materially significant, are recorded as accrued liabilities.

**Cash and Cash Equivalents**

For purposes of the statement of cash flows, the District considers all highly liquid investments with maturity of ninety days or less to be cash equivalents.

**Accounts Receivable**

Trade accounts receivable are stated at the amount management expects to collect from balances outstanding at year-end. Based on management's assessment of the credit history with customers having outstanding balances and current relationships with them, it has concluded that realized losses on balances outstanding at year-end will be immaterial.

**Inventories**

The District has not historically inventoried unsold water, nor accounted for unbilled water or sewer usage as of the year end. Similarly, the District does not accrue costs for water purchases unbilled to it as of the year end. The District does not inventory supplies or similar items unless such items are determined to be significant.

JESSAMINE SOUTH ELKHORN WATER DISTRICT  
WATER AND SEWER DIVISIONS  
NOTES TO FINANCIAL STATEMENTS  
DECEMBER 31, 2007 AND 2006

**NOTE 1 – SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED):**

**Capital and Operating Grants**

Grants that are restricted to the purchase or construction of capital assets are recorded as other income, per GASB 33. The District received \$480,579 and \$23,367 in grants for the years ended December 31, 2007 and 2006 respectively.

**Unamortized Debt Discount, Issuance Expense, and Deferred Amount from Refunding**

Original issue discounts, debt issuance expenses, and deferred amounts from the advance refunding of outstanding revenue certificates are appropriately deferred and amortized over the remaining terms of the applicable debt issues or the life of the old debt, whichever is shorter, for deferred amounts from the advance refunding. The amortization expense, reported as a component of interest expense, was \$10,045 and \$7,574 for the years ended December 31, 2007 and 2006 respectively.

**Capital Assets**

Utility plant is stated at original cost and depreciated over its estimated useful life using the straight-line method. Expenditures for maintenance and repairs are expensed when incurred. Renewals and betterments are capitalized. The range of useful lives used in computing depreciation is as follows: Transmission and Distribution lines and related components and structures – 40 years; Meters and Services – 40 years; Office furnishings – 10 years; Office Equipment – 5 years and Automotive – 6 years. Total depreciation expense was \$302,800 and \$276,402 for the years ended December 31, 2007 and 2006 respectively.

**Income Taxes**

The revenues of the District are exempt from federal and state income taxes.

**NOTE 2 – CASH DEPOSITS AND INVESTMENTS**

The investment policies of the District are governed by State statute. Major provisions of the District's investment policy include: depositories must be FDIC insured banking institutions; depositories must fully insure or collateralize all demand and time deposits and repurchase agreements; and securities collateralizing repurchase agreements are to be held by independent third parties.

JESSAMINE SOUTH ELKHORN WATER DISTRICT  
WATER AND SEWER DIVISIONS  
NOTES TO FINANCIAL STATEMENTS  
DECEMBER 31, 2007 AND 2006

**NOTE 2 – CASH DEPOSITS AND INVESTMENTS (CONTINUED):**

**Bank Deposits**

The fair market value of deposits was equivalent to the reported values, as all deposits are in checking or savings accounts, reported at par. All deposits are secured by \$200,000 of FDIC insurance and by securities held by the Banks in the District's name in the form of pledged collateral and are categorized for level of risk purposes as "Category 1" (Deposits insured or collateralized with securities held by the District or by its agent in the District's name). There were no "Category 2" (Collateralized with securities held by the pledging financial institution's trust department or agent in the District's name) nor were there any "Category 3" (Uncollateralized) deposits.

**Investments**

The District has no monies invested in accounts other than Bank checking and savings accounts.

**NOTE 3 – LONG-TERM DEBT:**

The District is obligated on five debt instruments as follows:

- Note payable to the Kentucky Infrastructure Authority in the principal amount of \$592,500. (\$687,500 in 2006) The note represents the District's portion of the KY Infrastructure Authority Governmental Agencies Program Revenue Refunding Bonds Series K issue C91-01 and currently bears interest at the rate of 3.16%. The District capitalized costs associated with an initial refinancing in the amount of \$57,122 in 2003 and an additional \$18,522 from a succeeding refinancing in 2004 which will be amortized over the remaining life of the issue. The issue matures in June 2013 and bears a weighted average interest rate over the term of the note of 4.29%.
- The District is obligated on a note payable to the KY Infrastructure Authority (KIA) in the principal amount of \$196,851 (\$196,851 in 2006). The KIA has committed \$298,200 on this loan, which bears interest at 3.00% per annum and is to be repaid over 5 years, commencing one year from final disbursement on the note, currently projected to occur during 2008. Proceeds from this loan are to be used for planning and design work of a sanitary sewer collection and conveyance system to be located in north Jessamine County. The summary of maturities scheduled below assumes the balance of the loan commitment (\$101,349) will be borrowed in 2008, with principal payments commencing in 2009.



JESSAMINE SOUTH ELKHORN WATER DISTRICT  
 WATER AND SEWER DIVISIONS  
 NOTES TO FINANCIAL STATEMENTS  
 DECEMBER 31, 2007 AND 2006

**NOTE 3 – LONG-TERM DEBT (CONTINUED):**

- The District is obligated on a note payable to the Farmers Bank in the principal amount of \$356,603 (\$357,814 to Citizens National Bank in 2006). The note is payable \$5,645 quarterly including interest at an annual rate of 6.2% and matures in April 2010.
- The District is obligated on a Bond Issuance of 1971 in the remaining principal amount of \$23,000 (\$32,000 in 2006) with an annual interest rate of 5%. These bonds are secured by the water supply and distribution system.
- The District is obligated on Revenue Bonds of 2000 in the remaining principal amount of \$2,134,500 (\$2,162,500 in 2006) with an effective annual interest rate of 5.2%. These bonds are secured by the water supply and distribution system.

A summary of principal and interest maturities on the above referenced debt obligations is as follows:

Debt Obligation	Principal Balance 12/31/06	Principal Payments 2007	Note Balance 12/31/2007	Current	Long-Term
KIA Refunding - K C91-01	\$ 687,500	\$ 95,000	\$ 592,500	\$ 97,500	\$ 495,000
KIA Note - Sanitary Sewer	196,851	-	196,851	-	196,851
Farmers Bank Note	357,814	1,211	356,603	548	356,055
Revenue Bonds - 1971	32,000	9,000	23,000	9,000	14,000
Revenue Bonds - 2000	2,162,500	28,000	2,134,500	29,000	2,105,500
Totals	<u>\$ 3,436,665</u>	<u>\$ 133,211</u>	<u>\$ 3,303,454</u>	<u>\$ 136,048</u>	<u>\$ 3,167,406</u>

Maturities of Long-Term

Debt:	Principal	Interest	Total
2008	\$ 136,048	\$ 168,570	\$ 304,617
2009	41,295	164,789	206,084
2010	553,040	140,782	693,822
2011	201,832	125,841	327,673
2012	212,087	116,759	328,846
2013 - 2017	391,652	499,432	891,083
2018 - 2022	267,500	435,443	702,943
2023 - 2027	344,500	357,959	702,459
2028 - 2032	445,000	257,914	702,914
2033 - 2037	576,000	128,640	704,640
2038 - 2038	134,500	7,032	141,532
Totals	<u>\$ 3,303,454</u>	<u>\$ 2,403,160</u>	<u>\$ 5,706,614</u>

JESSAMINE SOUTH ELKHORN WATER DISTRICT  
 WATER AND SEWER DIVISIONS  
 NOTES TO FINANCIAL STATEMENTS  
 DECEMBER 31, 2007 AND 2006

**NOTE 4 – INSURANCE AND RISK MANAGEMENT:**

The District is exposed to various forms of loss associated with the risks of fire, personal liability, theft, vehicular accidents, errors and omissions, fiduciary responsibility and torts, injuries to employees, natural disasters, etc. Each of these risk areas is covered through the purchase of a commercial insurance package. The District has purchased certain policies which are rated including workers' compensation insurance. Premiums for these policies are based upon the District's experience to date.

**NOTE 5 – RESTRICTED AND RESERVED ASSETS:**

The restricted assets in the accompanying financial statements are restricted as to use by ordinance, external parties or by board designation. The following schedule sets forth restricted assets of December 31, 2007:

<u>Restricted Cash Accounts</u>	<u>Balance in Account</u>	<u>Restricted Amount</u>	<u>Excess Balance</u>
Customer Deposits	\$ 9,046	\$ 8,810	\$ 236
Revenue Bonds of 1971 and 2000:			
Depreciation Fund	12,005	12,000	5
Reserve Fund	103,935	99,960	3,975
Bond and Interest Fund	12,923	-	12,923
Construction accounts - Water	230,070	230,070	-
Construction accounts - Sewer	84,915	84,915	-
Board-designated accounts	400,000	400,000	-
Total Cash in Restricted Accounts	<u>\$ 852,894</u>	<u>\$ 835,755</u>	<u>\$ 17,139</u>

**NOTE 6 – COMPLIANCE WITH BOND ORDINANCES:**

The District is in compliance with applicable bond ordinances that require maintenance of certain Funds as set forth following:

Revenue Fund – All gross revenues of the District are deposited into this fund and subsequently distributed monthly to the other funds according to the following fund descriptions.

JESSAMINE SOUTH ELKHORN WATER DISTRICT  
WATER AND SEWER DIVISIONS  
NOTES TO FINANCIAL STATEMENTS  
DECEMBER 31, 2007 AND 2006

**NOTE 6 – COMPLIANCE WITH BOND ORDINANCES (CONTINUED):**

Bond and Interest Sinking Fund – For the retirement of bond and interest obligations, an amount equal to 1/12 of the amount of interest and principal becoming due on the next payment date is deposited monthly into this fund.

Reserve Fund – A bond reserve account of at least \$12,000 is to be maintained for the 1971 Revenue Bond. The Bond Agreement of 2000 calls for monthly reserve accumulations of \$1,190.

Operations and Maintenance Fund – Deposits are to be made to meet the reasonable and necessary expenses of operating and maintaining the District for the current month.

Depreciation Fund – Subject to the priority of the above-mentioned funds, deposits are to be made to maintain a fund balance of at least \$12,000 for the Bond Issue of 1971. This fund is for the purpose of paying unusual or extraordinary maintenance, repairs, renewals and replacements.

Construction Fund – This fund is to be used to construct additions, extensions, and improvements other than those of the Depreciation Fund.

Sewer accounts – These accounts were opened subsequent to the Bond Agreements and are not restricted by formal Ordinance .

Michael J. Besten PSC  
CERTIFIED PUBLIC ACCOUNTANT

106 West Vine Street #700 • Lexington, KY 40507

REPORT ON INTERNAL CONTROL OVER FINANCIAL REPORTING AND ON COMPLIANCE  
AND OTHER MATTERS BASED ON AN AUDIT OF FINANCIAL STATEMENTS PERFORMED IN  
ACCORDANCE WITH *GOVERNMENT AUDITING STANDARDS*

To the Board of Commissioners  
Jessamine South Elkhorn Water District  
Water and Sewer Divisions  
Jessamine County, Kentucky

I have audited the financial statements of the Jessamine South Elkhorn Water District, Water and Sewer Divisions (the District) as of and for the year ended December 31, 2007 and 2006, and have issued my report thereon dated March 25, 2008 which includes an explanatory paragraph regarding the omission of Management Discussion and Analysis. I conducted my audit in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in Government Auditing Standards, issued by the Comptroller General of the United States.

Internal Control Over Financial Reporting

In planning and performing my audit, I considered the District's internal control over financial reporting as a basis for designing my auditing procedures for the purpose of expressing my opinion on the financial statements, but not for the purpose of expressing an opinion on the effectiveness of the Utilities' internal control over financial reporting. Accordingly, I do not express an opinion on the effectiveness of the Utilities' internal control over financial reporting.

My consideration of internal control over financial reporting was for the limited purpose described in the preceding paragraph and would not necessarily identify all deficiencies in internal control over financial reporting that might be significant deficiencies or material weaknesses. However, as discussed below, I identified a certain deficiency in internal control over financial reporting that I consider to be a significant deficiency.

A control deficiency exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to prevent or detect misstatements on a timely basis. A significant deficiency is a control deficiency, or a combination of control deficiencies, that adversely affects the entity's ability to initiate, authorize, record, process, or report financial data reliably in accordance with generally accepted accounting principles such that there is more than a remote likelihood that a misstatement of the entity's financial statements that is more than inconsequential will not be prevented or detected by the entity's internal control. I consider the deficiency described below to be a significant

deficiency in internal control over financial reporting.

- Lack of adequate controls in financial accounting and reporting to properly prepare financial statements and disclosures according to generally accepted accounting principles.

A material weakness is a significant deficiency, or a combination of significant deficiencies, that results in more than a remote likelihood that a material misstatement of the financial statements will not be prevented or detected by the entity's internal control.

My consideration of the internal control over financial reporting was for the limited purpose described in the first paragraph of this section and would not necessarily identify all deficiencies in the internal control that might be significant deficiencies and, accordingly, would not necessarily disclose all significant deficiencies that are also considered to be material weaknesses. I believe that the significant deficiency described above is not a material weakness.

### Compliance and Other Matters

As part of obtaining reasonable assurance about whether the District's financial statements are free of material misstatement, I performed tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements, noncompliance with which could have a direct and material effect on the determination of financial statement amounts. However, providing an opinion on compliance with those provisions was not an objective of my audit, and accordingly, I do not express such an opinion. The results of my tests disclosed no instances of noncompliance or other matters that are required to be reported under Government Auditing Standards.

This report is intended solely for the information and use of management, the Board of Directors, the Jessamine Fiscal Court and the Kentucky Public Service Commission and is not intended to be and should not be used by anyone other than these specified parties.



March 25, 2008

SUPPLEMENTAL INFORMATION

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SCHEDULE A

JESSAMINE SOUTH ELKHORN WATER DISTRICT  
 BALANCE SHEET  
 DECEMBER 31, 2007  
 (with comparative totals for December 31, 2006)

	Revenue Fund	Operations and Maintenance Fund	Bond and Interest Sinking Fund	Depreciation Fund	Reserve Fund	Construction Fund	Sewer Fund	Totals 2007	Totals 2006
<b>ASSETS</b>									
Current Assets:									
Cash	\$ 254,897	\$ 18,319	\$ -	\$ -	\$ -	\$ 96,917	\$ 3,235	\$ 373,368	\$ 660,354
Accounts receivable	57,289	-	-	4,426	-	424	29,715	91,854	66,568
Intra-fund advances	12,539	-	-	-	-	-	-	12,539	107,603
Prepaid expenses	-	9,196	-	-	-	-	-	9,196	11,270
Total Current Assets	324,725	27,515	-	4,426	-	97,341	32,950	486,957	845,795
Cash in Restricted Accounts	115,126	-	12,923	12,005	103,935	523,990	84,915	852,894	244,178
Utility Plant:									
Pumping Plant and Distribution System	-	-	-	-	-	11,273,255	488,620	11,761,875	10,804,442
Less, accumulated depreciation	-	-	-	-	-	(3,116,709)	(21,134)	(3,137,843)	(2,835,043)
Net Plant and Distribution System	-	-	-	-	-	8,156,546	467,486	8,624,032	7,969,399
Other Asset - Unamortized bond costs	-	-	-	-	-	58,764	-	58,764	68,809
Total Assets	\$ 439,851	\$ 27,515	\$ 12,923	\$ 16,431	\$ 103,935	\$ 8,836,641	\$ 585,351	10,022,647	\$ 9,128,181
<b>LIABILITIES AND EQUITIES</b>									
Current Liabilities:									
Current portion of long-term debt	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 136,048	\$ -	\$ 136,048	\$ 139,281
Accounts payable	-	40,681	-	-	-	99,106	28,735	168,522	103,495
Sales, utilities and payroll taxes payable	3,745	4,794	-	-	-	-	-	8,539	578
Intra-fund advances	-	-	-	-	-	-	12,539	12,539	107,603
Accrued interest	-	-	-	-	-	2,510	-	2,510	2,795
Customer deposits	8,810	-	-	-	-	-	-	8,810	8,175
Total Current Liabilities	12,555	45,475	-	-	-	237,664	41,274	336,968	361,927
Long-Term Debt:									
Notes payable (Excludes current \$98,048)	-	-	-	-	-	851,055	196,851	1,047,906	1,139,884
Revenue bonds (Excludes current \$38,000)	-	-	-	-	-	2,119,500	-	2,119,500	2,157,500
Total Long-Term Debt	-	-	-	-	-	2,970,555	196,851	3,167,406	3,297,384
Equities:									
Fund Balances	427,296	(51,353)	12,923	16,431	103,935	(103,342)	2,733	408,623	222,153
Contributions in Aid of Construction	-	33,393	-	-	-	5,731,764	344,493	6,109,650	5,246,717
Total Equities	427,296	(17,960)	12,923	16,431	103,935	5,628,422	347,226	6,518,273	5,468,870
Total Equities and Liabilities	\$ 439,851	\$ 27,515	\$ 12,923	\$ 16,431	\$ 103,935	\$ 8,836,641	\$ 585,351	10,022,647	\$ 9,128,181

See accountant's report.

Michael J. Bauman, CPA, Auditor

JESSAMINE SOUTH ELKHORN WATER DISTRICT  
 STATEMENT OF RECEIPTS, EXPENDITURES AND EQUITIES  
 FOR THE YEAR ENDED DECEMBER 31, 2007  
 (with comparative totals for the year ended December 31, 2006)

	Water Revenue Fund	Operations & Maintenance Fund	Bond and Interest Sinking Fund	Depreciation Fund	Reserve Fund	Construction Fund	Sewer Fund	Eliminations	Totals 2007	Totals 2006
<b>Receipts:</b>										
Water sales	\$ 1,765,100	\$ 2,600	\$ -	\$ 387	\$ -	\$ -	\$ -	\$ -	\$ 1,768,087	\$ 1,419,949
Server fees, (2005 = net of costs)	-	-	-	-	-	-	-	-	79,603	47,166
Interest income	3,943	375	690	5	4,316	-	79,603	-	79,603	20,875
Penalties	24,442	-	-	-	-	14,619	292	-	24,240	19,488
Service charges	41,124	-	-	-	-	-	-	-	41,124	41,305
Miscellaneous revenues	162	1,670	-	-	-	-	-	-	1,832	1,499
Transfers	-	1,305,549	1,400	(387)	9,882	337,139	-	-	1,832	1,499
<b>Total Receipts</b>	<b>1,834,771</b>	<b>1,310,194</b>	<b>2,090</b>	<b>5</b>	<b>14,198</b>	<b>351,758</b>	<b>79,895</b>	<b>(1,653,583)</b>	<b>1,939,328</b>	<b>1,550,282</b>
<b>Expenditures:</b>										
Water purchased and Sewer Usage	-	671,340	-	-	-	-	32,793	-	704,133	532,445
Interest	42	-	-	-	-	-	5,988	-	180,501	185,603
Engineering	-	39,660	-	-	-	174,471	-	-	58,079	40,369
EPA monitoring	-	2,634	-	-	-	-	18,419	-	2,634	1,995
Professional - Legal and Audit	-	17,766	-	-	-	-	-	-	17,766	30,719
Commissioners' salaries	-	30,200	-	-	-	-	-	-	30,200	29,600
Maintenance and repairs	-	89,255	-	-	-	-	-	-	89,558	59,453
Meter readings and testing	-	1,229	-	-	-	-	303	-	1,229	2,048
Truck and travel	-	9,913	-	-	-	-	-	-	9,913	8,552
Office and miscellaneous	117	30,612	-	-	-	-	-	-	30,708	22,164
Payroll	-	205,841	-	-	-	45	(66)	-	205,841	181,724
Employee insurance, benefits and taxes	-	56,569	-	-	-	-	-	-	56,569	54,522
Insurance	-	28,064	-	-	-	-	-	-	21,201	21,903
Utilities and telephone	-	21,201	-	-	-	-	-	-	28,064	22,196
Rent	-	7,800	-	-	-	-	995	-	7,800	7,800
Bad debts	3,442	-	-	-	-	-	-	-	3,442	2,487
Service fees - KLA bond	-	-	-	-	-	-	-	-	1,425	1,560
Allocated overhead	(25,734)	-	-	-	-	1,425	-	-	1,425	-
Transfers	1,636,929	-	-	-	-	-	25,734	-	-	-
<b>Total Expenditures</b>	<b>1,614,796</b>	<b>1,212,084</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>16,654</b>	<b>25,734</b>	<b>(1,653,583)</b>	<b>-</b>	<b>-</b>
<b>Operating Income</b>	<b>219,975</b>	<b>98,110</b>	<b>2,090</b>	<b>5</b>	<b>14,198</b>	<b>192,595</b>	<b>84,166</b>	<b>(1,653,583)</b>	<b>1,450,058</b>	<b>1,199,361</b>
<b>Equities, Beginning of Year</b>	<b>207,321</b>	<b>34,216</b>	<b>10,833</b>	<b>16,426</b>	<b>89,737</b>	<b>4,973,048</b>	<b>137,289</b>	<b>-</b>	<b>489,270</b>	<b>350,921</b>
Additions to system	-	(150,286)	-	-	-	150,286	-	-	5,468,870	5,160,006
Connection fees	-	-	-	-	-	168,146	-	-	168,146	47,300
Governmental grants	-	-	-	-	-	480,579	-	-	480,579	163,678
Construction contributions	-	-	-	-	-	-	214,208	-	214,208	23,367
Depreciation	-	-	-	-	-	(302,800)	-	-	(302,800)	(276,402)
<b>Equities, End of Year</b>	<b>\$ 427,296</b>	<b>\$ (17,960)</b>	<b>\$ 12,923</b>	<b>\$ 16,431</b>	<b>\$ 103,935</b>	<b>\$ 5,628,422</b>	<b>\$ 347,226</b>	<b>\$ -</b>	<b>\$ 6,518,273</b>	<b>\$ 5,468,870</b>

See Auditor's Report.



# Horne Engineering, Inc.

216 SOUTH MAIN STREET • NICHOLASVILLE, KENTUCKY 40356 • (859)885-9441 • FAX (859)885-5160

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ENGINEERS • LAND SURVEYORS • PLANNERS  
*email@horneeng.com*

April 22, 2011

Kristen Millard  
Morgan Keegan & Co., Inc.  
489 East Main Street  
Lexington, KY 40507

Re: Bond Resolution  
Catnip Hill Storage Tank Project  
Jessamine South Elkhorn Water District

Dear Kristen:

Enclosed, please find an executed copy of the Bond Resolution for the referenced project. It is my understanding that due to the uncertainty caused by the Forest Hill complaint to PSC that the process of issuance will be held in abeyance.

Should you have any questions and/or comments, please contact me at (859) 885-9441.

Sincerely,  
HORNE ENGINEERING, INC.



John G. Horne, PE, PLS  
President

JGH/jt  
enc.

cc: Board of Commissioners  
Glenn T. Smith  
Bruce E. Smith  
Engr/3569  
Engr/3933  
Corr.

## RESOLUTION

### RESOLUTION OF THE JESSAMINE-SOUTH ELKHORN WATER DISTRICT APPROVING AND AUTHORIZING AN ASSISTANCE AGREEMENT WITH THE KENTUCKY RURAL WATER FINANCE CORPORATION FOR THE PURPOSE OF FINANCING A PROJECT FOR THE DISTRICT

**WHEREAS**, the Board of Commissioners ("Governing Authority") of the Jessamine-South Elkhorn Water District (the "District") has previously determined that it is in the public interest to make extensions, additions and improvements (the "Project") to the District's water system (the "System"); and

**WHEREAS**, the District desires the Kentucky Rural Water Finance Corporation (the "Corporation") to act as its agency and instrumentality for the purpose of providing monies to finance the cost of said Project, consisting of the acquisition and construction of an elevated storage tank, and has made an application to the Corporation therefore;

**WHEREAS**, in order to obtain such monies, the District is required to enter into an Assistance Agreement with the Corporation;

**NOW, THEREFORE, BE IT RESOLVED** by the Governing Authority of the Jessamine-South Elkhorn Water District, as follows:

**1. Authorization of Assistance Agreement and the Obligations Thereunder.** For the purpose of paying the costs, not otherwise provided, of financing the Project, the District hereby authorizes and approves the issuance of its obligations pursuant to the Assistance Agreement in an aggregate principal amount of \$1,565,000 (subject to adjustment plus or minus ten percent (10%)) [the "Obligations"], which amount as adjusted shall be the maximum amount of such Obligations to be outstanding at any one time under the Assistance Agreement, issued as fully registered Obligations, in said maturities and terms as more fully provided for in the Assistance Agreement. The Obligations shall bear interest at such rates and shall be payable in such amounts and at such times as specified in the Assistance Agreement, all as agreed upon by the District and the Corporation.

**2. Approval and Authorization of Execution of Assistance Agreement.** The Assistance Agreement by and between the District and the Corporation in the respective form attached to this Resolution, is hereby approved, subject to such minor changes, changes of dates, insertions or omissions as may be approved by the Chairman, such approval to be conclusively evidenced by the execution of said Assistance Agreement, in order to effectuate the purposes of this Resolution; and the Chairman, or any other officer of the District, is hereby authorized to execute and acknowledge same for and on behalf of the District; and the Secretary is authorized to attest same and to affix thereto the corporate seal of the District. The Assistance Agreement is hereby ordered to be filed in the office of the Secretary with this Resolution in the official records of the District.



---

**Date:** Wednesday, April 13, 2011 11:08 AM  
**From:** Millard, Kristen <kristen.millard@morgankeegan.com>  
**To:** john@horneeng.com <john@horneeng.com>  
**Cc:** NickOCIS@aol.com <NickOCIS@aol.com>, 'Bruce Smith' <bsmith@smithlawoffice.net>, Diana Clark (JSEWD) <jessaminesouth@windstream.net>  
**Subject:** RE:

---

Hi John,

Great! I had planned on calling you today – I talked to Randy Jones to double check on when the best time to file the PSC application would be. He had said that you can file it before taking the project out for bids, but they won't really review it until the bids are in. Your best option is to go out to bid, and as soon as you have those bids in, we'll need to file the application for the project (their convenience and necessity filing) concurrently with the application for approval of the financing. Since there's not a rate case with the filing, it should be approved in a somewhat timely manner (at least timely for the PSC).

The PSC application is the primary time-driver here. As I mentioned, we'll have a bond issue coming in June. I still have the KRWFC application that the water district submitted, so that step is already done -I'll need the FY 2010 audit at some point if its done, but outside of that, we should have everything we need. The bond sale will most likely be scheduled in mid-June, where underwriters will place their bids on the bonds at a set date and time, and the lowest bid wins. That will be when the rates are fixed and set. Two weeks (and a lot of signing of documents) later, we'll close the bond issue, funds will be transferred from the underwriter, and your construction funds will be available to be drawn on.

As soon as the water district accepts the bids, let me know and we'll get the ball rolling with the PSC. Just let me know if you have any questions in the meantime!

If you have any questions about the PSC process, Randy's number is 502.569.7534. He prepares most of the PSC applications that are filed throughout the state, so he's pretty well versed on timing and how the process works.

Kristen Millard

Morgan Keegan & Co., Inc.

489 East Main Street

Lexington, Kentucky 40507

(859) 232-8249

(859) 232-8255

---

**From:** Horne, John [mailto:john@horneeng.com]  
**Sent:** Wednesday, April 13, 2011 10:14 AM  
**To:** Millard, Kristen  
**Cc:** NickOCIS@aol.com; 'Bruce Smith'; Diana Clark (JSEWD)  
**Subject:**

Kristen:

The Board of Commissioners adopted the Resolution at their special meeting on Monday. Please advise as to next step(s) and a projected time table.

**John G. Horne**

Horne Engineering, Inc.

216 S. Main Street

Nicholasville, KY 40356

859-885-9441

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STEVEN L. BESHEAR  
GOVERNOR



LEONARD K. PETERS  
SECRETARY

ENERGY AND ENVIRONMENT CABINET  
DEPARTMENT FOR ENVIRONMENTAL PROTECTION  
DIVISION OF WATER  
200 FAIR OAKS LANE, 4TH FLOOR  
FRANKFORT, KENTUCKY 40601  
[www.kentucky.gov](http://www.kentucky.gov)

**FILE COPY**

June 21, 2012

Mr. Glenn T. Smith  
Jessamine South Elkhorn Water District  
P. O. Box 731  
Nicholasville, KY 40356

RE: Jessamine S Elkhorn Water District  
AI # 33936, APE20100001  
PWSID # 0570249-10-001  
Time Extension  
Catnip Hill Pike 1.0 MG Elevated Storage  
Tank  
Jessamine County, KY

Dear Mr. Smith:

We have received your request for an extension of time to begin construction of Catnip Hill Pike 1,000,000 Gallon Elevated Storage Tank. We are granting your request with new expiration date of March 8, 2013 and with following stipulations:

1. The plans and specifications originally submitted for this project shall remain unchanged. If changes to original approval have been made, four new sets of plans and specifications shall be submitted for review and approval
2. All stipulations and requirements contained in the original permit and approval letter shall remain effective.
3. Please note that time extensions are normally not issued on projects approved after January 1, 2011. (Time extensions are not issued on projects approved before January 1, 2011.) Projects approved after January 1, 2011 are issued with two years to begin construction. Since this project was approved with only one year to begin construction, the second year is approved to be consistent with other permits issued after January 1, 2011. If construction of the above project is not initiated before March 8, 2013, then it will be necessary to resubmit the

Jessamine S Elkhorn Water District  
AI # 33936, APE20100001  
PWSID # 0570249-10-001  
Time Extension  
Catnip Hill Pike 1.0 MG Elevated Storage Tank  
Jessamine County, KY  
Page 2 of 2  
June 21, 2012

engineering plans and specifications together with a new application and a review fee if applicable.

If you have any questions concerning this project, please contact Mr. Mark Rasche at (502) 564-8158 extension 4804.

Sincerely,



Mark Rasche, P.E.  
Supervisor, Engineering Section  
Water Infrastructure Branch  
Division of Water

MR

Enclosures

C: John G. Horne, P.E., Horne Engineering, Inc.  
Jessamine County Health Department  
Public Service Commission  
Division of Plumbing



# Horne Engineering, Inc.

216 SOUTH MAIN STREET • NICHOLASVILLE, KENTUCKY 40356 • (859)885-9441 • FAX (859)885-5160

---

ENGINEERS • LAND SURVEYORS • PLANNERS  
*email@horneeng.com*

June 14, 2012

Harold Sparks, PE,  
Engineering Section  
Kentucky Division of Water  
Water Infrastructure Branch  
200 Fair Oaks Lane, 4<sup>th</sup> Floor  
Frankfort, KY 40601

**FILE COPY**

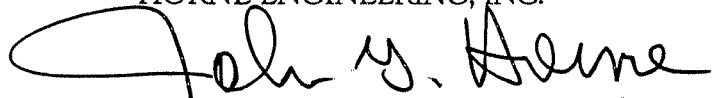
Re: Jessamine S Elkhorn Water District  
AI# 33939, APE 20100001  
PWSID# 0570249-10-001  
Catnip Hill Pike 1.0 MG Elevated  
Storage Tank  
Jessamine County, KY

Dear Mr. Sparks:

The bidding for construction of this project was delayed for circumstances not due to the owner. The project is now being advertised for bids due to be received July 10, 2012. The owner requested extension of the approval until July 13, 2012

Should you have any questions and/or comments, please contact me at (859) 885-9441.

Sincerely,  
HORNE ENGINEERING, INC.



John G. Horne, PE, PLS  
President

JGH/jt

cc: Engr/3569  
Engr/3976  
Corr.



STEVEN L. BESHEAR  
GOVERNOR

LEONARD K. PETERS  
SECRETARY

ENERGY AND ENVIRONMENT CABINET  
DEPARTMENT FOR ENVIRONMENTAL PROTECTION  
DIVISION OF WATER  
200 FAIR OAKS LANE, 4TH FLOOR  
FRANKFORT, KENTUCKY 40601  
[www.kentucky.gov](http://www.kentucky.gov)

March 8, 2011

Mr. Glenn T. Smith  
Jessamine S Elkhorn Water District  
P.O. Box 731  
Nicholasville, KY 40340

RE: Jessamine S Elkhorn Water District  
AI # 33936, APE20100001  
PWSID # 0570249-10-001  
Catnip Hill Pike 1.0 MG Elevated Storage  
Tank  
Jessamine County, KY

Dear Mr. Smith:

We have reviewed the plans and specifications for the above referenced project. The plans include the construction of a 1.0 MG Drinking Water Elevated Storage Tank and approximately 100 ft of 12 inch DI water line. This is to advise that plans and specifications for the above referenced project are APPROVED with respect to sanitary features of design, as of this date with the requirements contained in the attached construction permit.

If you have any questions concerning this project, please contact Mr. Harold Sparks at 502-564-8158 extension 4823.

Sincerely,

A handwritten signature in cursive script that reads "Harold Sparks".

Harold L. Sparks, PE  
Engineering Section  
Water Infrastructure Branch  
Division of Water

HLS  
Enclosures

C: Home Engineering  
Jessamine County Health Department  
Public Service Commission  
Division of Plumbing

The word "Kentucky" in a stylized, serif font with a horse head silhouette integrated into the letter 'y'.

## Distribution-Major Construction

Jessamine S Elkhorn Water District  
Subject Item Inventory

Activity ID No.: APE20100001

### Subject Item Inventory:

ID	Designation	Description
AIOO33936		
PORT26	Water line	100 ft of 12 inch DI water line
STOR1	Finished Water Elevated Storage Tank	1.0 MG Drinking Water Elevated Storage Tank

### Subject Item Groups:

ID	Description	Components
GACT18	1.0 MG Drinking Water Elevated Storage Tank and 100 ft of 12 inch DI water line	STOR1 1.0 MG Drinking Water Elevated Storage Tank PORT26 100 ft of 12 inch DI water line

### KEY

- |                  |                         |
|------------------|-------------------------|
| ACTV = Activity  | AIOO = Agency Interest  |
| AREA = Area      | COMB = Combustion       |
| EQPT = Equipment | MNPT = Monitoring Point |
| PERS = Personnel | PORT = Transport        |
| STOR = Storage   | STRC = Structure        |
| TRMT = Treatment |                         |

### Distribution-Major Construction

Jessamine S Elkhorn Water District  
Facility Requirements

Activity ID No.: APE20100001

Page 1 of 14

WACT0000000018 (Catnip Hill Pike 1.0 MG Elevated Storage Tank) 1.0 MG Drinking Water Elevated Storage Tank and 100 ft of 12 inch DI water line:

#### Monitoring Requirements:

Condition No.	Parameter	Condition
M-1	Coliform	The presence or absence of total Coliform monitored by sampling and analysis as needed shall be determined for the new or relocated water line(s). Take samples at connection points to existing lines, at 1 mile intervals, and at dead ends without omitting any branch of the new or relocated water line. Sample bottles shall be clearly identified as "special" construction tests. [401 KAR 8:100 Section 1(7), 401 KAR 8:150 Section 4, Recommended Standards for Water Works 8.5.6] This requirement is applicable during the following months: All Year. Statistical basis: Instantaneous determination.
M-2	Coliform	The presence or absence of total Coliform monitored by sampling and analysis as needed shall be determined for the new storage structure(s). With at least 1 sample taken at least 24 hours after the first construction complete sample(s), take 2 or more samples from the yard hydrant, the outlet piping from the storage structure, or a sample tap directly connected to the storage structure. Sample bottles shall be clearly identified as "special" construction tests. [Recommended Standards for Water Works 7.0.18, 401 KAR 8:150 Section 4] This requirement is applicable during the following months: All Year. Statistical basis: Instantaneous determination.

#### Submittal/Action Requirements:

##### Coliform:

Condition No.	Condition
S-1	Coliform For new construction projects, the distribution system, using the most expedient method, shall submit Coliform test results to the Cabinet: Due immediately following disinfection and flushing. [401 KAR 8:150 Section 4(2)]
S-2	For proposed changes to the approved plan, submit information: Due prior to any modification to the Cabinet for approval. Changes to the approved plan shall not be implemented without the prior written approval of the Cabinet. [401 KAR 8:100 Section 1(8)]

## Distribution-Major Construction

Jessamine S Elkhorn Water District  
Facility Requirements

Activity ID No.: APE20100001

Page 2 of 14

### Submittal/Action Requirements:

---

Condition No.	Condition
S-3	The person who presented the plans shall submit the professional engineer's certification: Due when construction is complete to the Division of Water. The certification shall be signed by a registered professional engineer and state that the water project has been constructed and tested in accordance with the approved plans, specifications, and requirements. [401 KAR 8:100 Section 1(8)]

### Narrative Requirements:

#### Additional Limitations:

---

Condition No.	Condition
T-1	Additional Limitations: Chlorinated water resulting from disinfection of project components shall be disposed in a manner which will not violate 401 KAR 5:031. [401 KAR 8:020 Section 2(20)]

---

Condition No.	Condition
T-2	This project has been permitted under the provisions of KRS Chapter 224 and regulations promulgated pursuant thereto. Issuance of this permit does not relieve the applicant from the responsibility of obtaining any other approvals, permits or licenses required by this Cabinet and other state, federal and local agencies. Further, this permit does not address the authority of the permittee to provide service to the area to be served. [401 KAR 8:100 Section 1(7)]
T-3	Unless construction of this project is begun within 1 year from the issuance date of this permit, the permit shall expire. If requested prior to the permit expiration, an official extension from the Division of Water may be granted. If this permit expires, the original plans and specifications may be resubmitted for a new comprehensive review. If you have any questions concerning this project, please contact the Drinking Water Branch at 502/564-3410. [401 KAR 8:100 Section 1(9)]
T-4	Final approval of facility. Upon completion of construction, the person who presented the plans shall certify in writing that the project has been completed in accordance with the "approved" plans and specifications. The public water supply shall operate the facility consistent with the approved plans and specifications. Any proposed change to the approved plan shall be submitted to the cabinet for approval. The public water supply shall not implement any change to the approved plan without the prior written approval of the cabinet. [401 KAR 8:100 Section 401 KAR 8:100(1)(8)]

**Distribution-Major Construction**

Jessamine S Elkhorn Water District  
Facility Requirements

Activity ID No.: APE20100001

Narrative Requirements:

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Condition	Condition
T-5	During construction, a set of approved plans and specification shall be available at the job site at all times. All work shall be performed in accordance with the approved plans and specifications. [401 KAR 8:100 Section 1(7)(a)]

---

## Distribution-Major Construction

Jessamine S Elkhorn Water District  
Facility Requirements

Activity ID No.: APE20100001

Page 4 of 14

### ORT0000000026 (Water line) 100 ft of 12 inch DI water line:

#### Limitation Requirements:

Condition No.	Parameter	Condition
L-1	Depth	A continuous and uniform bedding shall be provided in the trench for all buried pipe. Backfill material shall be tamped in layers around the pipe and to a sufficient height above the pipe to adequately support and protect the pipe. Stones found in the trench shall be removed for a Depth $\geq 6$ in below the bottom of the pipe. [Recommended Standards for Water Works 8.5.2] This requirement is applicable during the following months: All Year. Statistical basis: Not applicable.
L-2	Depth	All water lines shall be covered to a Depth $\geq 30$ in to prevent freezing. [Recommended Standards for Water Works 8.5.3, 401 KAR 8:100 Section 1(7)] This requirement is applicable during the following months: All Year. Statistical basis: Minimum.
L-3	Diameter	All new and existing water lines serving fire hydrants or where fire protection is provided shall have Diameter $\geq 6$ in. [Recommended Standards for Water Works 8.1.2] This requirement is applicable during the following months: All Year. Statistical basis: Minimum.
L-4	Distance	Water lines shall have a sufficient quantity of valves so that inconvenience and sanitary hazards will be minimized during repairs. A valve spacing Distance $\leq 800$ feet should be utilized in non-commercial districts. Alternatively, non-commercial districts should utilize a valve spacing Distance $\leq 1$ block. Commercial districts should utilize a valve spacing Distance $\leq 500$ ft. [Recommended Standards for Water Works 8.2] This requirement is applicable during the following months: All Year. Statistical basis: Not applicable.
L-5	Distance	Hydrant drains shall not be connected to sanitary sewers or storm drains and shall be located a Distance $> 10$ ft from sanitary sewers and storm drains. [Recommended Standards for Water Works 8.3.4] This requirement is applicable during the following months: All Year. Statistical basis: Not applicable.
L-6	Distance	Except when not practical, water lines shall be laid a horizontal Distance $\geq 10$ ft from any existing or proposed sewer. The distance shall be measured edge to edge. In cases where it is not practical to maintain a 10 foot separation, water lines may be installed closer to a sewer provided that the water lines shall be laid in a separate trench or on an undisturbed shelf located on one side of the sewer at such an elevation that the bottom of the water line is at least 18 inches above the top of the sewer. [Recommended Standards for Water Works 8.6.2] This requirement is applicable during the following months: All Year. Statistical basis: Not applicable.

## Distribution-Major Construction

Jessamine S Elkhorn Water District  
Facility Requirements

Activity ID No.: APE20100001

Page 5 of 14

PORT0000000026 (continued):

### Limitation Requirements:

Condition No.	Parameter	Condition
L-7	Distance	<p>When water lines and sewers cross,</p> <ol style="list-style-type: none"><li>1) water lines shall be laid such that either<ol style="list-style-type: none"><li>a) the the top of the water line is a vertical Distance <math>\geq</math> 18 in below the bottom of the sewer line or</li><li>b) the bottom of the water line is a vertical Distance <math>\geq</math> 18 in above the top of the sewer line,</li></ol></li><li>2) 1 full length of the water pipe shall be located so that both joints of the water pipe will be as far from the sewer as possible, and</li><li>3) special structural support for the water and sewer pipes may be required. [Recommended Standards for Water Works 8.6.3] This requirement is applicable during the following months: All Year. Statistical basis: Not applicable.</li></ol>
L-8	Distance	<p>The open end of an air relief pipe from automatic valves shall be extended a Distance <math>\geq</math> 1.0 ft above grade and provided with a screened, downward-facing elbow. The pipe from a manually operated valve shall be extended to the top of the pit. Use of manual air relief valves is recommended wherever possible. [Recommended Standards for Water Works 8.4.2] This requirement is applicable during the following months: All Year. Statistical basis: Not applicable.</p>
L-9	Pressure	<p>Pipes shall not be installed unless all points of the distribution system remain designed for ground level Pressure <math>\geq</math> 20 psi under all conditions of flow. [Recommended Standards for Water Works 8.1.1] This requirement is applicable during the following months: All Year. Statistical basis: Minimum.</p>
L-10	Pressure	<p>Pressure <math>\geq</math> 30 psi must be available on the discharge side of all meters. [401 KAR 8:100 Section 4(2)] This requirement is applicable during the following months: All Year. Statistical basis: Instantaneous determination.</p>
L-11	Residual Disinfection	<p>New or relocated water lines shall be thoroughly disinfected (in accordance with AWWA Standard C651) upon completion of construction and before being placed into service. To disinfect the new or relocated lines use chlorine or chlorine compounds in such amounts as to produce an initial disinfectant concentration of at least 50 ppm and a Residual Disinfection <math>\geq</math> 25 ppm at the end of 24 hours. Follow the line disinfection with thorough flushing and place the lines into service if, and only if, Coliform monitoring applicable to the line does not show the presence of Coliform.</p> <p>If Coliform is detected, repeat flushing of the line and Coliform monitoring. If Coliform is still detected, repeat disinfection and flushing as if the line has never been disinfected. Continue the described process until monitoring does not show the presence of Coliform. [401 KAR 8:150 Section 4(1), Recommer ded Standards for Water Works 8.5.6] This requirement is applicable during the following months: All Year. Statistical basis: Minimum.</p>



## Distribution-Major Construction

Jessamine S Elkhorn Water District  
Facility Requirements

Activity ID No.: APE20100001

Page 6 of 14

DRT0000000026 (continued):

### Limitation Requirements:

Condition No.	Parameter	Condition
L-12	Velocity	Each blow-off or fire hydrant shall be sized so that Velocity $\geq 2.5$ ft/sec can be achieved in the water main served by the blow-off or hydrant during flushing. [Recommended Standards for Water Works 8.1.6.b, 401 KAR 8:100 Section 1(7)] This requirement is applicable during the following months: All Year. Statistical basis: Minimum.

### Monitoring Requirements:

Condition No.	Parameter	Condition
M-1	leaks	The presence or absence of leaks monitored by physical testing as needed shall be determined in all types of installed pipe. Pressure testing and leakage testing shall be in accordance with the latest edition of AWWA Standard C600. [Recommended Standards for Water Works 8.5.5] This requirement is applicable during the following months: All Year. Statistical basis: Instantaneous determination.

### Narrative Requirements:

#### Additional Limitations:

Condition No.	Condition
T-1	Additional Limitations: Water line installation shall be in accordance with AWWA standards or manufacturer recommendations. [Recommended Standards for Water Works 8.5.1]
T-2	Additional Limitations: Pipes, fittings, valves and fire hydrants shall conform to the latest standards issued by the AWWA or NSF (if such standards exist). [Recommended Standards for Water Works 8.0.1]
T-3	Additional Limitations: At high points in water lines, where air can accumulate, provisions shall be made to remove the air by means of hydrants or air relief valves. Automatic air relief valves shall not be used in situations where manhole or chamber flooding may occur. [Recommended Standards for Water Works 8.4.1]

## Distribution-Major Construction

Jessamine S Elkhorn Water District  
Facility Requirements

Activity ID No.: APE20100001

Page 7 of 14

'ORT0000000026 (continued):

Narrative Requirements:

### Additional Limitations:

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Condition No.	Condition
T-4	<p>Additional Limitations: All tees, bends, plugs and hydrants shall be provided with reaction blocking, tie rods or joints designed to prevent movement. [Recommended Standards for Water Works 8.5.4]</p>
T-5	<p>Additional Limitations: For each fire hydrant, auxiliary valves shall be installed in the hydrant lead pipe. [Recommended Standards for Water Works 8.3.3]</p>
T-6	<p>Additional Limitations: No flushing device, blow-off, or air relief valve shall be directly connected to any sewer. Chambers, pits or manholes containing valves, blow-offs, meters, or other such appurtenances shall not be directly connected to any storm drain or sanitary sewer. Such chambers, pits or manholes shall be drained to absorptions pits underground or to the surface of the ground where they are not subject to flooding by surface water. [Recommended Standards for Water Works 8.1.6, Recommended Standards for Water Works 8.4.3]</p>
T-7	<p>Additional Limitations: If water lines are installed or replaced in areas of organic contamination or in areas within 200 ft of underground or petroleum storage tanks, ductile iron or other nonpermeable materials shall be used in all portions of the water line installation or replacement. [401 KAR 8:100 Section 1(5)(d)6, Recommended Standards for Water Works 8.0.2]</p>
T-8	<p>Additional Limitations: No water pipe shall pass through or come in contact with any part of a sewer manhole. [Recommended Standards for Water Works 8.6.6]</p>
T-9	<p>Additional Limitations: If a fire sprinkler system is to be installed, a double check detector assembly approved for backflow prevention shall be utilized. The double check detector assembly of the system shall be accessible for testing. [401 KAR 8:100 Section 1(7)]</p>

## Distribution-Major Construction

Jessamine S Elkhorn Water District  
Facility Requirements

Activity ID No.: APE20100001

Page 8 of 14

### OR0000000001 (Finished Water Elevated Storage Tank) 1.0 MG Drinking Water Elevated Storage Tank:

#### Limitation Requirements:

Condition No.	Parameter	Condition
L-1	Depth	High and low level Depth $\geq 30$ ft apart should not be allowed in storage structures providing pressure to a distribution system. [Recommended Standards for Water Works 7.3.2] This requirement is applicable during the following months: All Year. Statistical basis: Maximum.
L-2	Distance	To prevent excessive erosion of storage structure foundations, the overflow and main drain shall either: a) discharge to concrete or other stable surfaces (splash pads) which extend a Distance $\geq 10$ ft away from the base of the storage structure or b) discharge directly into a crushed stone pit that is at least 2' x 2' x 2' which is a Distance $\geq 10$ ft away from the base of the storage structure. [401 KAR 8:100 Section 1(7)] This requirement is applicable during the following months: All Year. Statistical basis: Minimum.
L-3	Height	Tanks shall have an overflow which is a) brought down to a Height $\geq 12$ and $\leq 24$ in above the ground surface, b) of sufficient diameter to permit waste of water in excess of the filling rate, c) open downward, d) screened with twenty-four mesh noncorrodible screen installed within the pipe at a location least susceptible to damage by vandalism, and e) when not internal, e) i) located on the outside of the tank so that any discharge is visible, when internal, e) ii) located in the access tube. [Recommended Standards for Water Works 7.0.7] This requirement is applicable during the following months: All Year. Statistical basis: Not applicable.
L-4	Height	Tanks shall have manholes that are a) framed a Height $\geq 4$ in above the surface of the roof at the opening and b) fitted with a solid watertight cover which overlaps the framed opening and extends down around the frame at least 2 inches. Manholes should be hinged at one side and shall have a locking device. [Recommended Standards for Water Works 7.0.8] This requirement is applicable during the following months: All Year. Statistical basis: Minimum.

**Distribution-Major Construction**

Jessamine S Elkhorn Water District  
Facility Requirements

Activity ID No.: APE20100001

**TOR0000000001 (continued):**

**Narrative Requirements:**

**Additional Limitations:**

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Condition No.	Condition
T-1	<p><b>Additional Limitations:</b> The materials and designs used for storage structures shall provide stability and durability as well as protection for the quality of the stored water. Steel structures shall follow the AWWA standards wherever they are applicable. Other materials of construction are acceptable when properly designed to meet the requirements in this permit. [Recommended Standards for Water Works 7.0]</p>
T-2	<p><b>Additional Limitations:</b> The safety of employees must be considered in the design of any tank. The design of tanks shall</p> <ul style="list-style-type: none"><li>a) meet or exceed the minimum requirements of pertinent safety laws and regulations in the areas where the tanks are constructed,</li><li>b) include ladders, ladder guards and balcony railings (where applicable),</li><li>c) locate entrance hatches in safe places,</li><li>d) provide railings or handholds where persons must transfer from an access tube to the water compartment, and</li><li>e) consider confined space entry requirements.</li></ul> <p>Additionally, if tanks have riser pipes over 8 inches in diameter, the tanks shall have protective bars over the riser openings inside of the tank. [Recommended Standards for Water Works 7.0.12]</p>
T-3	<p><b>Additional Limitations:</b> Storage structures shall be designed with reasonably convenient access to the interior for cleaning and maintenance. Where space permits, at least 2 manholes shall be provided above the waterline at each water compartment. [Recommended Standards for Water Works 7.0.8]</p>
T-4	<p><b>Additional Limitations:</b> Fencing, locks on access manholes, and other necessary precautions shall be provided to prevent trespassing, vandalism, and sabotage. [Recommended Standards for Water Works 7.0.4]</p>
T-5	<p><b>Additional Limitations:</b> All storage structures and their appurtenances, especially the riser pipes, overflows, and vents, shall be designed to prevent freezing. [Recommended Standards for Water Works 7.0.13]</p>
T-6	<p><b>Additional Limitations:</b> Tanks shall be constructed with no openings except properly constructed vents, manholes, overflows, risers, drains, control ports, and piping for inflow and outflow. Any pipes running through the roof or sidewall must be welded or properly gasketed. [Recommended Standards for Water Works 7.0.10]</p>

## Distribution-Major Construction

Jessamine S Elkhorn Water District  
Facility Requirements

Activity ID No.: APE20100001

Page 10 of 14

'OR0000000001 (continued):

Narrative Requirements:

### Additional Limitations:

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Condition

No. Condition

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- T-7 Additional Limitations:  
All finished water storage structures shall have suitable watertight roofs and sidewalls which exclude birds, animals, insects, and excessive dust. [Recommended Standards for Water Works 7.0.3, Recommended Standards for Water Works 7.0.10]
- T-8 Additional Limitations:  
The roof of each storage structure shall be well drained. Downspout pipes shall not enter or pass through storage structures. Parapets or similar structures which would tend to hold water and snow on a storage structure roof shall not be approved unless adequate waterproofing and drainage are provided. [Recommended Standards for Water Works 7.0.11]
- T-9 Additional Limitations:  
Storage structures shall be designed so they can be isolated from the distribution system and drained for cleaning or maintenance without necessitating loss of pressure in the distribution system. [Recommended Standards for Water Works 7.3.2, Recommended Standards for Water Works 7.0.5]
- T-10 Additional Limitations:  
Storage structure drains shall discharge to the ground surface at a drainage structure inlet or splash plate. [Recommended Standards for Water Works 7.3.2, Recommended Standards for Water Works 7.0.7]
- T-11 Additional Limitations:  
No drain on a storage structure may have a direct connection to a sewer or storm drain. [Recommended Standards for Water Works 7.0.5, Recommended Standards for Water Works 7.0.7, Recommended Standards for Water Works 7.3.2]
- T-12 Additional Limitations:  
Main drains from storage structures shall have a twenty-four mesh noncorrodible screen installed within the drain pipe at a location least susceptible to damage by vandalism. [401 KAR 8:100 Section 1(7)]
- T-13 Additional Limitations:  
Storage structures shall be designed to facilitate turn over of water. [401 KAR 8:100 Section 1(7), Recommended Standards for Water Works 7.0.6]
- T-14 Additional Limitations:  
Storage structures shall have sufficient capacity, as determined from engineering studies, to meet domestic demands. Additionally, if fire protection is provided, capacity shall also be sufficient to meet fire flow demands. [401 KAR 8:100 Section 1(7), Recommended Standards for Water Works 7.0.1]

## Distribution-Major Construction

Jessamine S Elkhorn Water District  
Facility Requirements

Activity ID No.: APE20100001

Page 11 of 14

TOR0000000001 (continued):

Narrative Requirements:

### Additional Limitations:

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Condition No.	Condition
T-15	<p>Additional Limitations: Storage structure discharge pipes shall be located in a manner that will prevent the flow of sediment into the distribution system. Additionally, removable silt stops should be provided. [Recommended Standards for Water Works 7.0.15]</p>
T-16	<p>Additional Limitations: Appropriate sampling tap(s) shall be provided to facilitate collection of water samples for both bacteriologic and chemical analyses. [Recommended Standards for Water Works 7.0.19]</p>
T-17	<p>Additional Limitations: Storage structures shall be vented. Overflows shall not be considered as vents. Open construction between the sidewall and roof is not permitted. Vents shall</p> <ul style="list-style-type: none"><li>a) prevent the entrance of rainwater,</li><li>b) exclude birds and animals, and</li><li>c) exclude insects and dust (as much as compatible with effective venting).</li></ul> <p>Vents may use four-mesh noncorrodible screen. [Recommended Standards for Water Works 7.0.9]</p>
T-18	<p>Additional Limitations: Adequate controls shall be provided to maintain levels in storage structures. The level controls shall be acceptable to the Division of Water. Level indicating devices should be provided at a central location. Overflow and low-level warnings or alarms should be located at places in the community where they will be under responsible surveillance 24 hrs a day. [401 KAR 8:100 Section 1(7), Recommended Standards for Water Works 7.3.3]</p>
T-19	<p>Additional Limitations: If storage structures have a catwalk over the water, the catwalk floor shall be solid with raised edges so that shoe scrapings and dirt will not fall into the water. [Recommended Standards for Water Works 7.0.14]</p>
T-20	<p>Additional Limitations: Proper protection shall be given to metal surfaces by</p> <ul style="list-style-type: none"><li>a) paints or other protective coatings and/or</li><li>b) cathodic protective devices. [Recommended Standards for Water Works 7.0.17]</li></ul>

**Distribution-Major Construction**

Jessamine S Elkhorn Water District  
Facility Requirements

Activity ID No.: APE20100001

OR0000000001 (continued):

Narrative Requirements:

**Additional Limitations:**

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Condition

No. Condition

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-21

Additional Limitations:

If cathodic protection is utilized,

- a) competent technical personnel should design and install the protection and
- b) a maintenance contract should be provided. [Recommended Standards for Water Works 7.0.17]

-22

Additional Limitations:

If the interior of the storage structure is coated or lined, the coating or lining shall be of a type approved by the Division of Water for use in contact with potable water. [401 KAR 8:020 Section 2(19)]

-23

Additional Limitations:

Paints and coatings

- a) shall meet NSF standard 61,
- b) shall be acceptable to the Division of Water,
- c) shall be properly applied and cured, and
- d) shall not transfer any substance to the water which will be toxic or cause tastes or odors (following curing).

Wax coatings shall not be used in any storage structure and must be completely removed before using other paints or coatings in an existing storage structure. [401 KAR 8:100 Section 1(7), Recommended Standards for Water Works 7.0.17]

## Distribution-Major Construction

Jessamine S Elkhorn Water District  
Facility Requirements

Activity ID No.: APE20100001

Page 13 of 14

STOR0000000001 (continued):

### Narrative Requirements:

#### Additional Limitations:

Condition No.	Condition
T-24	<p>Additional Limitations: New water storage structures shall be thoroughly disinfected (in accordance with AWWA Standard C652) upon completion of construction and before being placed into service. To disinfect new storage structures</p> <ol style="list-style-type: none"><li>1) remove all scaffolding, planks, tools, rags, and other items that are not part of the structural or operational facilities of the storage structure,</li><li>2) clean thoroughly by sweeping, scrubbing, using high-pressure water jets, or some equivalently effective means, and</li><li>3) use chlorine or chlorine compounds as subsequently described.</li></ol> <p>Finalize disinfection by</p> <ol style="list-style-type: none"><li>a) chlorination method 1, described in detail at AWWA Standard C652 Section 4.3.1,</li><li>b) chlorination method 2, described in detail at AWWA Standard C652 Section 4.3.2, or</li><li>c) chlorination method 3, described in detail at AWWA Standard C652 Section 4.3.3.</li></ol> <p>See the following conditions for abbreviated descriptions of the methods. Following the finalization of disinfection, place storage structures into service if, and only if, Coliform monitoring applicable to the storage structure does not show the presence of Coliform. If Coliform is detected, flush the tank and repeat Coliform monitoring. If Coliform is still detected, repeat disinfection and flushing as if the tank has never been disinfected. Continue the described process until monitoring does not show the presence of Coliform. [Recommended Standards for Water Works 7.0.18]</p>
T-25	<p>If applicable, chlorination method 1 generally requires</p> <ol style="list-style-type: none"><li>a) filling a storage structure to the overflow level with water providing a free chlorine Residual Disinfection <math>\geq 10</math> ppm and</li><li>b) i) completely draining the storage facility and refilling or</li><li>b) ii) otherwise reducing (in accordance with method 1) the free chlorine residual to a level appropriate for distribution. [Recommended Standards for Water Works 7.0.18]</li></ol>
T-26	<p>If applicable, chlorination method 2 generally requires</p> <ol style="list-style-type: none"><li>a) scrubbing or spraying the water-contact surfaces of a storage structure with a water solution having an available chlorine concentration = 200 ppm and</li><li>b) purging of the strong chlorine solution and filling to the overflow level. [Recommended Standards for Water Works 7.0.18]</li></ol>



**Distribution-Major Construction**

Jessamine S Elkhorn Water District

Facility Requirements

Activity ID No.: APE20100001

**TOR0000000001 (continued):**

**Narrative Requirements:**

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Condition No.	Condition
T-27	If applicable, chlorination method 3 generally requires a) filling a storage structure to approximately 5% of the total storage volume with water having an available chlorine concentration of 50 ppm, b) continued filling of the storage structure to the overflow level with normal potable water, and c) purging the storage structure so that various disinfection by-products do not reach water consumers. [Recommended Standards for Water Works 7.0.18, 401 KAR 8:100 Section 1(7)]

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**\*LETTER OF TRANSMITTAL\***

email@horneeng.com

HORNE ENGINEERING, INC.  
216 SOUTH MAIN STREET  
NICHOLASVILLE, KY 40356  
Ph. (859) 885-9441

CONSULTING ENGINEERS  
LAND SURVEYORS  
PLANNERS  
Fax (859)885-5160

To: Solitha Dharman, Supervisor  
Kentucky Division of Water  
Water Infrastructure Branch  
200 Fair Oaks, 3<sup>rd</sup> Floor  
Frankfort, KY 40601

Date: November 15, 2010

Re: Catnip Hill Pike 1.0 MG Elevated Storage Tank  
Jessamine-South Elkhorn Water District

**WE ARE SENDING YOU ATTACHED:**

COPIES	DATE, W.O. # and/or DWG. #	DESCRIPTION
1	#3569	Distribution Systems Checklist for Drinking Water / Check For Fees - Waived
1	#3569	USGS - Quad Map of Site
1	#3569	Project Description
1	11/10	Jessamine-South Elkhorn Water District - Letter of Availability
1	#3569	Hydraulic Analysis - Catnip Hill Pike 1.0 MG Elevated Storage Tank
4sets	----	Construction Plans - Catnip Hill Pike 1.0 MG Elevated Storage Tank
1	#3569	Technical Specifications Book

**FILE COPY**


**THESE ARE TRANSMITTED as checked below:**

- For review & approval
- For your use
- For your records/files

- Approved as submitted
- Approved as noted
- As requested or required

**COMMENTS:**

It is my understanding that your branch has a copy of the Jessamine-South Elkhorn Water District adopted general specifications on file from previous projects, therefore, I have not included a copy in this package.

Signed:   
Will Hagan  
Project Manager

cc: Nick Strong  
Engr/3569  
Engr/3891  
Corr.

DRINKING WATER BRANCH  
14 REILLY ROAD  
FRANKFORT, KENTUCKY 40601  
DISTRIBUTION SYSTEMS CHECKLIST

Project Name: Catnip Hill Pike 1.0 MG Elevated Storage Tank

Utility: Jessamine South Elkhorn WD County: Jessamine

Address: 802 S. Main Street, PO Box 731

Nicholasville, KY 40356 PWSID No. 057 0249

Engineer: Horne Engineering, Inc. Phone: 859-885-9441

Address: 216 S. Main Street, Nicholasville, KY 40356

E-mail Address: email@horneeng.com Fax: 859-885-5160

To improve the effectiveness of the DOW's review process, please respond to all the applicable questions that follow and provide all of the requested information.

Is this a federally funded project (i.e. SRF or SPAP)? No

Drinking Water State Revolving Fund

US EPA Special Appropriation (Congressional) Grant

If yes, has an Environmental Information Document been reviewed and approved? -----

If the project has been submitted to the State Clearinghouse for review, please provide

the SAI number: KY 200708131128

Identify all funding sources: Kentucky Infrastructure Authority - Grant - providing partial funding

Provide a brief description for waterline projects with less than 10,000 linear feet (at a minimum identify the various line sizes, corresponding lengths and cost estimate):

See Attached

All other Distribution projects should be accompanied with a *detailed* project description.

Is your system currently under any type of waterline or sewer sanctions? No

If yes, please submit an exception request and attach supporting documentation to justify its approval.

If another utility will serve the proposed project, provide the name and the PWSID No.

Utility: N/A PWSID No. -----

Identify the number of new customers and their projected demand? N/A

Identify the number of existing residents; and their projected water demand, that may get served as a result of this project? N/A

Identify the total number of customers in your service area? **2,800**

Regulation 401 KAR 8:100, requires the submittal of the following:

Four (4) copies of detailed plans and specifications (**no larger than 24" X 36"**) that depict the mains' sizes and type of material, valves, master meters, storage tanks, pump stations, a vicinity map, stream crossing and road crossing details.

Please submit a United States Geological Survey quadrangle map, which shows the project location.

Projects with cost in excess of \$2,000 shall be prepared, stamped, signed and dated by a Professional Engineer.

Projects that propose to provide water service to existing residences shall submit names and addresses of all existing residences.

---

Fee. Projects funded by a municipality, water District, or other publicly owned treatment works are exempt from the fee. If your project involves the extension of less than 10,000 feet of waterlines, then the applicable fee is \$ 150. Projects that involve more than 10,000 feet of lines or the addition of pump stations or tanks have \$ 325 applicable fee.

A signed letter of acceptance from utility, which states the utility has reviewed and approved the plans and specifications and agrees to serve the proposed project upon completion. If the utility is a purchaser and the project demand is greater than 10,000 gallons per day, please submit a valid water purchase contract and acceptance letter from the seller.

Engineering calculations; demonstrate the availability of 30 psig at the discharge side of each proposed connection under peak demand conditions and the ability to flush the lines using 2.5 ft/sec flow, while maintaining 20 psig throughout the distribution system.

Projects that propose the addition of storage tanks should be accompanied with engineering calculations, which demonstrates a complete fill and drain cycle every 72 hours. Also identify each tank's location coordinates.

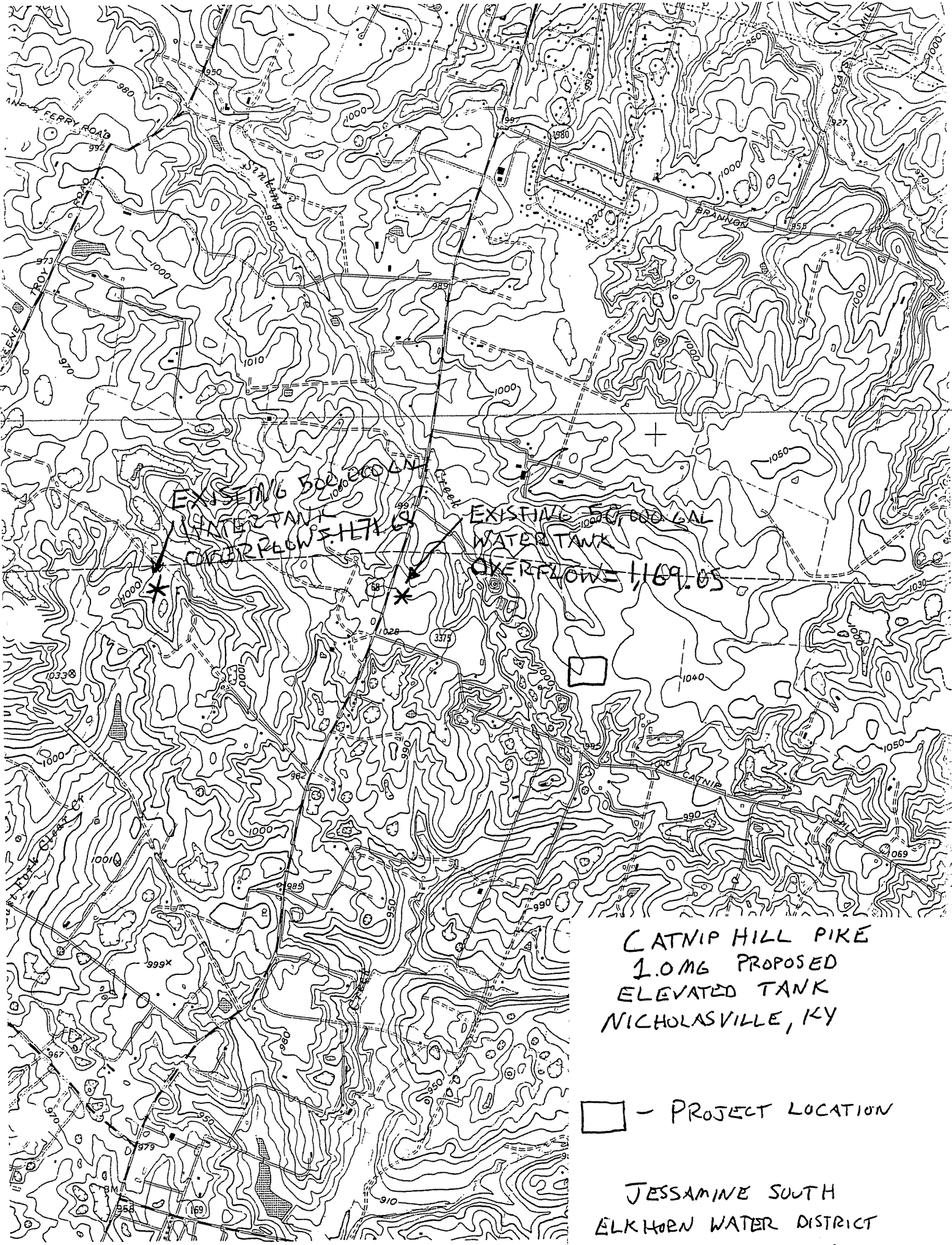
New or upgraded pump stations require the submittal of pump sizing calculations and the proposed pump's characteristics curve along with the efficiency, horsepower and NPSHR data. Also identify each pump station's location coordinates.

**Project Description**  
**Jessamine-South Elkhorn Water District**  
**Catnip Hill Pike 1.0 MG Elevated Storage Tank**

Jessamine South Elkhorn Water District proposes to construct a 1.0 MG elevated storage tank on property which they own on Catnip Hill Pike. The proposed site is in close proximity to the District's existing 500,000 gallon elevated storage tank. The proposed tank will be constructed at the existing hydraulic gradient. Therefore, additional booster pumping will not be required.

Coordinates for this project are listed on the Construction Plans and are Kentucky State Plane North Zone coordinates.

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CATNIP HILL PIKE  
1.0MG PROPOSED  
ELEVATED TANK  
NICHOLASVILLE, KY

□ - PROJECT LOCATION

JESSAMINE SOUTH  
ELKHORN WATER DISTRICT

JESSAMINE-SOUTH ELKHORN  
WATER DISTRICT

November 15, 2010

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Ms. Donna Marlin  
Division of Water  
Drinking Water Branch  
14 Reilly Rd  
Frankfort, KY 40601

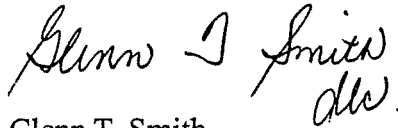
Re: Letter of Availability

Dear Ms. Marlin:

This letter is to verify that the **Catnip Hill Tank Site** is within the service area of the Jessamine South Elkhorn Water District and the District has sufficient water to service the property.

Sincerely,

JESSAMINE SOUTH ELKHORN WATER DISTRICT

A handwritten signature in cursive script that reads "Glenn T. Smith" with the initials "dlw." written below it.

Glenn T. Smith  
Superintendent



Mail Processing Center  
 Federal Aviation Administration  
 Southwest Regional Office  
 Obstruction Evaluation Group  
 2601 Meacham Boulevard  
 Fort Worth, TX 76137

Aeronautical Study No.  
 2010-ASO-2874-OE

Issued Date: 12/30/2011

Diana Clark  
 Jessamine South Elkhorn Water District  
 802 S. Main Street  
 PO Box 731  
 Nicholasville, KY 40356

**\*\* Extension \*\***

A Determination was issued by the Federal Aviation Administration (FAA) concerning:

Structure: Water Tank Catnip Hill 1.0MG Water Tank  
 Location: Nicholasville, KY  
 Latitude: 37-56-47.03N NAD 83  
 Longitude: 84-35-13.44W  
 Heights: 1023 feet site elevation (SE)  
 147 feet above ground level (AGL)  
 1170 feet above mean sea level (AMSL)

In response to your request for an extension of the effective period of the determination, the FAA has reviewed the aeronautical study in light of current aeronautical operations in the area of the structure and finds that no significant aeronautical changes have occurred which would alter the determination issued for this structure.

Accordingly, pursuant to the authority delegated to me, the effective period of the determination issued under the above cited aeronautical study number is hereby extended and will expire on 06/30/2013 unless otherwise extended, revised, or terminated by this office.

This extension issued in accordance with 49 U.S.C., Section 44718 and, if applicable, Title 14 of the Code of Federal Regulations, part 77, concerns the effect of the structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (847) 294-8084. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2010-ASO-2874-OE.

**Signature Control No: 711660-155968836**

( EXT )

Carole Bernacchi  
 Technician

Attachment(s)



## Additional Information

**Addi al information for ASN 2010-ASO-2 l-OE**

THE EXTENSION IS GRANTED PROVIDED ALL CONDITIONS OF THE ORIGINAL DETERMINATION ISSUED 07/08/2010, ARE MET.



Federal Aviation Administration  
 Air Traffic Airspace Branch, ASW-520  
 2601 Meacham Blvd.  
 Fort Worth, TX 76137-0520

Aeronautical Study No.  
 2010-ASO-2874-OE

Issued Date: 07/08/2010

Diana Clark  
 Jessamine South Elkhorn Water District  
 802 S. Main Street  
 PO Box 731  
 Nicholasville, KY 40356

**\*\* DETERMINATION OF NO HAZARD TO AIR NAVIGATION \*\***

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure: Water Tank Catnip Hill 1.0MG Water Tank  
 Location: Nicholasville, KY  
 Latitude: 37-56-47.03N NAD 83  
 Longitude: 84-35-13.44W  
 Heights: 147 feet above ground level (AGL)  
 1170 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be completed and returned to this office any time the project is abandoned or:

- At least 10 days prior to start of construction (7460-2, Part I)
- Within 5 days after the construction reaches its greatest height (7460-2, Part II)

**See attachment for additional condition(s) or information.**

Based on this evaluation, marking and lighting are not necessary for aviation safety. However, if marking and/or lighting are accomplished on a voluntary basis, we recommend it be installed and maintained in accordance with FAA Advisory circular 70/7460-1 K Change 2.

This determination expires on 01/08/2012 unless:

- (a) extended, revised or terminated by the issuing office.
- (b) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within 6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

**NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION**

OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is based, in part, on the foregoing description which includes specific coordinates , heights, frequency(ies) and power . Any changes in coordinates , heights, and frequencies or use of greater power will void this determination. Any future construction or alteration , including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (847) 294 8084. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2010-ASO-2874-OE.

**Signature Control No: 711660-128087077**

( DNE )

Carole Bernacchi  
Technician

Attachment(s)  
Additional Information

**Additional information for ASN 2010-ASO-2874-OE**

No transmitter frequencies listed. No objection providing that proponent re-submits a 7460-1 if a transmitter frequency is added to this structure.

**\*LETTER OF TRANSMITTAL\***

email@horneeng.com

HORNE ENGINEERING, INC.  
216 SOUTH MAIN STREET  
NICHOLASVILLE, KY 40356  
Ph. (859) 885-9441

CONSULTING ENGINEERS  
LAND SURVEYORS  
PLANNERS  
Fax (859)885-5160

**FILE COPY**

To: Mail Processing Center  
Federal Aviation Administration  
Southwest Regional Office  
Obstruction Evaluation Service, AJR-322  
2601 Meacham Blvd.  
Fort Worth, TX 76193

Date: June 3, 2010

Re: FAA Construction Application & Supplemental Notice  
Catnip Hill 1.0MG Elevated Tank  
Jessamine South Elkhorn Water District

**WE ARE SENDING YOU ATTACHED:**

COPIES	DATE, W.O. # and/or DWG. #	DESCRIPTION
1	#3569	Notice of Proposed Construction or Alteration
1	#3569	Supplemental Notice
1	#3569	Nicholasville, Kentucky Quad, 7.5 minute Topo Map

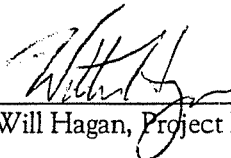
**THESE ARE TRANSMITTED as checked below:**

- |                          |                        |                                     |                              |
|--------------------------|------------------------|-------------------------------------|------------------------------|
| <input type="checkbox"/> | For approval           | <input type="checkbox"/>            | Approved as submitted        |
| <input type="checkbox"/> | For your use           | <input type="checkbox"/>            | Approved as noted            |
| <input type="checkbox"/> | For your records/files | <input checked="" type="checkbox"/> | As requested and/or required |
| <input type="checkbox"/> | Other:                 | <input type="checkbox"/>            | For your review              |

**COMMENTS:**

Please find the attached FAA applications listed. We are submitting these on behalf of our client, Jessamine-South Elkhorn Water District. Please "cc" this office with any correspondence concerning this request.

Thank you,

Signed:   
Will Hagan, Project Manager

cc: Engr/3569  
Engr/3891  
Corr.



U.S. Department of Transportation  
Federal Aviation Administration

Failure To Provide All Requested Information May Delay Processing of Your Notice

### Notice of Proposed Construction or Alteration

FOR FAA USE ONLY

Aeronautical Study Number

1. Sponsor (person, company, etc. proposing this action) :  
 Attn. of: Jessamine South Elkhorn Water  
 Name: \_\_\_\_\_  
 Address: 802 S. Main St., PO Box 731  
 City: Nicholasville State: KY Zip: 40356  
 Telephone: 859-881-0589 Fax: 859-881-5080  
 E-mail Address: jessaminesouth@windstream.net

9. Latitude: 37 ° 56 ' 46 . 78 ''  
 10. Longitude: 84 ° 35 ' 13 . 09 ''

2. Sponsor's Representative (if other than #1) :  
 Attn. of: N/A  
 Name: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_  
 Telephone: \_\_\_\_\_ Fax: \_\_\_\_\_  
 E-mail Address: \_\_\_\_\_

11. Datum:  NAD 83  NAD 27  Other \_\_\_\_\_

12. Nearest City: Nicholasville State: KY

13. Nearest Public-use (not private-use) or Military Airport or Heliport:  
Lexington Blue Grass Airport

14. Distance from #13. to Structure: 30,000'

15. Direction from #13. to Structure: south east

16. Site Elevation (AMSL): 1023 ft.

17. Total Structure Height (AGL): 147 ft.

18. Overall height (#16. + #17.) (AMSL): 1170 ft.

19. Previous FAA Aeronautical Study Number (if applicable):  
N/A - OE

3. Notice of:  New Construction  Alteration  Existing  
 4. Duration:  Permanent  Temporary ( months, days)  
 5. Work Schedule: Beginning Aug 2010 End Aug 2011  
 6. Type:  Antenna Tower  Crane  Building  Power Line  
 Landfill  Water Tank  Other \_\_\_\_\_

20. Description of Location: (Attach a USGS 7.5 minute  
 Quadrangle Map with the precise site marked and any certified survey.)

Site is approximately 1000' north of the street intersection of Catnip & Rhineheimer in northern Jessamine County, Kentucky

7. Marking/Painting and/or Lighting Preferred:  
 Red Lights and Paint  Dual - Red and Medium Intensity White  
 White - Medium Intensity  Dual - Red and High Intensity White  
 White - High Intensity  Other No preference

8. FCC Antenna Structure Registration Number (if applicable):  
 \_\_\_\_\_

21. Complete Description of Proposal:

Jessamine South Elkhorn Water District plans to construct a 1.0 million gallon elevated storage tank in northwest Jessamine County to improve hydraulics for approximately 2,200 customers.

Frequency/Power (kW)


Notice is required by 14 Code of Federal Regulations, part 77 pursuant to 49 U.S.C., Section 44718. Persons who knowingly and willingly violate the notice requirements of part 77 are subject to a civil penalty of \$1,000 per day until the notice is received, pursuant to 49 U.S.C., section 46301 (a).

I hereby certify that all of the above statements made by me are true, complete, and correct to the best of my knowledge. In addition, I agree to mark and/or light the structure in accordance with established marking and lighting standards as necessary.

Date 6-3-10

Typed or Printed name and Title of Person Filing Notice  
Diana Clark, Office Manager

Signature

# SUPPLEMENTAL NOTICE

**Submission Instructions:** For Advance Notice of Actual Construction or Alteration. Complete items 1, 2, 3A (1), 3A(2), and 6. If applicable, also complete items 4 and 5. Detach Part 1. Fold and tape at bottom. Mail to the FAA Regional Office for your area. Part 1A is provided for your file.

Aeronautical Study No.



U.S. Department of Transportation  
Federal Aviation Administration

## Notice of Actual Construction or Alteration

(Please Type or Print on this Form)

### 1. Construction

A. Type and Description of Construction

New  
 Alteration

B. Owner of Structure

Jessamine South Elkhorn  
Water District

### 2. Construction Location - Height

A. Coordinates (To hundredths of seconds, if known)

Latitude: 37° 56' 46" Longitude: 84° 35' 13"

B. Location (City, State, include Street Address if any)

250' south of 733 Chinkapin Drive  
Nicholasville, KY 40356

C. Construction Heights

Site Elevation 1023' FL AMSL  
Structure Height 147' FL AGL

Total Height  
(Structure & Site)  
Above Mean Sea Level

1170' FL AMSL

D. Site Elevation Determined By

Actual Survey  
 USGS 7.5' Quad Chart  
 Other (Specify)

E. Reference datum of coordinates

NAD 27  
 NAD 83  
 Other (Specify)

F. Name of Nearest Public-Use or Military Airport  
(include Distance and Direction from the Airport)

Lexington - Blue Grass Airport  
30,000' in south east direction

### 3. Construction Notifications

A. Notification

(Notice is Critical to Flight Safety - FAR Part 77 Required) \*

Date

B. Construction/Project

Date

\* (1) Construction will start (Submit at least 48 hrs. in advance)

Aug. 2010

(1) Project Abandoned

N/A

(2) Estimated Completion

Aug. 2011

(2) Construction Dismantled

N/A

\* (3) Structure Reached Greatest Height (Submit within 5 days)

Aug. 2011

### 4. Marking and Lighting

A. Marked

Yes  No  Temporary

B. Lighted

Medium Intensity White  High Intensity White  Red  
 Dual (Medium Intensity White & Red)  Dual (High Intensity White & Red)  None

### 5. Antenna Requiring FCC License

A. Call Sign

B. Frequency

C. Date Applied for FCC Construction Permit

D. Date Construction Permit Issued

N/A

N/A

N/A

N/A

### 6. Preparer's Certification

Submitted by: (If submitted by a proponent's representative, please also complete item B.)

A. Proponent's Representative

Name: Jessamine S. Elkhorn Water  
Address: 802 S. Main St., POB 731  
Nicholasville, KY 40356

Tel. No.: 859-881-0589  
(Include Area Code)

B. Construction Proponent

Name: Jessamine South Elkhorn Water Dist.  
Address: 802 S. Main St, POB 731  
Nicholasville, KY 40356

Tel. No.: 859-881-0589  
(Include Area Code)

**I hereby certify that the information provided is true, complete, and correct to the best of my knowledge.**

Signature

*Diana Clark*

Title

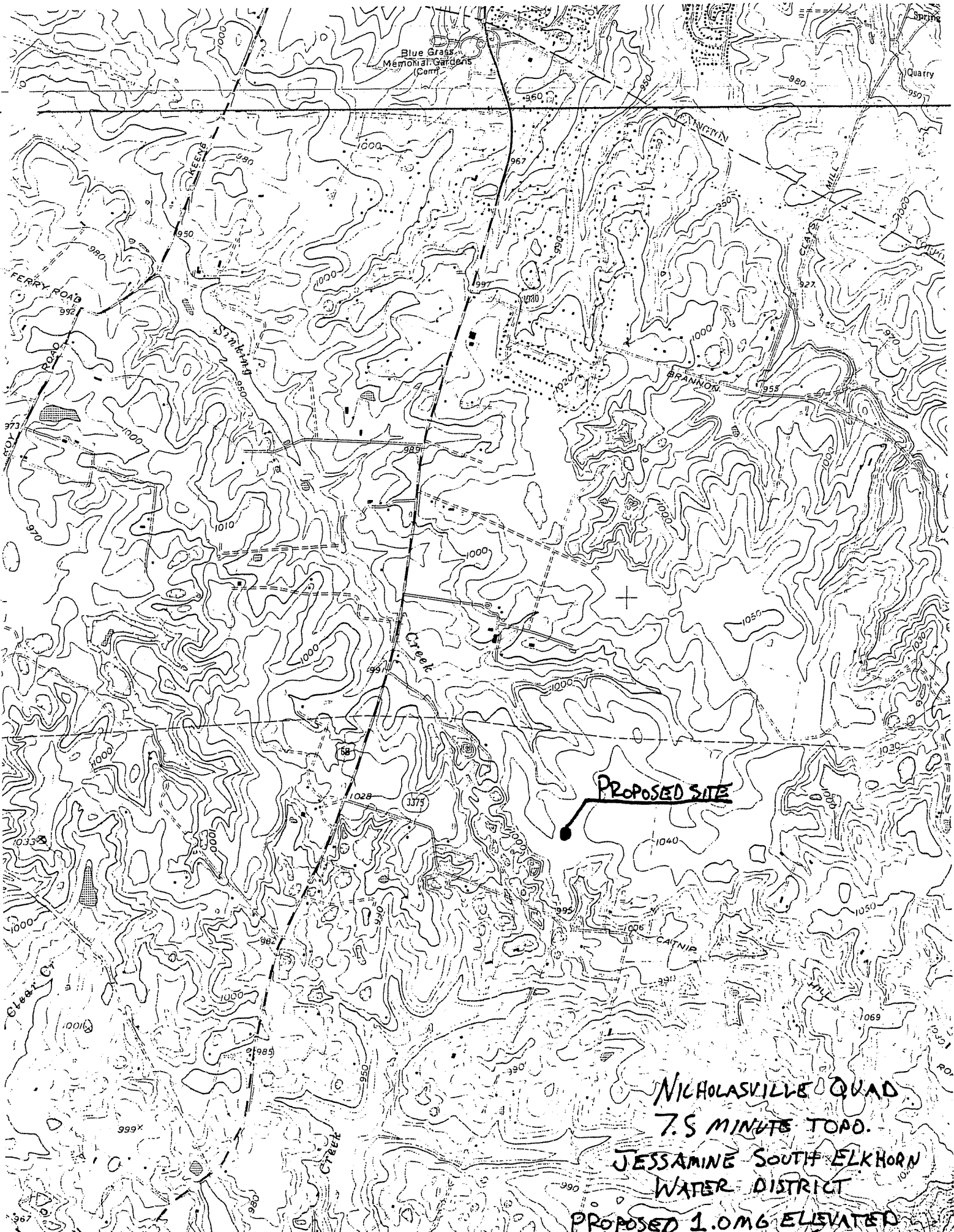
Office Manager

Date

6-3-10

Notice is required by 14 Code of Federal Regulations, part 77 pursuant to 49 U.S.C., Section 44718. Persons who knowingly and willingly violate the notice requirements of part 77 are subject to a civil penalty of \$1,000 per day until the notice is received, pursuant to 49 U. & C., Section 46301(a).





Blue Grass  
Memorial Gardens  
(Cem.)

Spring  
Quarry

FERRY ROAD

Sinking  
Creek

BRANNON

CLAY'S  
MILL

Creek

**PROPOSED SITE**

NICHOLASVILLE QUAD

7.5 MINUTE TOP.

JESSAMINE SOUTH ELKHORN

WATER DISTRICT

PROPOSED 1.0MG ELEVATED

# Horne Engineering, Inc.

216 SOUTH MAIN STREET • NICHOLASVILLE, KENTUCKY 40356 • (859)885-9441 • FAX (859)885-5160

ENGINEERS • LAND SURVEYORS • PLANNERS

*email@horneeng.com*

June 14, 2012

Harold Sparks, PE,  
Engineering Section  
Kentucky Division of Water  
Water Infrastructure Branch  
200 Fair Oaks Lane, 4<sup>th</sup> Floor  
Frankfort, KY 40601

**FILE COPY**

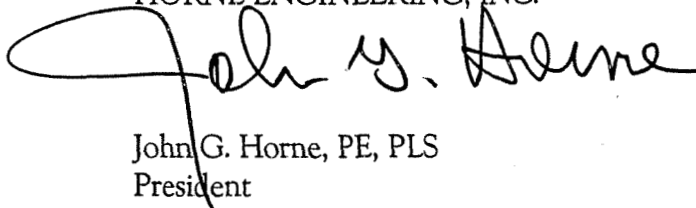
Re: Jessamine S Elkhorn Water District  
AI# 33939, APE 20100001  
PWSID# 0570249-10-001  
Catnip Hill Pike 1.0 MG Elevated  
Storage Tank  
Jessamine County, KY

Dear Mr. Sparks:

The bidding for construction of this project was delayed for circumstances not due to the owner. The project is now being advertised for bids due to be received July 10, 2012. The owner requested extension of the approval until July 13, 2012

Should you have any questions and/or comments, please contact me at (859) 885-9441.

Sincerely,  
HORNE ENGINEERING, INC.



John G. Horne, PE, PLS  
President

JGH/jt

cc: Engr/3569  
Engr/3976  
Corr.



STEVEN L. BESHEAR  
GOVERNOR

LEONARD K. PETERS  
SECRETARY

ENERGY AND ENVIRONMENT CABINET  
DEPARTMENT FOR ENVIRONMENTAL PROTECTION  
DIVISION OF WATER  
200 FAIR OAKS LANE, 4TH FLOOR  
FRANKFORT, KENTUCKY 40601  
[www.kentucky.gov](http://www.kentucky.gov)

**FILE COPY**

June 21, 2012

Mr. Glenn T. Smith  
Jessamine South Elkhorn Water District  
P. O. Box 731  
Nicholasville, KY 40356

RE: Jessamine S Elkhorn Water District  
AI # 33936, APE20100001  
PWSID # 0570249-10-001  
Time Extension  
Catnip Hill Pike 1.0 MG Elevated Storage  
Tank  
Jessamine County, KY

Dear Mr. Smith:

We have received your request for an extension of time to begin construction of Catnip Hill Pike 1,000,000 Gallon Elevated Storage Tank. We are granting your request with new expiration date of March 8, 2013 and with following stipulations:

1. The plans and specifications originally submitted for this project shall remain unchanged. If changes to original approval have been made, four new sets of plans and specifications shall be submitted for review and approval
2. All stipulations and requirements contained in the original permit and approval letter shall remain effective.
3. Please note that time extensions are normally not issued on projects approved after January 1, 2011. (Time extensions are not issued on projects approved before January 1, 2011.) Projects approved after January 1, 2011 are issued with two years to begin construction. Since this project was approved with only one year to begin construction, the second year is approved to be consistent with other permits issued after January 1, 2011. If construction of the above project is not initiated before March 8, 2013, then it will be necessary to resubmit the

Jessamine S Elkhorn Water District  
AI # 33936, APE20100001  
PWSID # 0570249-10-001  
Time Extension  
Catnip Hill Pike 1.0 MG Elevated Storage Tank  
Jessamine County, KY  
Page 2 of 2  
June 21, 2012

engineering plans and specifications together with a new application and a review fee if applicable.

If you have any questions concerning this project, please contact Mr. Mark Rasche at (502) 564-8158 extension 4804.

Sincerely,



Mark Rasche, P.E.  
Supervisor, Engineering Section  
Water Infrastructure Branch  
Division of Water

MR

Enclosures

C: John G. Home, P.E., Horne Engineering, Inc.  
Jessamine County Health Department  
Public Service Commission  
Division of Plumbing

STEVEN L. BESHEAR  
GOVERNOR



LEONARD K. PETERS  
SECRETARY

ENERGY AND ENVIRONMENT CABINET  
DEPARTMENT FOR ENVIRONMENTAL PROTECTION  
DIVISION OF WATER  
200 FAIR OAKS LANE, 4TH FLOOR  
FRANKFORT, KENTUCKY 40601  
[www.kentucky.gov](http://www.kentucky.gov)

March 8, 2011

Mr. Glenn T. Smith  
Jessamine S Elkhorn Water District  
P.O. Box 731  
Nicholasville, KY 40340

RE: Jessamine S Elkhorn Water District  
AI # 33936, APE20100001  
PWSID # 0570249-10-001  
Catnip Hill Pike 1.0 MG Elevated Storage  
Tank  
Jessamine County, KY

Dear Mr. Smith:

We have reviewed the plans and specifications for the above referenced project. The plans include the construction of a 1.0 MG Drinking Water Elevated Storage Tank and approximately 100 ft of 12 inch DI water line. This is to advise that plans and specifications for the above referenced project are APPROVED with respect to sanitary features of design, as of this date with the requirements contained in the attached construction permit.

If you have any questions concerning this project, please contact Mr. Harold Sparks at 502-564-8158 extension 4823.

Sincerely,

A handwritten signature in cursive script that reads "Harold Sparks".

Harold L. Sparks, PE  
Engineering Section  
Water Infrastructure Branch  
Division of Water

HLS

Enclosures

C: Home Engineering  
Jessamine County Health Department  
Public Service Commission  
Division of Plumbing

The word "Kentucky" in a stylized, bold font with a horse head silhouette integrated into the letter 'y'.

## Distribution-Major Construction

Jessamine S Elkhorn Water District

Subject Item Inventory

Activity ID No.: APE20100001

### Subject Item Inventory:

ID	Designation	Description
AIOO33936		
PORT26	Water line	100 ft of 12 inch DI water line
STOR1	Finished Water Elevated Storage Tank	1.0 MG Drinking Water Elevated Storage Tank

### Subject Item Groups:

ID	Description	Components
GACT18	1.0 MG Drinking Water Elevated Storage Tank and 100 ft of 12 inch DI water line	STOR1 1.0 MG Drinking Water Elevated Storage Tank
		PORT26 100 ft of 12 inch DI water line

### KEY

ACTV = Activity  
 AREA = Area  
 EQPT = Equipment  
 PERS = Personnel  
 STOR = Storage  
 TRMT = Treatment

AIOO = Agency Interest  
 COMB = Combustion  
 MNPT = Monitoring Point  
 PORT = Transport  
 STRC = Structure

**Distribution-Major Construction**

Jessamine S Elkhorn Water District  
Facility Requirements

Activity ID No.: APE20100001

**GACT0000000018 (Catnip Hill Pike 1.0 MG Elevated Storage Tank) 1.0 MG Drinking Water Elevated Storage Tank and 100 ft of 12 inch DI water line:**

**Monitoring Requirements:**

Condition No.	Parameter	Condition
M-1	Coliform	The presence or absence of total Coliform monitored by sampling and analysis as needed shall be determined for the new or relocated water line(s). Take samples at connection points to existing lines, at 1 mile intervals, and at dead ends without omitting any branch of the new or relocated water line. Sample bottles shall be clearly identified as "special" construction tests. [401 KAR 8:100 Section 1(7), 401 KAR 8:150 Section 4, Recommended Standards for Water Works 8.5.6] This requirement is applicable during the following months: All Year. Statistical basis: Instantaneous determination.
M-2	Coliform	The presence or absence of total Coliform monitored by sampling and analysis as needed shall be determined for the new storage structure(s). With at least 1 sample taken at least 24 hours after the first construction complete sample(s), take 2 or more samples from the yard hydrant, the outlet piping from the storage structure, or a sample tap directly connected to the storage structure. Sample bottles shall be clearly identified as "special" construction tests. [Recommended Standards for Water Works 7.0.18, 401 KAR 8:150 Section 4] This requirement is applicable during the following months: All Year. Statistical basis: Instantaneous determination.

**Submittal/Action Requirements:**

**Coliform:**

Condition No.	Condition
S-1	Coliform For new construction projects, the distribution system, using the most expedient method, shall submit Coliform test results to the Cabinet: Due immediately following disinfection and flushing. [401 KAR 8:150 Section 4(2)]
S-2	For proposed changes to the approved plan, submit information: Due prior to any modification to the Cabinet for approval. Changes to the approved plan shall not be implemented without the prior written approval of the Cabinet. [401 KAR 8:100 Section 1(8)]

## Distribution-Major Construction

Jessamine S Elkhorn Water District  
Facility Requirements

Activity ID No.: APE20100001

Page 2 of 14

### Submittal/Action Requirements:

Condition No.	Condition
S-3	The person who presented the plans shall submit the professional engineer's certification: Due when construction is complete to the Division of Water. The certification shall be signed by a registered professional engineer and state that the water project has been constructed and tested in accordance with the approved plans, specifications, and requirements. [401 KAR 8:100 Section 1(8)]

### Narrative Requirements:

#### Additional Limitations:

Condition No.	Condition
T-1	Additional Limitations: Chlorinated water resulting from disinfection of project components shall be disposed in a manner which will not violate 401 KAR 5:031. [401 KAR 8:020 Section 2(20)]

Condition No.	Condition
T-2	This project has been permitted under the provisions of KRS Chapter 224 and regulations promulgated pursuant thereto. Issuance of this permit does not relieve the applicant from the responsibility of obtaining any other approvals, permits or licenses required by this Cabinet and other state, federal and local agencies. Further, this permit does not address the authority of the permittee to provide service to the area to be served. [401 KAR 8:100 Section 1(7)]
T-3	Unless construction of this project is begun within 1 year from the issuance date of this permit, the permit shall expire. If requested prior to the permit expiration, an official extension from the Division of Water may be granted. If this permit expires, the original plans and specifications may be resubmitted for a new comprehensive review. If you have any questions concerning this project, please contact the Drinking Water Branch at 502/564-3410. [401 KAR 8:100 Section 1(9)]
T-4	Final approval of facility. Upon completion of construction, the person who presented the plans shall certify in writing that the project has been completed in accordance with the "approved" plans and specifications. The public water supply shall operate the facility consistent with the approved plans and specifications. Any proposed change to the approved plan shall be submitted to the cabinet for approval. The public water supply shall not implement any change to the approved plan without the prior written approval of the cabinet. [401 KAR 8:100 Section 401 KAR 8:100(1)(8)]



**Distribution-Major Construction**

Jessamine S Elkhorn Water District  
Facility Requirements

Activity ID No.: APE20100001

Narrative Requirements:

Condition No.	Condition
T-5	During construction, a set of approved plans and specification shall be available at the job site at all times. All work shall be performed in accordance with the approved plans and specifications. [401 KAR 8:100 Section 1(7)(a)]

## Distribution-Major Construction

Jessamine S Flkhorn Water District  
Facility Requirements

Activity ID No.: APE20100001

Page 4 of 14

PORT0000000026 (Water line) 100 ft of 12 inch DI water line:

### Limitation Requirements:

Condition No.	Parameter	Condition
L-1	Depth	A continuous and uniform bedding shall be provided in the trench for all buried pipe. Backfill material shall be tamped in layers around the pipe and to a sufficient height above the pipe to adequately support and protect the pipe. Stones found in the trench shall be removed for a Depth $\geq 6$ in below the bottom of the pipe. [Recommended Standards for Water Works 8.5.2] This requirement is applicable during the following months: All Year. Statistical basis: Not applicable.
L-2	Depth	All water lines shall be covered to a Depth $\geq 30$ in to prevent freezing. [Recommended Standards for Water Works 8.5.3, 401 KAR 8:100 Section 1(7)] This requirement is applicable during the following months: All Year. Statistical basis: Minimum.
L-3	Diameter	All new and existing water lines serving fire hydrants or where fire protection is provided shall have Diameter $\geq 6$ in. [Recommended Standards for Water Works 8.1.2] This requirement is applicable during the following months: All Year. Statistical basis: Minimum.
L-4	Distance	Water lines shall have a sufficient quantity of valves so that inconvenience and sanitary hazards will be minimized during repairs. A valve spacing Distance $\leq 800$ feet should be utilized in non-commercial districts. Alternatively, non-commercial districts should utilize a valve spacing Distance $\leq 1$ block. Commercial districts should utilize a valve spacing Distance $\leq 500$ ft. [Recommended Standards for Water Works 8.2] This requirement is applicable during the following months: All Year. Statistical basis: Not applicable.
L-5	Distance	Hydrant drains shall not be connected to sanitary sewers or storm drains and shall be located a Distance $> 10$ ft from sanitary sewers and storm drains. [Recommended Standards for Water Works 8.3.4] This requirement is applicable during the following months: All Year. Statistical basis: Not applicable.
L-6	Distance	Except when not practical, water lines shall be laid a horizontal Distance $\geq 10$ ft from any existing or proposed sewer. The distance shall be measured edge to edge. In cases where it is not practical to maintain a 10 foot separation, water lines may be installed closer to a sewer provided that the water lines shall be laid in a separate trench or on an undisturbed shelf located on one side of the sewer at such an elevation that the bottom of the water line is at least 18 inches above the top of the sewer. [Recommended Standards for Water Works 8.6.2] This requirement is applicable during the following months: All Year. Statistical basis: Not applicable.

Distribution-Major Construction

Jessamine S Elkhorst Water District

Facility Requirements

Activity ID No.: APE20100001

PORT0000000026 (continued):

Limitation Requirements:

Condition No.	Parameter	Condition
L-7	Distance	<p>When water lines and sewers cross,</p> <ol style="list-style-type: none"><li>1) water lines shall be laid such that either<ol style="list-style-type: none"><li>a) the the top of the water line is a vertical Distance <math>\geq</math> 18 in below the bottom of the sewer line or</li><li>b) the bottom of the water line is a vertical Distance <math>\geq</math> 18 in above the top of the sewer line,</li></ol></li><li>2) 1 full length of the water pipe shall be located so that both joints of the water pipe will be as far from the sewer as possible, and</li><li>3) special structural support for the water and sewer pipes may be required. [Recommended Standards for Water Works 8.6.3] This requirement is applicable during the following months: All Year. Statistical basis: Not applicable.</li></ol>
L-8	Distance	<p>The open end of an air relief pipe from automatic valves shall be extended a Distance <math>\geq</math> 1.0 ft above grade and provided with a screened, downward-facing elbow. The pipe from a manually operated valve shall be extended to the top of the pit. Use of manual air relief valves is recommended wherever possible. [Recommended Standards for Water Works 8.4.2] This requirement is applicable during the following months: All Year. Statistical basis: Not applicable.</p>
L-9	Pressure	<p>Pipes shall not be installed unless all points of the distribution system remain designed for ground level Pressure <math>\geq</math> 20 psi under all conditions of flow. [Recommended Standards for Water Works 8.1.1] This requirement is applicable during the following months: All Year. Statistical basis: Minimum.</p>
L-10	Pressure	<p>Pressure <math>\geq</math> 30 psi must be available on the discharge side of all meters. [401 KAR 8:100 Section 4(2)] This requirement is applicable during the following months: All Year. Statistical basis: Instantaneous determination.</p>
L-11	Residual Disinfection	<p>New or relocated water lines shall be thoroughly disinfected (in accordance with AWWA Standard C651) upon completion of construction and before being placed into service. To disinfect the new or relocated lines use chlorine or chlorine compounds in such amounts as to produce an initial disinfectant concentration of at least 50 ppm and a Residual Disinfection <math>\geq</math> 25 ppm at the end of 24 hours. Follow the line disinfection with thorough flushing and place the lines into service if, and only if, Coliform monitoring applicable to the line does not show the presence of Coliform.</p> <p>If Coliform is detected, repeat flushing of the line and Coliform monitoring. If Coliform is still detected, repeat disinfection and flushing as if the line has never been disinfected. Continue the described process until monitoring does not show the presence of Coliform. [401 KAR 8:150 Section 4(1), Recommended Standards for Water Works 8.5.6] This requirement is applicable during the following months: All Year. Statistical basis: Minimum.</p>

## Distribution-Major Construction

Jessamine S Elkhorn Water District  
Facility Requirements

Activity ID No.: APE20100001

Page 6 of 14

PORT0000000026 (continued):

### Limitation Requirements:

Condition No.	Parameter	Condition
L-12	Velocity	Each blow-off or fire hydrant shall be sized so that Velocity $\geq 2.5$ ft/sec can be achieved in the water main served by the blow-off or hydrant during flushing. [Recommended Standards for Water Works 8.1.6.b, 401 KAR 8:100 Section 1(7)] This requirement is applicable during the following months: All Year. Statistical basis: Minimum.

### Monitoring Requirements:

Condition No.	Parameter	Condition
M-1	leaks	The presence or absence of leaks monitored by physical testing as needed shall be determined in all types of installed pipe. Pressure testing and leakage testing shall be in accordance with the latest edition of AWWA Standard C600. [Recommended Standards for Water Works 8.5.5] This requirement is applicable during the following months: All Year. Statistical basis: Instantaneous determination.

### Narrative Requirements:

#### Additional Limitations:

Condition No.	Condition
T-1	Additional Limitations: Water line installation shall be in accordance with AWWA standards or manufacturer recommendations. [Recommended Standards for Water Works 8.5.1]
T-2	Additional Limitations: Pipes, fittings, valves and fire hydrants shall conform to the latest standards issued by the AWWA or NSF (if such standards exist). [Recommended Standards for Water Works 8.0.1]
T-3	Additional Limitations: At high points in water lines, where air can accumulate, provisions shall be made to remove the air by means of hydrants or air relief valves. Automatic air relief valves shall not be used in situations where manhole or chamber flooding may occur. [Recommended Standards for Water Works 8.4.1]

**Distribution-Major Construction**

Jessamine S Elkhorn Water District  
Facility Requirements

Activity ID No.: APE20100001

PORT0000000026 (continued):

**Narrative Requirements:**

**Additional Limitations:**

Condition No.	Condition
T-4	Additional Limitations: All tees, bends, plugs and hydrants shall be provided with reaction blocking, tie rods or joints designed to prevent movement. [Recommended Standards for Water Works 8.5.4]
T-5	Additional Limitations: For each fire hydrant, auxiliary valves shall be installed in the hydrant lead pipe. [Recommended Standards for Water Works 8.3.3]
T-6	Additional Limitations: No flushing device, blow-off, or air relief valve shall be directly connected to any sewer. Chambers, pits or manholes containing valves, blow-offs, meters, or other such appurtenances shall not be directly connected to any storm drain or sanitary sewer. Such chambers, pits or manholes shall be drained to absorptions pits underground or to the surface of the ground where they are not subject to flooding by surface water. [Recommended Standards for Water Works 8.1.6, Recommended Standards for Water Works 8.4.3]
T-7	Additional Limitations: If water lines are installed or replaced in areas of organic contamination or in areas within 200 ft of underground or petroleum storage tanks, ductile iron or other nonpermeable materials shall be used in all portions of the water line installation or replacement. [401 KAR 8:100 Section 1(5)(d)6, Recommended Standards for Water Works 8.0.2]
T-8	Additional Limitations: No water pipe shall pass through or come in contact with any part of a sewer manhole. [Recommended Standards for Water Works 8.6.6]
T-9	Additional Limitations: If a fire sprinkler system is to be installed, a double check detector assembly approved for backflow prevention shall be utilized. The double check detector assembly of the system shall be accessible for testing. [401 KAR 8:100 Section 1(7)]

## Distribution-Major Construction

Jessamine S Elkhorn Water District  
Facility Requirements

Activity ID No.: APE20100001

Page 8 of 14

### TOR000000001 (Finished Water Elevated Storage Tank) 1.0 MG Drinking Water Elevated Storage Tank:

#### Limitation Requirements:

Condition No.	Parameter	Condition
L-1	Depth	High and low level Depth $\geq$ 30 ft apart should not be allowed in storage structures providing pressure to a distribution system. [Recommended Standards for Water Works 7.3.2] This requirement is applicable during the following months: All Year. Statistical basis: Maximum.
L-2	Distance	To prevent excessive erosion of storage structure foundations, the overflow and main drain shall either a) discharge to concrete or other stable surfaces (splash pads) which extend a Distance $\geq$ 10 ft away from the base of the storage structure or b) discharge directly into a crushed stone pit that is at least 2' x 2' x 2' which is a Distance $\geq$ 10 ft away from the base of the storage structure. [401 KAR 8:100 Section 1(7)] This requirement is applicable during the following months: All Year. Statistical basis: Minimum.
L-3	Height	Tanks shall have an overflow which is a) brought down to a Height $\geq$ 12 and $\leq$ 24 in above the ground surface, b) of sufficient diameter to permit waste of water in excess of the filling rate, c) open downward, d) screened with twenty-four mesh noncorrodible screen installed within the pipe at a location least susceptible to damage by vandalism, and e) when not internal, e) i) located on the outside of the tank so that any discharge is visible, when internal, e) ii) located in the access tube. [Recommended Standards for Water Works 7.0.7] This requirement is applicable during the following months: All Year. Statistical basis: Not applicable.
L-4	Height	Tanks shall have manholes that are a) framed a Height $\geq$ 4 in above the surface of the roof at the opening and b) fitted with a solid watertight cover which overlaps the framed opening and extends down around the frame at least 2 inches. Manholes should be hinged at one side and shall have a locking device. [Recommended Standards for Water Works 7.0.8] This requirement is applicable during the following months: All Year. Statistical basis: Minimum.

**Distribution-Major Construction**

Jessamine S Elkhorn Water District  
Facility Requirements

Activity ID No.: APE20100001

**TOR0000000001 (continued):**

**Narrative Requirements:**

**Additional Limitations:**

Condition No.	Condition
T-1	<p>Additional Limitations: The materials and designs used for storage structures shall provide stability and durability as well as protection for the quality of the stored water. Steel structures shall follow the AWWA standards wherever they are applicable. Other materials of construction are acceptable when properly designed to meet the requirements in this permit. [Recommended Standards for Water Works 7.0]</p>
T-2	<p>Additional Limitations: The safety of employees must be considered in the design of any tank. The design of tanks shall</p> <ul style="list-style-type: none"><li>a) meet or exceed the minimum requirements of pertinent safety laws and regulations in the areas where the tanks are constructed,</li><li>b) include ladders, ladder guards and balcony railings (where applicable),</li><li>c) locate entrance hatches in safe places,</li><li>d) provide railings or handholds where persons must transfer from an access tube to the water compartment, and</li><li>e) consider confined space entry requirements.</li></ul> <p>Additionally, if tanks have riser pipes over 8 inches in diameter, the tanks shall have protective bars over the riser openings inside of the tank. [Recommended Standards for Water Works 7.0.12]</p>
T-3	<p>Additional Limitations: Storage structures shall be designed with reasonably convenient access to the interior for cleaning and maintenance. Where space permits, at least 2 manholes shall be provided above the waterline at each water compartment. [Recommended Standards for Water Works 7.0.8]</p>
T-4	<p>Additional Limitations: Fencing, locks on access manholes, and other necessary precautions shall be provided to prevent trespassing, vandalism, and sabotage. [Recommended Standards for Water Works 7.0.4]</p>
T-5	<p>Additional Limitations: All storage structures and their appurtenances, especially the riser pipes, overflows, and vents, shall be designed to prevent freezing. [Recommended Standards for Water Works 7.0.13]</p>
T-6	<p>Additional Limitations: Tanks shall be constructed with no openings except properly constructed vents, manholes, overflows, risers, drains, control ports, and piping for inflow and outflow. Any pipes running through the roof or sidewall must be welded or properly gasketed. [Recommended Standards for Water Works 7.0.10]</p>

## Distribution-Major Construction

Jessamine S Elkhorn Water District  
Facility Requirements

Activity ID No.: APE20100001

Page 10 of 14

TOR0000000001 (continued):

### Narrative Requirements:

#### Additional Limitations:

Condition No.	Condition
T-7	<p>Additional Limitations: All finished water storage structures shall have suitable watertight roofs and sidewalls which exclude birds, animals, insects, and excessive dust. [Recommended Standards for Water Works 7.0.3, Recommended Standards for Water Works 7.0.10]</p>
T-8	<p>Additional Limitations: The roof of each storage structure shall be well drained. Downspout pipes shall not enter or pass through storage structures. Parapets or similar structures which would tend to hold water and snow on a storage structure roof shall not be approved unless adequate waterproofing and drainage are provided. [Recommended Standards for Water Works 7.0.11]</p>
T-9	<p>Additional Limitations: Storage structures shall be designed so they can be isolated from the distribution system and drained for cleaning or maintenance without necessitating loss of pressure in the distribution system. [Recommended Standards for Water Works 7.3.2, Recommended Standards for Water Works 7.0.5]</p>
T-10	<p>Additional Limitations: Storage structure drains shall discharge to the ground surface at a drainage structure inlet or splash plate. [Recommended Standards for Water Works 7.3.2, Recommended Standards for Water Works 7.0.7]</p>
T-11	<p>Additional Limitations: No drain on a storage structure may have a direct connection to a sewer or storm drain. [Recommended Standards for Water Works 7.0.5, Recommended Standards for Water Works 7.0.7, Recommended Standards for Water Works 7.3.2]</p>
T-12	<p>Additional Limitations: Main drains from storage structures shall have a twenty-four mesh noncorrodible screen installed within the drain pipe at a location least susceptible to damage by vandalism. [401 KAR 8:100 Section 1(7)]</p>
T-13	<p>Additional Limitations: Storage structures shall be designed to facilitate turn over of water. [401 KAR 8:100 Section 1(7), Recommended Standards for Water Works 7.0.6]</p>
T-14	<p>Additional Limitations: Storage structures shall have sufficient capacity, as determined from engineering studies, to meet domestic demands. Additionally, if fire protection is provided, capacity shall also be sufficient to meet fire flow demands. [401 KAR 8:100 Section 1(7), Recommended Standards for Water Works 7.0.1]</p>



**Distribution-Major Construction**

Jessamine S Elkhorn Water District  
Facility Requirements

Activity ID No.: APE20100001

**TOR0000000001 (continued):**

**Narrative Requirements:**

**Additional Limitations:**

Condition No.	Condition
T-15	<p>Additional Limitations: Storage structure discharge pipes shall be located in a manner that will prevent the flow of sediment into the distribution system. Additionally, removable silt stops should be provided. [Recommended Standards for Water Works 7.0.15]</p>
T-16	<p>Additional Limitations: Appropriate sampling tap(s) shall be provided to facilitate collection of water samples for both bacteriologic and chemical analyses. [Recommended Standards for Water Works 7.0.19]</p>
T-17	<p>Additional Limitations: Storage structures shall be vented. Overflows shall not be considered as vents. Open construction between the sidewall and roof is not permitted. Vents shall</p> <ul style="list-style-type: none"><li>a) prevent the entrance of rainwater,</li><li>b) exclude birds and animals, and</li><li>c) exclude insects and dust (as much as compatible with effective venting).</li></ul> <p>Vents may use four-mesh noncorrodible screen. [Recommended Standards for Water Works 7.0.9]</p>
T-18	<p>Additional Limitations: Adequate controls shall be provided to maintain levels in storage structures. The level controls shall be acceptable to the Division of Water. Level indicating devices should be provided at a central location. Overflow and low-level warnings or alarms should be located at places in the community where they will be under responsible surveillance 24 hrs a day. [401 KAR 8:100 Section 1(7), Recommended Standards for Water Works 7.3.3]</p>
T-19	<p>Additional Limitations: If storage structures have a catwalk over the water, the catwalk floor shall be solid with raised edges so that shoe scrapings and dirt will not fall into the water. [Recommended Standards for Water Works 7.0.14]</p>
T-20	<p>Additional Limitations: Proper protection shall be given to metal surfaces by</p> <ul style="list-style-type: none"><li>a) paints or other protective coatings and/or</li><li>b) cathodic protective devices. [Recommended Standards for Water Works 7.0.17]</li></ul>

**Distribution-Major Construction**

Jessamine S Elkhorn Water District  
Facility Requirements

Activity ID No.: APE20100001

FOR0000000001 (continued):

Narrative Requirements:

**Additional Limitations:**

Condition No.	Condition
T-21	<p>Additional Limitations: If cathodic protection is utilized,</p> <ul style="list-style-type: none"><li>a) competent technical personnel should design and install the protection and</li><li>b) a maintenance contract should be provided. [Recommended Standards for Water Works 7.0.17]</li></ul>
T-22	<p>Additional Limitations: If the interior of the storage structure is coated or lined, the coating or lining shall be of a type approved by the Division of Water for use in contact with potable water. [401 KAR 8:020 Section 2(19)]</p>
T-23	<p>Additional Limitations: Paints and coatings</p> <ul style="list-style-type: none"><li>a) shall meet NSF standard 61,</li><li>b) shall be acceptable to the Division of Water,</li><li>c) shall be properly applied and cured, and</li><li>d) shall not transfer any substance to the water which will be toxic or cause tastes or odors (following curing).</li></ul> <p>Wax coatings shall not be used in any storage structure and must be completely removed before using other paints or coatings in an existing storage structure. [401 KAR 8:100 Section 1(7), Recommended Standards for Water Works 7.0.17]</p>

**Distribution-Major Construction**

Jessamine S Elkhorn Water District  
Facility Requirements

Activity ID No.: APE20100001

TOR000000001 (continued):

**Narrative Requirements:**

**Additional Limitations:**

Condition No.	Condition
T-24	<p>Additional Limitations: New water storage structures shall be thoroughly disinfected (in accordance with AWWA Standard C652) upon completion of construction and before being placed into service. To disinfect new storage structures</p> <ol style="list-style-type: none"><li>1) remove all scaffolding, planks, tools, rags, and other items that are not part of the structural or operational facilities of the storage structure,</li><li>2) clean thoroughly by sweeping, scrubbing, using high-pressure water jets, or some equivalently effective means, and</li><li>3) use chlorine or chlorine compounds as subsequently described.</li></ol> <p>Finalize disinfection by</p> <ol style="list-style-type: none"><li>a) chlorination method 1, described in detail at AWWA Standard C652 Section 4.3.1,</li><li>b) chlorination method 2, described in detail at AWWA Standard C652 Section 4.3.2, or</li><li>c) chlorination method 3, described in detail at AWWA Standard C652 Section 4.3.3.</li></ol> <p>See the following conditions for abbreviated descriptions of the methods. Following the finalization of disinfection, place storage structures into service if, and only if, Coliform monitoring applicable to the storage structure does not show the presence of Coliform. If Coliform is detected, flush the tank and repeat Coliform monitoring. If Coliform is still detected, repeat disinfection and flushing as if the tank has never been disinfected. Continue the described process until monitoring does not show the presence of Coliform. [Recommended Standards for Water Works 7.0.18]</p>
Condition No.	Condition
T-25	<p>If applicable, chlorination method 1 generally requires</p> <ol style="list-style-type: none"><li>a) filling a storage structure to the overflow level with water providing a free chlorine Residual Disinfection <math>\geq 10</math> ppm and</li><li>b) <ol style="list-style-type: none"><li>i) completely draining the storage facility and refilling or</li><li>ii) otherwise reducing (in accordance with method 1) the free chlorine residual to a level appropriate for distribution. [Recommended Standards for Water Works 7.0.18]</li></ol></li></ol>
T-26	<p>If applicable, chlorination method 2 generally requires</p> <ol style="list-style-type: none"><li>a) scrubbing or spraying the water-contact surfaces of a storage structure with a water solution having an available chlorine concentration = 200 ppm and</li><li>b) purging of the strong chlorine solution and filling to the overflow level. [Recommended Standards for Water Works 7.0.18]</li></ol>

**Distribution-Major Construction**

Jessamine S Elkhorn Water District

Facility Requirements

Activity ID No.: APE20100001

STOR0000000001 (continued):

Narrative Requirements:

Condition No.	Condition
T-27	If applicable, chlorination method 3 generally requires a) filling a storage structure to approximately 5% of the total storage volume with water having an available chlorine concentration of 50 ppm, b) continued filling of the storage structure to the overflow level with normal potable water, and c) purging the storage structure so that various disinfection by-products do not reach water consumers. [Recommended Standards for Water Works 7.0.18, 401 KAR 8:100 Section 1(7)]

**\*LETTER OF TRANSMITTAL\***

email@horneeng.com

HORNE ENGINEERING, INC.  
216 SOUTH MAIN STREET  
NICHOLASVILLE, KY 40356  
Ph. (859) 885-9441

CONSULTING ENGINEERS  
LAND SURVEYORS  
PLANNERS  
Fax (859)885-5160

To: Solitha Dharman, Supervisor  
Kentucky Division of Water  
Water Infrastructure Branch  
200 Fair Oaks, 3<sup>rd</sup> Floor  
Frankfort, KY 40601

Date: November 15, 2010

Re: Catnip Hill Pike 1.0 MG Elevated Storage Tank  
Jessamine-South Elkhorn Water District

**WE ARE SENDING YOU ATTACHED:**

COPIES	DATE, W.O. # and/or DWG. #	DESCRIPTION
1	#3569	Distribution Systems Checklist for Drinking Water / Check For Fees - Waived
1	#3569	USGS - Quad Map of Site
1	#3569	Project Description
<del>1</del>	<del>11/10</del>	<del>Jessamine-South Elkhorn Water District - Letter of Availability</del>
1	#3569	Hydraulic Analysis - Catnip Hill Pike 1.0 MG Elevated Storage Tank
4sets	----	Construction Plans - Catnip Hill Pike 1.0 MG Elevated Storage Tank ✖
1	#3569	Technical Specifications Book ✖

**FILE COPY**


**THESE ARE TRANSMITTED as checked below:**

For review & approval  
 For your use  
 For your records/files

Approved as submitted  
 Approved as noted  
 As requested or required

**COMMENTS:**

It is my understanding that your branch has a copy of the Jessamine-South Elkhorn Water District adopted general specifications on file from previous projects, therefore, I have not included a copy in this package.

Signed:   
Will Hagan  
Project Manager

cc: Nick Strong  
Engr/3569  
Engr/3891  
Corr.

\* Submitted w/ 2012-00470 Application

DRINKING WATER BRANCH  
14 REILLY ROAD  
FRANKFORT, KENTUCKY 40601  
DISTRIBUTION SYSTEMS CHECKLIST

Project Name: Catnip Hill Pike 1.0 MG Elevated Storage Tank

Utility: Jessamine South Elkhorn WD County: Jessamine

Address: 802 S. Main Street, PO Box 731

Nicholasville, KY 40356 PWSID No. 057 0249

Engineer: Horne Engineering, Inc. Phone: 859-885-9441

Address: 216 S. Main Street, Nicholasville, KY 40356

E-mail Address: email@horneeng.com Fax: 859-885-5160

To improve the effectiveness of the DOW's review process, please respond to all the applicable questions that follow and provide all of the requested information.

Is this a federally funded project (i.e. SRF or SPAP)? No

Drinking Water State Revolving Fund

US EPA Special Appropriation (Congressional) Grant

If yes, has an Environmental Information Document been reviewed and approved? -----

If the project has been submitted to the State Clearinghouse for review, please provide

the SAI number: KY 200708131128

Identify all funding sources: Kentucky Infrastructure Authority - Grant - providing partial funding

Provide a brief description for waterline projects with less than 10,000 linear feet (at a minimum identify the various line sizes, corresponding lengths and cost estimate):

See Attached

All other Distribution projects should be accompanied with a *detailed* project description.

Is your system currently under any type of waterline or sewer sanctions? No

If yes, please submit an exception request and attach supporting documentation to justify its approval.

If another utility will serve the proposed project, provide the name and the PWSID No.

Utility: N/A PWSID No. -----

Identify the number of new customers and their projected demand? N/A

Identify the number of existing residents; and their projected water demand, that may get served as a result of this project? N/A

Identify the total number of customers in your service area?      **2,800**

Regulation 401 KAR 8:100, requires the submittal of the following:

Four (4) copies of detailed plans and specifications (**no larger than 24" X 36"**) that depict the mains' sizes and type of material, valves, master meters, storage tanks, pump stations, a vicinity map, stream crossing and road crossing details.

Please submit a United States Geological Survey quadrangle map, which shows the project location.

Projects with cost in excess of \$2,000 shall be prepared, stamped, signed and dated by a Professional Engineer.

Projects that propose to provide water service to existing residences shall submit names and addresses of all existing residences.

Fee. Projects funded by a municipality, water District, or other publicly owned treatment works are exempt from the fee. If your project involves the extension of less than 10,000 feet of waterlines, then the applicable fee is \$ 150. Projects that involve more than 10,000 feet of lines or the addition of pump stations or tanks have \$ 325 applicable fee.

---

~~A signed letter of acceptance from utility, which states the utility has reviewed and approved the plans and specifications and agrees to serve the proposed project upon completion. If the utility is a purchaser and the project demand is greater than 10,000 gallons per day, please submit a valid water purchase contract and acceptance letter from the seller.~~

Engineering calculations; demonstrate the availability of 30 psig at the discharge side of each proposed connection under peak demand conditions and the ability to flush the lines using 2.5 ft/sec flow, while maintaining 20 psig throughout the distribution system.

Projects that propose the addition of storage tanks should be accompanied with engineering calculations, which demonstrates a complete fill and drain cycle every 72 hours. Also identify each tank's location coordinates.

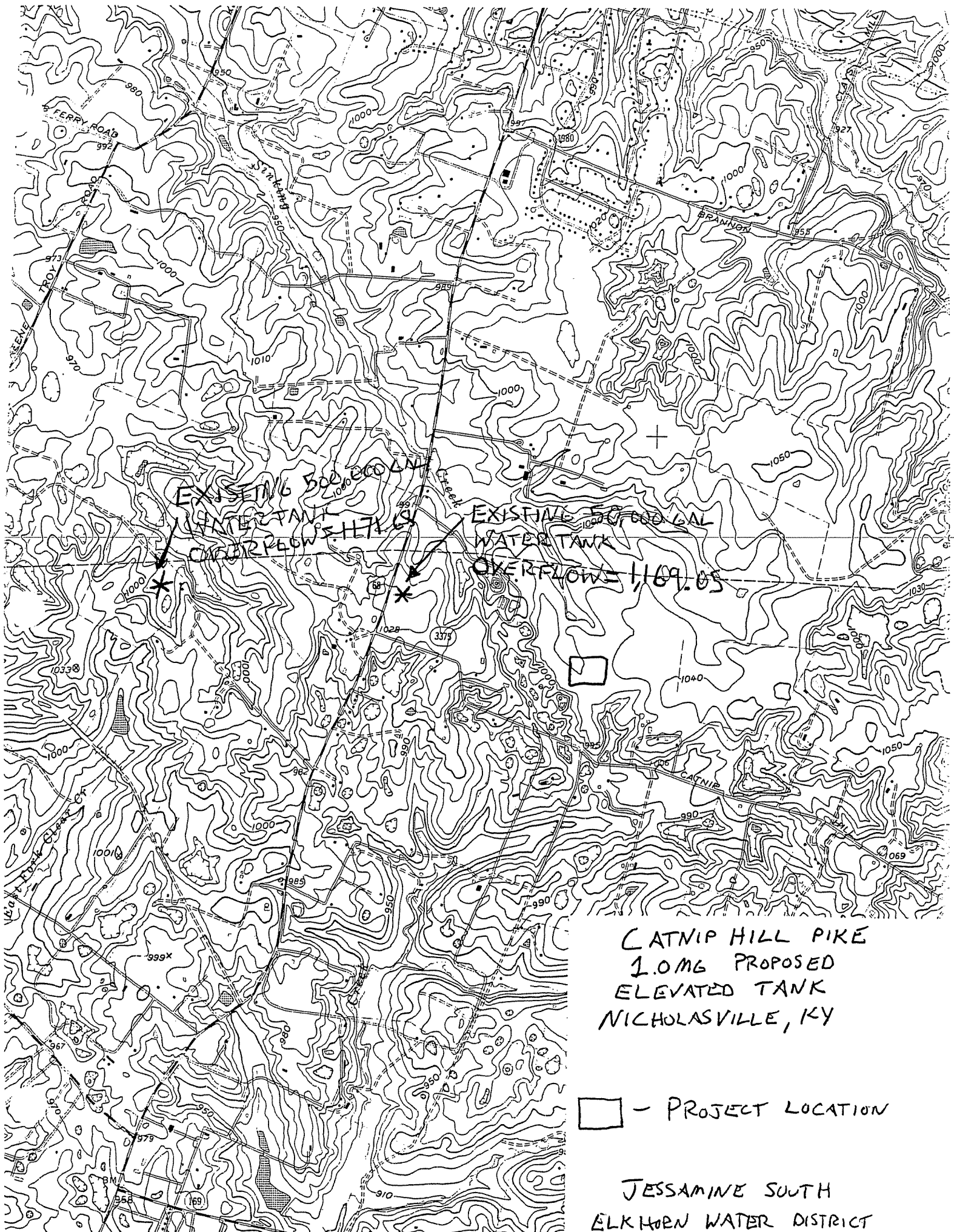
New or upgraded pump stations require the submittal of pump sizing calculations and the proposed pump's characteristics curve along with the efficiency, horsepower and NPSHR data. Also identify each pump station's location coordinates.

**Project Description**  
**Jessamine-South Elkhorn Water District**  
**Catnip Hill Pike 1.0 MG Elevated Storage Tank**

Jessamine South Elkhorn Water District proposes to construct a 1.0 MG elevated storage tank on property which they own on Catnip Hill Pike. The proposed site is in close proximity to the District's existing 500,000 gallon elevated storage tank. The proposed tank will be constructed at the existing hydraulic gradient. Therefore, additional booster pumping will not be required.

Coordinates for this project are listed on the Construction Plans and are Kentucky State Plane North Zone coordinates.





CATNIP HILL PIKE  
1.0MG PROPOSED  
ELEVATED TANK  
NICHOLASVILLE, KY

□ - PROJECT LOCATION

JESSAMINE SOUTH  
ELKHORN WATER DISTRICT

JESSAMINE-SOUTH ELKHORN  
WATER DISTRICT

November 15, 2010

Ms. Donna Marlin  
Division of Water  
Drinking Water Branch  
14 Reilly Rd  
Frankfort, KY 40601

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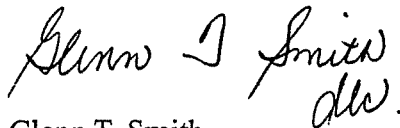
Re: Letter of Availability

Dear Ms. Marlin:

This letter is to verify that the **Catnip Hill Tank Site** is within the service area of the Jessamine South Elkhorn Water District and the District has sufficient water to service the property.

Sincerely,

JESSAMINE SOUTH ELKHORN WATER DISTRICT

Handwritten signature of Glenn T. Smith in cursive script, with the initials "dlw." written below the signature.

Glenn T. Smith  
Superintendent



# HYDRAULIC ANALYSIS



PROPOSED ELEVATED STORAGE TANK  
CATNIP HILL ROAD  
(Chinkapin Drive)

JESSAMINE COUNTY, KENTUCKY

JESSAMINE-SOUTH ELKHORN WATER DISTRICT  
NORTHWEST DISTRIBUTION SYSTEM

September 2010

Prepared by:  
HORNE ENGINEERING, INC.  
216 South Main Street  
Nicholasville, Kentucky 40356  
(859) 885-9441

## LIST OF CONTENTS

Summary

Northwest Distribution System Node Map

Hydraulic Grades Graph

Data Summary

Pump Report

Tank Report

---

Maximum/Minimum Report

## Summary

The hydraulic analysis contained in the report is conducted to analyze the Jessamine-South Elkhorn Water District's Northwest Distribution System with a proposed 1-MG storage tank. The analysis is a 72-hour, extended period simulation (EPS). There are two existing elevated storage tanks included in the analysis. Tank A is a 50,000 gallon storage tank located on Old US-68, and Tank B is a 500,000 gallon storage tank located on Parks Lane. Tank C is the proposed 1-MG storage tank located at the end of Chinkapin Drive and is in the vicinity of Catnip Hill Road.

There is one booster pump station supplying water to the system and it is located on Clays Mill Road. The pump is currently operated via telemetry based on tank levels at the Parks Lane tank (Tank B). This analysis includes telemetry on the proposed Tank C in addition to the Parks Lane tank. The existing 50,000 gallon tank (Tank A) is operated by an altitude valve located at its base. If either Tank B or C fills to a level of 1,170', the booster pump will shut off until the level falls back to 1,162' at either tank.

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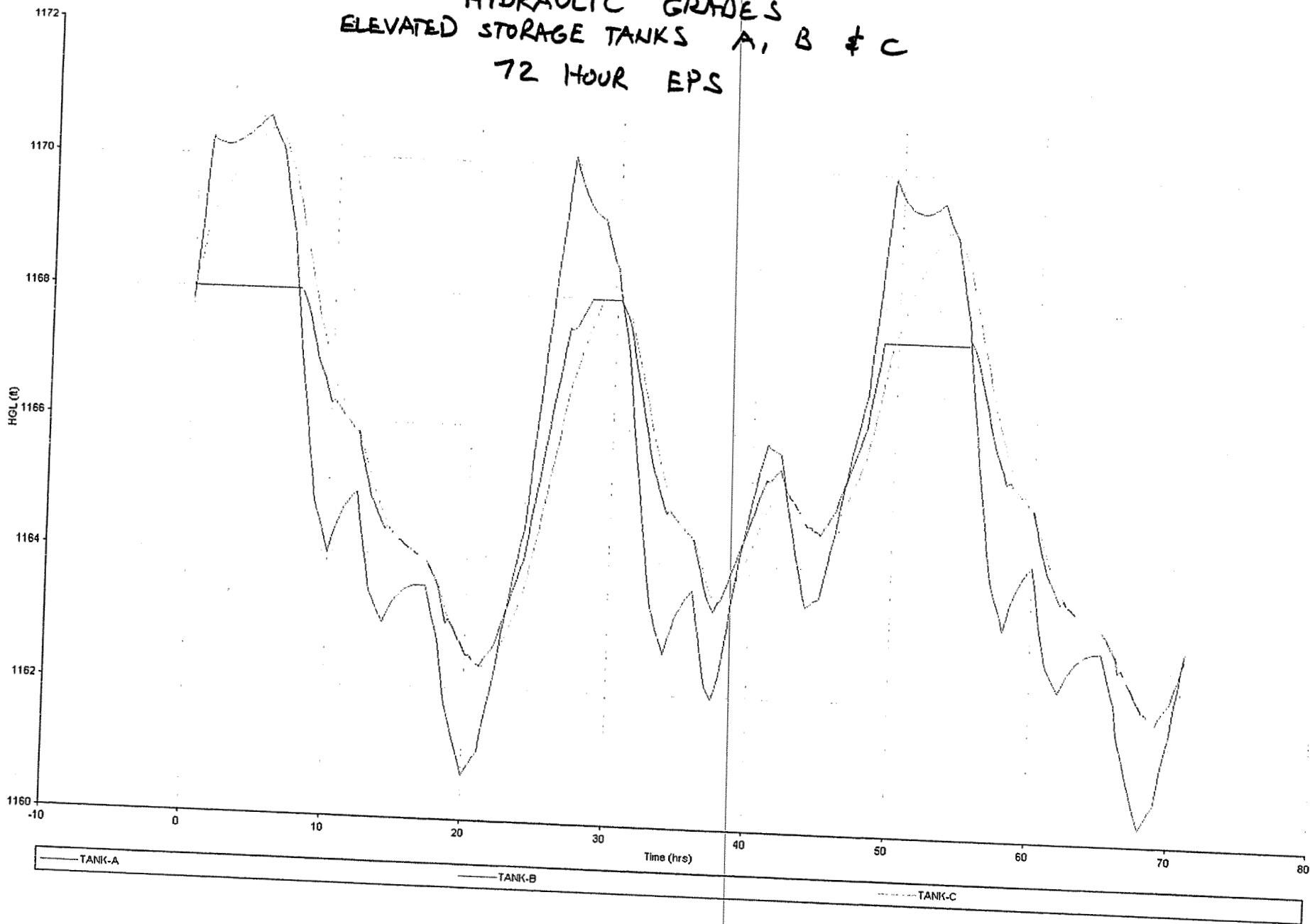
A node map is attached showing the entire Northwest Distribution System with node names and pipes names labeled. The second page of the analysis includes a graph showing the hydraulic grades for each of the three (3) tanks for the 72-hour, extended period simulation. The graph shows that over the 72-hour period, all three tanks rise and fall in a similar pattern. It appears that the telemetry settings assigned to the system are appropriate. The effects of the altitude valve on Tank A are apparent on the graph.

Because of the voluminous paper that is generated by a full report of all 72-hours, selected portions of the results were printed and are included in this report. The data summary is given in full, followed by the pump report and then the tank report, as well as a maximum/minimum report. The maximum/minimum report includes the maximum/minimum pressure for each node in the system over the 72-hour period. A copy of the full report is available in digital form and is saved at Q:\HYDDATTA\KYPIPE\NEWTANK2010\TANK ANALYSIS2010EPS.KYP\TANK ANALYSIS 2010EPS.doc. A copy of this report, under the file name TANK ANALYSIS 2010EPS.doc, along with the KY PIPE data is included on the enclosed CD-ROM.



Jessamine-South Elkhorn  
Water District  
Northwest Distribution System  
NODE MAP

HYDRAULIC GRADES  
ELEVATED STORAGE TANKS A, B & C  
72 HOUR EPS







```

* * * * * K Y P I P E 5 * * * * *
*
*           Pipe Network Modeling Software
*
*           Copyrighted by KYPIPE LLC
*           Version 5 - February 2010
*
* * * * *

```

Date & Time: Wed Sep 22 14:07:13 2010

Master File : Q:\HYDDATA\KYPIPE\New Tank 2010\tank analysis 2010 eps.KYP\tank analysis 2010 eps.P2K

```

*****
S U M M A R Y   O F   O R I G I N A L   D A T A
*****

```

U N I T S S P E C I F I E D

```

FLOWRATE ..... = gallons/minute
HEAD (HGL) ..... = feet
PRESSURE ..... = psig
METERED FLOW ..... = gallons
POWER COST ..... = 0.050 $/kW-Hr

```

R E G U L A T I N G V A L V E D A T A

VALVE LABEL	VALVE TYPE	VALVE SETTING (ft or gpm)
RV-1	PRV-1	1089.85
RV-2	PRV-1	1090.08
RV-R1	PRV-1	1090.08
RV-R2	PRV-1	1090.00

P I P E L I N E D A T A

STATUS CODE: XX -CLOSED PIPE CV -CHECK VALVE

PIPE NAME	NODE #1	NODE #2	LENGTH (ft)	DIAMETER (in)	ROUGHNESS COEFF.	MINOR LOSS COEFF.
1	52	239	2847.56	12.00	150.0000	4.70
2	13	107	1572.75	8.00	150.0000	4.70
3	208	107	536.71	12.00	150.0000	14.10
4	208	O-Pump-1	145.95	12.00	150.0000	0.00
5	6	7	2450.00	6.00	150.0000	0.00
6	98	8	565.00	6.00	150.0000	0.00
7	101	10	1690.00	6.00	150.0000	0.00
8	99	11	600.00	6.00	150.0000	0.00
9	3	84	400.00	6.00	150.0000	0.00
10	6	9	700.00	6.00	150.0000	0.00
11	4	7	950.00	4.00	150.0000	0.00
12	7	10	1640.00	4.00	150.0000	0.00
13	4	8	1976.79	6.00	150.0000	0.00
14	8	11	1480.00	6.00	150.0000	0.00
15	10	12	2950.00	4.00	150.0000	0.00
16	12	13	2000.00	6.00	150.0000	0.00
17	12	14	2600.00	4.00	150.0000	0.00
18	15	333	1517.68	6.00	150.0000	0.00
19	TANK-A	O-AV-1	93.52	6.00	150.0000	2.00

20	16	15	600.00	6.00	150.0000	0.00
21	172	96	560.67	6.00	150.0000	0.00
22	155	331	1152.91	4.00	150.0000	0.00
23	149	19	2227.95	10.00	150.0000	0.00
24	19	20	2900.00	3.00	150.0000	0.00
25	20	21	600.00	3.00	150.0000	0.00
26	21	22	200.00	3.00	150.0000	0.00
27	22	24	1100.00	2.00	150.0000	0.00
28	21	23	1100.00	3.00	150.0000	0.00
29	23	25	1050.00	3.00	150.0000	0.00
30	24	26	1050.00	2.00	150.0000	0.00
31	25	26	200.00	3.00	150.0000	0.00
32	23	24	200.00	3.00	150.0000	0.00
33	216	286	5346.15	10.00	150.0000	0.00
34	284	27	434.89	10.00	150.0000	0.00
35	153	29	2500.00	4.00	150.0000	0.00
36	29	195	1000.00	4.00	150.0000	0.00
37	208	O-Pump-2	140.78	12.00	150.0000	0.00
38	3	31	10.00	6.00	150.0000	2.00
39	209	I-Pump-2	142.29	12.00	150.0000	0.00
40	14	146	1740.00	6.00	150.0000	0.00
41	46	31	850.00	12.00	150.0000	2.00
42	31	47	530.00	8.00	150.0000	2.00
43	18	45	3000.00	4.00	150.0000	0.00
44	16	172	969.61	8.00	150.0000	0.00
45	35	287	2553.49	4.00	150.0000	0.00
46	34	36	1150.00	4.00	150.0000	0.00
47	49	325	2589.03	6.00	150.0000	0.00
48	46	47	900.00	8.00	150.0000	2.00
49	47	33	340.00	8.00	150.0000	0.00
50	34	37	3050.00	4.00	150.0000	0.00
51	33	38	570.00	6.00	150.0000	0.00
52	33	39	250.00	8.00	150.0000	0.00
53	38	39	1335.00	6.00	150.0000	0.00
54	39	40	740.00	8.00	150.0000	0.00
55	40	41	425.00	6.00	150.0000	0.00
56	40	42	575.00	8.00	150.0000	0.00
57	41	42	1415.00	6.00	150.0000	0.00
58	42	43	145.00	8.00	150.0000	0.00
59	91	51	1800.00	4.00	150.0000	0.00
60	66	17	9874.87	6.00	150.0000	9.00
61	91	129	500.00	6.00	150.0000	0.00
62	20	49	2000.00	4.00	150.0000	0.00
63	53	323	883.92	6.00	150.0000	0.00
64	54	55	2650.00	6.00	150.0000	0.00
65	54	56	3900.00	6.00	150.0000	0.00
66	56	57	1050.00	6.00	150.0000	0.00
67	57	58	1200.00	6.00	150.0000	0.00
68	58	327	1977.19	6.00	150.0000	0.00
69	58	60	1550.00	6.00	150.0000	0.00
70	61	60	5700.00	6.00	150.0000	0.00
71	27	49	3100.00	6.00	150.0000	0.00
72	62	61	1050.00	6.00	150.0000	0.00
73	62	32	5490.00	6.00	150.0000	0.00
74	63	133	4000.00	6.00	150.0000	0.00
75	64	63	3200.00	4.00	150.0000	0.00
76	65	277	2627.99	4.00	150.0000	0.00
77	65	82	2666.10	4.00	150.0000	0.00
78	209	I-Pump-1	97.71	12.00	150.0000	0.00
79	82	83	1610.54	4.00	150.0000	0.00
80	67	97	1030.00	4.00	150.0000	0.00
81	84	52	1600.00	6.00	150.0000	0.00
82	81	85	400.00	10.00	150.0000	0.00
83	71	80	4900.00	4.00	150.0000	0.00
84	78	244	4233.41	4.00	150.0000	0.00
85	160	181	2500.00	4.00	150.0000	0.00
86	76	77	1000.00	4.00	150.0000	0.00
87	75	77	2150.00	4.00	150.0000	0.00
88	73	75	1900.00	4.00	150.0000	0.00
89	73	74	1500.00	4.00	150.0000	0.00
90	72	235	1090.18	4.00	150.0000	0.00
91	70	72	1080.00	4.00	150.0000	0.00
92	70	76	2800.00	4.00	150.0000	0.00

93		97	117	2000.00	4.00	150.0000	0.00
94		97	70	1750.00	4.00	150.0000	0.00
95		68	116	700.00	8.00	150.0000	0.00
96		68	90	800.00	4.00	150.0000	0.00
97		135	174	719.19	8.00	150.0000	3.80
98-CV		69	128	15.00	8.00	150.0000	10.00
99		67	68	2700.00	8.00	150.0000	0.00
100	FGN-BB		69	170.00	6.00	130.0000	55.90
101		50	104	1015.00	6.00	150.0000	0.00
102		88	50	2225.00	6.00	150.0000	0.00
103		105	39	1430.00	6.00	150.0000	0.00
104		48	88	340.00	6.00	150.0000	0.00
105		106	48	785.00	6.00	150.0000	0.00
106		108	48	610.00	6.00	150.0000	0.00
107		77	71	920.00	4.00	150.0000	0.00
108		67	68	2700.00	4.00	150.0000	0.00
109		84	6	800.00	6.00	150.0000	0.00
110		85	140	800.00	10.00	150.0000	0.00
111		85	139	750.00	8.00	150.0000	0.00
112		92	46	1200.00	12.00	150.0000	0.00
113		92	81	20.00	10.00	150.0000	0.00
114		87	260	828.36	8.00	150.0000	2.00
115		194	30	2608.44	6.00	150.0000	1.50
116		29	51	1900.00	4.00	150.0000	0.00
117		332	17	4108.85	6.00	150.0000	0.00
118		123	332	1116.82	6.00	150.0000	0.00
119		123	242	2356.79	6.00	150.0000	0.00
120		124	167	3100.00	4.00	130.0000	0.00
121	TANK-B		89	70.00	12.00	150.0000	2.70
122		122	253	1961.05	10.00	150.0000	2.50
123		192	207	2016.21	8.00	150.0000	1.50
124		90	185	1200.00	4.00	130.0000	0.00
125		87	43	2500.00	8.00	150.0000	0.00
126		124	37	4200.00	6.00	150.0000	0.00
127		94	71	750.00	6.00	150.0000	0.00
128		94	95	450.00	6.00	150.0000	0.00
129	I-AV-1		15	36.48	6.00	150.0000	0.00
130		94	119	3120.00	6.00	150.0000	0.00
131		86	95	2250.00	6.00	150.0000	0.00
132		95	76	440.00	6.00	150.0000	0.00
133-CV		209	208	279.75	12.00	150.0000	0.00
134		128	260	3534.86	4.00	120.0000	7.60
135		7	98	580.00	6.00	150.0000	0.00
136		98	99	1775.00	6.00	150.0000	0.00
137		11	100	475.00	6.00	150.0000	0.00
138		99	10	1170.00	6.00	150.0000	0.00
139		101	9	1000.00	6.00	150.0000	0.00
140		101	102	1100.00	6.00	150.0000	0.00
141		9	102	675.00	6.00	150.0000	0.00
142		9	103	350.00	6.00	150.0000	0.00
143		43	104	625.00	6.00	150.0000	0.00
144		104	105	860.00	6.00	150.0000	0.00
145		105	88	890.00	6.00	150.0000	0.00
146		106	47	425.00	6.00	150.0000	0.00
147		106	210	675.00	6.00	150.0000	0.00
148		210	108	715.00	12.00	150.0000	0.00
149		108	4	1300.00	12.00	150.0000	0.00
150		66	328	718.22	6.00	150.0000	2.00
151		109	110	750.00	6.00	150.0000	0.00
152		110	320	409.19	6.00	150.0000	0.00
153		111	112	700.00	6.00	150.0000	0.00
154		66	112	350.00	6.00	150.0000	0.00
155		112	113	750.00	6.00	150.0000	0.00
156		112	319	258.07	6.00	150.0000	0.00
157		234	330	220.67	8.00	150.0000	0.00
158		127	126	344.98	10.00	150.0000	0.00
159		140	52	800.00	10.00	150.0000	0.00
160		4	5	1450.00	12.00	150.0000	0.00
161	R-1		209	144.11	12.00	150.0000	0.00
162		137	294	3098.33	10.00	150.0000	1.50
163		18	149	2072.05	6.00	150.0000	1.50
164		19	284	1765.11	10.00	150.0000	1.50
165		140	139	750.00	8.00	150.0000	0.00

166	141	53	6324.12	6.00	150.0000	0.00
167	126	155	13.71	10.00	130.0000	0.00
168	200	137	14.55	10.00	130.0000	0.00
169	5	1	4201.48	12.00	150.0000	4.70
170	141	142	2112.00	6.00	150.0000	3.50
171	78	161	1835.31	6.00	150.0000	0.00
172	161	173	4000.00	6.00	150.0000	0.00
173	181	78	1949.34	6.00	150.0000	0.00
174	174	222	278.20	8.00	150.0000	0.00
175	164	118	2200.00	6.00	150.0000	0.00
176	118	117	700.00	6.00	150.0000	0.00
177	118	86	820.00	6.00	150.0000	0.00
178	119	86	3940.00	6.00	150.0000	0.00
179	92	175	1829.44	6.00	150.0000	7.60
180	176	183	575.00	8.00	150.0000	0.00
181	175	176	600.00	6.00	150.0000	0.00
182	175	177	600.00	6.00	150.0000	0.00
183	183	184	700.00	8.00	150.0000	0.00
184	196	62	3200.87	6.00	150.0000	0.00
185	16	122	2150.00	6.00	150.0000	0.00
186	128	121	495.00	4.00	150.0000	1.00
187	177	183	600.00	6.00	150.0000	0.00
188	16	122	2010.00	8.00	150.0000	2.10
189	184	174	500.00	8.00	150.0000	0.00
190	177	184	1000.00	6.00	150.0000	0.00
191	185	165	800.00	12.00	140.0000	0.00
192	125	326	936.84	10.00	150.0000	4.00
193	314	165	937.25	8.00	150.0000	0.00
194	68	90	800.00	8.00	150.0000	2.10
195	165	119	6100.00	6.00	150.0000	0.00
196	171	312	928.59	6.00	130.0000	0.00
197	170	171	2103.85	6.00	150.0000	0.00
198	180	186	1059.61	6.00	150.0000	0.00
199	186	187	2132.93	6.00	150.0000	0.00
200	187	I-RV-1	488.30	6.00	150.0000	0.00
201	145	188	1403.45	6.00	150.0000	2.30
202	4	189	688.30	6.00	150.0000	0.00
203	88	191	1166.85	6.00	150.0000	0.00
204	189	191	505.01	6.00	150.0000	0.00
205	191	197	961.25	6.00	150.0000	0.00
206	197	50	886.74	6.00	150.0000	0.00
207	197	198	1090.54	6.00	150.0000	0.00
208	197	199	499.88	6.00	150.0000	0.00
209	199	202	1104.61	6.00	150.0000	0.00
210	199	158	800.00	6.00	150.0000	0.00
211	115	127	901.39	4.00	150.0000	0.00
212-XX	69	128	15.00	2.00	150.0000	5.00
213	203	317	388.34	6.00	150.0000	0.00
214	134	141	1200.00	6.00	150.0000	2.00
215	30	134	2200.00	6.00	150.0000	2.00
216	129	93	450.00	6.00	150.0000	2.00
217	129	130	2300.00	6.00	150.0000	2.00
218	130	131	1700.00	6.00	150.0000	2.00
219	56	132	900.00	6.00	150.0000	1.00
220	133	61	1400.00	6.00	150.0000	2.00
221	128	138	600.00	8.00	150.0000	4.00
222	92	176	2200.00	8.00	150.0000	8.64
223	138	135	30.00	6.00	150.0000	9.60
224	204	203	1359.37	4.00	150.0000	0.00
225	204	310	1527.15	6.00	150.0000	0.00
226	205	206	1145.98	6.00	150.0000	0.00
227	205	203	2111.36	6.00	150.0000	0.00
228	207	219	1698.51	8.00	150.0000	0.00
229	207	250	701.01	6.00	150.0000	0.00
230	211	212	2005.89	6.00	150.0000	0.00
231	212	1	1472.83	6.00	150.0000	0.00
232	151	213	2317.84	6.00	150.0000	0.00
233	82	214	981.14	6.00	150.0000	0.00
234	214	215	1714.24	6.00	150.0000	0.00
235	215	151	1044.08	6.00	150.0000	0.00
236	214	215	1773.79	6.00	150.0000	0.00
237	285	28	1124.37	10.00	150.0000	0.00
238	216	218	995.43	6.00	150.0000	3.00

239		217	231	648.98	6.00	150.0000	0.00
240		218	228	806.86	6.00	150.0000	0.00
241		127	143	1465.00	4.00	150.0000	4.90
242		29	144	200.00	2.00	150.0000	2.90
243		14	145	200.00	4.00	150.0000	2.30
244		146	44	480.00	6.00	150.0000	2.30
245		146	147	800.00	6.00	150.0000	2.30
246		44	148	820.00	6.00	150.0000	2.30
247		83	282	2200.31	6.00	150.0000	4.60
248		83	150	2187.98	6.00	150.0000	4.00
249		150	151	2280.06	6.00	150.0000	2.20
250		153	152	1050.00	4.00	150.0000	2.00
251		28	153	300.00	4.00	150.0000	1.10
252		72	154	1480.00	4.00	150.0000	2.90
253		288	216	793.52	10.00	150.0000	0.00
254		156	66	650.00	6.00	150.0000	2.00
255		64	157	4155.70	4.00	150.0000	1.50
256		5	158	1400.00	4.00	130.0000	1.50
257		75	159	720.00	4.00	130.0000	1.50
258		219	314	3028.03	8.00	150.0000	0.00
259		165	220	1798.80	6.00	150.0000	0.00
260		220	221	1235.98	6.00	150.0000	0.00
261		220	221	1238.62	6.00	150.0000	0.00
262		220	251	1376.27	6.00	150.0000	0.00
263		77	160	1400.00	4.00	130.0000	2.00
264		222	87	1222.60	8.00	150.0000	0.00
265		184	223	258.83	6.00	150.0000	0.00
266		223	222	394.05	6.00	150.0000	0.00
267		176	224	321.17	6.00	150.0000	0.00
268		90	162	1000.00	6.00	130.0000	4.00
269		136	162	930.00	6.00	130.0000	2.50
270		163	162	1125.00	6.00	130.0000	3.50
271		136	163	360.00	6.00	130.0000	0.50
272		163	164	282.00	6.00	130.0000	0.80
273		136	164	1020.00	6.00	130.0000	3.10
274		116	136	350.00	6.00	130.0000	0.50
275		223	224	1360.35	6.00	150.0000	0.00
276		285	284	239.29	10.00	150.0000	0.00
277		227	225	749.09	6.00	150.0000	0.00
278		226	64	1294.34	4.00	150.0000	0.00
279		90	185	1200.00	8.00	140.0000	2.90
280		226	225	4000.00	6.00	150.0000	0.00
281		96	167	2988.15	4.00	150.0000	0.00
282		115	127	900.00	10.00	130.0000	0.90
283		166	124	1200.00	4.00	130.0000	1.50
284		167	34	3200.00	4.00	130.0000	1.50
285		168	169	1400.00	4.00	130.0000	1.50
286		65	168	1200.00	4.00	130.0000	1.50
287		227	283	1296.85	6.00	150.0000	0.00
288		170	171	506.08	6.00	130.0000	1.50
289		127	329	2936.44	4.00	130.0000	1.50
290		80	179	2650.00	6.00	150.0000	1.50
291		179	180	1495.10	6.00	150.0000	3.00
292		181	78	2300.00	4.00	150.0000	1.50
293		181	182	1700.00	6.00	150.0000	1.50
294		31	210	810.63	12.00	150.0000	0.00
295		1	334	2484.13	12.00	150.0000	0.00
296		333	2	864.41	6.00	150.0000	4.70
297		225	229	2054.14	6.00	150.0000	0.00
298		218	228	2562.32	6.00	150.0000	6.00
299		228	217	722.51	6.00	150.0000	0.00
300		218	292	815.37	6.00	150.0000	0.00
301		170	178	1000.00	6.00	130.0000	1.50
302		201	267	683.60	6.00	130.0000	1.50
303	O-RV-R1		201	10.00	4.00	130.0000	0.75
304	O-RV-R2		200	10.00	6.00	130.0000	0.75
305		217	231	1599.56	6.00	150.0000	0.00
306		231	265	575.39	6.00	150.0000	0.00
307		196	230	1600.00	6.00	150.0000	9.00
308		120	49	1600.00	6.00	150.0000	0.00
309		230	120	2650.00	6.00	150.0000	0.00
310		230	120	2700.00	6.00	150.0000	0.00
311		55	232	1676.90	6.00	150.0000	0.00

312	232	321	2872.09	6.00	150.0000	0.00
313	123	234	926.33	6.00	130.0000	0.00
314	235	73	2079.82	4.00	150.0000	0.00
315	235	236	1753.11	6.00	150.0000	0.00
316	97	237	1988.28	6.00	150.0000	0.00
317	145	238	3439.89	6.00	130.0000	1.50
318	12	14	1423.01	6.00	150.0000	0.00
319	190	16	1800.00	8.00	130.0000	0.00
320	89	192	2100.00	8.00	130.0000	1.50
321	193	276	802.92	6.00	130.0000	3.00
322	286	285	1449.66	10.00	150.0000	0.00
323	194	51	625.00	6.00	130.0000	1.50
324	194	93	3500.00	6.00	150.0000	1.50
325	195	196	1842.36	6.00	150.0000	3.00
326	195	30	1500.00	6.00	130.0000	0.00
327	14	145	626.29	6.00	150.0000	2.30
328	239	107	2786.36	12.00	150.0000	0.00
329	239	240	785.30	6.00	150.0000	9.40
330	240	102	804.73	6.00	150.0000	0.00
331	242	245	620.65	6.00	150.0000	0.00
332	242	243	1354.14	6.00	150.0000	0.00
333	243	124	687.53	6.00	150.0000	0.00
334	O-RV-1	193	2532.31	6.00	150.0000	0.00
335	I-RV-2	125	4437.75	6.00	150.0000	0.00
336-XX	331	115	151.49	6.00	150.0000	0.00
337-XX	333	190	178.62	6.00	150.0000	0.00
339	244	79	918.36	4.00	150.0000	0.00
340	248	238	1271.24	6.00	150.0000	0.00
341	291	167	1686.06	12.00	150.0000	4.00
342	250	211	1623.75	6.00	150.0000	0.00
343	251	219	323.73	6.00	150.0000	0.00
344	251	250	1790.74	6.00	150.0000	0.00
345	192	252	1510.04	6.00	133.7472	0.00
346	190	252	2222.23	6.00	133.7472	0.00
347	252	250	1786.66	6.00	133.7472	0.00
348	253	89	1088.95	10.00	150.0000	0.00
349	253	192	2494.92	6.00	150.0000	2.50
350	198	254	1058.03	6.00	150.0000	0.00
351	254	255	715.41	6.00	150.0000	0.00
352	256	261	1475.59	10.00	150.0000	0.00
353	256	255	268.72	6.00	150.0000	2.00
354	254	257	576.56	6.00	150.0000	0.00
355	257	258	1064.79	6.00	133.7472	0.00
356	258	259	1563.02	6.00	133.7472	0.00
357	259	257	1126.59	6.00	133.7472	0.00
358	260	256	1103.07	10.00	150.0000	0.00
359	259	260	190.36	6.00	150.0000	2.00
360	261	67	2279.79	8.00	150.0000	0.00
361	262	228	739.01	6.00	150.0000	0.00
362	262	263	623.26	6.00	150.0000	0.00
363	263	264	480.37	6.00	150.0000	0.00
364	265	O-RV-2	313.69	6.00	150.0000	0.00
365	263	265	981.23	6.00	150.0000	0.00
366	222	300	498.50	6.00	150.0000	11.40
367	296	266	844.74	6.00	150.0000	0.00
368	267	168	1316.40	6.00	130.0000	0.00
369	267	272	1359.71	6.00	130.0000	7.50
370	268	289	1061.73	6.00	130.0000	0.00
371	269	268	1008.26	6.00	130.0000	0.00
372	269	271	1704.77	6.00	130.0000	3.00
373	271	270	684.10	6.00	130.0000	0.00
374	270	269	1704.42	6.00	130.0000	0.00
375	272	271	792.79	6.00	130.0000	0.00
376	236	74	2481.05	6.00	150.0000	0.00
377	256	274	978.51	6.00	150.0000	7.60
378	273	237	852.00	6.00	150.0000	0.00
379	274	273	1538.58	6.00	150.0000	0.00
380	274	275	450.54	6.00	150.0000	7.60
381	276	268	985.15	6.00	130.0000	0.00
382	277	204	1628.35	4.00	150.0000	0.00
383	277	278	1235.76	6.00	150.0000	0.00
384	278	279	1205.45	6.00	150.0000	0.00
385	278	280	1478.76	6.00	150.0000	0.00

386	289	65	2150.20	6.00	130.0000	0.00
387	281	280	1596.72	6.00	150.0000	0.00
388	282	32	4362.15	6.00	130.0000	0.00
389	283	229	723.00	6.00	150.0000	0.00
390	282	283	1039.85	6.00	130.0000	1.50
391	287	286	489.52	6.00	150.0000	0.00
392	18	288	2203.94	6.00	150.0000	0.00
393	310	205	1040.49	6.00	150.0000	0.00
394	279	310	1346.09	6.00	150.0000	0.00
395	200	288	3927.83	4.00	150.0000	13.50
396	122	332	3782.65	6.00	150.0000	0.00
397	331	17	1651.95	6.00	150.0000	0.00
398	330	172	3865.69	8.00	150.0000	0.00
399	321	233	1289.26	6.00	150.0000	0.00
400	290	339	3581.07	6.00	150.0000	0.00
401	290	291	1310.32	6.00	135.7454	0.00
402	15	338	880.59	12.00	150.0000	0.00
403	292	262	753.68	6.00	150.0000	0.00
404	292	293	949.20	6.00	150.0000	0.00
405	294	288	718.86	10.00	150.0000	0.00
406	293	294	727.50	6.00	150.0000	1.50
407	293	295	514.70	6.00	150.0000	3.00
408	295	297	1965.71	6.00	150.0000	1.50
409	295	264	1212.65	6.00	150.0000	1.50
410	264	297	1133.74	6.00	150.0000	1.50
411	296	298	1188.85	6.00	150.0000	3.80
412	299	296	485.88	6.00	150.0000	0.00
413	273	301	2033.09	6.00	150.0000	22.80
414	266	299	1322.21	6.00	150.0000	0.00
415	266	301	2517.78	6.00	150.0000	0.00
416	301	298	406.56	6.00	150.0000	0.00
417	300	299	1896.99	6.00	150.0000	0.00
418	13	302	379.61	6.00	150.0000	0.00
419	302	303	544.15	6.00	150.0000	0.00
420	302	306	1025.43	6.00	150.0000	0.00
421	304	102	663.55	6.00	150.0000	0.00
422	304	240	258.38	6.00	150.0000	0.00
423	303	309	375.31	6.00	150.0000	0.00
424	303	308	760.28	6.00	150.0000	0.00
425	306	305	590.36	6.00	150.0000	0.00
426	305	304	1426.99	6.00	150.0000	0.00
427	307	304	660.11	6.00	150.0000	0.00
428	305	307	1018.44	6.00	150.0000	0.00
429	308	306	531.76	6.00	150.0000	0.00
430	309	307	1056.64	6.00	150.0000	0.00
431	255	311	888.13	6.00	150.0000	4.00
432	261	67	1971.29	4.00	120.0000	0.00
433	311	261	439.17	6.00	150.0000	0.00
434	312	109	365.33	6.00	130.0000	0.00
435	312	313	497.67	6.00	130.0000	0.00
436	186	315	4737.70	6.00	140.0000	0.00
437	114	315	568.21	6.00	140.0000	0.00
438	315	316	1850.47	6.00	140.0000	0.00
439	316	156	239.08	6.00	140.0000	0.00
440	316	314	5395.46	6.00	140.0000	0.00
441	317	226	905.99	6.00	150.0000	0.00
442	317	318	2336.81	6.00	150.0000	0.00
443	318	206	1716.75	6.00	150.0000	0.00
444	313	110	1422.51	6.00	150.0000	0.00
445	113	156	330.31	6.00	150.0000	0.00
446	319	114	201.93	6.00	150.0000	0.00
447	319	59	481.31	6.00	150.0000	0.00
448	111	59	248.52	6.00	150.0000	0.00
449	330	115	6864.89	8.00	150.0000	0.00
450	233	321	1289.26	6.00	150.0000	0.00
451	321	322	4343.86	6.00	150.0000	0.00
452	323	54	3016.08	6.00	150.0000	0.00
453	322	323	5147.69	6.00	150.0000	0.00
454	322	324	1505.02	6.00	150.0000	0.00
455	142	30	4608.91	6.00	150.0000	0.00
456	325	32	1760.97	6.00	150.0000	0.00
457	325	25	2653.81	6.00	150.0000	0.00
458	326	115	2813.16	10.00	150.0000	0.00

459	326	241	5529.53	6.00	150.0000	16.00
460	327	132	897.92	6.00	150.0000	0.00
461	320	111	190.81	6.00	150.0000	0.00
462	328	109	176.74	6.00	150.0000	0.00
463	328	320	384.90	6.00	150.0000	2.00
464	110	313	348.77	6.00	150.0000	0.00
465	332	122	3795.23	8.00	150.0000	0.00
466	334	190	1378.67	12.00	150.0000	0.00
467	333	338	715.33	6.00	135.7454	0.00
468	2	334	154.83	12.00	150.0000	0.00
469	291	339	3422.44	12.00	150.0000	0.00
470	291	TANK-C	50.00	12.00	150.0000	4.00
471-XX	124	167	3223.11	6.00	150.0000	12.00
472	245	241	735.48	6.00	150.0000	0.00
473	338	339	334.85	12.00	150.0000	0.00
474-XX	245	166	180.91	6.00	150.0000	12.00

P U M P / L O S S   E L E M E N T   D A T A

THERE IS A DEVICE AT NODE            Pump-1 DESCRIBED BY THE FOLLOWING DATA: (ID= 1)

HEAD (ft)	FLOWRATE (gpm)	EFFICIENCY (%)
96.00	0.00	0.00
90.00	500.00	75.00
74.00	800.00	81.00
59.00	1000.00	75.00

THERE IS A DEVICE AT NODE            Pump-2 .....> (ID= 1)

N O D E   D A T A

NODE NAME	NODE TITLE	EXTERNAL DEMAND (gpm)	JUNCTION ELEVATION (ft)	EXTERNAL GRADE (ft)
1	Aldridge Far	1.00	985.00	
2		0.00	980.00	
3		0.00	977.00	
4	US-68 & Bran	0.31	997.00	
5	US-68 @ Oris	3.10	1000.00	
6	Lntrn&oldcoc	7.39	970.00	
7		11.30	1000.00	
8	Lantern Ct	3.95	1020.00	
9		0.74	970.00	
10		2.12	1000.00	
11		4.87	1020.00	
12		2.57	955.00	
13		1.96	927.00	
14		2.57	968.00	
15		1.76	1032.00	
16		2.43	1028.00	
17		16.11	979.00	
18	US68 & Barkl	6.67	955.00	
19	US68 & KY29	2.13	949.00	
20		0.42	870.00	
21		0.59	887.00	
22		0.59	887.00	
23		0.59	877.00	
24		0.59	877.00	
25	Murphy Ln EO	0.59	870.00	
26		0.59	870.00	
27	US68 & CC rd	3.00	936.00	
28		0.00	927.00	
29		0.90	900.00	
30		7.50	898.00	
31		0.00	977.00	



32	Clear&Richar	7.00	875.00
33		0.11	996.00
34		2.76	995.00
35		0.36	900.00
36	Catnip Hill	0.35	990.00
37	end o Sagart	3.30	990.00
38		0.31	984.00
39		2.06	985.00
40		0.50	992.00
41		0.65	986.00
42		1.52	988.00
43		1.43	996.00
44		0.63	970.00
45	BARKLEY EST	5.13	910.00
46		1.39	968.00
47		0.83	991.00
48		6.03	975.00
49		5.50	920.00
50	End of Fores	7.18	986.00
51	Roseglade Fa	2.00	935.00
52	End of Wynfr	4.00	940.00
53		5.00	798.00
54	Pekin & Trot	6.00	914.00
55		2.00	885.00
56		2.50	830.00
57		1.50	830.00
58		1.50	825.00
59	Keene	0.84	920.00
60		1.00	800.00
61		2.00	896.00
62		2.50	865.00
63		1.00	895.00
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64	KY 1267 & Mc	6.00	889.00
65	Clear&KenTro	5.11	873.00
66	Keene 4 way	6.44	905.00
67		0.80	992.00
68		6.18	955.00
69		2.90	955.00
70		3.03	940.00
71		0.00	935.00
72		3.05	950.00
73		5.21	930.00
74		1.40	940.00
75		5.71	940.00
76		0.95	980.00
77	DF & Woods R	8.99	970.00
78	James Ln & D	8.46	928.00
79	James Lane E	5.09	915.00
80		5.49	947.00
81	us68 @ wynfr	0.00	965.00
82	CC Rd @ Chan	3.12	922.00
83	CC Rd @ CCE	3.30	913.00
84	Oldcoh&wdbri	3.50	950.00
85	wynfre&access	2.00	970.00
86		8.40	935.00
87		0.96	990.00
88	Spgcrst&Thou	5.61	995.00
89		0.00	1005.00
90		1.30	970.00
91		1.36	950.00
92	Bellerive ti	1.50	965.00
93	EOL KY 29	1.36	952.00
94		8.00	963.00
95		4.02	990.00
96		0.00	1033.00
97		6.99	958.00
98		0.97	1010.00
99		4.87	1010.00
100		1.20	1020.00
101		6.71	990.00
102		3.26	975.00
103		1.43	965.00
104		3.99	1003.00

105		5.21	1016.00
106		5.61	990.00
107		0.00	950.00
108		1.68	972.00
109	1267 @ Kings	2.51	895.00
110	Kingston	1.10	905.00
111	Keenesway	1.04	922.00
112	King @ Cemet	2.58	931.00
113	Kingston	2.02	935.00
114	Cemetery	0.44	948.00
115		0.39	950.00
116		0.00	961.00
117		0.90	950.00
118		0.70	950.00
119	Champions	11.15	950.00
120	Walden	1.75	900.00
121		1.00	950.00
122		1.00	980.00
123	Mattews Ln	1.00	950.00
124	Rhinehammer	0.00	1000.00
125	KY 169	1.25	940.00
126	10"PRV upstr	0.00	970.00
127		2.70	950.00
128		0.10	955.00
129		1.20	935.00
130		0.00	890.00
131	Drakes Ln EO	1.20	935.00
132	Tankersly	2.00	830.00
133		0.00	810.00
134		4.50	885.00
135		0.00	975.00
136		2.00	955.00
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137	10"PRV dnstr	0.00	970.00
138		0.00	970.00
139	BELLARIVE PL	2.00	970.00
140		2.00	965.00
141	ICHTHUS & 68	1.00	850.00
142	ICHTHUS	2.50	885.00
143		2.00	958.00
144		6.50	885.00
145	Bran @ Chris	1.38	960.00
146		2.00	935.00
147		2.00	940.00
148		1.00	950.00
149	US 68	0.00	940.00
150	CCE unit 1	3.30	925.00
151	CCE unit2	3.90	901.00
152		4.00	927.00
153		0.00	927.00
154		1.50	950.00
155	PRV2	0.00	970.00
156	1267 @ Canad	2.00	898.00
157	KY1267 EOL	2.00	840.00
158	End of Ponde	5.90	1000.00
159	End of Tashm	4.64	940.00
160		10.00	941.00
161	Hawks Pt & D	4.55	905.00
162		4.00	975.00
163		1.00	960.00
164		1.00	958.00
165	12" Cambrige	5.95	972.00
166	Rhinehammer	4.00	990.00
167		0.50	995.00
168		0.00	880.00
169		5.00	880.00
170	KT @ Liberty	3.00	890.00
171	KT @ Liberty	3.00	890.00
172	catnip @ 68	0.00	1020.00
173	Stirling Est	4.55	850.00
174	S. Elk Rd @	2.00	985.00
175	Wind Haven &	1.75	945.00
176	Windward Way	3.00	970.00
177	Windy Knoll	3.00	950.00

178	PRV1	0.00	875.00
179	Woods Rd Est	3.10	891.00
180	Longnecker F	0.50	920.00
181	Parker & Del	3.50	895.00
182	End of Parke	3.85	915.00
183	Windy Knoll	2.00	975.00
184	Wind Haven D	3.00	960.00
185	12"-8" Cambr	0.00	963.00
186	Woods Rd @ 1	2.00	925.00
187	Clear Ck @ 1	0.30	925.00
188	Pannel Ext.	0.50	955.00
189	W.Brannon @	3.60	1005.00
190	US68 & Harod	0.00	998.00
191	W.Brannon @	2.70	985.00
192	Steel Estate	7.00	1028.00
193	EOL Clear Ck	1.50	850.00
194	Bicknell Ln	0.00	920.00
195	McCauly & US	0.75	898.00
196	McCaulley rd	1.05	910.00
197	W.Brannon @	4.20	1003.00
198	W.Brannon @	2.70	975.00
199	Foaling Rg	3.00	985.00
200	dwnstrm PRV	0.00	970.00
201	dwnstrm PRV	0.00	875.00
202		2.40	980.00
203	KTroy @ Colo	3.90	870.00
204		4.20	850.00
205	Colonial Est	7.20	850.00
206	Colonial Est	4.50	840.00
207	Widows Watch	0.00	980.00
208		0.00	990.00
209		0.00	990.00
210		0.34	960.00
211	Keene Manor	6.00	1010.00
212	Keene Manor	7.50	960.00
213	CCE unit 2	1.50	860.00
214	Chandamere	4.50	919.00
215	Chandamere	4.50	910.00
216	US 68 @ Bark	0.00	935.00
217	Bark Woods	3.85	960.00
218	Sgate@Deerfi	6.30	920.00
219	Perkins	0.00	980.00
220	Cambridge Ea	4.40	970.00
221	Cambridge Ea	4.00	976.00
222	Windhaven@KY	0.90	985.00
223	Wind Hav @ W	3.00	975.00
224	Windward@Woo	3.90	980.00
225	Hollaway	4.50	920.00
226	KY1267 from	0.00	885.00
227	Hollaway Est	2.10	890.00
228	Stonegate@St	5.45	921.00
229	Hollaway Est	3.00	870.00
230	Walden	2.80	875.00
231	tugger cul d	2.80	905.00
232	Hagin @ Peki	0.70	871.00
233	Hagin EOL	1.75	940.00
234		1.00	950.00
235	Del Woods	1.00	945.00
236	Lot 20 DW	0.00	935.00
237	Emerald Est	3.85	965.00
238	Chris Haven	1.38	1030.00
239	Morgan @ Bel	3.60	960.00
240	Morgan Dr	1.50	975.00
241	FH on Ramsey	0.00	980.00
242		0.00	930.00
243		0.00	980.00
244		0.00	950.00
245		0.00	930.00
248	EOL Chris Ha	7.00	1002.00
250		12.00	1000.00
251		3.90	980.00
252	Harrods Ridg	10.00	1020.00
253		4.00	1020.00

254		4.00	989.00
255	W. Brannon L	3.00	984.00
256	KY1267	0.00	980.00
257	Eq Lakes	5.00	980.00
258		7.00	1003.00
259		4.40	970.00
260		0.00	970.00
261		0.00	935.00
262	BW	4.00	935.00
263	BW unit 7	4.00	930.00
264	BW unit 7	4.00	935.00
265	BW unit 7	0.00	895.00
266	Cambrig Nort	5.20	950.00
267	Cave Run @ K	0.00	855.00
268	Clear Cr Tie	0.00	825.00
269	Cave Run Cr	4.00	855.00
270	Cave Run Cr	3.00	900.00
271	Cave Run Cr	4.00	880.00
272	Cave Run Blv	5.50	855.00
273	Renaissance	6.00	940.00
274	Renasnce	3.50	946.00
275	Renasance	2.00	953.00
276		0.00	820.00
277	K-T @ The Oa	0.00	863.00
278	The Oaks	4.50	835.00
279	The Oaks	5.50	820.00
280	The Oaks	6.00	830.00
281	The Oaks	5.50	830.00
282	Clear C @ Ho	1.50	920.00
283	Holloway	0.00	880.00
284		0.00	940.00
285		0.00	940.00
286	US 68 @ KY 2	0.00	950.00
287	KY 29	0.00	960.00
288		4.20	925.00
289		0.00	875.00
290	Forest Hills	7.30	1020.00
291	Forest Hills	2.80	1016.00
292	BW	0.00	915.00
293	Bw7	2.00	940.00
294	BW7 @ US68	0.00	900.00
295	BW7	3.60	953.00
296	Cambrig Nort	2.80	950.00
297	BW7	4.00	905.00
298	Cambrig Nort	4.00	990.00
299	Cambrig Nort	7.20	955.00
300	Cambrig Nort	0.00	1007.00
301	Cambrig Nort	0.00	986.00
302	Clays xing	4.20	950.00
303	Clays xing	4.20	950.00
304	Clays xing	4.62	975.00
305	Clays xing	6.30	976.00
306	Clays xing	4.20	980.00
307	Clays xing	7.14	950.00
308	Clays xing	4.20	975.00
309	Clays xing	6.30	950.00
310		0.00	840.00
311	The Lakes II	5.04	960.00
312	1267 @ Cush	0.42	895.00
313	Cushingberry	0.84	910.00
314		0.00	950.00
315	Cemetery@169	0.63	923.00
316	Keene 1267 @	0.00	911.00
317	1267@Ebeneze	0.00	857.00
318	Ebenezer Chu	0.42	810.00
319	Keene	1.89	930.00
320	Kingston @ K	0.42	915.00
321	Hagin Ln Pek	0.42	920.00
322	Pekin Ln	0.84	745.00
323	KY 33 Pekin	0.42	810.00
324	Pekin Ln EOL	1.26	850.00
325	Clear Creek	0.00	920.00
326	KY 169 Rhine	1.25	930.00

327		0.42	870.00	
328	1267 in Keen	0.42	895.00	
329		0.42	970.00	
330		0.00	950.00	
331		0.00	958.00	
332		0.00	985.00	
333		0.00	998.00	
334		0.00	980.00	
338		0.00	1000.00	
339		0.00	1000.00	
O-AV-1	Altitude Val	0.00	1032.00	
FGN-BB		----	955.00	1139.00
I-Pump-1	perless 1240	0.00	990.00	
I-Pump-2	perless 1240	0.00	990.00	
R-1	KAWC Tank	----	985.00	1174.00
I-RV-1		0.00	920.00	
I-RV-2	Barkley W. P	0.00	890.00	
I-RV-R1	Keene PRV	0.00	875.00	
I-RV-R2	US 68 PRV	0.00	970.00	
TANK-A	Old Tank	----	1032.00	1168.00
TANK-B	New Tank - P	----	1005.00	1167.80
TANK-C	Chinkapin Ta	----	1025.00	1168.00
O-Pump-1	perless 1240	0.00	990.00	
O-Pump-2	perless 1240	0.00	990.00	
I-AV-1	Altitude Val	0.00	1032.00	
O-RV-R1	Keene PRV	----	875.00	1090.08
O-RV-R2	US 68 PRV	----	970.00	1090.00
O-RV-1		----	920.00	1089.85
O-RV-2	Barkley W. P	----	890.00	1090.08

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OUTPUT OPTION DATA

OUTPUT SELECTION: THE FOLLOWING RESULTS ARE INCLUDED IN THE TABULATED OUTPUT

ALL CLOSED PIPES ARE NOTED  
ALL PIPES WITH PUMPS

FOLLOWING PIPES

11  
12  
15  
18  
20  
22  
35  
36  
76  
77  
79  
80  
86  
87  
92  
94  
96  
108  
124  
134  
185  
224  
251  
255  
257  
263  
278  
281  
286  
296  
336  
382  
395

396  
432  
471  
474

FOLLOWING JUNCTION NODES

36  
66  
79  
131  
157  
173  
182  
217  
233

MAXIMUM AND MINIMUM PRESSURES = 10  
MAXIMUM AND MINIMUM HEAD LOSS/1000 = 5

E P S D A T A

TOTAL TIME FOR SIMULATION = 71.000  
NORMAL TIME PERIOD FOR CALCULATIONS = 0.250  
NORMAL TIME PERIOD FOR TABULATED OUTPUT = 1.000  
NORMAL TIME PERIOD FOR POSTPROCESSING FILE = 0.250

EPS OUTPUT SELECTION: THE ABOVE TABULATED OUTPUT OPTIONS ARE INCLUDED  
WITH THE FOLLOWING EXTENDED PERIOD PRINT OPTIONS

INTERMEDIATE REPORTS (tank status, flow meter, regulating valve, etc.)  
SUPPRESSED FOR ALL INTERMEDIATE TIME PERIODS  
SUPPRESSED FOR ALL STATUS CHANGES (tanks, pressure switches, etc.)

V A R I A B L E H E A D T A N K D A T A

TANK NAME (* )	MAXIMUM ELEVATION (ft)	MINIMUM ELEVATION (ft)	TANK CAPACITY (gal)	INITIAL VOLUME (gal)	EXTERNAL FLOW (gpm)
TANK-A (1)	1169.20	1153.00	54826.	50765.	0.00
TANK-B (1)	1171.00	1135.00	528802.	481798.	0.00
TANK-C (1)	1171.00	1133.00	1094032.	1007662.	0.00

\* TANK TYPE: (1) - CONSTANT DIAMETER (2) - VARIABLE AREA

P R E S S U R E S W I T C H D A T A

REFERENCE ELEMENT	REFERENCE NODE	SWITCHING GRADES (ft)
Pump-1	89	1162.00 & 1170.00
Pump-1	291	1162.00 & 1170.00
AV-1	15	1155.00 & 1168.00

S Y S T E M C O N F I G U R A T I O N

NUMBER OF PIPES ..... (p) = 473  
NUMBER OF END NODES ..... (j) = 338  
NUMBER OF PRIMARY LOOPS ..... (l) = 131  
NUMBER OF SUPPLY NODES ..... (f) = 5  
NUMBER OF SUPPLY ZONES ..... (z) = 1

PUMP REPORT

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P U M P / L O S S   E L E M E N T   D A T A

THERE IS A DEVICE AT NODE            Pump-1 DESCRIBED BY THE FOLLOWING DATA: (ID= 1)

HEAD (ft)	FLOWRATE (gpm)	EFFICIENCY (%)
96.00	0.00	0.00
90.00	500.00	75.00
74.00	800.00	81.00
59.00	1000.00	75.00

THERE IS A DEVICE AT NODE            Pump-2 .....> (ID= 1)

TIME FROM INITIATION OF EPS =    0.0000 HOURS

TIME FROM INITIATION OF EPS =    0.0001 HOURS

P U M P / L O S S   E L E M E N T   R E S U L T S

NPSH Avail.	NAME	FLOWRATE (gpm)	INLET HEAD (ft)	OUTLET HEAD (ft)	PUMP HEAD (ft)	EFFIC- ENCY (%)	USEFUL POWER (Hp)	INCREMTL COST (\$)	TOTAL COST (\$)	#PUMPS PARALLEL	#PUMPS SERIES
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216.2    Pump-1 IS OPERATING OUT OF RANGE ....  
 Pump-1    1291.15    183.24    218.87    35.6    44.82            12.    0.0    0.0    \*\*    \*\*

216.2    Device    Pump-1 IS OPERATING OUT OF RANGE ....  
 Pump-1    1289.95    183.25    218.97    35.7    44.99            12.    0.0    0.0    \*\*    \*\*

216.3    Device    Pump-1 IS OPERATING OUT OF RANGE ....  
 Pump-1    1276.97    183.26    220.03    36.8    46.88            12.    0.2    1.0    \*\*    \*\*

- TIME FROM INITIATION OF EPS =    0.2500 HOURS
- TIME FROM INITIATION OF EPS =    0.5000 HOURS
- TIME FROM INITIATION OF EPS =    0.7500 HOURS
- TIME FROM INITIATION OF EPS =    1.0000 HOURS
- TIME FROM INITIATION OF EPS =    1.2500 HOURS
- TIME FROM INITIATION OF EPS =    1.5000 HOURS
- TIME FROM INITIATION OF EPS =    1.7500 HOURS
- TIME FROM INITIATION OF EPS =    2.0000 HOURS
- TIME FROM INITIATION OF EPS =    2.2500 HOURS
- TIME FROM INITIATION OF EPS =    2.5000 HOURS
- TIME FROM INITIATION OF EPS =    2.7500 HOURS



TIME FROM INITIATION OF EPS = 3.0000 HOURS  
TIME FROM INITIATION OF EPS = 3.2500 HOURS  
TIME FROM INITIATION OF EPS = 3.5000 HOURS  
TIME FROM INITIATION OF EPS = 3.7500 HOURS  
TIME FROM INITIATION OF EPS = 4.0000 HOURS  
TIME FROM INITIATION OF EPS = 4.2500 HOURS  
TIME FROM INITIATION OF EPS = 4.5000 HOURS  
TIME FROM INITIATION OF EPS = 4.7500 HOURS  
TIME FROM INITIATION OF EPS = 5.0000 HOURS  
TIME FROM INITIATION OF EPS = 5.2500 HOURS  
TIME FROM INITIATION OF EPS = 5.5000 HOURS  
TIME FROM INITIATION OF EPS = 5.7500 HOURS  
TIME FROM INITIATION OF EPS = 6.0000 HOURS  
TIME FROM INITIATION OF EPS = 6.2500 HOURS  
TIME FROM INITIATION OF EPS = 6.5000 HOURS  
TIME FROM INITIATION OF EPS = 6.7500 HOURS  

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TIME FROM INITIATION OF EPS = 7.0000 HOURS  
TIME FROM INITIATION OF EPS = 7.2500 HOURS  
TIME FROM INITIATION OF EPS = 7.5000 HOURS  
TIME FROM INITIATION OF EPS = 7.5000 HOURS  
TIME FROM INITIATION OF EPS = 7.7500 HOURS  
TIME FROM INITIATION OF EPS = 8.0000 HOURS  
TIME FROM INITIATION OF EPS = 8.2500 HOURS  
TIME FROM INITIATION OF EPS = 8.5000 HOURS  
TIME FROM INITIATION OF EPS = 8.7500 HOURS  
TIME FROM INITIATION OF EPS = 9.0000 HOURS  
TIME FROM INITIATION OF EPS = 9.2500 HOURS  
TIME FROM INITIATION OF EPS = 9.5000 HOURS  
TIME FROM INITIATION OF EPS = 9.7500 HOURS  
TIME FROM INITIATION OF EPS = 10.0000 HOURS  
TIME FROM INITIATION OF EPS = 10.2500 HOURS  
TIME FROM INITIATION OF EPS = 10.5000 HOURS  
TIME FROM INITIATION OF EPS = 10.7500 HOURS  
TIME FROM INITIATION OF EPS = 11.0000 HOURS  
TIME FROM INITIATION OF EPS = 11.2500 HOURS  
TIME FROM INITIATION OF EPS = 11.5000 HOURS  
TIME FROM INITIATION OF EPS = 11.7500 HOURS

TIME FROM INITIATION OF EPS = 12.0000 HOURS  
 TIME FROM INITIATION OF EPS = 12.2500 HOURS  
 TIME FROM INITIATION OF EPS = 12.5000 HOURS  
 TIME FROM INITIATION OF EPS = 12.7500 HOURS  
 TIME FROM INITIATION OF EPS = 13.0000 HOURS  
 TIME FROM INITIATION OF EPS = 13.2500 HOURS  
 TIME FROM INITIATION OF EPS = 13.5000 HOURS  
 TIME FROM INITIATION OF EPS = 13.7500 HOURS  
 TIME FROM INITIATION OF EPS = 14.0000 HOURS  
 TIME FROM INITIATION OF EPS = 14.2500 HOURS  
 TIME FROM INITIATION OF EPS = 14.5000 HOURS  
 TIME FROM INITIATION OF EPS = 14.7500 HOURS  
 TIME FROM INITIATION OF EPS = 15.0000 HOURS  
 TIME FROM INITIATION OF EPS = 15.2500 HOURS  
 TIME FROM INITIATION OF EPS = 15.5000 HOURS  
 TIME FROM INITIATION OF EPS = 15.7500 HOURS

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TIME FROM INITIATION OF EPS = 16.0000 HOURS  
 TIME FROM INITIATION OF EPS = 16.2500 HOURS  
 TIME FROM INITIATION OF EPS = 16.5000 HOURS  
 TIME FROM INITIATION OF EPS = 16.7500 HOURS  
 TIME FROM INITIATION OF EPS = 17.0000 HOURS  
 TIME FROM INITIATION OF EPS = 17.2500 HOURS  
 TIME FROM INITIATION OF EPS = 17.5000 HOURS  
 TIME FROM INITIATION OF EPS = 17.7500 HOURS  
 TIME FROM INITIATION OF EPS = 18.0000 HOURS  
 TIME FROM INITIATION OF EPS = 18.2500 HOURS  
 TIME FROM INITIATION OF EPS = 18.5000 HOURS  
 TIME FROM INITIATION OF EPS = 18.5000 HOURS  
 TIME FROM INITIATION OF EPS = 18.7500 HOURS

TIME FROM INITIATION OF EPS = 19.0000 HOURS  
 Device Pump-1 IS OPERATING OUT OF RANGE ....  
 Pump-1 1496.13 183.01 202.18 19.2 8.31 7. 0.8 2.8 \*\* \*\*  
 15.9

TIME FROM INITIATION OF EPS = 19.2500 HOURS  
 TIME FROM INITIATION OF EPS = 19.5000 HOURS  
 TIME FROM INITIATION OF EPS = 19.7500 HOURS

TIME FROM INITIATION OF EPS = 20.0000 HOURS  
 Device Pump-1 IS OPERATING OUT OF RANGE ....  
 Pump-1 1468.18 183.04 204.46 21.4 14.03 8. 0.9 6.1 \*\* \*\*

210.0

TIME FROM INITIATION OF EPS = 20.2500 HOURS

TIME FROM INITIATION OF EPS = 20.5000 HOURS

TIME FROM INITIATION OF EPS = 20.7500 HOURS

TIME FROM INITIATION OF EPS = 21.0000 HOURS

Device Pump-1 IS OPERATING OUT OF RANGE ....

Pump-1 1429.57 183.09 207.60 24.5 21.55 9. 0.5 8.2 \*\* \*\*

216.0

TIME FROM INITIATION OF EPS = 21.2500 HOURS

TIME FROM INITIATION OF EPS = 21.5000 HOURS

TIME FROM INITIATION OF EPS = 21.7500 HOURS

TIME FROM INITIATION OF EPS = 22.0000 HOURS

Device Pump-1 IS OPERATING OUT OF RANGE ....

Pump-1 1403.91 183.12 209.69 26.6 26.29 9. 0.4 9.8 \*\* \*\*

216.1

TIME FROM INITIATION OF EPS = 22.2500 HOURS

TIME FROM INITIATION OF EPS = 22.5000 HOURS

TIME FROM INITIATION OF EPS = 22.7500 HOURS

TIME FROM INITIATION OF EPS = 23.0000 HOURS

Device Pump-1 IS OPERATING OUT OF RANGE ....

Pump-1 1397.27 183.13 210.23 27.1 27.49 10. 0.3 11.1 \*\* \*\*

216.1

TIME FROM INITIATION OF EPS = 23.2500 HOURS

TIME FROM INITIATION OF EPS = 23.5000 HOURS

TIME FROM INITIATION OF EPS = 23.7500 HOURS

TIME FROM INITIATION OF EPS = 24.0000 HOURS

Device Pump-1 IS OPERATING OUT OF RANGE ....

Pump-1 1317.60 183.22 216.72 33.5 40.81 11. 0.3 12.4 \*\* \*\*

216.2

TIME FROM INITIATION OF EPS = 24.2500 HOURS

TIME FROM INITIATION OF EPS = 24.5000 HOURS

TIME FROM INITIATION OF EPS = 24.7500 HOURS

TIME FROM INITIATION OF EPS = 25.0000 HOURS

Device Pump-1 IS OPERATING OUT OF RANGE ....

Pump-1 1305.15 183.23 217.73 34.5 42.72 11. 0.2 13.4 \*\* \*\*

216.2

TIME FROM INITIATION OF EPS = 25.2500 HOURS

TIME FROM INITIATION OF EPS = 25.5000 HOURS

TIME FROM INITIATION OF EPS = 25.7500 HOURS

TIME FROM INITIATION OF EPS = 26.0000 HOURS

Device Pump-1 IS OPERATING OUT OF RANGE ....

Pump-1 1293.19 183.24 218.71 35.5 44.51 12. 0.2 14.3 \*\* \*\*

216.2

TIME FROM INITIATION OF EPS = 26.2500 HOURS

TIME FROM INITIATION OF EPS = 26.5000 HOURS

TIME FROM INITIATION OF EPS = 26.7500 HOURS

TIME FROM INITIATION OF EPS = 26.7500 HOURS  
TIME FROM INITIATION OF EPS = 26.7500 HOURS  
TIME FROM INITIATION OF EPS = 27.0000 HOURS  
TIME FROM INITIATION OF EPS = 27.2500 HOURS  
TIME FROM INITIATION OF EPS = 27.5000 HOURS  
TIME FROM INITIATION OF EPS = 27.7500 HOURS  
TIME FROM INITIATION OF EPS = 28.0000 HOURS  
TIME FROM INITIATION OF EPS = 28.2500 HOURS  
TIME FROM INITIATION OF EPS = 28.2500 HOURS  
TIME FROM INITIATION OF EPS = 28.5000 HOURS  
TIME FROM INITIATION OF EPS = 28.7500 HOURS  
TIME FROM INITIATION OF EPS = 29.0000 HOURS  
TIME FROM INITIATION OF EPS = 29.2500 HOURS  
TIME FROM INITIATION OF EPS = 29.5000 HOURS  
TIME FROM INITIATION OF EPS = 29.7500 HOURS  
TIME FROM INITIATION OF EPS = 30.0000 HOURS  

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TIME FROM INITIATION OF EPS = 30.2500 HOURS  
TIME FROM INITIATION OF EPS = 30.2500 HOURS  
TIME FROM INITIATION OF EPS = 30.5000 HOURS  
TIME FROM INITIATION OF EPS = 30.7500 HOURS  
TIME FROM INITIATION OF EPS = 31.0000 HOURS  
TIME FROM INITIATION OF EPS = 31.2500 HOURS  
TIME FROM INITIATION OF EPS = 31.5000 HOURS  
TIME FROM INITIATION OF EPS = 31.7500 HOURS  
TIME FROM INITIATION OF EPS = 32.0000 HOURS  
TIME FROM INITIATION OF EPS = 32.2500 HOURS  
TIME FROM INITIATION OF EPS = 32.5000 HOURS  
TIME FROM INITIATION OF EPS = 32.7500 HOURS  
TIME FROM INITIATION OF EPS = 33.0000 HOURS  
TIME FROM INITIATION OF EPS = 33.2500 HOURS  
TIME FROM INITIATION OF EPS = 33.5000 HOURS  
TIME FROM INITIATION OF EPS = 33.7500 HOURS  
TIME FROM INITIATION OF EPS = 34.0000 HOURS  
TIME FROM INITIATION OF EPS = 34.2500 HOURS  
TIME FROM INITIATION OF EPS = 34.5000 HOURS  
TIME FROM INITIATION OF EPS = 34.7500 HOURS

TIME FROM INITIATION OF EPS = 35.0000 HOURS  
TIME FROM INITIATION OF EPS = 35.2500 HOURS  
TIME FROM INITIATION OF EPS = 35.5000 HOURS  
TIME FROM INITIATION OF EPS = 35.7500 HOURS  
TIME FROM INITIATION OF EPS = 36.0000 HOURS  
TIME FROM INITIATION OF EPS = 36.2500 HOURS  
TIME FROM INITIATION OF EPS = 36.5000 HOURS  
TIME FROM INITIATION OF EPS = 36.7500 HOURS  
TIME FROM INITIATION OF EPS = 37.0000 HOURS  
TIME FROM INITIATION OF EPS = 37.2500 HOURS  
TIME FROM INITIATION OF EPS = 37.5000 HOURS  
TIME FROM INITIATION OF EPS = 37.5000 HOURS  
TIME FROM INITIATION OF EPS = 37.7500 HOURS

TIME FROM INITIATION OF EPS = 38.0000 HOURS  
Device Pump-1 IS OPERATING OUT OF RANGE ....  
Pump-1 1399.94 183.12 210.02 26.9 27.01 10. 0.4 16.1 \*\* \*\*  
216.1

TIME FROM INITIATION OF EPS = 38.2500 HOURS

TIME FROM INITIATION OF EPS = 38.5000 HOURS

TIME FROM INITIATION OF EPS = 38.7500 HOURS

TIME FROM INITIATION OF EPS = 39.0000 HOURS  
Device Pump-1 IS OPERATING OUT OF RANGE ....  
Pump-1 1393.32 183.13 210.56 27.4 28.20 10. 0.3 17.4 \*\* \*\*  
216.1

TIME FROM INITIATION OF EPS = 39.2500 HOURS

TIME FROM INITIATION OF EPS = 39.5000 HOURS

TIME FROM INITIATION OF EPS = 39.7500 HOURS

TIME FROM INITIATION OF EPS = 40.0000 HOURS  
Device Pump-1 IS OPERATING OUT OF RANGE ....  
Pump-1 1386.92 183.14 211.08 27.9 29.33 10. 0.3 18.7 \*\* \*\*  
216.1

TIME FROM INITIATION OF EPS = 40.2500 HOURS

TIME FROM INITIATION OF EPS = 40.5000 HOURS

TIME FROM INITIATION OF EPS = 40.7500 HOURS

TIME FROM INITIATION OF EPS = 41.0000 HOURS  
Device Pump-1 IS OPERATING OUT OF RANGE ....  
Pump-1 1420.39 183.10 208.35 25.3 23.27 9. 0.3 19.9 \*\* \*\*  
16.0

TIME FROM INITIATION OF EPS = 41.2500 HOURS

TIME FROM INITIATION OF EPS = 41.5000 HOURS

TIME FROM INITIATION OF EPS = 41.7500 HOURS

TIME FROM INITIATION OF EPS = 42.0000 HOURS  
Device Pump-1 IS OPERATING OUT OF RANGE ....  
Pump-1 1471.26 183.04 204.21 21.2 13.41 8. 0.4 21.4 \*\* \*\*

216.0

TIME FROM INITIATION OF EPS = 42.2500 HOURS

TIME FROM INITIATION OF EPS = 42.5000 HOURS

TIME FROM INITIATION OF EPS = 42.7500 HOURS

TIME FROM INITIATION OF EPS = 43.0000 HOURS

Device Pump-1 IS OPERATING OUT OF RANGE ....

Pump-1	1477.00	183.03	203.74	20.7	12.25	8.	0.6	23.6	**	**
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216.0

TIME FROM INITIATION OF EPS = 43.2500 HOURS

TIME FROM INITIATION OF EPS = 43.5000 HOURS

TIME FROM INITIATION OF EPS = 43.7500 HOURS

TIME FROM INITIATION OF EPS = 44.0000 HOURS

Device Pump-1 IS OPERATING OUT OF RANGE ....

Pump-1	1449.49	183.06	205.98	22.9	17.72	8.	0.6	26.1	**	**
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216.0

TIME FROM INITIATION OF EPS = 44.2500 HOURS

TIME FROM INITIATION OF EPS = 44.5000 HOURS

TIME FROM INITIATION OF EPS = 44.7500 HOURS

TIME FROM INITIATION OF EPS = 45.0000 HOURS

Device Pump-1 IS OPERATING OUT OF RANGE ....

Pump-1	1412.56	183.11	208.99	25.9	24.72	9.	0.4	27.8	**	**
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216.1

TIME FROM INITIATION OF EPS = 45.2500 HOURS

TIME FROM INITIATION OF EPS = 45.5000 HOURS

TIME FROM INITIATION OF EPS = 45.7500 HOURS

TIME FROM INITIATION OF EPS = 46.0000 HOURS

Device Pump-1 IS OPERATING OUT OF RANGE ....

Pump-1	1387.40	183.14	211.04	27.9	29.24	10.	0.3	29.2	**	**
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216.1

TIME FROM INITIATION OF EPS = 46.2500 HOURS

TIME FROM INITIATION OF EPS = 46.5000 HOURS

TIME FROM INITIATION OF EPS = 46.7500 HOURS

TIME FROM INITIATION OF EPS = 47.0000 HOURS

Device Pump-1 IS OPERATING OUT OF RANGE ....

Pump-1	1380.97	183.14	211.56	28.4	30.37	10.	0.3	30.4	**	**
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216.1

TIME FROM INITIATION OF EPS = 47.2500 HOURS

TIME FROM INITIATION OF EPS = 47.5000 HOURS

TIME FROM INITIATION OF EPS = 47.7500 HOURS

TIME FROM INITIATION OF EPS = 48.0000 HOURS

Device Pump-1 IS OPERATING OUT OF RANGE ....

Pump-1	1302.23	183.23	217.97	34.7	43.16	11.	0.3	31.6	**	**
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1

TIME FROM INITIATION OF EPS = 48.2500 HOURS

TIME FROM INITIATION OF EPS = 48.5000 HOURS

TIME FROM INITIATION OF EPS = 48.7500 HOURS

TIME FROM INITIATION OF EPS = 49.0000 HOURS  
Device Pump-1 IS OPERATING OUT OF RANGE ....  
Pump-1 1289.90 183.25 218.97 35.7 45.00 12. 0.2 32.6 \*\* \*\*  
216.2

TIME FROM INITIATION OF EPS = 49.0000 HOURS  
Device Pump-1 IS OPERATING OUT OF RANGE ....  
Pump-1 1288.88 183.25 219.06 35.8 45.15 12. 0.2 32.9 \*\* \*\*  
216.2

TIME FROM INITIATION OF EPS = 49.2500 HOURS

TIME FROM INITIATION OF EPS = 49.5000 HOURS

TIME FROM INITIATION OF EPS = 49.5000 HOURS

TIME FROM INITIATION OF EPS = 49.7500 HOURS

TIME FROM INITIATION OF EPS = 50.0000 HOURS

TIME FROM INITIATION OF EPS = 50.2500 HOURS

TIME FROM INITIATION OF EPS = 50.5000 HOURS

TIME FROM INITIATION OF EPS = 50.7500 HOURS

TIME FROM INITIATION OF EPS = 51.0000 HOURS

TIME FROM INITIATION OF EPS = 51.2500 HOURS

TIME FROM INITIATION OF EPS = 51.5000 HOURS

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TIME FROM INITIATION OF EPS = 51.7500 HOURS

TIME FROM INITIATION OF EPS = 52.0000 HOURS

TIME FROM INITIATION OF EPS = 52.2500 HOURS

TIME FROM INITIATION OF EPS = 52.5000 HOURS

TIME FROM INITIATION OF EPS = 52.7500 HOURS

TIME FROM INITIATION OF EPS = 53.0000 HOURS

TIME FROM INITIATION OF EPS = 53.2500 HOURS

TIME FROM INITIATION OF EPS = 53.5000 HOURS

TIME FROM INITIATION OF EPS = 53.7500 HOURS

TIME FROM INITIATION OF EPS = 54.0000 HOURS

TIME FROM INITIATION OF EPS = 54.2500 HOURS

TIME FROM INITIATION OF EPS = 54.5000 HOURS

TIME FROM INITIATION OF EPS = 54.7500 HOURS

TIME FROM INITIATION OF EPS = 55.0000 HOURS

TIME FROM INITIATION OF EPS = 55.0000 HOURS

TIME FROM INITIATION OF EPS = 55.2500 HOURS

TIME FROM INITIATION OF EPS = 55.5000 HOURS

TIME FROM INITIATION OF EPS = 55.7500 HOURS

TIME FROM INITIATION OF EPS = 56.0000 HOURS

TIME FROM INITIATION OF EPS = 56.2500 HOURS

TIME FROM INITIATION OF EPS = 56.5000 HOURS  
TIME FROM INITIATION OF EPS = 56.7500 HOURS  
TIME FROM INITIATION OF EPS = 57.0000 HOURS  
TIME FROM INITIATION OF EPS = 57.2500 HOURS  
TIME FROM INITIATION OF EPS = 57.5000 HOURS  
TIME FROM INITIATION OF EPS = 57.7500 HOURS  
TIME FROM INITIATION OF EPS = 58.0000 HOURS  
TIME FROM INITIATION OF EPS = 58.2500 HOURS  
TIME FROM INITIATION OF EPS = 58.5000 HOURS  
TIME FROM INITIATION OF EPS = 58.7500 HOURS  
TIME FROM INITIATION OF EPS = 59.0000 HOURS  
TIME FROM INITIATION OF EPS = 59.2500 HOURS  
TIME FROM INITIATION OF EPS = 59.5000 HOURS  
TIME FROM INITIATION OF EPS = 59.7500 HOURS  
TIME FROM INITIATION OF EPS = 60.0000 HOURS  
TIME FROM INITIATION OF EPS = 60.2500 HOURS  
~~TIME FROM INITIATION OF EPS = 60.5000 HOURS~~  
TIME FROM INITIATION OF EPS = 60.7500 HOURS  
TIME FROM INITIATION OF EPS = 61.0000 HOURS  
TIME FROM INITIATION OF EPS = 61.2500 HOURS  
TIME FROM INITIATION OF EPS = 61.5000 HOURS  
TIME FROM INITIATION OF EPS = 61.7500 HOURS  
TIME FROM INITIATION OF EPS = 62.0000 HOURS  
TIME FROM INITIATION OF EPS = 62.2500 HOURS  
TIME FROM INITIATION OF EPS = 62.5000 HOURS  
TIME FROM INITIATION OF EPS = 62.7500 HOURS  
TIME FROM INITIATION OF EPS = 63.0000 HOURS  
TIME FROM INITIATION OF EPS = 63.2500 HOURS  
TIME FROM INITIATION OF EPS = 63.5000 HOURS  
TIME FROM INITIATION OF EPS = 63.7500 HOURS  
TIME FROM INITIATION OF EPS = 64.0000 HOURS  
TIME FROM INITIATION OF EPS = 64.2500 HOURS  
TIME FROM INITIATION OF EPS = 64.5000 HOURS  
TIME FROM INITIATION OF EPS = 64.7500 HOURS  
TIME FROM INITIATION OF EPS = 65.0000 HOURS  
TIME FROM INITIATION OF EPS = 65.2500 HOURS  
TIME FROM INITIATION OF EPS = 65.5000 HOURS



TIME FROM INITIATION OF EPS = 65.7500 HOURS  
 TIME FROM INITIATION OF EPS = 66.0000 HOURS  
 TIME FROM INITIATION OF EPS = 66.2500 HOURS  
 TIME FROM INITIATION OF EPS = 66.2500 HOURS  
 TIME FROM INITIATION OF EPS = 66.5000 HOURS  
 TIME FROM INITIATION OF EPS = 66.7500 HOURS  
 TIME FROM INITIATION OF EPS = 67.0000 HOURS  
 Device Pump-1 IS OPERATING OUT OF RANGE ....  
 Pump-1 1499.64 183.00 201.90 18.9 7.58 7. 0.9 36.1 \*\* \*\*  
 215.9  
 TIME FROM INITIATION OF EPS = 67.2500 HOURS  
 TIME FROM INITIATION OF EPS = 67.5000 HOURS  
 TIME FROM INITIATION OF EPS = 67.7500 HOURS  
 TIME FROM INITIATION OF EPS = 68.0000 HOURS  
 Device Pump-1 IS OPERATING OUT OF RANGE ....  
 Pump-1 1471.63 183.04 204.18 21.1 13.34 8. 1.0 39.8 \*\* \*\*  
 216.0  
 TIME FROM INITIATION OF EPS = 68.2500 HOURS  
 TIME FROM INITIATION OF EPS = 68.5000 HOURS  


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 TIME FROM INITIATION OF EPS = 68.7500 HOURS  
 TIME FROM INITIATION OF EPS = 69.0000 HOURS  
 Device Pump-1 IS OPERATING OUT OF RANGE ....  
 Pump-1 1432.98 183.08 207.33 24.2 20.90 9. 0.5 41.9 \*\* \*\*  
 216.0  
 TIME FROM INITIATION OF EPS = 69.2500 HOURS  
 TIME FROM INITIATION OF EPS = 69.5000 HOURS  
 TIME FROM INITIATION OF EPS = 69.7500 HOURS  
 TIME FROM INITIATION OF EPS = 70.0000 HOURS  
 Device Pump-1 IS OPERATING OUT OF RANGE ....  
 Pump-1 1407.28 183.11 209.42 26.3 25.68 9. 0.4 43.5 \*\* \*\*  
 216.1  
 TIME FROM INITIATION OF EPS = 70.2500 HOURS  
 TIME FROM INITIATION OF EPS = 70.5000 HOURS  
 TIME FROM INITIATION OF EPS = 70.7500 HOURS  
 TIME FROM INITIATION OF EPS = 71.0000 HOURS  
 Device Pump-1 IS OPERATING OUT OF RANGE ....  
 Pump-1 1400.61 183.12 209.96 26.8 26.89 10. 0.3 44.8 \*\* \*\*  
 216.1

# TANK REPORT

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VARIABLE HEAD TANK DATA

TANK NAME (*)	MAXIMUM ELEVATION (ft)	MINIMUM ELEVATION (ft)	TANK CAPACITY (gal)	INITIAL VOLUME (gal)	EXTERNAL FLOW (gpm)
TANK-A(1)	1169.20	1153.00	54826.	50765.	0.00
TANK-B(1)	1171.00	1135.00	528802.	481798.	0.00
TANK-C(1)	1171.00	1133.00	1094032.	1007662.	0.00

\* TANK TYPE: (1) - CONSTANT DIAMETER (2) - VARIABLE AREA

TIME FROM INITIATION OF EPS = 0.0000 HOURS

TIME FROM INITIATION OF EPS = 0.0001 HOURS

TANK-A(1)	0.00	1168.00	15.00	50765.	92.6		15.00
TANK-B(1)	630.64	1167.80	32.80	481798.	91.1	FILLING	33.44
TANK-C(1)	447.27	1168.00	35.00	1007662.	92.1	FILLING	35.23

TIME FROM INITIATION OF EPS = 0.2500 HOURS

TIME FROM INITIATION OF EPS = 0.5000 HOURS

TIME FROM INITIATION OF EPS = 0.7500 HOURS

TIME FROM INITIATION OF EPS = 1.0000 HOURS

TANK-A(1)	0.00	1168.00	15.00	50765.	92.6		15.00
TANK-B(1)	-49.46	1170.26	35.26	517882.	97.9	DRAINING	35.21
TANK-C(1)	249.91	1168.98	35.98	1035952.	94.7	FILLING	36.11

TIME FROM INITIATION OF EPS = 1.2500 HOURS

TIME FROM INITIATION OF EPS = 1.5000 HOURS

TIME FROM INITIATION OF EPS = 1.7500 HOURS

TIME FROM INITIATION OF EPS = 2.0000 HOURS

TANK-A(1)	0.00	1168.00	15.00	50765.	92.6		15.00
TANK-B(1)	4.48	1170.15	35.15	516247.	97.6	FILLING	35.15
TANK-C(1)	193.78	1169.46	36.46	1049597.	95.9	FILLING	36.56

TIME FROM INITIATION OF EPS = 2.2500 HOURS

TIME FROM INITIATION OF EPS = 2.5000 HOURS

TIME FROM INITIATION OF EPS = 2.7500 HOURS

TIME FROM INITIATION OF EPS = 3.0000 HOURS

TANK-A(1)	0.00	1168.00	15.00	50765.	92.6		15.00
TANK-B(1)	36.17	1170.22	35.22	517322.	97.8	FILLING	35.26
TANK-C(1)	154.80	1169.83	36.83	1060270.	96.9	FILLING	36.91

TIME FROM INITIATION OF EPS = 3.2500 HOURS

TIME FROM INITIATION OF EPS = 3.5000 HOURS

TIME FROM INITIATION OF EPS = 3.7500 HOURS

TIME FROM INITIATION OF EPS = 4.0000 HOURS

TANK-A(1)	0.00	1168.00	15.00	50765.	92.6		15.00
TANK-B(1)	49.67	1170.39	35.39	519875.	98.3	FILLING	35.44
TANK-C(1)	131.27	1170.13	37.13	1068959.	97.7	FILLING	37.20

TIME FROM INITIATION OF EPS = 4.2500 HOURS

TIME FROM INITIATION OF EPS = 4.5000 HOURS

TIME FROM INITIATION OF EPS = 4.7500 HOURS

TIME FROM INITIATION OF EPS = 5.0000 HOURS

TANK-A(1)	0.00	1168.00	15.00	50765.	92.6		15.00
TANK-B(1)	-151.47	1170.60	35.60	522928.	98.9	DRAINING	35.45
TANK-C(1)	-9.59	1170.39	37.39	1076514.	98.4	DRAINING	37.39
TIME FROM INITIATION OF EPS = 5.2500 HOURS							
TIME FROM INITIATION OF EPS = 5.5000 HOURS							
TIME FROM INITIATION OF EPS = 5.7500 HOURS							
TIME FROM INITIATION OF EPS = 6.0000 HOURS							
TANK-A(1)	0.00	1168.00	15.00	50765.	92.6		15.00
TANK-B(1)	-356.91	1170.13	35.13	516077.	97.6	DRAINING	34.77
TANK-C(1)	-283.74	1170.31	37.31	1074030.	98.2	DRAINING	37.16
TIME FROM INITIATION OF EPS = 6.2500 HOURS							
TIME FROM INITIATION OF EPS = 6.5000 HOURS							
TIME FROM INITIATION OF EPS = 6.7500 HOURS							
TIME FROM INITIATION OF EPS = 7.0000 HOURS							
TANK-A(1)	0.00	1168.00	15.00	50765.	92.6		15.00
TANK-B(1)	-577.67	1168.80	33.80	496529.	93.9	DRAINING	33.21
TANK-C(1)	-496.52	1169.69	36.69	1056219.	96.5	DRAINING	36.43
TIME FROM INITIATION OF EPS = 7.2500 HOURS							
TIME FROM INITIATION OF EPS = 7.5000 HOURS							
TIME FROM INITIATION OF EPS = 7.7500 HOURS							
<del>TIME FROM INITIATION OF EPS = 8.0000 HOURS</del>							
TANK-A(1)	-43.51	1167.79	14.79	50060.	91.3	DRAINING	14.60
TANK-B(1)	-480.58	1166.59	31.59	464089.	87.8	DRAINING	31.10
TANK-C(1)	-493.08	1168.65	35.65	1026235.	93.8	DRAINING	35.39
TIME FROM INITIATION OF EPS = 8.2500 HOURS							
TIME FROM INITIATION OF EPS = 8.5000 HOURS							
TIME FROM INITIATION OF EPS = 8.7500 HOURS							
TIME FROM INITIATION OF EPS = 9.0000 HOURS							
TANK-A(1)	-30.63	1166.91	13.91	47071.	85.9	DRAINING	13.77
TANK-B(1)	-189.51	1164.75	29.75	436980.	82.6	DRAINING	29.56
TANK-C(1)	-418.11	1167.61	34.61	996514.	91.1	DRAINING	34.39
TIME FROM INITIATION OF EPS = 9.2500 HOURS							
TIME FROM INITIATION OF EPS = 9.5000 HOURS							
TIME FROM INITIATION OF EPS = 9.7500 HOURS							
TIME FROM INITIATION OF EPS = 10.0000 HOURS							
TANK-A(1)	7.73	1166.26	13.26	44888.	81.9	FILLING	13.30
TANK-B(1)	186.02	1164.00	29.00	425942.	80.5	FILLING	29.19
TANK-C(1)	-306.76	1166.76	33.76	972004.	88.8	DRAINING	33.60
TIME FROM INITIATION OF EPS = 10.2500 HOURS							
TIME FROM INITIATION OF EPS = 10.5000 HOURS							
TIME FROM INITIATION OF EPS = 10.7500 HOURS							
TIME FROM INITIATION OF EPS = 11.0000 HOURS							
TANK-A(1)	-15.32	1166.07	13.07	44236.	80.7	DRAINING	13.00
TANK-B(1)	99.08	1164.63	29.63	435185.	82.3	FILLING	29.73
TANK-C(1)	-200.62	1166.22	33.22	956486.	87.4	DRAINING	33.12
TIME FROM INITIATION OF EPS = 11.2500 HOURS							
TIME FROM INITIATION OF EPS = 11.5000 HOURS							

TIME FROM INITIATION OF EPS = 11.7500 HOURS							
TIME FROM INITIATION OF EPS = 12.0000 HOURS							
TANK-A(1)	-56.99	1165.82	12.82	43382.	79.1	DRAINING	12.57
TANK-B(1)	-387.71	1164.91	29.91	439393.	83.1	DRAINING	29.52
TANK-C(1)	-339.00	1165.86	32.86	946161.	86.5	DRAINING	32.69
TIME FROM INITIATION OF EPS = 12.2500 HOURS							
TIME FROM INITIATION OF EPS = 12.5000 HOURS							
TIME FROM INITIATION OF EPS = 12.7500 HOURS							
TIME FROM INITIATION OF EPS = 13.0000 HOURS							
TANK-A(1)	-26.18	1164.87	11.87	40163.	73.3	DRAINING	11.75
TANK-B(1)	-111.32	1163.43	28.43	417594.	79.0	DRAINING	28.32
TANK-C(1)	-280.80	1165.13	32.13	925003.	84.5	DRAINING	31.98
TIME FROM INITIATION OF EPS = 13.2500 HOURS							
TIME FROM INITIATION OF EPS = 13.5000 HOURS							
TIME FROM INITIATION OF EPS = 13.7500 HOURS							
TIME FROM INITIATION OF EPS = 14.0000 HOURS							
TANK-A(1)	11.38	1164.37	11.37	38483.	70.2	FILLING	11.42
TANK-B(1)	119.68	1162.98	27.98	410934.	77.7	FILLING	28.10
TANK-C(1)	-189.91	1164.56	31.56	908596.	83.1	DRAINING	31.46
TIME FROM INITIATION OF EPS = 14.2500 HOURS							
<del>TIME FROM INITIATION OF EPS = 14.5000 HOURS</del>							
TIME FROM INITIATION OF EPS = 14.7500 HOURS							
E FROM INITIATION OF EPS = 15.0000 HOURS							
TANK-A(1)	-10.77	1164.23	11.23	38007.	69.3	DRAINING	11.18
TANK-B(1)	55.50	1163.36	28.36	416616.	78.8	FILLING	28.42
TANK-C(1)	-106.79	1164.25	31.25	899766.	82.2	DRAINING	31.20
TIME FROM INITIATION OF EPS = 15.2500 HOURS							
TIME FROM INITIATION OF EPS = 15.5000 HOURS							
TIME FROM INITIATION OF EPS = 15.7500 HOURS							
TIME FROM INITIATION OF EPS = 16.0000 HOURS							
TANK-A(1)	-7.80	1164.06	11.06	37433.	68.3	DRAINING	11.03
TANK-B(1)	13.78	1163.52	28.52	418899.	79.2	FILLING	28.53
TANK-C(1)	-68.89	1164.06	31.06	894305.	81.7	DRAINING	31.03
TIME FROM INITIATION OF EPS = 16.2500 HOURS							
TIME FROM INITIATION OF EPS = 16.5000 HOURS							
TIME FROM INITIATION OF EPS = 16.7500 HOURS							
TIME FROM INITIATION OF EPS = 17.0000 HOURS							
TANK-A(1)	-24.37	1163.94	10.94	37014.	67.5	DRAINING	10.83
TANK-B(1)	-217.16	1163.54	28.54	419199.	79.3	DRAINING	28.32
TANK-C(1)	-158.71	1163.94	30.94	890667.	81.4	DRAINING	30.85
TIME FROM INITIATION OF EPS = 17.2500 HOURS							
TIME FROM INITIATION OF EPS = 17.5000 HOURS							
TIME FROM INITIATION OF EPS = 17.7500 HOURS							
TIME FROM INITIATION OF EPS = 18.0000 HOURS							
TANK-A(1)	-60.20	1163.52	10.52	35587.	64.9	DRAINING	10.25
TANK-B(1)	-453.36	1162.74	27.74	407455.	77.1	DRAINING	27.28
TANK-C(1)	-365.64	1163.57	30.57	880204.	80.5	DRAINING	30.38

TIME FROM INITIATION OF EPS = 18.2500 HOURS

TIME FROM INITIATION OF EPS = 18.5000 HOURS

TIME FROM INITIATION OF EPS = 18.7500 HOURS

TIME FROM INITIATION OF EPS = 19.0000 HOURS

TANK-A(1)	-24.79	1162.96	9.96	33693.	61.5	DRAINING	9.85
TANK-B(1)	-190.96	1161.42	26.42	388020.	73.4	DRAINING	26.22
TANK-C(1)	-196.51	1162.97	29.97	862886.	78.9	DRAINING	29.87

TIME FROM INITIATION OF EPS = 19.2500 HOURS

TIME FROM INITIATION OF EPS = 19.5000 HOURS

TIME FROM INITIATION OF EPS = 19.7500 HOURS

TIME FROM INITIATION OF EPS = 20.0000 HOURS

TANK-A(1)	-0.52	1162.51	9.51	32186.	58.7	DRAINING	9.51
TANK-B(1)	108.56	1160.67	25.67	377121.	71.3	FILLING	25.78
TANK-C(1)	-124.16	1162.55	29.55	850659.	77.8	DRAINING	29.48

TIME FROM INITIATION OF EPS = 20.2500 HOURS

TIME FROM INITIATION OF EPS = 20.5000 HOURS

TIME FROM INITIATION OF EPS = 20.7500 HOURS

TIME FROM INITIATION OF EPS = 21.0000 HOURS

TANK-A(1)	24.44	1162.35	9.35	31629.	57.7	FILLING	9.45
TANK-B(1)	311.07	1161.04	26.04	382558.	72.3	FILLING	26.36
TANK-C(1)	33.86	1162.34	29.34	844783.	77.2	FILLING	29.36

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TIME FROM INITIATION OF EPS = 21.2500 HOURS

TIME FROM INITIATION OF EPS = 21.5000 HOURS

TIME FROM INITIATION OF EPS = 21.7500 HOURS

TIME FROM INITIATION OF EPS = 22.0000 HOURS

TANK-A(1)	38.24	1162.68	9.68	32752.	59.7	FILLING	9.85
TANK-B(1)	329.18	1162.18	27.18	399250.	75.5	FILLING	27.52
TANK-C(1)	188.32	1162.49	29.49	849016.	77.6	FILLING	29.59

TIME FROM INITIATION OF EPS = 22.2500 HOURS

TIME FROM INITIATION OF EPS = 22.5000 HOURS

TIME FROM INITIATION OF EPS = 22.7500 HOURS

TIME FROM INITIATION OF EPS = 23.0000 HOURS

TANK-A(1)	36.14	1163.33	10.33	34955.	63.8	FILLING	10.49
TANK-B(1)	264.82	1163.42	28.42	417422.	78.9	FILLING	28.69
TANK-C(1)	248.14	1162.93	29.93	861835.	78.8	FILLING	30.06

TIME FROM INITIATION OF EPS = 23.2500 HOURS

TIME FROM INITIATION OF EPS = 23.5000 HOURS

TIME FROM INITIATION OF EPS = 23.7500 HOURS

TIME FROM INITIATION OF EPS = 24.0000 HOURS

TANK-A(1)	74.30	1163.98	10.98	37152.	67.8	FILLING	11.31
TANK-B(1)	579.89	1164.43	29.43	432283.	81.7	FILLING	30.02
TANK-C(1)	451.37	1163.48	30.48	877582.	80.2	FILLING	30.72

TIME FROM INITIATION OF EPS = 24.2500 HOURS

TIME FROM INITIATION OF EPS = 24.5000 HOURS

TIME FROM INITIATION OF EPS = 24.7500 HOURS

TIME FROM INITIATION OF EPS = 25.0000 HOURS							
TANK-A(1)	72.20	1165.27	12.27	41542.	75.8	FILLING	12.59
TANK-B(1)	516.02	1166.69	31.69	465564.	88.0	FILLING	32.22
TANK-C(1)	504.88	1164.47	31.47	905961.	82.8	FILLING	31.73
TIME FROM INITIATION OF EPS = 25.2500 HOURS							
TIME FROM INITIATION OF EPS = 25.5000 HOURS							
TIME FROM INITIATION OF EPS = 25.7500 HOURS							
TIME FROM INITIATION OF EPS = 26.0000 HOURS							
TANK-A(1)	72.55	1166.56	13.56	45877.	83.7	FILLING	13.88
TANK-B(1)	466.13	1168.72	33.72	495346.	93.7	FILLING	34.20
TANK-C(1)	542.47	1165.55	32.55	937159.	85.7	FILLING	32.83
TIME FROM INITIATION OF EPS = 26.2500 HOURS							
TIME FROM INITIATION OF EPS = 26.5000 HOURS							
TIME FROM INITIATION OF EPS = 26.7500 HOURS							
TIME FROM INITIATION OF EPS = 27.0000 HOURS							
TANK-A(1)	17.67	1167.50	14.50	49073.	89.5	FILLING	14.58
TANK-B(1)	-169.28	1169.92	34.92	512970.	97.0	DRAINING	34.75
TANK-C(1)	386.76	1166.63	33.63	968299.	88.5	FILLING	33.83
TIME FROM INITIATION OF EPS = 27.2500 HOURS							
TIME FROM INITIATION OF EPS = 27.5000 HOURS							
TIME FROM INITIATION OF EPS = 27.7500 HOURS							
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TIME FROM INITIATION OF EPS = 28.0000 HOURS							
TANK-A(1)	22.96	1167.87	14.87	50334.	91.8	FILLING	14.97
TANK-B(1)	-77.04	1169.38	34.38	505039.	95.5	DRAINING	34.30
TANK-C(1)	302.24	1167.37	34.37	989448.	90.4	FILLING	34.52
TIME FROM INITIATION OF EPS = 28.2500 HOURS							
TIME FROM INITIATION OF EPS = 28.5000 HOURS							
TIME FROM INITIATION OF EPS = 28.7500 HOURS							
TIME FROM INITIATION OF EPS = 29.0000 HOURS							
TANK-A(1)	0.00	1167.97	14.97	50678.	92.4		14.97
TANK-B(1)	-230.28	1169.19	34.19	502169.	95.0	DRAINING	33.95
TANK-C(1)	152.49	1167.97	34.97	1006868.	92.0	FILLING	35.05
TIME FROM INITIATION OF EPS = 29.2500 HOURS							
TIME FROM INITIATION OF EPS = 29.5000 HOURS							
TIME FROM INITIATION OF EPS = 29.7500 HOURS							
TIME FROM INITIATION OF EPS = 30.0000 HOURS							
TANK-A(1)	0.00	1167.97	14.97	50678.	92.4		14.97
TANK-B(1)	-345.02	1168.44	33.44	491212.	92.9	DRAINING	33.09
TANK-C(1)	-215.10	1168.21	35.21	1013575.	92.6	DRAINING	35.09
TIME FROM INITIATION OF EPS = 30.2500 HOURS							
TIME FROM INITIATION OF EPS = 30.5000 HOURS							
TIME FROM INITIATION OF EPS = 30.7500 HOURS							
TIME FROM INITIATION OF EPS = 31.0000 HOURS							
TANK-A(1)	-66.06	1167.63	14.63	49506.	90.3	DRAINING	14.34
TANK-B(1)	-545.64	1167.18	32.18	472700.	89.4	DRAINING	31.62
TANK-C(1)	-407.18	1167.75	34.75	1000373.	91.4	DRAINING	34.53
TIME FROM INITIATION OF EPS = 31.2500 HOURS							

TIME FROM INITIATION OF EPS = 31.5000 HOURS							
TIME FROM INITIATION OF EPS = 31.7500 HOURS							
TIME FROM INITIATION OF EPS = 32.0000 HOURS							
TANK-A(1)	-61.20	1166.50	13.50	45675.	83.3	DRAINING	13.22
TANK-B(1)	-456.40	1165.10	30.10	442108.	83.6	DRAINING	29.63
TANK-C(1)	-445.77	1166.86	33.86	974963.	89.1	DRAINING	33.63
TIME FROM INITIATION OF EPS = 32.2500 HOURS							
TIME FROM INITIATION OF EPS = 32.5000 HOURS							
TIME FROM INITIATION OF EPS = 32.7500 HOURS							
TIME FROM INITIATION OF EPS = 33.0000 HOURS							
TANK-A(1)	-36.45	1165.42	12.42	42049.	76.7	DRAINING	12.26
TANK-B(1)	-173.41	1163.34	28.34	416270.	78.7	DRAINING	28.16
TANK-C(1)	-381.03	1165.92	32.92	947680.	86.6	DRAINING	32.72
TIME FROM INITIATION OF EPS = 33.2500 HOURS							
TIME FROM INITIATION OF EPS = 33.5000 HOURS							
TIME FROM INITIATION OF EPS = 33.7500 HOURS							
TIME FROM INITIATION OF EPS = 34.0000 HOURS							
TANK-A(1)	13.64	1164.74	11.74	39745.	72.5	FILLING	11.80
TANK-B(1)	191.53	1162.65	27.65	406095.	76.8	FILLING	27.84
TANK-C(1)	-269.20	1165.14	32.14	925200.	84.6	DRAINING	32.00
TIME FROM INITIATION OF EPS = 34.2500 HOURS							
TIME FROM INITIATION OF EPS = 34.5000 HOURS							
TIME FROM INITIATION OF EPS = 34.7500 HOURS							
TIME FROM INITIATION OF EPS = 35.0000 HOURS							
TANK-A(1)	-13.31	1164.61	11.61	39290.	71.7	DRAINING	11.55
TANK-B(1)	102.63	1163.29	28.29	415558.	78.6	FILLING	28.40
TANK-C(1)	-156.22	1164.69	31.69	912255.	83.4	DRAINING	31.60
TIME FROM INITIATION OF EPS = 35.2500 HOURS							
TIME FROM INITIATION OF EPS = 35.5000 HOURS							
TIME FROM INITIATION OF EPS = 35.7500 HOURS							
TIME FROM INITIATION OF EPS = 36.0000 HOURS							
TANK-A(1)	-53.46	1164.39	11.39	38554.	70.3	DRAINING	11.15
TANK-B(1)	-373.29	1163.61	28.61	420213.	79.5	DRAINING	28.23
TANK-C(1)	-314.42	1164.41	31.41	904271.	82.7	DRAINING	31.25
TIME FROM INITIATION OF EPS = 36.2500 HOURS							
TIME FROM INITIATION OF EPS = 36.5000 HOURS							
TIME FROM INITIATION OF EPS = 36.7500 HOURS							
TIME FROM INITIATION OF EPS = 37.0000 HOURS							
TANK-A(1)	-21.15	1163.50	10.50	35542.	64.8	DRAINING	10.41
TANK-B(1)	-101.38	1162.18	27.18	399249.	75.5	DRAINING	27.08
TANK-C(1)	-255.12	1163.72	30.72	884527.	80.9	DRAINING	30.59
TIME FROM INITIATION OF EPS = 37.2500 HOURS							
TIME FROM INITIATION OF EPS = 37.5000 HOURS							
TIME FROM INITIATION OF EPS = 37.7500 HOURS							
TIME FROM INITIATION OF EPS = 38.0000 HOURS							
TANK-A(1)	35.05	1163.48	10.48	35472.	64.7	FILLING	10.64
TANK-B(1)	386.40	1162.37	27.37	402081.	76.0	FILLING	27.77



TANK-C(1)	130.32	1163.41	30.41	875569.	80.0	FILLING	30.48
TIME FROM INITIATION OF EPS = 38.2500 HOURS							
TIME FROM INITIATION OF EPS = 38.5000 HOURS							
TIME FROM INITIATION OF EPS = 38.7500 HOURS							
TIME FROM INITIATION OF EPS = 39.0000 HOURS							
TANK-A(1)	33.39	1164.07	11.07	37475.	68.4	FILLING	11.22
TANK-B(1)	297.33	1163.80	28.80	423025.	80.0	FILLING	29.10
TANK-C(1)	214.43	1163.76	30.76	885580.	80.9	FILLING	30.87
TIME FROM INITIATION OF EPS = 39.2500 HOURS							
TIME FROM INITIATION OF EPS = 39.5000 HOURS							
TIME FROM INITIATION OF EPS = 39.7500 HOURS							
TIME FROM INITIATION OF EPS = 40.0000 HOURS							
TANK-A(1)	35.83	1164.68	11.68	39536.	72.1	FILLING	11.84
TANK-B(1)	242.63	1164.92	29.92	439523.	83.1	FILLING	30.17
TANK-C(1)	260.29	1164.25	31.25	899583.	82.2	FILLING	31.38
TIME FROM INITIATION OF EPS = 40.2500 HOURS							
TIME FROM INITIATION OF EPS = 40.5000 HOURS							
TIME FROM INITIATION OF EPS = 40.7500 HOURS							
TIME FROM INITIATION OF EPS = 41.0000 HOURS							
TANK-A(1)	-7.00	1165.33	12.33	41718.	76.1	DRAINING	12.30
TANK-B(1)	-46.47	1165.86	30.86	453235.	85.7	DRAINING	30.81
TANK-C(1)	201.60	1164.81	31.81	915880.	83.7	FILLING	31.92
TIME FROM INITIATION OF EPS = 41.2500 HOURS							
TIME FROM INITIATION OF EPS = 41.5000 HOURS							
TIME FROM INITIATION OF EPS = 41.7500 HOURS							
TIME FROM INITIATION OF EPS = 42.0000 HOURS							
TANK-A(1)	-44.71	1165.48	12.48	42238.	77.0	DRAINING	12.28
TANK-B(1)	-347.13	1165.72	30.72	451250.	85.3	DRAINING	30.37
TANK-C(1)	-45.28	1165.17	32.17	926237.	84.7	DRAINING	32.15
TIME FROM INITIATION OF EPS = 42.2500 HOURS							
TIME FROM INITIATION OF EPS = 42.5000 HOURS							
TIME FROM INITIATION OF EPS = 42.7500 HOURS							
TIME FROM INITIATION OF EPS = 43.0000 HOURS							
TANK-A(1)	-17.85	1164.99	11.99	40565.	74.0	DRAINING	11.91
TANK-B(1)	-268.42	1164.44	29.44	432384.	81.8	DRAINING	29.16
TANK-C(1)	-145.12	1164.98	31.98	920682.	84.2	DRAINING	31.90
TIME FROM INITIATION OF EPS = 43.2500 HOURS							
TIME FROM INITIATION OF EPS = 43.5000 HOURS							
TIME FROM INITIATION OF EPS = 43.7500 HOURS							
TIME FROM INITIATION OF EPS = 44.0000 HOURS							
TANK-A(1)	-0.45	1164.63	11.63	39370.	71.8	DRAINING	11.63
TANK-B(1)	45.39	1163.42	28.42	417464.	78.9	FILLING	28.47
TANK-C(1)	-79.74	1164.64	31.64	911032.	83.3	DRAINING	31.60
TIME FROM INITIATION OF EPS = 44.2500 HOURS							
TIME FROM INITIATION OF EPS = 44.5000 HOURS							
TIME FROM INITIATION OF EPS = 44.7500 HOURS							

TIME FROM INITIATION OF EPS = 45.0000 HOURS							
TANK-A(1)	26.63	1164.52	11.52	38989.	71.1	FILLING	11.64
TANK-B(1)	275.20	1163.57	28.57	419597.	79.3	FILLING	28.85
TANK-C(1)	50.51	1164.51	31.51	907183.	82.9	FILLING	31.54
TIME FROM INITIATION OF EPS = 45.2500 HOURS							
TIME FROM INITIATION OF EPS = 45.5000 HOURS							
TIME FROM INITIATION OF EPS = 45.7500 HOURS							
TIME FROM INITIATION OF EPS = 46.0000 HOURS							
TANK-A(1)	37.97	1164.90	11.90	40269.	73.4	FILLING	12.07
TANK-B(1)	305.72	1164.56	29.56	434217.	82.1	FILLING	29.87
TANK-C(1)	195.54	1164.69	31.69	912317.	83.4	FILLING	31.79
TIME FROM INITIATION OF EPS = 46.2500 HOURS							
TIME FROM INITIATION OF EPS = 46.5000 HOURS							
TIME FROM INITIATION OF EPS = 46.7500 HOURS							
TIME FROM INITIATION OF EPS = 47.0000 HOURS							
TANK-A(1)	35.75	1165.54	12.54	42456.	77.4	FILLING	12.70
TANK-B(1)	247.36	1165.71	30.71	451129.	85.3	FILLING	30.96
TANK-C(1)	249.69	1165.14	32.14	925425.	84.6	FILLING	32.27
TIME FROM INITIATION OF EPS = 47.2500 HOURS							
TIME FROM INITIATION OF EPS = 47.5000 HOURS							
<del>TIME FROM INITIATION OF EPS = 47.7500 HOURS</del>							
TIME FROM INITIATION OF EPS = 48.0000 HOURS							
TANK-A(1)	73.32	1166.18	13.18	44620.	81.4	FILLING	13.51
TANK-B(1)	569.68	1166.66	31.66	465053.	87.9	FILLING	32.24
TANK-C(1)	447.20	1165.69	32.69	941170.	86.0	FILLING	32.92
TIME FROM INITIATION OF EPS = 48.2500 HOURS							
TIME FROM INITIATION OF EPS = 48.5000 HOURS							
TIME FROM INITIATION OF EPS = 48.7500 HOURS							
TIME FROM INITIATION OF EPS = 49.0000 HOURS							
TANK-A(1)	0.00	1167.46	14.46	48953.	89.3		14.46
TANK-B(1)	523.39	1168.89	33.89	497739.	94.1	FILLING	34.42
TANK-C(1)	553.46	1166.67	33.67	969282.	88.6	FILLING	33.96
TIME FROM INITIATION OF EPS = 49.2500 HOURS							
TIME FROM INITIATION OF EPS = 49.5000 HOURS							
TIME FROM INITIATION OF EPS = 49.7500 HOURS							
TIME FROM INITIATION OF EPS = 50.0000 HOURS							
TANK-A(1)	0.00	1167.46	14.46	48953.	89.3		14.46
TANK-B(1)	-86.53	1169.69	34.69	509630.	96.4	DRAINING	34.61
TANK-C(1)	320.95	1167.61	34.61	996562.	91.1	FILLING	34.78
TIME FROM INITIATION OF EPS = 50.2500 HOURS							
TIME FROM INITIATION OF EPS = 50.5000 HOURS							
TIME FROM INITIATION OF EPS = 50.7500 HOURS							
TIME FROM INITIATION OF EPS = 51.0000 HOURS							
TANK-A(1)	0.00	1167.46	14.46	48953.	89.3		14.46
TANK-B(1)	-19.28	1169.45	34.45	506098.	95.7	DRAINING	34.43
TANK-C(1)	255.15	1168.23	35.23	1014241.	92.7	FILLING	35.36
TIME FROM INITIATION OF EPS = 51.2500 HOURS							

TIME FROM INITIATION OF EPS =	51.5000 HOURS						
TIME FROM INITIATION OF EPS =	51.7500 HOURS						
TIME FROM INITIATION OF EPS =	52.0000 HOURS						
TANK-A(1)	0.00	1167.46	14.46	48953.	89.3		14.46
TANK-B(1)	23.62	1169.45	34.45	506001.	95.7	FILLING	34.47
TANK-C(1)	206.71	1168.72	35.72	1028389.	94.0	FILLING	35.83
TIME FROM INITIATION OF EPS =	52.2500 HOURS						
TIME FROM INITIATION OF EPS =	52.5000 HOURS						
TIME FROM INITIATION OF EPS =	52.7500 HOURS						
TIME FROM INITIATION OF EPS =	53.0000 HOURS						
TANK-A(1)	0.00	1167.46	14.46	48953.	89.3		14.46
TANK-B(1)	-169.33	1169.59	34.59	508053.	96.1	DRAINING	34.41
TANK-C(1)	62.25	1169.12	36.12	1039964.	95.1	FILLING	36.15
TIME FROM INITIATION OF EPS =	53.2500 HOURS						
TIME FROM INITIATION OF EPS =	53.5000 HOURS						
TIME FROM INITIATION OF EPS =	53.7500 HOURS						
TIME FROM INITIATION OF EPS =	54.0000 HOURS						
TANK-A(1)	0.00	1167.46	14.46	48953.	89.3		14.46
TANK-B(1)	-337.83	1169.09	34.09	500808.	94.7	DRAINING	33.75
TANK-C(1)	-254.70	1169.16	36.16	1041074.	95.2	DRAINING	36.03
<del>TIME FROM INITIATION OF EPS =</del>	<del>54.2500 HOURS</del>						
TIME FROM INITIATION OF EPS =	54.5000 HOURS						
E FROM INITIATION OF EPS =	54.7500 HOURS						
TIME FROM INITIATION OF EPS =	55.0000 HOURS						
TANK-A(1)	12.04	1167.46	14.46	48953.	89.3	FILLING	14.52
TANK-B(1)	-564.98	1167.84	32.84	482312.	91.2	DRAINING	32.26
TANK-C(1)	-486.23	1168.60	35.60	1024905.	93.7	DRAINING	35.35
TIME FROM INITIATION OF EPS =	55.2500 HOURS						
TIME FROM INITIATION OF EPS =	55.5000 HOURS						
TIME FROM INITIATION OF EPS =	55.7500 HOURS						
TIME FROM INITIATION OF EPS =	56.0000 HOURS						
TANK-A(1)	-50.85	1166.98	13.98	47318.	86.3	DRAINING	13.76
TANK-B(1)	-464.59	1165.70	30.70	450949.	85.3	DRAINING	30.23
TANK-C(1)	-469.37	1167.62	34.62	996751.	91.1	DRAINING	34.38
TIME FROM INITIATION OF EPS =	56.2500 HOURS						
TIME FROM INITIATION OF EPS =	56.5000 HOURS						
TIME FROM INITIATION OF EPS =	56.7500 HOURS						
TIME FROM INITIATION OF EPS =	57.0000 HOURS						
TANK-A(1)	-32.45	1166.03	13.03	44087.	80.4	DRAINING	12.88
TANK-B(1)	-178.50	1163.91	28.91	424685.	80.3	DRAINING	28.73
TANK-C(1)	-399.02	1166.63	33.63	968274.	88.5	DRAINING	33.42
T FROM INITIATION OF EPS =	57.2500 HOURS						
TIME FROM INITIATION OF EPS =	57.5000 HOURS						
TIME FROM INITIATION OF EPS =	57.7500 HOURS						
TIME FROM INITIATION OF EPS =	58.0000 HOURS						
TANK-A(1)	11.61	1165.38	12.38	41886.	76.4	FILLING	12.43

TANK-B(1)	190.97	1163.20	28.20	414239.	78.3	FILLING	28.40
TANK-C(1)	-286.85	1165.82	32.82	944840.	86.4	DRAINING	32.67
TIME FROM INITIATION OF EPS = 58.2500 HOURS							
TIME FROM INITIATION OF EPS = 58.5000 HOURS							
TIME FROM INITIATION OF EPS = 58.7500 HOURS							
TIME FROM INITIATION OF EPS = 59.0000 HOURS							
TANK-A(1)	-13.82	1165.22	12.22	41365.	75.4	DRAINING	12.16
TANK-B(1)	100.83	1163.85	28.85	423706.	80.1	FILLING	28.95
TANK-C(1)	-173.91	1165.33	32.33	930721.	85.1	DRAINING	32.24
TIME FROM INITIATION OF EPS = 59.2500 HOURS							
TIME FROM INITIATION OF EPS = 59.5000 HOURS							
TIME FROM INITIATION OF EPS = 59.7500 HOURS							
TIME FROM INITIATION OF EPS = 60.0000 HOURS							
TANK-A(1)	-55.04	1164.99	11.99	40579.	74.0	DRAINING	11.75
TANK-B(1)	-378.72	1164.15	29.15	428180.	81.0	DRAINING	28.76
TANK-C(1)	-324.82	1165.02	32.02	921796.	84.3	DRAINING	31.85
TIME FROM INITIATION OF EPS = 60.2500 HOURS							
TIME FROM INITIATION OF EPS = 60.5000 HOURS							
TIME FROM INITIATION OF EPS = 60.7500 HOURS							
TIME FROM INITIATION OF EPS = 61.0000 HOURS							
TANK-A(1)	-23.45	1164.07	11.07	37476.	68.4	DRAINING	10.97
TANK-B(1)	-104.89	1162.70	27.70	406897.	76.9	DRAINING	27.59
TANK-C(1)	-266.16	1164.31	31.31	901455.	82.4	DRAINING	31.17
TIME FROM INITIATION OF EPS = 61.2500 HOURS							
TIME FROM INITIATION OF EPS = 61.5000 HOURS							
TIME FROM INITIATION OF EPS = 61.7500 HOURS							
TIME FROM INITIATION OF EPS = 62.0000 HOURS							
TANK-A(1)	12.58	1163.61	10.61	35920.	65.5	FILLING	10.67
TANK-B(1)	124.92	1162.27	27.27	400606.	75.8	FILLING	27.40
TANK-C(1)	-172.84	1163.77	30.77	885957.	81.0	DRAINING	30.68
TIME FROM INITIATION OF EPS = 62.2500 HOURS							
TIME FROM INITIATION OF EPS = 62.5000 HOURS							
TIME FROM INITIATION OF EPS = 62.7500 HOURS							
TIME FROM INITIATION OF EPS = 63.0000 HOURS							
TANK-A(1)	-9.56	1163.49	10.49	35498.	64.7	DRAINING	10.45
TANK-B(1)	61.38	1162.68	27.68	406621.	76.9	FILLING	27.74
TANK-C(1)	-91.33	1163.50	30.50	878129.	80.3	DRAINING	30.45
TIME FROM INITIATION OF EPS = 63.2500 HOURS							
TIME FROM INITIATION OF EPS = 63.5000 HOURS							
TIME FROM INITIATION OF EPS = 63.7500 HOURS							
TIME FROM INITIATION OF EPS = 64.0000 HOURS							
TANK-A(1)	-6.47	1163.34	10.34	35004.	63.8	DRAINING	10.31
TANK-B(1)	19.17	1162.86	27.86	409248.	77.4	FILLING	27.88
TANK-C(1)	-53.82	1163.34	30.34	873579.	79.8	DRAINING	30.31
TIME FROM INITIATION OF EPS = 64.2500 HOURS							
TIME FROM INITIATION OF EPS = 64.5000 HOURS							

TIME FROM INITIATION OF EPS = 64.7500 HOURS

TIME FROM INITIATION OF EPS = 65.0000 HOURS

TANK-A(1)	-21.76	1163.25	10.25	34694.	63.3	DRAINING	10.15
TANK-B(1)	-214.65	1162.90	27.90	409878.	77.5	DRAINING	27.68
TANK-C(1)	-142.64	1163.25	30.25	870792.	79.6	DRAINING	30.17

TIME FROM INITIATION OF EPS = 65.2500 HOURS

TIME FROM INITIATION OF EPS = 65.5000 HOURS

TIME FROM INITIATION OF EPS = 65.7500 HOURS

TIME FROM INITIATION OF EPS = 66.0000 HOURS

TANK-A(1)	-59.06	1162.87	9.87	33411.	60.9	DRAINING	9.61
TANK-B(1)	-445.36	1162.12	27.12	398299.	75.3	DRAINING	26.66
TANK-C(1)	-356.60	1162.92	29.92	861281.	78.7	DRAINING	29.73

TIME FROM INITIATION OF EPS = 66.2500 HOURS

TIME FROM INITIATION OF EPS = 66.5000 HOURS

TIME FROM INITIATION OF EPS = 66.7500 HOURS

TIME FROM INITIATION OF EPS = 67.0000 HOURS

TANK-A(1)	-23.76	1162.43	9.43	31924.	58.2	DRAINING	9.33
TANK-B(1)	-196.62	1161.00	26.00	381957.	72.2	DRAINING	25.80
TANK-C(1)	-188.36	1162.44	29.44	847696.	77.5	DRAINING	29.35

TIME FROM INITIATION OF EPS = 67.2500 HOURS

TIME FROM INITIATION OF EPS = 67.5000 HOURS

TIME FROM INITIATION OF EPS = 67.7500 HOURS

TIME FROM INITIATION OF EPS = 68.0000 HOURS

TANK-A(1)	-0.42	1162.00	9.00	30471.	55.6	DRAINING	9.00
TANK-B(1)	104.89	1160.24	25.24	370776.	70.1	FILLING	25.35
TANK-C(1)	-117.14	1162.03	29.03	835908.	76.4	DRAINING	28.97

TIME FROM INITIATION OF EPS = 68.2500 HOURS

TIME FROM INITIATION OF EPS = 68.5000 HOURS

TIME FROM INITIATION OF EPS = 68.7500 HOURS

TIME FROM INITIATION OF EPS = 69.0000 HOURS

TANK-A(1)	25.19	1161.85	8.85	29945.	54.6	FILLING	8.96
TANK-B(1)	308.84	1160.60	25.60	376017.	71.1	FILLING	25.91
TANK-C(1)	38.73	1161.84	28.84	830405.	75.9	FILLING	28.86

TIME FROM INITIATION OF EPS = 69.2500 HOURS

TIME FROM INITIATION OF EPS = 69.5000 HOURS

TIME FROM INITIATION OF EPS = 69.7500 HOURS

TIME FROM INITIATION OF EPS = 70.0000 HOURS

TANK-A(1)	38.58	1162.20	9.20	31121.	56.8	FILLING	9.37
TANK-B(1)	328.31	1161.73	26.73	392576.	74.2	FILLING	27.06
TANK-C(1)	192.22	1162.00	29.00	834922.	76.3	FILLING	29.10

TIME FROM INITIATION OF EPS = 70.2500 HOURS

TIME FROM INITIATION OF EPS = 70.5000 HOURS

TIME FROM INITIATION OF EPS = 70.7500 HOURS

TIME FROM INITIATION OF EPS = 71.0000 HOURS

TANK-A(1)	36.47	1162.85	9.85	33345.	60.8	FILLING	10.01
TANK-B(1)	264.89	1162.96	27.96	410720.	77.7	FILLING	28.23
TANK-C(1)	251.09	1162.45	29.45	847949.	77.5	FILLING	29.58

MAXIMUM/MINIMUM REPORT

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 Summary of Max/Min Node Values  
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Node	MnPres	MnHead	MnHGL	MnTime	MxPres	MxHead	MxHGL	MxTime	Elevation
1	76.32	176.13	1161.13	66.25	84.68	195.41	1180.41	1.00	985.0
2	78.49	181.12	1161.12	66.25	85.67	197.69	1177.69	1.00	980.0
3	80.05	184.72	1161.72	66.25	92.41	213.24	1190.24	1.00	977.0
4	71.24	164.40	1161.40	66.25	82.91	191.32	1188.32	1.00	997.0
5	69.90	161.31	1161.31	66.25	80.82	186.51	1186.51	1.00	1000.0
6	83.54	192.78	1162.78	66.25	96.85	223.50	1193.50	1.00	970.0
7	70.29	162.20	1162.20	66.25	83.34	192.33	1192.33	1.00	1000.0
8	61.57	142.09	1162.09	66.25	74.50	171.92	1191.92	1.00	1020.0
9	83.94	193.70	1163.70	66.25	97.82	225.74	1195.74	1.00	970.0
10	70.62	162.97	1162.97	66.25	84.18	194.27	1194.27	1.00	1000.0
11	61.63	142.21	1162.21	66.25	74.76	172.52	1192.52	1.00	1020.0
12	91.54	211.24	1166.24	66.25	106.92	246.75	1201.75	1.00	955.0
13	104.22	240.52	1167.52	66.25	119.41	275.56	1202.56	1.00	927.0
14	85.84	198.10	1166.10	66.25	101.29	233.74	1201.74	1.00	968.0
15	56.28	129.88	1161.88	68.75	60.05	138.58	1170.58	1.00	1032.0
16	57.52	132.75	1160.75	66.25	62.25	143.66	1171.66	1.00	1028.0
17	74.26	171.36	1150.36	66.25	83.58	192.88	1171.88	1.00	979.0
18	57.37	132.38	1087.38	18.50	58.49	134.97	1089.97	0.00	955.0
19	59.67	137.71	1086.71	18.50	61.08	140.96	1089.96	0.00	949.0
20	91.41	210.94	1080.94	18.50	95.27	219.86	1089.86	0.00	870.0
21	83.81	193.41	1080.41	18.50	87.90	202.85	1089.85	0.00	887.0
22	83.80	193.39	1080.39	18.50	87.90	202.85	1089.85	0.00	887.0
23	87.96	202.99	1079.99	18.50	92.23	212.84	1089.84	0.00	877.0
24	87.96	202.99	1079.99	18.50	92.23	212.84	1089.84	0.00	877.0
25	90.88	209.72	1079.72	18.50	95.26	219.84	1089.84	0.00	870.0
26	90.88	209.72	1079.72	18.50	95.26	219.84	1089.84	0.00	870.0
27	65.27	150.63	1086.63	18.50	66.72	153.96	1089.96	0.00	936.0
28	69.20	159.68	1086.68	18.50	70.62	162.96	1089.96	0.00	927.0
29	77.57	179.00	1079.00	18.50	82.26	189.83	1089.83	0.00	900.0
30	78.04	180.09	1078.09	18.50	83.12	191.81	1089.81	0.00	898.0
31	79.99	184.60	1161.60	66.25	92.25	212.88	1189.88	1.00	977.0
32	88.28	203.73	1078.73	18.50	93.09	214.82	1089.82	0.00	875.0
33	71.63	165.29	1161.29	66.25	83.85	193.51	1189.51	1.00	996.0
34	70.95	163.73	1158.73	67.75	75.99	175.35	1170.35	4.75	995.0
35	81.08	187.11	1087.11	18.50	82.32	189.97	1089.97	0.00	900.0
36	73.11	168.73	1158.73	67.75	78.15	180.35	1170.35	4.75	990.0
37	72.43	167.14	1157.14	67.75	78.26	180.60	1170.60	1.00	990.0
38	76.81	177.26	1161.26	66.25	89.04	205.47	1189.47	1.00	984.0
39	76.35	176.19	1161.19	66.25	88.57	204.39	1189.39	1.00	985.0
40	73.22	168.96	1160.96	66.25	85.44	197.16	1189.16	1.00	992.0
41	75.80	174.93	1160.93	66.25	88.03	203.14	1189.14	1.00	986.0
42	74.90	172.85	1160.85	66.25	87.12	201.05	1189.05	1.00	988.0
43	71.42	164.81	1160.81	66.25	83.63	193.00	1189.00	1.00	996.0
44	84.96	196.06	1166.06	66.25	100.42	231.74	1201.74	1.00	970.0
45	76.73	177.07	1087.07	18.50	77.99	179.97	1089.97	0.00	910.0
46	83.92	193.65	1161.65	66.25	96.25	222.12	1190.12	1.00	998.0
47	73.87	170.47	1161.47	66.25	86.11	198.71	1189.71	1.00	991.0
48	80.72	186.28	1161.28	66.25	92.76	214.06	1189.06	1.00	975.0
49	69.69	160.83	1080.83	18.50	73.61	169.86	1089.86	0.00	920.0
50	75.74	174.78	1160.78	66.25	87.86	202.76	1188.76	1.00	986.0
51	62.02	143.13	1078.13	18.50	67.09	154.81	1089.81	0.00	935.0
52	97.09	224.04	1164.04	66.25	110.51	255.03	1195.03	1.00	940.0
53	121.05	279.36	1077.36	18.50	126.45	291.80	1089.80	0.00	798.0
54	70.76	163.30	1077.30	18.50	76.18	175.80	1089.80	0.00	914.0
55	83.32	192.28	1077.28	18.50	88.75	204.80	1089.80	0.00	885.0
56	107.19	247.36	1077.36	18.50	112.58	259.80	1089.80	0.00	830.0
57	107.20	247.38	1077.38	18.50	112.58	259.80	1089.80	0.00	830.0
58	109.38	252.41	1077.41	18.50	114.75	264.80	1089.80	0.00	825.0
59	97.23	224.38	1144.38	66.25	110.97	256.08	1176.08	1.00	920.0
60	120.27	277.54	1077.54	18.50	125.58	289.80	1089.80	0.00	800.0
61	78.91	182.10	1078.10	18.50	83.99	193.81	1089.81	0.00	896.0
62	92.47	213.39	1078.39	18.50	97.42	224.82	1089.82	0.00	865.0

64	81.56	188.21	1077.21	18.50	87.01	200.80	1089.80	0.00	889.0
65	91.89	212.05	1085.05	18.50	94.00	216.93	1089.93	0.00	873.0
66	103.81	239.56	1144.56	66.25	117.45	271.05	1176.05	1.00	905.0
67	71.68	165.41	1157.41	66.25	83.38	192.41	1184.41	1.00	992.0
68	87.33	201.54	1156.54	66.25	98.19	226.60	1181.60	1.00	955.0
69	79.73	183.99	1138.99	7.00	79.73	184.00	1139.00	0.00	955.0
70	91.72	211.67	1151.67	66.25	104.93	242.15	1182.15	1.00	940.0
71	93.43	215.60	1150.60	66.25	106.50	245.76	1180.76	1.00	935.0
72	86.80	200.32	1150.32	66.25	100.48	231.87	1181.87	1.00	950.0
73	94.96	219.14	1149.14	66.25	108.98	251.49	1181.49	1.00	930.0
74	90.72	209.36	1149.36	66.25	104.68	241.58	1181.58	1.00	940.0
75	90.46	208.75	1148.75	66.25	104.49	241.12	1181.12	1.00	940.0
76	74.19	171.20	1151.20	66.25	87.05	200.89	1180.89	1.00	980.0
77	77.50	178.84	1148.84	66.25	91.36	210.83	1180.83	1.00	970.0
78	88.74	204.79	1132.79	66.25	109.44	252.56	1180.56	1.00	928.0
79	94.14	217.26	1132.26	66.25	115.07	265.55	1180.55	1.00	915.0
80	85.24	196.71	1143.71	66.25	99.74	230.16	1177.16	1.00	947.0
81	85.31	196.86	1161.86	66.25	97.84	225.79	1190.79	1.00	965.0
82	67.68	156.18	1078.18	18.50	72.72	167.81	1089.81	0.00	922.0
83	71.46	164.90	1077.90	18.50	76.62	176.81	1089.81	0.00	913.0
84	92.09	212.52	1162.52	66.25	105.04	242.40	1192.40	1.00	950.0
85	83.36	192.38	1162.38	66.25	96.13	221.83	1191.83	1.00	970.0
86	94.48	218.03	1153.03	66.25	106.62	246.05	1181.05	1.00	935.0
87	73.63	169.92	1159.92	66.25	86.02	198.50	1188.50	1.00	990.0
88	71.96	166.06	1161.06	66.25	84.03	193.93	1188.93	1.00	995.0
89	67.27	155.25	1160.25	68.00	71.75	165.59	1170.59	5.00	1005.0
90	80.81	186.49	1156.49	66.25	91.45	211.03	1181.03	1.00	970.0
91	55.51	128.09	1078.09	18.50	60.59	139.81	1089.81	0.00	950.0
92	85.29	196.83	1161.83	66.25	97.82	225.74	1190.74	1.00	965.0
93	54.64	126.09	1078.09	18.50	59.72	137.81	1089.81	0.00	952.0
94	81.56	188.22	1151.22	66.25	94.38	217.80	1180.80	1.00	963.0
95	69.89	161.29	1151.29	66.25	82.71	190.88	1180.88	1.00	990.0
96	55.12	127.20	1160.20	67.75	60.00	138.47	1171.47	1.00	1033.0
97	85.93	198.29	1156.29	66.25	98.13	226.44	1184.44	1.00	958.0
98	65.95	152.18	1162.18	66.25	78.99	182.27	1192.27	1.00	1010.0
99	66.00	152.32	1162.32	66.25	79.20	182.77	1192.77	1.00	1010.0
100	61.63	142.21	1162.21	66.25	74.76	172.52	1192.52	1.00	1020.0
101	75.27	173.71	1163.71	66.25	89.19	205.82	1195.82	1.00	990.0
102	82.13	189.53	1164.53	66.25	96.38	222.41	1197.41	1.00	975.0
103	86.10	198.70	1163.70	66.25	99.99	230.74	1195.74	1.00	965.0
104	68.39	157.83	1160.83	66.25	80.58	185.96	1188.96	1.00	1003.0
105	62.84	145.01	1161.01	66.25	74.97	173.01	1189.01	1.00	1016.0
106	74.29	171.44	1161.44	66.25	86.43	199.45	1189.45	1.00	990.0
107	95.32	219.96	1169.96	66.25	110.53	255.07	1205.07	1.00	950.0
108	82.09	189.45	1161.45	66.25	94.06	217.05	1189.05	1.00	972.0
109	107.95	249.12	1144.12	66.25	121.79	281.05	1176.05	1.00	895.0
110	103.62	239.12	1144.12	66.25	117.45	271.05	1176.05	1.00	905.0
111	96.35	222.35	1144.35	66.25	110.10	254.07	1176.07	1.00	922.0
112	92.51	213.49	1144.49	66.25	106.20	245.08	1176.08	1.00	931.0
113	90.84	209.64	1144.64	66.25	104.49	241.12	1176.12	1.00	935.0
114	85.13	196.45	1144.45	66.25	98.85	228.12	1176.12	1.00	948.0
115	86.29	199.13	1149.13	67.75	95.85	221.19	1171.19	1.00	950.0
116	84.70	195.45	1156.45	66.25	95.57	220.54	1181.54	1.00	961.0
117	88.53	204.29	1154.29	66.25	100.30	231.46	1181.46	1.00	950.0
118	88.49	204.20	1154.20	66.25	100.24	231.32	1181.32	1.00	950.0
119	87.91	202.87	1152.87	66.25	99.97	230.69	1180.69	1.00	950.0
120	77.98	179.94	1079.94	18.50	82.27	189.84	1089.84	0.00	900.0
121	91.06	210.15	1160.15	66.25	103.58	239.03	1189.03	1.00	950.0
122	78.09	180.20	1160.20	67.75	82.89	191.28	1171.28	1.00	980.0
123	89.76	207.13	1157.13	67.75	95.89	221.28	1171.28	1.00	950.0
124	68.02	156.97	1156.97	67.75	73.99	170.74	1170.74	1.00	1000.0
125	90.53	208.92	1148.92	67.75	100.16	231.14	1171.14	1.00	940.0
126	77.47	178.78	1148.78	67.75	87.18	201.19	1171.19	1.00	970.0
127	86.17	198.86	1148.86	67.75	95.85	221.19	1171.19	1.00	950.0
128	88.90	205.15	1160.15	66.25	101.41	234.03	1189.03	1.00	955.0
129	62.01	143.09	1078.09	18.50	67.09	154.81	1089.81	0.00	935.0
130	81.51	188.09	1078.09	18.50	86.59	199.81	1089.81	0.00	890.0
131	62.01	143.09	1078.09	18.50	67.09	154.81	1089.81	0.00	935.0
132	107.19	247.37	1077.37	18.50	112.58	259.80	1089.80	0.00	830.0
133	116.16	268.05	1078.05	18.50	121.25	279.81	1089.81	0.00	810.0
134	83.60	192.91	1077.91	18.50	88.75	204.81	1089.81	0.00	885.0
135	80.24	185.16	1160.16	66.25	92.75	214.05	1189.05	1.00	975.0



136	57.20	201.25	1150.25	50.25	58.10	220.39	1161.59	1.00	955.0
137	51.94	119.85	1089.85	7.00	52.00	120.00	1090.00	0.00	970.0
138	82.40	190.16	1160.16	66.25	94.92	219.04	1189.04	1.00	970.0
139	83.48	192.66	1162.66	66.25	96.37	222.39	1192.39	1.00	970.0
140	85.78	197.95	1162.95	66.25	98.78	227.95	1192.95	1.00	965.0
141	98.74	227.87	1077.87	18.50	103.92	239.81	1089.81	0.00	850.0
142	83.60	192.92	1077.92	18.50	88.75	204.81	1089.81	0.00	885.0
143	82.69	190.83	1148.83	67.75	92.38	213.19	1171.19	1.00	958.0
144	83.61	192.94	1077.94	18.50	88.75	204.81	1089.81	0.00	885.0
145	89.30	206.08	1166.08	66.25	104.76	241.74	1201.74	1.00	960.0
146	100.13	231.07	1166.07	66.25	115.59	266.74	1201.74	1.00	935.0
147	97.96	226.06	1166.06	66.25	113.42	261.74	1201.74	1.00	940.0
148	93.63	216.06	1166.06	66.25	109.09	251.74	1201.74	1.00	950.0
149	63.60	146.76	1086.76	18.50	64.98	149.96	1089.96	0.00	940.0
150	66.26	152.90	1077.90	18.50	71.42	164.81	1089.81	0.00	925.0
151	76.67	176.92	1077.92	18.50	81.82	188.81	1089.81	0.00	901.0
152	68.70	158.54	1085.54	18.50	70.61	162.94	1089.94	0.00	927.0
153	68.73	158.61	1085.61	18.50	70.61	162.94	1089.94	0.00	927.0
154	86.80	200.30	1150.30	66.25	100.48	231.87	1181.87	1.00	950.0
155	77.47	178.78	1148.78	67.75	87.18	201.19	1171.19	1.00	970.0
156	106.91	246.72	1144.72	66.25	120.53	278.14	1176.14	1.00	898.0
157	102.76	237.14	1077.14	18.50	108.24	249.79	1089.79	0.00	840.0
158	69.62	160.65	1160.65	66.25	81.54	188.17	1188.17	1.00	1000.0
159	90.42	208.67	1148.67	66.25	104.49	241.12	1181.12	1.00	940.0
160	86.24	199.02	1140.02	66.25	103.86	239.68	1180.68	1.00	941.0
161	98.68	227.72	1132.72	66.25	119.41	275.56	1180.56	1.00	905.0
162	78.54	181.24	1156.24	66.25	89.40	206.30	1181.30	1.00	975.0
163	85.00	196.15	1156.15	66.25	95.92	221.36	1181.36	1.00	960.0
164	85.81	198.02	1156.02	66.25	96.79	223.36	1181.36	1.00	958.0
165	79.94	184.48	1156.48	66.25	89.92	207.50	1179.50	1.00	972.0
166	72.31	166.87	1156.87	67.75	78.32	180.73	1170.73	1.00	990.0
167	72.29	166.83	1161.83	69.00	76.00	175.39	1170.39	5.00	995.0
168	90.17	208.08	1088.08	7.00	91.00	210.01	1090.01	0.00	880.0
169	90.09	207.89	1087.89	7.00	91.00	210.01	1090.01	0.00	880.0
170	109.06	251.69	1141.69	66.25	123.92	285.96	1175.96	1.00	890.0
171	109.24	252.10	1142.10	66.25	123.92	285.98	1175.98	1.00	890.0
172	60.73	140.15	1160.15	67.75	65.66	151.53	1171.53	1.00	1020.0
173	122.49	282.67	1132.67	66.25	143.24	330.55	1180.55	1.00	850.0
174	75.91	175.17	1160.17	66.25	88.42	204.05	1189.05	1.00	985.0
175	93.46	215.69	1160.69	66.25	106.02	244.66	1189.66	1.00	945.0
176	82.62	190.66	1160.66	66.25	95.17	219.63	1189.63	1.00	970.0
177	91.22	210.51	1160.51	66.25	103.77	239.47	1189.47	1.00	950.0
178	114.86	265.06	1140.06	66.25	130.39	300.90	1175.90	1.00	875.0
179	109.38	252.41	1143.41	66.25	123.89	285.91	1176.91	1.00	891.0
180	96.76	223.30	1143.30	66.25	111.27	256.77	1176.77	1.00	920.0
181	103.16	238.06	1133.06	66.25	123.74	285.56	1180.56	1.00	895.0
182	94.49	218.05	1133.05	66.25	115.08	265.56	1180.56	1.00	915.0
183	80.39	185.51	1160.51	66.25	92.94	214.47	1189.47	1.00	975.0
184	86.81	200.32	1160.32	66.25	99.34	229.25	1189.25	1.00	960.0
185	83.84	193.48	1156.48	66.25	93.89	216.66	1179.66	1.00	963.0
186	94.57	218.23	1143.23	66.25	109.06	251.67	1176.67	1.00	925.0
187	94.16	217.29	1142.29	66.25	109.06	251.67	1176.67	1.00	925.0
188	91.47	211.08	1166.08	66.25	106.92	246.74	1201.74	1.00	955.0
189	67.67	156.16	1161.16	66.25	79.47	183.40	1188.40	1.00	1005.0
190	70.65	163.05	1161.05	66.25	77.62	179.12	1177.12	1.00	998.0
191	76.28	176.02	1161.02	66.25	88.16	203.45	1188.45	1.00	985.0
192	57.29	132.20	1160.20	67.75	63.21	145.86	1173.86	1.00	1028.0
193	103.46	238.75	1088.75	7.00	103.98	239.96	1089.96	49.50	850.0
194	68.52	158.11	1078.11	18.50	73.59	169.81	1089.81	0.00	920.0
195	78.26	180.60	1078.60	18.50	83.12	191.82	1089.82	0.00	898.0
196	73.14	168.79	1078.79	18.50	77.92	179.82	1089.82	0.00	910.0
197	68.31	157.65	1160.65	66.25	80.32	185.35	1188.35	1.00	1003.0
198	80.09	184.83	1159.83	66.25	92.28	212.94	1187.94	1.00	975.0
199	76.11	175.65	1160.65	66.25	88.09	203.28	1188.28	1.00	985.0
200	51.94	119.86	1089.86	7.00	52.00	120.00	1090.00	0.00	970.0
201	93.10	214.84	1089.84	7.00	93.20	215.07	1090.07	0.00	875.0
202	78.28	180.64	1160.64	66.25	90.26	208.28	1188.28	1.00	980.0
203	89.76	207.15	1077.15	18.50	95.24	219.79	1089.79	0.00	870.0
204	98.43	227.15	1077.15	18.50	103.91	239.79	1089.79	0.00	850.0
205	98.42	227.13	1077.13	18.50	103.91	239.79	1089.79	0.00	850.0
206	102.76	237.13	1077.13	18.50	108.24	249.79	1089.79	0.00	840.0
207	77.64	179.16	1159.16	66.25	85.10	196.39	1176.39	1.00	980.0
208	79.34	183.09	1173.09	66.25	95.15	219.58	1209.58	1.00	990.0

209	75.77	203.90	1175.40	67.75	79.71	165.99	1175.99	4.75	990.0
210	87.32	201.51	1161.51	66.25	99.43	229.44	1189.44	1.00	960.0
211	64.81	149.56	1159.56	66.25	72.77	167.94	1177.94	1.00	1010.0
212	86.80	200.30	1160.30	66.25	95.05	219.34	1179.34	1.00	960.0
213	94.43	217.92	1077.92	18.50	99.58	229.81	1089.81	0.00	860.0
214	68.91	159.02	1078.02	18.50	74.02	170.81	1089.81	0.00	919.0
215	72.79	167.98	1077.98	18.50	77.92	179.81	1089.81	0.00	910.0
216	66.54	153.56	1088.56	18.50	67.16	154.99	1089.99	0.00	935.0
217	55.97	129.16	1089.16	7.00	56.34	130.03	1090.03	0.00	960.0
218	73.18	168.87	1088.87	18.50	73.67	170.01	1090.01	0.00	920.0
219	77.18	178.12	1158.12	66.25	85.53	197.38	1177.38	1.00	980.0
220	81.13	187.22	1157.22	66.25	90.26	208.29	1178.29	1.00	970.0
221	78.53	181.22	1157.22	66.25	87.66	202.29	1178.29	1.00	976.0
222	75.88	175.11	1160.11	66.25	88.39	203.97	1188.97	1.00	985.0
223	80.29	185.29	1160.29	66.25	92.83	214.22	1189.22	1.00	975.0
224	78.25	180.57	1160.57	66.25	90.80	209.55	1189.55	1.00	980.0
225	68.24	157.48	1077.48	18.50	73.58	169.80	1089.80	0.00	920.0
226	83.29	192.22	1077.22	18.50	88.74	204.80	1089.80	0.00	885.0
227	81.26	187.51	1077.51	18.50	86.58	199.80	1089.80	0.00	890.0
228	72.78	167.95	1088.95	7.00	73.24	169.01	1090.01	0.00	921.0
229	89.94	207.55	1077.55	18.50	95.25	219.80	1089.80	0.00	870.0
230	88.65	204.57	1079.57	18.50	93.10	214.84	1089.84	0.00	875.0
231	79.85	184.26	1089.26	7.00	80.18	185.03	1090.03	0.00	905.0
232	89.39	206.28	1077.28	18.50	94.81	218.80	1089.80	0.00	871.0
233	59.49	137.28	1077.28	18.50	64.91	149.80	1089.80	0.00	940.0
234	89.67	206.94	1156.94	67.75	95.91	221.33	1171.33	1.00	950.0
235	88.61	204.48	1149.48	66.25	102.53	236.61	1181.61	1.00	945.0
236	92.92	214.43	1149.43	66.25	106.86	246.60	1181.60	1.00	935.0
237	83.34	192.33	1157.33	66.25	95.80	221.07	1186.07	1.00	965.0
238	58.90	135.92	1165.92	66.25	74.42	171.74	1201.74	1.00	1030.0
239	89.54	206.63	1166.63	66.25	103.91	239.79	1199.79	1.00	960.0
240	82.46	190.29	1165.29	66.25	96.98	223.80	1198.80	1.00	975.0
241	75.86	175.07	1155.07	67.75	82.80	191.08	1171.08	1.00	980.0
242	98.12	226.43	1156.43	67.75	104.46	241.06	1171.06	1.00	930.0
243	76.61	176.79	1156.79	67.75	82.70	190.85	1170.85	1.00	980.0
244	79.02	182.35	1132.35	66.25	99.90	230.55	1180.55	1.00	950.0
245	97.85	225.81	1155.81	67.75	104.46	241.07	1171.07	1.00	930.0
248	71.02	163.88	1165.88	66.25	86.55	199.74	1201.74	1.00	1002.0
250	68.97	159.17	1159.17	66.25	76.63	176.83	1176.83	1.00	1000.0
251	77.18	178.11	1158.11	66.25	85.54	197.41	1177.41	1.00	980.0
252	60.72	140.12	1160.12	66.25	67.65	156.11	1176.11	1.00	1020.0
253	60.78	140.27	1160.27	68.00	65.40	150.92	1170.92	1.00	1020.0
254	73.72	170.13	1159.13	66.25	86.04	198.55	1187.55	1.00	989.0
255	75.77	174.84	1158.84	66.25	88.05	203.20	1187.20	1.00	984.0
256	77.50	178.84	1158.84	66.25	89.78	207.19	1187.19	1.00	980.0
257	77.62	179.12	1159.12	66.25	89.94	207.56	1187.56	1.00	980.0
258	67.65	156.11	1159.11	66.25	79.98	184.57	1187.57	1.00	1003.0
259	81.95	189.12	1159.12	66.25	94.28	217.58	1187.58	1.00	970.0
260	81.96	189.14	1159.14	66.25	94.29	217.58	1187.58	1.00	970.0
261	96.90	223.61	1158.61	66.25	109.10	251.77	1186.77	1.00	935.0
262	66.71	153.95	1088.95	7.00	67.17	155.01	1090.01	0.00	935.0
263	68.90	159.01	1089.01	7.00	69.34	160.02	1090.02	0.00	930.0
264	66.71	153.95	1088.95	7.00	67.17	155.01	1090.01	0.00	935.0
265	84.29	194.52	1089.52	7.00	84.52	195.05	1090.05	0.00	895.0
266	90.31	208.41	1158.41	66.25	103.07	237.85	1187.85	1.00	950.0
267	101.28	233.72	1088.72	7.00	101.84	235.03	1090.03	0.00	855.0
268	113.88	262.80	1087.80	7.00	114.82	264.96	1089.96	49.50	825.0
269	100.91	232.86	1087.86	7.00	101.82	234.97	1089.97	49.50	855.0
270	81.43	187.90	1087.90	7.00	82.32	189.98	1089.98	49.50	900.0
271	90.11	207.94	1087.94	7.00	90.99	209.98	1089.98	0.00	880.0
272	101.03	233.14	1088.14	7.00	101.83	234.99	1089.99	0.00	855.0
273	94.41	217.87	1157.87	66.25	106.94	246.78	1186.78	1.00	940.0
274	92.01	212.34	1158.34	66.25	104.44	241.01	1187.01	1.00	946.0
275	88.98	205.34	1158.34	66.25	101.40	234.01	1187.01	1.00	953.0
276	116.27	268.31	1088.31	7.00	116.98	269.96	1089.96	49.50	820.0
277	92.94	214.48	1077.48	18.50	98.28	226.80	1089.80	0.00	863.0
278	104.94	242.18	1077.18	18.50	110.41	254.79	1089.79	0.00	835.0
279	111.43	257.15	1077.15	18.50	116.91	269.79	1089.79	0.00	820.0
280	107.07	247.08	1077.08	18.50	112.58	259.79	1089.79	0.00	830.0
281	107.06	247.06	1077.06	18.50	112.58	259.79	1089.79	0.00	830.0
282	68.41	157.87	1077.87	18.50	73.58	169.81	1089.81	0.00	920.0
283	85.62	197.59	1077.59	18.50	90.91	209.80	1089.80	0.00	880.0
284	63.57	146.70	1086.70	18.50	64.98	149.96	1089.96	0.00	940.0

286	59.42	137.12	1087.12	18.50	60.65	139.97	1089.97	0.00	950.0
287	55.08	127.12	1087.12	18.50	56.32	129.97	1089.97	0.00	960.0
288	70.93	163.68	1088.68	18.50	71.50	164.99	1089.99	0.00	925.0
289	91.82	211.89	1086.89	7.00	93.14	214.95	1089.95	49.50	875.0
290	61.47	141.85	1161.85	69.00	65.17	150.39	1170.39	5.00	1020.0
291	63.20	145.84	1161.84	69.00	66.90	154.39	1170.39	5.00	1016.0
292	75.36	173.91	1088.91	7.00	75.84	175.01	1090.01	0.00	915.0
293	64.53	148.91	1088.91	18.50	65.00	150.01	1090.01	0.00	940.0
294	81.86	188.91	1088.91	18.50	82.33	190.00	1090.00	0.00	900.0
295	58.90	135.92	1088.92	7.00	59.37	137.01	1090.01	0.00	953.0
296	90.31	208.42	1158.42	66.25	103.07	237.85	1187.85	1.00	950.0
297	79.70	183.92	1088.92	7.00	80.17	185.01	1090.01	0.00	905.0
298	72.93	168.31	1158.31	66.25	85.67	197.70	1187.70	1.00	990.0
299	88.18	203.50	1158.50	66.25	100.94	232.93	1187.93	1.00	955.0
300	66.15	152.65	1159.65	66.25	78.72	181.67	1188.67	1.00	1007.0
301	74.66	172.29	1158.29	66.25	87.38	201.66	1187.66	1.00	986.0
302	93.80	216.47	1166.47	66.25	108.87	251.23	1201.23	1.00	950.0
303	93.59	215.98	1165.98	66.25	108.59	250.58	1200.58	1.00	950.0
304	82.45	190.28	1165.28	66.25	97.00	223.84	1198.84	1.00	975.0
305	82.15	189.57	1165.57	66.25	96.96	223.75	1199.75	1.00	976.0
306	80.57	185.93	1165.93	66.25	95.54	220.47	1200.47	1.00	980.0
307	93.39	215.52	1165.52	66.25	108.17	249.63	1199.63	1.00	950.0
308	82.74	190.94	1165.94	66.25	97.72	225.51	1200.51	1.00	975.0
309	93.52	215.82	1165.82	66.25	108.47	250.33	1200.33	1.00	950.0
310	102.76	237.14	1077.14	18.50	108.24	249.79	1089.79	0.00	840.0
311	86.08	198.66	1158.66	66.25	98.32	226.90	1186.90	1.00	960.0
312	107.84	248.87	1143.87	66.25	121.78	281.04	1176.04	1.00	895.0
313	101.43	234.07	1144.07	66.25	115.29	266.05	1176.05	1.00	910.0
314	89.48	206.48	1156.48	66.25	99.10	228.69	1178.69	1.00	950.0
315	95.96	221.45	1144.45	66.25	109.72	253.21	1176.21	1.00	923.0
316	101.38	233.96	1144.96	66.25	114.93	265.22	1176.22	1.00	911.0
317	95.40	220.16	1077.16	18.50	100.88	232.79	1089.79	0.00	857.0
318	115.76	267.14	1077.14	18.50	121.24	279.79	1089.79	0.00	810.0
319	92.93	214.45	1144.45	66.25	106.64	246.09	1176.09	1.00	930.0
320	99.34	229.25	1144.25	66.25	113.13	261.06	1176.06	1.00	915.0
321	68.15	157.28	1077.28	18.50	73.58	169.80	1089.80	0.00	920.0
322	143.99	332.29	1077.29	18.50	149.41	344.80	1089.80	0.00	745.0
323	115.84	267.33	1077.33	18.50	121.25	279.80	1089.80	0.00	810.0
324	98.49	227.29	1077.29	18.50	103.91	239.80	1089.80	0.00	850.0
325	69.20	159.69	1079.69	18.50	73.60	169.84	1089.84	0.00	920.0
326	94.94	219.09	1149.09	67.75	104.50	241.15	1171.15	1.00	930.0
327	89.86	207.38	1077.38	18.50	95.25	219.80	1089.80	0.00	870.0
328	108.00	249.24	1144.24	66.25	121.79	281.05	1176.05	1.00	895.0
329	77.51	178.86	1148.86	67.75	87.18	201.19	1171.19	1.00	970.0
330	89.67	206.93	1156.93	67.75	95.91	221.33	1171.33	1.00	950.0
331	83.24	192.10	1150.10	66.25	92.63	213.77	1171.77	1.00	958.0
332	75.00	173.07	1158.07	67.75	80.73	186.30	1171.30	1.00	985.0
333	71.05	163.95	1161.95	66.25	75.48	174.19	1172.19	1.00	998.0
334	78.49	181.12	1161.12	66.25	85.68	197.72	1177.72	1.00	980.0
338	70.15	161.88	1161.88	68.75	73.86	170.44	1170.44	4.75	1000.0
339	70.15	161.88	1161.88	68.75	73.85	170.43	1170.43	4.75	1000.0
O-AV-1	56.27	129.86	1161.86	69.00	58.97	136.08	1168.08	0.00	1032.0
FGN-BB	79.73	184.00	1139.00	0.00	79.73	184.00	1139.00	0.00	955.0
I-Pump-1	79.30	183.00	1173.00	67.75	79.71	183.95	1173.95	4.75	990.0
I-Pump-2	79.47	183.40	1173.40	67.75	79.71	183.95	1173.95	4.75	990.0
R-1	81.90	189.00	1174.00	0.00	81.90	189.00	1174.00	0.00	985.0
I-RV-1	96.23	222.08	1142.08	66.25	111.22	256.67	1176.67	1.00	920.0
I-RV-2	108.81	251.10	1141.10	67.75	121.64	280.70	1170.70	1.00	890.0
I-RV-R1	114.86	265.06	1140.06	66.25	130.39	300.90	1175.90	1.00	875.0
I-RV-R2	77.47	178.78	1148.78	67.75	87.18	201.19	1171.19	1.00	970.0
TANK-A	56.27	129.85	1161.85	69.00	58.93	136.00	1168.00	0.00	1032.0
TANK-B	67.27	155.24	1160.24	68.00	71.76	165.60	1170.60	5.00	1005.0
TANK-C	59.30	136.84	1161.84	69.00	63.00	145.39	1170.39	5.00	1025.0
O-Pump-1	79.34	183.09	1173.09	66.25	95.34	220.03	1210.03	1.00	990.0
Pump-2	79.34	183.09	1173.09	66.25	95.15	219.58	1209.58	1.00	990.0
-AV-1	56.28	129.88	1161.88	68.75	60.05	138.58	1170.58	1.00	1032.0
RV-R1	93.20	215.08	1090.08	0.00	93.20	215.08	1090.08	0.00	875.0
O-RV-R2	52.00	120.00	1090.00	0.00	52.00	120.00	1090.00	0.00	970.0
O-RV-1	73.60	169.85	1089.85	5.00	73.65	169.96	1089.96	49.50	920.0
O-RV-2	86.70	200.08	1090.08	0.00	86.70	200.08	1090.08	0.00	890.0

\*\*\*\*\* HYDRAULIC ANALYSIS COMPLETED \*\*\*\*\*



March 7, 2012

The Board of Commissioners of the Jessamine South Elkhorn **Water** District on March 7, 2012, with the following Commissioners present: Nick Strong, George Dale Robinson, J F Hall, Jerry Haws and John Blackford. John Horne, Bruce Smith, Christopher Horne, Tom Smith, Ron Eldridge and Diana Clark were also present.

There was a review of the Aged Receivables.

There was a brief discussion on obtaining bids for the 2013 auditor.

There was a brief discussion on the **Forest Hill** Group status which was no change. It was suggested that a letter be sent to PSC to request an excuse for not building the storage tank since the District cannot get a ruling on the case. Tom reminded the Board that the PSC inspection was coming up and the inspector would ask about the tank since the District is in violation of sufficient storage. Mr. Smith will provide the case number to reference if the question comes up during the inspection. It was suggested to wait until the PSC inspection and then write the letter if necessary.

Tom presented pressure data charts for review. It was suggested to install chart recorders and transducers for the same time.

There was a discussion on the easements for the **KY 169** waterline relocation.

Mr. Smith reported on the **City of Nicholasville Water Purchase Contract Amendment**. A motion to authorize the signing of the revised amendment was made by Mr. Robinson, seconded by Mr. Blackford – approved.

Mr. Horne reported on the upcoming sale of the new bond to replace the Series 2000 RD Bond.

Ron reported on the water leaks found during the last month.

A motion to approve the minutes of the February meeting was made by Mr. Haws, seconded by Mr. Hall – approved.

A motion to approve the February bills and pre-approval for the contractual payables was made by Mr. Hall, seconded by Mr. Blackford – approved.

The Commissioners were given the following reports for review: Income Statement, Balance Sheet, Water Loss Report, Aged Receivables, and contractual payables for pre-approval.

The Board went into closed session for an employee's evaluation.

There being no further business to come before the Board, meeting adjourned.

ATTEST:

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\_\_\_\_\_  
Chairman

October 5, 2011

The Board of Commissioners of the Jessamine South Elkhorn **Water** District on October 5, 2011, with the following Commissioners present: Nick Strong, George Dale Robinson, J F Hall, Jerry Haws and John Blackford. John Horne, Bruce Smith, Christopher Horne, Tim Bullock, Tom Smith, Ron Eldridge and Diana Clark were also present.

Ron reported that both PRV vaults were up and working and the pressures had be set to balance out the system. Christopher gave a report on a pressure survey.

There was a review of the Aged Receivables. There was a discussion on the JAH and Peterson invoices.

Action by the PSC on the **Forest Hill** Group complaint motion to dismiss is still pending.

Mr. Smith reported that the Circuit Court decision on the **Forest Creek** lawsuit had been appealed. The PSC decision on the motion to dismiss is still pending.

Christopher reported on the leak detection program which is on hold at the present. He recommended using the remaining funds from the Unserved II project to install an additional PRV. A motion to purchase a new PRV contingent on approval from KIA to use the funds was made by Mr. Hall, seconded by Mr. Blackford – approved.

Ron reported on recovering the excavator on Hunters Ferry.

Mr. Strong reported that the retainage for Staton's Construction (**Unserved II**) is being reduced down to 5% based on a previous contingent motion and on their follow-through with the warranty bond and releases. The District has accepted the property releases which have been presented.

A motion to approve Change Order #6 on the **Unserved II** project was made by Mr. Hall, seconded by Mr. Robinson – approved.

A motion to approve Pay Estimate #23 for Staton's Construction (Unserved II) was made by Mr. Robinson, seconded by Mr. Blackford – approved.

The estimates for repairing the front sidewalk were presented. A motion for Gary Morgan to complete the work was made by Mr. Haws, seconded by Mr. Blackford – approved.

Preliminary figures for the 2012 Budget were presented to the Board.

A motion to approve the amended minutes of the September meeting was made by Mr. Robinson, seconded by Mr. Blackford – approved.

A motion to approve the September bills and pre-approval for the contractual payables was made by Mr. Robinson, seconded by Mr. Hall – approved.

The Commissioners were given the following reports for review: Income Statement, Balance Sheet, Water Loss Report, Aged Receivables, and contractual payables for pre-approval.

September 12, 2011

The Board of Commissioners of the Jessamine South Elkhorn **Water** District on September 12, 2011, with the following Commissioners present: Nick Strong, George Dale Robinson, Jerry Haws and John Blackford. John Horne, Bruce Smith, Christopher Horne, Tim Bullock, Tom Smith, Ron Eldridge and Diana Clark were also present.

Ron reported on the repairs and settings of the PRV vaults. There were several complaints from customers concerning the low pressures.

There was a review of the Aged Receivables.

Mr. Smith reported that he had filed a motion to dismiss the **Forest Hill** Group complaint. No decision has been received from PSC.

Mr. Smith reported that PSC had issued an order on the **Forest Creek** case after the Jessamine Co Circuit Court had ruled that PSC had jurisdiction. It was discussed whether to appeal the Circuit Court's ruling. A motion to appeal the Circuit Court's ruling was made by Mr. Haws, seconded by Mr. Blackford – approved.

Mr. Horne presented a copy of the SRF Loan Application. A motion to authorize the resolution for the SRF Loan Application for the **Northwest Watermain / Dixon Town** project was made by Mr. Robinson, seconded by Mr. Blackford – approved.

A motion to authorize a Change Order for additional inspection time on the **Unserved II** project was made by Mr. Blackford, seconded by Mr. Robinson – approved.

Christopher and Tom reported on a local IT repair on the water telemetry.

Mr. Horne reported on surplus funds from the **Unserved II** project. He requested using the funds for existing problems within the District. The State responded that it was possible to use the funds and anything under \$100,000 could be used by obtaining bids.

There was a discussion on a request from Staton's for reduction of the retainage. A contingent motion based on review of necessary documents to reduce the retainage to 5% on the Staton's Construction contract (**Unserved II**) was made by Mr. Blackford, seconded by Mr. Robinson – approved.

Mr. Blackford brought up the issue of a heavy piece of equipment left by D F Bailey during the Southeast II project that has not been removed for several years and is sitting on the District's easement. Ron was instructed to remove it.

The Christmas party has been set for December 16<sup>th</sup> at Giuseppe's.

Tom requested permission to have an old meter service removed from 9006 Harrodsburg Rd. This is considered a general maintenance issue.

A motion to approve the minutes of the August meeting was made by Mr. Blackford, seconded by Mr. Robinson – approved.

A motion to approve the August bills and pre-approval for the contractual payables was made by Mr. Robinson, seconded by Mr. Blackford – approved.



June 1, 2011

The Board of Commissioners of the Jessamine South Elkhorn **Water** District on June 1, 2011, with the following Commissioners present: Nick Strong, Jerry Haws, J. F. Hall, George Dale Robinson and John Blackford. John Horne, Bruce Smith, Christopher Horne, Tom Smith, Ron Eldridge, Tim Bullock and Diana Clark were also present.

Leta Mattingly and Nancy Clark, auditors, addressed the Board with a review of the 2010 audit. Mr. Strong signed the Management Assertion letter stating all records were made available to them.

There was a review of the Aged Receivables. Mr. Smith is sending a letter to R & J Petersen concerning his outstanding balance.

Mr. Smith reported that Forest Hill Group had filed a complaint with the PSC concerning the **tank site** relocation and Mr. Smith has answered the complaint. Due to the complaint, the District has put a hold on the tank project.

Ron and Christopher reported on the progress of the PRV vaults.

A motion to approve the KIA Grant Draw 7 for the **Unservd II** project was made by Mr. Robinson, seconded by Mr. Blackford – approved.

Christopher reported on the Leak Detection Program directed by the Board. The first issue was to have the master meters tested by Dyer's Meter Service. Tom reported that Ky Am Water refused to allow the District to test the meters and KAWC would have the meters tested by their service with Tom, Ron and Christopher present. If necessary, PSC would be asked to step in and test the meters. Secondly, Christopher also suggested checking the stream crossing meters for leaks. Thirdly, Christopher reviewed the outline of dividing the system into thirteen segments with testing done monthly on each segment. Each segment would cost approximately \$4600 and would be prioritized based on high pressure areas and age of lines.

Christopher reported that Tom Calkins had been approached by an engineer to solicit him for the project of changing the District's water supply from Ky Am to the City of Nicholasville.

A motion to approve the minutes of the May meeting was made by Mr. Blackford, seconded by Mr. Robinson – approved.

A motion to approve the May bills and pre-approval for the contractual payables was made by Mr. Blackford, seconded by Mr. Robinson – approved.

There was a brief discussion on bidding the audit.

The Marefats, 355 E Cambridge, requested to possibly disconnect their irrigation system from that meter and connect to their house meter. Options were given and will be passed on to the customer.

There was a discussion on the insurance coverage. Proposals were submitted by KACo and Old Colony Insurance Services. A motion to accept the proposal from Scottsdale Indemnity Co and Kemi Insurance was made by Mr. Robinson, seconded by Mr. Hall – approved. Mr. Strong abstained from voting.

The Commissioners were given the following reports for review: Income Statement, Balance Sheet, Water Loss Report, Aged Receivables, and contractual payables for pre-approval.

May 4, 2011

The Board of Commissioners of the Jessamine South Elkhorn **Water** District on May 4, 2011, with the following Commissioners present: Nick Strong, Jerry Haws, J. F. Hall, George Dale Robinson and John Blackford. John Horne, Bruce Smith, Christopher Horne, Tom Smith, Ron Eldridge, Tim Bullock and Diana Clark were also present.

There was a review of the Aged Receivables.

The audit was distributed to the Board members for review. The auditors are scheduled to appear before the Board during the June meeting.

Mr. Smith reported that Forest Hill Group had filed a complaint with the PSC concerning the **tank site** relocation.

Mr. Smith presented a check for \$26,750.00 from the Melvin Jones (**Unservd II**) Bond Forfeiture.

Christopher reported on the PRV vaults and the repairs to the vaults. It was suggested the vaults be cleaned annually. Christopher reported that repairing the PRV vaults and putting them in service should reduce the water loss.

There was a discussion on the water loss report. The Board authorized Tom, Ron and Christopher to develop a program of leak detection and present during the June meeting. Tom suggested that the master meters first be tested by Dyer to check the accuracy. Tom requested authorization that if the testing was under \$1000, he could go ahead and have the testing done.

A motion to approve Pay Estimate #6 for Staton's Construction (**Unservd II**) was made by Mr. Blackford, seconded by Mr. Hall – approved.

A motion to approve the KIA Grant Draw 6 for the **Unservd II** project was made by Mr. Haws, seconded by Mr. Robinson – approved.

Mr. Horne reported that the City of Nicholasville supply connection discussion is still on-going.

A motion to authorize the signing of a letter to Rural Dev concerning the withdrawal of the loan application for the Catnip Hill **tank site** was made by Mr. Hall, seconded by Mr. Robinson – approved.

A motion to approve the minutes of the April meeting was made by Mr. Blackford, seconded by Mr. Robinson – approved.

A motion to approve the minutes of the Special meeting was made by Mr. Robinson, seconded by Mr. Blackford – approved.

A motion to approve the April bills and pre-approval for the contractual payables was made by Mr. Blackford, seconded by Mr. Robinson – approved.

There was a discussion on updating the billing system which has to be done before the end of year.

The Commissioners were given the following reports for review: Income Statement, Balance Sheet, Water Loss Report, Aged Receivables, and contractual payables for pre-approval.

April 12, 2011

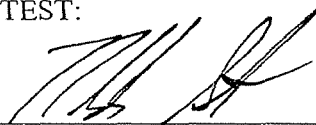
Special Meeting

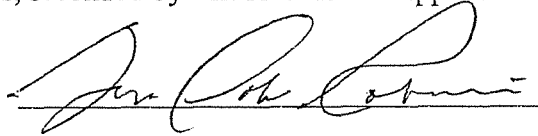
A Special Meeting was held April 12, 2011 with the following Commissioners present: Nick Strong, John Blackford, Jerry Haws and George Dale Robinson. John Horne was also present.

A motion to adopt the resolution of Kentucky Rural Water Finance Corporation for bond issue of \$1,565,000 for financing of the Catnip Hill elevated tank was made by Mr. Robinson, seconded by Mr. Blackford – approved.

A motion to adjourn was made by Mr. Haws, seconded by Mr. Robinson – approved.

ATTEST:

  
\_\_\_\_\_  
Chairman

  
\_\_\_\_\_  
George Dale Robinson

March 2, 2011

The Board of Commissioners of the Jessamine South Elkhorn **Water** District on March 2, 2011, with the following Commissioners present: Nick Strong, Jerry Haws, J. F. Hall, and John Blackford. John Horne, Bruce Smith, Christopher Horne, Tom Smith, Ron Eldridge, Tim Bullock and Diana Clark were also present.

A motion to approve the minutes of the February meeting was made by Mr. Blackford, seconded by Mr. Hall - approved.

Sonny Bates and Logan Davis, Forest Hills, addressed the Board with concerns on the **Catnip Hill Tank** relocation. Several issues were discussed: 1) The timeline for funding, 2) A clear title on the proposed site, and 3) The impact of Forest Hills residents and Harrods Ridge residents. There was a continued discussion after the representatives left the meeting. The consensus of the Board was to proceed with the original site. Mr. Smith will send a letter.

There was a review of the Aged Receivables.

Mr. Smith reported that **Forest Brook** had filed a counter claim with Jessamine Circuit Court and the District had answered the counter claim.

Mr. Smith reported the tariff amendments were ready to file subject to his review.

A motion to approve Pay Estimate #4 for Staton's Construction (**Unservd II**) was made by Mr. Blackford, seconded by Mr. Haws – approved.

A motion to approve the KIA Grant Draw 4 for the **Unservd II** project was made by Mr. Blackford, seconded by Mr. Hall – approved.

Christopher outlined the City of Nicholasville supply connections. He also supplied a construction cost comparison. The City has adequate capacity to supply the District. It was suggested to set up a meeting to obtain a commitment from the City.

Christopher gave a follow up on the flow tests.

A motion to approve the February bills and pre-approval for the contractual payables was made by Mr. Blackford, seconded by Mr. Hall – approved.

A financial meeting was set for Tuesday, March 8<sup>th</sup>, 10:00 AM.

The Commissioners were given the following reports for review: Income Statement, Balance Sheet, Water Loss Report, Aged Receivables, and contractual payables for pre-approval.

There being no further business to come before the Board, meeting adjourned.

ATTEST:

\_\_\_\_\_

\_\_\_\_\_ Chairman

January 5, 2011

The Board of Commissioners of the Jessamine South Elkhorn **Water** District on January 5, 2011, with the following Commissioners present: Nick Strong, George Dale Robinson, Jerry Haws, J. F. Hall, and John Blackford. John Horne, Bruce Smith, Christopher Horne, Tom Smith, Ron Eldridge and Diana Clark were also present.

Sonny Bates, Forest Hills, addressed the Board concerning the relocation of the **Catnip Hill Tank**. He presented a letter from the Forest Hills Owners Association (FHOA) requesting to relocate. He also presented a letter from Ronald Brown giving the intent to sell the property to the FHOA to be transferred to the District in exchange for the present tank site. Mr. Strong asked Mr. Horne to evaluate the existing expenses which the District has incurred on the present site and which will be required to bring the new site to equal value if the relocation takes place. This evaluation will be presented to the FHOA for review before the next meeting.

There was a review of the Aged Receivables.

Mr. Smith filed a suit against **Forest Creek, LLC**. No response had been received. There was a discussion on revising the extension tariff.

Mr. Strong is reviewing the KACo insurance coverage.

Mr. Horne reported that the **Catnip Hill Tank** is back on the table with RD funding. The RD loan application is being resubmitted. One requirement of the loan process is an Environmental Report. A motion to authorize Horne Engineering to investigate and present proposals from firms on the environmental study was made by Mr. Blackford, seconded by Mr. Robinson – approved. A motion to approve the KIA Grant Draw 1 was made by Mr. Robinson, seconded by Mr. Blackford – approved. A motion to approve the KIA Engineering contract was made by Mr. Hall, seconded by Mr. Blackford – approved. Mr. Horne reported the design had been approved; however, with the possibility of relocation of the site, the project would have to be redesigned and approved before going to bid.

A motion to approve Pay Estimate #2 for Staion's Construction (**Unservd II**) was made by Mr. Robinson, seconded by Mr. Blackford – approved.

A motion to approve the KIA Grant Draw 1 for the **Unservd II** project was made by Mr. Haws, seconded by Mr. Blackford – approved.

A motion to approve the KIA Grant Draw 2 for the **Unservd II** project was made by Mr. Robinson, seconded by Mr. Blackford – approved.

Mr. Smith is working on submitting the documents for the Melvin Jones Bond Forfeiture (**Unservd II**).

There was a discussion on the Purchased Water Adjustment. A motion to approve the adjusted rate increase, based on the approval of KY AM Water rates, City of Nicholasville rates, and the KY AM meter service rate, was made by Mr. Robinson, seconded by Mr. Hall – approved. The effective date of the adjustment is January 5, 2011.

A motion to approve the amended minutes of the December meeting was made by Mr. Robinson, seconded by Mr. Haws - approved.

A motion to approve the December bills and pre-approval for the contractual payables was made by Mr. Robinson, seconded by Mr. Blackford – approved.

December 1, 2010

The Board of Commissioners of the Jessamine South Elkhorn **Water** District on December 1, 2010, with the following Commissioners present: Nick Strong, George Dale Robinson, Jerry Haws, J. F. Hall, and John Blackford. John Horne, Bruce Smith, Christopher Horne, Tom Smith, Tim Bullock, Ron Eldridge and Diana Clark were also present.

Sonny Bates and Mr. McMillen from Forest Hill addressed the Board to further discuss the relocation of the **tank site**. They are talking to both Mrs. Switzer and Mr. Brown about a possible tank site.

There was a review of the Aged Receivables.

There was a discussion on the Olde Village outstanding invoice. Mr. Smith had discussed this issue with PSC who responded that the Olde Village Neighborhood Association was not a customer of the District so the PSC was not involved. The alternative option is to sue the fencing installer and the neighborhood association for damages. A motion to instruct Mr. Smith to file suit in Small Claims Court was made by Mr. Haws, seconded by Mr. Robinson – approved.

Tom gave a report on the leak detector meter which was inconclusive at this time.

Mr. Horne reported on the **Keene Manor** takeover. Mr. McQueen indicated that the Homeowners Association would either pursue the takeover or install separate irrigation meters.

The Purchased Water Agreement had been submitted to PSC with rates to increase with the December billing.

Mr. Smith gave an update on the Forest Brook (**Forest Creek**) status. Mr. Smith and Mr. Horne met with Jerry Wuetcher and several others from the PSC, as well as, the Attorney General via phone to discuss further the options for an extension. Mr. Smith passed on the information from the meeting to Bobby Gullette to which Mr. Gullette responded with a letter. The PSC suggested the District revise the tariff to expand on details of each option. Since the developer had already signed the Extension Agreement with Option 2, the question is whether the Agreement is binding. Another issue was an assessment to the project with limited control by PSC. The possibility of the District requiring a loan to finance the refunding to the developer of the distribution lines was also mentioned which could cause a delay in the process. A motion to authorize Mr. Smith and Mr. Horne to revise the extension tariff was made by Mr. Hall, seconded by Mr. Blackford – approved. The Board suggested that Mr. Smith explain to Mr. Gullette that the refund process does not include the transmission lines and the tank. A tentative motion to authorize Mr. Smith to file a declaratory judgment action with PSC or Jess Co Courts based on Mr. Gullette's response to Mr. Smith was made by Mr. Haws, seconded by Mr. Robinson – approved.

A motion to authorize Mr. Horne to proceed with the bid process on the **Catnip Tank** was made by Mr. Haws, seconded by Mr. Hall – approved.

Mr. Strong reported that after a review of the bonding figures presented by KRWFC, the rates were very good and it was suggested that one of the existing water bonds be rolled over to KRWFC.

A motion to approve Pay Estimate #1 for Staton's Construction (**Unservd II**) was made by Mr. Blackford, seconded by Mr. Robinson – approved.

Christopher reported on the points of supply of water from City of Nicholasville. A motion to authorize Horne Engineering to perform the necessary analysis was made by Mr. Blackford, seconded by Mr. Robinson – approved.

November 3, 2010

The Board of Commissioners of the Jessamine South Elkhorn **Water** District on November 3, 2010, with the following Commissioners present: Nick Strong, Jerry Haws, J. F. Hall, and John Blackford. John Horne, Bruce Smith, Christopher Horne, Tom Smith, Tim Bullock, Ron Eldridge and Diana Clark were also present.

Bobby Gullette, representing James Kelley, addressed the Board with a request from Mr. Kelley for a refund on the months he did not have usage on the sprinkler meter at 207 Golf Club. Mr. Smith will research the tariff and respond to Mr. Kelley. A history of Mr. Kelley's usage was presented to the Board for review.

Sonny Bates and another representative from Forest Hill addressed the Board to further discuss the relocation of the **tank site**.

Mr. Smith reported on the PSC response to the Codification of Adopted Policies. PSC stated that any policy associated with funds or charges must be included in the Tariff. Mr. Smith and Mr. Horne will review the policies and present new or amended tariffs to the Board for approval.

There was a review of the Aged Receivables.

Tom reported on the leak detections throughout the month.

Mr. Horne reported Danny McQueen had not taken steps to take over the **Keene Manor** Cluster System as yet.

A motion to sign the Grant Agreement for the **Unservd Rural II**, WX21113038, to reallocate remaining funds from previous grants was made by Mr. Haws, seconded by Mr. Hall – approved.

A motion to sign the Grant Agreement for the **Catnip Hill Tank**, WX21113016, was made by Mr. Haws, seconded by Mr. Hall – approved.

A motion to execute the resolution for KRWFC bonding contingent on a 30-year amortization to refinance a previous loan was made by Mr. Hall, seconded by Mr. Blackford – approved.

A financial meeting was scheduled for November 23<sup>rd</sup>, 10:00 AM.

Mr. Horne reported that the contract for the **Unservd II** project had been signed and the Notice to Proceed had been given. The area will be videoed before starting the construction.

Mr. Horne reported that he had discussed with Doug Blackford the possibility of City of Nicholasville supplying more water to the District. This was a positive discussion and further studies would be proposed.

There was a discussion on the **Purchased Water Agreement** due to the increase on rates with both KyAm and City of Nicholasville. A motion to approve the PWA with both rate increases was made by Mr. Hall, seconded by Mr. Haws – approved.

There was a discussion on the 2011 Budget. A motion to approve the budget was made by Mr. Hall, seconded by Mr. Blackford – approved with one opposition.

July 7, 2010

The Board of Commissioners of the Jessamine South Elkhorn **Water** District on July 7, 2010, with the following Commissioners present: Nick Strong, George Dale Robinson, Jerry Haws, J. F. Hall, and John Blackford. John Horne, Bruce Smith, Christopher Horne, Tom Smith, Ron Eldridge, Tim Bullock and Diana Clark were also present.

Sonny Bates and Logan Davis, Forest Hills, (~~tank site~~) addressed the Board with a proposed alternate tank site for the new water tower. There was a discussion on the expenses already incurred by the District and the testing of the soil. The representatives are going to do some more research.

Leta Mattingly and Nancy Clark, auditors, addressed the Board to answer any questions concerning the audit. One item of discussion was separating the water and sewer divisions, which is partially already being done. Other items discussed were creating a written policy record and the depreciation schedule.

Melvin Jones addressed the Board with concerns on the construction bond for the **Unservd II** project. A motion to allow an additional week for Mr. Jones to obtain the bond and if unsuccessful Mr. Smith would have the authority to pull the bid bond was made by Mr. Blackford, seconded by Mr. Robinson – approved.

There was a review of the Aged Receivables. The administrative charge on the Pulliam account was discussed. A motion to drop the charge was made by Mr. Haws, seconded by Mr. Blackford – approved. There was also a discussion on the Richard Clay account. Mr. Smith is going to review the invoice.

Ron reported that one by-pass meter had been installed.

There was a discussion on the earthquake insurance quotes. It was decided to hold off on the additional insurance at this time.

Christopher gave a report on the fire hydrant security devices. The cost was not justified by the Board.

A conditional motion, based on the outcome of the Melvin Jones bond, to authorize Horne Engineering to redesign the **Unservd II** project omitting Murphy Ln and Ichthus in order to rebid the project was made by Mr. Haws, seconded by Mr. Blackford – approved.

Christopher presented and reviewed the Preliminary Engineering Report for the Northwest Hydraulic.

Mr. Horne suggested that the Board authorize Horne Engineering to check into funding programs from Rural Water and Rural Development for the new ~~tank~~. A motion on this recommendation was made by Mr. Robinson, seconded by Mr. Blackford – approved.

There was a discussion on dropping the **Southeast** Surcharge. A motion to drop the surcharge failed to get a second.

A motion to accept the **12” Catnip Hill loop** and establish July 7<sup>th</sup> as the beginning of the warranty period was made by Mr. Robinson, seconded by Mr. Hall – approved.

A motion to accept the Voss-Goodman (**US 68**) waterline relocation and establish July 7<sup>th</sup> as the beginning of the warranty period was made by Mr. Hall, seconded by Mr. Haws – approved.



June 9, 2010

The Board of Commissioners of the Jessamine South Elkhorn **Water** District met on June 9, 2010, with the following Commissioners present: Nick Strong, George Dale Robinson, Jerry Haws, J. F. Hall, and John Blackford. John Horne, Bruce Smith, Christopher Horne, Tom Smith, Ron Eldridge, Tim Bullock and Diana Clark were also present.

Gary Hardin, Thoroughbred Fencing, addressed the Board with concerns on an invoice for breaking a main line while fencing for Village on the Green homeowners. The invoice will stand until paid by either Thoroughbred or the Homeowners Association.

Leta Mattingly and Nancy Clark, auditors, presented and briefly reviewed the 2009 audit to the Board. The auditor's recommendations were presented to the Board and copies will be distributed by mail to each Commissioner.

Terry Meckstroth, Sonny Bates, Logan Davis, Adel Star, and Lloyd McMillen, **Forest Hills**, addressed the Board with concerns for the new tank site which is adjacent to the subdivision. There was a length discussion of this item. The representatives were asking for any other options for this water tank location. Mr. McMillen was willing to talk to the Board concerning an alternative site. The representatives were told they could present a proposal for an alternative site but it had to be done in a timely manner.

Jeff Scates, 100 Lindleigh, addressed the Board concerning the unauthorized use of a water meter. Mr. Scates stated, unknown to him that the meter was unlocked while the house was being bricked and the meter was leaking. After an investigation, it was determined that the preset meter was not authorized to use. Mr. Scates was told the Board would discuss the matter further and a letter would be sent to him with the determination.

Mr. and Mrs. Melvin Jones, contractor for the **Unservd II** project, addressed the Board with a concern on obtaining the construction bond.

There was a review of the Aged Receivables. Mr. Smith presented a check for the Cooperhill invoice. A motion to pay **Silver Oaks** the difference of what JSE owes them for the Flagship stub and Invoice 0499 which they owe to JSE was made by Mr. Robinson, seconded by Mr. Blackford – approved.

There was a discussion on the past-due invoice for Forest Creek LLC. The Board had stated and Mr. Smith had sent a letter stating that no further services would be allowed until the invoice was paid in full.

Mr. Horne presented the final pay estimate and affidavit signed by D F Bailey on the **Unservd Rural Water** Project. A motion to authorize the signing of the final pay estimate and establish June 9, 2010, as the beginning of the warranty period was made by Mr. Blackford, seconded by Mr. Robinson – approved. The remaining funds will be transferred to the **Unservd II** Project.

There was a discussion on the **Unservd II** Project. This project will be completed in the following order: Pekin Ln, Barkley Estates, 169 and Murphy Ln. A motion to drop the Ichthus loop from the project was made by Mr. Haws, seconded by Mr. Robinson – approved.

There was a further discussion on the **Forest Hill / tank site**. It was decided that it was left up to the residents to acquire a useable alternative tank site.

August 11, 2010

The Board of Commissioners of the Jessamine South Elkhorn **Water** District on August 11, 2010, with the following Commissioners present: Nick Strong, George Dale Robinson, Jerry Haws, J. F. Hall, and John Blackford. John Horne, Bruce Smith, Christopher Horne, Tom Smith, Ron Eldridge and Diana Clark were also present.

Bobby Gullette and Jihad Hallany, **Forest Creek**, addressed the Board to discuss several items with their project. One item discussed was selecting Option 1 for installing the services. It was explained to the representatives that selecting Option 1 included designing of the project by the District's engineer and a portion of the expenses are paid up front and on a timely basis with a bond or Letter of Credit posted. It was also stated that nothing further would be done on the project until the outstanding invoices were paid in full. A meeting was also set for Tuesday, August 17<sup>th</sup>, 9:00 a.m. to redline the plans for both offsite and onsite. There was a discussion on the project after the representatives left the meeting. It was suggested that the Chairman write a letter to the owners of the development explaining the options available and stating payment of invoices will need to be made at the meeting.

Sonny Bates, Logan Davis and Lloyd McMillan, **Forest Hill (tank site)**, addressed the Board with an option for relocating the tank site. There was a discussion on the funding and the expenses. It was stated that the District is positive to moving the tank to an acceptable location provided it does not cost the District any money. Other locations were pointed out to the representatives.

There was a discussion of the Aged Receivables.

It was agreed not to pursue Earthquake Insurance.

There was a discussion on the funding options for the **Catnip Hill Tank**. A motion to authorize Horne Engineering to complete application for funding through KRWA Finance Corp and for the Chairman to sign the application was made by Mr. Robinson, seconded by Mr. Blackford – approved.

Mr. Horne reported that the bid opening for the **Unservd II** project would be September 7<sup>th</sup>. A motion to approve Pay Request #15 for the Unservd II/Keene project was made by Mr. Robinson, seconded by Mr. Blackford – approved.

There was lengthy discussion on the Northwest line prioritization list and the funds available to complete any item(s) on the list.

Water Policies were handed out for review to be discussed at a later date. These will be kept on file for future reference.

The September Board Meeting was rescheduled to September 8<sup>th</sup>.

Mr. Smith reported that the Melvin Jones Excavating Inc Bond (**Unservd II**) had been recalled and was under review.

It was reported that the hard drive had been replaced on the Sewer Telemetry computer. A support agreement was submitted from Netcomm; however, the Board felt the quote was too high. Mr. Smith will have another computer support company submit a quote. Christopher gave a report on switching to satellite in place of radio communication which was too expensive.

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A motion to adopt a resolution to authorize the Chairman to sign a Professional Service Agreement with Horne Engineering to be Project Administrator for the grant portion of the **Unservd II** project and to authorize the signing by the Chairman for the necessary draw requests and other documents was made by Mr. Hall, seconded by Mr. Haws – approved.

A motion to adopt a resolution to authorize the Chairman to sign a Professional Service Agreement with Horne Engineering to be Project Administrator for the grant portion of the **Catnip Hill Tank** project and to authorize the signing by the Chairman for the necessary draw requests and other documents was made by Mr. Robinson, seconded by Mr. Blackford – approved.

Mr. Horne also made the arrangements for the remaining grant funds from the **Haggin Ln** project to be used on the **Unservd II** project.

The September Board Meeting was rescheduled to September 8<sup>th</sup>.

A motion to approve the amended minutes of the July meeting was made by Mr. Robinson, seconded by Mr. Hall - approved.

A motion to approve the July bills and pre-approval for the contractual payables was made by Mr. Haws, seconded by Mr. Blackford – approved.

A motion to give Jerry Haws voting credentials at the KRWA Annual Conference was made by Mr. Robinson, seconded by Mr. Blackford – approved.

There was a discussion on the purchase of a new truck to replace Larry's. A motion to authorize Tom to order a new truck with the requirement that it be washed once a week was made by Mr. Haws, seconded by Mr. Hall – approved.

The Commissioners were given the following reports for review: Income Statement, Balance Sheet, Water Loss Report, Aged Receivables and contractual payables for pre-approval.

The Board went into Closed Session to discuss a personnel matter.

There being no further business to come before the Board, meeting adjourned.

ATTEST:

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Chairman

September 8, 2010

The Board of Commissioners of the Jessamine South Elkhorn **Water** District on September 8, 2010, with the following Commissioners present: Nick Strong, George Dale Robinson, Jerry Haws, J. F. Hall, and John Blackford. John Horne, Bruce Smith, Christopher Horne, Tom Smith, Tim Bullock, Ron Eldridge and Diana Clark were also present.

Pam Miller, 200 Morgan Ct, addressed the Board with a concern of putting in an additional meter service for the irrigation system. Mrs. Miller requested a self-owned meter to be placed before the irrigation system, but was told the District did not allow in her case. After a discussion Mrs. Miller was told she did not have to put in the additional meter service.

Mr. Horne gave an update on the design and funding application of the **tank site**. No response was received by the **Forest Hill** residents and they cancelled the meeting which was scheduled for August 17<sup>th</sup>..

There was a review of the Aged Receivables.

There was a discussion on the leak detection.

There was a discussion on the **Unservd II** contract bids. A contingent motion to award the Staton contract, contingent on them submitting proper references and financial statements, for the Pekin Ln, Rhineheimer and Barkley Estates was made by Mr. Haws, seconded by Mr. Robinson – approved.

There was a discussion on reviewing and adopting a Policy Book. Mr. Smith is going to do some research before any action is taken.

A motion to approve Pay Request #16 for the **Unservd II** project was made by Mr. Hall, seconded by Mr. Robinson – approved.

A proposal was submitted from Clark Technologies for computer maintenance on an as needed basis.

A motion to approve the amended minutes of the August meeting was made by Mr. Robinson, seconded by Mr. Blackford - approved.

A motion to approve the August bills and pre-approval for the contractual payables was made by Mr. Blackford, seconded by Mr. Haws – approved.

The Commissioners were given the following reports for review: Income Statement, Balance Sheet, Water Loss Report, Aged Receivables and contractual payables for pre-approval.

There being no further business to come before the Board, meeting adjourned.

ATTEST:

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Chairman

October 6, 2010

The Board of Commissioners of the Jessamine South Elkhorn **Water** District on October 6, 2010, with the following Commissioners present: Nick Strong, George Dale Robinson, Jerry Haws, J. F. Hall, and John Blackford. John Horne, Bruce Smith, Christopher Horne, Tom Smith, Tim Bullock, Ron Eldridge and Diana Clark were also present.

Sam Harris, **Emerald Estates**, addressed the Board with a request to abandon a line going through a lot off of Sapphire Ct and adding a fire hydrant at the dead end. A motion for Eldridge Excavating to perform the work with the total cost as Mr. Harris' responsibility and paid up front was made by Mr. Robinson, seconded by Mr. Hall – approved.

A representative from Morgan Keegan, KRWFC, addressed the Board with information for funding on the new **tank**.

There was a review of the Aged Receivables. Mr. Smith reported that he had written to the Olde Village Homeowners and the Thoroughbred Center concerning an outstanding invoice. Mr. Smith is also waiting for a response from PSC on support of the tariff.

Christopher gave an update on the leak detection. Each month a branch of lines will be monitored for leaks with a detection meter. Christopher also recommended that once the drought is over, flow tests need to be performed on designated hydrants to make sure closing of valves has not affected the capacity.

A contingent motion to authorize the signing of the **Unservd II** contract with Staton Construction was made by Mr. Haws, seconded by Mr. Robinson – approved.

There was a discussion on the KY AM contract renegotiation. One option was to agree upon a daily water purchase amount and the District would not be subject to the KAWC rate increases. It was also discussed purchasing more from City of Nicholasville.

There was a discussion on the KY AM rate increase which would be a pass-through for the District. A motion to make the pass-through increase effective October 5<sup>th</sup> was made by Mr. Haws, seconded by Mr. Hall – approved.

There was a brief discussion on the Christmas party being held at Giuseppe's. The date will be announced later.

A motion to approve the minutes of the September meeting was made by Mr. Hall, seconded by Mr. Blackford - approved.

A motion to approve the amended minutes of the September meeting was made by Mr. Hall, seconded by Mr. Robinson – approved.

A motion to approve the September bills and pre-approval for the contractual payables was made by Mr. Blackford, seconded by Mr. Robinson – approved.

The Commissioners were given the following reports for review: Income Statement, Balance Sheet, Water Loss Report, Aged Receivables and contractual payables for pre-approval.

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Mr. Horne recommended that the 12" pipe leftover from the US 68 project be installed by Ron Eldridge on the new tank site project. He also recommended to install the pipe as soon as possible under the current maintenance rate. A motion to approve the recommendation was made by Mr. Haws, seconded by Mr. Blackford – approved.

There was a discussion on the use of road right-of-way for water and sewer lines. Mr. Horne recommended writing a tariff that the primary rule needs to be on private easement; however, in certain situation and at the Board's discretion, the road right-of-way could be granted. A motion to authorize Mr. Horne to prepare the tariff was made by Mr. Blackford, seconded by Mr. Hall – approved.

Mr. Horne set up a dinner meeting to meet with Representative Damron prior to the Legislative Session to discuss some possible funding for future projects.

After a discussion, a motion to approve the 2010 **Budget** was made by Mr. Hall, seconded by Mr. Haws – approved.

There being no further business to come before the Board, meeting adjourned.

ATTEST:

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Chairman

October 7, 2009

The Board of Commissioners of the Jessamine South Elkhorn **Water** District met on October 7, 2009, with the following Commissioners present: Nick Strong, J. F. Hall, John Blackford, George Dale Robinson, and Jerry Haws. John Horne, Tom Smith, Ron Eldridge, Tim Bullock and Diana Clark were also present.

Chris Ranvier, plumbing contractor for **Tommie Pulliam, 56 Ave of Champions**, addressed the Board to get a follow-up on the request for a 2" meter service. There was a discussion on the irrigation system and check valve to the system. An inspection of the system will need to be made before final approval is made. A motion to approve the 2" meter service contingent on approval of the irrigation system connections was made by Mr. Haws, seconded by Mr. Blackford – approved.

Mr. Strong gave a report on the **US 68** arbitration status. A settlement of \$155,000 was made with Leak Eliminators. The District also took possession of 1200 feet of pipe which is stored by Ron Eldridge Excavating. A motion to approve the settlement was made by Mr. Robinson, seconded by Mr. Blackford – approved.

Mr. Horne reported that meetings had taken place with COW and CON to discuss water supply. There was a discussion on preliminary plans.

Mr. Horne reported on the final Pay Estimate and zero Change Order for the **US 68** project. Even though a settlement has been made with Leak Eliminators, the project will not be closed out at this time.

There was discussion on the invoice owed by Allen Co. The Board directed Mr. Horne to contact the company before notifying the State of the issue.

There was a discussion on the design of **Barkley Woods, Unit 7**. A motion to approve the design based on QORE's review and to set the pre-set connection fee at \$150 was made by Mr. Robinson, seconded by Mr. Blackford – approved.

A motion to authorize Cultural Resource Analysts Inc to conduct the Archaeological Study and Hal Bryan to conduct the Habitat Assessment for the **Elevated Storage Tank** and **Unserved Rural Areas II** projects based on Horne Engineering's recommendation was made by Mr. Robinson, seconded by Mr. Blackford – approved.

There was a discussion on the Luther Deaton entrance. A conditional motion to prepare and submit a Change Order (**U S 68**) for maintenance on the entrance was made by Mr. Hall, seconded by Mr. Haws – approved.

A motion to approve Pay Estimate #1 for the **Catnip/Mathews Loop** was made by Mr. Blackford, seconded by Mr. Robinson – approved.

A motion to approve the minutes of the September meeting was made by Mr. Blackford, seconded by Mr. Hall - approved.

A motion to approve the September bills and pre-approval for the contractual payables was made by Mr. Blackford, seconded by Mr. Haws – approved.

The Commissioners were given the following reports for review: Income Statement, Balance Sheet, Water Loss Report, Accounts Receivables Listing and contractual payables for pre-approval.

March 4, 2009

The Board of Commissioners of the Jessamine South Elkhorn **Water** District met on March 4, 2009, with the following Commissioners present: Nick Strong, J. F. Hall, John Blackford, George Dale Robinson and Jerry Haws. Bruce Smith, John Horne, Tim Bullock, Ron Eldridge, Tom Smith and Diana Clark were also present.

Mrs. Charles Minars, 375 Keene Troy Rd, addressed the Board to request additional help with a large water bill due to a leak. The Minars were given a leak adjustment according to the tariff; therefore, no additional adjustment was granted.

Bobby Gullette representing **Forest Creek**, David Carlstedt, and Kim Dyer addressed the Board to try to resolve the issue of running water and sewer lines in the right-of-ways as opposed to easements. Mr. Gullette was told the Board's position was the project should use easements wherever one could be obtained. Mr. Gullette asked for a month's grace period for them to obtain as many of the easements as possible. Mr. Smith will prepare the easements and Mr. Horne will review the descriptions. Mr. Horne understood that the Board wanted him to review and make his recommendation based on a complete set of plans which he does not have as of this date.

Mr. Smith reported on the meeting with Mr. Henry (**Unservd Rural Water**). Mr. Smith had received the settlement documents; however, the item concerning a free water meter would need to be removed. There was an issue with the confidentiality agreement which David Marshall had removed the item of Mr. Henry giving up the settlement amount if the agreement was broken. The settlement amount will be turned in as a reimbursement from the project funding.

There was a discussion on the administrative proposal for the **Catnip Hill Tank**. A motion to appoint Horne Engineering as the Project Administrator was made by Mr. Robinson, seconded by Mr. Blackford – approved.

Mr. Horne recommended deferring the item on the D F Bailey (**Unservd Rural Water**) retainage reduction until the April meeting.

Mr. Horne presented the **US 68** audit. There was a discussion on the substantial completion date of the project. Other items pertaining to the project were also discussed. Mr. Horne suggested having a meeting with Leak Eliminators to resolve several issues.

Tom informed the Board that Danny McQueen had issues with the cleanup and vegetation of the **US 68** project along Keene Manor. He is willing to re-vegetate and replace trees and sign off on the cleanup of his property for \$500. There was a question whether this was in addition to what Mr. McQueen had already submitted for cleanup. Tom is going to check with Mr. McQueen and report back on the issue.

Mr. Horne presented the *Punchlist Inspection Procedure and Checklist* for review by the Board and Staff.

A motion to consider the **Camp Nelson** Service Area was made by Mr. Haws, seconded by Mr. Hall – approved.

Mr. Horne informed the Board that BP had completed the punchlist on the **Keene Reconstruction** Project and have requested to close out the project. Mr. Horne requested permission to contact KIA in regard to submitting the Pekin Ln project as a change order to the Keene project and requesting a change order pricing from BP if they are interested. Otherwise, the project would be closed out.



November 5, 2008

The Board of Commissioners of the Jessamine South Elkhorn **Water** District met on November 5, 2008, with the following Commissioners present: Nick Strong, J. F. Hall, John Blackford, and Jerry Haws. Bruce Smith, John Horne, Christopher Horne, Tom Smith and Diana Clark were also present.

There was a discussion on the repairs to the Davis property on West Lane. No action was taken by the Board.

There was an update on the new office building and moving the telemetry.

Mr. Horne reported that Collier Lane would be ready to go when easements were signed and money collected for cost.

A motion to approve Pay Estimate #13 for D F Bailey (**Unserved Rural Water**) was made by Mr. Hall, seconded by Mr. Haws – approved.

A motion to approve a policy that all property owners affected by the **US 68** water line relocation sign a Property Owner Release form was made by Mr. Haws, seconded by Mr. Blackford – approved.

A motion to approve Pay Estimate #5 for Leak Eliminators (**US 68**) was made by Mr. Blackford, seconded by Mr. Hall – approved. Mr. Haws voted no. There was a discussion on approving future pay estimates prior to reimbursement of water usage and completion of the project.

There was a discussion on the damage to the Goodman septic system. **Leak Eliminators** repaired the damages and wanted a signed release. Mr. Smith has reviewed and modified the release and requested the signing of a new easement which the Goodmans are refusing to sign.

There was a discussion on the **Forest Brooks** construction plans. Mr. Horne recommended that the Board refuse signing any plans until a full set of development plans are submitted and reviewed.

There was a discussion on the **2009 Budget**. A motion to approve the 2009 Budget was made by Mr. Haws, seconded by Mr. Hall – approved.

A proposal from BGADD for administrative management of the **Catnip Hill Tank** Project was presented for review.

A contingent motion to approve Pay Estimate #1 for Ron Eldridge (**1972 Line Replacement**) was made by Mr. Haws, seconded by Mr. Blackford – approved.

A motion to approve the minutes of the October meeting was made by Mr. Hall, seconded by Mr. Haws - approved.

A motion to approve the October bills and pre-approve the contractual payables was made by Mr. Haws, seconded by Mr. Blackford – approved.

Tom reported that Ronnie Johnson, 151 Pearl Lane, had removed the meter to water nursery trees. Tom had the sheriff meet him out there to witness the incident of locking the service until Mr. Johnson pays all charges. A police report will be made.

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Mr. Horne recommended bagging **fire hydrants** which are temporarily out of service. He suggested buying a supply of orange bags. The Board agreed.

There was a discussion on the **City of Nicholasville** rate increase. Due to the previous rate increase which included the CON supplied customers, the Board agreed not to increase on the first tier of the pass-through.

The Commissioners were given the following reports for review: Income Statement, Balance Sheet, Water Loss, contractual payables for pre-approval, and a preliminary 2009 Budget.

The Board asked for a proposal from BGADD as Project Administrator for the \$1,000,000 **Storage Tank** grant.

There being no further business to come before the Board, meeting adjourned.

ATTEST:

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Chairman

A motion to authorize the Chairman to sign Eligibility Certificate, Environmental Application and Debarment Certification forms to submit to RD for the **Catnip Hill Tank** was made by Mr. Robinson, seconded by Mr. Blackford – approved. A motion to authorize the construction of a one-million gallon elevated storage tank on the Catnip Hill Property and instruct Horne Engineering, Inc to prepare application and other support material for submittal to RD was made by Mr. Blackford, seconded by Mr. Robinson – approved.

Mr. Horne presented an estimate of the upgrades and extensions of the **1972 lines** based on cost related to the US 68 waterline relocation project. He did state that the hydraulics had not been performed and estimates could change. Mr. Horne suggested dove-tailing units 5 and 6 of the proposed upgrades along with the US 68 construction time in anticipation of road bores, etc. A motion to allow Horne Engineering to proceed with the hydraulics, prepare plans, and begin preliminary negotiations with Leak Eliminators (contractor on US 68 project) was made by Mr. Hall, seconded by Mr. Blackford – approved.

Mr. Horne presented a Summary of Cost to **upsized the 3” and 4” lines** which will be replaced during the **US 68** project. The cost to upsize to the required 6” lines would be the responsibility of the District. A motion to approve the upsizing of the lines was made by Mr. Robinson, seconded by Mr. Blackford – approved.

Mr. Horne stated the lines on the **US 68** project that fell in the right-of-way were moved off to follow the policy of the District. A motion to delete the portion of Sheet 9 of the plans which the State designated as a ‘betterment’ was made by Mr. Robinson, seconded by Mr. Hall – approved.

There was a discussion on approaching City of Wilmore and City of Nicholasville concerning the purchase of water for the District. A motion to authorize Mr. Smith to pursue discussions with **City of Wilmore** was made by Mr. Hall, seconded by Mr. Robinson – approved.

A motion to approve the minutes of the February meeting was made by Mr. Hall, seconded by Mr. Blackford - approved.

A motion to approve the February bills and pre-approve the contractual payables was made by Mr. Blackford, seconded by Mr. Hall - approved.

The Commissioners were given the following reports for review: Income Statement, Balance Sheet, Water Loss and contractual payables for pre-approval.

The Board went into closed session. A motion to approve the evaluation of **Patty Hazelett** was made by Mr. Haws, seconded by Mr. Hall – approved.

There being no further business to come before the Board, meeting adjourned.

ATTEST:

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Chairman

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There was a discussion on re-visiting the issue of a new **tank**. Mr. Smith was instructed to contact Bob Damron in regard to obtaining state funding versa an impact fee to build a new tank.

A motion to reclassify \$320,000 from Cash to Restricted Reserve was made by Mr. Haws, seconded by Mr. Robinson - approved.

There was a brief discussion on the billing software update. It was agreed upon to wait until after moving the office to make a decision.

There was a brief discussion on the Sawyer Elder invoice regarding repairs on an air relief valve. The Board stated the amount would stand as invoiced.

There was a discussion on the maintenance contractor's agreement which will be up for bid consideration. A dress code is one item under consideration to add to the agreement.

A motion to approve the minutes of the May meeting was made by Mr. Robinson, seconded by Mr. Hall - approved.

A motion to approve the May bills and pre-approve the contractual payables was made by Mr. Haws, seconded by Mr. Hall - approved.

The Commissioners were given the following reports for review: Income Statement, Balance Sheet, contractual payables for pre-approval, Water Loss, and Customer Accounts summary.

There being no further business to come before the Board, meeting adjourned.

ATTEST:

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Chairman

August 2, 2006

The Board of Commissioners of the Jessamine South Elkhorn **Water** District met on August 2, 2006, with the following Commissioners present: Nick Strong, George Dale Robinson, John Blackford, J F Hall and Jerry Haws. Bruce Smith, Christopher Horne, Tom Smith, and Diana Clark were also present.

Mr. Smith reported that PSC was about to respond back to the District concerning the **City of Wilmore** contract. Jerry Wuetcher's suggestion was to wait for the response before submitting a tariff.

There was a discussion on the Barry Mangold agreement concerning the **tank** relocation. PSC did respond back that the System Development Charge for the new tank was denied and the case is closed. A contingent motion to authorize Chairman Strong to sign the **Forest Hills** contract after meeting with Mr. Mangold to reach an agreement on the tank location was made by Mr. Haws, seconded by Mr. Robinson - approved. Mr. Smith is to request a meeting with Mr. Mangold to discuss the agreements and easements.

Mr. Smith reported that PSC received a late reply from the **Lowery's** and have not responded back to the District as of this date.

There was a discussion on the setup of Depreciation Accounts. Mr. Smith reported that Mike Besten stated funds could be transferred to a depreciation account and designated for a specific purpose. This would not make these funds restricted; however, they would not be as readily accessible. The funds would be moved from current assets to long term assets on the balance sheet. Mr. Besten's recommendation was 30-40% of the Accumulative Depreciation be set aside into these accounts. He also suggested passing a resolution reflective in the minutes stating the purpose of these funds. These would be self-imposed restrictions on the funds and may not be recognized by PSC. It was suggested to review the current status of the Citizens loan and compare to the investment returns before making a decision.

There was a discussion on the tariff covering the water meters vs. electric transformers. Mr. Smith will prepare the tariff and present in September.

There was a discussion on the additional surveying required for the **Unservd Rural Water Project**. A motion to amend the existing engineering contract to include the additional surveying services was made by Mr. Blackford, seconded by Mr. Robinson - approved.

Mr. Smith stated the COW/JSEWD Boundary Public Hearing will be scheduled in September.

Mr. Smith will submit an Attorney Contract for the **Unservd Rural Water Project** in September.

Mr. Haws requested a list of roads included in the **Unservd Rural Water Project**.

A motion to approve the minutes of the July 5<sup>th</sup> meeting was made by Mr. Haws, seconded by Mr. Hall - approved.

A motion to approve the July bills and pre-approve the contractual payables was made by Mr. Blackford, seconded by Mr. Robinson - approved.

The Commissioners were given the following reports for review: Water loss, Income Statement, Balance Sheet, contractual payables for pre-approval, and Customer Accounts summary.

July 5, 2006

The Board of Commissioners of the Jessamine South Elkhorn **Water** District met on July 5, 2006, with the following Commissioners present: Nick Strong, George Dale Robinson, John Blackford, J F Hall and Jerry Haws. Bruce Smith, John Horne, Christopher Horne, Tom Smith, and Diana Clark were also present.

Mr. Smith reported that the **City of Wilmore** Purchase Agreement had been submitted to PSC. Mr. Horne questioned whether it should have been submitted along with a tariff package. Mr. Smith is going to contact PSC on this issue. There was some questions on the coordination of collecting the \$1000 COW connection fee which will be worked out with the City at a later date.

There was no contact with Barry Mangold concerning the relocation of the **tank site** agreement. Mr. Horne suggested contacting Mr. Mangold with a deadline for signing the agreement or void the transaction. A motion to authorize Mr. Horne to contact Mr. Mangold was made by Mr. Robinson, seconded by Mr. Blackford - approved.

Mr. Smith reported that he had not received any word that the Lowery's had responded to the PSC notice.

Mr. Smith had not received word back from KAWC on the contract amendment.

A motion to approve the **Renaissance Run** extension and sign the contract was made by Mr. Blackford, seconded by Mr. Hall - approved.

There was a discussion on setting up a Depreciation Account. Mr. Smith suggested contacting KRWA and Mike Besten for guidance.

A status report was given on the ongoing projects.

Mr. Smith and Mr. Horne made comments on the PSC response to the System Development Charge (SDC). Mr. Smith will respond back to PSC.

There was a discussion on the water meters and electric transformers on opposite lot lines. A motion to establish a tariff to enforce the policy set by the District not to allow water services to be placed on the same lot line with the electric transformers was made by Mr. Robinson, seconded by Mr. Blackford - approved.

Mr. Horne presented a Project Profile Summary.

Mr. Horne suggested starting the process of acquiring easements for the **Unserved Rural Water Project**. A motion to appoint Mr. Smith as the attorney and prepare the easement for the project was made by Mr. Haws, seconded by Mr. Robinson - approved.

There was a discussion on the issue of River Rd (**Unserved Rural Water Project**). Mr. Horne stated a 6" main line could not be installed without the added expense of digging up and resurfacing a large portion of the road. One suggestion was to rock saw a trench and place a 2" service line which would not provide fire protection to the customers. The line would be a dead-end line which would create problems of stale

June 7, 2006

The Board of Commissioners of the Jessamine South Elkhorn **Water** District met on June 7, 2006, with the following Commissioners present: Nick Strong, George Dale Robinson, John Blackford, J F Hall and Jerry Haws. John Horne, Michael Stephenson, Tom Smith, and Diana Clark were also present.

Jennifer Patterson, BGADD, addressed the Board with project profiles to update. Mr. Horne took the list and will update and respond back.

David Carlstedt, **City of Wilmore**, addressed the Board concerning the Water Purchase Agreement. There was a discussion on the rate schedule and the connection fee per customer. The City of Wilmore's current policy is to collect the fee prior to customer obtaining a building permit. A motion to adopt the Agreement was made by Mr. Haws, seconded by Mr. Robinson - approved. The COW is then to publish the Agreement as a City Ordinance before submitting to PSC.

Rick Moore, **Renaissance Run**, addressed the Board to find out what needed to be completed. A copy of the signed interim agreement had been turned in, but the contract was missing a page so could not be turned over for signature. A motion to approve the extension was made by Mr. Blackford, seconded by Mr. Hall - approved.

Mr. Horne made a recommendation to the Board to give Barry Mangold a deadline on signing the **tank** relocation agreement.

Mr. Horne reported the Archaeological Survey (**Unservd Rural Water Project**) should be completed within the month.

Mr. Horne presented an ongoing projects list and will provide an update monthly.

There was a brief discussion concerning the **Tankersley Ln** project. Mr. Horne anticipated this going in as a change order on the **Unservd Rural Water Project** provided the necessary paperwork is submitted.

A motion to approve the minutes of the May 3rd meeting was made by Mr. Robinson, seconded by Mr. Blackford - approved.

A motion to approve the May bills and pre-approve the contractual payables was made by Mr. Robinson, seconded by Mr. Hall - approved.

The Commissioners were given the following reports for review: Water loss, Income Statement, Balance Sheet, contractual payables for pre-approval, and Customer Accounts summary.

Tom reported that Judge Cassity had requested a fire hydrant on Sugar Creek be moved at the County's expense.

There being no further business to come before the Board, meeting adjourned.

ATTEST:

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Chairman

May 3, 2006

The Board of Commissioners of the Jessamine South Elkhorn **Water** District met on May 3, 2006, with the following Commissioners present: Nick Strong, George Dale Robinson, John Blackford, J F Hall and Jerry Haws. Bruce Smith, John Horne, Christopher Horne, Steve Stephenson, Tom Smith, and Diana Clark were also present.

Mike Besten, auditor, addressed the Board to review the 2005 annual audit.

Bobby Gullette and representative of **Forest Creek** addressed the Board with an update on the project. Christopher Horne gave a report on the hydraulic analysis. The study concluded that service from the City of Wilmore would be more feasible with a proposed storage tank and pump station. The contract for water service between JSEWD and City of Wilmore is a work in progress.

Mr. Horne stated the application for the **Keene Project** has been submitted and depending on the DWSRF ranking, the project should be ready to go to bid by May, 2007.

The signed agreement with Barry Mangold concerning the **tank site** has not been returned.

The Archaeological Survey report, **Unserved Rural Water Project**, should be submitted by the June meeting.

Mr. Strong gave a report on the PSC response to the submittal of the System Development Charge. There was a discussion on the implementing of this charge to the Northwest customers as they request water service.

Mr. Smith gave a report on the KAWC contract amendment to increase the amount of water they would sell to us. He has not received a response back from them. Christopher is going to see if he can get anything from them.

There was a discussion on the Lowery PSC complaint to obtain water service. The main house and tenant house on the Lowery property is already being served by the City of Nicholasville. The City did not want to relinquish the entire Lowery farm to the District. Due to the past history of the service line between the tenant house and trailer, the City did not want to serve the portion of the property in question. There was also a political item concerning Bethany Rd which needed a response. Mr. Smith will respond back to PSC with answers to their questions.

Mr. Horne reported that a grant of \$80,000 had been awarded to extend the water line down **Tankersley Lane**.

There was a discussion on the water loss.

A motion to approve the minutes of the March 29<sup>th</sup> meeting was made by Mr. Blackford, seconded by Mr. Haws - approved.

The Commissioners were given the following reports for review: Water loss, Income Statement, Balance Sheet, contractual payables for pre-approval, and Customer Accounts summary.



April 11, 2006

**Special Board Meeting**

The Board of Commissioners of the Jessamine South Elkhorn **Water** District met at 9:00 AM on April 11, 2006, with the following Commissioners present: Nick Strong, John Blackford, J F Hall, and Jerry Haws. Bruce Smith, Tom Smith, and Diana Clark were also present.

Randall Wright, insurance agent, addressed the Board with quotes for the renewal of employee health and life insurance coverage due May 1<sup>st</sup>. A motion to remain with John Alden was made by Mr. Haws, seconded by Mr. Blackford - approved.

The meeting was called to review the Engineering Procurement for the **Elevated Storage Tank Project**. The sealed Statements of Qualifications were opened at 9:30 AM by Mr. Haws and distributed to the Commissioners present. Each Commissioner reviewed and confidentially scored the two applicants. The scoring sheets were collected and tallied. Based on the scores a motion was made at 10:45 AM to award the engineering services to Horne Engineering Inc. The motion was made by Mr. Haws, seconded by Mr. Blackford - approved.

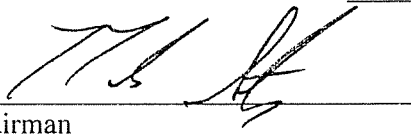
There was a discussion on the system service fee to assist in paying for the new elevated storage tank.

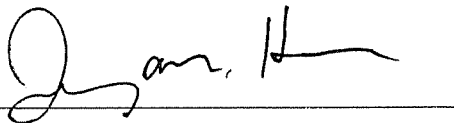
There was a discussion on the conveyance of **Legacy Estates** to District #1. JSEWD is sending a letter to the customers of Legacy explaining the situation. The Board agreed to bill District #1 for the hydrant flow testing, but not for any of the legal fees for the transfer.

There was a discussion on the invoice for legal charges for **Darley Stud Farm**. The Board agreed to void the legal charges of \$468.75 from their invoice since an interim agreement had not been signed.

The meeting adjourned at 11:00 AM.

ATTEST:

  
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Chairman

  
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March 1, 2006

The Board of Commissioners of the Jessamine South Elkhorn **Water** District met on March 1, 2006, with the following Commissioners present: Nick Strong, George Dale Robinson, John Blackford, and Jerry Haws. Bruce Smith, John Horne, Christopher Horne, Michael Stephenson, Tom Smith, and Diana Clark were also present.

Mrs. Harrison, Burton Ln (**Southeast**), addressed the Board for an update on the water project. She reported the easements, with the exception of Mr. Burton's, had been delivered to Bruce Smith. She was told the design, bid and commencement of construction would be during this year.

Mr. Strong reported on the insurance coverage for the Commissioners. A motion to obtain \$3,000,000 liability coverage and \$1,000,000 EPL coverage was made by Mr. Haws, seconded by Mr. Robinson - approved. Mr. Strong abstained from voting due to his connection with insurance companies.

Mr. Strong presented forms to be completed by each Commissioner for the \$5000 Public Official bond.

There was a brief discussion on the water service for **Darley Farm**. The loop through the farm previously discussed is now a voided issue.

Mr. Smith reported to the Board that **Troy Seale** stated he feels the District intentionally misinformed him on the location of the installation of the fire hydrant relative to this issue. Mr. Smith had been in contact with PSC and recommended pursuing an administrative process with PSC.

There was a discussion on the relocation of the **tank site**. Mr. Smith will prepare a revised extension contract for **Forest Hills** with the participation items included and a contract on the tank relocation which will be delivered to Mr. Horne to obtain Barry Mangold's signature or instruct him to attend the April meeting in order to settle both issues. The water line easement needed by Mr. Mangold was also discussed due to the modifications made by the Switzer family. Mr. Smith is going to inform Mr. Mangold of the Board's decision on the easement.

Mr. Smith gave a report on the Letter of Credit from Town Square Bank.

Mr. Horne reported a procurement for Engineering Services would have to be conducted for the new **tank** project. The ad will run in the Lexington Herald Leader on March 8 and March 15 with the awarding of bid on April 5, 2006.

Mr. Horne reported on a study of the storage within the District and the water demand in some of the more recent subdivisions. This study is being done to evaluate the demand **Forest Creek** would have on the existing District. There was a discussion on the four options presented to the developer for this extension: (1) 12 inch main, (2) maximum looping, (3) onsite storage tank along with options 1 and 2, or (4) direct supply from Wilmore with the onsite storage tank, if needed. The District would choose the option. Christopher recommended waiting until the analysis is completed. It was also suggested contacting Ky Am Water and City of Wilmore regarding their positions on the source of water for that area.

Mr. Horne gave a report on the DWSRF for the **Keene Waterline** project. He suggested waiting until the next meeting to make a decision on this project giving him time to complete some of the initial paperwork.

January 4, 2006

The Board of Commissioners of the Jessamine South Elkhorn **Water** District met on January 4, 2006, with the following Commissioners present: Nick Strong, George Dale Robinson, John Blackford, Kenneth Noland, and Jerry Haws. Bruce Smith, Christopher Horne, John Horne, Tom Smith, and Diana Clark were also present.

Mr. Horne furnished a copy of the January 3, 2006, Fiscal Court minutes with the motion to approve the pay schedule of \$3600 for the JSEWD Commissioners.

Christian Ach, **Forest Hills**, addressed the Board with the comparison material price list requested. Mr. Ach was asked to allow the Board to discuss the difference and get back in touch with him. Mr. Ach left the meeting at this time. There was a discussion on the difference in the footage of pipe. It was suggested that Horne Engineering verify the correct footage by the February meeting. Mr. Smith was instructed to respond back to Mr. Ach.

There was a discussion on moving the tank site within the **Forest Hills** extension at the request of Barry Mangold. Mr. Horne had looked at the new site and was satisfied with it. He also talked to Mr. Mangold about reimbursing the District for expenses already incurred due to surveying, testing, etc. Mr. Mangold agreed to reimburse the District. Mr. Horne suggested that Mr. Smith prepare an agreement for Mr. Mangold to sign at the February meeting. Mr. Mangold also agreed to pay for the subsurface core drilling. There was a discussion on the access road. Mr. Horne will work out the agreement for the road. A motion to enter into an agreement to move the tank site was made by Mr. Blackford, seconded by Mr. Robinson - approved.

Mr. Smith reported that he had written the letter giving a 30-day deadline for the completion of the punchlist on **Legacy Estates**. Christopher had spoken to the contractor and was assured that it would be completed.

There was a discussion on the agreement for the takeover of **Legacy Estates** by District #1. Since the takeover would leave the JSEWD with a long dead end line, it was suggested that Mr. Noland approach Carl Waits with a request for JSEWD to keep the customers in its territory in order to have a looped line.

There was a brief discussion on the Lowry service on Chrisman Mill. Mr. Smith had talked to the City about giving up the entire farm to the District provided the District service Mr. Lowry. The City was not willing to give up any of their service area. Mr. Lowry had filed a formal complaint with PSC.

Christopher gave an update on the **Darley Farm** loop. They had not submitted the Request for an Extension; however, if they do before the February meeting, Christopher asked permission to submit the plans to Division of Water. The Board agreed. Christopher anticipated that the representatives of the farm would be at the February meeting to discuss the District's cost participation.

December 7, 2005

The Board of Commissioners of the Jessamine South Elkhorn **Water** District met on December 7, 2005, with the following Commissioners present: Nick Strong, George Dale Robinson, John Blackford, Kenneth Noland, and Jerry Haws. Bruce Smith, Christopher Horne, John Horne, Tom Smith, and Diana Clark were also present.

Jason Banks and Barry Mangold, **Barker Farm**, addressed the Board with a request for water service. This extension will be two tracts, each developed by separate owners, Mr. Mangold and C.V. Ethington. A motion to approve the extension contingent on the hydraulic analysis was made by Mr. Haws, seconded by Mr. Noland - approved.

Barry Mangold, **Forest Hills**, addressed the Board with a request for the relocation of the new **tank site**. Mr. Mangold agreed to give the District another suitable piece of property and reimburse the District for expenses already incurred on the existing lot. Mr. Horne recommended that the District consider the request and respond back to Mr. Mangold.

Rachel King, **Stonebridge**, addressed the Board with a request for water service. A motion to approve the extension was made by Mr. Blackford, seconded by Mr. Haws - approved. This extension will solve the problem of serving the Bradshaw property and looping to end of Pacer.

Mr. Sawyer and Mr. Elder, addressed the Board with a concern on an invoice issued for repair of an air relief valve in **Legacy Estates**. After a discussion the Board agreed since the valve was within the box and damage was caused by Sawyer and Elder, they will be responsible for the amount invoiced.

Mr. Smith was instructed to write Sam Sternberg, **Legacy Estates**, a letter giving thirty days to complete the items on the punchlist or the District will make the repairs and bill the developer.

Mr. Strong reported that he was still working on the insurance coverage for the Commissioners.

Mr. Smith reported that the tariff and water user agreements had been worked on by the staff, but drafts would not be completed for at least another month.

Mr. Horne reported that Judge's position was the City should serve Bethany Rd and he would press the City to serve that area.

There was a discussion on the Lowry property on Chrisman Mill and their request for water service. The City currently serves this property. It was suggested that the District serves provided the City releases the entire farm and the City serve Bethany Rd within a reasonable length of time. Mr. Horne suggested before serving that an agreement be signed that one meter serves one house and the Lowry's pay an individual tap fee plus any required extra cost for running a service line to

September 3, 2003

The Board of Commissioners of the Jessamine South Elkhorn Water District met on September 3, 2003, with the following Commissioners present: Jerry Haws, George Dale Robinson, Leon Taylor, John Blackford, and Kenneth Noland. John Horne, Christopher Horne, Bruce Smith, Steve Stephenson, Michael Stephenson, Tom Smith, and Diana Clark were also present. Mr. Robinson had to leave the meeting early.

There was a discussion on the automatic payment plan; however, the item was tabled until October so Mr. Smith could check into the liability of the District and whether the District had insurance to cover the liability.

Adrian and Brian Mason addressed the Board with proposals for the overseeing of the operations and maintenance of the Southland Christian Church (SCC) **wastewater pump station**. The two proposals were discussed in length, but no action was taken until the District meets with all parties concerned.

A motion to approve the August bills was made by Mr. Robinson, seconded by Mr. Blackford - approved.

Mr. Horne reported to the Board on the meetings concerning the relocation and transfer of the SCC **wastewater system**. Mr. Horne recommended and the Board agreed the line should be relocated, inspected, and put into service, as well as, the telemetry installed before the District accepts the ownership.

There was a discussion on accepting the idea of the Mason's proposal verses hiring an additional water/wastewater operator.

There was a brief discussion on the revision of the Extension Procedure Packet and a motion to accept the changes was made by Mr. Taylor, seconded by Mr. Blackford - approved.

Mr. Smith passed out a draft copy of the county ordinance on the sewer lines for review and input from the Board.

Mr. Horne reported they were looking at several **tank sites**; however, no commitments or options have been obtained. Mr. Horne stated a 500,000 gallon tank could be placed on the existing tank site, but he was not for sure a million gallon tank would fit. He will have more information at the October meeting.

A motion to accept the minutes of the August meeting was made by Mr. Blackford, seconded by Mr. Taylor - approved.

There was a brief discussion on the request from **Ichthus** to be released to the City of Wilmore. Mr. Horne's recommendation is to deny deletion of the territory.

March 3, 2004

The Board of Commissioners of the Jessamine South Elkhorn Water District met on March 3, 2004, with the following Commissioners present: Leon Taylor, George Dale Robinson, John Blackford, Kenneth Noland, and Nick Strong. John Horne, Bruce Smith, Christopher Horne, Steve Stephenson, Tom Smith, and Diana Clark were also present.

Jason Banks addressed the Board with a request to sign the final plat for **The Lakes** (formerly known as the **McChesney** Farm). A motion to authorize Mr. Taylor to sign the plat was made by Mr. Robinson, seconded by Mr. Strong - approved.

Mr. Horne requested the signing of the interim agreements for sewer services for **Man O War** and **Brannon Crossing** developments. A motion to authorize Mr. Taylor to sign the agreements was made by Mr. Robinson, seconded by Mr. Blackford - approved.

Mr. Horne presented a proposal from QORE Property Sciences for geotechnical exploration of the Switzer **tank site** in the amount of \$4625. A motion to accept and authorize Mr. Taylor to sign the proposal was made by Mr. Blackford, seconded by Mr. Robinson - approved. Mr. Horne also stated he was working on getting a plat for recording and the encroachment permit which would fulfill the agreement with Mrs. Switzer.

Mr. Horne stated he was completing the **Southeast, Phase 2** application.

Mr. Horne outlined the agreement between Corman-McQueen Golf, Inc and the District for the Parks Lane tank site. He recommended that the connection fees remain at \$150 for each preset meter and the 2/28/92 agreement amount of \$21,875 be applied to the **Harrods Ridge** (formerly Harrods Club) extension invoice. Any cost over the \$21,875 will be paid by Corman-McQueen. Any remaining amount after all reimbursements would be retained by the District. Mr. Horne will present a letter at the next meeting for Board approval.

The April meeting will be changed to the 14<sup>th</sup>. Randall Wright, the District's insurance agent, will attend that meeting to present options for the health insurance plans.

There was a brief discussion on the invoices for Kevin Kruer and Dontro Farm. Neither responded to the invitation to attend this meeting. The Board instructed Mr. Smith to write letters to each giving ten (10) days from the letter date to pay the invoice or service would be discontinued.

A motion to accept the minutes of the February meeting was made by Mr. Robinson, seconded by Mr. Noland - approved.

A motion to approve the February bills was made by Mr. Blackford, seconded by Mr. Robinson - approved.