COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

APPLICATION OF JESSAMINE-SOUTH ELKHORN WATER DISTRICT FOR A CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY TO CONSTRUCT AND FINANCE A WATERWORKS IMPROVEMENT PROJECT PURSUANT TO KRS 278.020 AND 278.300	)	CASE NO. 2014-00084

NOTICE OF FILING

Notice is given to all parties that the following materials have been filed into the record of this proceeding:

- The digital video recordings of the evidentiary hearing conducted February 10 and February 11, 2015 in this proceeding;

- Certifications of the accuracy and correctness of the digital video recordings;

- All exhibits introduced at the evidentiary hearing conducted February 10 and February 11, 2015 in this proceeding;

- The written logs listing, *inter alia*, the date and time of where each witness' testimony begins and ends on the digital video recordings of the evidentiary hearing conducted February 10 and February 11, 2015.

A copy of this Notice, the certifications of the digital video records, hearing logs, and exhibits have been electronically served upon all persons listed at the end of this Notice. Parties desiring electronic copies of the digital video recordings of the hearing in Windows Media format may download copies at:

http://psc.ky.gov/av_broadcast/2014-00084/2014-00084_10Feb15_Inter.asx

http://psc.ky.gov/av_broadcast/2014-00084/2014-00084_11Feb15_Inter.asx

Parties wishing annotated digital video recordings may submit a written request by electronic mail to pscfilings@ky.gov. A minimal fee will be assessed for copies of these recordings.

The exhibits introduced at the evidentiary hearing may be downloaded at http://psc.ky.gov/Home/Library?type=Cases&folder=2014%20Cases/2014-00084.

Done at Frankfort, Kentucky, this 23rd day of February, 2015.

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Director, Filings Division
Public Service Commission of Kentucky

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COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

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APPLICATION OF JESSAMINE-SOUTH ELKHORN WATER DISTRICT FOR A CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY TO CONSTRUCT AND FINANCE A WATERWORKS IMPROVEMENT PROJECT PURSUANT TO KRS 278.020 AND 278.300	)))))	CASE NO. 2014-00084

CERTIFICATE

I, Sonya Harward, hereby certify that:

1. The attached DVD contains a digital recording of the Hearing conducted in the above-styled proceeding on February 10, 2015. Hearing Log, Exhibits, Exhibit List, and Witness List are included with the recording on February 10, 2015. The Hearing was recorded on two consecutive days, February 10, 2015 and February 11, 2015, separately.

2. I am responsible for the preparation of the digital recording.

3. The digital recording accurately and correctly depicts the Hearing of February 10, 2015.

4. The "Exhibit List" attached to this Certificate correctly lists all exhibits introduced at the Hearing of February 10, 2015.

5. The "Hearing Log" attached to this Certificate accurately and correctly states the events that occurred at the Hearing of February 10, 2015 and the time at which each occurred.

Given this 19th day of February, 2015.

Sonya Harward (Boyd), Notary Public
State at Large
My commission expires: August 27, 2017

JAVS Session Report - Detail

2014-00084_10Feb2015

Jessamine-South Elkhorn Water District

Date:	Type:	Location:	Department:
2/10/2015	Other	Public Service Commission	Hearing Room 1 (HR 1)

Judge: David Armstrong; Jim Gardner
Witness: William Berkley - for JSEWD; Dallam Harper - for JSEWD; Christopher Horne - for JSEWD; John Horne - for JSEWD
Clerk: Sonya Harward

Event Time	Log Event	
9:55:04 AM	Session Started	
9:55:06 AM	Session Paused	
10:00:22 AM	Session Resumed	
10:00:24 AM	Vice Chairman Jim Gardner - Preliminary Remarks	
10:00:53 AM	Introduction of Attorneys for the Parties	
	Note: Harward, Sonya	Jessamine-South Elkhorn Water District (JSEWD)-Bruce Smith and Anthony Martin; AG's Office-Jennifer Hans and Stefanie Kingsley; Forest Hills-Bob Watt and Monica Braun; and PSC-Ann Ramser and Aaron Ann Cole.
10:01:30 AM	Outstanding Motions	
	Note: Harward, Sonya	There is one outstanding motion to incorporate documents into this case. Vice Chairman Gardner sustained the motion and will allow those to be admitted and given weight deserved.
10:02:37 AM	Public Comments	
10:02:47 AM	Camera Lock Deactivated	
10:03:06 AM	WIlliam Bates, Resides at 704 Chinkapin Dr, Nicholasville	
	Note: Harward, Sonya	Mr. Bates shares his concerns about the water tower, which he has expressed since he found out about the potential tank in May 2010.
10:06:56 AM	Don Douglas, Resides at 733 Chinkapin Dr, Nicholasville	
	Note: Harward, Sonya	Mr. Douglas's house is the one located closest to the potential water tower. He shares concerns about the water tower.
10:11:39 AM	Mr. and Mrs. Rangnekar, Reside at 709 Chinkapin Dr., Nicholasville	
	Note: Harward, Sonya	Mr. Rangnekar expresses his family's disappointment regarding moving into the neighborhood and a week later finding out about the water tower being proposed.
10:13:56 AM	Lisa Tomassoni, Resides at 604 Buroak Dr., Nicholasville	
	Note: Harward, Sonya	Ms. Tomassoni shares concerns about the tower being located in the Forest Hills subdivision where she has resided for the last six years.
10:15:42 AM	Atty. Smith - Addresses Various Topics	
	Note: Harward, Sonya	Publication of notice, exhibits, witnesses, and references to CN 2012 -00470.
10:15:49 AM	JSEWD - Exhibit 01	
	Note: Harward, Sonya	Notice of Publication copied from newspaper (will still need to provide an affadavit)
10:21:32 AM	Regarding Glenn Smith - JSEWD	
	Note: Harward, Sonya	Mr. Smith's responses will be entered in the record and he can be dismissed from testifying further.
10:21:45 AM	Vice Chairman Gardner - Disclosure	
	Note: Harward, Sonya	The Vice Chairman previously worked at a firm that represented Mr. Richey and Photo Science.
	Note: Harward, Sonya	No party has any objection to the Vice Chairman hearing this case

10:22:26 AM	Witness William Burkley (for JSEWD) takes the stand and is sworn in.	
	Note: Harward, Sonya	Principal of Bluegrass Valuation Group, LLC
10:23:10 AM	Atty. Smith Direct Exam of Witness Berkley	
	Note: Harward, Sonya	No changes to testimony but has updated the information previously testified to in CN 2012-00470.
10:24:21 AM	JSEWD - Exhibit 02	
	Note: Harward, Sonya	Market Analysis Jessamine/South Elkhorn Water District Proposed Water Tank Site Adjoining Forest Hills Subdivision Jessamine County, Kentucky, March 4, 2013, Prepared by Berkley Appraisal Company
10:25:43 AM	Atty. Braun Cross Exam of Witness Berkley	
	Note: Harward, Sonya	Reviewing Witness's credentials.
10:26:41 AM	Atty. Braun to Witness Berkley	
	Note: Harward, Sonya	Asking about market value of homes being the same as in CN 2012-00470.
10:30:38 AM	Atty. Braun to Witness Berkley	
	Note: Harward, Sonya	Discussing recent sales data in more detail, beginning with the number of homes constructed since March 2013.
10:32:48 AM	Atty. Braun to Witness Berkley	
	Note: Harward, Sonya	Asking about average marketing time before and after March 2013.
10:34:37 AM	Atty. Braun to Witness Berkley	
	Note: Harward, Sonya	Asking Witness about his appraisal of property/residence.
10:36:23 AM	Atty. Braun to Witness Berkley	
	Note: Harward, Sonya	Referencing to Witness's Rebuttal Testimony regarding comparison of homes to determine what will happen to value of residences due to the water tank.
10:38:08 AM	Atty. Braun to Witness Berkley	
	Note: Harward, Sonya	Discussing Harrodsridge Subdivision in Nicholasville.
10:40:36 AM	Atty. Braun to Witness Berkley	
	Note: Harward, Sonya	Comparing the distance of the proposed tank on Chinkapin to the nearest home with tanks in other subdivisions, such as Harrodsridge.
10:44:31 AM	Atty. Braun to Witness Berkley	
	Note: Harward, Sonya	Comparing the percent of lots empty in Harrodsridge on the street nearest to the water tower as those on other streets in that subdivision.
10:47:38 AM	Atty. Braun to Witness Berkley	
	Note: Harward, Sonya	Referencing page 21 of Witness's Market Analysis.
10:49:39 AM	Atty. Braun to Witness Berkley	
	Note: Harward, Sonya	Asking Witness about his opinion about the outcome in the last case and the new proposal.
10:51:05 AM	Atty. Braun to Witness Berkley	
	Note: Harward, Sonya	Asking Witness if he's reviewed the recent sales data for 728 Chinkapin Dr.
10:51:55 AM	Forest Hills - Exhibits 01	
	Note: Harward, Sonya	Jessamine County, Kentucky, Property Valuation, Property Search Display for 728 Chinkapin
10:52:13 AM	Forest Hills - Exhibits 02	
	Note: Harward, Sonya	Deed for Property at 728 Chinkapin Drive, Nicholasville, KY 40356, entered on Dec. 17, 2014
10:54:17 AM	Atty. Braun to Witness Berkley	
	Note: Harward, Sonya	Asking Witness about the sale of the home referenced in Forest Hills - Exhibits 1 and 2 of this Hearing.
10:54:51 AM	Forest Hills - Exhibit 03	
	Note: Harward, Sonya	Map labeled FH-Bates_R_JSEWD1#2a, Page 1 of 2
10:57:31 AM	Atty. Braun to Witness Berkley	
	Note: Harward, Sonya	Asking about proposed dimensions of the proposed tank.

10:59:13 AM	Atty. Smith - Objection	
	Note: Harward, Sonya	Question asked and answered.
11:01:46 AM	Atty. Braun to Witness Berkley	
	Note: Harward, Sonya	Asking about appraisals and lenders requirements.
11:02:05 AM	Forest Hills - Exhibits 04	
	Note: Harward, Sonya	From HUD Regulations - 4150.2
11:02:11 AM	Forest Hills - Exhibits 05	
	Note: Harward, Sonya	From HUD Regulations - Appendix D: Valuation Protocol
11:03:14 AM	Atty. Braun to Witness Berkley	
	Note: Harward, Sonya	Referencing page 2 of Forest Hills - Exhibit 04 of this Hearing.
11:06:18 AM	Atty. Martin - Objection	
	Note: Harward, Sonya	Vice Chairman Gardner allows the question.
11:07:49 AM	Atty. Braun to Witness Berkley	
	Note: Harward, Sonya	Referencing page 3 of Forest Hills - Exhibit 04 of this Hearing, asking Witness to read about inharmonious uses.
11:08:55 AM	Atty. Martin - Objection	
	Note: Harward, Sonya	The proposed tank is not in a cluster development.. Vice Chairman Gardner asked for clarification of question.
11:09:41 AM	Atty. Braun to Witness Berkley	
	Note: Harward, Sonya	Referencing page 3 of Forest Hills - Exhibit 05 of this Hearing, regarding site hazards and nuisances.
11:11:31 AM	Atty. Braun to Witness Berkley	
	Note: Harward, Sonya	Asking about homes in fall distance of proposed tank.
11:13:37 AM	Atty. Hans Cross Exam of Witness Berkley	
	Note: Harward, Sonya	Asking about sale prices of two homes sold on Burrow Dr. and Chinkapin.
11:15:42 AM	Atty. Hans to Witness Berkley	
	Note: Harward, Sonya	Asking about the prices of two other lots in Forest Hills
11:17:35 AM	Atty. Hans to Witness Berkley	
	Note: Harward, Sonya	Referencing Forest Hills - Exhibit 01 of this Hearing.
11:19:18 AM	Atty. Ramser Cross Exam of Witness Berkley	
	Note: Harward, Sonya	Asking Witness the distance from proposed location of tower to Dr. Douglas's home.
11:20:14 AM	Atty. Smith Re-Direct Exam of Witness Berkley	
	Note: Harward, Sonya	Asking follow up questions that were addressed by Atty. Braun.
11:22:33 AM	Atty. Smith to Witness Berkley	
	Note: Harward, Sonya	Referencing Forest Hills - Exhibit 05 of this Hearing. p. 3, regarding site hazards and nuisances.
11:23:16 AM	Atty. Smith to Witness Berkley	
	Note: Harward, Sonya	Referencing Forest Hills - Exhibit 03 of this Hearing.
11:26:31 AM	Atty. Braun Re-Cross Exam of Witness Berkley	
	Note: Harward, Sonya	Asking for date Mr. Bates bought the additional lot.
11:27:23 AM	Witness Berkley is dismissed from the stand.	
11:27:30 AM	Break	
11:27:33 AM	Session Paused	
11:38:10 AM	Session Resumed	
11:38:15 AM	Witness Dallam Harper (for JSEWD) takes the stand and is sworn in.	
	Note: Harward, Sonya	Previously employed by Bluegrass Area Development District at time testimony was prepared.
	Note: Harward, Sonya	Independent Planner
11:38:51 AM	Atty. Smith Direct Exam of Witness Harper	
	Note: Harward, Sonya	No changes to Witness's testimony.

11:40:22 AM	Atty. Watt Cross Exam of Witness Harper	
	Note: Harward, Sonya	Asking Witness about resignation from Bluegrass Area Development District.
11:41:15 AM	Atty. Watt to Witness Harper	
	Note: Harward, Sonya	Referencing Witness's Direct Testimony, p. 3, line 5.
11:41:57 AM	Forest Hills - Exhibit 06	
	Note: Harward, Sonya	Three documents: KRS 100.183 Comprehensive plan required; Witness's Response to Forest Hills' Request for Information, served Sept. 26, 2014, Item 34; and AICP Certification Exam Outline.
11:43:53 AM	Forest Hills - Exhibit 07	
	Note: Harward, Sonya	Wilmore, Nicholasville, Jessamine County Joint Comprehensive Plan 2010
11:45:50 AM	Atty. Watt to Witness Harper	
	Note: Harward, Sonya	Again referencing Forest Hills - Exhibit 06 of this Hearing.
11:47:24 AM	Atty. Smith - Objection	
	Note: Harward, Sonya	Cross exam should be limited to Witness's pre-filed testimony and responses to information requests.
	Note: Harward, Sonya	Vice Chairman Gardner overrulled objection due to this line of questioning is in response to Witness's response to a request for information.
11:49:55 AM	Atty. Watt to Witness Harper	
	Note: Harward, Sonya	Questioning about Witness's population projections.
11:51:34 AM	Atty. Watt to Witness Harper	
	Note: Harward, Sonya	Referencing report attached to Witnesse's Direct Testimony, p. 3, map of population projection.
11:56:24 AM	Atty. Watt to Witness Harper	
	Note: Harward, Sonya	Referencing report attached to Witnesse's Direct Testimony, p. 4, map of population projection (2010).
12:00:09 PM	Atty. Watt to Witness Harper	
	Note: Harward, Sonya	Comparing people in block groups in various years.
12:01:48 PM	Vice Chairman Gardner - Clarifying question	
	Note: Harward, Sonya	Asking what Witness means by distributing over the land population area.
12:02:00 PM	Atty. Watt to Witness Harper	
	Note: Harward, Sonya	Asking about an area on the map that contains information about population that seems to be impossible.
12:05:18 PM	Forest Hills - Exhibit 08	
	Note: Harward, Sonya	Witness's Response to Forest Hills' Request for Information, served Sept. 26, 2014, Item 35.
12:06:25 PM	Atty. Watt to Witness Harper	
	Note: Harward, Sonya	Asking Witness about Forest Hills - Exhibit 08 of this Hearing.
12:11:52 PM	Atty. Watt to Witness Harper	
	Note: Harward, Sonya	Asking Witness about having training in population projection.
12:13:04 PM	Atty. Cole Cross Exam of Witness Harper	
	Note: Harward, Sonya	Asking about past and previous employment.
12:14:04 PM	Atty. Cole to Witness Harper	
	Note: Harward, Sonya	Referencing report attached to Witnesse's Direct Testimony, p. 3, map of population projection, regarding percentages that have been requested.
12:15:33 PM	Atty. Cole to Witness Harper	
	Note: Harward, Sonya	Referencing Witnesse's Direct Testimony, page 4, lines 1-4.
12:16:55 PM	Atty. Cole to Witness Harper	
	Note: Harward, Sonya	Again referencing report attached to Witnesse's Direct Testimony, page 3, map of population projection, about percentages.

12:18:02 PM	Atty. Cole to Witness Harper	
	Note: Harward, Sonya	Asking Witness (1) why he used the 2010 information for his population projection and (2) when the housing bubble ended.
12:20:00 PM	Atty. Cole to Witness Harper	
	Note: Harward, Sonya	Asking if Witness's projections from the 2010 information is accurate for the current year.
12:21:46 PM	Atty. Smith Re-Direct Exam of Witness Harper	
	Note: Harward, Sonya	Asking follow-up questions.
12:22:52 PM	Atty. Smith to Witness Harper	
	Note: Harward, Sonya	Referencing Forest Hills - Exhibit 07 of this Hearing.
12:23:59 PM	Witness Harper	
	Note: Harward, Sonya	Witness references and reads from KRS 100.191, p. 3, starting at line 10.
12:25:33 PM	POST HEARING DATA REQUEST by Atty. Watt (due by 2/24/15)	
	Note: Harward, Sonya	Provide the work papers or calculations for the maps on pages 3 and 4 of the report from Witness's Direct Testimony, including the source documents that were utilitized. (prefers to receive it electronically in Excel with formulas attached)
12:29:49 PM	Discussion	
	Note: Harward, Sonya	Discussion of documents already filed in record...no need for any further action regarding those.
12:30:01 PM	Break for lunch	
12:30:10 PM	Session Paused	
1:30:51 PM	Session Resumed	
1:30:54 PM	Witness John Horne (for JSEWD) takes the stand and is sworn in.	
	Note: Harward, Sonya	President of Horne Engineering, Inc.
1:31:27 PM	Atty. Smith Direct Exam of Witness J. Horne	
	Note: Harward, Sonya	No changes to Witness's Testimony.
1:32:54 PM	JSEWD - Exhibit 03	
	Note: Harward, Sonya	Evaluation of Jessamine-South Elkhorn Water District Water Tank Siting Study by Photo Science, Jan. 3, 2013, prepared by Horne Engineering, Inc., Feb. 22, 2013
1:33:36 PM	Atty. Watt Cross Exam of Witness J. Horne	
	Note: Harward, Sonya	Referencing Witness's Storage Analysis.
1:37:02 PM	Atty. Watt to Witness J. Horne	
	Note: Harward, Sonya	Referencing a spreadsheet in Witness's Storage Analysis.
1:40:16 PM	Atty. Watt to Witness J. Horne	
	Note: Harward, Sonya	Referencing Witness's Storage Analysis, p. 30.
1:43:55 PM	Forest Hills - Exhibit 09	
	Note: Harward, Sonya	Three documents: From CN 2012-00470, Response to Forest Hills' Supplemental Requests for Information, served Dec. 18, 2012, Item 16; From CN 2014-00084, Forest Hills' Requests for Information, served Sept. 26, 2014, Item 18; and handwritten note.
1:47:16 PM	Atty. Watt to Witness J. Horne	
	Note: Harward, Sonya	Referencing the Commission's Final Order in Case No. 2012-00470, p. 8, footnote 3, regarding the number of gallons listed for daily demand by the PSC.
1:50:07 PM	Atty. Watt to Witness J. Horne	
	Note: Harward, Sonya	Asking why Witness used 2010 as the base year.
1:53:01 PM	Atty. Watt to Witness J. Horne	
	Note: Harward, Sonya	Asking for details about the dimensions of the proposed tank.
1:56:13 PM	Atty. Watt to Witness J. Horne	
	Note: Harward, Sonya	Referencing the Storage Analysis, second map after p. 34.
1:59:57 PM	Atty. Watt to Witness J. Horne	
	Note: Harward, Sonya	Asking about selecting the site for the proposed tank.

2:02:42 PM	Atty. Watt to Witness J. Horne	
	Note: Harward, Sonya	Referencing Witness's Rebuttal Testimony, p. 3, line 17.
2:06:00 PM	Atty. Watt to Witness J. Horne	
	Note: Harward, Sonya	Referencing Witness's Rebuttal Testimony, p. 7.
2:09:11 PM	Atty. Watt to Witness J. Horne	
	Note: Harward, Sonya	Referencing Witness's Rebuttal Testimony, p. 9, line 9, regarding the project profile.
2:13:16 PM	Atty. Watt to Witness J. Horne	
	Note: Harward, Sonya	Referencing Forest Hills - Exhibit 7 of this Hearing, the last page.
2:16:05 PM	Atty. Watt to Witness J. Horne	
	Note: Harward, Sonya	Referencing Witness's Rebuttal Testimony, p. 9, line 24.
2:17:20 PM	Atty. Watt to Witness J. Horne	
	Note: Harward, Sonya	Referencing Witness's Rebuttal Testimony, p. 11, paragraph that begins "As an Engineer..."
2:19:00 PM	Witness J. Horne to Atty. Watt	
	Note: Harward, Sonya	States that in his research of PSC rulings on water tanks, that none have ever been denied, especially when they are in violation of the PSC's regulation on storage.
2:19:38 PM	Atty. Watt to Witness J. Horne	
	Note: Harward, Sonya	Referencing Witness's Rebuttal Testimony, p. 11, line 19.
2:20:16 PM	Atty. Watt to Witness J. Horne	
	Note: Harward, Sonya	Referencing Witness's Rebuttal Testimony, p. 13.
2:22:15 PM	Forest Hills - Exhibit 10	
	Note: Harward, Sonya	Plaintiff's Second Amended Petition, No. 2012-30982-211, In the District Court of Denton County, Texas, 393rd Judicial District.
2:23:58 PM	Atty. Martin - Objection	
	Note: Harward, Sonya	Objection to the Petition offered by Forest Hills as Exhibit 10 to this Hearing.
2:24:42 PM	Atty. Watt to Witness J. Horne	
	Note: Harward, Sonya	Referencing Forest Hills - Exhibit 9 of this Hearing, handwritten note on the last two pages.
2:37:36 PM	Atty. Hans Cross Exam of Witness J. Horne	
	Note: Harward, Sonya	Asking about storage need for district.
2:38:31 PM	Atty. Hans to J. Horne	
	Note: Harward, Sonya	Referencing Publication Classification Summary Report that was submitted by JSEWD on Jan. 30, 2014, p. 3, starting at first full paragraph.
2:42:56 PM	Atty. Hans to J. Horne	
	Note: Harward, Sonya	Asking if JSEWD is currently out of compliance with the PSC regulation regarding storage capacity.
2:43:46 PM	Atty. Hans to J. Horne	
	Note: Harward, Sonya	Asking how much JSEWD has spent to find site.
2:46:14 PM	Atty. Hans to J. Horne	
	Note: Harward, Sonya	Asking how much it would cost if the current proposed site was not approved.
2:47:34 PM	Atty. Ramser Cross Exam of Witness J. Horne	
	Note: Harward, Sonya	Asking how many feet it is from the closest residence to the proposed site of the tank.
2:49:20 PM	POST HEARING DATA REQUEST by Atty. Ramser	
	Note: Harward, Sonya	Provide the number of feet from the proposed site to the nearest residence...the phyiscal building.
2:49:34 PM	Atty. Ramser to Witness J. Horne	
	Note: Harward, Sonya	Asking what highest elevation in the northwest area of the service area and the elevation of the proposed site.

2:50:26 PM	Comm. Staff - Exhibit 01	
	Note: Harward, Sonya	Letter to Barry Mangold, Forest Hills Development, from John Horne, dated Nov. 11, 2005, Re: Forest Hills Subdivision, Harrodsburg Road, Jessamine South Elkhorn Water District
2:52:38 PM	Atty. Ramser to Witness J. Horne	
	Note: Harward, Sonya	Asking about additional communications with Mr. Mangold.
2:55:45 PM	Atty. Ramser to Witness J. Horne	
	Note: Harward, Sonya	Asking Witness to describe a cluster.
2:57:21 PM	Atty. Ramser to Witness J. Horne	
	Note: Harward, Sonya	Asking about the mention of a 1-million gallon storage tank in the 2005 letter (Comm. Staff - Exhibit 01 to this Hearing) and then the application for that tank not being submitted to the PSC until 2012.
3:02:35 PM	Atty. Ramser to Witness J. Horne	
	Note: Harward, Sonya	Asking about the minimum size water main needed to connect to the water tank.
3:04:06 PM	Atty. Ramser to Witness J. Horne	
	Note: Harward, Sonya	Referencing Witness's Direct Testimony, p. 3, lines 9-10, regarding the growth in customer base.
3:05:51 PM	Atty. Ramser to Witness J. Horne	
	Note: Harward, Sonya	Asking what was done from 1972 to about 2005 to address the water storage issue.
3:10:53 PM	Atty. Ramser to Witness J. Horne	
	Note: Harward, Sonya	Referencing JSEWD - Exhibit 3 of this Hearing, p. 23.
3:12:41 PM	Atty. Ramser to Witness J. Horne	
	Note: Harward, Sonya	Referencing JSEWD - Exhibit 3 of this Hearing, pp. 31-32.
3:13:13 PM	Atty. Ramser to Witness J. Horne	
	Note: Harward, Sonya	Asking if there is a road to the tank site.
3:14:23 PM	Comm. Staff - Exhibit 02	
	Note: Harward, Sonya	Jessamine South Elkhorn Water District Water Tank Siting Study, Jan. 3, 2013, Photo Science Geospatial Solutions
3:15:21 PM	Atty. Ramser to Witness J. Horne	
	Note: Harward, Sonya	Referencing Comm. Staff - Exhibit 2 of this Hearing, p. 17, and comparing it to p. 35 of Witness's Evaluation.
3:17:46 PM	Atty. Ramser to Witness J. Horne	
	Note: Harward, Sonya	Asking what actions will be taken to mitigate traffic in the subdivision if approval is given to build the tank on the proposed site.
3:18:38 PM	Atty. Ramser to Witness J. Horne	
	Note: Harward, Sonya	Asking how many workers will be employed to construct the proposed tank, and how long it will take to construct the tank.
3:19:12 PM	Atty. Ramser to Witness J. Horne	
	Note: Harward, Sonya	Asking how long it will take to construct a water tank at another site if this one is not approved.
3:19:31 PM	Atty. Ramser to Witness J. Horne	
	Note: Harward, Sonya	Asking what the average life span is of an average water tank.
3:20:15 PM	Atty. Ramser to Witness J. Horne	
	Note: Harward, Sonya	Referencing p. 17 of the Siting Study (Comm. Staff - Exhibit 02 of this Hearing) and asking about the cost to construct a road to the tank site.
3:23:17 PM	Atty. Smith Re-Direct Exam of Witness J. Horne	
	Note: Harward, Sonya	Asking follow-up questions and referencing the Commission's Final Order in CN 2012-00470, which was also referenced earlier today by Atty. Watts.
3:25:49 PM	Atty. Smith to Witness J. Horne	
	Note: Harward, Sonya	Referencing Witness's Rebuttal Testimony, p. 11, lines 14-18.

3:27:57 PM	Atty. Smith to Witness J. Horne	
	Note: Harward, Sonya	Asking Witness to explain the difference between residential lots and the residual. Also asking about the discussion with Mr. Mangold about moving the site of a water tank.
3:30:10 PM	Atty. Smith to Witness J. Horne	
	Note: Harward, Sonya	Referencing a copy a phone call log dated April 24, 2014.
3:31:52 PM	Atty. Smith to Witness J. Horne	
	Note: Harward, Sonya	Referencing Forest Hills - Exhibit 09 of this Hearing, the handwritten notes on the last two pages.
3:34:11 PM	Atty. Smith to Witness J. Horne	
	Note: Harward, Sonya	Asking about plat recorded by Mr. Mangold.
3:34:39 PM	Atty. Smith to Witness J. Horne	
	Note: Harward, Sonya	Referencing Comm. Staff - Exhibit 01 of this Hearing.
3:35:27 PM	Atty. Watts Re-Cross Exam of Witness J. Horne	
	Note: Harward, Sonya	Referencing ISO report, p. 3.
3:38:30 PM	Atty. Smith to Witness J. Horne	
	Note: Harward, Sonya	Asking about the plat that Mr. Mangold filed.
3:41:25 PM	POST HEARING DATA REQUEST by Atty. Watt	
	Note: Harward, Sonya	Provide an itemization of the money spent on the current proposed site.
3:42:03 PM	Atty. Watt - Addition to POST HEARING REQUEST by Atty. Ramser	
	Note: Harward, Sonya	In addition to the distant to the Douglas home, provide the distanct to the Hutchens home.
3:42:40 PM	Vice Chairman Gardner Cross Exam of Witness J. Horne	
	Note: Harward, Sonya	Referencing Witness's Direct Testimony, p. 3, lines 9-10, regarding the growth in customer base.
3:43:41 PM	Break	
3:43:45 PM	Session Paused	
3:57:11 PM	Session Resumed	
3:57:52 PM	Witness Christopher Horne (for JSEWD) takes the stand and is sworn in.	
	Note: Harward, Sonya	Vice President of Horne Engineering, Inc.
3:58:19 PM	Atty. Smith Direct Exam of Witness C. Horne	
	Note: Harward, Sonya	No change to Witness's Testimony.
3:59:06 PM	Atty. Watt Cross Exam of Witness C. Horne	
	Note: Harward, Sonya	Referencing the Storage Analysis, p. 25.
4:01:45 PM	Atty. Watt to Witness C. Horne	
	Note: Harward, Sonya	Asking about use of 25 percent for service gradient.
4:02:39 PM	Atty. Watt to Witness C. Horne	
	Note: Harward, Sonya	Asking about average daily demand listed in the Emergency Plan.
4:05:17 PM	Atty. Watt to Witness C. Horne	
	Note: Harward, Sonya	Referencing p. 31 of Storage Analysis, regarding the average daily demand.
4:11:41 PM	Atty. Watt to Witness C. Horne	
	Note: Harward, Sonya	Referencing the Storage Analysis, p. 33, and a letter on the page after p. 34.
4:13:33 PM	Atty. Watt to Witness C. Horne	
	Note: Harward, Sonya	Referencing the maps found behind p. 34 of the Storage Analysis, regarding how acreage on map is calculated.
4:14:28 PM	Atty. Watt to Witness C. Horne	
	Note: Harward, Sonya	Referencing a table on p. 35 of the Storage Analysis.
4:15:30 PM	Atty. Watt to Witness C. Horne	
	Note: Harward, Sonya	Referencing Mr. Harper's report, p. 5, attached to the Storage Analysis.

4:17:15 PM	Witness C. Horne to Atty. Watts	
	Note: Harward, Sonya	Referencing the Storage Analysis, regarding how he arrived at the projection.
4:19:13 PM	Atty. Watt to Witness C. Horne	
	Note: Harward, Sonya	Referencing a table on p. 35 of the Storage Analysis.
4:20:24 PM	Atty. Watt to Witness C. Horne	
	Note: Harward, Sonya	Referencing the 2nd page of Forest Hills - Exhibit 09 of this Hearing.
4:23:07 PM	Atty. Braun takes over Cross Exam of Witness C. Horne	
	Note: Harward, Sonya	Asking about how Kentucky Pipe software works.
4:24:34 PM	Atty. Braun to Witness C. Horne	
	Note: Harward, Sonya	Asking about the EPS calculated in this case and in CN 2012-00470.
4:25:46 PM	Atty. Braun to Witness C. Horne	
	Note: Harward, Sonya	Referencing the EPS presented in this case.
4:26:51 PM	Forest Hills - Exhibit 11	
	Note: Harward, Sonya	Response to Forest Hills' Requests for Information, served Sept. 26, 2014, Item 20
4:28:08 PM	Atty. Braun to Witness C. Horne	
	Note: Harward, Sonya	Asking questions about the letters attached to Forest Hills - Exhibit 11 of this Hearing.
4:31:57 PM	Atty. Braun to Witness C. Horne	
	Note: Harward, Sonya	Asking Witness to read a memo into the record that is attached to Forest Hills - Exhibit 11.
4:36:10 PM	Atty. Braun to Witness C. Horne	
	Note: Harward, Sonya	Asking why the preliminary EPS evaluation was not filed in this case.
4:37:57 PM	Forest Hills - Exhibit 12	
	Note: Harward, Sonya	Response to Forest Hills' Requests for Information, served Sept. 26, 2014, Items 60, 55, 56, 57, 58, 59, and 61.
4:41:16 PM	Forest Hills - Exhibit 13	
	Note: Harward, Sonya	E-mail communication between Monica Braun, Bruce Smith, and Robert Watt, October 21-22, 2014.
4:43:14 PM	Forest Hills - Exhibit 14	
	Note: Harward, Sonya	Pages from 2012 and 2014 JSEWD Tank Analysis
4:49:04 PM	Atty. Braun to Witness C. Horne	
	Note: Harward, Sonya	Continuing to ask questions about Forest Hills - Exhibit 14 of this Hearing.
4:54:57 PM	Atty. Cole - Request Judicial Notice of 807 KAR 5:006, Section 44	
	Note: Harward, Sonya	Vice Chairman Gardner gave Judicial Notice.
4:55:30 PM	Atty. Cole Cross Exam of Witness C. Horne	
	Note: Harward, Sonya	Asking about credentials and duties/responsibilities in his position at Horne Engineering.
4:57:26 PM	Atty. Cole to Witness C. Horne	
	Note: Harward, Sonya	Asking for the minimum size water main that can be connceted to the water tower - and what should be used for the proposed tank.
5:01:51 PM	Atty. Cole to Witness C. Horne	
	Note: Harward, Sonya	Asking about water mains currently at proposed site.
5:03:07 PM	POST HEARING DATA REQUEST by Atty. Cole	
	Note: Harward, Sonya	Provide the date when the proper size water lines was constructed to catnip hill.
5:04:13 PM	Atty. Cole to Witness C. Horne	
	Note: Harward, Sonya	Asking how the proposed tank will work with the two currently existing tanks regarding hydraulics.
5:05:22 PM	Atty. Cole to Witness C. Horne	
	Note: Harward, Sonya	Referencing 807 KAR 5:006, Section 44, and asking how much more space the district needs in order to be in compliance with this regulation.

5:06:42 PM	Atty. Cole to Witness C. Horne	
	Note: Harward, Sonya	Referencing Witness's Pre-Filed Testimony, p. 5, lines 3-5, regarding cost benefit analysis between building the larger tank now.
5:10:33 PM	Atty. Cole to Witness C. Horne	
	Note: Harward, Sonya	Asking how the Witness arrived at the $300,000 cost benefit.
5:14:13 PM	Atty. Cole to Witness C. Horne	
	Note: Harward, Sonya	Referencing Witness's Pre-Filed Testimony, p. 7, lines 1-4.
5:15:24 PM	Comm. Staff - Exhibit 03	
	Note: Harward, Sonya	Hydraulic Analysis, Proposed Elevated Storage Tank, Catnip Hill Road, 750,000 Gallon Alternative, Jessamine County, KY, Jessamine-South Elkhorn Water District, Northwest Distribution System, Feb. 2014, prepared by Horne Engineering, Inc.
5:19:10 PM	POST HEARING DATA REQUEST by Atty. Cole	
	Note: Harward, Sonya	When was Kentucky Pipe last calibrated?
5:19:28 PM	Atty. Cole to Witness C. Horne	
	Note: Harward, Sonya	Asking if the 50,000 tank ever goes empty.
5:23:04 PM	Vice Chairman Gardner Cross Exam of Witness C. Horne	
	Note: Harward, Sonya	Asking about present-cost analysis and if it includes depreciation.
5:24:38 PM	Vice Chairman Gardner to Witness C. Horne	
	Note: Harward, Sonya	Referencing Forest Hill - Exhibit 11 of this Hearing, regarding the interconnection with the city of Nicholasville.
5:28:07 PM	Atty. Martin Re-Direct Exam of Witness C. Horne	
	Note: Harward, Sonya	Asking follow-up questions about average daily usage and average daily demand.
5:29:42 PM	Atty. Martin to Witness C. Horne	
	Note: Harward, Sonya	Asking about average daily usage mentioned in the Commission's Final Order in CN 2012-00470.
5:32:04 PM	Atty. Martin to Witness C. Horne	
	Note: Harward, Sonya	Referencing the Commission's Final Order in CN 2012-00470, p. 12, finding paragraph 5.
5:38:40 PM	Atty. Martin to Witness C. Horne	
	Note: Harward, Sonya	Asking if it would be prudent to meet the minimum requirements.
5:39:37 PM	Atty. Smith continues Re-Direct Exam of Witness C. Horne	
	Note: Harward, Sonya	Asking additional follow-up questions.
5:42:08 PM	Atty. Watt Re-Cross Exam of Witness C. Horne	
	Note: Harward, Sonya	Asking about inputs being accurate.
5:42:57 PM	Witness C. Horne dismissed from the stand.	
5:43:01 PM	Hearing adjourned for the day, to resume at 10a.m. tomorrow.	
5:43:08 PM	Session Paused	
9:46:15 AM	Session Ended	

Exhibit List Report

2014-00084_10Feb2015

Jessamine-South Elkhorn Water District

Name:	Description:
Comm. Staff - Exhibit 01	Letter to Barry Mangold, Forest Hills Development, from John Horne, dated Nov. 11, 2005, Re: Forest Hills Subdivision, Harrodsburg Road, Jessamine South Elkhorn Water District
Comm. Staff - Exhibit 02	Jessamine South Elkhorn Water District Water Tank Siting Study, Jan. 3, 2013, Photo Science Geospatial Solutions
Comm. Staff - Exhibit 03	Hydraulic Analysis, Proposed Elevated Storage Tank, Catnip Hill Road, 750,000 Gallon Alternative, Jessamine County, KY, Jessamine-South Elkhorn Water District, Northwest Distribution System, Feb. 2014, prepared by Horne Engineering, Inc.
Forest Hills - Exhibit 01	Jessamine County, Kentucky, Property Valuation, Property Search Display for 728 Chinkapin
Forest Hills - Exhibit 02	Deed for Property at 728 Chinkapin Drive, Nicholasville, KY 40356, entered on Dec. 17, 2014
Forest Hills - Exhibit 03	Map labeled FH-Bates_R_JSEWD1#2a, Page 1 of 2
Forest Hills - Exhibit 04	From HUD Regulations - 4150.2
Forest Hills - Exhibit 05	From HUD Regulations - Appendix D: Valuation Protocol
Forest Hills - Exhibit 06	Three documents: KRS 100.183 Comprehensive plan required; Witness's Response to Forest Hills' Request for Information, served Sept. 26, 2014, Item 34; and AICP Certification Exam Outline.
Forest Hills - Exhibit 07	Wilmore, Nicholasville, Jessamine County Joint Comprehensive Plan 2010
Forest Hills - Exhibit 08	Witness's Response to Forest Hills' Request for Information, served Sept. 26, 2014, Item 35.
Forest Hills - Exhibit 09	Three documents: From CN 2012-00470, Response to Forest Hills' Supplemental Requests for Information, served Dec. 18, 2012, Item 16; From CN 2014-00084, Forest Hills' Requests for Information, served Sept. 26, 2014, Item 18; and handwritten note.
Forest Hills - Exhibit 10	Plaintiff's Second Amended Petition, No. 2012-30982-211, In the District Court of Denton County, Texas, 393rd Judicial District.
Forest Hills - Exhibit 11	Response to Forest Hills' Requests for Information, served Sept. 26, 2014, Item 20
Forest Hills - Exhibit 12	Response to Forest Hills' Requests for Information, served Sept. 26, 2014, Items 60, 55, 56, 57, 58, 59, and 61.
Forest Hills - Exhibit 13	E-mail communication between Monica Braun, Bruce Smith, and Robert Watt, October 21-22, 2014.
Forest Hills - Exhibit 14	Pages from 2012 and 2014 JSEWD Tank Analysis
JSEWD - Exhibit 01	Notice of Publication copied from newspaper (will still need to provide an affadavit)
JSEWD - Exhibit 02	Market Analysis Jessamine/South Elkhorn Water District Proposed Water Tank Site Adjoining Forest Hills Subdivision Jessamine County, Kentucky, March 4, 2013, Prepared by Berkley Appraisal Company
JSEWD - Exhibit 03	Evaluation of Jessamine-South Elkhorn Water District Water Tank Siting Study by Photo Science, Jan. 3, 2013, prepared by Horne Engineering, Inc., Feb. 22, 2013

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

APPLICATION OF JESSAMINE-SOUTH ELKHORN WATER DISTRICT FOR A CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY TO CONSTRUCT AND FINANCE A WATERWORKS IMPROVEMENT PROJECT PURSUANT TO KRS 278.020 AND 278.300	)))))	CASE NO. 2014-00084

CERTIFICATE

I, Sonya Harward, hereby certify that:

1. The attached DVD contains a digital recording of the Hearing conducted in the above-styled proceeding on February 11, 2015. Hearing Log, Exhibits, Exhibit List, and Witness List are included with the recording on February 11, 2015. The Hearing was recorded on two consecutive days, February 10, 2015 and February 11, 2015, separately.

2. I am responsible for the preparation of the digital recording.

3. The digital recording accurately and correctly depicts the Hearing of February 11, 2015.

4. The "Exhibit List" attached to this Certificate correctly lists all exhibits introduced at the Hearing of February 11, 2015.

5. The "Hearing Log" attached to this Certificate accurately and correctly states the events that occurred at the Hearing of February 11, 2015 and the time at which each occurred.

Given this 19th day of February, 2015.

Sonya Harward (Boyd), Notary Public
State at Large
My commission expires: August 27, 2017

JAVS Session Report - Detail

2014-00084_11Feb2015

Jessamine-South Elkhorn Water District

Date:	Type:	Location:	Department:
2/11/2015	Other	Public Service Commission	Hearing Room 1 (HR 1)

Judge: David Armstrong; Jim Gardner
Witness: Logan Davis - Forest Hills; Michael Ritchie - for Forest Hills; Nicholas Strong - JSEWD; Clark Toleman - for Forest Hills
Clerk: Sonya Harward

Event Time	Log Event	
9:47:31 AM	Session Started	
9:47:33 AM	Session Paused	
10:07:54 AM	Session Resumed	
10:07:55 AM	Hearing Resumed by Vice Chairman Gardner	
10:07:56 AM	Atty. Smith - Clarification about a POST HEARING DATA REQUEST	
	Note: Harward, Sonya	POST HEARING DATA REQUEST by Atty. Cole
10:08:57 AM	Witness Nicholas Strong (JSEWD) takes the stand and is sworn in.	
	Note: Harward, Sonya	Chairman of JSEWD Board of Commissioners
10:09:17 AM	Atty. Smith Direct Exam of Witness Strong	
	Note: Harward, Sonya	No changes to testimony.
10:09:55 AM	Atty. Watt Cross Exam of Witness Strong	
	Note: Harward, Sonya	Referencing Forest Hills - Exhibit 9 of this Hearing, third page, regarding the accuracy of the response.
10:12:35 AM	Forest Hills - Exhibit 15	
	Note: Harward, Sonya	Collection of documents consisting of letters and responses to requests for information.
10:14:21 AM	Discussion about Forest Hills - Exhibit 15	
10:14:58 AM	Atty. Watt to Witness Strong	
	Note: Harward, Sonya	Referencing Witness's Rebuttal Testimony, p. 6, Ex. A; and the first page of Forest Hills - Exhibit 15 of this Hearing.
10:19:57 AM	Atty. Watt to Witness Strong	
	Note: Harward, Sonya	Asking about negotiations between JSEWD and Forest Hills Residents' Association.
10:22:55 AM	Atty. Watt to Witness Strong	
	Note: Harward, Sonya	Referencing the third letter in Forest Hills - Exhibit 15 of this Hearing.
10:23:52 AM	Atty. Smith - Clarification	
	Note: Harward, Sonya	Pointed out that the letters being discussed are from him (Counsel), not the Witness.
10:25:21 AM	Atty. Watt to Witness Strong	
	Note: Harward, Sonya	Asking if JSEWD has advertised for bids for the 750,000 tank.
10:26:26 AM	Atty. Watt to Witness Strong	
	Note: Harward, Sonya	Referencing Witness's Rebuttal Testimony, p. 4, lines 6, 12, and 22.
10:29:52 AM	Atty. Watt to Witness Strong	
	Note: Harward, Sonya	Referencing Forest Hills - Exhibit 15 of this Hearing, the second to last document (marked as p. 26), regarding accuracy of costs listed.
10:35:36 AM	Atty. Watt to Witness Strong	
	Note: Harward, Sonya	Still discussing the costs of upgrades and other expenses thus far dealing with the proposed tank.
10:38:38 AM	Atty. Watt to Witness Strong	
	Note: Harward, Sonya	Referencing Witness's Rebuttal Testimony, p. 6, line 18.

10:40:09 AM	Atty. Watt to Witness Strong	
	Note: Harward, Sonya	Referencing Forest Hills - Exhibit 15 of this Hearing, the last document, minutes of a July 2, 2014 meeting.
10:42:34 AM	POST HEARING DATA REQUEST by Atty. Watt	
	Note: Harward, Sonya	(1) Provide the copies of the amended Project Administrators Agreement and the Agreement for Engineering Services. (2) Provide the amount Horne Engineering has been paid under these agreements and the total amount they have been paid for this entire project so far. (3) Provide the details for the expendiures related to all services for this tank.
10:45:06 AM	Atty. Watt to Witness Strong	
	Note: Harward, Sonya	Referencing Witness's Rebuttal Testimony, p. 8, line 10.
10:47:15 AM	Atty. Watt to Witness Strong	
	Note: Harward, Sonya	Discussing the cost of the tank to the ratepayers.
10:48:39 AM	Atty. Martin - Objection	
	Note: Harward, Sonya	Object to line of questioning about rates, which would be more appropriate in a rate case, not a CPCN case.
10:49:05 AM	Atty. Watt - Response to Objection	
	Note: Harward, Sonya	Discusses the steps in the CPCN case and finding the least-cost alternative.
10:49:54 AM	Vice Chairman Gardner - Allows Witness to Answer	
10:51:22 AM	Atty. Martin - Objection	
	Note: Harward, Sonya	Not trying to recover the costs in this case.
10:52:20 AM	Vice Chairman Gardner - Allows Witness to Answer	
10:53:20 AM	Atty. Watt to Witness Strong	
	Note: Harward, Sonya	Continues asking questions about rates.
10:53:40 AM	Atty. Hans Cross Exam of Witness Strong	
	Note: Harward, Sonya	Asking questions about the benefit to the Utility's ratepayers, keeping rates low, etc.
10:56:38 AM	Atty. Hans to Witness Strong	
	Note: Harward, Sonya	Asking about a $250,000 bond and the cost to find a new site.
10:58:01 AM	Atty. Hans to Witness Strong	
	Note: Harward, Sonya	Asking if Witness agrees that it would save $295,000+ to build the larger tank now.
11:00:00 AM	Atty. Ramser Cross Exam of Witness Strong	
	Note: Harward, Sonya	Asking about responsibilities as the Chairman of the JSEWD Board of Commissioners.
11:01:17 AM	Atty. Ramser to Witness Strong	
	Note: Harward, Sonya	Referencing Witness's Rebuttal Testimony, p. 2, regarding change in elevation of the tank.
11:02:15 AM	Atty. Ramser to Witness Strong	
	Note: Harward, Sonya	Referencing Witness's Rebuttal Testimony, p. 4.
11:03:37 AM	Atty. Smith - Clarification	
	Note: Harward, Sonya	Counsel noted that he provided the incorrect information about the tank elevation in a response, not the Witness.
11:04:02 AM	Comm. Staff - Exhibit 4	
	Note: Harward, Sonya	Response to Forest Hills' Requests for Information, served Sept. 26, 2014, Item 30.
11:05:41 AM	Atty. Ramser to Witness Strong	
	Note: Harward, Sonya	Asking how many customers served in SE area vs. NW area.
11:06:53 AM	Atty. Ramser to Witness Strong	
	Note: Harward, Sonya	Asking about customers having water turned off and being given notice to turn water off due to none payment.

11:09:00 AM	Atty. Ramser to Witness Strong	
	Note: Harward, Sonya	Asking if the increased to cost to find an alternative site would cause the utility to file for a general rate increase.
11:10:00 AM	Atty. Ramser to Witness Strong	
	Note: Harward, Sonya	Asking about purchasing the Switzer site and how the area looked then.
11:11:02 AM	Vice Chairman Gardner Cross Exam of Witness	
	Note: Harward, Sonya	Referencing Forest Hills - Exhibit 9 of this Hearing, regarding average daily use per customer and who prepared the numbers.
11:12:30 AM	Vice Chairman Gardner to Witness Strong	
	Note: Harward, Sonya	Asking about the increase in customers from 1980-1990s to 2014 and if they were NW or NW and SE areas.
11:13:00 AM	Atty. Smith Re-Direct Exam of Witness Strong	
	Note: Harward, Sonya	Asking Witness how long bids are effective.
11:16:11 AM	Atty. Smith to Witness Strong	
	Note: Harward, Sonya	Asking about funds expended while applying for the CPCN and a grant for the General Assembly.
11:18:38 AM	Atty. Smith to Witness Strong	
	Note: Harward, Sonya	Asking about funds administered by KIA and the process involved.
11:19:55 AM	Atty. Smith to Witness Strong	
	Note: Harward, Sonya	Asking about $1M grant for the project, and more grant money being recently allocated to this project...both which help reduce impact on rates.
11:21:03 AM	Atty. Watt Re-Cross Exam of Witness Strong	
	Note: Harward, Sonya	Asking about rates not being increased due to the retirement of debt, and if the utility is still charging the ratepayers for the retired debt.
11:23:07 AM	Atty. Watt to Witness Strong	
	Note: Harward, Sonya	Asking about the increased cost to change sites.
11:23:56 AM	Atty. Watt to Witness Strong	
	Note: Harward, Sonya	Asking about bids.
11:24:42 AM	Atty. Smith - Objection	
11:25:21 AM	Atty. Watt to Witness Strong	
	Note: Harward, Sonya	Continues to ask about Legislators approving a site change.
11:26:41 AM	Atty. Watt to Witness Strong	
	Note: Harward, Sonya	Asking about paying for expenses and rates not increasing, and also about applying for a rate decrease.
11:27:13 AM	Atty. Ramser Re-Cross Exam of Witness Strong	
	Note: Harward, Sonya	Referencing the March 11 Letter included Forest Hills - Exhibit 15 of this Hearing.
11:27:54 AM	Atty. Smith Re-Direct Exam of Witness Strong	
	Note: Harward, Sonya	Follow-up question about another site in Harrodsridge.
11:28:36 AM	Witness Strong dismissed from the stand.	
11:28:52 AM	Session Paused	
11:39:01 AM	Session Resumed	
11:39:02 AM	Witness Logan Davis (Forest Hills) takes the stand and is sworn in.	
	Note: Harward, Sonya	Member of Forest Hills Homeowners Association and owns a home there.
11:39:34 AM	Atty. Braun Direct Exam of Witness Logan	
	Note: Harward, Sonya	No changes to his Testimony.
11:39:52 AM	Atty. Smith Cross Exam of Witness Davis	
	Note: Harward, Sonya	Asking about testifying previously in CN 2012-00470.
11:41:46 AM	Atty. Smith to Witness Davis	
	Note: Harward, Sonya	Asking about the sites considered.

11:42:49 AM	Atty. Smith to Witness Davis Note: Harward, Sonya	Asking if Witness understands that there could be a rate increase if this tank is relocated and if he thinks that's fair to the district.
11:43:56 AM	Atty. Smith to Witness Davis Note: Harward, Sonya	Asking Witness if Mr. Mangold withheld information about the proposed tank.
11:45:37 AM	Atty. Smith to Witness Davis Note: Harward, Sonya	Asking if Witness or the Forest Hills Assoc. has taken any action against Mr. Mangold.
11:47:46 AM	JSEWD - Exhibit 04 Note: Harward, Sonya	Sign-in sheet and minutes of March 9, 2011 FHNA Spring Meeting.
11:50:27 AM	Atty. Smith to Witness Davis Note: Harward, Sonya	Asking Witness about the effect on the price of homes since the 2012 proceeding.
11:52:27 AM	Atty. Smith to Witness Davis Note: Harward, Sonya	Asking Witness about his pre-filed testimony and his accusation about the Utility causing discord among the homeowners.
11:53:57 AM	Atty. Smith to Witness Davis Note: Harward, Sonya	Asking if some Forest Hills homeowners were against being intervenors in this case,
11:55:05 AM	Atty. Smith to Witness Davis Note: Harward, Sonya	Asking about Witness's understanding of the KIA contract and the process involved in working with them.
11:55:54 AM	Atty. Smith to Witness Davis Note: Harward, Sonya	Referencing JSEWD - Exhibit 04 of this Hearing, the last page of the minutes.
11:57:37 AM	Atty. Smith to Witness Davis Note: Harward, Sonya	Asking Witness who Mr. Ben Campbell is and if he was contacted to deteremine the impact of the tower on the homes.
11:58:40 AM	Atty. Cole Cross Exam of Witness Davis Note: Harward, Sonya	Asking Witness about his education, current position, and responsibilities.
11:59:43 AM	Atty. Cole to Witness Davis Note: Harward, Sonya	Referencing JSEWD - Exhibit 15 to this Hearing, the second letter, regarding his address listed and asking if he owns a home in Forest Hills.
12:01:26 PM	Atty. Cole to Witness Davis Note: Harward, Sonya	Referencing Witness's pre-filed Testimony, p. 5, lines 8-9.
12:02:30 PM	Atty. Cole to Witness Davis Note: Harward, Sonya	Asking if Witness thinks it's fair for all ratepayers to pay for the Utility to find another site.
12:04:01 PM	Atty. Cole to Witness Davis Note: Harward, Sonya	Asking if Witness has seen the final plat filed that lists the water district as owner of the Switzer site.
12:06:40 PM	Atty. Cole to Witness Davis Note: Harward, Sonya	Asking if Witness is planning any action against Mr. Mangold.
12:07:34 PM	Atty. Cole to Witness Davis Note: Harward, Sonya	Referencing JSEWD - Exhibit 15 to this Hearing, the second letter, asking the Witness if there was a response to this letter.
12:08:22 PM	Atty. Cole to Witness Davis Note: Harward, Sonya	Asking Witness how much Photo Science has been paid by Forest Hills for services regarding the tank site.
12:09:13 PM	Atty. Cole to Witness Davis Note: Harward, Sonya	Referencing Witness's pre-filed Testimony, p. 5, lines14-16.

12:11:05 PM	Vice Chairman Gardner Cross Exam of Witness Davis	
	Note: Harward, Sonya	Asking how many homes are occupied in the neighborhood, and how many are members of the Forest Hills Assoc.
12:12:35 PM	Atty. Braun Re-Direct Exam of Witness Davis	
12:12:46 PM	Witness Davis has been handed the plat referred to in this case.	
12:13:48 PM	POST HEARING DATA REQUEST by Vice Chairman Gardner	
	Note: Harward, Sonya	Provide a copy of the plat.
12:15:31 PM	Vice Chairman Gardner (and all parties approach bench to view plat)	
	Note: Harward, Sonya	Asked to see the plat and if there are any other plats in the record.
12:18:21 PM	Atty. Braun to Witness Davis	
	Note: Harward, Sonya	Referencing JSEWD - Exhibit 04 of this Hearing.
12:19:08 PM	Atty. Braun to Witness Davis	
	Note: Harward, Sonya	Referencing the March 11 Letter included Forest Hills - Exhibit 15 of this Hearing.
12:20:19 PM	Atty. Smith Re-Cross Exam of Witness Davis	
	Note: Harward, Sonya	Asking about the plat dated Aug. 2005.
12:22:26 PM	Atty. Smith to Witness Davis	
	Note: Harward, Sonya	Asking about contact with the water district.
12:25:03 PM	Atty. Cole Re-Cross Exam of Witness Davis	
	Note: Harward, Sonya	Follow-up questions about members of homeowners association and the votes for and against participating in this proceeding.
12:26:09 PM	Post Hearing Data Request by Atty. Cole (info. provided at hearing)	
	Note: Harward, Sonya	Minutes of any meeting containing a vote about participation in this proceeding. (PROVIDED: From June 11, 2014 meeting minutes, 16 yes to 5 no)
12:26:21 PM	Vice Chairman Gardner Re-Cross Exam of Witness Davis	
	Note: Harward, Sonya	Asking about dues paid by homeowners to the association and voting rights of members.
12:28:22 PM	Break	
12:28:27 PM	Session Paused	
1:45:09 PM	Session Resumed	
1:45:16 PM	Camera Lock Deactivated	
1:45:28 PM	Witness Michael Ritchie (for Forest Hills) takes the stand and is sworn in.	
	Note: Harward, Sonya	Executive Vice President of Photo Science
1:46:15 PM	Atty. Watt Direct Exam of Witness Ritchie	
	Note: Harward, Sonya	No changes to Testimony.
1:46:51 PM	Atty. Smith Cross Exam of Witness Ritchie	
	Note: Harward, Sonya	Referencing Witness's pre-filed Testimony, p. 1, starting at line 19.
1:49:03 PM	Atty. Smith to Witness Ritchie	
	Note: Harward, Sonya	Asking about an updated photo of the subdivision.
1:50:21 PM	Atty. Smith to Witness Ritchie	
	Note: Harward, Sonya	Asking about Witness's physical visits to the potential sites for the tank.
1:55:37 PM	Atty. Smith to Witness Ritchie	
	Note: Harward, Sonya	Asking if District owns the 7 to 8 sites that the Witness suggests for the tank.
1:56:06 PM	Atty. Smith to Witness Ritchie	
	Note: Harward, Sonya	Asking Witness about the criteria for his choice of sites.
1:58:04 PM	Atty. Smith to Witness Ritchie	
	Note: Harward, Sonya	Referencing Witness's pre-filed Testimony, p. 2, starting at line 16.
1:59:18 PM	Atty. Smith to Witness Ritchie	
	Note: Harward, Sonya	Asking about the Commission's approval of use of photo science.

2:03:24 PM	Atty. Smith to Witness Ritchie	
	Note: Harward, Sonya	Asking if Witness tried to get input from the water district about siting.
2:07:59 PM	Atty. Smith to Witness Ritchie	
	Note: Harward, Sonya	Asking if Witness used the same criteria as established for high voltage transmission lines.
2:09:37 PM	Atty. Smith to Witness Ritchie	
	Note: Harward, Sonya	Referencing Witness's pre-filed Testimony, p. 6, starting at line 20.
2:11:50 PM	JSEWD - Exhibit 05	
	Note: Harward, Sonya	Photo Science Geospatial Solutions, Water Tank Siting Study, 5. Built Environment with Viewshed
2:14:26 PM	Atty. Smith to Witness Ritchie	
	Note: Harward, Sonya	Asking Witness about this Exhibit.
2:16:07 PM	Atty. Ramser Cross Exam of Witness Ritchie	
	Note: Harward, Sonya	Asking about Witness's educational background, his work, and responsibilities there.
2:18:00 PM	Atty. Ramser to Witness Ritchie	
	Note: Harward, Sonya	Asking for the amount Photo Science has been paid for their work on this site.
2:18:59 PM	Atty. Ramser to Witness Ritchie	
	Note: Harward, Sonya	Asking if Photo Science has been used in a case before the Commission concerning a water tank.
2:19:20 PM	Atty. Ramser to Witness Ritchie	
	Note: Harward, Sonya	Asking about the three-prong approach for criteria used in sitings.
2:22:29 PM	Atty. Ramser to Witness Ritchie	
	Note: Harward, Sonya	Referencing Witness's pre-filed Testimony, p. 1, lines 22-23.
2:23:11 PM	Atty. Ramser to Witness Ritchie	
	Note: Harward, Sonya	Asking if Witness disputes that the Utility needs a water tank.
2:23:42 PM	Atty. Ramser to Witness Ritchie	
	Note: Harward, Sonya	Referencing Witness's pre-filed Testimony, p. 2, starting at line 21.
2:25:50 PM	Atty. Ramser to Witness Ritchie	
	Note: Harward, Sonya	Referencing Witness's pre-filed Testimony, p. 5, line 9.
2:27:00 PM	Atty. Ramser to Witness Ritchie	
	Note: Harward, Sonya	Referencing Witness's pre-filed Testimony, p. 5, line 17.
2:32:25 PM	Atty. Ramser to Witness Ritchie	
	Note: Harward, Sonya	Witness is giving his opinion of where to put the tank.
2:33:23 PM	Atty. Ramser to Witness Ritchie	
	Note: Harward, Sonya	Asking if cost plays into the criteria for siting.
2:35:01 PM	Atty. Ramser to Witness Ritchie	
	Note: Harward, Sonya	Referencing Comm. Staff - Exhibit 02 of this Hearing, p. 17.
2:37:43 PM	Atty. Ramser to Witness Ritchie	
	Note: Harward, Sonya	Asking about incorrect information provided in the table in Comm. Staff - Exhibit 02 of this Hearing, p. 17.
2:39:46 PM	Atty. Ramser to Witness Ritchie	
	Note: Harward, Sonya	Referencing JSEWD - Exhibit 03 of this Hearing, p. 35, Site C.
2:41:42 PM	Vice Chairman Garder Cross Exam of Witness Ritchie	
	Note: Harward, Sonya	Asking if Photo Science performed a study on the Vectron transmission line from Southern Indiana across the Ohio River for Big Rivers.
2:42:21 PM	Atty. Watt Re-Cross Exam of Witness Ritchie	
	Note: Harward, Sonya	Asking for the purpose of the GTC model.
2:44:59 PM	Atty. Watt to Witness Ritchie	
	Note: Harward, Sonya	Asking about an early step in the methodology for siting being to consider all possible options/locations.

2:49:40 PM	Atty. Watt to Witness Ritchie	
	Note: Harward, Sonya	Asking about changes from time site is chosen to time construction begins and those changes being taken into consideration.
2:51:17 PM	Atty. Smith Re-Cross Exam of Witness Ritchie	
	Note: Harward, Sonya	Asking if Witness has identified any engineering, technilogical, architectural, or historical problems with the Switzer site.
2:52:35 PM	Atty. Smith to Witness Ritchie	
	Note: Harward, Sonya	Asking Witness about his opinion about using the Brown site.
2:55:40 PM	Atty. Smith to Witness Ritchie	
	Note: Harward, Sonya	Asking why the Witness did not suggest this alternative before now.
2:55:48 PM	Atty. Watt - Objection	
2:55:59 PM	Atty. Martin - Response to Objection	
2:56:10 PM	Vice Chairman Gardner - Allow Witness to Answer	
2:58:14 PM	Atty. Smith to Witness Ritchie	
	Note: Harward, Sonya	Asking Witness about his suggestion regarding re-selling the Switzer land for homes.
3:00:54 PM	Atty. Smith to Witness Ritchie	
	Note: Harward, Sonya	Asking Witness if he has looked at the Horne review of the Witness's report. (JSEWD - Exhibit 03 of this Hearing)
3:02:52 PM	Atty. Smith to Witness Ritchie	
	Note: Harward, Sonya	Asking Witness about his contact with stakeholders.
3:04:00 PM	Witness Ritchie dismissed from the stand.	
3:04:14 PM	Session Paused	
3:11:56 PM	Session Resumed	
3:12:01 PM	Witness Clark Toleman (for Forest Hills) takes the stand and is sworn in.	
3:12:05 PM	Camera Lock Deactivated	
3:12:46 PM	Atty. Braun Direct Exam of Witness Toleman	
	Note: Harward, Sonya	No changes to Testimony.
3:13:12 PM	Atty. Smith Cross Exam of Witness Toleman	
	Note: Harward, Sonya	Referencing Witnesses Direct Testimony, ECT-1, Witness's Credentials.
3:16:13 PM	Atty. Smith to Witness Toleman	
	Note: Harward, Sonya	Asking Witness about his knowledge of Uniform Standards of Professional Appraisal Practice (USPAP).
3:17:02 PM	JSEWD - Exhibit 06	
	Note: Harward, Sonya	Ethics Rules, pp. U-7, U-19, and U-20, from USPAP 2014-2015
3:24:03 PM	Atty. Smith to Witness Toleman	
	Note: Harward, Sonya	Asking Witness about arriving at the 20 percent he uses, and if he has provided mathematical calculations to get this percent.
3:25:13 PM	Atty. Smtih to Witness Toleman	
	Note: Harward, Sonya	Provided the Witness with a copy of his pre-filed testimony and responses to information requests.
3:29:25 PM	Atty. Smtih to Witness Toleman	
	Note: Harward, Sonya	Asking Witness about articles he provided in his testimony.
3:30:35 PM	JSEWD - Exhibit 07	
	Note: Harward, Sonya	Copy of Article: Quantifying te Value of a View in Single-Family Housing Markets by Mauricio Rodriguez, PhD, and C. F Sirmans, SRPA, PhD, pages numbered 600-603.
3:33:30 PM	JSEWD - Exhibit 08	
	Note: Harward, Sonya	Copy of Article: Estimating teh Effect of a View on Undeveloped Propery Values by James R. Rinehart, PhD, and Jeffrey J. Pompe, PhD, pages numbered 57-61.
3:36:17 PM	Atty. Smith to Witness Toleman	
	Note: Harward, Sonya	Asking about the Witness the paired-sales analysis, and not providing how he reached the 20 percent.

3:37:25 PM	JSEWD - Exhibit 09	
	Note: Harward, Sonya	Copy of Article: The Impact of Detrimental Conditions on Property Values by Randall Bell, MAI, pages numbered 380-391.
3:38:57 PM	Atty. Smith to Witness Toleman	
	Note: Harward, Sonya	Referencing JSEWD - Exhibit 09 of this Hearing, table on second page.
3:40:43 PM	Atty. Smith to Witness Toleman	
	Note: Harward, Sonya	Referencing JSEWD - Exhibit 09 of this Hearing, page numbered 389.
3:42:15 PM	Atty. Smith to Witness Toleman	
	Note: Harward, Sonya	Asking Witness about Witness Ritchie's testimony at this Hearing.
3:44:32 PM	JSEWD - Exhibit 10	
	Note: Harward, Sonya	Copy of Article: The Impact of Communication Towers on Residential Property Values by Allen G. Dorin, JR. MAI, SRA, and Joseph W. Smith, III
3:48:44 PM	Atty. Smith to Witness Toleman	
	Note: Harward, Sonya	Asking Witness if the Commission should look at this differently than a neighborhood with smaller/cheaper homes.
3:52:31 PM	Atty. Smith to Witness Toleman	
	Note: Harward, Sonya	Asking Witness if he has a calculation that shows the decline of the price of the lots in Forest Hills since the last proceeding.
3:57:22 PM	Atty. Cole Cross Exam of Witness Toleman	
	Note: Harward, Sonya	Asking Witness about his educational background.
3:58:53 PM	Atty. Cole to Witness Toleman	
	Note: Harward, Sonya	Asking the Witness to describe the factors of the damage study he used in this case.
4:03:18 PM	Atty. Cole to Witness Toleman	
	Note: Harward, Sonya	Asking Witness with whom he has discussed the anticipation of the water tank.
4:05:15 PM	Atty. Cole to Witness Toleman	
	Note: Harward, Sonya	Asking Witness to explain what a damage study is.
4:06:58 PM	Atty. Cole to Witness Toleman	
	Note: Harward, Sonya	Asking Witness if he looked at any other reasons for why the property value is declining.
4:09:15 PM	POST HEARING DATA REQUEST by Atty. Cole	
	Note: Harward, Sonya	Provide the factors used to calculate the 20 percent number. (Include the time adjustments.)
4:09:25 PM	Atty. Martin - Objection	
	Note: Harward, Sonya	Objects if he's going to create the documents.
4:09:43 PM	Vice Chairman Gardner - Will Allow the Request	
	Note: Harward, Sonya	Utility can object to this in their Brief.
4:12:22 PM	Atty. Cole to Witness Toleman	
	Note: Harward, Sonya	Referencing JSEWD - Exhibit 6 of this Hearing, p. 2, regarding the three approaches listed under Standard Rule 1-4.
4:14:23 PM	Comm. Staff - Exhibit 05	
	Note: Harward, Sonya	Case No. 2012-00470, Forest Hills' Response to JSEWD's Supplemental Requests for Information, Item 3.
4:17:22 PM	Atty. Cole to Witness Toleman	
	Note: Harward, Sonya	Asking Witness the difference between this case and the last case regarding the 20 percent.
4:18:03 PM	Atty. Cole to Witness Toleman	
	Note: Harward, Sonya	Asking about Witness's statement regarding owners who pay more being more sensitive to the future of their property.

4:19:11 PM	Vice Chairman Gardner Cross Exam of Witness Toleman	
	Note: Harward, Sonya	Asking about Witness's testimony in the last case regarding the 20 percent.
4:20:19 PM	Vice Chairman Gardner to Witness Toleman	
	Note: Harward, Sonya	Asking Witness about not using sales since 2012 as part of his eight paired sales.
4:22:07 PM	Atty. Braun Re-Direct Exam of Witness Toleman	
	Note: Harward, Sonya	Asking follow-up questions, regarding the sale of the Bates lot.
4:23:32 PM	Vice Chairman follow-up question Witness Toleman	
	Note: Harward, Sonya	Asking Witness if there are existing work papers about how he did his analysis.
4:25:11 PM	Atty. Smith Re-Cross Exam of Witness Toleman	
	Note: Harward, Sonya	Referencing Witness's Response to JSEWD's Request for Information, Item 9.
4:26:54 PM	Atty. Kingsley Re-Cross Exam of Witness Toleman	
	Note: Harward, Sonya	Asking Witness who purchased the Bates lot.
4:28:06 PM	Witness Toleman dismissed from the stand.	
4:31:15 PM	Atty. Cole - Provides Reads All POST HEARING DATA REQUESTS	
4:34:29 PM	POST HEARING DATA REQUESTS DUE 3/11/15	
4:36:06 PM	BRIEFS DUE 4/8/15	
4:37:18 PM	Vice Chairman Gardner	
	Note: Harward, Sonya	Accepts all Exhibits that have been marked.
4:38:52 PM	Session Paused	
4:38:59 PM	Session Resumed	
4:39:05 PM	Session Paused	

Exhibit List Report

2014-00084_11Feb2015

Jessamine-South Elkhorn Water District

Name:	Description:
Comm. Staff - Exhibit 04	Response to Forest Hills' Requests for Information, served Sept. 26, 2014, Item 30.
Comm. Staff - Exhibit 05	Case No. 2012-00470, Forest Hills' Response to JSEWD's Supplemental Requests for Information, Item 3.
Forest Hills - Exhibit 15	Collection of documents consisting of letters and responses to requests for information.
JSEWD - Exhibit 04	Sign-in sheet and minutes of March 9, 2011 FHNA Spring Meeting.
JSEWD - Exhibit 05	Photo Science Geospatial Solutions, Water Tank Siting Study, 5. Built Environment with Viewshed
JSEWD - Exhibit 06	Ethics Rules, pp. U-7, U-19, and U-20, from USPAP 2014-2015
JSEWD - Exhibit 07	Copy of Article: Quantifying te Value of a View in Single-Family Housing Markets by Mauricio Rodriguez, PhD, and C. F Sirmans, SRPA, PhD, pages numbered 600-603.
JSEWD - Exhibit 08	Copy of Article: Estimating teh Effect of a View on Undeveloped Propery Values by James R. Rinehart, PhD, and Jeffrey J. Pompe, PhD, pages numbered 57-61.
JSEWD - Exhibit 09	Copy of Article: The Impact of Detrimental Conditions on Property Values by Randall Bell, MAI, pages numbered 380-391.
JSEWD - Exhibit 10	Copy of Articie: The Impact of Communication Towers on Residential Property Values by Allen G. Dorin, JR. MAI, SRA, and Joseph W. Smith, III

Horne Engineering, Inc.

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

ENGINEERS • LAND SURVEYORS • PLANNERS

email@hornеeng.com

November 11, 2005

Barry Mangold
Forest Hills Development, LLC
555 West Fourth Street
Lexington, KY 40508

Re: Forest Hills Subdivision
Harrodsburg Road
Jessamine South Elkhorn Water District

Dear Mr. Mangold:

In the process of reviewing the construction plans for the water distribution system for your subdivision, it came to light that perhaps you were unaware of the Jessamine South Elkhorn Water District plan for construction of an elevated storage tank on adjacent properties. I base this assumption on the fact that the initial submittal of your construction plans did not show the Jessamine South Elkhorn Water District as an adjacent property owner. In fact, the District presently owns an acre of property immediately adjacent to the southeasterly corner of your development.

In the process of your engineer completing the submittals of the construction plans, they have shown the location of this property. My purpose in bringing this to your attention is to alert you to the fact that the District has plans to complete construction of a 1.0 million gallon elevated storage tank on this property in the year of 2006. Consequently, you should apprize all purchasers of these lots that this is planned and will happen. This should help to mitigate the later complaints of the property owners that they were unaware that such was going to occur. The fact that you will be required to show the adjoining property owner on your final plat, and since the property is owned by the Jessamine South Elkhorn Water District, one would assume that any person of normal intelligence would be put on notice that this property would be utilized most likely for an elevated storage tank. However, you probably would want to reinforce this by ample notification in your purchase contracts.

In the meantime, if you have any questions or wish to discuss this matter, please contact me at (859) 885-9441.

Sincerely,
HORNE ENGINEERING, INC.

John G. Horne, PE, PLS
President

JGH/jt
cc: Board of Commissioners
Bruce E. Smith
Glenn T. Smith
Engr/3683
Engr/3625
Corr.
Q:\ProjectDir\Jsewd\WO3683\MangoldJSEWDStorageTank.ltr

EXHIBIT
tabbies
"B"

Comm. Staff – Exhibit 01

Jessamine South Elkhorn Water District
Water Tank Siting Study

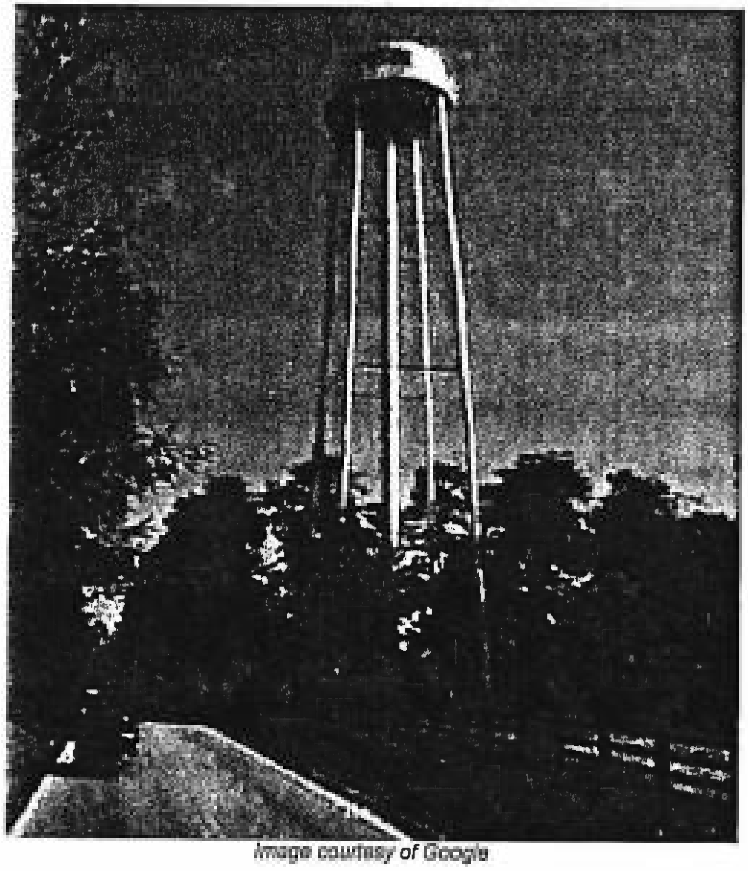


Image courtesy of Google

January 3, 2013

PHOTO SCIENCE
Geospatial Solutions

EXHIBIT GMR-2

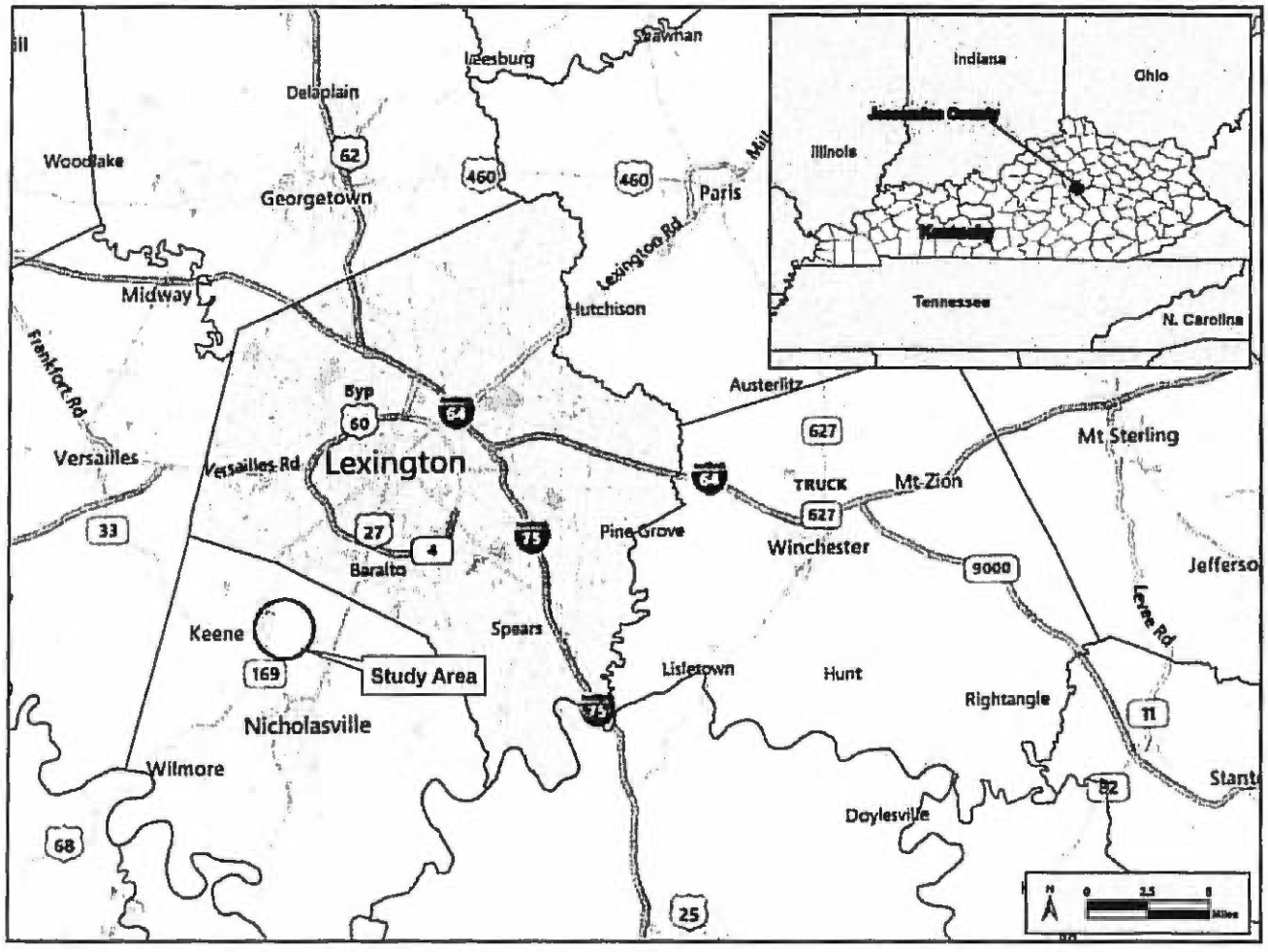
Comm. Staff – Exhibit 02

PHOTO SCIENCE
Geospatial Solutions

WATER TANK SITING STUDY

Table of Contents

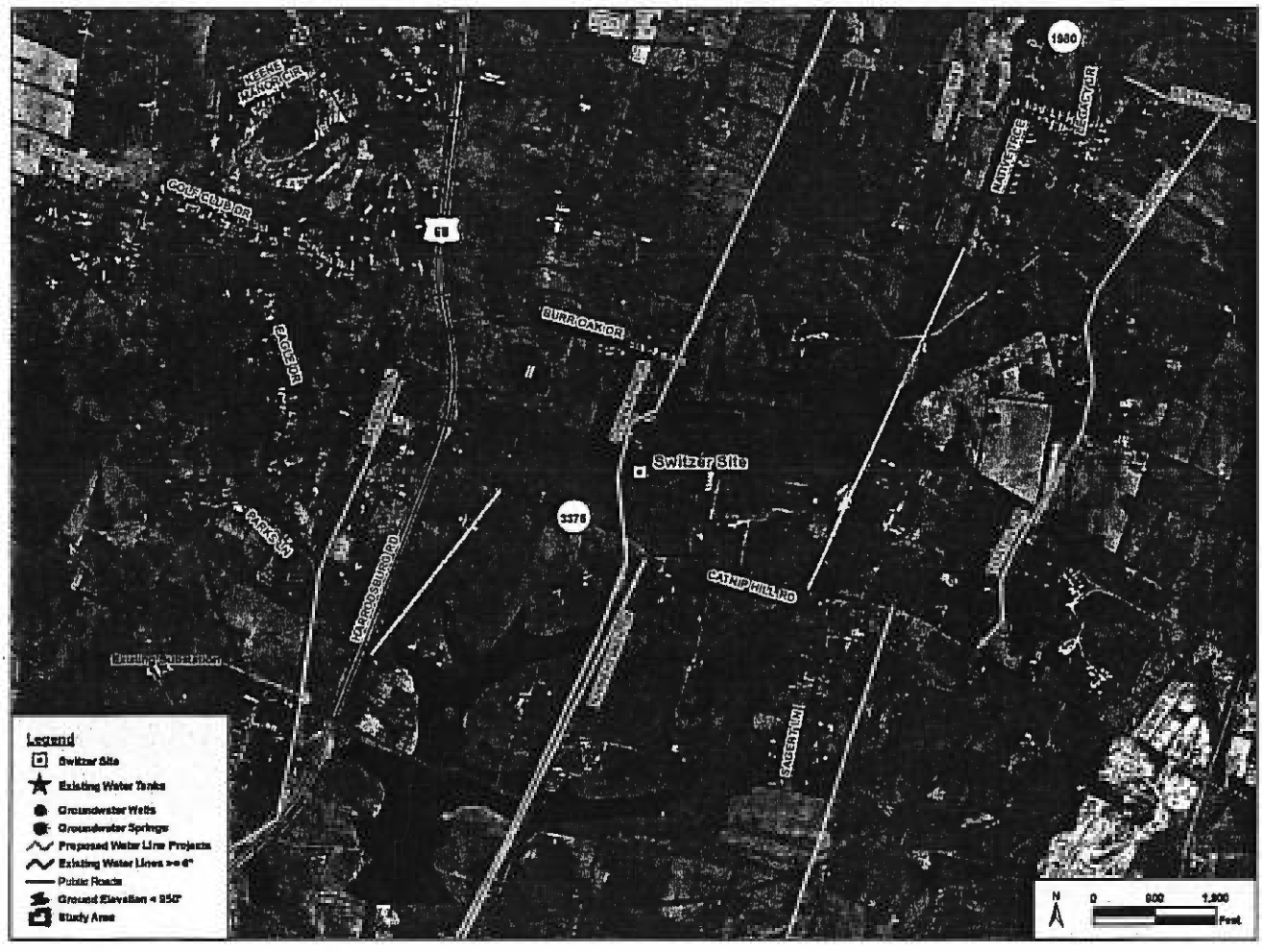
1. Location Overview



As you can see on this map, the proposed site for the water tank is located south of Lexington, north of Nicholasville near the intersection of Harrodsburg and Catnip Hill Roads. This study examined alternative site locations within 1.25 miles of the proposed site. The study area is represented by the pink circle on this map.

2. Engineering Criteria

This evaluation was patterned after the Electric Power Research Institute / Georgia Transmission Corporation (EPRI/GTC) Transmission Line Siting Methodology, which has been used in Kentucky to site transmission lines for the past seven years. The team who performed this analysis helped develop the EPRI Siting Methodology and has implemented it in Kentucky on numerous projects. Given that electric transmission structures and large above ground water tanks can have similar impacts on the environment in which they are placed, general principles from the EPRI/GTC Methodology can be applied to the siting of large above ground water tanks. Siting Criteria were categorized by Engineering Criteria, the Natural Environment, and the Built Environment.



This map shows Engineering Criteria. According to the documents provided by the District, a primary concern is to locate the tank site on land that lies at least 950 feet above sea level. Using advanced mapping technology, Photo Science created the most accurate terrain map of Jessamine County that has ever been

created. This map was the basis for this study. The area on this map shown in black lies below 950 feet in elevation. Everywhere else in the study area lies above 950 feet.

According to the District, it is also important to locate the tank near a water main. The blue lines on this map show the location of all water lines in the area greater than 6 inches. The orange lines on this map show the location of proposed water projects according to the Kentucky Infrastructure Authority's website. The black lines show the public roads in the area. The green stars show the existing water tanks.

The blue points show water wells and the green points show springs. These are shown as areas you would want to avoid when siting a water tank.

3. Natural Environment

The Natural Criteria include 100-year flood zones, wetlands, streams, lakes and ponds.

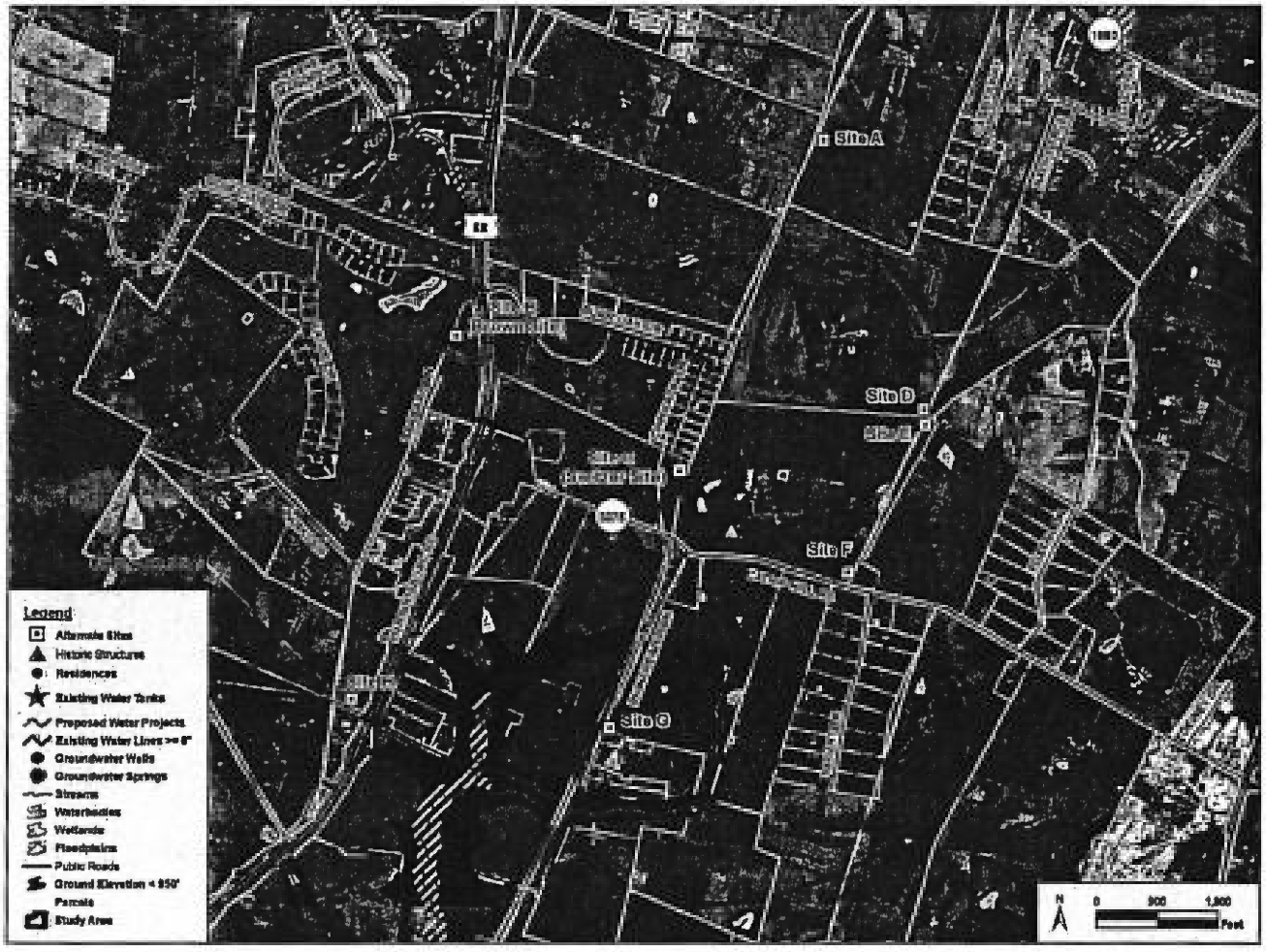
4. Built Environment

The Built Environment includes man-made features. This map shows property lines and residences in the area. There are also a couple of historic properties shown on this map.

5. Built Environment with Viewshed

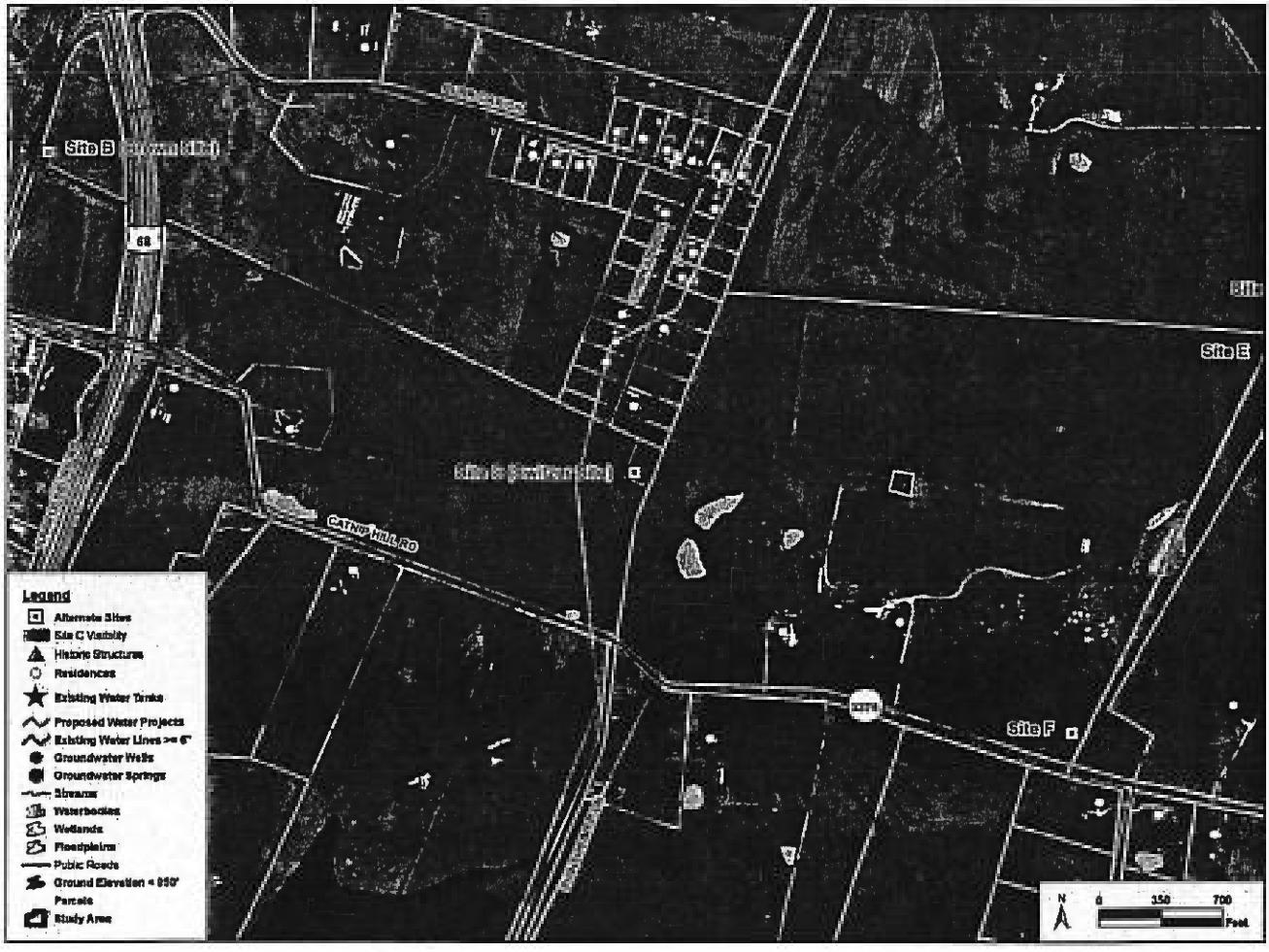
An important concern of the public is siting the tank in an area that has the least visual impact to the community. In order to determine areas that could be seen from residences, a viewshed analysis was performed using GIS technology. Viewshed analysis simply calculates the line of sight from residences to other locations in the area based on the map of the terrain and vegetation. The areas in red on this map are visible from residences. Therefore, the areas without red represent siting opportunities.

6. Alternate Sites



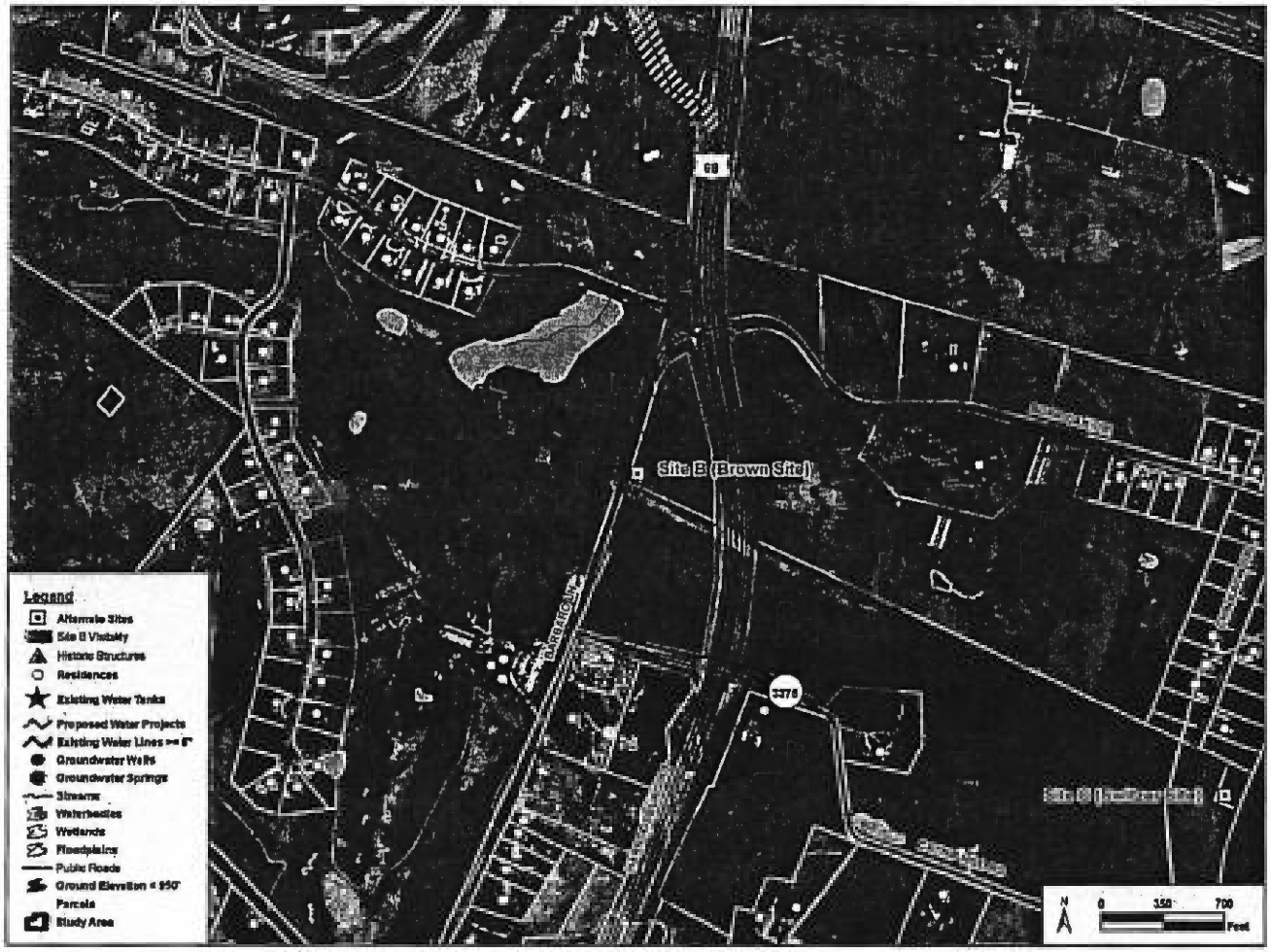
This map shows all of the siting criteria. Based on these features, the project team identified eight sites for the evaluation. The alternate sites include the proposed Switzer Site (Site C) and a site adjacent to an existing water tank referred to as the Brown Site (Site B). Site H is adjacent to an existing electrical substation. Site G is near the intersection of existing and proposed water lines. Sites F and E are on the proposed water line and on the "McMillan Farm". Site D is just across the property line and on the proposed water line. Finally, Site A is located in the north of the study area in a location that the analysis shows is relatively invisible to residences in the study area.

7. Site C (Switzer Site)



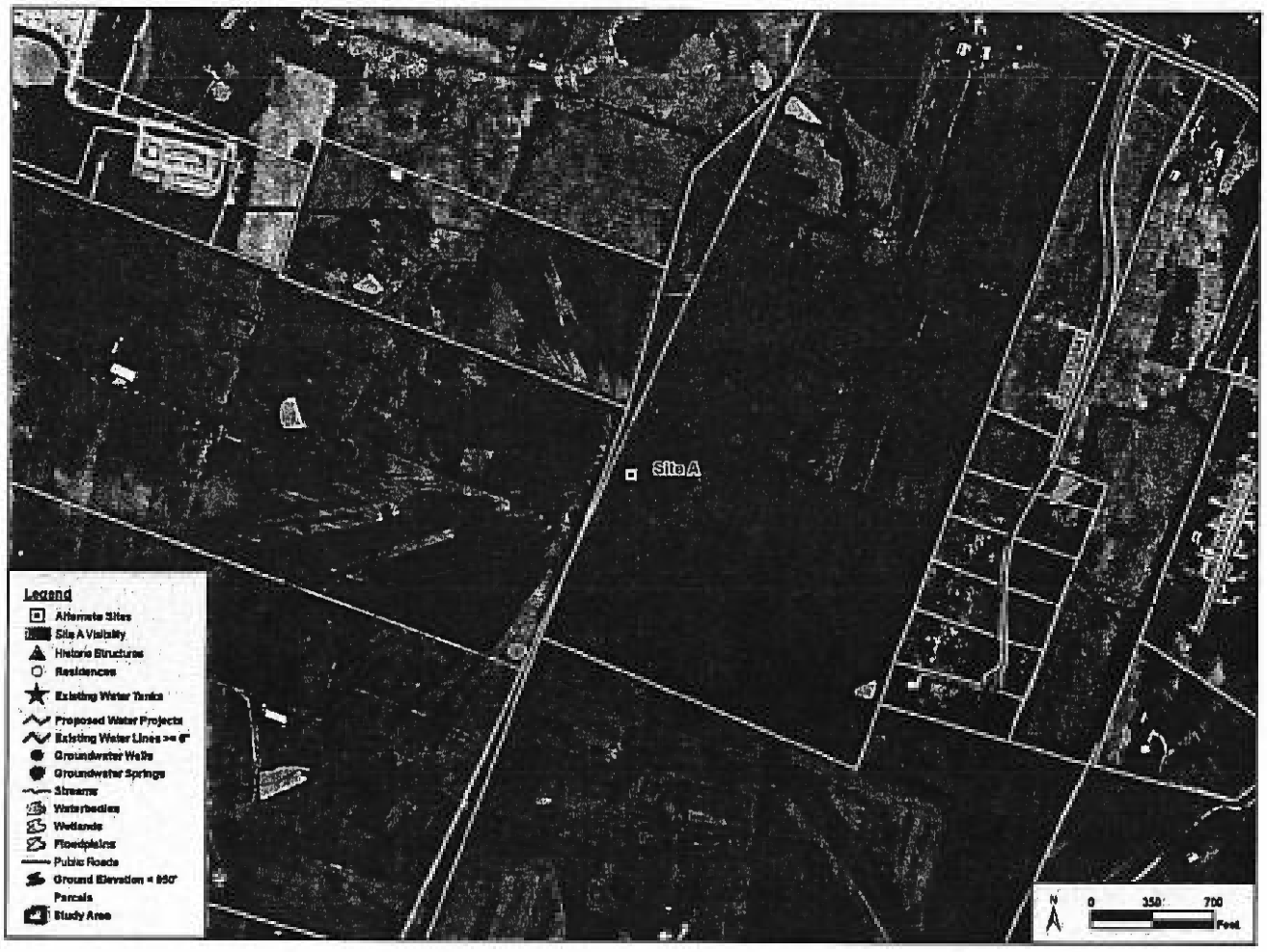
This map is focused on the area within half of a mile of the proposed Switzer Site. Based on the viewshed analysis, the red areas will likely be able to see the tank when it has been constructed. There are 16 residences that will likely have a view of the tank if constructed at this location.

8. Site B (Brown Site)



This map is focused on the area within half of a mile of the proposed Brown Site. There are 30 residences that will likely have a view of the tank if constructed at this location. However, there is an existing tank already located in the area and thus the visual impact may be lessened.

9. Site A



Site A is also located along the water project and it is likely that not a single residence would have a view of the tank at this location.

10. Site D

Site D is located on the property to the north of the McMillan Farm, also along the water project. Only five residences would likely have a view of the tank at this location.

11. Site E

Site E is located on the northeastern corner of the McMillan Farm, adjacent to a water line project. Only six residences would likely have a view of the tank if located here.

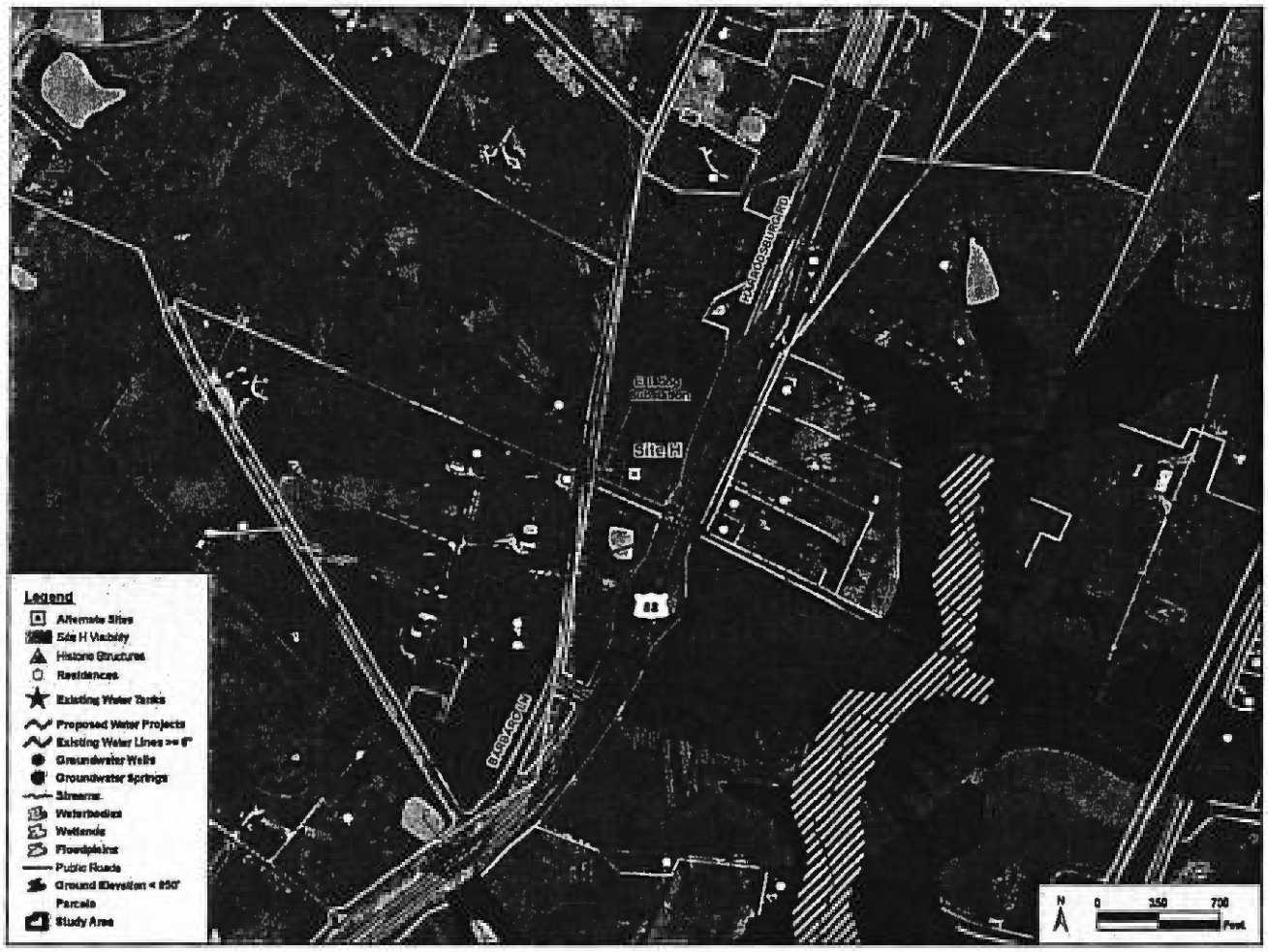
12. Site F

Site F is located on the McMillan Farm along Catnip Hill Road and adjacent to a water line project. 15 residences will likely have a view of the tank if located here.

13. Site G

Site G is also located near existing and proposed water lines and nine residences will likely have a view of the tank.

14. Site H



There are nine residences that will likely be able to view the tank at Site H. However, it is located adjacent to an existing electrical substation. It is also located in close proximity to existing and proposed water lines.

15. Statistics

	Site A	Site B (Brown Site)	Site C (Switzer Site)	Site D	Site E	Site F	Site G	Site H
Residences Within Viewshed	0	30	16	5	6	15	6	9
Residences Within 300'	0	0	0	0	0	0	1	0
Residences Within 600'	0	0	1	0	0	1	2	1
Residences Within 900'	0	0	4	0	0	2	3	5
Residences Within 1200'	0	0	6	1	1	5	5	8
Residences Within 0.5 Miles (2640)	1	46	25	6	8	25	6	16
Distance To Existing Water Main Line (Ft.)	2220	90	85	3100	3185	2772	41	305
Distance To Existing Distribution Line (Ft.)	2220	78	301	2781	2623	388	75	132
Distance To Proposed Water Lines (Ft.)	125	490	316	63	59	74	102	236
Distance To Public Road (Ft.)	2240	65	328	2752	2592	225	64	143
Distance To Private Road (Ft.)	1175	N/A	N/A	1102	1582	N/A	N/A	N/A
Elevation (Ft.)	1018	1021	1023	1037	1033	1066	986	987
Current Land Use	Agriculture	Open Land	Open Land	Agriculture	Agriculture	Agriculture	Agriculture	Agriculture

This table shows metrics used to compare the alternate sites.

16. Assumptions

1. The viewshed analysis from each site location assumed the object being viewed is located approximately 145' above the ground.
2. The viewshed analysis for each alternate site location addresses areas within ½ mile of the site only.
3. The study area for this study is 1.25 miles from the Switzer Site.

17. Data Sources

1. Historic Structures - National Register of Historic Places - http://www.nps.gov/nr/research/
2. Residences (Observer Buildings) – Photo Science - Aerial Imagery 03/10/12 – Spatial Accuracy 1 Ft.
3. Water Tanks - Kentucky Infrastructure Authority - http://kia.ky.gov/wris/data.htm
4. Proposed Water Line Projects - Kentucky Infrastructure Authority - http://kia.ky.gov/wris/data.htm
5. Existing Water Lines Greater Than 6" – Jessamine County Water District Map
6. Groundwater Wells – Kentucky Division of Water & Kentucky Geography Network - http://kygisserver.ky.gov/geoportal
7. Groundwater Springs – Kentucky Division of Water & Kentucky Geography Network - http://kygisserver.ky.gov/geoportal
8. Streams – University of Kentucky - http://www.uky.edu/KGS/gis/NHD24DOWN.html
9. USGS Waterbodies – US Geological Survey & Kentucky Geography Network - http://kygisserver.ky.gov/geoportal
10. NWI Wetlands – US Fish & Wildlife Service & Kentucky Geography Network - http://kygisserver.ky.gov/geoportal
11. DFIRM Floodplains – Federal Emergency Management Agency & Kentucky Geography Network - http://kygisserver.ky.gov/geoportal
12. All Roads – KYTC Center For Planning - ftp://ftp.kymartian.ky.gov/trans/statewide/shape/
13. Parcels – Jessamine County PVA, P.O. Box 530, Nicholasville, KY 40340
14. Viewshed Analysis – Lidar Data Collected 04/12/10 through 04/13/10 – 2' Contour Accuracy & Software – ArcGIS Desktop Version 10 Service Pack 4

HYDRAULIC ANALYSIS

PROPOSED ELEVATED STORAGE TANK
CATNIP HILL ROAD
750,000 GALLON ALTERNATIVE
JESSAMINE COUNTY, KENTUCKY

JESSAMINE-SOUTH ELKHORN WATER DISTRICT
NORTHWEST DISTRIBUTION SYSTEM

February 2014

Prepared by:
Horne Engineering, Inc.
216 South Main Street
Nicholasville, KY 40356
859.885.9441
email@horneeng.com

List of Contents

SUMMARY

The hydraulic analysis included in this report includes a 72-hour extended period simulation (EPS) for the Jessamine-South Elkhorn Water District - Northwest Distribution System. This model includes a proposed 750,000 gallon elevated storage tank located on Catnip Hill Road, added to the existing District infrastructure. The duration was selected in order to demonstrate the turnover in the proposed tank for a 72-hour period.

Total System Demand

The demand values that are commonly used in the Jessamine-South Elkhorn Water District (JSEWD) model is considered to be conservative when analyzing the system for new users, extensions, and fire flow situations. That is to say that the demand in the model is larger than actual usage. In order to analyze the system for a proposed tank, it is important to get an accurate demand in the model in order to analyze not only the pressures throughout the system and the quality of service, but also the turnover of the tank for water quality purposes. For that reason, the global demand factor was applied to the District's model in order to arrive at an average day demand of 516.43 gpm. This average is based on the average daily demand for the year 2010 per manual meter readings by the District's manager. The year 2010 was selected in this model in order to remain consistent with calculations made for equalization, fire flow, and emergency storage in sizing the proposed tank. The most recent census data available is for the year 2010 which provides a baseline for projecting future populations and therefore, future demands on the system.

The actual usage totals for January 2010 through December 2010 were gleaned from the two meters at the Clays Mill Road booster pump station and the two meters at the Keene Road master meter which constitutes 100% of the usage for the Northwest Distribution System. The totals were as follows:

Clays Mill Road Meter #1	246,484,500 gallons
Clays Mill Road Meter #2	4,460,000 gallons
Keene Road #1	389,925 gallons
Keene Road #2	340,575 gallons
Total Usage	271,650,715 gallons

The flow summaries for the Clays Mill Road Meters #1 & #2 are included in this report. The Keene Road master meter is not served by telemetry. Therefore, those readings are taken manually. These readings are minimal therefore only the totals are shown in this report.

Operating Conditions Delivered to the Booster Pump Station

Actual operating conditions or hydraulic grade lines on the suction side of the booster pump station was observed from telemetry results over a variable period of time. The operating conditions vary a great deal based on the fact that there is a booster pump on the Kentucky-American Water Company system next to the Jessamine-South Elkhorn Water District booster pump. The Kentucky-American Water Company pump kicks on at various times during the day in order to boost pressures in that area of its system. It pumps directly out of two large ground storage tanks. Therefore, because of the pump, the hydraulic grade line for the suction side of the Jessamine-South Elkhorn Water District pump can vary from 1140 (with rare spikes below that) up to 1180 (with rare spikes above that). February 9, 2011 is a representative sample of what is expected of from the hydraulic grade line provided to the Jessamine-South Elkhorn Water District pump station. Therefore, the hydraulic grade line for that date was extrapolated to a 72-hour period and used for this report. A copy of the telemetry chart used to extract this data is attached to this report.

It should be noted that operating conditions can, and do vary based on the operation decisions made by Kentucky-American Water Company. Therefore, only a representative estimate of operating conditions must be provided, in lieu of actual conditions. It should also be noted that the chart reflects operating conditions when the Jessamine-South Elkhorn Water District booster pump turns on. Data during that period was not used in the model, since the model introduces the pumps, thereby creating the drop in suction and the rise in discharge head.

Demand Pattern

The demand pattern for the 72-hour period in this analysis is shown below.

Demand factors used are as follows:

0.	0.10	4.	0.50	8.	1.10	12.	1.10	16.	1.25	20.	1.25
1.	0.10	5.	1.25	9.	0.75	13.	1.00	17.	2.00	21.	1.25
2.	0.10	6.	2.00	10.	0.75	14.	0.50	18.	2.00	22.	1.00
3.	0.25	7.	1.75	11.	1.50	15.	0.75	19.	1.50	23.	0.25

This demand pattern was repeated twice more in order to complete the 72-hour period

Telemetry Controls.

Controlling this model has the pumps operated by transducer at the base of the proposed 750,000 gallon tank (Tank C). The pump on level is set at 1157; the pump off is set 1-foot

below the overflow at 1170. It is customary to have the pump off level set some distance below the overflow in order to avoid a water loss through the overflow pipe in the event that the hydraulic grade continues to rise after the pump has kicked off.

A graph depicting the stage of each of the three elevated storage tanks is included in this report titled, "Elevated Storage Tanks A, B, and C". Examination of the chart reveals that all three tanks discharge a volume greater than 100% of its capacity in the 72-hour period.

Tank	Volume of Tank (gallons)	Volume Drained from Tank (gallons)
Tank A	50,000	115,056
Tank B	500,000	603,636
Tank C	750,000	797,325

Bound in this report are the following: Data Summary (given in full), Pump Report, Tank Report, and Maximum/Minimum Report(includes the maximum and minimum pressure for each node in the system over the 72-hour period). A copy of all 72-hours with output for selected nodes is bound separately and is included as a part of this report.

Jessamine-South Elkhorn Water District

Information Request No. 30: Please explain the status of the legislative grants referred to in paragraphs 7, 12 (e) and 16 of the Application, including without limitation the dates of expiration of the grants and any limitations on the location of the project(s) for which the grants will be utilized.

Answer: **It is my understanding that the grants will have to be re-authorized at the 2016 session of the General Assembly or these could be lost by the Water District. It is my further understanding that there is a limitation imposed by KIA as to site location regarding the grants.**

[L. Nicholas Strong]

JESSAMINE-SOUTH ELKHORN WATER DISTRICT
CASE NO. 2012-00470
FOREST HILLS RESIDENTS' ASSOCIATION, INC.'S AND WILLIAM BATES' RESPONSE TO JESSAMINE-SOUTH ELKHORN WATER DISTRICT'S SUPPLEMENTAL REQUESTS FOR INFORMATION

Witness: William Bates / E. Clark Toleman

3. With respect to the response to JSEWD's Request No. 3 of its First Set of Information Requests, please provide the following:

   a. For each member of the Residents' Association who believes that her or his property value will be diminished by the construction of the proposed water tank, a detailed statement of the support for such belief, including any analysis of how such a belief was formed. Further provide for each such member a statement as to what inquiry, if any, they made as to the ownership and anticipated use of any neighboring property prior to purchasing their property – if no such inquiry was made, please so state. Please also provide for each such member a statement as to whether they were advised by anyone, including any realtor, of the proposed use of JSEWD's subject property at any time.

   b. Please state on behalf of the Residents' Association or any member thereof when and under what circumstances the Association or any members thereof learned that the developer of the subdivision was "aware years earlier of the location for the proposed water tower", as stated in FH-BATES_R-JSEWD1#2h, page 8 of 14.

   c. For any response under JSEWD's Request No. 3 of its First Set of Information Requests or its subparts, or any other of JSEWD's First Request in which the Intervenors stated that a response was dependent upon additional investigation, please provide an additional response based upon the Intervenors' investigation and review of the Information Responses filed on December 11, 2012 or as a result of any other investigation conducted by the Intervenors.

Response:

Intervenors do not speak for each member of the Residents' Association with respect to each member's property value. This response is made on behalf of Mr. Bates.

a. Mr. Bates believes that the presence of a 1,000,000 gallon above ground water tank on a lot that adjoins his subdivision will diminish the value of his property because of the negative impact of such water tank on the aesthetics of the neighborhood. His view is based on common sense. Mr. Bates asked about the number of homes to be built in the subdivision and the status of the farm from which the lots were developed. He was aware that the farm was for sale and was told that there could not be any additional lots developed.

E. Clark Toleman is a certified real estate appraiser with MAI and SRA designation from the Appraisal Institute. Mr. Toleman is of the opinion, based upon his training and experience, that the value of the lots and homes in Forest Hills Estates will be dramatically affected if the proposed water tank is constructed in the lot adjacent to the subdivision. An important factor in the purchasing decision of persons who might be interested in buying property in the subdivision is the view that is available. View has an impact on both developed and undeveloped land. The construction of the proposed water tank will have a negative impact on the sight view shed in the neighborhood. The properties on Chinkapin Drive will be more negatively affected than the properties on Burr Oak Drive. However, low sales prices for the Chinkapin properties will be used as comparable valuations for the Burr Oak properties and the presence of the water tank will, thus, cause valuations on Burr Oak to be lower than they might otherwise be without the water tank. The water tank will have a more significant negative impact on the properties in Forest Hills Estates because the subdivision is an upscale neighborhood. Prospective purchasers of these upscale properties have more choices as to where they can purchase properties and will simply choose not to purchase property in a subdivision with a 1,000,000 gallon above-ground water tank adjacent to it. The presence of the water tank will cause market resistance to properties in the subdivision to develop. In addition, lenders will be resistant to loan money to purchase property in the subdivision if the water tank is constructed. The principle of conformity and regression will apply if the water tank is constructed. Under that principle, the value of real estate reduces until there is no market resistance. It is difficult to determine what that value is, but Mr. Toleman is confident that it is significantly lower than the purchase prices paid for property in the subdivision as the highest and best use of the subdivision will change to a lower value neighborhood.

b. April 7, 2010, when a representative of the Water District so advised representatives of the Residents' Association.

c. Intervenors will provide a supplemental response to the Water District's Request No. 3 of its First Set of Information Requests upon completion of their investigation.

Property Search Display

728 CHINKAPIN

Property Information

Owner: STANLEY JEREMY
Mailing Address: PO BOX 584
LANCASTER KY 40444

Legal Description: Lot: 16
Block:
Unit:
Section:
DB/PG: 625/62 PC/SL: PC10/121

Subdivision: FOREST HILLS
Tax District: C at 1.039 / $100 of assessed value
Parcel ID#: 043-00-00-001.16
Property Class: Residential
Lot Size:
Acreage:

Property Characteristics

Square Feet:	4310	Style:	1.5 STORY	Year Built:	2006
Bedrooms:	5	Full Bath:	3	Half Bath:	1
Basement:	SUNKEN	Bsmt Total Sq Ft:	2691	Bsmt % Finished:	100
Exterior:	MAS/VEN	Garage/Carport:	ATTCHD 3		
HeatType:	FORCAIR	Central Air:	Y		
Fireplace:	1	Pool:	N		

Assessment

Fair Cash Value Total: $ 715000
Homestead Exemption: $
Disability Exemption: $

Taxable Assessment for 2015: $ 715000
Taxable Assessment for 2014: $ 715000

Sales History

Date: 08/17/2009 Price: $ 705000 DB/PG: 625/62
Buyer's Name: STANLEY JEREMY
Seller's Name: M K M CAPITAL LLC

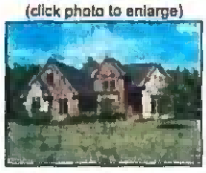
Date: 08/04/2006 Price: $ 170000 DB/PG: 567/73
Buyer's Name: MKM CAPITAL LLC
Seller's Name: FOREST HILLS OF KENTUCKY LLC

EXHIBIT

Forest Hills – Exhibit 01

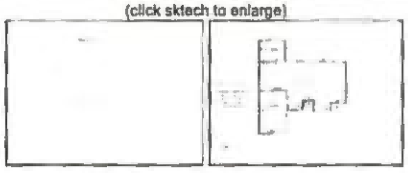
Photo

(click photo to enlarge)



Sketch

(click sketch to enlarge)



GIS Map

Mail to: Grantee

GRANTOR: Jeremy Stanley and Arita Misty Stanley, husband and wife
GRANTEE: Stephen K. Toadvine and Ann L. Toadvine, husband and wife
PVA #043-00-00-001.16
ACV: 605,000.00
PROPERTY ADDRESS: 728 Chinkapin Drive, Nicholasville, KY 40356
LEGAL DESCRIPTION:.Lot 16. Forest Hills

DEED

THIS DEED made and entered into this the December 17, 2014 by and between Jeremy Stanley and Arita Misty Stanley, husband and wife, whose address is 6198 Lexington Road, Lancaster, Ky 40444. Parties of the First Part, and Stephen K. Toadvine and Ann L. Toadvine, husband and wife, whose address is 728 Chinkapin Drive, Nicholasville, KY 40356, (which address shall be the in-care-of address to which the property tax bill for the current year may be sent), Parties of the Second Part;

WITNESSETH, that for and in consideration of Six Hundred Five Thousand and 00/100 Dollars, ($605,000.00), receipt of which is hereby acknowledged, Parties of the First Part do hereby grant, bargain, sell and convey unto Parties of the Second Part, jointly during their lives with the remainder in fee to the survivor, his or her heirs and assigns forever, the following described real estate located in Jessamine County, Kentucky, to wit:

BELL, HESS
&
VAN ZANT, PLC
2819 Ring Road,
P.O. Box 844
Elizabethtown,
Kentucky 42702
Telephone
(270) 765-4196
Fax:
(270) 737-4790

Being all of Lot 16 as shown on the Minor Subdivision **Plat Forest Hills**, Jessamine County, Kentucky, as shown by plat of record in Plat Cabinet 10, Slide 123, in the Jessamine County Clerk's office; the improvements thereon being known as 728 Chinkapin Drive.

Being the same property conveyed to Jeremy Stanley, a single person, from M.K.M. Capital, LLC, a Kentucky limited liability company, by Deed dated

JESSAMINE COUNTY
D719 PG225

EXHIBIT

Forest Hills – Exhibit 02

August 17, 2009, of record in Deed Book 625, Page 62, in the Office of the Jessamine County Clerk.

TO HAVE AND TO HOLD same together with all appurtenances thereunto belonging unto Parties of the Second Part, jointly during their lives with the remainder in fee simple to the survivor, his or her heirs and assigns forever, with a Covenant of General Warranty, subject however to all easements, restrictions, and conditions of record and further subject to any planning and zoning statues, ordinances and regulations applicable thereto.

The parties hereto state under oath that the consideration reflected in this deed is the full consideration paid for the property. Parties of the Second Part join in this deed for the sole purpose of certifying the amount of consideration pursuant to Kentucky statutes and agreeing to all other terms and conditions herein.

WITNESS the hands of the parties this day and year first above written.

PARTY OF THE FIRST PART:

Jeremy Stanley

Arita Misty Stanley

PARTIES OF THE SECOND PART:

Stephen K. Toadvine

Ann L. Toadvine

BELL, HESS
&
VAN ZANT, PLC
2819 Ring Road,
P.O. Box 844
Elizabethtown,
Kentucky 42702
Telephone
(270) 765-4196
Fax:
(270) 737-4790

State of Kentucky

County of Fayette

The foregoing deed and certificate of consideration was subscribed, sworn to, and acknowledged before me this December 17, 2014, by Jeremy Stanley and Arita Misty Stanley, husband and wife, Parties of the First Part.

NOTARY PUBLIC
My Commission Expires: 10.13.2018
Notary ID#: 521129

State of Kentucky

County of Fayette

The foregoing deed and certificate of consideration was subscribed, sworn to, and acknowledged before me this December 17, 2014, by Stephen K. Toadvine and Ann L. Toadvine, husband and wife, Parties of the Second Part.

NOTARY PUBLIC
My Commission Expires: 10.13.2018
Notary ID#: 521129

BELL, HESS
&
VAN ZANT, PLC
2819 Ring Road,
P.O. Box 844
Elizabethtown,
Kentucky 42702
Telephone
(270) 765-4196
Fax:
(270) 737-4790

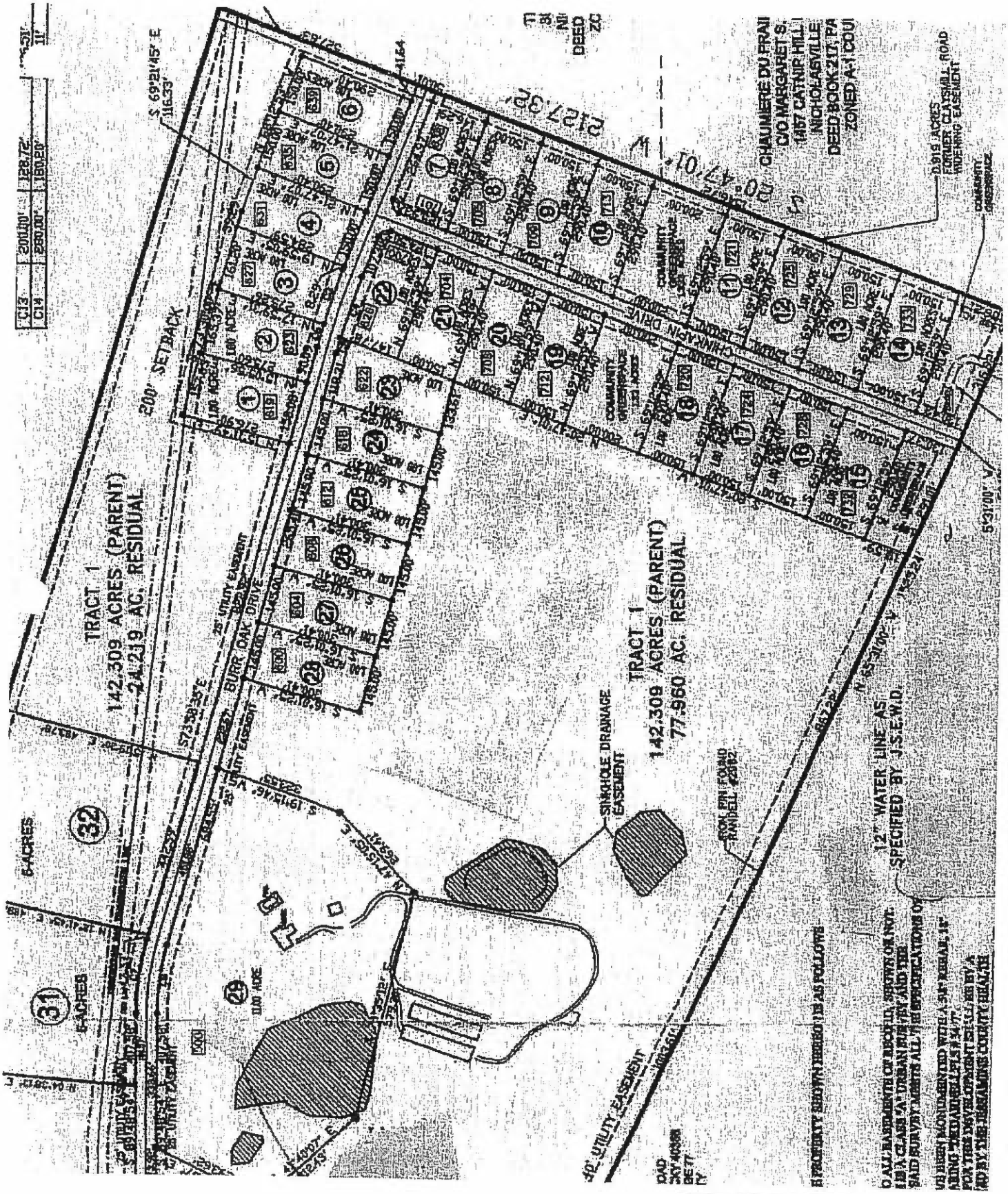
Prepared By:

Stephen W Van Zant
2819 Ring Road
Elizabethtown, KY 42701
270-769-5028
BELL, HESS & VAN ZANT

JESSAMINE COUNTY
D719 PG227

DOCUMENT NO: 324348
RECORDED:December 23,2014 01:55:00 PM
TOTAL FEES: $17.00
TRANSFER TAX: $685.00
COUNTY CLERK: EVA L MCDANIEL, CJC
DEPUTY CLERK: ANNA M FLOYD
COUNTY: JESSAMINE COUNTY

BOOK: D719 PAGES: 225 - 227



Forest Hills – Exhibit 03

2 SITE ANALYSIS

2-0 INTRODUCTION

This Chapter addresses the site requirements for FHA-insured mortgages. Before the valuation process can begin, subject properties must meet specific site requirements. The appraisal process is the lender's tool for determining if a property meets the minimum requirements and eligibility standards for a FHA-insured mortgage. In addition, these standards provide a context for the appraiser in performing the physical inspection of the property.

2-1 SITE REQUIREMENTS

The purpose of site analysis is to identify the various site characteristics that affect the marketability and the value of the subject property. Site analysis requires the following:

- o determining the desirability and utility of the site
- o determining the degree and extent to which the site, because of external influences, shares in the market for comparable and competitive sites in the community
- o forecasting the likely changes at the site because of justifiable future trends
- o appraising the current situation and knowledge of the various trends that could affect the valuation of the real property

The principal of change is fundamental to appraising real estate and to properly analyzing a site. Value is created and modified by economic, social and governmental changes that occur outside the property. Evaluate the direction of these trends and determine their effect, if any, on the current value of the subject property.

A. NEIGHBORHOOD DEFINITION

The appraiser must clearly define the boundaries - north, south, east and west - of the subject neighborhood. By defining the neighborhood, the appraiser can extract pertinent information on which to base valuation conclusions.

B. COMPETITIVE SITES

Sites are competitive when they are improved with, or appropriate for, residential properties that are similar in accommodations and sales price or rental range for similar residents or prospective occupants. Compare features of the subject site with the same features of competitive sites within the community. An acceptable site must be related to the needs of the prospective occupants and to the alternatives available to them in other competitive locations.

C. DEFINITIONS - CONSTRUCTION STATUS

Proposed - No concrete or permanent material has been

placed. Digging of footing and placement of re-bar is not considered permanent.

Under Construction - From the first placement of concrete (permanent material) to 100% completion. Finalized and ready to occupy.

Existing - 100% complete and has occupancy permit.

(2-1) Existing less than one year - Appraisal performed less than one year since receipt of final occupancy permit issued. For model homes, age begins with issuing of permit to use as a model.

For any home less than 2 years old, list month and year completed in the age box on the URAR.

D. ECONOMIC TRENDS

The appraiser must give consideration to, and include in the value analysis, the economic trends of a neighborhood and the general area, including:

- price and wage levels (the purchasing power of community occupants)
- employment characteristics
- the current supply and demand for residential dwellings, including projects under construction
- taxation levels
- building costs
- population changes
- activity of real estate sales market and mortgage interest rates

E. LAND USE RESTRICTIONS

Site analysis determines the effects of actual and potential neighborhood land use on the subject site. The following factors form patterns for present and future land uses:

1. Zoning

The appraiser should consider the effect on the value of appropriate and well-drawn zoning ordinances. Land-use controls that receive public approval and are strictly enforced protect residential sites from adverse influences that diminish the desirability of sites. This must be noted on the URAR, and its effect must be quantified in the valuation analysis.

2. Protective Easement/Covenants

Properly drawn protective covenants have proven more effective than zoning regulations in providing protection from adverse environmental influences. When combined with proper zoning ordinances, these covenants provide the maximum legal protection to ensure that a developed residential area will maintain desirable

characteristics or that a proposed or partially built-up neighborhood will develop in a desirable manner. Protective easements and covenants should be superior to any mortgage and should be binding to all parties and all persons claiming under them. These must be noted on the URAR and its effect must be quantified in the Valuation Analysis.

3. Inharmonious Land Uses
The appraiser must identify all inharmonious land uses in a neighborhood that affect value. Clearly define the current and long-term effect that inharmonious uses will have on the market value and the economic life of the subject property. If inharmonious land use represents a serious detriment to either the health or safety of the occupants or to the economic security of the property, clearly note safety of the occupants or

to the economic security of the property, clearly note this on the VC and URAR. Recommend that the property be rejected by the Lender.

4. Natural Physical Features
(2-1) The appraiser must consider favorable and underlying topography and site features, including pleasing views, wood lots, broad vistas and climatic advantages. Streets that are laid out with proper regard to drainage, land contours and traffic flow show good design and increase the desirability of the neighborhood. This must be noted on the URAR and its effect must be quantified in the valuation analysis.

5. Attractiveness of Neighborhood Buildings
The overall appeal of a neighborhood is strengthened if the buildings in a neighborhood harmonize with each other and their physical surroundings. A pleasing variety that results in harmoniously blended properties is desirable but not mandatory. The age of the structure is not in itself an important consideration; however, the maintenance of the structure over time has an important impact. Consider the amount of rehabilitation that has taken place or is taking place in a neighborhood. This must be noted on the URAR and its effect must be quantified in the valuation analysis.

6. Neighborhood Character
Mobility and economic growth can alter neighborhood patterns. Shopping, recreation, places of worship, schools and places of employment should be easily accessible. This must be noted on the URAR and its effect must be quantified in the valuation analysis.

7. Character of Neighborhood Structures
The appraiser must carefully analyze the age, quality, obsolescence and appropriateness of typical properties in a neighborhood. Take into account the attitude of the user group as well as the alternative choices available to the specific market under consideration. This must be noted on the URAR and its effect must be quantified in the valuation analysis.

F. COMMUNITY SERVICES

Community services include commercial, civic and social centers. For a neighborhood to remain stable and retain a high degree of desirability, it should be adequately served by elementary and secondary schools, neighborhood shopping centers, churches, playgrounds, parks, community halls, libraries, hospitals and theaters. A lack of services in the community should be noted and quantified in the valuation analysis. The appraiser must note a change in these services and quantify the effect on value.

G. TRANSPORTATION

Ready access to places of employment, shopping, civic centers, social centers and adjacent neighborhoods is a requisite of neighborhood stability. The appraiser must take into consideration the transportation requirements of the typical family and quantify the effect on value.

H. UTILITIES AND SERVICES

(2-1)
The appraiser must consider these utilities and neighborhood services: police and fire protection, telephone services, electricity, natural gas, garbage disposal, street lighting, water supply, sewage disposal, drainage, street improvements and maintenance. Public services and utilities can affect value and must be quantified. A lack of these services should be noted and quantified in the valuation analysis.

I. NEIGHBORHOOD CHANGE CONSIDERATIONS

As time passes, desirability changes residential areas in any location. Therefore, give special consideration to the following:

- infiltration of commercial, industrial or nonconforming use
- positive and negative effect on value of gentrification
- changes in the mobility of people (employment shifts)
- weakly enforced zoning regulation or covenants

J. MARKETABILITY

The demand for home ownership in a neighborhood is directly related to the marketability of the homes in the neighborhood or in competitive neighborhoods. Home

ownership rates, vacancies and the marketing time of dwellings in a neighborhood help the appraiser determine the strength of market demand and the extent of supply.

K. SMALL COMMUNITY MARKET PREFERENCES
A small town may have its own set of standards in architectural design, livability, style of mechanical equipment, lot size, placement of structures, nature of street improvements and in all features of the physical property and environment. Judge each in light of local standards and preferences.

L. OUTLYING SITES AND ISOLATED SITES
The segment of the market interested in purchasing homes in these sites compares the advantages and disadvantages of other outlying or isolated locations.

M. STUDY OF FUTURE UTILITY
The study of future utility is typically covered in the appraiser's Highest and Best Use Analysis and includes:

- o selecting possible uses
- o rejecting uses that are obviously lower or higher than the most probable use
- o analyzing differing motives of those buyers

The study of the future uses and utility of a particular property win lead the appraiser to the property's Highest and Best Use.

N. CONSIDERATION OF GENERAL TAXES AND SPECIAL ASSESSMENTS
When estimating value, account for general taxes and special assessments:

- o General real estate taxes related to specific sites are a recurring periodic expense in the ownership of taxable real property and must be accounted for in the value estimate.

- o Special assessments of various types are frequently an additional expense of
(2-1) ownership
and must similarly be accounted for in the value estimate.

Determine the relative effect of the real estate tax and/or special assessment's burden on the desirability of the site. Enter this information on the URAR.

1. Assessment
The real estate tax liability is computed by multiplying the assessed value by the tax/ millage rate, which is typically expressed in dollars per

hundred or dollars per thousand of assessed value. In the addendum to the VC, state the assessment, real estate tax liability and tax year. State the assessed market value of the subject property in the addenda.

> If there is no method to relate the assessment to market value, such as new construction where reasonable assessment may not exist, mark the assessed market value response as "N/ A".

2. Special Assessment
A special assessment can be calculated in two ways:

- o the same way as real estate taxes, or
- o on a pro-rated basis

Determine how the special assessment is calculated and report the special assessment liability on the URAR.

> If the property does not have special assessment, mark the URAR "N/A".

For example: An organization that services a community creates an annual operating budget. Each property becomes liable for its percentage of that budget based on the percentage of front feet their property has compared to the total amount of front feet as a special assessment in this community.

2-2 SPECIAL NEIGHBORHOOD HAZARDS AND NUISANCES
Physical conditions in some neighborhoods are hazardous to the personal health and safety of residents and may endanger physical improvements. These conditions include unusual topography, subsidence, flood zones, unstable soils, traffic hazards and various types of grossly offensive nuisances.

When reporting the appraisal, consider site hazards and nuisances.

> If site hazards exist and cannot be corrected but do not meet the level of unacceptability, the appraisal must be based upon the current state.

> If the hazard and/or nuisance endangers the health and safety of the occupants or the marketability of the property, mark "YES" in VC-1 and return the unfinished appraisal to the lender.

(2-2) The lender, who is ultimately responsible for rejecting the site, relies on the appraiser's site analysis to make this determination. Guidelines for determining site acceptability follow. The appraiser is required to note only those readily observable conditions.

A. UNACCEPTABLE SITES

FHA guidelines require that a site be rejected if the property being appraised is subject to hazards, environmental contaminants, noxious odors, offensive sights or excessive noises to the point of endangering the physical improvements or affecting the livability of the property, its marketability or the health and safety of its occupants. Rejection may also be appropriate if the future economic life of the property is shortened by obvious and compelling pressure to a higher use, making a long-term mortgage impractical.

These considerations for rejection apply on a case-by-case basis, taking into account the needs and desires of the purchaser. For example, a site should not be considered unacceptable simply because it abuts a commercial use; some commercial uses may not appeal to a specific market segment while other commercial uses may.

If the-condition is clearly a health and safety violation, reject the appraisal and return it to the lender. If there is any doubt as to the severity, report the condition and submit the completed report. The lender must clear the condition and may require an inspection or reject the property. For those conditions that cannot be repaired, such as site factors, the appraised value is based upon the existing conditions.

B. TOPOGRAPHY

There are special hazards caused by unique topography. For example, denuded slopes, soil erosion and landslides often adversely affect the marketability of hillside areas. When evaluating the site, consider earth and mud slides from adjoining properties, falling rocks and avalanches. These occurrences are associated with steep grades and must be considered in the site analysis.

C. SUBSIDENCE

Danger of subsidence is a special hazard that may be encountered under a variety of circumstances:

- where buildings are constructed on uncontrolled fill or unsuitable soil containing foreign matter such as organic material
- where the subsoil is unstable and subject to slippage or expansion

In mining areas, consider the depth or extent of mining operations and the site of operating or abandoned shafts or tunnels to determine if the danger is imminent, probable or negligible.

The appraiser must note any readily observable conditions, which indicate potential problems. Signs include fissure or cracks in the terrain, damaged foundations, sinkholes or settlement problems.

If there is a danger of subsidence, the specific site will be deemed ineligible unless complete and satisfactory evidence can be secured to establish that the probability of any threat is negligible.

> If there is evidence of subsidence, the property is ineligible. Mark the "YES" column in VC-1 under subsidence.

D. OPERATING AND ABANDONED OIL OR GAS WELLS

Operating and abandoned oil and gas wells pose potential hazards to housing, including potential fire, explosion, spray and other pollution.

1. Existing Construction

No existing dwelling may be located closer than 300 feet from an active or planned drilling site. Note that this applies to the site boundary, not to the actual well site.

2. New or Proposed Construction

If an operating well is located in a single-family subdivision, no new or proposed construction may be built within 75 feet of the operating well unless mitigation measures are taken. This measure is designed to:

- avoid nuisance during maintenance
- diminish noise levels caused by pumping
- reduce the likelihood of contamination by potential spills

The appraiser must examine the site for the existence of or any readily observable evidence of a well.

3. Abandoned Well

A letter may be obtained from the responsible authority in the state government stating that the subject well was safely and permanently abandoned.

- When such a letter is provided, a dwelling may be located no closer than 10 feet from the abandoned well.
- When a letter is not provided, the dwelling must be located at least 300 feet from the abandoned well.

The lender is responsible for obtaining the letter; the appraiser must note the location of the well and verify the existence of the letter.

4. Special Case - Proposed, Existing or Abandoned Wells

(2-2) Hydrogen sulfide gas emitted from petroleum product wells is toxic and extremely hazardous. Minimum clearance from sour gas wells may be established only after a petroleum engineer has assessed the risk and state authorities have concurred on clearance recommendations for petroleum industry regulation and for public health and safety.

> If there is readily observable evidence that the conditions exist, mark the "YES" column in VC-1 under operating and abandoned wells.

> If an inspection by a qualified person verifies that the condition exists and is acceptable based on the standards defined above, account for the presence of wells in the valuation of the property.

E. SLUSH PITS

A slush pit is a basin in which drilling "mud" is mixed and circulated during drilling to lubricate and cool the drill bit and to flush away rock cuttings. Drilling mud normally contains large quantities of bentonite - a very expansive soil material. This results in a site with the potential for great soil volume change and, therefore, damage to structures.

To be eligible for FHA mortgage insurance, all unstable and toxic materials must be removed and the pit must be filled with compacted selected materials.

> If a property is proposed near an active or abandoned well, call for a survey to locate the pits and their impact on the subject property.

> If there is any readily observable evidence of slush pits, mark the "YES" column in VC-1.

F. HEAVY TRAFFIC

Close proximity to heavily traveled roadways can have a negative effect on the marketability and value of sites because of excess noise and danger. Properties backing to freeways or other thoroughfares that are heavily screened or where traffic is well below grade and at a sufficient distance from the property may not affect value. For detailed noise acceptance levels, reference 24 CFR 51.103.

> If there is significant noise or unsafe traffic conditions that endanger the occupants or affect the marketability of the property, mark "YES" in VC-1.

Typically, traffic hazards cannot be corrected. Therefore, the appraiser must quantify the effect on value if the property is marketable. This adjustment should be supported by comparable transactions. This condition could be the reason that a lender ultimately rejects the property. Do not reject existing properties only because of heavy traffic if there is evidence of acceptance within the market and if use of the dwelling is expected to continue.

G. AIRPORT NOISE AND HAZARDS

(2-2) Sites near, an airport may be subjected to the noise and hazards of low-flying aircraft. Appraisers must identify affected properties, review airport contour maps and condition the appraisal accordingly.

Do not reject existing properties only because of airport influences if there is evidence of acceptance within the market and if use of the dwelling is expected to continue. HUD's position is that because the properties are in use and are expected to be in use into the near future, their marketability should be the strongest indicator of their acceptability. Marketability should account for the following considerations:

- plans for future expansion of airport facilities
- prospective increases in the number of planes or flights using the field or specific runways
- the timing and frequency of the volume of flights
- any other factors that may increase the annoyance of having the airport nearby excessive noise

If changes are likely, the appraiser must anticipate any adverse effect that these changes are likely to have on the marketability of the property. The appraiser should judge each situation on its merits. Compare the effect of aircraft activity on the desirability of a particular site with other sites that are:

- improved with similar structures
- considered competitive with those located in the subject neighborhood

H. SPECIAL AIRPORT HAZARDS

HUD requires that the buyer of a property located in a Runway Clear Zone/Clear Zone is advised that the property is located in such a zone and of the implications associated with that site. This includes the possibility that the airport operator could acquire the property in the future.

1. New and Proposed Construction

New and proposed construction within Runway Clear Zones

(also known as Runway Protection Zones) at civil airports or within Clear Zones at military airfields are ineligible for home mortgage insurance.

Properties located in Accident Potential Zone I at military airfields may be eligible for FHA insurance provided that the property is compatible with Department of Defense guidelines. For more information, see 24 CFR 51.303(b).

If new or proposed construction lies within these zones, mark "YES" in VC-1.

2. Existing Construction
Existing dwellings more than one year old are eligible for FHA mortgage insurance if the prospective purchaser acknowledges awareness that the property is located in a Runway Clear Zone/Clear Zone. The lender will furnish this disclosure form to the

buyer. For a sample of the buyer's acknowledgment certification, see HUD Handbook 4150.1, REV-1, Chapters 4-26 (a) and (b).

(2-2)

> Note whether the property is in a Clear Zone and condition the appraisal on the buyer's acknowledgment.

I. PROXIMITY TO HIGH PRESSURE GAS

A dwelling or related property improvement near high-pressure gas, liquid petroleum pipelines or other volatile and explosive products - both above ground and subsurface must be located outside of the outer boundary of the pipeline easement.

> If the property is less than ten feet away, mark "YES" in VC-1.

J. OVERHEAD HIGH-VOLTAGE TRANSMISSION LINES

No dwelling or related property improvement may be located within the engineering (designed) fall distance of any pole, tower or support structure of a high-voltage transmission line, radio/TV transmission tower, microwave relay dish or tower or satellite dish (radio, TV cable, etc.). For field analysis, the appraiser may use tower height as the fall distance.

For the purpose of this Handbook, a High-Voltage Electric Transmission Line is a power line that carries high voltage between a generating plant and a substation. These lines are usually 60 Kilovolts (kV) and greater, and are considered hazardous. Lines with capacity of 12-60 kV and above are considered high voltage for the purpose of this

Handbook. High voltage lines do not include local distribution and service lines.

Low voltage power lines are distribution lines that commonly supply power to housing developments and similar facilities. These lines are usually 12 kV or less and are considered to be a minimum hazard. These lines may not pass directly over any structure, including pools, on the property being insured by HUD.

> If the property is within the unacceptable distance, mark "YES" in VC-1.

K. SMOKE, FUMES, OFFENSIVE NOISES AND ODORS

Excessive smoke, fog, chemical fumes, noxious odors, stagnant ponds or marshes, poor surface drainage and excessive dampness are hazardous to the health of neighborhood occupants and adversely affect the market value of the subject property.

> If these conditions threaten the health and safety of the occupants or the marketability of the property, mark "YES" in VC-1. If, however, the extent of the hazard is not dangerous, account for its effect in the valuation of the property.

> Include other factors that may affect valuation such as offensive odors and unsightly neighborhood features such as stables or kennels.

L. FLOOD HAZARD AREAS

Designation of Special Flood Hazard Areas (2-2) The Federal Emergency Management Agency (FEMA) determines Special Flood Hazard Areas nationwide, (SFHA). FEMA issues Flood Hazard Boundary Maps to designate these areas in a community. A special flood hazard may be designated as Zone A, AO, AH, A1-30, AE, A99, VO or V1-30, VE or V.

- Only those properties within zones 'A' and 'V' require flood insurance.
- Zones 'B' or 'C' do not require flood insurance because FEMA designates only zones 'A' and 'V as "Special Flood Hazard Areas."

An appraisal report with a positive indication in a Special Flood Hazard Area (SFHA) activates a commitment requirement for flood insurance coverage. The appraiser must quantify the effect on value, if any, for properties within a designated flood map.

A lender shall reject a property in any of these circumstances:

- o if the property is subject to frequently recurring flooding
- o if there is any potential hazard to life or safety
- o if escape to higher ground would not be feasible during severe flooding conditions

FEMA Maps

For copies of FEMA's Flood Hazard Boundary Maps and Flood Insurance Rate Maps, contact:

Federal Emergency Management Agency (FEMA)
FEMA Map Service Center
P.O. Box 1038
Jessup, MD 20794-1038
Phone: 1-800-358-9616
Fax: 1-800-358-9620

Eligibility of Properties for FHA Insurance

The lender is responsible for determining the eligibility of properties in Flood Zones, and relies on the appraiser's notation on the URAR.

1. New and Proposed Construction

If any part of the property improvements essential to the property value and subject to flood damage are located within the 100-year floodplain, then the entire property, improved and otherwise, is ineligible for FHA mortgage insurance unless a Letter of Map Amendment (LOMA) or a Letter of Map Revision (LOMR) is submitted with the case for endorsement. Proposed construction where improvements are located, or to be located, within a designated Special Flood Hazard Area (SFHA) is ineligible for FHA insurance. This is true regardless of whether the property is covered or will be covered by flood insurance unless the lender can furnish evidence of a LOMA, a LOMR or evidence that the property is not in a SFHA.

(2-2) For existing properties located in a SFHA, make the appropriate notation in the URAR.

> If the proposed improvements are located in a SFHA and there is no LOMA or LOMR mark "YES" in VC-1 and return the unfinished appraisal to the lender until these documents are retrieved.

2. Existing Construction

Market attitude and acceptance determine the eligibility of existing properties located in a designated SFHA. Flood insurance is required for properties accepted for mortgage insurance in a FEMA-designated SFHA.

3. Condominium

The Homeowners Association is responsible for maintaining flood insurance on the project as a whole, not each individual unit. The appraiser must verify the location of a condominium in the floodplain and make the correct notation in the URAR.

M. STATIONARY STORAGE TANKS

Stationary Storage tanks containing flammable or explosive material pose potential hazards to housing, including hazards from fire and explosions.

> If the property is within 300 feet of a stationary, storage tank containing more than 1000 gallons of flammable or explosive material, the site is ineligible. Mark "YES" in VC-1 and return the unfinished appraisal to the lender.

APPENDIX D: VALUATION PROTOCOL

The appraisal process is the lender's tool for determining if a property meets the minimum requirements and eligibility standards for a FHA-insured mortgage. *Underwriters bear primary responsibility for determining eligibility; however, the appraiser is the on-site representative for the lender and provides preliminary verification that the General Acceptability Criteria standards have been met.*

FHA RESIDENTIAL APPRAISAL REQUIREMENTS

This section provides specific instructions for completing appraisal report forms.

The appraisal reporting form to be used will depend on the property type that is being appraised. The appraiser must select the appropriate appraisal form for reporting an FHA appraisal from the following:

1. Uniform Residential Appraisal Report (Fannie Mae Form 1004 March 2005) – Required to report an appraisal of a one-unit property or a one-unit property with an accessory unit.
2. Manufactured Home Appraisal Report (Fannie Mae Form 1004C March 2005) – Required to report an appraisal of a one-unit manufactured home.
3. Individual Condominium Unit Appraisal Report (Fannie Mae Form 1073 March 2005) – Required to report an appraisal of a unit in a condominium project or a condominium unit in a planned unit development (PUD).
4. Small Residential Income Property Appraisal Report (Fannie Mae Form 1025) – Required to report an appraisal of a two- to four-unit property.

An appraisal performed for HUD/FHA purposes requires that all sections of the appraisal form be addressed. The appraiser must complete the form in a manner that clearly reflects the thoroughness of the investigation and analysis of the appraisal findings. The conclusions about the observed conditions of the property provide the rationale for the opinion of market value. The completed appraisal form utilized, together with the required exhibits, constitutes the reporting instrument to HUD for FHA-insured mortgages.

The FHA Appraisal is made	Under the following conditions
A. "As Is"	1. There is/are no repair(s), alteration(s) or inspection conditions noted by the appraiser, or 2. Establishing the "as is" value for a regular 203(k), or 3. The property is being recommended for rejection
B. "Subject to Completion per Plans and Specifications"	1. Proposed Construction where construction has not started, or 2. Under Construction but not yet complete (less than 90%), or 3. Regular 203(k)
C. "Subject to the following Repairs or Alterations"	1. Repair or Alteration Condition(s) noted by the appraiser, or 2. Streamline 203K, or 3. Under Construction, more than 90% complete with only minor finish work remaining (buyer preference items i.e., floor coverings, appliances, fixtures, landscaping, etc.). This eliminates the need for construction exhibits.
D. "Subject to the following Required Inspection"	1. Required Inspection(s) noted by the appraiser

FHA Quick Tips

Minimum Property Requirements (MPR) and Minimum Property Standards (MPS)
For new construction to be eligible for FHA financing, it must comply with HUD's Minimum Property Standards (including 24 CFR 200.926d). Existing construction must comply with HUD's Minimum Property Requirements (HUD Handbook 4905.1). .

In the performance of an FHA appraisal, the appraiser must denote any deficiency in the appropriate section(s) (site issues in the site section, improvement issues in the improvements section) of the appraisal report. The appraiser is to note those repairs necessary to make the property comply with FHA's Minimum Property Requirements (MPR) or Minimum Property Standards (MPS) together with the estimated cost to cure. The lender will determine which repairs for existing properties must be made for the property to be eligible for FHA-insured financing.

Cosmetic repairs are not required; however, they are to be considered in the overall condition rating and valuation of the property. Examples of cosmetic repairs would include surface treatments, beautification or adornment not required for the preservation of the property. For example, generally, worn floor finishes or carpeting, holes in window screens, or a small crack in a windowpane are examples of deferred maintenance that do not rise to the level of a required repair but must be reported by the appraiser.

The physical condition of existing building improvements is examined at the time of the appraisal to determine whether repairs, alterations or inspections are necessary - essential to eliminate conditions threatening the continued physical security of the property.

Required repairs will be limited to necessary requirements to:
- protect the health and safety of the occupants **(Safety)**
- protect the security of the property **(Security)**
- correct physical deficiencies or conditions affecting structural integrity **(Sounduess)**

A property with defective conditions is unacceptable until the defects or conditions have been remedied and the probability of further damage eliminated. Defective conditions include:
- defective construction
- other readily observable conditions that impair the safety, sanitation or structural soundness of the dwelling

Typical conditions that would require further inspection or testing by qualified individuals or entities:
- infestation – evidence of termites
- inoperative or inadequate plumbing, heating or electrical systems
- structural failure in framing members
- leaking or worn-out roofs
- cracked masonry or foundation damage
- drainage problems

Appraisers are reminded not to recommend inspections only as a means of limiting liability. The reason or indication of a particular problem must be given when requiring an inspection of any mechanical system, structural system, etc.

These guidelines are provided to assist in the examination of the property. To perform this analysis, the appraiser must have full access to all property improvements.

If unable to visually evaluate the improvements in their entirety, contact the lender and reschedule a time when a complete visual inspection can be performed. This includes access to the crawl space and attic. The appraiser is not required to disturb insulation, move personal items, furniture, equipment, plant life, soil, snow, ice or debris that obstructs access or visibility.

An inspection done in accordance with these guidelines is visual and is not technically exhaustive. These guidelines are applicable to buildings with four or less dwellings units and their related property improvements.

Unacceptable Locations

FHA guidelines require that a site be rejected if the property being appraised is subject to hazards, environmental contaminants, noxious odors, offensive sights or excessive noises *to the point of endangering the physical improvements or affecting the livability of the property, its marketability, or the health and safety of its occupants.* Rejection may also be appropriate if the future economic life of the property is shortened by obvious and compelling pressure to a higher use, making a long-term mortgage impractical.

If the condition is clearly a health and safety violation, contact the lender for further instructions before completing the appraisal. The lender must clear the condition and may require an inspection or reject the property. If there is any doubt as to the severity, report the condition and submit the completed report. For those conditions that cannot be repaired, such as site factors, the appraised value is based upon the existing conditions.

Site Hazards And Nuisances

The appraiser must note and comment on all hazards and nuisances affecting the subject property that may endanger the health and safety of the occupants and/or the structural integrity or marketability of the property, including: subsidence, operating and abandoned oil and gas wells, abandoned wells, slush pits, heavy traffic, airport noise and hazards, runway clear zones/clear zones, proximity to high pressure gas, liquid petroleum pipelines or other volatile and explosive products, residential structures located within the fall distance of a high-voltage transmission line, radio/TV transmission tower, etc., excessive hazard from smoke, fumes, odors, and stationary storage tanks containing flammable or explosive material.

If hazards or nuisances are observed, the appraiser must describe the condition(s) and make a requirement for repair and/or for further inspection, and prepare the appraisal "subject to repairs" and/or "subject to inspection" in the **site section** of the report. Supporting documentation provided by the appraiser may include extra photos or copies of site studies or analyses, property reports, surveys or plot plans, etc.

Any and all references to Valuation Condition items addressed in Chapters 2 and 3 are to be addressed in the appropriate section of the applicable appraisal reporting form. For example, Chapter 2, Sec. 2-2-E, Slush Pits, instructs: "If there is any readily observable evidence of slush pits, mark the "yes" column in VC-1". The new protocol will require the appraiser to address this condition in the site section of the appraisal report and note that the property may not be eligible for FHA financing referencing the information contained in chapter 2; otherwise, the guidance provided by chapters 2 and 3 remains in effect.

100.183 Comprehensive plan required.

The planning commission of each unit shall prepare a comprehensive plan, which shall serve as a guide for public and private actions and decisions to assure the development of public and private property in the most appropriate relationships. The elements of the plan may be expressed in words, graphics, or other appropriate forms. They shall be interrelated, and each element shall describe how it relates to each of the other elements.

Effective: July 15, 1986

History: Amended 1986 Ky. Acts ch. 141, sec. 10, effective July 15, 1986. -- Created 1966 Ky. Acts ch. 172, sec. 24.

Jessamine-South Elkhorn Water District

Information Request No. 34: Please provide a description of all professional training received by Dallam B. Harper, Jr., in population protection, including without limitation the name of the institution providing the training the date for each course of training and a curriculum for each course of training.

Answer: My professional training began at the University of Kentucky with the Calculus, Statistics and Computer Science courses that one undertakes while securing a Bachelor's degree in Business Administration from the University of Kentucky. My competence was certified by way of a rigorous testing program by the American Planning Association's Professional Institute of Certified Planners in 2011. See exam outline attached which reflects the areas of testing. The entire Bulletin from which this outline was taken can be accessed at http://www.planning.org/certification/bulletin. My Certified Planner Number is 024215.

[Dallam B. Harper, Jr.]

AICP CERTIFICATION EXAM OUTLINE

The AICP Comprehensive Planning Examination consists of 170 multiple choice questions (20 of which are pre-test and do not count toward the final score). The items listed below under each of the major areas are intended to be representative and not inclusive of all subject matter known to the planning profession.

Candidates should note that exam questions do not precisely follow the order listed below. Questions are randomly distributed in the examination to provide an even distribution of questions with respect to degrees of difficulty relative to an individual candidate's education and experience.

The specifications are:

I. History, Theory and Law [15%]

A. History of planning
B. Planning law
C. Theory of planning
D. Patterns of human settlement

II. Plan Making and Implementation [30%]

A. Visioning and goal setting
B. Quantitative and qualitative research methods
C. Collecting, organizing, analyzing, and reporting data and information
D. Demographics and economics
E. Natural and built environment
F. Land use and development regulations
G. Application of legal principles
H. Environmental analysis
I. Growth management techniques
J. Budgets and financing options
K. GIS/spatial analysis and information systems
L. Policy analysis and decision making
M. Development plan and project review
N. Program evaluation
O. Communications techniques
P. Intergovernmental relationships
Q. Stakeholder relationships
R. Project and program management

III. Functional Areas of Practice [25%]

A. Community development
B. Comprehensive or long range planning
C. Development regulation or administration
D. Economic development and revitalization
E. Economic analysis and forecasting
F. Educational, institutional, or military facilities planning
G. Energy policy
H. Food system planning
I. Growth management
J. Hazard mitigation and disaster planning
K. Historic preservation
L. Housing
M. Infrastructure
N. Labor force or employment
O. Land use
P. Natural resources and the environment
Q. Parks, open space and recreation
R. Planning law
S. Policy planning
T. Public services
U. Social and health services
V. Transportation
W. Urban design

IV. Spatial Areas of Practice [15%]

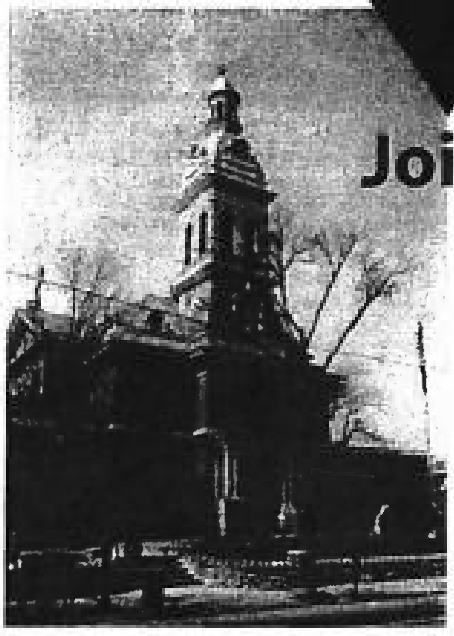
A. Planning at national level
B. Planning for multi-state or bi-state regions
C. Planning for state
D. Planning for sub-state region
E. Planning at county level
F. Planning for urban areas
G. Planning for suburban areas
H. Planning for small town
I. Corridors
J. Neighborhoods
K. Waterfronts
L. Historic districts or areas
M. Downtowns

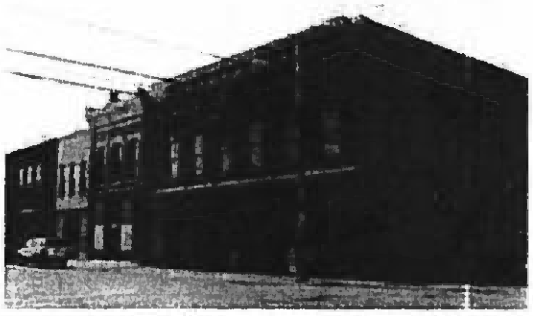
V. Public Participation and Social Justice [10%]

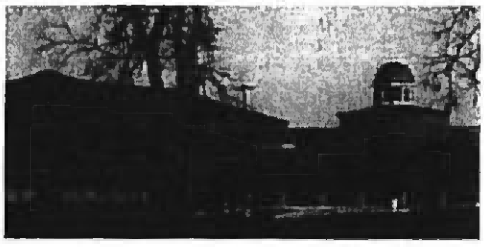
A. Public involvement planning
B. Public participation techniques
C. Identifying, engaging, and serving underserved groups
D. Social justice issues, literature, and practice
E. Working with diverse communities
F. Coalition building

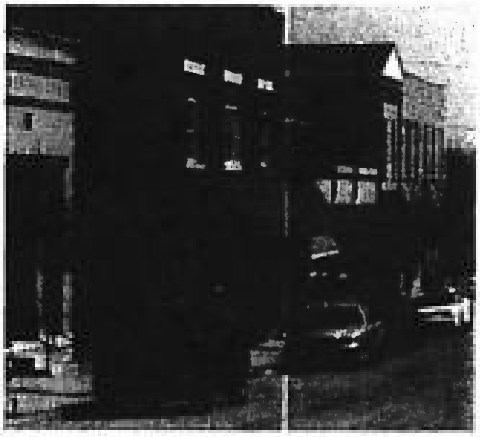
VI. AICP Code of Ethics and Professional Conduct [5%]

Wilmore
Nicholasville
Jessamine County
Joint Comprehensive Plan
2010









EXHIBIT

Forest Hills – Exhibit 07

WILMORE
NICHOLASVILLE
JESSAMINE COUNTY

JOINT COMPREHENSIVE PLAN
2010

Harold Rainwater
Mayor
City of Wilmore

Russ Meyer
Mayor
City of Nicholasville

William Neal Cassity
County Judge / Executive
Jessamine County

City of Nicholasville Planning Commission
Adopted March 22, 2010

Perry Barnes
Danny Frederick
Bennie Hager
Linda Kentz
Burton Ladd
Shawn Murphy
John Quinn, Chairman
Brian Welch
Steve Williams

Robert L. Gullette, Jr., Attorney
Gregory Bohnett, Director of Planning/Administrative Officer

Jessamine County – City of Wilmore
Joint Planning Commission
Adopted January 10, 2010

Jane Ball, Secretary
Pete Beaty, Chairman
Dave Carlstedt
Don Colliver
Charles Fuller
Steve Gayheart
James McKinney, Vice Chairman
John Osborne
Isaiah Surbrook
Eric Zablik

Bruce E. Smith, Attorney
Betty L. Taylor, Administrative Officer

COMPREHENSIVE PLAN UPDATE COMMITTEE MEMBERS

Gregory Bohnett, Chairman
Rose Webster, Secretary

Jeff Baier	Wayne Foster	Betty Taylor
Pete Beaty	Donald Hookum	David West
Paul Bingham	Christopher Horne	Troy Williams
Dave Carlstedt	Judy Miller	Bobby Day Wilson
John Collier	Harold Mullis	Lu Young
George Dean	John Quinn	

Dallam B. Harper, Planning Director
Beth Jones, Regional Planner
Kyle Scott, Regional Planner

TABLE OF CONTENTS

Jessamine County
Vision Statement

Jessamine County is a community with a strong sense of place and
a strong sense of who we are.

Our diversity allows us to be individuals within a larger community,
each of us able to achieve our highest personal goals
and make a positive contribution to our neighbors.

Our cities offer all the amenities of modern life, while
our small towns and farms keep us grounded
in the irreplaceable heritage that makes us unique.

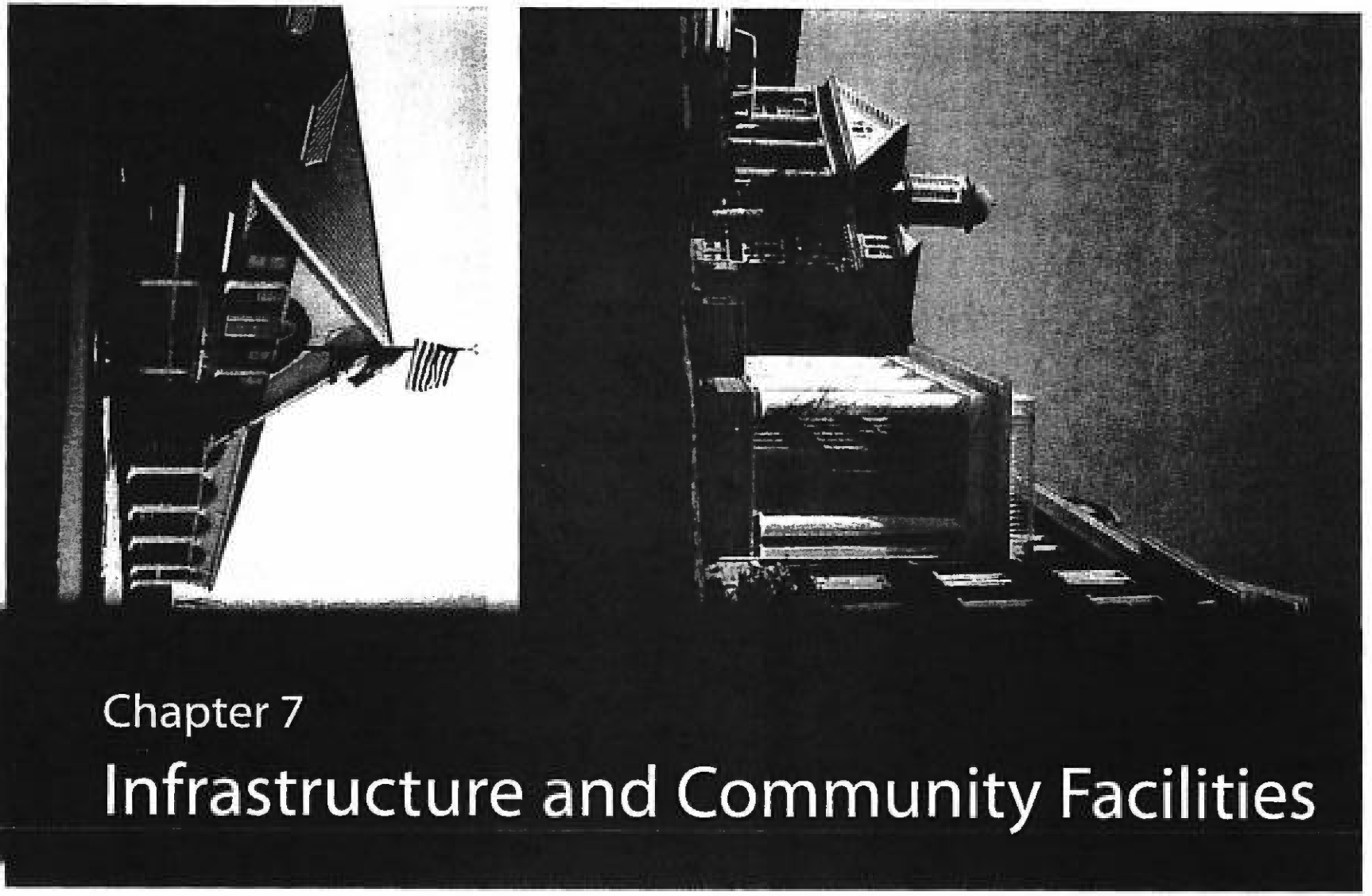
Our schools and universities educate our children and young adults, preparing them to play an
active part in our community
throughout their lives.

Our background and traditions are important to us. We respect
the people and places that are the foundation of our cities, towns and neighborhoods and
embrace the best today can offer.

Our open spaces, green fields and river valleys are among
our most treasured resources. We value the contribution our
natural environment makes to the quality of life for
our families, our friends and our neighbors.

Our highest aspiration is to maintain the distinctive qualities
and shared values that make Jessamine County a community,
while welcoming the best of what is to come
for ourselves and for future generations.

Jessamine County Comprehensive Plan Update Committee
April 22, 2008



Chapter 7

Infrastructure and Community Facilities

A high quality network of infrastructure and community facilities is essential to the smooth, safe and efficient operation of every community. The extent and adequacy of these facilities have a substantial effect on both the residential and business sectors of a community. For residents, they make their home community an attractive, convenient and comfortable place to live. In turn, when a community is an attractive residential environment it also becomes attractive to business, for its ability to both draw and retain a high quality workforce and to adequately serve commercial requirements.

From a long range planning perspective, familiarity with existing and planned infrastructure and community facilities capabilities are vital in setting the most orderly, logical and cost effective land use plans. These well-considered plans will then enable commercial and residential developers to work with local government in a predictable environment to ensure that new development promotes the best interests of the entire community.

UTILITIES

WATER

More than 99% of households in Jessamine County are served by five water systems: City of Nicholasville Water, City of Wilmore Water, Jessamine/South Elkhorn Water District, Jessamine Water District #1 and Kentucky American Water Company (KAWC). As of the 2009 BGADD Rate Book, monthly rates for a typical household range from $15.00 in Nicholasville to $34.18 in the Jessamine South Elkhorn district, compared to an average BGADD rate of $16.52 (Exhibit 7.1).

WASTEWATER TREATMENT

Jessamine County households are served by two wastewater treatment plants, one in Wilmore and one in Nicholasville. Monthly rates as of 2009 ranged from $17.45 to $22.49 for an average household, compared to an average for the BGADD of $18.15. 36.3% of county households are not served by municipal wastewater treatment facilities (Exhibit 7.2).

In January 2003, Jessamine County Fiscal Court entered into an agreement with Lexington Fayette Urban County Government (LFUCG) to enhance sewer service capacity along the northern boundary of the County. LFUCG agreed to accept up to two million gallons of wastewater per day for treatment at its West Hickman Wastewater Treatment Plant, located in the Ashgrove area of Jessamine County. This service will accommodate development in the North Jessamine sewershed which includes the County's northwestern quadrant, one of the fastest growing areas of Jessamine County.

SYSTEM IMPROVEMENT PROJECTS

BGADD produces an annual priority list for water and wastewater related projects for each county within the District (BGADD Water Management Plan, January 2008). These projects are rated based on the type, local impact, status, funding, local need and regional impact. The report lists eight water projects at a cost of $10.3 million (Appendix VI.) and five wastewater projects at $12.7 million (Appendix VI.) in Jessamine County.

Water The top-ranked water project in Jessamine County will replace and upsize piping and meter services originally installed in the northwest portion of the County in 1972. Associated work will also increase flow, pressure and water quality. The project ranked second will extend the Nicholasville backbone system to provide enhanced service for the new St. Joseph Hospital and a proposed YMCA facility. Public fire flow rates will also be increased for area residential and commercial customers. Fire protection, flow and pressure in the Ashgrove Pike area, one the fastest-growing in the county, will be improved by the third-ranked project.

INFRASTRUCTURE AND COMMUNITY FACILITIES PRINCIPLES

Maintain and improve existing facilities and infrastructure throughout the County

Coordinate future development of utility systems and infrastructure within the County and with adjoining jurisdictions, to ensure efficient expansion

Develop a countywide Capital Improvement Program for roads, utilities, schools, emergency services and other public and private infrastructure providers

Initiate a countywide Master Plan and a Capital Improvement Plan for parks and recreation

Support the Jessamine County School District Master Plan

Develop parks and recreational areas which preserve and protect natural features and the environment

2010 Jessamine County Comprehensive Plan

Statement of Goals & Objectives

APPENDIX VI.

JESSAMINE COUNTY WATER PROJECTS

Project Name Jessamine S. Elkhorn Northwest
Watermain Replacement and Hydraulic Looping
Applicant Jessamine South Elkhorn Water District
Project Number WX21113029
Cost Estimate $1,900,000
Total Committed $0
Funds Needed $1,900,000
County Rank 1
Regional Rank 38
This project proposes to replace and upsize that portion of the District which was originally piped in 1972 and is currently experiencing numerous line breaks and water outages. Replaced lines will be upsized where required. In addition, some of the existing stub mains will be extended to create appropriate looping configurations, thus increasing flow, residual peak flow pressure and water quality. Original meter services will be replaced with new service employing integral backflow preventor.

Project Name Nicholasville 20" Backbone Water Main Extension
Applicant City of Nicholasville
Project Number WX21113028
Cost Estimate $636,000
Total Committed $0
Funds Needed $636,000
County Rank 2
Regional Rank 11
Approximately 5,900-feet fo 20-inch ductile iron pipe is necessary to extend the City's existing backbone system to serve the new St. Joseph Hospital and serve as a feed for a future elevated storage tank that will be needed as the area around the hospital continutes to develop. The backbone main extension is needed to provide the required sprinkler flows for the new hospital as well as the proposed YMCA facility on the adjoining property. In addition, the existing distribution system in the area that serves dozens of commercial and hundreds of residential customers will be tied into the new backbone main at several points, thereby increasing public fire flow rates.

Project Name Jessamine Co. WD #1 - Ashgrove Pike Water System Improvements
Applicant Jessamine County Water District #1
Project Number WX21113021
Cost Estimate $625,000
Total Committed $0
Funds Needed $625,000
County Rank 3
Regional Rank 59
Project will improve flow, pressure and fire protection capabilities by replacing an old 3-inch water line with a new 8-inch water line. This is one of the fastest growing areas in Jessamine County, and Ashgrove Pike is one of the fastest growing roads in the Lexington/Nicholasville corridor.

Project Name Jessamine Co. WD#1 – Baker Lane/Catnip Hill/Windome Lane Loop
Applicant Jessamine County Water District #1
Project Number WX21113023
Cost Estimate $615,000
Total Committed $0
Funds Needed $615,000
County Rank 4
Regional Rank 75
Project will improve flow, pressure and fire protection capabilities by looping water lines. The Foxtail Drive area is currently experiencing very low pressures during heavy use periods, due to industrial growth. The proposed 8-inch loop will alleviate this issue.

Project Name Nicholasville Elevated Water Storage Project
Applicant City of Nicholasville
Project Number WX21113027
Cost Estimate $2,900,000
Total Committed $0
Funds Needed $2,900,000
County Rank 5
Regional Rank 69
Approximately 18,350-feet of 10-inch ductile iron pipe and 13,350 of 8-inch ductile iron pipe, along with a
200,000 gallon elevated storage tank is necessary to improve the City's existing distribution system in eastern Jessamine County. Rapid growth over the last several years has rendered certain portions of the system incapable of providing the demanded flows during maximum day conditions. This project will improve the static head and quantity of flow for approximately 1,100 existing customers in the area and provide capacity for an additional 1,500 customers in the years to come.

Project Name Jessamine Co. WD #1 - Water System Improvements
Applicant Jessamine County Water District #1
Project Number WX21113010
Cost Estimate $1,250,000
Total Committed $0
Funds Needed $1,250,000
County Rank 6
Regional Rank 38
Project will provide interconnection to Kentucky American Water Company to supplement water supply in north end of the system and improve service to existing customers. Project will also provide water service and fire protection to proposed large scale commercial and residential developments. Project includes 20,000-feet 12-inch line and 6,000-feet 6-inch line into unserved area.

Project Name Catnip Hill Pike 1.0 MG Elevated Storage Tank
Applicant Jessamine-South Elkhorn Water District
Project Number WX21113016
Cost Estimate $2,100,000
Total Committed $0
Funds Needed $2,100,000
County Rank 7
Regional Rank 22
Jessamine South Elkhorn Water District proposes to construct a 1.0 million gallons per day 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.

Project Name Jessamine County Water District No.1-SCADA System
Applicant Jesamine County Water District #1
Project Number WX21113022
Cost Estimate $235,000
Total Committed $0
Funds Needed $235,000
County Rank 8
Regional Rank 52
Project will provide better monitoring, control and management of the system. The District staff can monitor pump operation, tank levels and possible line breaks from a central location.

JESSAMINE COUNTY WASTEWATER PROJECTS

Project Name Wilmore Wastewater System Improvements
Applicant City of Wilmore
Project Number SX21113003
Cost Estimate $10,000,000
Total Committed $0
Funds Needed $10,000,000
County Rank 1
Regional Rank 25
Project includes wastewater treatment plant, interceptor sewers, wastewater pumping stations, and sanitary sewer rehabilitation.

Project Name Alta Avenue Parallel Sanitary Sewer Project, Nicholasville
Applicant City of Nicholasville
Project Number SX21113013
Cost Estimate $717,000
Total Committed $0
Funds Needed $717,000
County Rank 2
Regional 9
This gravity sanitary sewer project involves the construction of a parallel 18-inch diameter sanitary sewer in an older residential area of Nicholasville for the purpose of eliminating a sanitary

Jessamine-South Elkhorn Water District

Information Request No. 35: Please provide all workpapers, spreadsheets, analyses, source documents and other documents utilized by Dallam B. Harper, Jr. in preparation of the "Population Projections Jessamine-South Elkhorn Water District 2015-2050" attached to the testimony of Mr. Harper.

Answer: See attached.

[Dallam B. Harper, Jr.]

EXHIBIT

Share of Future Growth Choices
Worksheet #3

	Jessamine County	Population Increase	Percent Growth	H20 District	Population Increase	Percent Growth	H20 District's Share
Census 1990 Population	30,508			3,490			
Census 2000 Population	39,041	8,533	27.97%	4,261	771	22.09%	9.04%**
Census 2010 Population	48,586	9,545	24.45%	6,100	1,839	43.16%	19.26%***
Census Growth 1990 - 2010		18078	59.36%		2,610	74.78%	14.38%****

County - Ky Data Center Projection*	County	Population Increase	Percent Growth
Population Projection 2015	53,645	5,059	
Population Projection 2020	58,928	5,283	21.29%
Population Projection 2025	63,999	5,071	
Population Projection 2030	68,933	4,934	15.28%
Population Projection 2035	73,722	4,789	
Population Projection 2040	78,323	4,601	13.62%
Population Projection 2045	82,721	4,398	
Population Projection 2050	87,040	4,319	11.12%

		2010 - 2030	2030 - 2050
	County*	41.87%	26.26%
Alt. "A"	District @ 9.04% Share**	30.13%	20.58%
ALT "C"	District @ 14.38% Share****	49.08%	27.84%
ALT "B"	District @ 19.26% share***	64.21%	34.80%

BGADD Projection "A" at 9.04% Share**	H20 District	Population Increase	Percent Growth
Population Projection 2015	6557	457	
Population Projection 2020	7034	477	15.31%
Population Projection 2025	7492	458	
Population Projection 2030	7938	446	12.85%
Population Projection 2035	8370	432	
Population Projection 2040	8785	415	10.67%
Population Projection 2045	9182	397	
Population Projection 2050	9572	390	8.96%

BGADD Projection "B" at 19.26% Share***			
Population Projection 2015	7074	974	
Population Projection 2020	8091	1017	32.63%
Population Projection 2025	9067	976	
Population Projection 2030	10017	950	23.80%
Population Projection 2035	10939	922	
Population Projection 2040	11825	886	18.04%
Population Projection 2045	12672	847	
Population Projection 2050	13503	831	14.19%

BGADD Projection "C" at 14.38% Share****			
Population Projection 2015	6827	727	
Population Projection 2020	7586	759	24.36%
Population Projection 2025	8315	729	
Population Projection 2030	9024	709	18.95%
Population Projection 2035	9712	688	
Population Projection 2040	10373	661	14.94%
Population Projection 2045	11005	632	
Population Projection 2050	11626	621	12.07%

Jessamine-South Elkhorn Water District

Information Request No. 16: Refer to the customer information and usage produced at tab 26 of JSEWD's Exhibit Volume. For every year covered by the pages produced, please provide the unit of measure on which the total usage and average usage is based.

Answer: The exhibits attached to JSEWD's initial Answer to Request No. 26 for the years 2006 – 2010 in the Northwest and Southeast Areas were inaccurate. Attached are replacement exhibits for those years in both Areas. The unit of measure is gallons.

[Witness: Counsel and Glenn T. Smith]

NW

RUN DATE: 12/04/12 14:16 JESSAMINE - SOUTH ELKHORN WATER DIST PAGE 1
FINAL: 1 HISTORY TRACKING BY ACCOUNT NUMBER program 10-2-7
MONTHLY LISTING (BILLING/USAGE) FOR 01/10 THRU 12/10 2010

SERVICE: W WATER ACCOUNT RANGE: 01-0000 THRU 49-9999
MINIMUM AVERAGE USAGE: NONE usage converted

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	62.6
FEB 10	2169	132886.3	61.3
MAR 10	2167	121915.2	56.3
APR 10	2174	122615.2	56.4
MAY 10	2231	158272.3	70.9
JUN 10	2251	190521.2	84.6
JUL 10	2261	263958.2	116.7
AUG 10	2265	208478.9	92.0
SEP 10	2274	304141.7	133.7
OCT 10	2268	286473.5	126.3
NOV 10	2259	210456.1	93.2
DEC 10	2218	124890.9	56.3
LS	26710	2260638.5	84.6

→ 8460 gals

Jessamine-South Elkhorn Water District

Information Request No. 18: From the date last reported in Case No. 2012-00470 to date, please update Table 12 that was provided in response to Forest Hills' Supplemental Request for Information No. 26, setting forth the usage in the Northwest Service Area.

Answer: **See table attached.**

[L. Nicholas Strong]

Table - 12

2006-2014
Average Daily Use Per Customer
Northwest Service Area
Jessamine South Elkhorn Water District

Month	Total Monthly Use (GPD)	Average GPD Daily	Number of Customers	Average Daily Use Per Customer (GPD)	
Jan-06	13129990	423548	1939	218	
Feb-06	10929280	390331	1945	201	
Mar-06	10878220	350910	1959	179	
Apr-06	12212340	407078	1970	207	
May-06	12185550	393082	1986	198	
Jun-06	17315540	577185	1994	289	
Jul-06	22931920	739739	2038	363	
Aug-06	21929880	707415	2035	348	
Sep-06	25334100	844470	2048	412	
Oct-06	14290170	460973	2063	223	
Nov-06	13741020	458034	2054	223	
Dec-06	12233620	394633	2038	194	
Jan-07	13035090	420487	2037	206	
Feb-07	12463420	445122	2042	218	
Mar-07	11474270	370138	2044	181	
Apr-07	12400020	413334	2050	202	
May-07	13204900	425965	2079	205	
Jun-07	29796750	993225	2119	469	
Jul-07	29868880	963512	2136	451	
Aug-07	27907180	900232	2147	419	
Sep-07	38981080	1299369	2152	604	**
Oct-07	26155970	843741	2164	390	
Nov-07	24003280	800109	2165	370	
Dec-07	13567560	437663	2127	206	
Jan-08	12514910	403707	2111	191	
Feb-08	12453760	444777	2108	211	
Mar-08	11877300	383139	2115	181	
Apr-08	12376300	412543	2122	194	
May-08	14679080	473519	2158	219	
Jun-08	19377440	645915	2196	294	
Jul-08	27272080	879745	2220	396	
Aug-08	29908580	964793	2239	431	
Sep-08	34693200	1156440	2234	518	
Oct-08	33646010	1085355	2230	487	
Nov-08	23849320	794977	2235	356	
Dec-08	11637480	375403	2181	172	
Jan-09	14613430	471401	2152	219	
Feb-09	14647690	523132	2153	243	
Mar-09	9741100	314229	2146	146	
Apr-09	12009830	400328	2150	186	
May-09	13447160	433779	2183	199	
Jun-09	20250450	675015	2224	304	
Jul-09	21982750	709121	2241	316	
Aug-09	22983510	741404	2243	331	
Sep-09	19796830	659894	2248	294	
Oct-09	20403150	658166	2237	294	
Nov-09	12470170	415672	2199	189	
Dec-09	12203710	393668	2177	181	

Month	Total Monthly Use (GPD)	Average GPD Daily	Number of Customers	Average Daily Use Per Customer (GPD)	
Jan-10	13602900	438803	2173	202	
Feb-10	13288630	428665	2169	198	
Mar-10	12191520	393275	2167	181	
Apr-10	12261520	395533	2174	182	
May-10	15827230	510556	2231	229	
Jun-10	19052120	614585	2251	273	
Jul-10	26395820	851478	2261	377	
Aug-10	20847890	672513	2265	297	
Sep-10	30414170	981102	2274	431	
Oct-10	28647350	924108	2268	407	
Nov-10	21045610	678891	2259	301	
Dec-10	12489090	402874	2218	182	
Jan-11	13334610	430149	2203	195	
Feb-11	12191420	393272	2198	179	
Mar-11	11946390	385367	2200	175	
Apr-11	10420610	336149	2209	152	
May-11	12307180	397006	2221	179	
Jun-11	19486700	628603	2254	279	
Jul-11	25959840	837414	2310	363	
Aug-11	28009970	903547	2309	391	
Sep-11	24852160	801683	2283	351	
Oct-11	14507050	467969	2294	204	
Nov-11	13753490	443661	2259	196	
Dec-11	7576940	244417	2227	110	*
Jan-12	11468580	369954	2223	166	
Feb-12	12303890	396900	2218	179	
Mar-12	11492550	370727	2224	167	
Apr-12	12846440	414401	2229	186	
May-12	15233600	491406	2254	218	
Jun-12	24110230	777749	2316	336	
Jul-12	39867690	1286055	2332	551	
Aug-12	23293890	751416	2346	320	
Sep-12	26637660	859279	2338	368	
Oct-12	18595750	599863	2333	257	
Nov-12	16300240	525814	2300	229	
Dec-12	15488420	499626	2275	220	
Jan-13	15426885	497641	2268	219	
Feb-13	14747250	526688	2266	232	
Mar-13	14739400	475465	2264	210	
Apr-13	15307200	510240	2267	225	
May-13	18178630	586407	2285	257	
Jun-13	22016460	733882	2324	316	
Jul-13	20481320	660688	2346	282	
Aug-13	22028070	710583	2354	302	
Sep-13	21531570	694567	2362	294	
Oct-13	18270240	589363	2362	250	
Nov-13	13939565	464652	2320	200	
Dec-13	13404620	432407	2310	187	
Jan-14	17101745	551669	2297	240	
Feb-14	14778795	527814	2303	229	
Mar-14	14911920	481030	2304	209	
Apr-14	15705955	523532	2303	227	
May-14	21248900	685448	2330	294	
Jun-14	23964820	798827	2384	335	
Jul-14	27376705	883120	2399	368	
Aug-14	25461840	821350	2394	343	
Sep-14	20904890	696830	2422	288	

* Low use110 GPD - Dec-11
** High use 604 GPD - Sep-07

Mike Haley 333-1965

* Since another month to be met - Nick & I can meet w/ his group.

* District can file motion to determine precisely who in Association supports Bates intervention, will this help Mike?

* How many against

* How was intervention determined (Bruce review By-Laws - says they have to budget legal cost at the annual meeting)

post minutes of HOA 8-10 only attend

5/10/14 PM - 2:12 (Sat)

Recieved call from Mike Haley - long discussion following major points:

- He in route return home - back out again tues - for London/Clime
- New date set for revote on whether to intervene - Mike does recall date.
- He wanting info to formulate a letter to distribute in opp -

- Claims House cleared Arc & Historic
- Fed Wildlife - OK
- 50K site too small
- District Committed to build
- PSC order says must have more storage
- explain 1st & 2nd App
- District will meet

Conclusion - general impression does not have the substantial support that first appeared. Also, doesn't appear to have time or fee to achieve reversal.

5/12/14 - 10:07 AM.

Called Bruce to report on call from Mike and gave him a verbal report. Odd circumstance, not probable to reverse. But may be helpful. Bruce & Tony did not file any motions -

No. 2012-30982-211

RICHARD K. AND SUSAN D. ARMEY; BAR RR RANCHES, LLC AND ITS OWNERS, REX AND RENDA TILLERSON; RICHARD AND KRYSTAL VERA; CARLOS AND HELEN RIVERO; MONTE AND CHARLEY LUKOV; AND BRAD AND JANE TEEL, *Plaintiffs,*	§	IN THE DISTRICT COURT OF
V.	§	DENTON COUNTY, TEXAS
BARTONVILLE WATER SUPPLY CORPORATION; JIM LEGGIERI, ITS GENERAL MANAGER; AND ITS BOARD OF DIRECTORS, PATRICK MCDONALD, LARRY KAUFMAN, SUSAN CRAWFORD, MICHAEL PAULSON, DAVID MOORE, DEAN WHITE, AND ROBERT STEGMAIER, *Defendants.*	§	393RD JUDICIAL DISTRICT

FILED
2012 MAR 15 PM 4:05

PLAINTIFFS' SECOND AMENDED PETITION

TO THE HONORABLE JUDGE OF SAID COURT:

Come Now RICHARD K. AND SUSAN D. ARMEY, BAR RR RANCHES, L.L.C. AND IT'S OWNERS, REX AND RENDA TILLERSON, RICHARD AND KRYSTAL VERA, CARLOS AND HELEN RIVERO, MONTE AND CHARLEY LUKOV, AND BRAD AND JANE TEEL, Plaintiffs, complaining of BARTONVILLE WATER SUPPLY CORPORATION, JIM LEGGIERI, ITS GENERAL MANAGER AND ITS BOARD OF DIRECTORS PATRICK MCDONALD, LARRY

KAUFMAN, SUSAN CRAWFORD, MICHAEL PAULSON, DAVID MOORE, DEAN WHITE AND ROBERT STEGMAIER, Defendants and respectfully show the court.

I.

PARTIES

1.01 Plaintiffs Richard K. and Susan D. Armey are homeowners in Bartonville, Texas and their mailing address is P.O. Box 271123, Flower Mound, Texas 75027. Their 78-acre homestead has a fair market value in excess of $2 million.[1] The Armey's ultimate highest and best use of their property is for a subdivision development of luxury homes similar to those in the vicinity on minimum 2 acre tracts.

1.02 Plaintiff Bar RR Ranches, L.L.C. sues through its member/owners Rex and Renda Tillerson. Bar RR is a large horse ranch located immediately adjacent to the BWSC property in question. Bar RR has a fair market value in excess of $5 million. It is improved with homes, barns, and a state of the art horse training facility. Bar RR's ultimate highest and best use is of their property is for development of luxury homes on minimum 2 acre tracts.

1.03 Plaintiffs Richard and Krystal Vera are homeowners in Bartonville, Texas and reside at 1096 Roadrunner Road. Their homestead has a fair market value in excess of $1,900,000.

[1] All values are based on 2012 Denton Central Appraisal District Values

1.04 Plaintiffs Carlos and Helen Rivero are homeowners in Bartonville, Texas and reside at 1089 Roadrunner Road. Their homestead has a fair market value in excess of $1,500,000.

1.05 Plaintiffs Monte and Charley Lukov are homeowners in Bartonville, Texas and reside at 1064 Roadrunner Road. Their homestead has a fair market value in excess of $1 million.

1.06 Plaintiffs Brad and Jane Teel are homeowners in Bartonville, Texas and reside at 838 Dove Creek Road. Their homestead has a fair market value in excess of $1 million.

1.07 Defendant Bartonville Water Supply Corporation ("BWSC") is a non-profit corporation located at 1911 East Jeter Rd, Bartonville, TX 76226. Said Defendant has answered suit and is before this court for all purposes.

1.08 Defendant Jim Leggieri is the General Manager of Bartonville Water Supply Corporation. Said Defendant has answered suit and is before this court for all purposes. Leggieri is sued in both his representative and individual capacities.

1.09 Defendants Patrick McDonald, Larry Kaufman, Susan Crawford, Michael Paulson, David Moore, Dean White and Robert Stegmaier are members of BWSC's Board of Directors. Said Defendants have answered suit and are before this court for all purposes.

II.

JURISDICTION AND VENUE

2.01 This court has jurisdiction because Plaintiffs seek declaratory and injunctive relief, and sue for inverse condemnation of real property located in Denton County, Texas, nuisance, fraud, negligent misrepresentation and injunctive relief and the damages far exceed the minimum jurisdictional limits of this court.

2.02 Venue is mandatory in Denton County because this is a suit for damages to real property located in Denton County, Texas. Tex, Civ. Prac. & Rem. Code § 15.011. Venue is proper because all significant matters occurred in Denton County, and because the Defendant has its principal place of business in Denton County, Texas.

2.03 Plaintiffs request that Discovery be conducted under Level 3, pursuant to Rule 190.4 TEX. R. CIV. PROC.

III.

FACTS

3.01 Plaintiffs are owners of homes and real property in the Town of Bartonville, Texas. These are luxury properties worth multiple millions of dollars. Each of the homeowners built or purchased their homes in Bartonville to live in an upscale community free of industrial properties, tall buildings, and other structures that might devalue their properties and adversely impact the rural lifestyle they sought to enjoy.

3.02 Each of these homeowners selected Bartonville because the Town had adopted zoning and other ordinances calculated to prevent undesirable development not in character with their neighborhood and the zoning of their properties.

3.03 Before purchasing their acreage and home, the Armey's noticed that BWSC owned approximately 4.75 acres immediately adjacent to their property. They were concerned that BWSC might build a high rise water tower or other objectionable structure on its property and resolved not to purchase the property if there was any possibility of such construction occurring. The acreage they considered buying was expensive, and they resolved not to purchase the property if BWSC intended or had the right to build a high-rise water tower or other structure on its 4.75 acres, which would affect the fair market value of their property or interfere with its quiet use and enjoyment.

3.04. The Armey's made inquiry with the Town of Bartonville as to the zoning of the BWSC property and any intended use. The BWSC property is zoned

RE-2, which limits its use to residential construction on minimum 2-acre tracts. All of the Plaintiffs' properties are zoned RE-2 or RE-5 (residential minimum five acres). The Town showed them documents that indicated that BWSC had represented to the Town that they were intending only to construct a low-rise water tank. The proposed low-rise tank would sit below the tree line and be virtually unnoticeable from the Armey property. BWSC had made filings with the Town of Bartonville including drawings and photographs of other properties having similar uses to that intended for the 4.75 acres. These filings demonstrated that the intended use would consist of a low-rise tank that would be shielded by the existing trees and would not be a threat to their property, as to either its market value or its intended use as a quiet, bucolic home in the country. In the 2001 application of BWSC for a specific use permit, signed by Defendant Leggieri the proposed use of the property was "Public Water Supply Pump/Storage Station Site." It was noted in that application that no specific use permit would be granted unless certain conditions were met. Among these conditions was that the use "would not be detrimental to or endanger the public health, safety, morals, **comfort,** or general welfare." Also "that the uses, values, and enjoyment of **other property in the neighborhood for purposes already permitted** shall be in no foreseeable manner **substantially impaired or diminished** by the . . . specific use." Further, "that the . . . specific use will not impede the normal and orderly **development and improvement of the surrounding property** for uses permitted in the district." (Emphasis added). The photos supplied by BWSC to show what type improvements

were intended showed only a low-rise pressure tank and a low-rise storage tank, and a small one-story building. Leggieri specifically represented to the Town and its citizens on more than one occasion that the property would not be used for a high-rise water tower.

3.05. In the Letter of Intent to the Town of Bartonville dated August 13, 2001 BWSC and Leggieri stated: "As you review the enclosed information . . . some items may be designated "NO" as a result of our not having actual design plans. . . . However, I have included photos of our most recent pump station (1990's-1999) for your review. . . BWSC will comply with all the town's requirements as plans for the project develop or sooner if needed." Later in the LOI BWSC states: "Although required by the . . .[Texas Natural Resources Code] to be fenced, **the heavily wooded surroundings will provide additional natural facility screening from the future residents while providing and meeting a vital community service/need.**" (Emphasis added).

3.06. Richard Armey wanted further satisfaction and inquired of BWSC its intentions. Jim Leggieri, General Manager of BWSC told Armey that BWSC was going to build only a low-rise storage tank and pressure tank on the property and would never build a high-rise tower on the approximately 4.75 acre tract. Armey told Leggieri that he did not want to buy his proposed homestead only to find out that BWSC would construct a high-rise tower, and if there was any chance whatsoever Armey would buy another tract. Leggieri assured Armey that BWSC would under no circumstances build a high-rise tower. Having been assured by both

the Town and BWSC that there would be no high-rise tower built, the Armey's purchased their tract and proceeded to make extensive improvements. The Armey's relied upon Leggieri's representations in the scope of his employment with BWSC and upon the representations of the Town of Bartonville as specified in its zoning ordinance.

3.07. In addition to the representations that BWSC and Leggieri made to Armey and the Town of Bartonville that BWSC would not construct a high rise tower, Leggieri appeared in a public forum in front of numerous witnesses and represented that BWSC would only construct a low rise tank[2], and would under no circumstances build a high rise water tower.

3.08. In approximately 2009, Rex Tillerson was approached by BWSC requesting that Tillerson, on behalf of Bar RR Ranches, LLC, agree to permit BWSC to erect a chain link fence rather than a solid wall to enclose BWSC's property. At that meeting, BWSC represented to Tillerson and his employee that BWSC intended to construct only a pump house and low rise tanks similar to the ones on Jeter Road.

3.09. Each of the other homeowner plaintiffs purchased and improved their properties relying on the Town's zoning ordinance. Some Plaintiffs also relied on public promises and representations of BWSC and Leggieri that only a low-rise

[2] The height of the proposed low-rise tank would have been 36 feet, only one foot higher than the maximum allowed by the residential zoning. In addition to exceeding the height of the original proposal almost 4.5 times, the 160 foot high rise will be topped by a huge sphere. Unless mature Sequoias are imported from the northwest no trees will screen this eyesore.

water tank would be built. None of the plaintiffs would have proceeded to build or buy their luxury homes where located had they known that a high-rise tower would be built. Armey would not have purchased his property but for the promises and representations of BWSC and Leggieri. All the plaintiffs relied upon these representations to their detriment.

3.10. To add insult to injury Leggieri later made public statements that BWSC intended all along to build a high-rise tower on the property.

3.11. When the Town refused to issue BWSC a conditional use permit for the high rise water tower, which will have a capacity of **750,000 gallons** and will loom over the Plaintiff's properties at a height of **160 feet**—the equivalent of a 16 story building--BWSC sued the Town for a Declaratory Judgment and Mandamus requiring the permit to be issued. BWSC filed a second suit for a Writ of Certiorari to require the Town of Bartonville to issue a building permit for construction of the tower.

3.12. The Defendants have commenced construction and have erected a super structure to an alarming height in defiance of the law. They have gambled that once constructed, however illegally, this court will consider it is a *fait accompli* for which the only remedy, if any will be damages. Plaintiffs assert that the tower constitutes a public and private nuisance, for which the proper remedy is abatement by removing the offending structure by means of a mandatory permanent injunction.

3.13. This monstrosity will mock the purpose of the Bartonville zoning ordinance, the primary purpose of which is to protect the citizens and their property from uses "detrimental to or endanger[ing] the public health, safety, morals, **comfort,** or general welfare;" from "uses which substantially impair and diminish the uses, values, and enjoyment of other property in the neighborhood for purposes already permitted." The impact of the low rise structures originally represented would have been greatly diminished by the heavily wooded surroundings, but both man and nature are inadequate to lessen the adverse impact of the 160-foot tower under construction.

IV.

First Cause of Action—Temporary Injunction

(All Plaintiffs v. All Defendants)

4.01. Plaintiffs incorporate by reference all previous paragraphs. Plaintiffs request a mandatory and prohibitory injunction against all Defendants, requiring Defendants to dismantle the water tower and preventing them from ever building another elevated water storage tank at this location.

4.02. Defendant BWSC is proceeding to construct the 160-foot water tower.

4.03. By constructing the water tower in direct violation of the Town of Batonville's zoning ordinance designed for the purpose of protecting Plaintiffs and their properties from uses destructive and detrimental to the neighborhood, Defendants by their conduct threaten irreparable harm to Plaintiffs property values and Plaintiffs rights to the quiet use and enjoyment of their properties.

4.04 Plaintiffs have been and will continue to be damaged and injured by Defendants' conduct unless Defendants are restrained and enjoined, and they have no legal remedy sufficient to protect their interests because even though the damages might compensate them for their diminished property values, damages cannot compensate fully for the substantial interference with Plaintiffs' use and enjoyment of their land by causing unreasonable discomfort and annoyance to persons of ordinary sensibilities, and damages cannot fully compensate plaintiffs for the emotional harm they have sustained from the deprivation of the enjoyment of

their property because of fear, apprehension, offense, loss of peace of mind, visual blight or other similar acts or circumstances.

4.05. The Plaintiffs have been and will continue to be damaged and injured by the Defendants' conduct unless the Defendants are restrained and enjoined.

4.06. The Plaintiffs have no adequate remedy at law for the injuries just described. The injuries and losses are continuing. The property and rights owned by Plaintiffs are unique and irreplaceable so that it will be impossible to measure accurately in monetary terms the damages caused by Defendants' conduct. The losses to the Plaintiffs from the Defendants' conduct are likely to exceed the financial worth of the Defendants to prevent any adequate compensation to the Plaintiffs, even if money damages were sufficient remedy. [3]

4.07. On December 7, 2012, the Hon. L. Dee Shipman heard and denied Plaintiff's Application for Temporary Restraining Order. The Judge ordered this case be transferred to the 393rd District Court, and ordered that the $200,000 bond posted in the litigation between the Town of Bartonville and BWSC shall cover and apply to these proceedings. In order to preserve the status quo of the property and rights of the Plaintiff during the pendency of this action, the Defendants should be cited to appear and show cause why they should not be temporarily restrained and enjoined during the pendency of this action from erecting and continuing to erect

[3] Supposedly, Defendant BWSC has $6 million in cash assets. Plaintiffs assert that their losses far exceed this amount.

the 16 story tower in the midst of their residential neighborhood where zoning forbids the erection of any structure in excess of 35 feet.

4.08. Upon final trial of this cause the defendants should be permanently restrained and enjoined from ever constructing on said property any water tower save and except the low rise storage tank and related structures originally represented, such improvements to be no higher than the 36 feet originally represented, and such construction to be surrounded by an appropriate fence and shielded from view by the existing trees on the property. Plaintiffs' pray for a mandatory injunction requiring the Defendants to dismantle and remove at their sole cost the high-rise tower, or so much of it as has been completed.

V.

Second Cause of Action—Permanent Injunction

(All Plaintiffs v. All Defendants)

5.01. Plaintiffs incorporate by reference all previous paragraphs. Plaintiffs request a mandatory and prohibitory injunction against all Defendants, requiring Defendants to dismantle the water tower and preventing them from ever building another elevated water storage tank at this location.

5.02. Defendant BWSC is proceeding to construct the 160-foot water tower.

5.03. By constructing the water tower in direct violation of the Town of Batonville's zoning ordinance designed for the purpose of protecting Plaintiffs and their properties from uses destructive and detrimental to the neighborhood, Defendants by their conduct threaten irreparable harm to Plaintiffs property values and Plaintiffs rights to the quiet use and enjoyment of their properties. Moreover, Defendant BWSC's tower is both a public and a private nuisance for which damages are not an adequate legal remedy.

5.04 Plaintiffs have been and will continue to be damaged and injured by Defendants' conduct unless Defendants are restrained and enjoined, and they have no legal remedy sufficient to protect their interests because even though the damages might compensate them for their diminished property values, damages cannot compensate fully for the substantial interference with Plaintiffs' use and enjoyment of their land by causing unreasonable discomfort and annoyance to persons of ordinary sensibilities, and damages cannot fully compensate plaintiffs for

the emotional harm they have sustained from the deprivation of the enjoyment of their property because of fear, apprehension, offense, loss of peace of mind, visual blight or other similar acts or circumstances.

5.05. The Plaintiffs have been and will continue to be damaged and injured by the Defendants' conduct unless the Defendants are restrained and enjoined.

5.06. The Plaintiffs have no adequate remedy at law for the injuries just described. The injuries and losses are continuing. The property and rights owned by Plaintiffs are unique and irreplaceable so that it will be impossible to measure accurately in monetary terms the damages caused by Defendants' conduct. The losses to the Plaintiffs from the Defendants' conduct are likely to exceed the financial worth of the Defendants to prevent any adequate compensation to the Plaintiffs, even if money damages were sufficient remedy. [4]

5.07. Upon final trial of this cause the defendants should be permanently restrained and enjoined from ever constructing on said property any water tower save and except the low rise storage tank and related structures originally represented, such improvements to be no higher than the 36 feet originally represented, and such construction to be surrounded by an appropriate fence and shielded from view by the existing trees on the property. Plaintiffs' pray for a mandatory injunction requiring the Defendants to dismantle and remove at their

[4] Supposedly, Defendant BWSC has $6 million in cash assets. Plaintiffs assert that their losses far exceed this amount.

sole cost the high-rise tower, or so much of it as has been completed at the time of trial.

VI.

Third Cause of Action—Nuisance/Abatement

(All Plaintiffs v. BWSC)

6.01. Plaintiffs incorporate by reference all previous paragraphs.

6.02 The 160-foot high-rise tower located directly adjacent to the Armey and Bar RR property and in close proximity to the other plaintiffs' properties is a Nuisance as that term is defined under the law of the State of Texas. The BWSC tower constitutes a substantial interference with the Plaintiffs' use and enjoyment of their land by causing unreasonable discomfort and annoyance to persons of ordinary sensibilities, including the Plaintiffs. Each of the Plaintiffs have sustained emotional harm from the deprivation of the enjoyment of his or her property by fear, apprehension, offense, loss of peace of mind or other similar acts or circumstances. Defendants intentionally and unreasonably erected the water tower in total disregard for the surrounding properties. In the alternative, defendants construction of a water tower in this location is abnormal and out of place for the surroundings. In the alternative, defendants acted with negligence, recklessness, gross negligence, and malice when locating and constructing the water tower.

6.03. This interference with the Plaintiffs' use and enjoyment of their property is a Nuisance Per Se because the same is being constructed in direct violation of the zoning ordinances of the Town of Bartonville, and is thus unlawful.

The Plaintiffs' are citizens of the Town and are entitled to the protection of its laws. Plaintiffs are entitled to sue to enforce those laws. BWSC apparently believes that it is exempt or immune from the enforcement of those laws. Even if this were true—and it is not—the exemption from enforcement does not make the actions of BWSC lawful, and the construction of the BWSC tower in violation of the law makes it a nuisance per se.

6.04. The construction of the water tower will create a constant and unbearable nuisance to those that live next to it. A water tower will have lights on at all hours of the night, traffic to and from the tower at unknown and unreasonable hours, noise from mechanical and electrical equipment needed to maintain and operate the water tower, and creates and unsafe and attractive nuisance to the children of the area. Furthermore, water towers can create an attractive nesting spot for invasive species of bird and other animals. These animals will befoul Plaintiffs properties if the water tower is left to stand. Further, upon information and belief, BWSC will lease or sell rights to third parties for the location of antennas and cell towers. Furthermore, upon information and belief, BWSC will sell water to oil and gas explorers for fracing shale formations leading to traffic with heavy trucks on FM 407, creating a noise nuisance and traffic hazards.

6.05. Alternatively, the BWSC tower is a nuisance in fact. Since it is a structure that is capable of disassembly[5] it may be abated by removal from the four

[5] BWSC has so admitted in that it has posted a $200,000 bond as security to pay for the dismantling the tower if the Town's appeal, now pending, is successful.

acres upon which it stands. Alternatively, if the nuisance is not susceptible to abatement the Plaintiffs are entitled to recover damages.

6.06. Plaintiffs seek complete and total abatement of the nuisance by removal of the tower. They seek in addition damages incurred from the time the construction began until the removal of the tower, such damages being the diminished market value of their property and compensation for the loss of the quiet enjoyment of their properties and emotional damages above alleged.

6.07. Alternatively, if the court should rule that Plaintiffs are not entitled to abatement of the nuisance, Plaintiffs sue for the permanent diminution of the fair market value of their properties, and for their emotional damages past and future.

VII.

Fourth Cause of Action—Inverse Condemnation

(All Plaintiffs v. BWSC)

7.01. Plaintiffs incorporate by reference all previous paragraphs. Plaintiffs are each the owners of land zoned residential located in the Town of Bartonville.

7.02. Defendant BWSC is a non-profit corporation created under Texas law. Its business is supplying water to its residential and rural member customers. BWSC is not a part of State or Municipal government, but it has been granted extremely limited powers of eminent domain. Although BWSC has not physically entered upon Plaintiff's property, it has done so constructively by exercising what it claims to be its right—despite the zoning and building ordinances of the Town of Bartonville—to use its property in a manner contrary to those ordinances and to the detriment of Plaintiffs. This conduct has constructively taken and damaged Plaintiffs' property contrary to Article 1 Sec. 17 of the Texas Constitution by taking and damaging their property without paying adequate compensation. This constitutes an in inverse condemnation of plaintiffs' property for which plaintiffs are entitled to receive compensation. Moreover, this taking of plaintiffs' property was done in bad faith and by fraud, entitling the plaintiffs to compensation. *See Westgate Limited Ltd. v. State,* 843 S.W.2d 448 (Tex. 1992). The Armey's and other plaintiffs, acting in reliance on the repeated false, bad faith representations of BWSC and Leggieri, spent large sums of money in the purchase and improvement of their properties. They would have gone elsewhere to purchase a similar property

not threatened by a high-rise water tower if those false representations had not been made.

7.03. Plaintiffs are entitled to recover the diminished fair market value of their property under their inverse condemnation claims.

VIII.

Fifth Cause of Action—Negligent Misrepresentation

(All Plaintiffs v. BWSC and Defendant Leggieri)

8.01. Plaintiffs incorporate by reference all previous paragraphs.

8.02. Plaintiffs herein assert a common law cause of action for negligent misrepresentation against Defendant BWSC.

8.03. During its permitting with the Town of Bartonville, BWSC represented to the Town of Bartonville that it would build only a ground level water tank on the subject property. In fact, BWSC's plan was at all times to build a 16-story water tower. Plaintiffs are a class of people who BWSC knew or should have known would rely on the misrepresentation.

8.04. BWSC's misrepresentation to the Town constitutes supplying false information for the guidance of others, to wit, the citizens of the Town of Bartonville.

8.05. BWSC did not exercise reasonable care or competence in communicating its intention to build a ground-level water tank when in fact it intended to build a 16-story monstrosity.

8.06. Plaintiffs herein each exercised due care before purchasing their respective properties. In doing so, each Plaintiff contacted the Town of Bartonville to determine what BWSC intended to do with the subject Property. The Town unwittingly spread BWSC's misinformation to Plaintiffs. Plaintiffs in turn justifiably relied on that representation when purchasing their property.

8.07. BWSC's negligent misrepresentation proximately caused Plaintiffs injury by negatively impacting the value of their properties and creating a nuisance. Plaintiffs seek benefit of the bargain damages. In the alternative, Plaintiffs seek reliance damages.

8.08. BWSC's negligent misrepresentation was so egregious that it rises to the level of gross negligence, recklessness, and malice, entitling Plaintiffs to recover exemplary damages.

IX.

Sixth Cause of Action—Common Law Fraud

(Richard K. and Susan D. Armey v. BWSC and Defendant Leggieri)

9.01. Plaintiffs Richard K. and Susan D. Armey assert a cause of action against BWSC for Common Law Fraud. Plaintiffs incorporate by reference all previous paragraphs.

9.02. When investigating whether or not to purchase his property, Richard Armey spoke directly with Jim Leggieri, BWSC's General Manager. Leggieri, acting in the scope and course of his employment with BWSC, told Armey that BWSC intended to build only a ground level water tank and would under no circumstances build a high-rise tower on the property in question. This false misrepresentation was made several times. This representation was false, as BWSC intended all along to build a 16-story water tower.

9.03. Relying on Leggieri's misrepresentation, Armey reasonably believed there would be no problem with a ground level tank. They personally inspected BWSC's other ground level tanks at Leggieri's suggestion. The Armeys purchased their property in direct reliance on Leggieri's statements.

9.04. Leggieri and BWSC made a material, false representation to Plaintiff Armey, namely that it would only build a ground level tank, and would not build a high-rise tower on the subject property.

9.05. When Leggieri and BWSC made this material, false representation, it knew it was false or, in the alternative, made the misrepresentation recklessly, as a positive assertion, and without knowledge of its truth.

9.06. BWSC intended that Armey rely on its misrepresentation.

9.07. Armey relied on BWSC's misrepresentation.

9.08. Armey is now injured by that misrepresentation because BWSC is instead building a 16-story water tower, causing actual damages to the Armeys by damaging or destroying their right to quiet enjoyment of their property causing great emotional harm and by permanently damaging and destroying the fair market value of their property. The Armeys seek benefit of the bargain damages. In the alternative, the Armeys seek reliance damages.

9.09. The actions and conduct of Leggieri and BWSC were reckless, grossly negligent, and malicious. The Armeys are entitled to recover exemplary damages in an amount sufficient to punish the defendants for their conduct in proportion to their actual and consequential damages.

PRAYER AND JURY DEMAND

Actual and Consequential Damages: All Plaintiffs for all causes of action have sustained actual and consequential damages in the cumulative maximum amount of $40 million, not including any award of exemplary damages a finder of fact may award at final trial.

Exemplary Damages: All Plaintiffs are entitled to recover exemplary damages in an amount fairly in proportion to the actual and consequential damages sustained, and in an amount sufficient to punish Defendants for their reckless, grossly negligent, and malicious conduct, and to warn others of the consequences of such conduct.

Temporary Injunction: Plaintiffs pray that this court issue a temporary injunction pending trial on the merits restraining and enjoining the Defendant Bartonville Water Supply Corporation, its successors and assigns, its General Manager, its Board of Directors, its agents, servants, contractors and subcontractors, and all others working in concert with them from constructing or continuing to construct the high-rise water tower in question pending final trial on the merits of this case.

Final Trial–Injunction: Plaintiffs pray further that upon final trial it have and recover a permanent injunction restraining and enjoining the Defendant Bartonville Water Supply Corporation, its successors and assigns, its General Manager, its Board of Directors, its agents, servants, contractors and subcontractors, and all others working in concert with them from ever constructing on said property any

water tower save and except the low rise storage tank and related structures originally represented, such improvements to be no higher than the 36 feet originally represented, and such construction to be surrounded by an appropriate fence and shielded from view by the existing trees on the property. Plaintiffs' pray for a mandatory injunction requiring the Defendants to dismantle and remove at their sole cost the high-rise tower, or so much of it as has been completed.

Final Trial—Nuisance and Abatement. Plaintiffs further pray for judgment that the high rise tower as proposed and erected is a nuisance per se, or alternatively a nuisance in fact, and that such nuisance be abated by its complete removal as set forth in plaintiffs plea for a permanent injunction; Plaintiffs further pray for recovery of the diminished market value of their property from the time of initial construction until full abatement, and for their emotional damages incurred from the inception of construction until full abatement; Plaintiffs further pray that in the event the court does not grant abatement that they recover the permanent diminished fair market value of their property, and that they recover their emotional damages in the past and in the future.

Final Trial—Inverse Condemnation: Plaintiffs further pray for judgment that the Defendants conduct constitutes an inverse condemnation of their properties, and awarding damages in the amount of the diminished fair market value of their properties.

Final Trial- Negligent Misrepresentation: Plaintiffs pray that they be awarded damages for the negligent misrepresentations made by Leggieri and BWSC.

Final Trial-Fraud: The Armeys pray that they be awarded actual and exemplary damages against Leggieri and BWSC for their fraudulent misrepresentations.

Jury Demand: Plaintiffs demand trial by jury of all fact issues upon which they are entitled to a jury under the Constitution and laws of the State of Texas.

Court Costs and General Relief: Plaintiffs pray that they recover their costs of court herein expended and have such other and further relief, in law or in equity, to which they may justly be entitled.

Respectfully submitted,

Michael J. Whitten & Associates, P.C.
218 N. Elm Street
Denton, Texas 76201
(940) 383-1618
FAX: (940) 898-0196
Email: michael@whittenlawfirm.com

Michael J. Whitten
State Bar No. 2139200
Adam T. Whitten
State Bar No. 24077199
Attorneys for Plaintiffs

VERIFICATION

On this 15th day of March, 2013, personally appeared RICHARD K. ARMEY, who being by me duly sworn stated that he is a Plaintiff in the above case, that he has read the above and foregoing Plaintiffs' Second Amended Petition, that he has personal knowledge of the facts alleged therein, and that each allegation of fact is true and correct.

Richard K. Armey

SWORN TO AND SUBSCRIBED BEFORE ME on this 15th day of March, 2013, to certify which witness my hand and seal of office.

Notary Public, State of Texas

ASHLEY CUMMINGS
NOTARY PUBLIC
State of Texas
Comm. Exp. 09/06/2016

Certificate of Service

A true and correct copy of the above and foregoing document has been forwarded pursuant to Rule 21a of the Texas Rules of Civil Procedure on this 15th day of March, 2013 to the following:

Sent via Regular Mail:
Samuel B. Burke
Wood, Thacker & Weatherly, P.C.
400 W. Oak St.
Ste. 310
Denton, Texas 76201
Tel. (940) 565-6565
Fax. (940) 566-6673

MICHAEL J. WHITTEN

Jessamine-South Elkhorn Water District

Information Request No. 20: Please produce all documents not previously produced in Case No. 2012-00470 containing or relating to communications with the City of Nicholasville relating to the provision of storage of water for the District by the City or to the purchase of water by the Water District from the City.

Answer: **See General Objection and Response to Question 1 above, including Objection. JSEWD further objects to discovery concerning a hypothetical or theoretical future water supply connection, particularly one that would not include a reservation for storage. As demonstrated in the attached letter from Nicholasville's Utility Manager, any such hypothetical connection as raised here would not include any reservation for storage to meet the needs of the District.**

JSEWD further objects to providing the requested information to Forest Hills' counsel, who also represent the interests of KAWC in other matters, concerning the status of any discussions or negotiations involving hypothetical potential new sources of supply for the District, where KAWC is JSEWD's current water supplier and has a potential direct adverse economic interest in any such contacts or discussions.

Notwithstanding the objection, see attached.

[L. Nicholas Strong and Applicant's Counsel]

Horne, John

From: Tom Calkins <tom_calkins@nicholasville.org>
Sent: Wednesday, December 18, 2013 4:04 PM
To: Chris Horne
Cc: Diana Clark; John Horne; Nick Strong; 'Steinmetz, John'; ragan_cobb@nicholasville.org; danny_johnson@nicholasville.org
Subject: JSEWD/City of Nich Interconnection Project
Attachments: H&SLet121313.pdf

FILE COPY

Christopher:

Please see the attached and give John Steinmetz a call at 219-1126. I have already mentioned to Kentucky American that we will be needing information from them as well.

Merry Christmas,

Tom

HAZEN AND SAWYER
Environmental Engineers & Scientists

Hazen and Sawyer, P.C.
444 Lewis Hargett Circle, Suite 260
Lexington, KY 40503
859 219-1126
Fax: 859 219-1134

December 13, 2013

Mr. Tom Calkins, PE
City of Nicholasville Public Utilities
601 North Main Street
Nicholasville, KY 40356

RE: Jessamine South Elkhorn Water District
Interconnection Project

Mr. Calkins:

We are beginning work on Jessamine South Elkhorn Water District Interconnection Project, which we were recently awarded by the City of Nicholasville. As you are aware, part of this project includes hydraulic feasibility evaluation of the interconnect using the existing models of these two systems.

We request delivery of the digital model files for the Jessamine-South Elkhorn Water District (JSEWD). The files should include Kentucky Pipe modeling files (or similar), boundary conditions of the Kentucky American Water storage tank and master meter on Clays Mill Road, and all related data, reports, and mapping for a complete, calibrated, hydraulic model.

If you have any questions, please contact us. We look forward to working with the City of Nicholasville on this project.

Sincerely,
Hazen and Sawyer. P.S.C

John B. Steinmetz, PE
Senior Associate

JBS/am

601 North Main Street, PO Box 490, Nicholasvil , KY 4035

February 13, 2014

FILE COPY

Mr. Nick Strong, Chairman
Jessamine South Elkhorn Water District
802 South Main Street
Nicholasville, Kentucky 40356

Re: Nicholasville – Jessamine South Elkhorn Water District
Interconnection Project – WX21113041

Dear Mr. Strong:

As you are aware the City of Nicholasville is in the process of conducting the initial hydraulic analysis as part of the planning and design effort for the above mentioned project. The hydraulic analysis will be performed using KYPIPE software, starting with the existing models that will be provided by the City, the District and related information supplied by Kentucky American Water Company.

Prior to proceeding with final design, a Preliminary Engineering Report (PER) that documents the hydraulic analysis, route and pump station site selection, and preliminary cost estimates will be made available. If the desired flows can be achieved at an acceptable cost, then the detailed design will be completed, followed by construction.

In order for us to begin construction by the end of this year, we will need for the District to provide an electronic copy of the District's KYPIPE model by March 1, 2014 to:

Hazen & Sawyer, PC
c/o John Steinmetz
444 Lewis Hargett Circle, Suite 260
Lexington, KY 40503
859-219-1134

The City looks forward to working with you and the District on this project of great importance to our community.

Best Regards,
City of Nicholasville

Russell A. Meyer
Mayor

Doug Blackford
Commissioner

Kentucky
UNBRIDLED SPIRIT

Horne Engineering, Inc.

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

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: May 2, 2014

Subject: CON/JSEWD Interconnection Hydraulic Model

We are in the final design of the proposed 750,000 gallon elevated storage tank, and one phase of the design requires a 72-hour hydraulic simulation to demonstrate that the design is workable and acceptable.

I believe that it is mandatory that we consider the relevancy and impact that the proposed CON Interconnect would have on this simulation, if it occurs. Insofar as Kentucky American Water Company and City of Nicholasville operate in two (2) distinct and completely separate hydraulic gradients, the impact on the District's system could be catastrophic.

Therefore, it is imperative that we be provided a copy of the CON/JSEWD Interconnect hydraulic model. To that end, I have prepared a draft of a letter requesting this information, and attach it for your review and consideration.

JGH/jt

cc: Glenn T. Smith
Richard Decker
Diana Clark
Bruce E. Smith
Engr/4049
Engr/4044
Corr.

Q:\ProjectDir\Jsewd\WO4049\JSEWD-BOC,RequestforCON-JSEWD-InterconnectHydraulicModel.mem

Jessamine-South Elkhorn Water District

802 South Main Street, P.O. Box 731
Nicholasville, Kentucky 40356
Phone: (859) 881-0589 Fax: (859) 881-5080

May 2, 2014

Mayor Russell A. Meyer
City of Nicholasville
517 N. Main Street
Nicholasville, KY 40356

Re: Nicholasville - Jessamine-South Elkhorn Water District
Interconnection Project - WS21113041

Dear Mayor Meyer:

As you are aware, the District is in the process of final design on a 750,000 gallon elevated storage tank to provide additional storage in our system. An integral phase of this design is a computer model, 72-hour simulation, of the tank operation. This model simulation will be performed using KYPIPE software. It is mandatory that the modeling analysis consider not only supply from Kentucky American Water Company, but also the City of Nicholasville connection, if it occurs.

In order for the District to proceed to final design, we will need for the City of Nicholasville to provide an electronic copy of the City's KYPIPE model by June 1, 2014 to:

Horne Engineering, Inc.
c/o Christopher Horne
216 South Main Street
Nicholasville, KY 40356
859-885-9441

The District looks forward to working with you and the City on this project of great importance to our community.

Best Regards,
JESSAMINE-SOUTH ELKHORN WATER DISTRICT

L. Nicholas Strong, Chairman

LNS/jt
cc. Christopher Horne
Diana Clark
Glenn T. Smith
Richard Decker

Q:\ProjectDir\Jsewd\WO4049\JSEWD-STrongToCON-Calkins,InterconnectHydraulicModel.ltr

Jessamine-South Elkhorn Water District

802 South Main Street, P.O. Box 731
Nicholasville, Kentucky 40356
Phone: (859) 881-0589 Fax: (859) 881-5080

May 2, 2014

Mayor Russell A. Meyer
City of Nicholasville
517 N. Main Street
Nicholasville, KY 40356

Re: Nicholasville - Jessamine-South Elkhorn Water District
Interconnection Project - WS21113041

Dear Mayor Meyer:

As you are aware, the District is in the process of final design on a 750,000 gallon elevated storage tank to provide additional storage in our system. An integral phase of this design is a computer model, 72-hour simulation, of the tank operation. This model simulation will be performed using KYPIPE software. It is mandatory that the modeling analysis consider not only supply from Kentucky American Water Company, but also the City of Nicholasville connection, if it occurs.

In order for the District to proceed to final design, we will need for the City of Nicholasville to provide an electronic copy of the City's KYPIPE model by June 1, 2014 to:

Horne Engineering, Inc.
c/o Christopher Horne
216 South Main Street
Nicholasville, KY 40356
859-885-9441

The District looks forward to working with you and the City on this project of great importance to our community.

Best Regards,
JESSAMINE-SOUTH ELKHORN WATER DISTRICT

L. Nicholas Strong, Chairman

LNS/jt
cc. Christopher Horne
Diana Clark
Glenn T. Smith
Richard Decker

Q:\ProjectDir\Jsewd\WO4049\JSEWD-STrongToCON-Calkins,InterconnectHydraulicModel.ltr

Jessamine-South Elkhorn Water District

Information Request No. 60: List every input, assumption, and/or value selected by the District for use in the Model submitted in this case that differs from the hydraulic model that was provided to the Commission on December 12, 2012 in Case No. 2012-00470. Explain fully and in detail the reason for each difference.

Answer: **Input, assumptions, and or values that differ from the hydraulic analysis submitted with Case No. 2012-00470 and the current application, include the size of the tank and the elevations of the switching grades, as well as the initial hydraulic grade for the tanks. These are the only differences that I recall. Refer to responses to Nos. 55-59 for explanation of the reasons for the differences**

[L. Christopher Horne]

Jessamine-South Elkhorn Water District

Information Request No. 55: Refer to the Model that was submitted with the District's Application. How did the District select the initial volumes of water stored in the three tanks at the outset of the EPS?

Answer: **The initial hydraulic grade of the three tanks in the hydraulic analysis was selected at 1165 which is roughly midway between the pump on and pump off control switches. Obviously, the tank level for any given day at any given time can and will vary, and cannot be predicted.**

[L. Christopher Horne]

Jessamine-South Elkhorn Water District

Information Request No. 56: Compare the Model that was submitted with the District's Application to the hydraulic model that was provided to the Commission on December 12, 2012 in Case No. 2012-00470. Why do the initial volumes of water stored in the three thanks differ?

Answer: **The initial hydraulic grade of the three tanks in the hydraulic analysis submitted with Case No. 2012-00470 was set at 1148 for Tanks A and C, because the switch grades for pump on and pump off ranged from 1140 (pump on) to 1154 (pump off). These switching grades were different because that analysis endeavored to demonstrate that what was then proposed (1,000,000 gallon tank) could be turned over in a 72-hour period during average daily demand by changing switch grades.**

[L. Christopher Horne]

Jessamine-South Elkhorn Water District

Information Request No. 57: Refer to the Model that was submitted with the District's Application. How did the District select the switching grades?

Answer: **The switching grades for the analysis submitted with the current application were selected because they concur with the actual switch grades most commonly used by the District, currently.**

[L. Christopher Horne]

Jessamine-South Elkhorn Water District

Information Request No. 58: Why do certain of the switching grades in the Model submitted in this case differ from the switching grades in the hydraulic model that was provided to the Commission on December 12, 2012 in Case No. 2012-00470?

Answer: **As explained in the answer to No. 57, the switch grades in the model that was submitted in Case No. 2012-00470 were set to demonstrate that 100% of the tank volume could be turned over in a 72-hour period. The switch grades are raised for the 750,000 gallon proposed tank in the current application because the hydraulic analysis demonstrates that the entire tank volume is turned over in a 72-hour period.**

[L. Christopher Horne]

Jessamine-South Elkhorn Water District

Information Request No. 59: Refer to the Model that was submitted with the District's Application. How did the District select the diameter of the proposed tank?

Answer: **The diameter of the proposed tank is based on correspondence with tank contractors, standard dimensions for the selected tank volume were used.**

[L. Christopher Horne]

Jessamine-South Elkhorn Water District

Information Request No. 61: Except for demand data, rerun and provide the results of the Model utilizing the exact inputs, assumptions, and/or values in the hydraulic model that was provided to the Commission on December 12, 2012 in Case No. 2012-00470.

Answer: **See General Objections and object on the basis that the Request is unduly burdensome and will result in unjustifiable expense to the Water District. The Water District should not be subject to the compilation and analysis of data for Forest Hills.**

[Applicant's Counsel]

Braun, Monica

From: Watt, Robert
Sent: Wednesday, October 22, 2014 2:58 PM
To: 'Bruce Smith'
Cc: Agmlaw@aol.com; Braun, Monica
Subject: RE: JSEWD Case No. 2014-00084

Bruce:
Thanks for the missing minutes. We look forward to receiving them very soon. We disagree with your position on the items you have refused to produce. Incidentally, in your response to Item 25, there are numerous documents relating to the sewer grants, but no documents relating to the storage of water or the grant for the water tank. Was this an oversight? If so, would you be kind enough to produce those documents? If not, would you let me know why they were not produced? Bob

From: Bruce Smith [mailto:bsmith@smithlawoffice.net]
Sent: Wednesday, October 22, 2014 1:04 PM
To: Watt, Robert
Cc: Agmlaw@aol.com
Subject: RE: JSEWD Case No. 2014-00084

Bob – See my client's responses within the text of your message below.

Bruce E. Smith
Bruce E. Smith Law Offices, PLLC
201 South Main Street
Nicholasville, KY 40356
Phone: (859) 885-3393
FAX: (859) 885-1152
bruce@smithlawoffice.net

From: Watt, Robert [mailto:Robert.Watt@skofirm.com]
Sent: Tuesday, October 21, 2014 9:55 AM
To: Bruce Smith

Cc: Braun, Monica
Subject: JSEWD Case No. 2014-00084

Bruce:
We have some issues with the Water District's responses to our data requests in the above-captioned case. Please consider filing more complete responses to the following data requests. Subject to all of the objections stated in my client's Responses to Information Requests, I will answer each of the three items you raised separately. Item 8: you indicate the response "may include documents protected by the attorney/client privilege or the work product doctrine." Does the response in fact include such documents? Yes If so, please provide a privilege log. Decline. Not required by KARs and PSC has not issued an order requiring. Item 27: you produced minutes beginning with January 3, 2014, but the request seeks minutes since the date of the most recent minutes produced in Case No. 2012-00470. The most recent minutes produced in that case were dated March 7, 2012. Please produce the missing minutes. Will do. Also, the minutes of the May 7, 2014, meeting indicate that the Board went into closed session to discuss Forest Hills. Please produce the minutes of that closed session. Not required to keep minutes. None kept. Incidentally, why did the Board go into closed session? Decline. Item 61: we asked you to re-run the Water District's Model utilizing the exact inputs, assumptions and/or values in the hydraulic model that was provided in Case No. 2012-00470, except for the demand data. In addition to this information being irrelevant since it involves a 1,000,000 gal. tank, our engineer advises that this request makes no sense to him from an engineering standpoint. Perhaps your engineer could call ours (Christopher Horne – 885-9441) and clarify. We understand that this request is not burdensome and has no cost associated with it and ask you to reconsider your refusal to comply. We disagree with your understanding subject to further clarification from your engineer's input. In the alternative, send us the Model in electronic format and we will re-run it. Decline. We would appreciate a prompt response to these requests given the short time we have to file testimony. Bob

Robert M. Watt, III
Of Counsel
Stoll Keenon Ogden PLLC
859-231-3043 (P)
859-246-3643 (F)
300 West Vine Street, Suite 2100
Lexington, Kentucky 40507
robert.watt@skofirm.com

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	131.8326	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
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
21.00	1300.00	55.00

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	0.68	985.00	
2		0.00	980.00	
3		0.00	977.00	
4	US-68 & Bran	0.21	997.00	
5	US-68 @ Oris	2.10	1000.00	
6	Lntrn&oldcoc	4.99	970.00	
7		7.64	1000.00	
8	Lantern Ct	2.67	1020.00	
9		0.50	970.00	
10		1.43	1000.00	
11		3.29	1020.00	
12		1.74	955.00	
13		1.32	927.00	
14		1.74	968.00	
15		1.19	1032.00	
16		1.64	1028.00	
17		10.89	979.00	
18	US68 & Barkl	4.51	955.00	
19	US68 & KY29	1.44	949.00	
20		0.28	870.00	
21		0.40	887.00	
22		0.40	887.00	
23		0.40	877.00	
24		0.40	877.00	
25	Murphy Ln EO	0.40	870.00	
26		0.40	870.00	
27	US68 & CC rd	2.03	936.00	
28		0.00	927.00	
29		0.61	900.00	
30		5.07	898.00	
31		0.00	977.00	
32	Clear&Richar	4.73	875.00	
33		0.07	996.00	
34		1.87	995.00	
35		0.24	900.00	
36	Catnip Hill	0.24	990.00	
37	end o Sagart	2.23	990.00	
38		0.21	984.00	
39		1.39	985.00	
40		0.34	992.00	
41		0.44	986.00	
42		1.03	988.00	
43		0.97	996.00	
44		0.43	970.00	
45	BARKLEY EST	3.47	910.00	
46		0.94	968.00	
47		0.56	991.00	
48		4.08	975.00	
49		3.72	920.00	

EXHIBIT

2014

Forest Hills – Exhibit 14

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	133.7472	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
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	0.67	985.00	
2		0.00	980.00	
3		0.00	977.00	
4	US-68 & Bran	0.21	997.00	
5	US-68 @ Oris	2.08	1000.00	
6	Lntrn&oldcoc	4.95	970.00	
7		7.57	1000.00	
8	Lantern Ct	2.65	1020.00	
9		0.50	970.00	
10		1.42	1000.00	
11		3.26	1020.00	
12		1.72	955.00	
13		1.31	927.00	
14		1.72	968.00	
15		1.18	1032.00	

311	The Lakes II	1.58	960.00	
312	1267 @ Cush	0.28	895.00	
313	Cushingberry	0.57	910.00	
314		0.00	950.00	
315	Cemetery@169	0.43	923.00	
316	Keene 1267 @	0.00	911.00	
317	1267@Ebeneze	0.00	857.00	
318	Ebenezer Chu	0.28	810.00	
319	Keene	1.28	930.00	
320	Kingston @ K	0.28	915.00	
321	Hagin Ln Pek	0.28	920.00	
322	Pekin Ln	0.57	745.00	
323	KY 33 Pekin	0.28	810.00	
324	Pekin Ln EOL	0.85	850.00	
325	Clear Creek	0.00	920.00	
326	KY 169 Rhine	0.84	930.00	
327		0.28	870.00	
328	1267 in Keen	0.28	895.00	
329		0.28	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	1026.00	
I-AV-2		0.00	0.00	
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	1150.00
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	----	1026.00	1165.00
TANK-B	New Tank - P	----	1015.00	1165.00
TANK-C	Chinkapin Ta	----	1025.00	1165.00
O-Pump-1	perless 1240	0.00	990.00	
O-Pump-2	perless 1240	0.00	990.00	
O-AV-2		0.00	0.00	
I-AV-1	Altitude Val	0.00	1026.00	
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

O U T P U T O P T I O N D A T A

OUTPUT SELECTION: THE FOLLOWING RESULTS ARE INCLUDED IN THE TABULATED OUTPUT

ALL CLOSED PIPES ARE NOTED
ALL PIPES WITH PUMPS

FOLLOWING PIPES
2
3
120
123
169
281
284
320
328
338
341
348
469
473

FOLLOWING JUNCTION NODES
36
66
79
131
157
173
182
217
233
MAXIMUM AND MINIMUM PRESSURES = 10
MAXIMUM AND MINIMUM HEAD LOSS/1000 = 5

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
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.	40612.	0.00
TANK-B(1)	1171.00	1135.00	528802.	440668.	0.00
TANK-C(1)	1171.00	1133.00	803779.	676867.	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	291	1157.00	&	1170.00
AV-1	15	1133.00	&	1168.00
AV-2	89	1133.00	&	1170.00

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)	=	339
NUMBER OF PRIMARY LOOPS .....(l)	=	130
NUMBER OF SUPPLY NODES .....(f)	=	5
NUMBER OF SUPPLY ZONES .....(z)	=	1

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.	3384.	0.00
TANK-B(1)	1171.00	1135.00	528802.	190956.	0.00
TANK-C(1)	1171.00	1133.00	1094032.	431855.	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	1140.00	&	1170.00
Pump-1	291	1140.00	&	1154.00
AV-1	15	1133.00	&	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) = 472
NUMBER OF END NODES .....(j) = 338
NUMBER OF PRIMARY LOOPS .....(l) = 130
NUMBER OF SUPPLY NODES .....(f) = 5
NUMBER OF SUPPLY ZONES .....(z) = 1

BRUCE E. SMITH LAW OFFICES, PLLC
201 SOUTH MAIN STREET
NICHOLASVILLE, KENTUCKY 40356
(859) 885-3393 + (859) 885-1152 FAX

BRUCE E. SMITH
bruce@smithlawoffice.net

February 24, 2011

PERSONAL DELIVERY
William M. Arvin, Sr., Esq.
108 West Maple Street
Nicholasville, Kentucky 40356

Re: Forest Hills Residents' Association, Inc. ("Association")
Jessamine-South Elkhorn Water District ("District") Tank Site

Dear Bill:

This letter will confirm the decision made by the Board of Commissioners of the District at its February, 2010 meeting regarding the relocation of the above-ground water storage tank site as proposed by the Association. By motion, it was decided that the District will use the site which it purchased some years ago from Sue Switzer. The District regrets that it could not accommodate your client's concerns, but in the final analysis, there were too many obstacles to overcome in order to change the site and it is not in the best interests of the District's customer base to delay advancement of this project further.

In addition to the title and other problems set forth in my letter to you of February 2, 2011, the following additional factors combined to ultimately drive the District's determination to move forward with its presently owned site:

(1) The District is currently, and has been for some time, in violation of Kentucky Public Service Commission Regulations as to its water storage capacity in the Northwest Territory. To date, the PSC has not imposed any penalties upon or taken any action against the District, but the Board is seriously concerned that this state of grace could come to a sudden end.

(2) The District is under a short timeline in terms of obtaining funding for this project. Any further delay in moving forward on the funding request would in all probability mean that the District could not secure the necessary monies to construct the tank.

(3) A representative of the Harrod's Ridge neighborhood association appeared at the February meeting and expressed its extreme displeasure at the prospect of another tank being located in the immediate vicinity of its subdivision and being placed next to an existing tank. Because there is one tank already located inside this subdivision and there is another tank located on old US 68 within sight thereof, the District is concerned that the association may want to litigate a decision to construct a third tank on the site proposed by your client.

EXHIBIT

Forest Hills – Exhibit 15

EXHIBIT
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(4) Although your client may have been confident that it could, in time, cure all of the title problems with the proposed new site, the District has to comply with the title requirements of its funding agency. These requirements appear to be more stringent than the usual standards applied by commercial lenders.

Without mentioning any added factors which might come into play, the reasons stated above present a considerable "timing" problem for the District in terms of moving forward with the project. In view of the circumstance that the District now owns a site which is suitable for construction of a tank and which has been approved by the funding agency, any further delay places the District in a precarious position with the PSC and its customer base.

The Board asked me to convey its extreme disappointment in not being able to work through your client's concern with the present tank site and not being able to reach a resolution that would be acceptable to all of the residents in this part of its territory while at the same time permitting the Board to meet its obligations to the PSC and the rest of its customers.

Sincerely,

Bruce E. Smith

cc: Board of Commissioners
Mr. W.D. Bates

g:\...\USEWD\Forest Hills\Arvin ltr 022211

BRUCE E. SMITH LAW OFFICES, PLLC
201 SOUTH MAIN STREET
NICHOLASVILLE, KENTUCKY 40356
(859) 885-3393 + (859) 885-1152 FAX

BRUCE E. SMITH
bruce@smithlawoffice.net

March 11, 2011

VIA E-MAIL: LOGAN.DAVIS@WELLSFARGOADVISORS.COM
AND FIRST CLASS MAIL
Mr. T. Logan Davis
c/o Wells Fargo Advisors
333 East Main Street, Suite 120
Lexington, KY 40507

Re: Forest Hills Residents' Association, Inc. ("Association") Proposal
Jessamine South-Elkhorn Water District ("District")

Dear Mr. Davis:

I represent the District. The District's Chairman, Nick Strong, has directed me to confirm in writing with you, as the Association's representative, a new proposal made by the Association relative to a new above-ground water storage tank site on the McMillen Farm to be exchanged for the District's present tank site ("Switzer site") adjoining Forest Hills Subdivision ("Forest Hills").

As the District understands it, the McMillen Farm is located to the east of and adjoins Forest Hills. Unlike, the previously proposed tank site by the Association, located on old US 68, the McMillen Farm tank site should not cause as many timing problems. Additionally, the District also understands that the Association is now willing to post a letter of credit which will insure that the District's customer base will not sustain any additional costs in changing sites.

Based on the foregoing understandings and keeping in mind that this project is still time-sensitive for other reasons stated in my letter to the Association's attorney, dated February 24, 2011, the District is willing to re-examine its prior decision not to abandon the Switzer site, so long as the following conditions are met:

(1) The Association shall post a $250,000.00 irrevocable, one-year letter of credit (subject to partial draws and in a form otherwise acceptable to the District), with the District as beneficiary, from a reputable bank by no later than the close of business on March 23, 2011. The purpose of this letter will be to guarantee payment by the Association of the

JSEWD EXHIBIT 4

EXHIBIT
tabbies JSEWD-STRONG 4

additional expenses which will be incurred by the District in the investigation of and possible change in tank sites;

(2) Submission to me within 30 days of the date of this letter of a binding purchase contract for the new tank site on the McMillen Farm with the location and dimensions of this new tank site to be determined by the District in its sole and unfettered discretion;

(3) Submission to me within 30 days of the date of this letter of a binding contract for the conveyance of the necessary easements for the path of the waterman and access road to the McMillen Farm tank site with the path of the watermain and the road to be determined by the District in its sole and unfettered discretion; and

(4) The receipt by the District within 60 days of the date of this letter of a satisfactory geo-physical report on the McMillen Farm tank site which confirms its suitability for the construction of the tank.[1]

In the event any one of the foregoing conditions is not satisfied, then and in such event, there will be no further discussions or negotiations with the Association and the District will return its attention towards obtaining the necessary additional financing and constructing the tank on the Switzer site adjoining Forest Hills. Furthermore, the Association shall be obligated to reimburse the District for all expenses, including but not limited to engineering, legal and administrative costs, incurred in the investigation of the McMillen Farm tank site as a condition of the District not calling the letter of credit to the extent of its expenses. Lastly, the Association shall execute a release of all claims that it believes it may now or in the future have against the District based on the failed exchange of these or prior sites.

In the event that all of the foregoing conditions are met, the Association shall have a plat prepared for recording in the Jessamine County Clerk's office which reflects the McMillen Farm tank site, the easements for the path of the watermain and access road to the site and the consolidation of the Switzer site to the McMillen Farm; shall cause to be prepared the necessary instruments for the exchange of the McMillen Farm site for the Switzer site and the conveyance of the easements; shall fully reimburse the District for all of its out-of-pocket expense incurred in the investigation and exchange of these sites; and shall execute a release of all claims that it believes it may have against the District now or in the future based on the failed exchange of prior sites.

If the Association agrees to the foregoing, please sign this letter at the space provided on the next page of this letter and attach the minutes of the meeting wherein the Association authorized the signing of this letter.

---

[1] The District agrees to pursue with all reasonable dispatch the acquisition of such a report after the posting of the letter of credit by the Association.

Sincerely,

Bruce E. Smith

The Association agrees to the foregoing conditions and obligations.

ITS _____ **Date**

cc: Commissioners

g:\...\USEWD\Forest Hills\Notice 031111

BRUCE E. SMITH LAW OFFICES, PLLC
201 SOUTH MAIN STREET
NICHOLASVILLE, KENTUCKY 40356
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BRUCE E. SMITH
bruce@smithlawoffice.net

HENRY E. SMITH
henry@smithlawoffice.net

March 7, 2014

Mr. Jeff R. Derouen
Executive Director
Kentucky Public Service Commission
211 Sower Boulevard
Frankfort, Kentucky 40601

Re: Jessamine-South Elkhorn Water District CPCN Application

Dear Mr. Derouen:

Delivered under cover of this letter is an original and ten (10) copies of my client's Application to construct and finance an above-ground storage tank off Catnip Hill Road in Jessamine County, Kentucky. This tank was the subject of a previous CPCN filing in Case No. 2012-00470 which the Commission ultimately disapproved.

The tank project is financed in part by a grant from the Kentucky Legislature which will expire June 30, 2014 if not re-authorized. The initial grant totals $1,000,000.00 and there is an excellent chance that another $440,000.00 in grants will be added by the Legislature from other defunct projects. However, all of the grants have to be re-authorized by the Legislature in order to make them available to the District for the tank project.

My client believes that unless this current CPCN Application is decided by no later than June 1, 2014, the District is in jeopardy of losing the grant funds which will pay for approximately one-half (1/2) of the construction of the storage needed by my client and mandated by Commission regulations. Because these grants have been pending for some time, the District also believes that unless some progress is made on or before June 1, 2014 towards bringing this project closer to completion, the grant funds may be reallocated to other entities. Accordingly, my client asks that the Commission process and decide this Application in an expedited manner on or before June 1, 2014.

In Case No. 2012-00470, the Commission found that the District should investigate the possible alternative of contracting for storage capacity from Kentucky American Water Company. The Chairman of the District, Nick Strong, met today with Kentucky American Water Company President, Cheryl Norton, and Ms. Norton expressed Kentucky American's support for the District's proposal to construct more water storage and acknowledged that the water supply contract between the District and Kentucky American requires the District to provide its own water storage. Ms. Norton also acknowledged that Kentucky American is currently operating under a 50% deviation from PSC regulations as to its own water storage and that Kentucky American could not make any guarantees to the District as to storage in the event an emergency situation arises. A written statement from Kentucky American confirming the foregoing account will be provided to the Commission within the next two (2) weeks.

Sincerely,

Bruce E. Smith

Enclosures

cc: Representative Robert R. Damron
Senator Tom Buford
Mr. Nick Strong

Jessamine-South Elkhorn Water District

Information Request No. 30: Please explain the status of the legislative grants referred to in paragraphs 7, 12 (e) and 16 of the Application, including without limitation the dates of expiration of the grants and any limitations on the location of the project(s) for which the grants will be utilized.

Answer: **It is my understanding that the grants will have to be re-authorized at the 2016 session of the General Assembly or these could be lost by the Water District. It is my further understanding that there is a limitation imposed by KIA as to site location regarding the grants.**

[L. Nicholas Strong]

Jessamine-South Elkhorn Water District

Information Request No. 23: Please identify, explain in detail and provide all facts and documents that record, describe, support, refer to or relate to the District's best estimate of the annual cost it will incur to operate the water tank proposed in this proceding and describe any problems it will experience if this propsoed water tank is not constucted at the proposed sit.

Answer: **The materials already filed with JSEWD's application herein address the annual cost. The problems caused by the tank not being constructed at this site are that (1) JSEWD will continue to be in violation of 808 KAR 5:066 § 4 (4); and (2) JSEWD will have lost the following amounts – (a) purchase price of the site ($40,000.00); (b) the engineering and survey costs for the proposed site ($6,771.25); (c) the geotechnical survey cost of investigating this site ($4,625.00); (d) the legal fees expended associated with the acquisition of the proposed site ($1,735.80); (e) the archaeological survey cost for the proposed site ($2,600.00); (f) those costs associated with bidding the construction for the site ($25,098.64); (g) the cost of upsizing lines near the site to accommodate the construction of the proposed tank ($38,819.34); (h) the engineering design costs for the tank to occupy the proposed site ($65,000.00); and (i) in all probability JSEWD will expend more for the foregoing steps in repeating the process of acquiring another suitable tank site. The out of pocket loss at this time totals $184,650.03.** **[Witness: L. Nicholas Strong]**

Jessamine-South Elkhorn Water District

Information Request No. 11: Refer to JSEWD's response to Information Request No. 23 of the Intervenors' First Set of Requests for Information. For items (f), (g), and (h), please provide:

(a) Invoices or comparable documentation supporting the costs;

(b) The date(s) in which the costs were incurred; and

(c) A detailed explanation of why the costs were incurred before obtaining a certificate of public convenience and necessity to construct the water tank.

Answer: The initial Answer to Request No. 23 is amended as follows:

"(b) the engineer's costs associated with acquiring the proposed site and access thereto, and funding of the proposed tank's construction ($9,170.00)"; "(d) the legal fees associated with the acquisition of the site and funding of the proposed tank ($2,548.30)"; "(f) the cost of advertising the construction of the tank for bids and printing copies of plans ($9,011.58)"; "(g) the cost of upsizing the lines near the site to accommodate the construction of the tank ($70,647.80) – (i) JSEWD's contribution to upsizing loop line constructed by Forest Hills Subdivision developer ($39,690.01) and (ii) the cost of connecting the aforementioned loop line to the proposed tank site and beyond to the water main on Catnip Hill Rd ($30,957.79).

(a) See attachments to this Request and those at Request No. 20.

(b) See attachments to this Request and those at Request No. 20.

(c) Objection to any implication that engaging in such activities prior to the granting of a CPCN is improper, unlawful or unreasonable. Notwithstanding the objection, JSEWD responds as follows:

Item 23(f) – as noted in the original response, 23(f) is "those costs associated with bidding the construction for the site ($25,098.64)."[1] Kentucky-American Water Company ("KAW"), as one example, engaged in such a bidding process prior to the granting of a certificate of convenience. In its April 25, 2008 Order in the KRSII case involving KAW, Case No. 2007-00134, the Commission noted that "Kentucky-American has solicited and received bids for construction of the proposed facilities". Order at page 23.

Item 23(g) – as noted in the original response, 23(g) is "the cost of upsizing lines near the site to accommodate the construction of the proposed tank ($38,819.34)."[2] As is clear from the record in this case, the proposed site has been designated as the site for new storage for many years, as was well known to the developer of the Forest Hills Subdivision, Barry Mangold. Although the District has made numerous efforts to meet the siting concerns expressed by the developer and by some of the current residents of Forest Hills, no other suitable site has materialized. Upsized lines would be necessary even if, for instance, the PSC were to approve a smaller water tank than that proposed by JSEWD

[1] Amount was amended herein to $9,011.58.
[2] Amount was amended herein to $70,647.80.

(although JSEWD strongly believes that the proposed one million gallon water tank is reasonable and necessary).

Item 23(h) – As noted in the original response, 23(h) is "the engineering design costs for the tank to occupy the proposed site ($65,000). " In the April 25, 2008 Order in Case No. 2007-00134, as an example, the PSC noted without comment that "Kentucky-American has completed the design and routing of the proposed facilities". Order at page 78.

[Witness: L. Nicholas Strong and Counsel]

Jessamine-South Elkhorn Water District

Information Request No. 27: Please provide the minutes and attendance logs from any and all meetings of District representatives in which the water tank proposed in this proceeding or the storage of water was mentioned or discussed since the date of the most recent minutes produced in Case No. 2012-00470.

Answer: **See attached.**

[L. Nicholas Strong]

July 2, 2014

The Board of Commissioners of the Jessamine South Elkhorn Water District met on July 2, 2014, with the following Commissioners present: Nick Strong, George Dale Robinson, Tom Beall and JF Hall. Bruce Smith, John Horne, Christopher Horne, Tom Smith, Richard Decker, Jennifer Rodgers and Diana Clark were also present.

There was a review of the Aged Receivables.

A motion was made to adjourn to closed session to discuss the Forest Creek litigation by Mr. Hall, seconded by Mr. Robinson - approved. Closed session was conducted. A motion was made to return to open session by Mr. Hall, seconded by Mr. Robinson – approved. No motions made in open session regarding Forest Creek

There was a brief discussion regarding the **Catnip Hill Tank**. A letter is to be sent to a new property owner that may be unaware of the tank going in next to his property.

Mr. Strong updated that the City of Nicholasville Interconnect is progressing.

A motion for Mr. Strong to sign Pay Estimate #3 for the **Northwest Hydraulic Project – East Contract** was made by Mr. Robinson, seconded by Mr. Hall – approved.

A motion for Mr. Strong to sign Pay Estimate #1 for the **Northwest Hydraulic Project – West Contract** was made by Mr. Hall, seconded by Mr. Robnson – approved.

A motion to adopt **KIA Resolution for Project ID 3N-2014** was made by Mr. Robinson, seconded by Mr. Beall – approved.

A motion to accept **KIA Grant Assistance Agreement of Project ID #3N-2014** in the amount of $440,000 for WRIS Number WX21113016 and authorize Chairman Strong to execute necessary documents was made by Mr. Robinson, seconded by Mr. Beall – approved.

A motion to approve the agreement for Engineering Services with Horne Engineering, Inc. for the 0.75MG **Catnip Hill Tank Project** (WX21113016) which is to replace the current engineering agreement was made by Mr. Robinson, seconded by Mr. Beall – approved.

A motion to approve the amendment of the Project Administrators Agreement with Horne Engineering, Inc. for project WX21113016 to include the additional grant of $440,000 (Grant ID: 3N-2014) at no increase in fee was made by Mr. Robinson, seconded by Mr. Beall – approved.

Mr. Smith reported that the EEOC declined to take any action on the complaint received by Mrs. Meyers. Meyers will have 90 days from the date of the notice (June 23, 2014) in which to file suit in the federal district court. Otherwise, the matter will be closed.

Mr. Strong discussed reviewing both **Commercial Loans** we have. A motion for Mr. Strong to solicit additional loan terms was make by Mr. Beall, seconded by Mr. Robinson – approved.

A motion to approve the minutes of the June meeting was made by Mr. Hall, seconded by Mr. Beall – approved.

A motion to approve the June bills and pre-approval for the contractual payables was made by Mr. Beall, 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.

The August meeting date was re-scheduled to Wednesday, August 13, 2014.

The Board went into Executive Session to discuss status of Jennifer Rodgers.

There being no further business to come before the Board, meeting adjourned.

ATTEST:

Chairman

PUBLIC NOTICE

LEGAL NOTICE

NOTICE is hereby given that the Public Service Commission of Kentucky has scheduled a public hearing in a case styled as, "Application of Jessamine-South Elkhorn Water District for a Certificate of Public Convenience and Necessity to Construct and Finance a Waterworks Improvement Project Pursuant to KRS 278.020 and 278.300," Case No. 2014-00084, beginning February 10, 2015, at 10:00 a.m. Eastern Daylight Time, at the Commission's offices, 211 Sower Boulevard, Frankfort, Kentucky for the purposes of cross-examination of the JSEWD's and Intervenors' witnesses.

PUBLIC NOTICE

The Nicholasville Board of Adjustment will meet in regular session at 7:00 p.m. on Monday, February 9, 2015 in the Public Meeting Room of City Hall, 517 North Main Street, Nicholasville, Kentucky. The Agenda will include the following:

CONDITIONAL USE PERMIT

Jason W. Perry, 213 Vicksburg Drive, Nicholasville, KY 40356, has applied for a Conditional Use Permit (Home Occupation) to operate a home business for Internet firearm sales and title transfers related to an FFL License at his residence.

Review of a Conditional Use Permit issued on February 10, 2014 to Taylor Made Pools, 3111 Lexington Road, Nicholasville, KY 40356 to allow an LED message board (50 square feet) to be located on an existing pole sign.

DIMENSIONAL VARIANCE

Review of a Dimensional Variance issued on February 10, 2014 to Federico Martinez Salamanca, 922 South Main Street, Nicholasville, KY 40356 to be 30' instead of 100' from a residential zone in order to sell alcohol by the drink for their existing grocery store / restaurant as specified by the Nicholasville Zoning Ordinance, Article 7, Application of Rec-

REAL ESTATE

HOME FOR SALE

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HOME FOR SALE
WILMORE
505 Bellevue Ave
4 BR, 2 BA on double lot,
walkout finished basement,
large walk-in master
bedroom closet,
large master bathroom
with storage
3200 sf
$225,000
Angela Lewis
United Real Estate,
Lexington
859-492-0255

LOOK!

HOME FOR SALE BY OWNER

MARKET ANALYSIS JESSAMINE/SOUTH ELKHORN WATER DISTRICT
PROPOSED WATER TANK SITE
ADJOINING FOREST HILLS SUBDIVISION
JESSAMINE COUNTY, KENTUCKY

EFFECTIVE DATE

MARCH 4, 2013

PREPARED FOR:

JESSAMINE-SOUTH ELKHORN WATER DISTRICT
802 SOUTH MAIN STREET
NICHOLASVILLE, KY 40356

PREPARED BY:

BERKLEY APPRAISAL COMPANY
366 WALLER AVENUE SUITE 203
LEXINGTON, KY 40504

JSEWD – Exhibit 02

BERKLEY APPRAISAL COMPANY
REAL ESTATE APPRAISERS

366 Waller Avenue Suite 203 ~ Lexington, KY 40504
Phone (859) 276-2278
Commercial, Industrial, Multi-Family, Subdivision & Farms Appraisal Services

March 4, 2013

Jessamine-South Elkhorn Water District
802 South Main Street
Nicholasville, Ky 40356

RE: Proposed Water Tank Site
Jessamine South Elkhorn Water District
Adjoining Forest Hills Subdivision
Jessamine County, KY

Dear Gentlemen:

Following your request I have performed a market analysis in order to form opinions as to any diminution in the market value of real property as a result of having proximity to or being within the viewshed of the proposed elevated water storage tank.

The proposed site is located at the termination of Chinkapin Drive which is within the Forest Hills subdivision located off U.S. 68 in Jessamine County. The property was purchased by the Jessamine South Elkhorn Water District in 2004 as the location for a future elevated water storage tank. The adjoining Forest Hills subdivision was subsequently developed in 2006 and is an executive class subdivision. The Forest Hills neighbors have indicated that they were unaware of the proposed water tank until approximately June 2010 when they voiced their concerns at a public meeting of the Jessamine South Elkhorn Water District. The neighbors contend that the proposed siting of the water tank has and will continue to result in the diminution in the market value of their property.

The market analysis which has been performed has relied upon data collected from Jessamine County and specifically the Forest Hills and Harrods Ridge subdivisions as well as a storage tank site in Fayette County. The analysis which is detailed in the following report has resulted in the following conclusions;

- The decline in lot and home values within Forest Hills subdivision since June of 2010 is a result of the real estate cycle and is similar to the trends found in other competing subdivisions.

- There is no market evidence that would indicate that the proximity to or location within the viewshed of a 1.0MG elevated water storage tank would result in the diminution in the market value of property within Forest Hills subdivision.

We are pleased to provide you with our professional appraisal services. If you have any questions please do not hesitate to contact me.

Sincerely,

William L. Berkley, Jr.
Berkley Appraisal Company
Kentucky Certified General Appraiser #721

Table of Contents

PURPOSE OF THE ASSIGNMENT

The purpose of this assignment is to analyze and draw conclusions of the impact that the siting of the proposed Jessamine South Elkhorn Water District 1,000,000 gallon elevated water storage tank would have on the market value of real property located within the adjoining Forest Hills subdivision. The assignment has been carried out through an analysis of market data that has been collected from Jessamine as well as Fayette County, Kentucky.

METHODOLOGY

The methodology employed relies on a comparative market analysis of sales of both lots and residential homes in order to measure any changes in market value as a result of proximity to or within the view shed of an elevated water storage tank such as the one proposed for the subject site. Market data has been collected from Forest Hills subdivision of which a portion adjoins the proposed site as well as the competing Harrods Ridge subdivision which is located directly across U.S. 68 from Forest Hills and is the location of an existing 500,000 gallon elevated tank. Additional market data has been collected from Fayette County and specifically the site of the Arboretum water tower located off Alumni Drive. The analysis which has been carried out is based upon a comparison of the market value of both lots and residential homes which are in proximity to or within the viewshed of elevated water storage tank and those which are not.

PROPOSED SITE & STORAGE TANK DESCRIPTION

The proposed site of the 1.0 MG elevated water tank is commonly referred to as the Switzer site. The 1 acre site has been owned by the Jessamine South Elkhorn Water District since May 24, 2004 when it was purchased for the location of a future elevated storage tank. The location is east of U.S. 68 and north of West Catnip Hill Road and being near the southern end of Chinkapin Drive which is within the Forest Hills subdivision and terminates near the subject. Included on the following page is an aerial photo of the proposed site.

PROPOSED LOCATION OF TANK & AERIAL OF FOREST HILLS SUBDIVISION

The proposed metal tank is to have a storage capacity of 1,000,000 gallons and supported by eight legs with a leg height of approximately 110 feet and a total height of approximately 160 feet. The diameter of the tank is to be 70'. Access to the tank site will be from the termination of Chinkapin Drive via an existing 20' easement. There is also an easement from West Catnip Hill Road which will likely be used during the construction process.

Forest Hill subdivision which adjoins the proposed site was developed in 2006 as a residential subdivision under the cluster ordinance. Located at the front of Forest Hills subdivision is an existing 50KG elevated storage tank.

View of Existing 50KG Tank @ Entrance to Forest Hills

The following is a summary of additional facts related to the subdivision.

- 33 Lots Including Residual Tract (32 Buildable Lots) Developed in 2006
- 25 Existing Homes & 2 Under Construction
- Average Home is 8,170 Square Feet & Custom
- The 2013 Average Assessment is $842,369 For Homes

Typical Home Within Forest Hills

As with most upper end residential subdivisions in this portion of Jessamine County, the housing bubble has had a negative effect on home and lot values within Forest Hills with the average home sale price being $672,803 in 2012 versus $720,000 in 2011, $830,000 in 2010, $1,058,200 in 2009, $919,991 in 2008 and $995,123 in 2007. When the residential lots were originally sold by the developer beginning in 2006 the price was $170,000. In 2012 there was a total of 7 lots which sold for an average of $95,635. However, it is noted that four of the lot sales were a result of bank liquidations which also clearly had an effect on the price of the three private sales within the subdivision. This is in comparison to the average lot price in 2009 of $151,667, the 2007 average of $177,346 and the 2006 average of $170,385. It is noted that no lot sales occurred in 2008, 2010 or 2011. The tables on the following pages detail the lots and house sales which have taken place in Forest Hills subdivision and which are considered for analysis.

FOREST HILLS HOME SALES SORTED BY YEAR

Address	Seller	Buyer	Date of Sale	Price	DB-Pg	SF	BR	BA	1/2 BA	$/SF
622 Burr Oak Dr	Gale Property Management	Alex & Tanya Krueger	11/20/2012	$ 718,500	679-191	NA				NA
708 Chinkapin	Gale Property Management	Victor & Susan Hahn English	10/31/2012	$ 627,105	679-54	NA				NA
			AVERAGE	**$ 672,803**						
612 Burr Oak Dr.	Kerley K. Investments	David & Erika Rohde	11/23/2011	$ 635,000	661-582	3875	4	3	1	$163.87
709 Chinkapin	Dale & Kim Absher	Vivek & Vidya Rangneker	3/28/2011	$ 805,000	651-407	5249	6	6	2	$153.36
			AVERAGE	**$ 720,000**						**$158.62**
631 Burr Oak Dr	Citizens Commerce National Bank	James & Suzanne Elliott	4/9/2010	$ 775,000	636-392	4745	4	3	1	$163.33
635 Burr Oak Dr	McDonald Builders, Inc	ALTAKY, llc	2/24/2010	$ 885,000	635-72	4645	5	5	1	$190.53
			AVERAGE	**$ 830,000**						**$176.93**
631 Burr Oak Dr	Perry Real Estate & Appraising, Inc	Citizens Commerce National Bank	12/23/2009	$ 971,000	633-1	4745	4	3	1	$204.64
728 Chinkapin	MKM Capital, llc	Jeremy Stanley	8/17/2009	$ 705,000	625-62	4310	5	3	1	$163.57
604 Burr Oak Dr.	Landsdowne Properties, Inc	Gery & Lisa Tomassoni	7/30/2009	$ 1,495,000	623-709	5475	4	4	0	$273.06
639 Burr Oak Dr	Eric & Amy Lancaster	Adel & Manal SFAR	7/30/2009	$ 855,000	625-77	5298	4	3	1	$161.38
619 Burr Oak Dr	Billy Clyde Gillispie	Malik Hammad & Nuzhat Naqvi	7/10/2009	$ 1,265,000	622-605	7787	5	5	0	$162.45
			AVERAGE	**$ 1,058,200**						**$193.02**
721 Chinkapin	DLM Business Ventures, Inc	Timothy & Kandy Crabbe	10/3/2008	$ 810,000	610-37	4367	4	4	1	$185.48
720 Chinkapin	DLM Business Ventures, Inc	Marlene & George Helm	8/11/2008	$ 809,243	607-229	4733	3	4	1	$170.98
709 Chinkapin	Jonathan Isaacs	Dale & Kim Absher	2/27/2008	$ 1,185,802	598-46	5249	6	6	2	$225.91
733 Chinkapin	Dale Marshall	Donald & Carol Douglas	2/8/2008	$ 874,917	597-209	4695	4	3	1	$186.35
			AVERAGE	**$ 919,991**						**$192.18**
704 Chinkapin	TL Davis Construction, llc	William D. & Patricia A Bates	12/7/2007	$ 815,000	594-295	4672	4	3	1	$174.44
604 Burr Oak Dr.	Reach-Trinity, llc	Landsdowne Properties, Inc	10/10/2007	$ 1,260,615	591-224	5475	4	4	0	$230.25
619 Burr Oak Dr	Jonathan & Kelly Isaacs	Billy Clyde Gillispie	8/9/2007	$ 1,450,000	588-40	7787	5	5	0	$186.21
623 Burr Oak Dr	Jonathan Isaacs	Michael McBeath	5/25/2007	$ 950,000	582-628	5212	5	6	1	$182.27
627 Burr Oak Dr	George Perry	Christopher & Lisa Rodgers	1/18/2007	$ 500,000	575-694	4866	4	4	1	$102.75
			AVERAGE	**$ 995,123**						**$175.19**
639 Burr Oak Dr	TL Davis Construction, llc	David & Debra Brady	10/13/2006	$ 937,324	571-50	5298	4	3	1	$176.92

FOREST HILLS LOT SALES BY YEAR

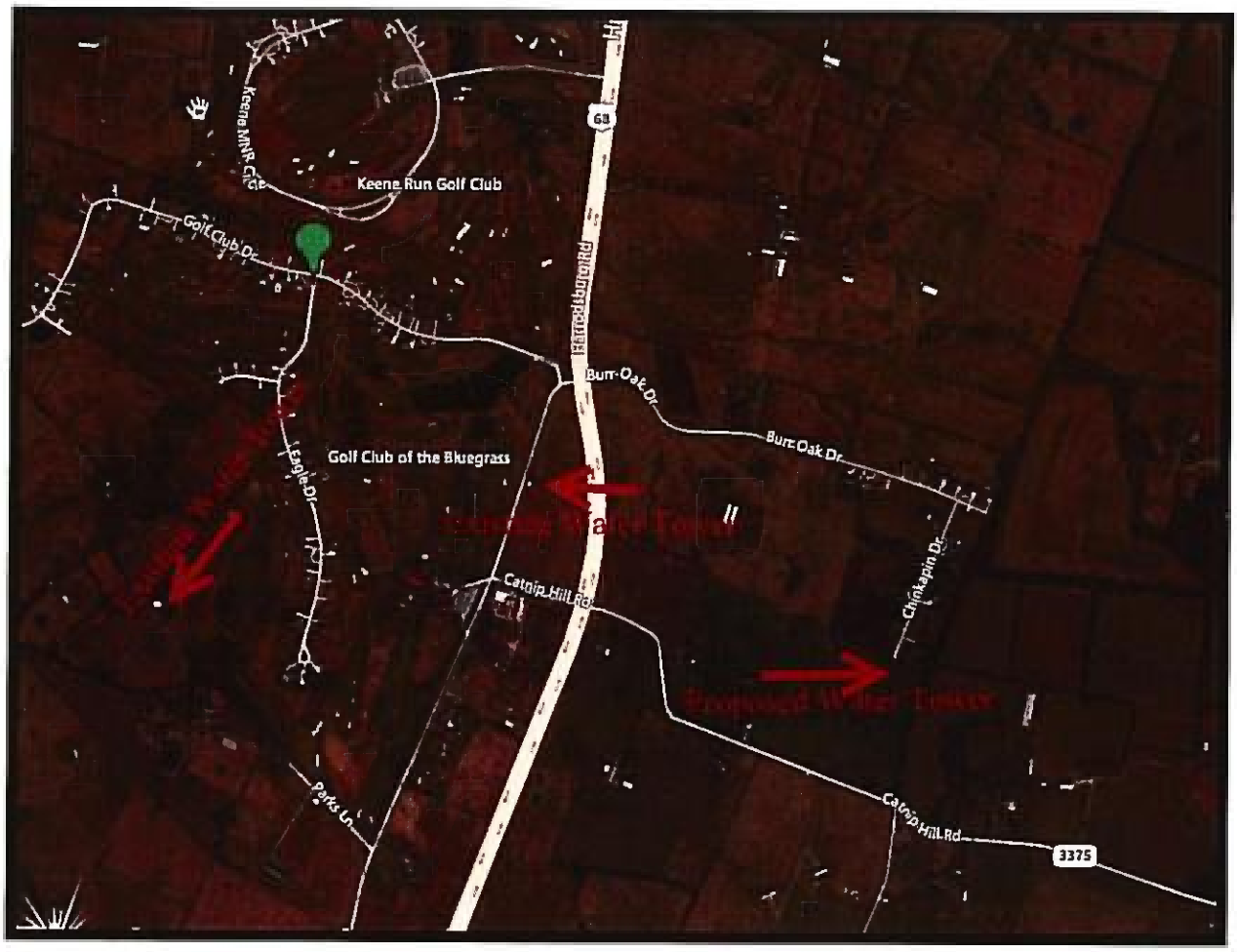
Address	Seller	Buyer	Date of Sale	Price	DB-Pg
405 Burr Oak	PBI Bank, Inc.	Fred & Lori Rutherford	6/15/2012	$ 120,000	671-424
622 Burr Oak Dr	PBI Bank, Inc.	Gale Property Management, llc	5/16/2012	$ 84,000	669-274
729 Chinkapin	Bob O'Connell Builders, llc	Carolyn Wheeler	5/4/2012	$ 100,450	668-597
705 Chinkapin	Farmers Bank & Trust Company	Gale Property Management, llc	4/9/2012	$ 92,000	667-221
725 Chinkapin	PBI Bank, Inc.	Eric & Linda Frankl	3/23/2012	$ 83,000	666-481
708 Chinkapin	Susan English	Gale Property Management, llc	3/15/2012	$ 95,000	666-173
708 Chinkapin	Frank & Susan Entwisle	Susan English	3/5/2012	$ 95,000	665-542
			AVERAGE	**$ 95,636**	
712 Chinkapin	United Bank & Trust	Robert & Sarah Doyle	9/1/2009	$ 145,000	625-436
713 Chinkapin	Farmers Bank & Trust Company	Robert & Sarah Doyle	8/25/2009	$ 145,000	625-164
600 Burr Oak Dr	Terry & Donna Seaborn	Gery & Lisa Tomassoni	7/30/2009	$ 165,000	623-707
			AVERAGE	**$ 151,667**	
733 Chinkapin	Forest Hills Of Kentucky	Dale & Michelle Marshall	3/21/2007	$ 170,000	579-55
631 Burr Oak Dr	McDonald Builders, Inc	Perry Real Estate & Appraising, Inc	3/10/2007	$ 183,845	578-315
709 Chinkapin	MKM Capital, llc	Jonathan & Kelly Isaacs	2/13/2007	$ 180,900	577-126
724 Chinkapin	Paul Vance Construction, Inc	Distinctive Custom Homes, llc	1/16/2007	$ 175,000	575-550
			AVERAGE	**$ 177,436**	
626 Burr Oak Dr	Forest Hills Of Kentucky	TL Davis Construction, llc	12/1/2006	$ 170,000	573-385
724 Chinkapin	Forest Hills Of Kentucky	Paul Vance Construction, Inc	8/10/2006	$ 170,000	567-289
728 Chinkapin	Forest Hills Of Kentucky	MKM Capital, llc	8/4/2006	$ 170,000	567-73
729 Chinkapin	Forest Hills Of Kentucky	Bob O'Connell Builders, llc	5/8/2006	$ 170,000	561-412
612 Burr Oak Dr	Forest Hills Of Kentucky	Kerley K Investments, llc	4/26/2006	$ 170,000	560-522
619 Burr Oak Dr	Forest Hills Of Kentucky	Jonathan & Kelly Isaacs	4/22/2006	$ 170,000	560-453
600 Burr Oak Dr	Forest Hills Of Kentucky	Terry & Donna Seaborn	4/18/2006	$ 175,000	560-241
604 Burr Oak Dr	Forest Hills Of Kentucky	Reach-Trinity, llc	4/18/2006	$ 175,000	560-229
627 Burr Oak Dr	Forest Hills Of Kentucky	George & Patty Perry	4/13/2006	$ 170,000	560-75
704 Chinkapin	Forest Hills Of Kentucky	TL Davis Construction, llc	3/31/2006	$ 170,000	559-193
639 Burr Oak Dr	Forest Hills Of Kentucky	TL Davis Construction, llc	3/15/2006	$ 170,000	558-140
708 Chinkapin	Forest Hills Of Kentucky	Frank & Susan Entwisle	3/6/2006	$ 165,000	557-400
623 Burr Oak Dr	Forest Hills Of Kentucky	Jonathan & Kelly Isaacs	2/7/2006	$ 170,000	556-169
			AVERAGE	**$ 170,385**	

MARKET ANALYSIS – EAGLE DRIVE (HARRODS RIDGE SUBDIVISION)

Located across U.S. 68 from Forest Hills subdivision is a comparable residential subdivision known as Harrods Ridge. Harrods Ridge began developing in 2004 around a public golf course known as Golf Club of the Bluegrass Golf Course. Similar to Forest Ridge Harrods Ridge was also developed under the cluster ordinance. This subdivision is significant for comparison for the reason that it is located across U.S. 68 from Forest Hills, was developing in a similar time frame as Forest Hills, and the lots and homes in the subdivision are of a similar size, quality and value range as Forest Hills. Included on the following page is an aerial photo which shows the proximity of the two subdivisions with Harrods Ridge being west of U.S. 68 and Forest Hills east. Harrods Ridge is also significant to the analysis for the reason that Eagle Drive which was plated in 2005 has proximity to and is within the viewshed of an existing 500,000 gallon elevated water storage tank as well as the existing 50,000 gallon tank that is located in front of Forest Hills.

View of 50KG Tank From Eagle Drive

AERIAL PHOTO HARRODS RIDGE & FOREST HILLS SUBDIVISION



The following is a summary of facts related to Eagle Drive within the Harrods Ridge subdivision.

- 24 Lots Developed in 2005
- 17 Existing Homes & 2 Under Construction
- Average Home is 8,342 SF & Custom
- The 2013 average assessment is $846,980

As indicated by a comparison of the statistics, Harrods Ridge subdivision and specifically Eagle Drive is very comparable to Forest Hills and therefore a reasonable comparable.

TYPICAL HOME ALONG EAGLE DRIVE

Homes which have an even address along Eagle Drive back to an existing 500,000 gallon elevated water storage tank and have visibility of an existing 50,000 gallon tank from the front. Homes with an odd address back to the existing 50,000 gallon elevated storage tank that is located in front of Forest Hills subdivision and are within the viewshed of the 500,000 gallon tank from the front. The following are photographs of the existing 500,000 gallon tank taken at various points along Eagle Drive.

View of 500KG tank from Eagle Drive Cul-De-Sac

View of 500KG tank Behind 302 Eagle Drive

View of 500KG Tank Between 300 & 302 Eagle Drive From Street

Included in the following pages are summary tables of lot and homes sales which have occurred along Eagle Drive as well as lot and homes sales from Golf Club Drive of Harrods Ridge. A comparison of these two streets is significant to this analysis for the reason that a majority of the lots/homes along Golf Club Drive are not within the viewshed of 500KG tank. Some of the lots towards the front of the subdivision are within the viewshed of the 50,000 gallon tank but because many of the lots/homes within Forest Hills are also within the viewshed of the 50,000 gallon tank a comparison can be made.

EAGLE DRIVE LOT SALES HARRODS RIDGE SUBDIVISION BY YEAR

Address	Seller	Buyer	Date of Sal	Price	DB-Pg
306 Eagle Drive	Mainsource Bank	Collier Custome Homes, Inc.	7/12/2012	$ 150,000	672-466
301 Eagle Drive	Mainsource Bank	Collier Custome Homes, Inc.	7/12/2012	$ 150,000	672-466
310 Eagle Drive	Collier Custom Homes, llc	Kota Gopinath & Sirisha Perumandla	6/30/2012	$ 152,000	671-577
			AVERAGE	$ 150,667	
313 Eagle Drive	Design Traditions, Inc	R & J Peterson, Inc.	11/22/2010	$ 225,000	645-347
312 Eagle Drive	Design Traditions, Inc	R & J Peterson, Inc.	11/22/2010	$ 225,000	645-350
			AVERAGE	$ 225,000	
308 Eagle Drive	Design Traditions, Inc	Juan & Araceli Cervantes	5/30/2007	$ 200,000	583-79
			AVERAGE	$ 200,000	
303 Eagle Drive	Design Traditions, Inc	Collier Custome Homes, Inc.	9/27/2006	$ 189,000	570-157
302 Eagle Drive	Design Traditions, Inc	Collier Custome Homes, Inc.	3/30/2006	$ 189,000	559-120
300 Eagle Drive	Design Traditions, Inc	Frederick H. & Kathy L Gorsline	2/21/2006	$ 189,000	556-600
			AVERAGE	$ 189,000	
316 Eagle Drive	Design Traditions, Inc	Clyde M. Strassner Revocable Trust	12/30/2005	$ 219,000	554-24
102 Silver Fox Drive	Design Traditions, Inc	Drew Rice Construction, llc	7/27/2005	$ 179,000	544-148
203 Eagle Drive	Design Traditions, Inc	James W. Davis	7/5/2005	$ 179,000	542-501
201 Eagle Drive	Design Traditions, Inc	Collier Custome Homes, Inc.	5/25/2005	$ 179,000	539-611
205 Eagle Drive	Design Traditions, Inc	Mondelli-Blair Ventures, LLC	4/18/2005	$ 179,000	537-456
100 Silver Fox Drive	Design Traditions, Inc	Collier Custome Homes, Inc.	4/5/2005	$ 179,000	536-600
			AVERAGE	$ 185,667	

* Lots Which Back To 50KG Tank

* Lots Which Do Not Back or Cant See Tank

Eagle Drive Home Sales Harrods Ridge Subdivision By Year

Address	Seller	Buyer	Date of Sale	Price	DB-Pg	SF	BR	BA	1/2 BA	$/SF
304 Eagle Drive	Daniel Adkins Designs, Inc	Rocky Williams	9/20/2012	$ 699,000	676-41	NA				NA
308 Eagle Drive	Juan & Araceli Cervantes	Jinzhong & Wei Cai Xu	8/22/2012	$ 720,000	674-647	5658	4	4	0	$127.25
302 Eagle Drive	Collier Custom Homes, Inc.	George & Kimberly Graham	7/31/2012	$ 829,000	673-334	5196	4	4	1	$159.55
106 Silver Fox Drive	Kathy A Bartal	Donald E. & Patrical Keaton	7/30/2012	$ 753,440	673-308	5402	4	3	1	$139.47
			AVERAGE	**$ 750,360**						NA
203 Eagle Drive	Jason & Stacy A. Broyles	Ayesha Shaikh	2/25/2011	$ 652,000	649-366	5886	5	8	1	$110.77
			AVERAGE	**$ 652,000**						**$110.77**
208 Eagle Drive	Design Traditions, Inc.	Ronald & Michelle Binkauskas	12/2/2010	$ 850,000	645-710	5026	5	5	1	$169.12
210 Eagle Drive	Design Traditions, Inc.	Jesse W. Rice Revocable Trust	6/25/2010	$ 724,843	640-44	4401	4	5	0	$164.70
300 Eagle Drive	Frederick J. & Kath L Gorslin	Cecil L. & Carol S. Rutherford	1/28/2010	$ 677,000	633-353	5039	4	5	0	$134.35
			AVERAGE	**$ 750,614**						**$156.06**
314 Eagle Drive	Design Traditions, Inc.	Joshua P & Whitney L Steiner	11/21/2007	$ 1,268,917	593-540	4839	4	5	1	$262.23
104 Silver Fox Drive	Design Traditions, Inc.	Alexandre V. & Christina Bioko	7/23/2007	$ 830,000	586-270	5209	4	4	1	$159.34
203 Eagle Drive	James W. Davis	Jason & Stacy A. Broyles	3/23/2007	$ 825,000	579-145	5886	5	8	1	$140.16
			AVERAGE	**$ 974,639**						**$187.24**
205 Eagle Drive	Mondelli-Blair Ventures, LL	Samuel H & Mary Lou Clymer II	6/30/2006	$ 1,074,000	564-620	5080	4	4	1	$211.42
101 Silver Fox Drive	Design Traditions, Inc.	John & Kimberly A. Billings	6/23/2006	$ 811,700	564-327	4708	5	5	1	$172.41
100 Silver Fox Drive	Collier Custom Homes, Inc.	Keith A & Jacquelynne S. Tamn	5/3/2006	$ 889,000	561-239	4987	4	4	1	$178.26
			AVERAGE	**$ 924,900**						**$187.36**
201 Eagle Drive	Collier Custom Homes, Inc.	Ryan D & Kanki Smitn-Waddles	12/30/2005	$ 728,320	554-82	4317	4	3	2	$168.71
			AVERAGE	**$ 728,320**						**$168.71**
* Houses Which Back to 500KG Tank										
* Houses Which Do Not Back or Cant See Tank										

LOT SALES GOLF CLUB DRIVE HARRODS RIDGE SUBDIVISION

Address	Seller	Buyer	Date of Sale	Price	DB-Pg
210 Golf Club Drive	Mainsource Bank	Joseph Whitney & Jean Ann Wallingford, II	10/6/2011	$ 95,000	659-137
			AVERAGE	**$ 95,000**	
211 Golf Club Drive	Collier Custom Homes, Inc	Design Traditions, Inc.	9/1/2006	$ 189,000	568-501
210 Golf Club Drive	Design Traditions, Inc.	Sherman W. & Wanda J. Davis	7/22/2006	$ 179,000	566-171
			AVERAGE	**$ 184,000**	
111 Golf Club Drive	Kentucky Classic Homes, Inc.	Design Traditions, Inc.	11/2/2005	$ 179,800	550-342
208 Golf Club Drive	Design Traditions, Inc.	Drew Rice Construction, llc	10/28/2005	$ 189,000	550-120
214 Golf Club Drive	Design Traditions, Inc.	Jerrico Builders, llc	9/30/2005	$ 189,000	548-220
211 Golf Club Drive	Design Traditions, Inc.	Collier Custom Homes, Inc	9/13/2005	$ 189,000	547-86
209 Golf Club Drive	Design Traditions, Inc.	Jerrico Builders, llc	8/19/2005	$ 189,000	545-657
206 Golf Club Drive	David H & Judy W. Crouse, Jr.	Design Traditions, Inc.	7/22/2005	$ 177,773	543-625
201 Golf Club Drive	Design Traditions, Inc.	James W. Davis	7/5/2005	$ 179,000	542-504
105 Golf Club Drive	Design Traditions, Inc.	Jesse W. & Patricia A. Rice	6/2/2005	$ 169,900	540-143
204 Golf Club Drive	Design Traditions, Inc.	John T. & Rosemarie Syvertsen	1/25/2005	$ 169,900	532-353
			AVERAGE	**$ 181,375**	
205 Golf Club Drive	Design Traditions, Inc.	Jonathan & Kelly Isaacs	11/22/2004	$ 169,900	528-688
101 Golf Club Drive	Design Traditions, Inc.	James Daniel & Gilda B Adkins	11/17/2004	$ 170,000	528-501
109 Golf Club Drive	Design Traditions, Inc.	Drew Rice Construction, llc	11/15/2004	$ 169,900	528-275
203 Golf Club Drive	Design Traditions, Inc.	Drew Rice Construction, llc	11/15/2004	$ 169,900	528-277
104 Golf Club Drive	Design Traditions, Inc.	Jonathan & Kelly Isaacs	11/2/2004	$ 169,900	528-691
200 Golf Club Drive	Design Traditions, Inc.	Anthony Collier	11/1/2004	$ 169,900	527-371
106 Golf Club Drive	Design Traditions, Inc.	Mondelli Homes, Inc	10/25/2004	$ 169,900	527-131
110 Golf Club Drive	Design Traditions, Inc.	Manuel & Esperanza Hernandez	10/25/2004	$ 169,900	527-122
			AVERAGE	**$ 169,913**	

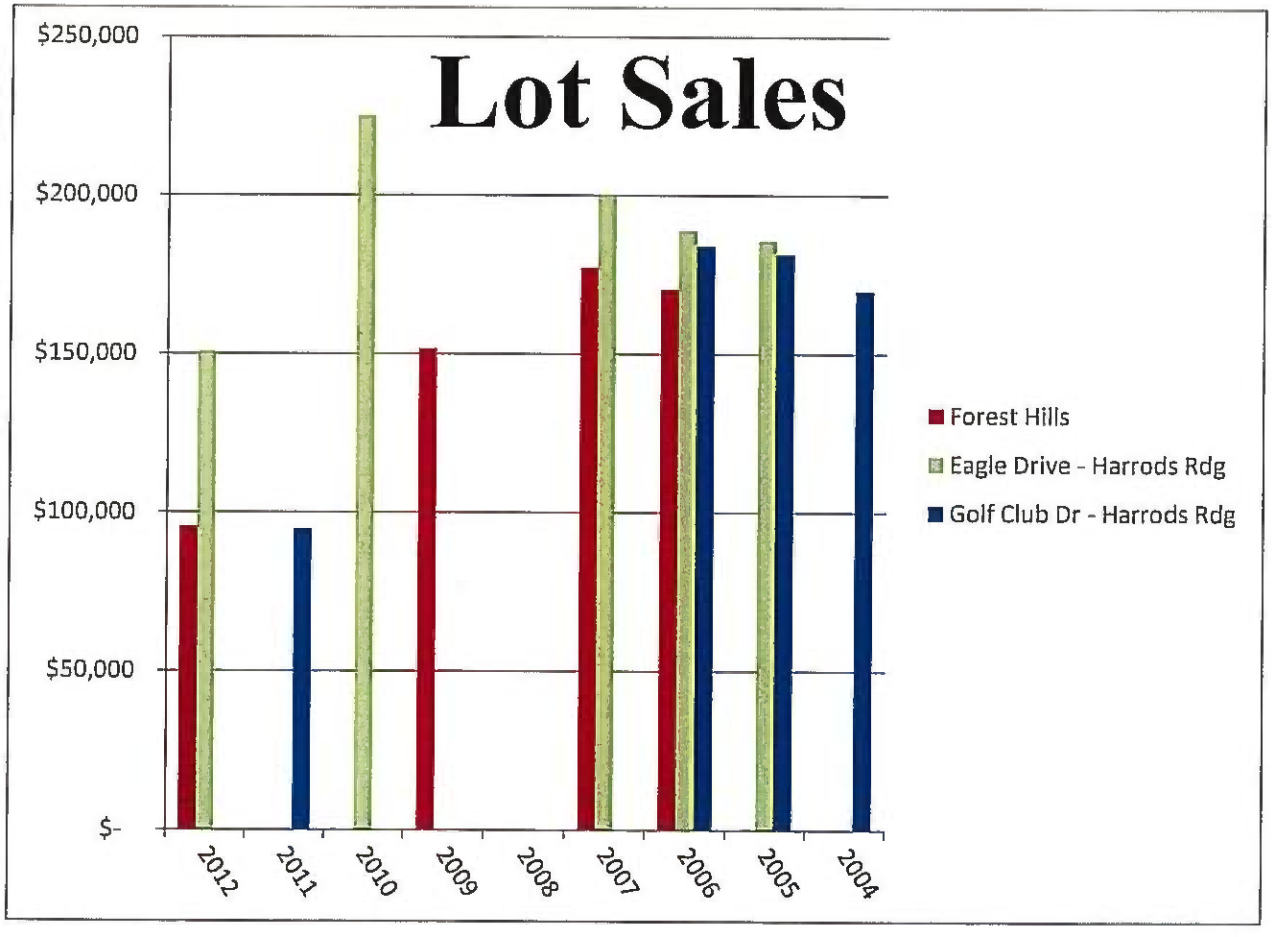
HARRODS RIDGE - GOLF CLUB DRIVE HOUSE SALES										
Address	Seller	Buyer	Date of Sale	Price	DB-Pg	SF	BR	BA	1/2 BA	$/SF
204 Golf Club Drive	Community Trust Bank, Inc.	Mitchell K. & Jennifer E. Skaggs	8/21/2012	$ 750,000	674-547	4943	4	4	2	$151.73
			AVERAGE	**$ 750,000**						
209 Golf Club Drive	Community Trust Bank, Inc.	Hina Naz	10/21/2011	$ 790,000	660-630	5983	4	3	1	$132.04
216 Golf Club Drive	Community Trust Bank, Inc.	Vincent E. & Tonya R. Gabbert	6/2/2011	$ 760,000	653-463	5011	4	4	1	$151.67
218 Golf Club Drive	Bill & Probel Jennifer Waits	Robert & Ellen Compton	3/23/2011	$ 773,000	650-540	5770	4	4	1	$133.97
110 Golf Club Drive	Manuel & Esperanza Hernandez	JB & SB Homestead, LLC	9/6/2011	$ 1,165,000	657-614	5970	6	8	0	$195.14
			AVERAGE	**$ 872,000**						**$139.23**
101 Golf Club Drive	James Daniel & Gilda B Adkins	Aslam & Shireen Ahmad	10/2/2009	$ 1,000,000	627-309	6835	4	4	1	$146.31
			AVERAGE	**$ 1,000,000**						**$146.31**
213 Golf Club Drive	Design Traditions, Inc	Jawad J. & Rihab Rayyan	10/20/2008	$ 800,000	610-587	4751	4	3	1	$168.39
214 Golf Club Drive	Jerrico Builders, llc	Michael S. & Glenda Kay Graff	9/29/2008	$ 1,000,000	CD18-282	6770	4	3	2	$147.71
217 Golf Club Drive	Design Traditions, Inc	Umar & Asma H. Murad	8/29/2008	$ 980,000	608-303	6349	4	3	1	$154.36
211 Golf Club Drive	Design Traditions, Inc	Yuming & Hong Shao Zhang	7/13/2008	$ 980,000	606-645	4798	4	4	1	$204.25
205 Golf Club Drive	Seven MS, llc	Ryan & Crystal McCauley	7/10/2008	$ 858,298	605-561	4899	4	4	0	$175.20
216 Golf Club Drive	Jonathan & Kelly Isaacs	Community Trust Bank, Inc.	5/23/2008	$ 986,017	602-707	5011	4	4	1	$196.77
111 Golf Club Drive	Design Traditions, Inc	Leonard & Joann D. Daniels-Smith	5/5/2008	$ 975,000	602-153	4544	5	6	1	$214.57
201 Golf Club Drive	Bank of New York Trustee	Amjad Abuhanieh	4/15/2008	$ 834,000	601-139	4325	4	3	1	$192.83
109 Golf Club Drive	Community Trust Bank, Inc.	Gary Michael & Amy Ditty Huff	3/20/2008	$ 775,000	599-313	3973	6	5	1	$195.07
208 Golf Club Drive	First Independence Bank	E. Tyler & Susan C Wilson	3/14/2008	$ 720,000	599-87	4147	4	3	0	$173.62
218 Golf Club Drive	Design Traditions, Inc	Bill & Probel Jennifer Waits	3/4/2008	$ 1,030,000	598-378	5770	4	4	1	$178.51
			AVERAGE	**$ 903,483**						**$181.93**
205 Golf Club Drive	Wellings Properties, llc	Seven MS, llc	11/20/2007	$ 858,298	593-467	4899	4	4	0	$175.20
202 Golf Club Drive	Kentucky Classic Homes, Inc	John M. & Garilynn Rossi	10/3/2007	$ 750,000	591-31	5237	5	5	0	$143.21
205 Golf Club Drive	Ryan & Crystal McCauley	Wellings Properties, llc	8/14/2007	$ 858,298	588-199	4899	4	4	0	$175.20
219 Golf Club Drive	Design Traditions, Inc	Ann F. & David G. Vezina	7/18/2007	$ 1,294,670	586-117	5003	4	4	1	$258.78
106 Golf Club Drive	Charles W. Mondelli & Robert McQueary	Matthew D. & Connie R. Clift	3/23/2007	$ 1,145,000	579-142	5683	4	5	1	$201.48
206 Golf Club Drive	Design Traditions, Inc	Donna Covington	2/28/2007	$ 912,000	577-605	5725	4	4	1	$159.30
			AVERAGE	**$ 969,711**						**$185.53**
215 Golf Club Drive	Design Traditions, Inc	Stephen A. & Lisa D. Schantz	12/15/2006	$ 1,381,757	574-262	5854	4	3	1	$236.04
205 Golf Club Drive	Jonathan & Kelly Isaacs	Ryan & Crystal McCauley	11/15/2006	$ 1,049,000	572-650	4899	4	4	0	$214.13
108 Golf Club Drive	Davie H. & Judy W. Crouse, Jr.	Jeffrey B. & Lora Kay Carter	9/26/2006	$ 965,000	570-141	3397	4	4	0	$284.07
102 Golf Club Drive	Design Traditions, Inc	Douglas S & Terri L Vyverberg	7/21/2006	$ 915,000	566-119	5161	4	4	0	$177.29
100 Golf Club Drive	Design Traditions, Inc	Duane T. & Celaine Rolando	6/30/2006	$ 1,222,962	564-616	5410	5	3	1	$226.06
207 Golf Club Drive	Design Traditions, Inc	James W. & Judy Diane Kelley	6/12/2006	$ 980,000	563-571	5672	4	4	1	$172.78
104 Golf Club Drive	Jonathan & Kelly Isaacs	Richard H & Mary F Ord	5/16/2006	$ 1,200,000	562-109	6201	5	5	1	$193.52
			AVERAGE	**$ 1,101,960**						**$214.84**
203 Golf Club Drive	Drew Rice Construction, llc	Kenneth J. & Clarinda K Francke	12/2/2005	$ 899,000	552-151	4342	4	4	1	$207.05
107 Golf Club Drive	Design Traditions, Inc	Stephen & Michele Angelo Jr	10/19/2005	$ 1,060,000	549-353	6107	5	5	1	$173.57
103 Golf Club Drive	Design Traditions, Inc	Gino & Karen Guarnieri	9/19/2005	$ 865,000	547-429	4828	4	3	1	$179.16
			AVERAGE	**$ 941,333**						**$186.59**

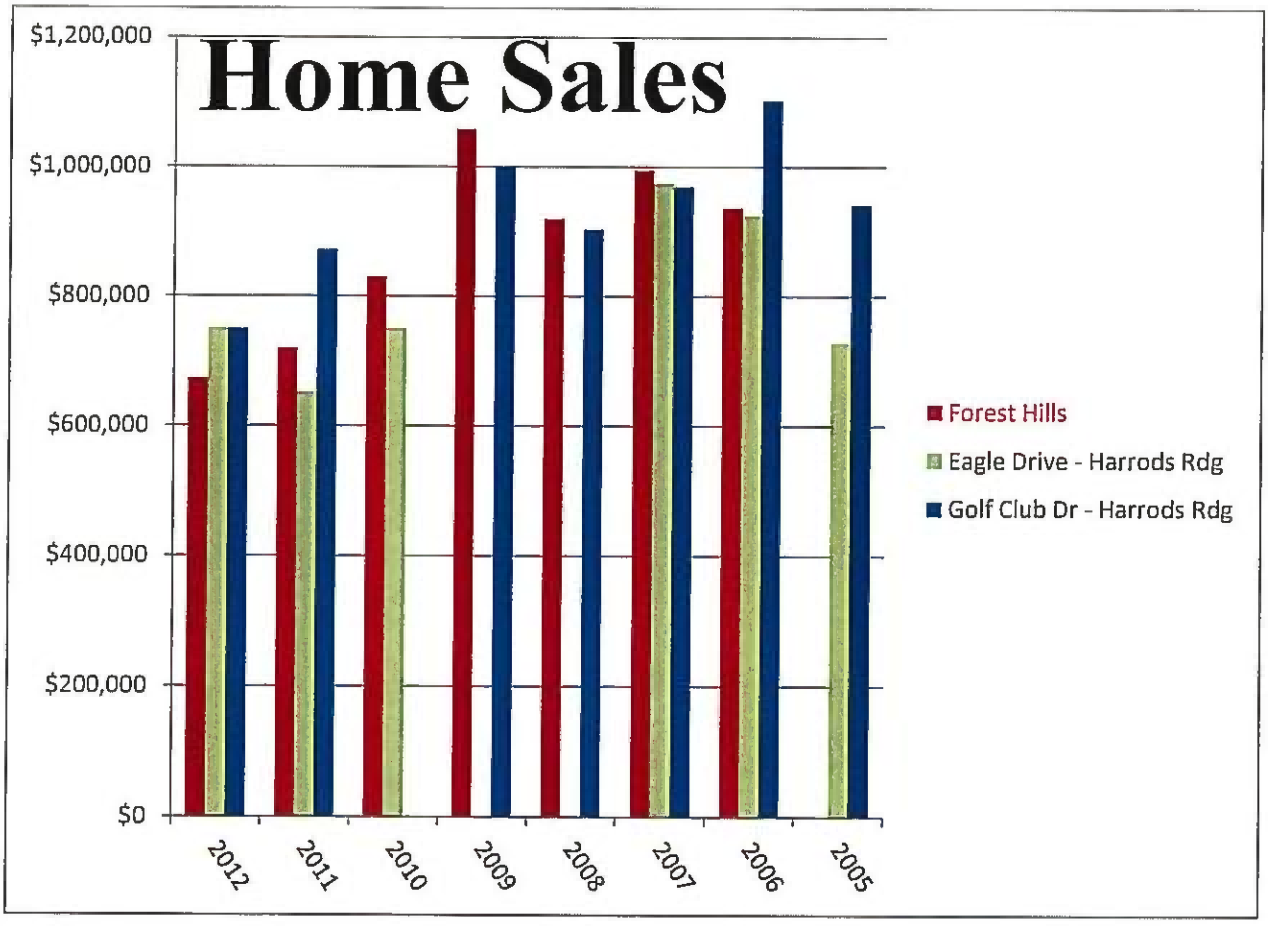
The following table shows a summary of the average sale prices for lot and homes within Forest Hills, the location of the proposed tank, Eagle Drive in Harrods Ridge subdivision which is within the viewshed of a 500KG tank and a 50KG tank and Golf Club Drive in Harrods Ridge subdivision.

SUMMARY OF SALE DATA

Lot Sales Avg.	2012	2011	2010	2009	2008	2007	2006	2005	2004
Forest Hills	$ 95,636	$0	$0	$151,667	$0	$177,346	$170,385	$0	
Annual Change in Value	-12.31%			-7.24%		4.09%			
Eagle Drive - Harrods Rdg	$150,667	$0	$225,000	$0	$0	$200,000	$189,000	$185,667	
Annual Change in Value	-16.52%		4.17%			5.82%	1.80%		
Golf Club Dr - Harrods Rdg		$95,000					$184,000	$181,375	$169,913
Annual Change in Value		-9.67%					1.45%	6.75%	

Homes Sale Avg.	2012	2011	2010	2009	2008	2007	2006	2005
Forest Hills	$672,803	$720,000	$830,000	$1,058,200	$919,991	$995,123	$937,324	
Annual Change in Value	-6.56%	-13.25%	-21.56%	15.02%	-7.55%	6.17%		
Eagle Drive - Harrods Rdg	$750,360	$652,000	$750,614	$0	$0	$974,639	$924,900	$728,320
Annual Change in Value	15.09%	-13.14%	-7.66%			5.38%	26.99%	
Golf Club Dr - Harrods Rdg	$750,000	$872,000	$0	$1,000,000	$903,483	$969,711	$1,101,960	$941,333
Annual Change in Value	-13.99%	-6.40%		10.68%	-6.83%	-12.00%	17.06%	





An analysis of this data indicates that Forest Hills, Eagle Drive and Golf Club Drive within Harrods Ridge have all experienced a decline in both lot and homes values which began between 2007 and 2009 for lots and between 2009 and 2010 for improved homes. Although some variance does exist from year to year between the three study groups, the trend is very similar which indicates that the decline in values is related to the real estate cycle versus the knowledge of the proposed storage tank by the Forest Hills neighbors at the JSEWD meeting on June 9, 2010.

For the reason that several of the years have limited data which can skew average values and in consideration that the homes within Forest Hills and Harrods Ridge are custom and prices can vary significantly as a result of different levels of quality, finish, design and square footage, the better comparison for isolating any change in value as a result of proximity to or being within the viewshed of a large elevated water storage tank is realized from a comparison of lot sales. The following is an analysis of those sales;

- The 2012 Lot sales involving 301 Eagle Drive ($150,000) which does not back to the larger 500KG tank sold to the same buyer and for the same price as 306 Eagle Drive ($150,000) which backs to the larger 500KG tank. The same was true for the 2010 sale involving 312 & 313 Eagle Drive and the 2006 sale of 302 & 303 Eagle Drive. This would indicate that there is no difference in value as a result of backing to the large elevated water storage tank.


2010 Lot Sales
Existing 500,000 Gallon Water Tank
Existing 50,000 Gallon Water Tank
311 Eagle Drive
DOS: 11-22-2010
Price: $125,000
Grantor: Design Traditions, Inc.
Grantee: R & J Peterson, Inc.
313 Eagle Drive
DOS: 11-22-2010
Price: $125,000
Grantor: Design Traditions, Inc.
Grantee: R & J Peterson, Inc.


2006 Lot Sales
Existing 500,000
Gallon Water Tank
Existing 50,000
Gallon Water Tank
Golf Club Dr
Eagle Dr
Harrodsburg Rd
68
W Catnip Hill Rd
Parks Ln
302 Eagle Drive
DOS: -30-2006
Price: $189,000
Grantor: Design Traditions, Inc.
Grantee: Collier Custome Homes, Inc.
303 Eagle Drive
DOS: 09-27-2006
Price: $189,000
Grantor: Design Traditions, Inc.
Grantee: Collier Custome Homes, Inc.

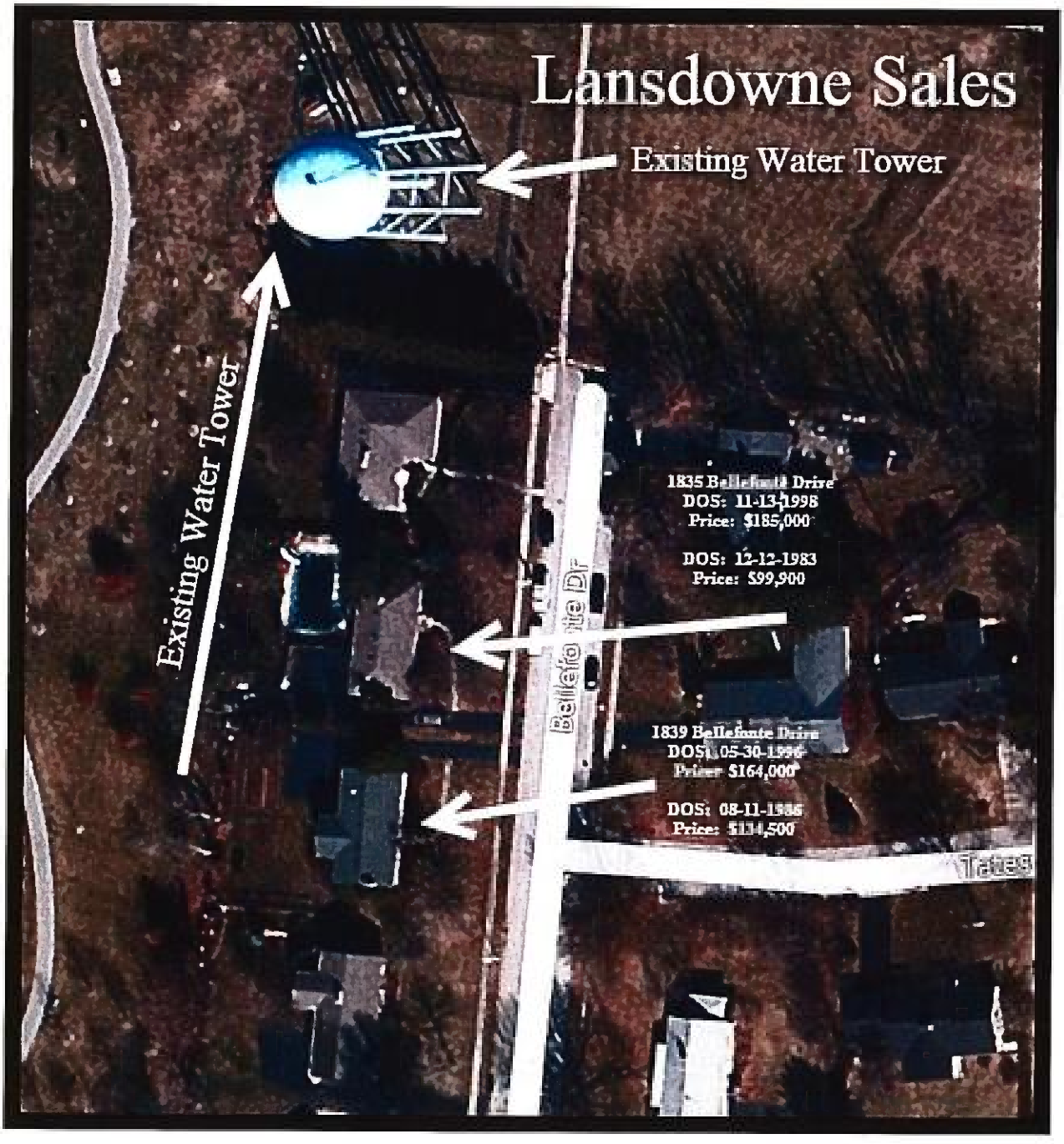
- The 2006 sale of 300 Eagle Drive ($189,000) which backs to the 500KG tank sold for the same price as 303 Eagle Drive ($189,000) which is across the street with different buyers. This would indicate that there is no difference in value as a result of backing to the large elevated water storage tank.

- The 2005 sale of 100 Silver Fox Drive ($179,000) which is located on the corner of Eagle Drive but where its viewshed of the tank is blocked by the house at 101 Silver Fox Drive demands the same price as 102 Silver Fox ($179,000), 201, 203, and 205 Eagle Drive ($179,000) all of which are in the viewshed from the front of the house. This would indicate that there is no difference in value as a result of being within the viewshed of a large elevated water storage tank.

- The 2006 sales at 300,302 and 303 Eagle Drive ($189,000) demanded similar prices to the properties at 211 and 210 Golf Club Drive ($179,000 & $189,000), neither of which are within the viewshed of either tank. This would indicate that there is no difference in value as a result of being within the viewshed of a large elevated water storage tank.

MARKET ANALYSIS – ARBORETUM WATER TANK SITE FAYETTE COUNTY

Located within the Arboretum on the University of Kentucky Campus and lying next to Lansdowne Shadeland neighborhood is a 500KG elevated water storage tank which has a high water elevation of 1185 feet which is slightly higher than the proposed subject at 1172 feet. The analysis has focused on two historical sales of residencies which are in close proximity to the described elevated water tank and the termination of Bellefonte Drive.



Property	Sale Price	Sale Date	Prior Sale Price	Prior Sale Date	Annual % Change	Neighborhood Annual % Change
1839 Bellefonte Drive	$164,000	5/30/1996	$134,500	8/11/1986	2.00%	2.38%
1835 Bellefonte Drive	$185,000	11/13/1998	$99,900	12/12/1983	4.19%	3.66%

The analysis has relied on the back to back sales of each property as well as a comparison to the overall average change in values within the larger subdivision during each of the time periods covered. The data is significant to the question of the effects of proximity to a large elevated water storage tank in that both sales show a substantial increase in relative value between each of their respective sale dates. In comparison to the larger subdivision it was found that the property at 1839 Bellefonte slightly lagged the larger subdivision in terms of the average annual rate of appreciation while the sale at 1835 Bellefonte exceeded the annual average increase found in the larger neighborhood. As such, the data indicates that proximity to a large elevated water storage tank does not support a diminution in value.

CONCLUSIONS

The analysis of the data provides the following conclusions;

- Forest Hills, Eagle Drive and Golf Club Drive within Harrods Ridge have all experienced a decline in both lot and homes values which began between 2007 and 2009 for lots and between 2009 and 2010 for improved homes. This trend has continued through 2012 where the market appears to have stabilized given the number of transactions which have occurred in 2012.

- Although some variance does exist from year to year between the three Jessamine County study groups, the trend is very similar which indicates that the decline in value is related to the real estate cycle versus the knowledge of the proposed storage tank by the Forest Hills neighbors at the JSEWD meeting on June 9, 2010.

- The lots within Harrods Ridge along Eagle Drive which are within the viewshed of the 500KG and 50KG tank have consistently sold at or above those lots along Golf Club Drive which are not within the viewshed. This indicates that there is no market evidence of any diminution in value as a result of being within the viewshed of a large elevated water storage tank.

- Lot prices along Eagle Drive have consistently been higher than those within Forest Hills even though Eagle Drive is within the viewshed of a 500KG elevated storage tank and a 50KG elevated storage tank.

- No variation in lot prices was indicated for those which are within the viewshed of the existing 50KG tank versus the 500KG tank. As such, the fact that the proposed tank has a capacity of 1MG is not anticipated to result in a different conclusion.

- Close proximity to an elevated water storage tank does not result in a diminution in market value.

EVALUATION OF

JESSAMINE-SOUTH ELKHORN WATER DISTRICT WATER TANK SITING STUDY

By

PhotoScience

January 3, 2013

CONSTRUCTION PLANS

JESSAMINE - SOUTH ELKHORN WATER DISTRICT

CATNIP HILL PIKE 1.0 MG ELEVATED STORAGE TANK

WX21113016
PROJECT# 3569
SAI# KY200708131128
JESSAMINE COUNTY, KENTUCKY

NOVEMBER 2010

OWNER
JESSAMINE - SOUTH ELKHORN
WATER DISTRICT (859) 881-0589
802 SOUTH MAIN STREET, NICHOLASVILLE, KY. 40356

HORNE ENGINEERING, INC.
ENGINEERS - PLANNERS - LAND SURVEYORS
216 SOUTH MAIN STREET - NICHOLASVILLE, KY. 40356
(859) 885-9441 FAX (859) 885-5160

COMMISSIONERS
L. NICHOLAS STRONG - CHAIRMAN
JERRY HAWS - VICE CHAIRMAN
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JAMES HALL - TREASURER
JOHN BLACKFORD - VICE SECRETARY

GLENN T. SMITH - MANAGER / OPERATOR
DIANA CLARK - OFFICE MANAGER

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1 SITE PLAN
2 STORM PROFILE/DETAILS
3 ELEVATION VIEW
4 ACCESS ROAD PLAN & PROFILE
5 FENCE/REGRADE PLAN
6 LANDSCAPE & EROSION PLAN

Prepared by:
Horne Engineering, Inc.
216 S. Main Street
Nicholasville, KY 40356

John G. Horne, PE, PLS

February 22, 2013

JSEWD – Exhibit 03

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EVALUATION OF
JESSAMINE-SOUTH ELKHORN WATER DISTRICT
WATER TANK SITING STUDY
By:
PhotoScience
January 3, 2013

STATEMENT OF PURPOSE

The purpose of this report is to present an evaluation of the correctness and applicability of the siting study which was conducted by PhotoScience in regards to the proposed 1.0 MG Elevated Storage Tank located on the property owned by Jessamine-South Elkhorn Water District and commonly known as the Switzer site. This evaluation will consist of the following categories:

- Applicability of EPRI Siting Method
- Engineering Criteria Applicable to Water Storage/Distribution
- Evaluation of PhotoScience Methodology
- Costing of Proposed Alternates
- Evaluation of Proposed Sites Alternate
- Conclusions

This analysis does not purport to dispute or debate the applicability of the EPRI/GTC Overhead Electric Transmission Line Siting Methodology as it is applied to electric transmission line location, but does take exception to the hypothesis that the PhotoScience study is an application of this method or in fact that the EPRI/GTC Overhead Electric Transmission Line Siting Methodology is even applicable to locating an elevated water storage tank.

METHODOLOGY

This evaluation consisted of review of the siting study completed by PhotoScience dated January 3, 2013 and the EPRI/GTC Overhead Electric Transmission Line Siting Methodology, Technical Report (on which the PhotoScience study was based), with the purpose to evaluate the applicability of PhotoScience's method and present conclusion resulting from this evaluation. Insofar as the study was strongly deficient in the applicable engineering criteria relating to water storage and distribution, this evaluation will apply the appropriate engineering criteria to the alternate sites selected by the PhotoScience Siting Study and from that information will then complete an evaluation of the proposed site and alternates with the determination of that site which is deemed to be the most appropriate.

APPLICABILITY OF EPRI SITING METHOD

PhotoScience employed a computer modeling program which they termed "EPRI Siting Methodology" in their evaluation of the proposed Jessamine-South Elkhorn Water District tank site. In their introductory paragraph, it was stated that this is a methodology that was developed to analyze siting of electric transmission lines. Also, although not stated, it is implied that the employed method is analogous to the EPRI/GTC Overhead Electric Transmission Line Siting Methodology.

One should note that there are significant differences between a high-voltage electrical transmission line and a water distribution system. The most obvious of which, is that the majority of a water system consists of pipes buried beneath the ground and the only mandatory aboveground components of the system are elevated water storage tanks.

In mountainous terrain it is even conceivable that the water storage tank can be belowground, in that it can be constructed on or near the top of the mountain.

Further, to state that "electric transmission structures and large aboveground water tanks can have similar impacts of the environment" is tantamount to saying an 18-wheeler and a yacht would have the same impact. All transmission structures have overhead lines leading to and leaving from, they are placed in series in a linear form and generally offer an unobstructed view, insofar as they are constructed in cleared right-of-ways. The structures are skeleton in form, supported on one or two legs, and generally are placed in a uniform linear spacing, Whereas, an elevated water storage tank is an isolated structure generally ovaloid in shape supported on several legs.

The reason for elevating the storage tank is to maintain the appropriate pressure head required by the hydraulic gradient of the distribution system, (i.e., the pressure is generated by the elevated position of the water). The water is delivered to elevated storage via booster pumps which transmits the water from the connection with a supplier and once placed in an elevated storage position, the elevation provides a uniform pressure head for delivery to the consumer. The key element is that most or all of the components of the distribution system are buried and not visible, while the visible components are mostly fire hydrants and storage tanks. All components of a high voltage transmission line , including the supporting tower structures and the transmission wires, are visible to the public – and in all cases this is exacerbated by the fact that the route must be contained in a right-of-way that is essentially void of all trees and structures ranging in width from 100-1,000 feet, resulting in an appearance of a highway. This is in drastic

contrast to the water system that would only have isolated structures visible on the landscape.

In the simplest form, the EPRI/GTC Overhead Electric Transmission Line Siting Methodology is a tool that will aid in the selection of a "corridor". It is not an artificial intelligence machine wherein vast amounts of data are input, a button pushed, and the "correct transmission line site" is output. Rather it is a multi-stage input/output process that requires human manipulation and decision making throughout the various phases of the process with the final transmission line location based on "human decision".

This evaluation does not take exception to the value and application of this process as applied to high voltage electric transmission lines. In fact, based on review of the Technical Report, it has the appearance of being able to provide valuable information to speed up the human decision of siting a high voltage electric transmission line.

However, the analysis takes strong exception that the EPRI/GTC Overhead Electric Transmission Line Siting Methodology, or any similar methodology, is applicable or useful in the selection of a site for an elevated water storage tank. One must concede that the PhotoScience Siting Study is not the EPRI/GTC method, but is a skeletonized aberration of same.

In support of this allegation, following is a listing of some of the major points wherein it appears that the PhotoScience Siting Study drastically diverges from the ERPI/GTC method.

- Inference of the PhotoScience Siting Study is that it is only "view driven".
- If a study team was formed, the District was excluded.
- Who were the External Stakeholders?
- The only listed public concern was visual impact.
- What database features were elected?
- What was the grid value assignment of the data bases?

- The EPRI/GTC method is multi-phased.
- Is the PhotoScience Siting Study the first phase or all inclusive?
- The EPRI/GTC method does not have a "view" data layer.
- The EPRI/GTC method has data sets that acknowledge and consider high value use land, such as row crops, fruit orchards, pecan orchards, etc. The PhotoScience Siting Study gives no regard to agriculture land use.
- In fact, four (4) alternates are sited in such lands; Site A (tobacco field), Site D (sod field), Site F (alfalfa field), and Site H (thoroughbred horse farm).
- The conclusion of the PhotoScience Siting Study is a simple statistic table with no value summation or recommendation.

The drastic deviation of the PhotoScience Siting Study from the cited EPRI/GTC method, as demonstrated by the cursory listing above, is further exacerbated by a number of errors that exist in the "most accurate terrain map of Jessamine County that has ever been created". Those errors are, but not limited to the following.

Proposed Project Locations - Sites A, D, E and F are not located near a proposed waterline project. See Appendix A.

Engineering Criteria – The text states that blue line are water mains "larger" than 6", when in fact the lines shown are 6" and larger.

The spring indicated north of Sagart Lane/Catnip Intersection is in error. In fact, the spring is located approximately 1,500" northeasterly (See Photo No. 1)

The study does not show the spring located in the elbow of Catnip Pike on the Switzer property (See Photo No. 2).

The well on the Chaumiere Des Prairies Farm property is not shown (See Photo No. 3).

Viewshed Areas – 8. Site B (Brown Site), indicates area from which one would be able to see the existing tank as red. Consequently the non-red area should not be able to see the existing tank.

PHOTO NO. 1

PHOTO NO. 2

PHOTO NO. 3

- Photo No. 4 was a view taken from area of No. 10 tee which is south of the parking lot for Harrods Ridge, and is clearly shown as non-red, yet the tank is clearly visible.
- Photo No. 5 was taken from the field south of Catnip Hill Pike west of the first curve which is clearly in the non-red area, yet the tank is clearly visible.
- Photo No. 6 was taken from the cul-de-sac of Eagle Drive, Harrods Ridge Subdivision and is clearly shown as non-red, yet the tank is clearly visible.

This clearly demonstrates that the analytical viewshed method utilized by Photo Science is, at best, general and not site specific accurate to reliably establish the precise number of resident viewers. From analysis of the defined red (non-view) areas indicated for the various sites, it is apparent that the PhotoScience method utilizes the summer canopy as a viewshed block. However, it appears that no consideration is given to winter opacity.

ENGINEERING CRITERIA APPLICABLE TO WATER STORAGE/DISTRIBUTION

For this particular evaluation, the engineering criteria will be restricted to those directly attributable to the alternatives proposed by the PhotoScience siting study. Although section two of that study which is titled "Engineering Criteria" alluded to the fact that engineering criteria was applied to the study, this "criteria" was simply a representation of the existing distribution system, an elevation 950 determination, and

PHOTO NO. 4

PHOTO NO. 5

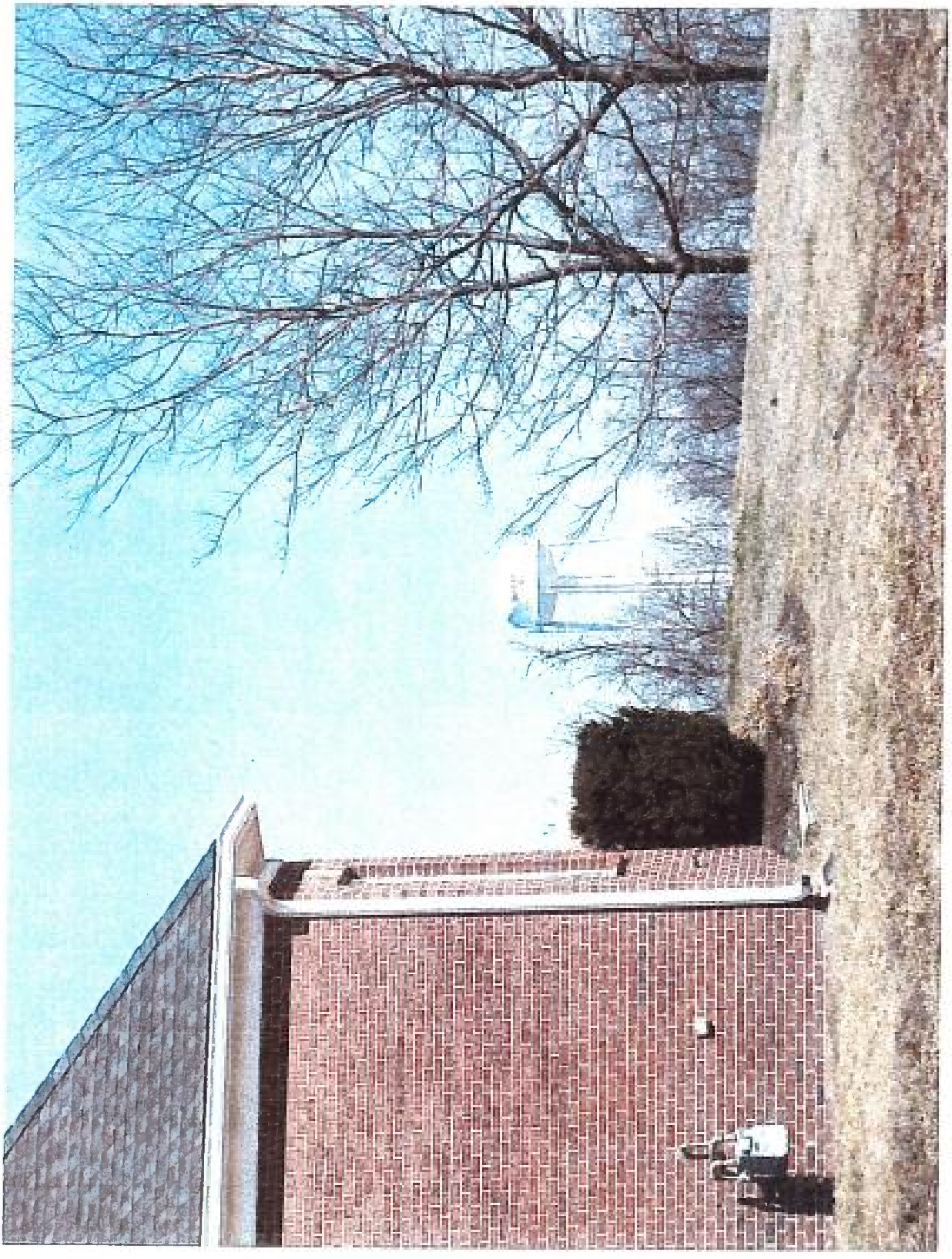

PHOTO NO. 6

what was termed "proposed waterline projects", almost all of which were in error and not applicable.

The first problem with the engineering criteria used in the PhotoScience Siting Study is the assumption that the tank site be on land that lies at least 950-feet above sea level. The proposed tank site should be in areas of elevation of 1,000 feet or greater. The other mistake that is noted in the study as well as in the exhibit on page 3 is the designation by blue color of water lines "greater than 6 inches". The blue lines designated on the exhibit on page 3 show waterlines that are 6 inches in diameter and greater.

The exhibit also shows what PhotoScience designates as orange in color, the location of proposed waterline projects which they cite as being taken from the Kentucky Infrastructure Authority website. Contained in Appendix A of this report is a current (1/8/2013, 9:32:57am) copy of the stated Kentucky Infrastructure Authority website map on which the study area has been superimposed, as well as the alternative sites proposed by the PhotoScience Siting Study.

The validity of the proposed projects shown on the Kentucky Infrastructure Authority map is backed up by the listing of the current project profile numbers that are contained in the Jessamine-South Elkhorn Water District listing contained on the attached website pages with the dating of when that information was obtained, being January 7, 2013. There are a number of lines which PhotoScience indicates as being proposed waterline projects on their exhibit which are absent from that map as contained in the Kentucky Infrastructure Authority website. This is a significant error, insofar as PhotoScience based several (4) of their alternate selections on these erroneously cited

waterline extension projects. Another significant error in this regard was the failure to determine what size of line was proposed to be constructed and the timeframe, had in fact, these proposed line locations been correct in the first place. It should be noted that the proposed project lines shown on the Kentucky Infrastructure Authority website represent current and "wish list" projects. Therefore, a line could be indicated that might be 20-years away or in fact never constructed.

Another proposed waterline project designation that is in error is the line that emanates from near the Sagart Lane/Catnip Hill intersection, going generally north – northeast to an area near Native Trace Road. If the study's authors had expended the effort to evaluate the Jessamine-South Elkhorn Water District boundary that was clearly defined on the exhibit showing the Jessamine-South Elkhorn Water District distribution system, they would have readily seen that this line is very near the easterly boundary of the District. Also, from evaluation of "the most accurate terrain map of Jessamine County that has ever been created." it would have been readily apparent that there is no apparent need of this line to serve existing structures, since all that are present are currently being served. Consequently, the alternate sites A, D, E, and F are based on erroneous information.

The proposed project emanating from the Switzer tank site and going generally northeast along the easterly boundary of Forest Hills Subdivision is not shown on the Kentucky Infrastructure Authority website map. There was a proposed project in the period of 2006 but was abandoned due to refusal of the Strohl and Baker families to grant an easement, which should be strongly indicative of the unavailability of Sites A and D.

It is important to note that siting of a proposed water storage tank is dependent on numerous criteria, other than accessibility to a **waterline.** The term should be accessibility to the distribution system at a point that provides the delivery capabilities sufficient for the efficient and feasible operation of the storage tank, especially one of the size required by Jessamine-South Elkhorn Water District.

As indicated in the current proposed Switzer site, the delivery piping to the tank must come from a distribution system that is capable of delivering the amount of water necessary to serve not only the customer demand, but also be able to provide adequate flow in order to maintain the storage capabilities of the tank. A number of alternates that the PhotoScience Siting Study indicated are adjacent to lines 4 inches and 6 inches in size, which are wholly inadequate to furnish sufficient flow to supply a storage tank.

The final sizing of a line and the connection to the adjacent distribution system would be determined by a detailed hydraulic analysis which is beyond the scope of this evaluation. However based on the author's familiarity and experience with the system, he is able to make a cursory evaluation of whether or not there would be necessary upgrades to the adjoining distribution system, as well as to unequivocally state that the connection to the water tank should be a minimum 12 inch watermain.

The minimum ground elevation stated (1,000 feet) is based on the mandatory elevation of the high-water level (HWL) of any **proposed** storage tank that would operate in the single pressure zone and at the existing hydraulic gradient. This high-water level is dictated by the high-water level of the other two existing storage tanks, whereas, the proposed tank elevation must meet very closely the HWL of the existing tanks. The reason being, that the proposed tank will be filled simultaneously with the other two

existing tanks, and when all three tanks are full, the turn-off of the pump would be initiated. If the elevations are different and if the pump turn-off is initiated by a lower tank, then there would be storage in the higher tanks that would be wasted; conversely if the turn-off would be initiated by a higher tank there would be continuous overflow of the lower tanks, until the water levels of all three tanks is equalized, consequently, a large volume of water would be wasted. Therefore, it is quite apparent that all of the tanks must be operated simultaneously requiring that the HWL elevation of the proposed tanks be precisely equal to the existing tanks. Based on survey of the existing tanks, this high-water level elevation has been determined to be 1,171.68-feet.

Once the elevation of the storage tank is determined, then its position has to be fixed in space, at that elevation, by the construction of legs that support the tank from the ground level. These legs can be of any length that would be required to reach from the tank to the ground, therefore, the higher the ground elevation - the shorter the legs that will be required to support the tank. However, the longer the legs, the more expense, due to increased material and labor required to meet the increased strength design. The proposed Switzer tank has been designed and is based on a leg height of 110-feet. Consequently, any evaluation of alternative site must take into account the differential height of the proposed alternate and that of the proposed Switzer storage tank.

Another crucial item that the PhotoScience Siting Study did not account for was the archaeological and environmental requirements associated with a tank site. Any ground disturbance construction within the Commonwealth of Kentucky is evaluated during Clearinghouse and SRF review to determine whether or not a study survey would be required to determine if the proposed activities would be in conflict with an existing

archaeological site or environmental issues (i.e., endangered species). The Commonwealth of Kentucky has determined that the proposed Switzer tank site did require an archaeological study and that study was conducted, but the review did not require an environmental study. Consequently, it can be correctly inferred that should the site be moved to an alternate site, then this study and possibly an environmental study would also have to be conducted on the proposed sites.

The PhotoScience Siting Study did not evaluate other criteria that are not specifically engineering specifications, but nonetheless are associated with site feasibility and selection. Those criteria among others are: (a) land cost, (b) land availability, (c) hydraulics, (d) location at usage centroid, (e) time loss, and (f) redesign, all of which are significant in regards to relocating the proposed tank to an alternate site, and should be accounted for in the selection process.

EVALUATION OF PHOTOSCIENCE METHODOLOGY

Figure 5, Built Environment with Viewshed, is an accumulation and indication of the results of the methodology employed by PhotoScience. The implication of the figure and the written explanation is that any area within the 1 ¼ mile radius that is not shown as red is a potential tank site with the implication being in the prior discussion that location there would not be visible to the residences in the Forest Hills Subdivision. This is in error because it appears that the basic presumption of the modeling methodology does not stipulate at what eye-height the observer is at the residence, and also it does not insert a 145-foot high structure in the equation. For example, the area immediately east and adjacent of the Switzer tank site is shown as green (i.e., not shown as red), and the

Switzer Site is clearly in red (i.e., visible). This means that if the tank was moved 50' to the east on the other side of the fence row trees, it would not be visible. Is it reasonable to believe the fence row trees are 145-feet tall?

It is quite apparent that when a 145-foot high structure is placed in the equation that essentially the entire circle would become red and there is no potential unseen site that a water tower can be located. The Photo Science Siting Study implies that its methodology has a high degree of precision, whereby specific areas can be located on which a constructed water storage tank cannot be seen by an observer. This has been refuted in the discussion of Site B (Brown Site), by demonstrating that the indicated "NO VIEW AREA" in fact has a clear and unobstructed view of the existing 50,000 gallon storage tank, Site B (Brown Site).

It is apparent that the gist and direction of the entire PhotoScience Siting Study is nothing more than an effort to demonstrate that there are other sites away from the Intervenors that they would not be able to see, not an attempt to locate a site that would be invisible to the public. This effort demonstrates a complete disregard to the thoughts and consideration of other residents in the area and is a classic illustration of the NIMBY syndrome. Again, it should be noted that when this site was purchased there were few if any residences in the area that would have direct observation of the Switzer site which is demonstrated by Figure 7.

The PhotoScience Siting Study states in 7. Site C (Switzer Site), "There are 16 residences that will **likely** have a view of the tank if constructed at this location" (emphasis added). This statement then poses numerous questions that beg an answer,

1. What is likely? Will they or won't they?

2. View - is this all of the tank, bottom, top, finial, one leg, etc.?
3. Since the impetus of this study is based on Forest Hills residents, how many constitute the 16?

According to Figure 7, there are six (6) residences inside the one (1) mile diameter circle that are not located in Forest Hills. Per the study count, this would result in ten (10) residences in Forest Hills "likely" to view the proposed storage tank. There are 32 lots in Forest Hills Subdivision; therefore, those residences "likely" to view the tank are in the minority (31%).

The driving factor of the PhotoScience Siting Study, as well as the opposition of the Intervenors is, that if the proposed tank is constructed, it will be visible to them and it will diminish desirability and value of their property. The gist of their allegations and presentation is that this hypothesis is universally accepted and applied.

Based on this author's fifty (50) years of experience, not as a real estate appraisal expert, but as an engineer who has designed subdivisions for developers encompassing the majority of residential lots (in excess of 1,500) developed in Jessamine County and as project engineer for utilities who designs water distribution and sanitary and storm sewer systems, it has been my experience and observation regarding viewshed importance that viewshed is not the driving force as regards desirability and value of a lot. There is no universal acceptance and agreement of what constitutes acceptable or desirable viewshed. If it were, there would be only one (1) lot in the world and mass revolution to possess that utopian lot.

My fifty (50) years of engineering experience that includes extensive knowledge of real estate development in the area has demonstrated that there are a multitude of factors that dictate desirability of a lot above that of viewshed. Some of those are:

- Lot shape
- Slope (i.e., walkout basement)
- South exposure
- Street alignment
- Access
- Location
- School district
- Topography
- Lotting scheme

The argument by the Intervenors of diminished desirability and property values due to an elevated storage tank being visible to a lot owner is incorrect. Fortunately, there exists a situation to test the validity of this argument.

Situated immediately west of Forest Hills Subdivision is the Harrods Ridge Subdivision, which was designed by the author. When this subdivision was designed, there existed a 500,000 gallon elevated storage tank in the southwesterly corner of the property.

Eagle Drive was designed to follow the ridge line going generally southeasterly from its intersection with Golf Club Drive. Photo 7 is a picture of this intersection with the elevated storage tank clearly visible. In fact, the tank is visible throughout the length of Eagle Drive with Photo 8 taken at the southerly end and showing a view of the entirety of the tank full and unobstructed. Interestingly, those residences at the southerly end of Eagle Drive have a view not only of the 500,000 gallon tank, but also the 50,000 gallon tank as demonstrated by Photo 6. The bulk of the remainder of the homes in Harrods

Ridge have a view of both or one or the other of the two tanks, both of which existed before the development of Harrods Ridge Subdivision.

Following are tables showing the cost and sales history of each lot for both Forest Hills Subdivision and Eagle Drive in Harrods Ridge Subdivision and from this data, some interesting facts emerge.

Forest Hills Subdivision:

- The average size home is 8,170 SF.
- The average original residence value was $854,951.
- The average current residence value is $815,574.
- The current value represents a 3.5% drop in value thru the housing bubble.
- The 2013 average assessment is $842,369.

Eagle Drive:

- The average size home is 8,342 SF.
- The average original residence value was $846,398,
- The average current residence value is $830,991.
- The current value represents a 1.8% drop in value thru the housing bubble.
- The 2013 average assessment is $846,980

PHOTO NO. 7

PHOTO NO. 8

FOREST HILLS SUBDIVISION

(See Note 3)

Address	Sale Date	Sale Amount	Deed Book/Page	Lot/Tract No.	2013 Assessment	Status as of 01-15-2013	Square Footage of Residence
5784 Harrodsburg Road (See Note 2)	10/30/2007	$1,200,000	569/369	Tract 1 (Residual)	$60,885	(See Note 4)	
405 Burr Oak (See Note 1)	12/30/2010	$250,000	646/606	Lots 23 & 30		Under Construction	
	6/15/2012	$120,000	671/424	Lot 30	$120,000		
500 Burr Oak	2/22/2006	$150,000	556/683	Lot 29	$154,064	Occupied	4178
505 Burr Oak (See Note 1)	3/14/2007	$225,000	578/466	Lot 31	$0	Occupied	12525
Burr Oak (See Note 1)	4/25/2007	$225,000	580/682	Lot 32	$225,000	Vacant	
600 Burr Oak (See Note 1)	4/18/2006	$175,000	560/241	Lot 28		Vacant	
	7/30/2009	$165,000	623/707		$100,000		
604 Burr Oak	4/18/2006	$175,000	560/229	Lot 27		Occupied	9156
	10/10/2007	$1,260,615	591/224				
	7/30/2009	$1,495,000	623/709		$1,225,000		
608 Burr Oak	4/14/2006	$340,000	560/237	Lots 7 & 26		Occupied	9077
	7/24/2006	$160,000	566/177	Lot 26			
	6/2/2008	$400,000	CD18/25 **				
	10/3/2008	$340,000	611/335		$750,000		
612 Burr Oak	4/26/2006	$170,000	560/522	Lot 25		Occupied	6643
	11/23/2011	$635,000	661/582		$757,500		
618 Burr Oak (See Note 1)	5/1/2006	$170,000	561/212	Lot 24	$170,000	Vacant	
619 Burr Oak	4/22/2006	$170,000	560/453	Lot 1		Occupied	12329
	8/9/2007	$1,450,000	588/40				
	7/10/2009	$1,265,000	622/605		$1,265,000		
622 Burr Oak	12/30/2010	$250,000	646/606	Lots 23 & 30		Occupied	
	5/16/2012	$84,000	669/274	Lot 23			
	11/20/2012	$718,500	679/191		$718,500		
623 Burr Oak	2/7/2006	$170,000	556/169	Lot 2		Occupied	8281
	5/25/2007	$950,000	582/628		$950,000		
626 Burr Oak (See Note 1)	12/1/2006	$170,000	573/385	Lot 22		Vacant	
	6/29/2009	$153,000	623/106		$170,000		
627 Burr Oak	4/13/2006	$170,000	560/75	Lot 3		Occupied	8342
	1/18/2007	$500,000	575/694		$835,000		
631 Burr Oak	4/13/2006	$340,000	560/64	Lots 4 & 22		Occupied	7492
	3/10/2007	$183,845	578/315	Lot 4			
	12/23/2009	$971,000	633/01				
	4/9/2010	$775,000	636/392		$775,000		
635 Burr Oak	7/17/2006	$170,000	565/632	Lot 5		Occupied	8039

FOREST HILLS SUBDIVISION

	2/24/2010	$885,000	635/72		$835,000		
639 Burr Oak	3/15/2006	$170,000	558/140	Lot 6		Occupied	8798
	10/13/2006	$937,324	571/50				
	8/30/2007	$862,500	589/266				
	7/30/2009	$855,000	625/77		$855,000		
701 Chinkapin	4/18/2006	$340,000	560/237	Lots 7 & 26		Occupied	7127
	7/21/2008	$265,000	CD18/448 **	Lot 7	$560,000		
704 Chinkapin	3/31/2006	$170,000	559/193	Lot 21		Occupied	7710
	12/7/2007	$815,000	594/295		$750,000		
705 Chinkapin (See Note 1)	3/13/2006	$660,000	557/684	Lots 8, 9, 10 & 19		Under Construction	
	4/3/2006	$697,000	600/323 ***	Lots 8, 10 & 19			
	4/9/2012	$92,000	667/221	Lot 8	$92,000		
708 Chinkapin	3/6/2006	$165,000	557/400	Lot 20		Occupied	
	3/5/2012	$95,000	665/542				
	3/15/2012	$95,000	666/173				
	10/31/2012	$627,105	679/54		$627,105		
709 Chinkapin	3/13/2006	$660,000	557/684	Lots 8, 9, 10 & 19		Occupied	8730
	2/13/2007	$180,900	577/126	Lot 9			
	2/27/2008	$1,185,802	596/46				
	3/28/2011	$805,000	651/407		$805,000		
712 Chinkapin (See Note 1)	3/13/2006	$660,000	557/684	Lots 8, 9, 10 & 19		Occupied	
	4/3/2008	$697,000	600/323	Lots 8, 10 & 19			
	9/1/2009	$145,000	625/436	Lot 19	$145,000		
713 Chinkapin (See Note 1)	3/13/2006	$660,000	557/684	Lots 8, 9, 10 & 19		For Sale	7409
	4/3/2008	$697,000	600/323	Lots 8, 10 & 19			
	8/25/2009	$145,000	625/164	Lot 10	$748,000		
720 Chinkapin	6/5/2006	$330,000	563/194	Lots 11 & 18		Occupied	8519
	8/11/2008	$809,243	607/229	Lot 18	$809,243		
721 Chinkapin	6/5/2006	$330,000	563/194	Lots 11 & 18		Occupied	7429
	11/6/2007	$82,500	593/40	Lot 11			
	10/3/2008	$810,000	610/37		$700,000		
724 Chinkapin (See Note 1)	8/10/2006	$170,000	567/289	Lot 17		Occupied	6720
	1/16/2007	$175,000	575/550		$620,000		
725 Chinkapin (See Note 1)	8/28/2007	$170,000	589/319	Lot 12		Occupied	
	7/30/2010	$90,000	CD20/69**				
	3/23/2012	$83,000	666/481		$83,000		
728 Chinkapin	8/4/2006	$170,000	567/73	Lot 16		Occupied	7001
	8/17/2009	$705,000	625/62		$788,000		

FOREST HILLS SUBDIVISION

729 Chinkapin (See Note 1)	5/8/2006 5/4/2012	$170,000 $100,450	561/412 668/597	Lot 13	$100,450	Occupied	
732 Chinkapin (See Note 1)	8/28/2007 7/30/2010	$160,000 $90,000	589/323 CD20/65**	Lot 15	$90,000	Vacant	
733 Chinkapin	3/21/2007 2/8/2008 5/5/2010	$170,000 $874,917 $1	579/55 597/209 640/389	Lot 14	$874,917	Occupied	7892
Chinkapin	10/12/2010	$10	646/602	Green Space*	$0		
						AVERAGE	8170

* Property conveyed to Forest Hills Residents' Association, Inc. - Transfer appears to be in violation of Zoning Ordinance.

** Commissioner's deed resulting in foreclosure

*** Deed in lieu of foreclosure

TOTAL ORIGINAL VALUE OF RESIDENCE	$14,534,606	AVERAGE	$854,971
TOTAL CURRENT VALUE OF RESIDENCE	$13,864,765	AVERAGE	$815,574
TOTAL CURRENT ASSESSMENT VALUE	$14,320,265	AVERAGE	$842,369

Note 1 - Excluded from summaries since lot is currently vacant or original sale was for the land only.

Note 2 - Non-buildable residual - not included.

Note 3 - Sale date, sale amount, title source, 2013 assessment and square footage or residence information obtained from Jessamine County PVA office and/or Jessamine County Clerk's office.

Note 4 - Status determined by visual inspection.

EAGLE DRIVE - HARRODS RIDGE SUBDIVISION

				(See Note 2)		(See Note 3)	
Address	Sale Date	Sale Amount	Deed Book/Page	Lot/Tract No.	2013 Assessment	Status as of 01-15-2013	Square Footage of Residence
201 Eagle Drive	5/25/2005 12/30/2005	$179,000 $728,320	539/611 554/82	Lot 33	$800,000	Occupied	7158
203 Eagle Drive	7/5/2005 3/23/2007 2/25/2011	$179,000 $825,000 $652,000	542/501 579/145 649/366	Lot 34	$752,000	Occupied	9154
205 Eagle Drive	4/18/2005 6/30/2006	$179,000 $1,074,000	537/456 564/620	Lot 35	$1,134,000	For Sale	8345
207 Eagle Drive	12/12/2005	$925,902	552/511	Lot 36	$925,900	Occupied	7733
208 Eagle Drive	12/2/2010	$850,000	645/710	Lot 40	$890,000	Occupied	8342
209 Eagle Drive	9/14/2006	$995,000	569/374	Lot 37	$995,000	Occupied	8786
210 Eagle Drive	6/25/2010 11/8/2012	$724,843 $724,843	640/44 679/84	Lot 39	$724,843	Occupied	6796
211 Eagle Drive	6/17/2005 8/21/2007 9/21/2010	$169,000 $660,000 $690,000	541/202 588/494 643/02	Lot 38	$735,000	Occupied	8091
300 Eagle Drive	2/21/2006 1/28/2010	$189,000 $877,000	556/600 633/353	Lot 62	$841,000	Occupied	9238
301 Eagle Drive (See Note 1)	11/5/2010 7/12/2012	$140,000 $150,000	644/715 672/466	Lot 46	$140,000	Vacant	
302 Eagle Drive	3/30/2006 7/31/2012	$189,000 $829,000	559/120 673/334	Lot 61	$829,000	Occupied	8427
303 Eagle Drive	9/27/2006 9/21/2009	$169,000 $774,917	570/157 626/594	Lot 47	$774,916	Occupied	7398
304 Eagle Drive	11/22/2010 9/20/2012	$225,000 $699,000	645/353 676/41	Lot 60	$699,000	Occupied	
305 Eagle Drive (See Note 1)	11/5/2010 10/12/2011	$140,000 $95,000	644/715 659/391	Lot 48	$95,000	Under Construction	
306 Eagle Drive (See Note 1)	11/5/2010 7/12/2012	$140,000 $150,000	644/715 672/466	Lot 59	$140,000	Vacant	
307 Eagle Drive	11/2/2007	$950,000	592/431	Lot 49	$950,000	Occupied	9308
308 Eagle Drive	5/30/2007 8/22/2012	$200,000 $720,000	583/79 674/647	Lot 58	$720,000	Occupied	8945
309 Eagle Drive	11/18/2009 9/6/2012	$768,867 $768,867	629/477 676/662	Lot 50	$760,000	Occupied	9174

EAGLE DRIVE - HARRODS RIDGE SUBDIVISION

310 Eagle Drive (See Note 1)	11/5/2010 4/11/2011 6/30/2012	$140,000 $100,000 $152,000	644/715 651/305 671/577	Lot 57	$152,000	Vacant	
311 Eagle Drive	6/30/2006 6/4/2010	$196,000 $918,000	564/691 639/147	Lot 51	$918,000	Occupied	7910
312 Eagle Drive (See Note 1)	11/22/2010	$225,000	645/350	Lot 56	$225,000	Vacant	
313 Eagle Drive (See Note 1)	11/22/2010	$225,000	645/347	Lot 52	$225,000	Vacant	
314 Eagle Drive	11/21/2007 3/5/2010 1/2/2011	$1,268,917 $1,150,000 $1,150,000	593/540 635/102 648/427	Lot 55	$1,150,000	For Sale	8065
315 Eagle Drive (See Note 1)	11/24/2010	$140,000	646/132	Lot 53	$567,500	For Sale	
316 Eagle Drive (See Note 1)	12/30/2005	$219,000	554/24	Lot 54	$864,000	For Sale	8941
						AVERAGE	8342

** Commissioner's deed resulting in foreclosure

*** Deed in lieu of foreclosure

TOTAL ORIGINAL VALUE OF RESIDENCE $14,388,766 AVERAGE $846,398

TOTAL CURRENT VALUE OF RESIDENCE $14,126,849 AVERAGE $830,991

TOTAL CURRENT ASSESSMENT VALUE $14,398,669 AVERAGE $846,980

Note 1 - Excluded from summaries since lot is currently vacant or original sale was for the land only.

Note 2 - Sale date, sale amount, title source, 2013 assessment and square footage or residence information obtained from Jessamine County PVA office and/or Jessamine County Clerk's office.

Note 3 - Status determined by visual inspection.

From the facts shown above, it is readily apparent that the presence of an elevated storage tank(s) does not impact the value or desirability of a residential structure, as evidenced by Eagle Drive.

COSTING OF PROPOSED ALTERNATES

The cost of any project is a significant factor in the selection of that project. For that purpose, this portion of the evaluation will direct the evaluation toward determining a preliminary estimate of the costs that would be associated with developing the alternate tank sites, as proposed by the PhotoScience Siting Study.

The following categories will be evaluated as to the associated additional costs to the District, should the existing site be changed from the proposed Switzer Site to one of the proposed alternatives.

- Survey and platting
- Change in leg height
- Access road
- Piping costs
- Piping upgrade
- Geotechnical Survey
- Archaeological Study

Following is a brief discourse on the derivation of the applicable cost that will be applied uniformly to each of the alternatives.

SURVEY AND PLATTING – This cost is difficult to ascertain depending on what the current situation is with the title and description of the parent tract. However, for the purposes of this report, a realistic price would be $7,000.

CHANGE IN LEG HEIGHT – The ground elevation of the location of the tank site has a significant impact on the cost differential between that of the current proposed Switzer tank and the tank that would have to be constructed on the alternate site. As previously discussed, wherever the tank is located the high-water level of the tank must be maintained at 1,171.68-feet. The Switzer tank is based on a footer elevation of 1,023-feet, which then gives a leg height of 110-feet. When the leg height is changed from the 110-feet dimension, as it increases it also requires an increase in the foundation footers and reconfiguration of the leg segments that make up the total height. Also, it should be realized that there are eight individual legs on the tower requiring approximately $1,500 per vertical foot/per leg, resulting in a cost of $12,000 per vertical foot change in the tower height.

ACCESS ROAD – The tanks site must be accessible to a public road and the access road must be capable of supporting vehicular traffic. The typical access road is a 12-foot gravel road. The minimum pavement design for the access road should consist of 6-inches of #2 stone and 4-inches of DGA. Based on costs of prior and similar roads, one would expect the per foot cost of the access road to be:

Grading	$10.00/per lineal foot
Gravel	$19.00//per lineal foot
Drainage	$ 1.00/per lineal foot
Total Cost	$30.00/per lineal foot

PIPING COSTS – The storage tank must be connected to the existing distribution system via constructed piping. Due to the size of the tank, the minimum pipe size to be employed between the proposed tank site and the existing system is 12-inch PVC pipe. Based on prior records of similar bidding on the new installation of 12-inch PVC pipe the cost can be expected to be $30.00/per lineal foot.

PIPING UPGRADE – A predominate number of the alternates proposed are located in areas that are far removed from the existing distribution system and the most feasible point where they could be connected to an existing main would be at a point in the system where the mains are inadequately sized to furnish adequate delivery flows to the proposed tank. Therefore, these sites would require upgrading of the existing system by constructing parallel mains back to the point that would be able to furnish adequate and sufficient flows to efficiently operate the proposed alternate tank. The precise sizing and configuration of these mains would be determined by a detailed hydraulic analysis of the system, but for the purposes of this evaluation, the experience of the author indicates that the connection point should be at a point that is equivalent to the delivery of a 12-inch main, and for those areas that are less than 12-inch in size would require paralleling with a 12-inch to a point equivalent to a 12-inch main. Although not determined by the PhotoScience Siting Study, nor included in the Table 15 summary, and based on the author's some 40-years' experience with the

Jessamine-South Elkhorn Water District, the distances were scaled from a base map on which the proposed alternate sites were located.

The determined unit price budget cost for pipe upgrade should be:

12-inch PVC main - $45.00.per lineal foot.

GEOTECHNICAL SURVEY – There are other cost factors associated with a geotechnical survey such as location access, terrain, etc., however, one could expect that the geotechnical survey cost would be uniform to all the proposed alternates and that a figure of $4,750 would be realistic. This is based on the cost for the proposed Switzer Site.

ARCHAEOLOGICAL STUDY – The Commonwealth of Kentucky required that for the proposed Switzer tank site, that an archaeological study would be required. The environmental study was not mandated, due to the size and location of the proposed site. However, this is not to assume that some of the other sites, based on their location, may be required to have an environmental study. However, for purposes of this evaluation, it is assumed that only an archaeological study would be required for the proposed alternative sites, and based on the history of the Switzer tank site, that cost is projected at $2,600.

Utilizing the above derived unit cost and based on the statistics supplied in Table 15 of the PhotoScience Siting Study, following is a compilation of the additional cost required by the alternate sites.

ALTERNATE SITE COSTING

	Site A	Site B (Brown)	Site C (Switzer)	Site D	Site E	Site F	Site G	Site H
Piping	$165,000	$4,500	0	$90,000	$78,000	$7,500	$3,000	$6,000
($30/LF)	5,500 (3)	150 (4)	0	3,000 (5)	2,600 (7)	250 (9)	100 (12)	200 (15)
Pipe Upgrade	0	0	0	$126,000	$126,000	$126,00 0	$135,00 0	$67,500
(12" - $45/LF)	0	0	0	2,800 (6)	2,800 (8)	2,800 (10)	3,000 (13)	1,500 (16)
Access Road	$102,450	0	0	$115,620	$128,220	$6,750	0	0
($30/LF)	3,415	0	0	3,854	4,274	225	0 (14)	0 (17)
Leg Height	$60,000	$24,000	0	-$168,000	-$120,000	$276,00 0	$444,00 0	$432,00 0
($12,000/VF)	5	2	0	-14	-10	23 (11)	37	36
(1) Others	$14,350	$14,350	0	$14,350	$14,350	$14,350	$14,350	$14,350
(2) Land	$40,000	$40,000	0	$40,000	$40,000	$40,000	$40,000	$40,000
TOTAL	**$381,800**	**$82,850**	**0**	**$217,970**	**$266,570**	**$470,60 0**	**$636,35 0**	**$559,85 0**
Residences in Viewshed	0	30	16	5	6	15	6	9
Residences .5 mi Radius	1	46	26	6	8	25	6	16
Percentage in Viewshed	0	65	62	83	75	60	100	56

(1)	Archaeological	$ 2,600
	Survey	$ 7,000
	Geotech	$ 7,000
		$14,350

(2) Purchase price of Switzer site

(3) Site A south to 12" main at Forest Hills

(4) Connect to 12" main and loop to 10" main and 6" main west of Barbaro Lane

(5)(7)(9) South to Catnip Hill Pike

(6)(8)(10) West along Catnip to 12" main

(11) Study is in error, elevation is 1,000-feet

(12) Connect to Rhineheimer loop

(13) North along Rhineheimer to Catnip 12" main

(14) Assuming site adjacent to Rhineheimer Lane

(15) From Veterinary Lane upgrade

(15) Upgrade looping from Barbaro Lane to Mathews Lane

(16) Assume adjacent to Veterinary Lane

The decision maker tool currently in vogue is the matrix. In order to balance the weight of viewshed vs. cost, the number of viewers was reduced to percentage and the cost was relegated to one (1) point per $1,000. Following is the resultant matrix with

summary ranking based on matric value with the most obvious winner being the proposed Switzer site.

	Site A	Site B	Site C	Site D	Site E	Site F	Site G	Site H
% in viewshed	0	65	62	83	75	60	100	56
Piping	165	4	0	90	78	8	3	6
Pipe upgrade	0	0	0	126	126	126	135	68
Access Road	102	0	0	116	128	7	0	0
Leg height	60	24	0	-168	-120	276	444	432
Others	15	15	0	15	15	15	15	15
Land	40	40	0	40	40	40	40	40
TOTAL	382	144	62	302	342	532	737	617

	Matrix Ranking	Cost Differential	Matrix Value
#1	Site C (Switzer)	-0-	62
#2	Site B (Brown)	$82,850	144
#3	Site D (Strohl)	$217,970	302
#4	Site E (McMillen)	$266,570	342

EVALUATION OF PROPOSED ALTERNATE SITES

Following is a listing of errors and deficiencies which were revealed in the evaluation and review of the alternate sites proposed under the PhotoScience Siting Study. This evaluation was coupled with the individual viewshed as listed in that study and the statistics stated under Section 15 of that study.

Located in Appendix B is a prepared composite map of the various sites contained in the PhotoScience Siting Study on which is indicated the one half-mile viewshed study area, as well as the property owner's name of the proposed alternate site. Included on this composite map is the existing Jessamine-South Elkhorn Water District distribution system color-coded as to size and where applicable, the boundary of the Jessamine-South Elkhorn Water District. All of this information has been overlain on aerial photography obtained from the internet.

#7. Site C. (Switzer site)

(a) This review was unable to confirm the total residences in the viewshed which is listed as 26 in the statistics table. However, it is very interesting to note that of the 26 residences listed for the study area that only 16 noted as are within the viewshed, and of those, only 11 are within approximately a quarter-mile of the tank site with the majority of those being between 600-1,200 feet radius. Also, based on the graphics shown it appears that there are a number of homes that have been accounted for as being in the viewshed when only a very small portion of red is indicated on the residence. It is safe to say that based

on the scale as used there will be only a very narrow window that a person would be "likely" to view the entirety of the tank proposed on the Switzer site.

(b) The statistics table notes that the proposed tank is 301 feet from the existing distribution line and 316 to the proposed distribution line. If the authors of the study had completed their due diligence and the Intervenors had furnished the information that had previously been forwarded, it would be quite evident from the construction plans that the tank site is located such that an existing 12-inch main fronts on the north and easterly side of the site. It is difficult to understand how the PhotoScience Siting Study can show an existing watermain in this position on 2. Engineering Criteria and yet note the Switzer site as being several hundred feet from an existing main.

(c) As stated earlier in the report, the symbol line denoting a proposed water project is in error and should not have been considered or contemplated in the evaluation of the tank site.

#8. Site B. (Brown site)

(a) This is the site that the Intervenors proposed in their initial negotiations with Jessamine-South Elkhorn Water District and is located immediately adjacent to the existing 50,000 gallon tank site.

(b) There is no question that the Intervenors are aware of the deficiencies of this tank site, insofar as it was discussed in detail and also that the information regarding that analysis of this site was furnished in the information request sent to the Intervenors. Suffice it to say that because of the inherent legal ramifications, it is apparent that this site is not available.

(c) The statistics indicate that this site is 65-feet from a public road. However, the site is immediately adjacent to an existing county road which is the Old Harrodsburg Road (US-68).

(d) The statistics indicate that the proposed site is 78-feet from an existing distribution line and also it indicates that it is 490-feet from a proposed waterline. Again, the information shown on the site is in conflict with the distribution map that the Jessamine-South Elkhorn Water District furnished the Intervenors. The proposed site is immediately adjacent to a 12-inch main that was constructed during the development of the Forest Hills Subdivision and is immediately opposite a 6-inch and an 8-inch main located on the westerly side of Barbaro Lane.

(e) Suffice it to say that based on the inaccuracies of access, and the distribution main, it is apparent that persons preparing the PhotoScience Siting Study either failed to do due diligence on the existing infrastructure system or were lax in the review of the accessibility both as to access and existing water mains.

(f) The table 15.Statistic lists residences within viewshed as 30. However, the study is remiss in not noting that the proposed tank at Site B (Brown Site) would be within approximately 400-feet of US-68, a four-lane highway having an ADT count of 15,593[(a)] VPD, which would offer a completely unobstructed view of the entire tank. This huge number of viewers would certainly skew the hypothesis of, **"an important concern of the public is siting the tank in an area that has the least visual impact to the community."** (emphasis added).

[(a)] 15,593(08) STA 750, KYTC Traffic Station Counts, Nicholasville, Jessamine County, Kentucky, July 2011

#9. Site A.

(a) This site is located on the A.J. Baker Properties, LLC Farm which is located and fronts on Brannon Road.

(b) During the 2006 design of the water tank on the Switzer site, there was a proposal to extend a waterline from the tank site northerly along the McMillen/Strohl/Baker property line and connect to the existing mains on Brannon Road. However, in discussion with the property owners along this route, they were vehemently against providing an easement.

Because of, and subsequent to, the watermain reinforcement that was provided by the US-68 project (2008), this routing was abandoned.

(c) Consequently, it is safe for one to anticipate that a request to purchase a tank site in the area of a tobacco field would not be acceptable to the owner, insofar as he refused to provide an easement for a watermain.

(d) Because this proposed waterline is no longer required, service to this site would require construction of a new watermain from the proposed site to a point in the existing distribution system that would provide adequate flows to service the tank. This required piping would be southerly to the existing 12-inch main at the Switzer site - the distance being a total 5,500-feet.

(e) Putting a tank at this site would be further exacerbated by issues of access to the tank site. The nearest point of access would be from Brannon Road and would result in the construction of an access road of 3,415-feet in length.

#10. Site D.

(a) This site is located in the southeasterly corner of the Teddy Rucker and Timothy D. Strohl property located westerly of Windom Lane.

(b) This farm has operated as a sod farm for the past 20+ years and the proposed site is located in one of the sod fields.

(c) Access to the tank site would be very difficult, insofar as it would require locating an accessible alignment along and around the existing sod fields.

(d) As stated in Site A response, this property owner was approached in 2006 regarding an easement for a watermain along the westerly boundary, to which they were vehemently opposed. Therefore, it is safe to assume that this site is unavailable.

(e) The statistics indicate that the proposed site is located within 3,100-feet of an existing watermain and 2,781-feet from an existing distribution main, when in fact the property is being served by Jessamine County Water District #1 and that the closest watermain to this property would be a 6-inch main at the end of Cassity Way which is located in that part of the existing distribution system that is insufficient to serve a 1,000,000 gallon tank.

(f) In order to serve a tank at this site, it would require construction of a new 12-inch main to the Catnip Hill Pike area which would require 3,000-feet of piping, and upgrade along Catnip Hill Pike to the existing 12" main would require construction of an additional 2,800-feet of piping upgrade.

(g) Again, the PhotoScience Siting Study indicates a proposed watermain along the general area from Catnip Hill running north and terminating at some undisclosed point. And, as previously noted, this is completely in error, since there has never been an intended project in this location and of this nature. Also, as previously noted the information shown on the Kentucky Infrastructure website (Appendix A) does not show a proposed project anywhere near this area. Consequently, any references to distance to proposed mains are in error.

#11. Site E.

(a) This site is located in the northeasterly corner of Chaumiere Des Prairies Farm which is termed the McMillen Farm in the PhotoScience Siting Study.

(b) As with Site D, this study suggests that there is a proposed main in close proximity to this site, when in reality there is no proposed main and the nearest existing distribution main is located along Catnip Hill Road. However, this is a 4-inch main and would require substantial upgrade along Catnip Hill Road in order to service this site. The reference given in the statistics table as regarding distance to existing mains, public roads, etc. are in error. The scaled distance being a requirement of 2,600-feet of 12-inch main from the tank site to Catnip

Hill Road and then an upgrade along Catnip Hill Road of 2,800-feet. Access would naturally be from Catnip Hill Road and the most direct access being along the easterly property line consisting of 4,274-feet.

(c) The negotiations with the Forest Hill residents and McMillan that were conducted early on, suggested a tank site that is located approximately midway between Sites E and F. During the negotiations with these parties it was not recorded that this Site E or Site F was ever proffered.

#12. Site F.

(a) This site is located in the southeasterly corner of the Chaumiere Des Prairies Farm.

(b) From the indicated location of this site on the map and from a field observations based on the direction of the property line, it appears that this site is located in or on the edge of a large sink-hole. (See Photo 9)

(c) The site is located on Catnip Hill Road, and although not indicated to be adjacent to the road, one would assume that if utilized, it would be located adjacent to the road. Therefore, the access distance would be negligible. However, the site statistics indicates a distance of 225-feet from the public road to the site. Therefore, this distance shall be used for purposes of cost comparisons.

PHOTO NO. 9

(d) Again, the site is located on an existing 4-inch distribution main and would require upgrade of the existing Catnip Hill Pike main from this point to the Switzer site which would require 2,800-feet of upgrade piping.

(e) Based on the 5. Built Environment with Viewshed in the PhotoScience Siting Study, it is very probable that not only would a tower at this site be seen by the residents of Forest Hills Subdivision, but all the other subdivisions within this general area.

(f) The elevation determined in this study and as listed in 15.Statistics which I assume is based on the "most accurate terrain map of Jessamine County that has ever been created", indicates the elevation of the site as being 1,066-feet. Review of the USGS Quad of this area indicates that the elevation of the proposed site is closer to 1,000-feet or at best since it is indicated at the edge of the sink-hole at 1,010-feet. Certainly not 1,066-feet. For purposes of cost evaluation, this report will use an elevation of 1,000-feet.

#13. Site G.

(a) This proposed site is located in the southwesterly corner of the Juanita H. Baker Farm which is located in the southeasterly quadrant of the intersection of Rhineheimer Lane and Catnip Hill Pike.

(b) As shown by the existing watermain that traverses the southerly portion of the farm, Ms. Baker has granted an easement to the Jessamine-South Elkhorn Water District for construction of a distribution main. However, this is not indicative of the fact that she would be willing to sell a one-acre tank site.

(c) Regardless of whether or not the tank site would be available, it should be noted that based on the elevation of 986-feet as shown on the statistics chart, that this would require an additional 37-feet of leg height in order to construct a usable tank on this site which would be costly as discussed below.

(d) Although the preliminary estimate for the extension of the 8-legs is $12,000/vertical foot, this was based on a range of elevation from 1-10 feet. Consequently, with a greater height of 37-feet the cost would be substantially greater due to the fact of increased stability and strength due to the increased height. However, this report will utilize the $12,000/vertical foot. Using this conservative unit price, construction of a tank at this site would require an additional $444,000, just for the increased length of the tank legs.

(e) Although the tank site is located adjacent to existing mains, they are 4-inch and 6-inch in size and consequently will require upgrade from the site northerly to the existing 12-inch main at the Switzer tanks site, a distance of 3,000-feet.

#14. Site H.

(a) This site is located in the southerly portion of a farm owned by Sarah Katherine Ramsey who is the wife of Ken Ramsey and together they own and operate The Ramsey Farm which is a thoroughbred racing operation consisting of several thousand acres.

(b) Mr. Ramsey was approached during the evaluation of tank sites that was conducted in 2004 and was not receptive to granting a tank site on another portion of his farm.

(c) The location suggested here is northerly of Veterinary Drive which is a county road that connects Old US-68 and Relocated US-68. Consequently, access to this site would be no problem. Although the PhotoScience Siting Study indicates a 143-feet.

(d) However, it would require construction of 1,500-feet of piping to connect the existing mains located on Barbaro Lane (Old US-68) and Relocated US-68 in order to provide adequate service to the proposed tank.

(e) It should be noted that the proposed tank site is adjacent to an existing electrical substation and consequently it may be in violation of the electrical and safety codes.

(f) The table 15.Statistic lists residences within viewshed as 9. However, the study is remiss in not noting that the proposed tank at Site H would be within approximately 100-feet of US-68, a four-lane highway having an ADT count of 15,593[a] VPD, which would offer a completely unobstructed view of the entire tank. (See Photo 10) This huge number of viewers would certainly skew the hypothesis of, **"an important concern of the public is siting the tank in an area that has the least visual impact to the community."** (emphasis added).

[a] 15,593(08) STA 750, KYTC Traffic Station Counts, Nicholasville, Jessamine County, Kentucky, July 2011.

(g) Regardless of the other factors mentioned, this site has an elevation of 987-feet which would require a lengthening of the legs of the tank by 36-feet. As previously discussed in Site G, this would be prohibitive from a cost standpoint.

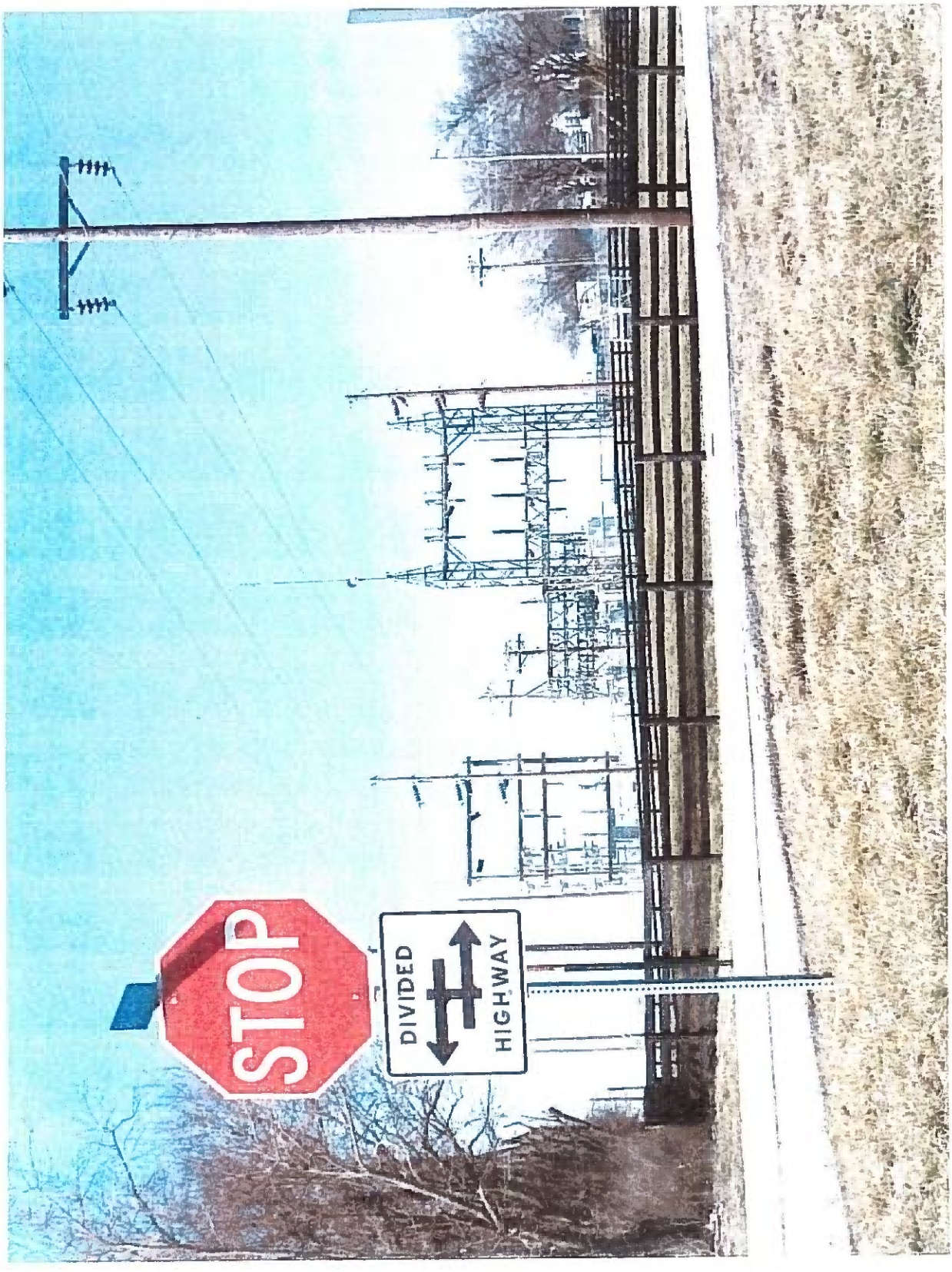

PHOTO NO. 10

CONCLUSIONS

The PhotoScience Water Tank Siting Study states that it uses the same detailed and rigorous methodology that is inherent to and contained within the EPRI-GTD Overhead Electric Transmission Line Siting Methodology, when in fact the method employed is a cursory evaluation of siting that is almost solely viewshed driven. The study is rife with errors, mistakes, void of applicable engineering principles, and in the final analysis does not proffer a concluding answer. Following is a listing of some factors that demonstrate this opinion.

- Sites were proposed near future projects that did not exist.
- The proposed sites were not evaluated in conjunction with the other two (2) existing tanks.
- 2. Engineering Criteria section contains numerous errors.
    - Future projects which did not exist.
    - Springs indicated in wrong locations.
    - Wells and springs not shown.
    - Incorrect base elevation.
    - Incorrect pipe size indicated.
    - District boundary omitted.
- Study disregarded availability of site acquisition.
- Disregards flow availability at proposed alternates.
- PhotoScience Siting Study does not consider any costing relative to existing Switzer site.

- The PhotoScience Siting Study and proposed alternates do not reflect the consideration of even the most basic engineering hydraulic design principles.
- The PhotoScience Siting Study appears to be totally viewshed driven.
- 8. Site B (Brown Site) visibility map is in error. There are several points on the non-red areas from which the tank is visible (i.e., Photos 4, 5, & 6).
- A basic principle of the EPRI-GTC methodology is to combine all databases into a composite map. The PhotoScience Siting Study did not combine all existing and alternate site viewshed mapping; therefore it was not able to indicate a tank site area that would not have a visible tank.
- Winter opacity was not considered in the viewshed limits determination.
- The PhotoScience Siting Study stated, "an important concern of the public is siting the tank in an area that has the least visual impact to the community". Then proposing to locate two (2) sites (Sites B and H) adjacent to a four-lane divided highway having an average daily traffic count (ADT) of 15,593 vehicles per day (VPD).

In conclusion, this report has demonstrated that the PhotoScience Siting Study does not contain one scintilla of the EPRI-GTC Overhead Electric Transmission Line Methodology, is not based on sound engineering principles and methodology or cost evaluation, and did not conclude with a recommended alternative site. In contrast, application of these evaluations basics to the alternates proposed by PhotoScience Siting Study demonstrates that the Proposed Switzer Site is the most obvious and desirable location for the proposed 1.0 MG elevated storage tank.

APPENDIX A

Kentucky Infrastructure Authority

Proposed Project Website

January 7, 2013

ESRI Streets

Legend

SITE A

SITE B
BROWN SITE

SITE C
SWITZER SITE

SITE D

SITE E

SITE F

SITE G

SITE H

Newton

LEGEND

- STUDY AREA OF PROPOSED TANK SITE (1,320 FEET RADIUS)
- DISTRICT BOUNDARY
- PROPOSED TANK SITE
- ALTERNATE TANK SITES

GRAPHIC SCALE: 1" = 600'

Q:\SCCESWORK\WO3569\PVA MAPPING.dwg, 1/11/2013 7:53:03 AM

KIA > WRIS > WRIS Portal > **Project Data**

Reload < Click here to reload the last saved version of this page.

User Login: Password: **Login**

WRIS Project Data

Search the WRIS for drinking water or waste water projects by entering any combination of the following fields:

Regulatory Framework: Safe Drinking Water Act (Water)
Area Development District: Bluegrass View Map
Legislative District:
Planning Unit:
Primary County:
Project Status:
Funding Source:
Funding Status:
Applicant: Jessamine-South Elkhorn Water District
Project Administrator:
Project Engineer:
Project Engineering Firm:
Project Number*:
DOW Permit ID*:
Project Title*:

Legislative District Options	
District Type:	Sort Option:
(•) Kentucky House	(•) By District Number
( ) Kentucky Senate	( ) By Legislator
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* Indicates a fuzzy search will be performed on these fields.

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PNUM	Applicant	Project Status	Funding Status	Schedule (yrs)	Project Cost	Project Title	Primary County	Profile Modified	GIS Modified
WX21113001	Jessamine-South Elkhorn Water District	Constructed	Fully Funded	Constructed	$1,750,000	Keene Reconstruction & Northwest Hydraulic Reinforcement	Jessamine	12-07-2010	08-02-2010

WX21113004	Jessamine-South Elkhorn Water District	Constructed	Partially Funded	Constructed	$1,600,000	Southeast Rural Jessamine Unserved Areas	Jessamine	12-07-2010	08-02-2010
WX21113016	Jessamine-South Elkhorn Water District	Approved	Partially Funded	0-2 Years	$2,192,000	Catnip Hill Pike 1.0 MG Elevated Storage Tank	Jessamine	11-05-2012	08-02-2010
WX21113029	Jessamine-South Elkhorn Water District	Approved	Not Funded	0-2 Years	$3,025,300	Jessamine S. Elkhorn Northwest Watermain Replacement and Hydraulic Looping	Jessamine	11-27-2012	12-04-2012
WX21113031	Jessamine-South Elkhorn Water District	Approved	Not Funded	0-2 Years	$709,000	Fort Bramlett/Camp Nelson Waterline Extension	Jessamine	12-02-2012	12-27-2010
WX21113036	Jessamine-South Elkhorn Water District	Approved	Not Funded	3-5 Years	$125,000	Water Asset Management and Cost of Services Survey Jessamine South Elkhorn	Jessamine	02-22-2012	09-21-2010
WX21113038	Jessamine-South Elkhorn Water District	Under Construction	Partially Funded	0-2 Years	$623,531	Jessamine - South Elkhorn Water District - Southeast Rural Jessa	Jessamine	03-06-2012	09-07-2010

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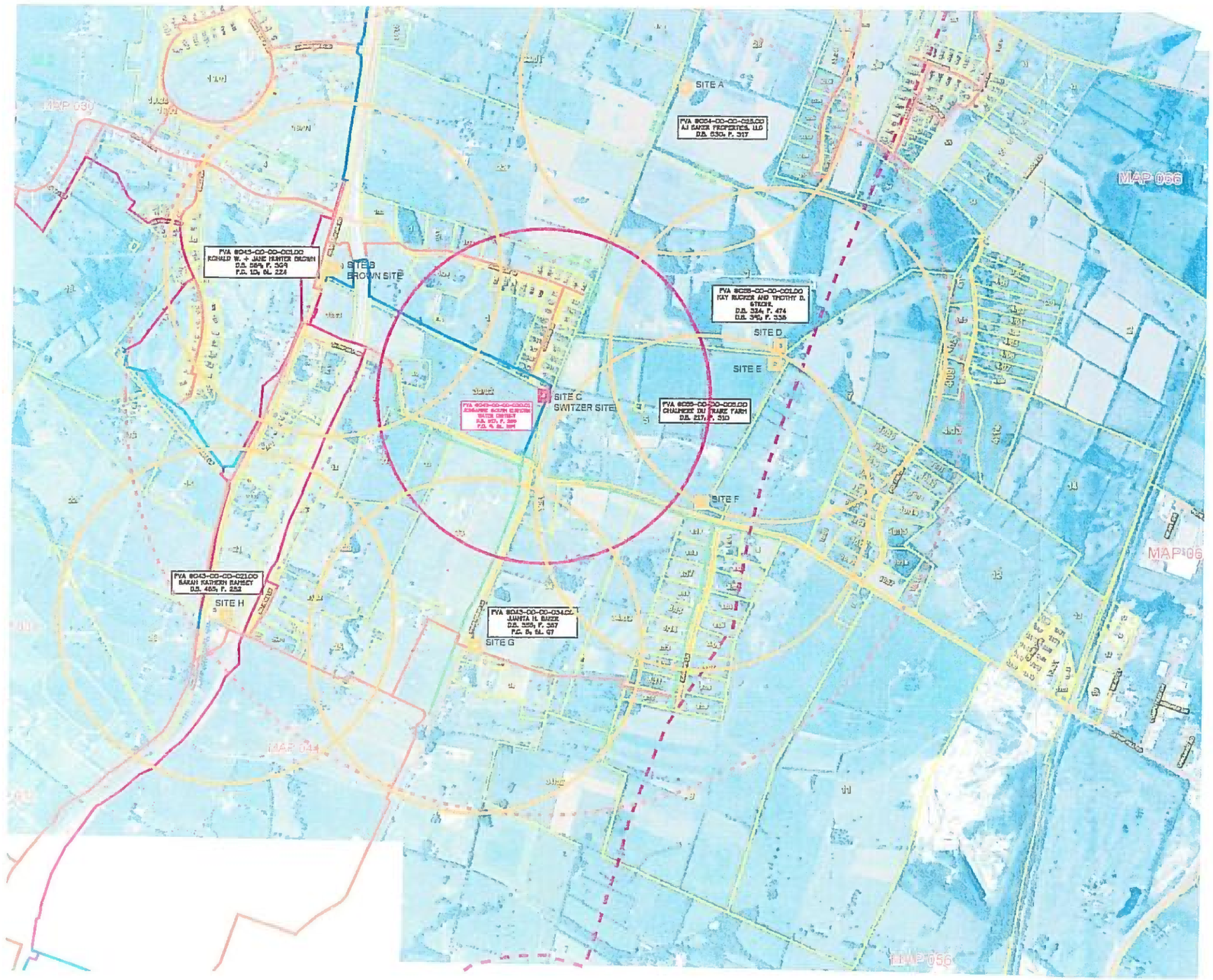
APPENDIX B

Composite Map of Study Sites

January 9, 2013



LEGEND

- STUDY AREA OF PROPOSED TANK SITE (0.25 MILE RADIUS)
- DISTRICT BOUNDARY
- STUDY AREA OF PROPOSED TANK SITE (0.5 MILE RADIUS)
- PROPOSED TANK SITE
- STUDY AREA OF ALTERNATE TANK SITES (0.5 MILE RADIUS)
- ALTERNATE TANK SITES

—WATERLINES—

- 2", 3" ORANGE
- 4" GREEN
- 6" RED
- 8" MAGENTA
- 10" CYAN
- 12" BLUE

PROJECT Forest Hills HOA

DATE

3/9/11

PLEASE PRINT

NOTES

1. Sonny Bates
2. Madeline Helm
3. Kandy Klee Crabbe
4. Logan Davis
5. Jim Elliott
6. Donald R Douglas
7. [illegible]
8. [illegible]
9. Rob D'Lorenzo
10. Lisa [illegible]
11. Adel Sfar
12. Robert Doyle
13. Shellie Haley
14. Kat [illegible] Kotwing
15.

PREPARED BY

PAGE

FHNA Spring Meeting

March 9, 2011

The spring 2011 meeting of the Forest Hills Neighborhood Association (FHNA) was held on Wednesday, March 9, 2011 at the home of Pat and Sonny Bates 704 Chinkapin Drive.

The meeting was called to order by President Sonny Bates at 7:10 p.m.

All members present introduced themselves. A list of attendees was captured on a sign-in sheet.

President Bates provided an overview of the one million gallon water tower proposed for construction within the FH community. A map showing the various locations of property, easements, community green space and the proposed as well as potential water tower sites was available for perusal.

The overview included the following:

- The decision to construct the water tower at the proposed site (at the end of Chinkapin) was made years earlier before Forest Hills was fully developed).
- Barry Mangold, the developer of Forest Hills was aware years earlier of the location for the proposed water tower.
- The South Elkhorn Water Board has funding available to construct the water tower that must be expended by April 2012.
- Their is agreement that the water tower is needed as currently water is turning over too quickly.
- Several meetings of the water board have been attended by FHNA reps. These representatives have made numerous contacts, had a multitude of conversations with key individuals and proposed several options regarding the water tower placement.
- Bob Douglass contacted the Public Service Commission (PSC)-the PSC is not placing pressure on South Elkhorn to complete this project.
- Logan Davis reported on the most recent water board meeting where it appeared all previously discussed options were no longer under consideration and the discussion seemed to suggest South Elkhorn intended to move aead with the original plan.
- Lloyd McMillan on whose property the water tower is proposed is willing to offer a different parcel for a price and some future development considerations (access to Chinkapin).
- Ron Brown, the owner of the farm within FH is willing to sell 1 acre for $65K.
- Attempts have been made to discuss issue with Sue Switzer-further attempts needed.

FHNA Spring Meeting

* * *

Extensive discussion followed the overview with the following possible and agreed {A} to actions:

- FH should acquire legal representation. {A}
- Bobby Watts of Stoll, Keenon who has extensive utility law experience should be contacted to represent FH. {A} JE
- A letter from Bill Arvin was also recommended as he knows Mrs. Switzer {A} LD
- Continue to urge South Elkhorn to consider US 68 and the McMillan property as options for the tower construction.
- Have a letter written on behalf of FHNA to the South Elkhorn Water Board regarding FHNA's concern regarding the water tower placement. {A} JE
- Contact the Harrods Ridge NA to stress the negative aesthetic the tower will have for all neighborhoods in the vicinity. {A} SB
- Contact the Keene Manor NA as above {A} LT
- Contact Hunter Daughtery Circuit Court Judge to perhaps solicit his support. BD
- Contact Ben Campbell to determine the impact of the tower on home values (it was noted that due to the downturn in the real estate market comps for new and refinanced loans are being taken from outside the immediate residential communities i.e for Forest Hills comps from Harrods Ridge and Keene Manor are being used).
- A follow-up meeting will be called within the next several weeks to hear updates and determine next best steps.

It was generally agreed that a one million gallon water tower built within Forest Hills was undesirable and that all else failing, litigation while not the preference, was an option all agreed the FHNA would pursue.

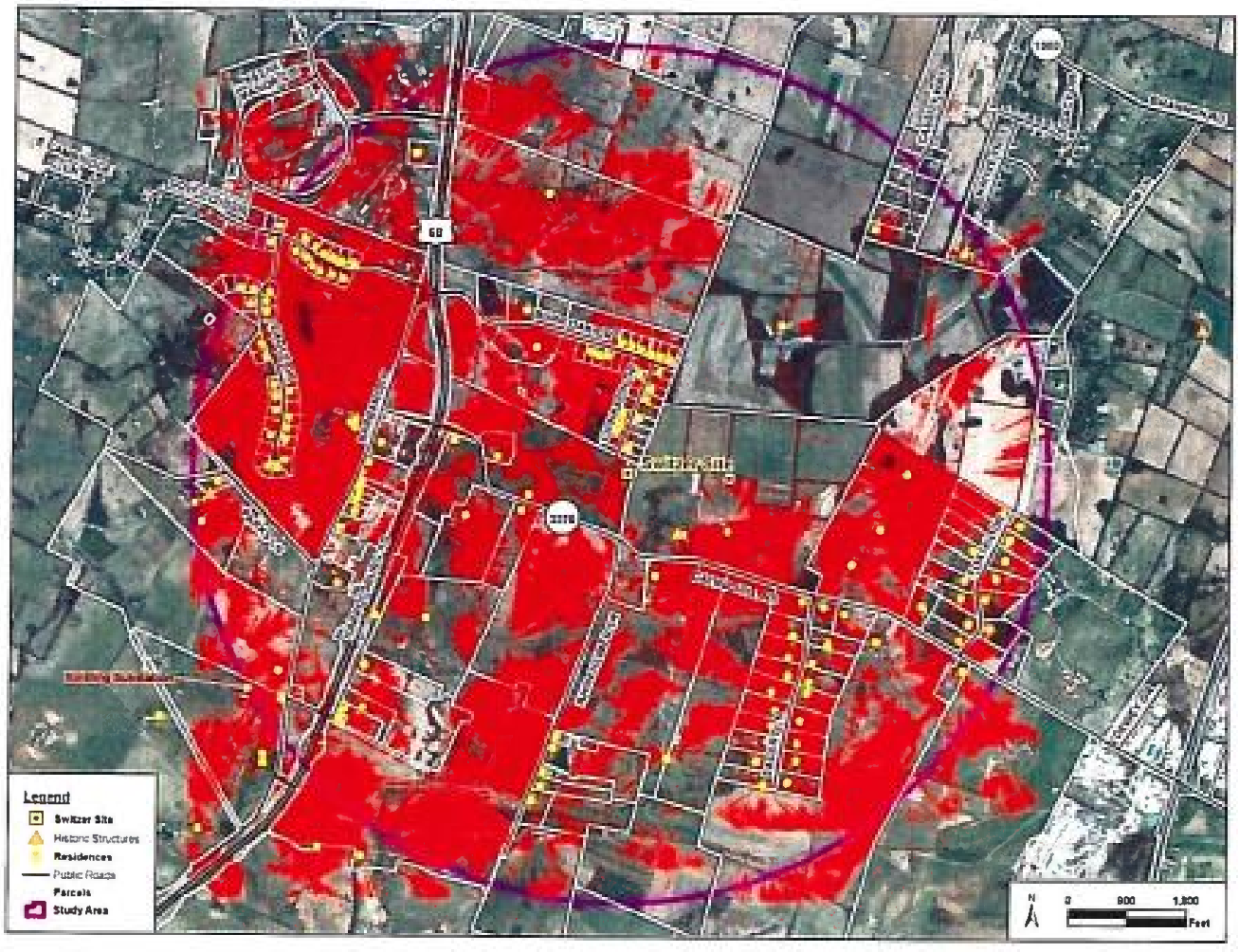
The special called meeting of the FHNA adjourned at 8:52 p.m.

Respectfully Submitted,

Marlene Helm

Secretary

5. Built Environment with Viewshed



An important concern of the public is siting the tank in an area that has the least visual impact to the community. In order to determine areas that could be seen from residences, a viewshed analysis was performed using GIS technology. Viewshed analysis simply calculates the line of sight from residences to other locations in the area based on the map of the terrain and vegetation. The areas in red on this map are visible from residences. Therefore, the areas without red represent siting opportunities.

ETHICS RULE

An appraiser must promote and preserve the public trust inherent in appraisal practice by observing the highest standards of professional ethics.

An appraiser must comply with USPAP when obligated by law or regulation, or by agreement with the client or intended users. In addition to these requirements, an individual should comply any time that individual represents that he or she is performing the service as an appraiser.

Comment: This Rule specifies the personal obligations and responsibilities of the individual appraiser. An individual appraiser employed by a group or organization that conducts itself in a manner that does not conform to USPAP should take steps that are appropriate under the circumstances to ensure compliance with USPAP.

This ETHICS RULE is divided into three sections: Conduct, Management, and Confidentiality which apply to all appraisal practice.

Conduct:

An appraiser must perform assignments with impartiality, objectivity, and independence, and without accommodation of personal interests.

An appraiser:

- **must not perform an assignment with bias;**
- **must not advocate the cause or interest of any party or issue;**
- **must not accept an assignment that includes the reporting of predetermined opinions and conclusions;**
- **must not misrepresent his or her role when providing valuation services that are outside of appraisal practice;**
- **must not communicate assignment results with the intent to mislead or to defraud;**
- **must not use or communicate a report that is known by the appraiser to be misleading or fraudulent;**
- **must not knowingly permit an employee or other person to communicate a misleading or fraudulent report;**
- **must not use or rely on unsupported conclusions relating to characteristics such as race, color, religion, national origin, gender, marital status, familial status, age, receipt of public assistance income, handicap, or an unsupported conclusion that homogeneity of such characteristics is necessary to maximize value;**
- **must not engage in criminal conduct;**
- **must not willfully or knowingly violate the requirements of the RECORD KEEPING RULE; and**
- **must not perform an assignment in a grossly negligent manner.**

Comment: Development standards (1-1, 3-1, 6-1, 7-1 and 9-1) address the requirement that "an appraiser must not render appraisal services in a careless or negligent manner." The above requirement deals with an appraiser being grossly negligent in performing an assignment which would be a violation of the Conduct section of the ETHICS RULE.

(a) **identify and analyze the effect on use and value of existing land use regulations, reasonably probable modifications of such land use regulations, economic supply and demand, the physical adaptability of the real estate, and market area trends; and**

Comment: An appraiser must avoid making an unsupported assumption or premise about market area trends, effective age, and remaining life.

(b) **develop an opinion of the highest and best use of the real estate.**

Comment: An appraiser must analyze the relevant legal, physical, and economic factors to the extent necessary to support the appraiser's highest and best use conclusion(s).

Standards Rule 1-4

In developing a real property appraisal, an appraiser must collect, verify, and analyze all information necessary for credible assignment results.

(a) **When a sales comparison approach is necessary for credible assignment results, an appraiser must analyze such comparable sales data as are available to indicate a value conclusion.**

(b) **When a cost approach is necessary for credible assignment results, an appraiser must:**

(i) **develop an opinion of site value by an appropriate appraisal method or technique;**

(ii) **analyze such comparable cost data as are available to estimate the cost new of the improvements (if any); and**

(iii) **analyze such comparable data as are available to estimate the difference between the cost new and the present worth of the improvements (accrued depreciation).**

(c) **When an income approach is necessary for credible assignment results, an appraiser must:**

(i) **analyze such comparable rental data as are available and/or the potential earnings capacity of the property to estimate the gross income potential of the property;**

(ii) **analyze such comparable operating expense data as are available to estimate the operating expenses of the property;**

(iii) **analyze such comparable data as are available to estimate rates of capitalization and/or rates of discount; and**

(iv) **base projections of future rent and/or income potential and expenses on reasonably clear and appropriate evidence.**[13]

Comment: In developing income and expense statements and cash flow projections, an appraiser must weigh historical information and trends, current supply and demand factors affecting such trends, and anticipated events such as competition from developments under construction.

(d) **When developing an opinion of the value of a leased fee estate or a leasehold estate, an appraiser must analyze the effect on value, if any, of the terms and conditions of the lease(s).**

---

[13] See Statement on Appraisal Standards No. 2, *Discounted Cash Flow Analysis*.

(e) **When analyzing the assemblage of the various estates or component parts of a property, an appraiser must analyze the effect on value, if any, of the assemblage. An appraiser must refrain from valuing the whole solely by adding together the individual values of the various estates or component parts.**

Comment: Although the value of the whole may be equal to the sum of the separate estates or parts, it also may be greater than or less than the sum of such estates or parts. Therefore, the value of the whole must be tested by reference to appropriate data and supported by an appropriate analysis of such data.

A similar procedure must be followed when the value of the whole has been established and the appraiser seeks to value a part. The value of any such part must be tested by reference to appropriate data and supported by an appropriate analysis of such data.

(f) **When analyzing anticipated public or private improvements, located on or off the site, an appraiser must analyze the effect on value, if any, of such anticipated improvements to the extent they are reflected in market actions.**

(g) **When personal property, trade fixtures, or intangible items are included in the appraisal, the appraiser must analyze the effect on value of such non-real property items.**

Comment: When the scope of work includes an appraisal of personal property, trade fixtures or intangible items, competency in personal property appraisal (see STANDARD 7) or business appraisal (see STANDARD 9) is required.

Standards Rule 1-5

When the value opinion to be developed is market value, an appraiser must, if such information is available to the appraiser in the normal course of business:[14]

(a) **analyze all agreements of sale, options, and listings of the subject property current as of the effective date of the appraisal; and**

(b) **analyze all sales of the subject property that occurred within the three (3) years prior to the effective date of the appraisal.**[15]

Comment: See the Comments to Standards Rules 2-2(a)(viii) and 2-2(b)(viii) for corresponding reporting requirements relating to the availability and relevance of information.

Standards Rule 1-6

In developing a real property appraisal, an appraiser must:

(a) **reconcile the quality and quantity of data available and analyzed within the approaches used; and**

(b) **reconcile the applicability and relevance of the approaches, methods and techniques used to arrive at the value conclusion(s).**

[14] See Advisory Opinion 24, *Normal Course of Business*.

[15] See Advisory Opinion 1, *Sales History*.

Mauricio Rodriguez, PhD, and C, F. Sirmans, SRPA, PhD

Quantifying the Value of a View in Single-Family Housing Markets

How much is a "good view" worth in 'a single-family housing market? While the market value of a view amenity may be difficult to estimate, this article demonstrates the use of multiple regression analysis to estimate the value of a view in a residential housing market. Although the empirical results may be location specific, the basic technique illustrated here could be used in other markets.

Determining why housing prices differ, and how much this difference can be attributed to particular distinguishing features, is a difficult task. The market value of "a good view" may be difficult to estimate. Paired-sales analysis may be used to estimate the value of a view when appropriate comparables are available; however, appropriate comparables are often unobtainable, making it difficult to simultaneously examine several features that are believed to affect real estate prices.

Adjustments for items that are difficult to measure (e.g., a view amenity), however, may significantly contribute to the value of a property, and therefore should be examined by appraisers. The Appraisal Institute recommends that appraisers consider the view of a parcel of real estate when estimating property value.[1] The standard appraisal form requires, when appropriate, an adjustment for view.[2] There is little guidance, however, on how to arrive at an adjustment amount, especially when paired sales are not available.

Multiple regression analysis (MRA) can be a useful tool in estimating the appropriate adjustment for a view amenity. In this article, MRA is applied to estimate the

1. Appraisal Institute, *The Appraisal of Real Estate*, 10th ed. (Chicago: Appraisal Institute, 1992), 301.
2. Ibid., 567.

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market value of a view amenity in a residential real estate market.[3]

An informal survey of real estate professionals active in the subject area revealed that homes with attractive views are preferred to homes without such views. However, some sales agents said that the marketplace does not provide a premium for sellers of homes with good views, while others suggested that homes with good views often sell for 5% to 15% more than comparable homes that do not provide these views.[4]

DATA

The data for this study come from Fairfax County, Virginia. A typical regression model for residential real estate is employed. Models such as these traditionally include variables to control for physical and location characteristics, market conditions, and unusual conditions of sale, such as nonmarket financing. We control for location characteristics by selecting sales from the same geographic subarea of Fairfax County.

None of the transactions in our sample contains any unusual conditions of sale. Transactions involving duress (e.g., foreclosure or eminent domain cases); transfers between related parties; transfers of convenience (e.g., to correct title, to create joint tenancy, to avoid a lien); transfers to nonprofit institutions; transfer of doubtful titles (e.g., questionable special warranty deed or quit claim deed); transfer of partial interest; and transfers involving nonmarket financing are not included in the sample.

For further control purposes the data had to meet the following criteria: 1) the zoning is residential and the land use is residential, single-family, and detached; 2) the sale date must be between the start of 1985 and the end of 1991; 3) the property is not exempt from local property taxes; and 4) the property must be purchased by an owner-occupant.

There are many variables that could be included in a real estate pricing model. Any variable that is believed to significantly affect the value of real estate could be considered. To be included in a model, the characteristics should vary among at least a few of the properties being analyzed. If there is no variation in a particular characteristic, there will be no need to make adjustments for that characteristic.

Any empirical model can be subject to criticisms regarding the exclusion of particular variables or the functional form employed.[5] The best an appraiser can do is to use a model believed to most reflect the "true" model. Appraisers must of course be able to gather data to control for the characteristics of interest. In this study, we control for all of the varying characteristics that affect the value of the properties under study, and for which we were able to obtain data.

All homes in this sample have air conditioning and none are in a recorded floodplain. Therefore these characteristics are not a part of our model. The total sample contains 194 observations.

MODEL

The model to be estimated is:

$$LNSP_i = f(BED_i, BATHS_i, OTHRMS_i, LANDAREA_i, VIEW_i, YEAR_i, SQOUT_i, WF_i, AGE_i)$$

where the dependent variable $LNSP_i$ is the natural log of the sale price of the ith house in year t, and the independent variables are defined as follows:[6]

BED_i = Number of bedrooms[7]
$BATHS_i$ = Number of bathrooms
$OTHRMS_i$ = Number of other rooms

3. For a review of the basic issues related to MRA see Lloyd T. Murphy III, "Determining the Appropriate Equation in Multiple Regression Analysis," *The Appraisal Journal* (October 1989): 498-517. See also Appendix B in *The Appraisal of Real Estate*. For a more in-depth discussion see George G. Judge et al., *Introduction to the Theory and Practice of Econometrics*, 2d ed. (New York: John Wiley & Sons, 1988); and William H. Green, *Econometric Analysis*, 2d ed. (New York: Macmillan Publishing Company, 1993).
4. Obviously, all parcels of land provide a view of one form or another even if it is a neighbor's brick wall. In this study we are *defining* view as a "good view"; that is, something that a typical buyer is likely to find appealing.
5. Excluding variables may lead to biased estimation.
6. The results are qualitatively the same when sale price is the dependent variable.
7. We would prefer to include the square footage of living space as an explanatory variable, but only room count data were available. The model was checked for multicollinearity and little correlation was found between the variables in the model.

$LANDAREA_i$ = Lot size in thousands of square feet
$VIEW_i$ = *1* if the house has a good view and zero otherwise[8]
$YEAR_{t,i}$ = 1 if the house sold in year t and zero otherwise
$SQOUT_i$ = Amount of constructed space other than the house in thousands of square feet. (This includes garages, carports, and work sheds.)
WF_i = *1* if the house has wood floors and zero otherwise
AGE_i = Age of the house in years

It is expected that buyers will pay more for more space. Therefore the number of bedrooms, bathrooms, other rooms, square feet of constructed space outside of the house, and land area are expected to be positively related to sale price. Similarly, buyers are expected to pay more for more costly amenities such as wood floors.[9] Wood floors are therefore expected to be positively related to sale price.

Further, buyers are expected to pay more for homes with nicer views than similar homes without views. If appropriate data were available, one could estimate how different views are related to house prices (e.g., views of lakes or golf courses could be examined). This study is limited to an examination of homes with a good view in general versus those without such a view. View is expected to be positively related to sale price.

Age should be negatively related to sale price because, all else being equal, older houses have experienced greater depreciation. The time variables that control for market conditions are expected to be positively related to sale price. In light of the appreciation experienced in the subject market, the time variable coefficients are expected to be positive and large in magnitude for most of the time periods studied.

Table 1 contains descriptive statistics for the variables used in the model. The average home sold for about $281,000. Twenty-seven, or about 14%, of the homes in the sample have a good view. The average age of the homes in the sample is about 14 years. Approximately 17% have wood floors. The sample is evenly distributed through time with each year containing about 15% of the sales.

RESULTS

Initially, ordinary least squares is used to estimate the model. Overall, the model is significant at the 1% level of significance (f-value = 38). The adjusted R^2 indicates that about 73% of the variance in the de-

TABLE 1 Descriptive Statistics for Sample of 194 Single-Family Detached Homes in Fairfax County, Virginia

Variable	Mean	Standard Deviation	Minimum	Maximum
SP	281,010	66,829	157,500	455,737
BED	3.845	.591	3	5
BATHS	3.263	.626	2	5
OTHRMS	4.665	.908	3	7
LANDAREA	17.426	11.341	4.743	88.818
VIEW	.139		0	1
WAR86	.170		0	1
YEAR87	.144		0	1
YEAR88	.155		0	1
YEAR89	.149		0	1
YEAR90	.129		0	1
YEAR91	.160		0	1
SQOUT	2.322	.461	1.268	3.934
wF	.165		0	1
AGE	13.881	6.272	2	28

9n thousands of square feet.

8. The classification of which houses possess a good view was provided by the Office of Assessments of Fairfax County, Virginia.

9. In this study, the homes that did not have wood floors possessed floors made from less costly materials such as linoleum.

pendent variable is explained by the independent variables.

The results were checked for serial correlation and heteroskedasticity. [10] No problems associated with serial correlation were found, but there is evidence of heteroskedasticity. The form of heteroskedasticity is unknown; therefore, we used White's heteroskedasticity-consistent covariance matrix estimation procedure to correct for the unknown form."

Table 2 displays the results after adjusting for heteroskedasticity. All independent variables have the expected sign and all are strongly significant. The time-trend variables that control for market conditions show that house prices increased through the second half of the 1980s, followed by a decline in 1991.

Of particular interest for this study, a good view *(VIEW)* is positively related to the sale price and is significant at the 5% level. An appraiser making an adjustment in the studied geographic area would add about 8% to reflect the market value of a good view. [12]

TABLE 2 Regression Results'

Variable	Estimated Coefficient	T-Ratio
CONSTANT	11.4520	120.30
BED	.0682	3.19
BATHS	.0666	4.08
OTHRMS	.0207	1.93
LANDAREA	.0019	3.18
VIEW	.0761	2.00
WAR86	.1921	3.47
YE4R87	.2486	4.77
YEAR88	.4031	7.26
YE4R89	.4561	8.15
YEAR90	.4801	8.16
YEAR91	.4262	7.59
SQOUT	.1400	5.32
WF	.0900	3.10
AGE	-.0161	-10.09
Adjusted R^2 = .729		
N = 194		
F-Value = 38.019		

'All estimated coefficients have the expected sign and all are strongly significant. Of particular interest for this study, a good view *(VIEW)* is positively related to the dependent variable *(LNSP)*, and is significant at the 5% level.

CONCLUSION

The hypothesis that a view amenity has no effect on the market price of residential real estate is rejected for this particular dataset. [13] This article illustrates how MRA can be used to arrive at an estimate of the market value of a good view. This may be useful for appraisers to apply when the needed data are available, and especially when appropriate comparables for paired-sales analysis are not available. For the housing market examined, a good view adds about 8% to the value of a single-family house.

Appraisers should remember that there may be excluded variables for any model to be estimated and that countless potential functional forms exist. Therefore, MRA is meant to be a useful tool for analysis rather than a replacement for good judgment in appraising.

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Mark, Jonathan and Michael A Goldberg. "Multiple Regression Analysis and Mass Assessments: A Review of the Issues." *The Appraisal Journal* (January 1988): 89-109.

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Plattner, Robert H, and Thomas J. Campbell. "A Study of the Effect of Water View on Site Value." *The Appraisal Journal* (January 1978): 20-25.

10. In the basic regression model, heteroskedasticity is present when the errors do not possess a homogeneous variance. When heteroskedasticity is present, the conventional least squares estimator leads to estimators that are not minimum variance estimators. Thus the standard errors of the coefficients are too small, leading to a potentially incorrect interpretation regarding the significance of the coefficients.

11. Halbert White, "A Heteroskedasticity-Consistent Covariance Matrix Estimator and Direct Test for Heteroskedasticity," *Econometrics* (May 1980): 817-886.

12. The estimated coefficient is .07614, yielding an adjustment of .07833. Interpretation of dummy variable coefficient when the dependent variable is in log form is described by Peter Kennedy, "Estimation with Correctly Interpreted Dummy Variables in Semilogrithmic Equations," *American Economic Review* (1981): 801.

13. In "Residential Property Tax Capitalization: Discount Rate Evidence from California," *National Tax Journal* (June 1994): 337-344, A. Quang Do and C. F. Sirmans found that a view amenity adds about 4% to the market value of housing for a San Diego County community. Although the magnitude is not the same as that found in this study, the significantly positive relationship between a view amenity and house price is preserved.

James R. Rinehart, PhD, and Jeffrey J. Pompe, PhD

Estimating the Effect of a View on Undeveloped Property Values

Although a good view is likely to increase property value, quantifying the increase in value may be difficult. Using standard data and multiple regression methods, the authors estimate the value of different types of views for undeveloped property on Seabrook Island, a barrier island off the South Carolina coast. The results show that views of a creek, a golf course, or the ocean will have significant, but varying, effects on undeveloped property values.

In using the sales comparison approach, an appraiser would adjust property value downward if a negative attribute, such as airport noise, is present and upward if a positive characteristic, such as a water view, is present. Unfortunately, it is often difficult to find pairs of properties that are closely matched on more than just one particular characteristic. When comparable sales data are not available or appropriate, multiple regression methods can provide estimates of the effect that property characteristics can have on value.

Real estate appraisers recognize that view affects property value. According to *The Appraisal of Real Estate*, "The physical characteristics of a parcel of land that an appraiser must consider are size and shape, frontage, topography, location, and view."[1] However, real estate appraisers generally find it difficult to estimate the value of a view. First, all views do not impart the same monetary value to a property. In coastal areas, property owners may have many alternative view possibilities, especially of water, such as marshes, creeks, and ocean. Second, a good view, which is less tangible than other factors (e.g., a garage), is usually difficult to measure with conventional techniques.

Researchers have estimated monetary values for some types of views. Multiple regression techniques have been used to determine that location on a lake in the Kissimmee River Basin in Florida contributes

1. Appraisal Institute, *The Appraisal of Real Estate*, 11th ed. (Chicago, Illinois: Appraisal Institute, 1996), 323.

James R. Rinehart, PhD, is a professor of economics at Francis Marion University in Florence, South Carolina. He received his PhD in economics from the University of Virginia, Charlottesville, and his research interests include environmental economics and the economics of education.

Jeffrey J. Pompe, PhD, is an associate professor of economics at Francis Marion University, and has published in numerous real estate and economic journals. He received his PhD in economics from the Florida State University, Tallahassee. His current research interests include coastal resource issues and cultural economics.

The hedonic pricing model is based on the understanding that the value of a vacant lot is composed of a bundle of individual characteristics, each of which has an implicit value reflected in the price of the lot.

"about 65% to the total value of a typical vacant residential lot," and that location on a canal, which provides water access but little aesthetic value, increases lot value by 31%.[2] In comparing identical units in the same neighborhood—some with a water view, some without—another study finds that a view of a pond adds 4%–12% to the price of a condominium in an eastern Massachusetts market.[3] A third study finds that a good view increases the value of a house by 3.5%–7%.[4] Yet another study concludes that a good view adds 8% to the value of single-family housing in a Virginia market.[5] None of the studies, however, compares types of views or explains what determines a good view.

This article estimates the value to property owners of alternative views on a coastal barrier island using standard data readily available to real estate professionals. Vacant lots rather than developed property are used and specific types of views are considered. The advantage of using vacant lots is that amenity evaluation is not affected by housing characteristics.

This study is based on Seabrook Island, a barrier island located 23 miles south of Charleston, South Carolina, and consisting of approximately 2,200 acres of land and 2,350 privately owned properties. To the north, the island is bordered by the Kiawah River; to the east, by more than two miles of the Atlantic Ocean; to the South, by the North Edisto River; and to the west, by Bohicket Creek. Development of Seabrook began in 1970. The Island is a gated community, with access limited to property owners, their guests, and renters. Traditional commercial establishments—such as grocery stores, banks, service stations, and department stores, as well as churches and schools—are just outside the entrance gates. Most lots on Seabrook are attractively spaced along winding streets, and houses are constructed with little disruption to natural vegetation. The island is heavily wooded with live oaks, pines, palms, and magnolias, and inhabited by an abundant assortment of wildlife. Many lots are located on the numerous freshwater lakes, marshes, lagoons, and creeks. Some lots are located directly on the oceanfront.

MODEL AND DATA SET

The empirical analysis is based on data collected on Seabrook's vacant lots. Multiple regression analysis is used to estimate a hedonic model. The hedonic pricing model is based on the understanding that the value of a vacant lot is composed of a bundle of individual characteristics, each of which has an implicit value reflected in the price of the lot. Therefore, if two lots are identical, except that one has a better view, one would expect that the lot with a better view would have a higher price. The price differential between the two lots represents the value of the better view. The hedonic model has produced consistent results, as evidenced by the extensive use of this approach in the real estate pricing literature.[6]

Two hundred and ninety-seven lots sold between January 1989 and July 1994 comprise the sample. The following hedonic price model is estimated:[7]

$$SP_{it} = f(SQFT_i, TIME_i, DBHT_i, WBHT_i, GOLF_i, CRK_i, OCNV_i, LAK_i, YEAR_{it})$$

where,

SP_{it} = Natural logarithm of deflated sale price for the ith lot sold in year t.

$SQFT_i$ = Natural logarithm of lot size (measured in square feet).

$TIME_i$ = Natural logarithm of the length of time on the market (from listing to sale date, measured in months).

$DBHT_i$ = Natural logarithm of the product

2. J. R. Conner, K. C. Gibbs, and J. E. Reynolds, "The Effects of Water Frontage on Recreational Property Values," *Journal of Leisure Research* (Spring 1973): 26–38.

3. Robert H. Plattner and Thomas J. Campbell, "A Study of the Effect of Water View on Site Value," *The Appraisal Journal* (January 1978): 20–25.

4. Peter W. Abelson, "Property Prices and the Value of Amenities," *Journal of Environmental Economics and Management* v. 6 (1979): 11–28.

5. Mauricio Rodriquez and C. F. Sirmans, "Quantifying the Value of a View in Single-Family Housing Markets," *The Appraisal Journal* (October 1994): 600–603.

6. For an excellent overview of the strengths and limitations of hedonic models, see A. Myrick Freeman, *The Measurement of Environmental and Resource Values: Theory and Methods* (Washington, D.C.: Resources for the Future, 1993).

7. A Box-Cox transformation process was used to examine three standard functional forms: linear, semilogarithmic, and log-log. Based on this method, the log-log model was chosen. For a discussion of functional form and the Box-Cox method, see William N. Weirick and Franklin J. Ingram, "Functional Form Choice in Applied Real Estate Analysis," *The Appraisal Journal* (January 1990): 57–73.

of distance to nearest beach and the width of high tide beach (both measured in feet).

$WBHT_i$ = Natural logarithm of the width of beach (in feet) at high tide.

$GOLF_i$ = 1 if location is directly on golf course, 0 if not.

CRK_i = 1 if there is a view of a creek or a marsh, 2 if there is a view of both a creek and a marsh, 0 if neither.

$OCNV_i$ = 1 if there is a view of the ocean, 0 if not.

LAK_i = 1 if located on a lake or a lagoon, 0 if not.

$YEAR_{it}$ = 1 if lot is sold in year t, 0 if not.

Selling price, location, and characteristics, such as square footage, were obtained from the Charleston Trident Association of Realtors® in Charleston, South Carolina. Prices are adjusted to 1989 dollars with the Boeckh Housing Index, a regional cost of building index.[8] The average lot measures 25,993 square feet and sells for $53,441. Three percent of the sample lots have an ocean view, 20% have a lake view, 26% have a creek or a marsh view, and 28% are located on a golf course. Variable descriptive statistics are listed in table 1.

TABLE 1 Descriptive Statistics for Vacant Lot Variables on Seabrook Island (N=297)

Variable	Mean	Standard Deviation
SP	53441.000	60544.000
SQFT	25992.620	12272.806
LT	11.826	10.988
DBHT	2069100.000	2129400.000
WBHT	284.426	259.359
GOLF	0.276	—
CRK	0.259	—
OCNV	0.026	—
LAK	0.202	—
Y89	0.114	—
Y90	0.080	—
Y91	0.138	—
Y92	0.205	—
Y93	0.255	—
Y94	0.205	—

Since buyers are willing to pay a higher price for more space, *SQFT*, probably the most important price determinant, can be expected to be positively related to price. A dummy variable for the year a property was sold adjusts for market conditions that may vary from year to year, and may be positive since demand has been increasing for coastal property. A variable indicating the length of time the property was listed (*LT*) is included and may be negative or positive. Some owners may sell at lower prices if a quick sale is necessary (negative) and some owners may sell at higher prices if they are extremely patient (positive).

Two variables are included in the hedonic model capturing the influence of beach width on property value (that is, the width of beach at high tide or *WBHT*) and an interaction variable *(DBHT)*. *DBHT* is created by multiplying distance to the nearest beach *(DBCH)* by beach width.[9] One would expect wider beaches to be positively related to price since greater recreational and storm protection benefits could be realized. Distance variables are derived from various area maps. Distance from the beach, measured by the road distance to the nearest beach, should be negatively related to price since less travel time to the beach is preferred.

The monetary values of the view of a creek or marsh, ocean, lake, and golf course are examined. The view variables, which are expected to be positively related to price, were determined from detailed area maps and visits to the island. Numerous visits to Seabrook were conducted to obtain and verify information requiring actual sight. A lot is defined as having a view if the property is adjacent to a body of water or a golf course. In the case of an ocean view, several properties not directly on the ocean, but with an unobstructed ocean view, are defined as having a view.

The value of a location on the water includes recreational as well as aesthetic value. Recreational benefits of location on the beach would be picked up by the beach width variable in the model. Since no properties in the sample have dock access to the water, recreational benefits are nominal.

A concern about multiple regression models is that important variables may be excluded from the model, thus biasing the estimations. One variable often included in

8. E. H. Boeckh, *Boeckh Building Cost Index Numbers* (New Berlin, Wisconsin: Thomson Publishing Corporation, 1994).

9. For a discussion of the importance of adjusting for beach quality, see James R. Rinehart and Jeffrey J. Pompe, "Adjusting the Market Value of Coastal Property for Beach Quality," *The Appraisal Journal* (October 1994): 604–608.

models of this type, but not included in this model, is the distance to the central business district (CBD). Since the nearest CBD for the study area, Charleston, does not provide jobs or services of any real significance for the residents of Seabrook, adjustment for CBD is not necessary. Variables that are correlated with the variables of interest must be included. No other neighborhood characteristics that would be important price determinants for the sample were noted.

EMPIRICAL RESULTS

The ordinary least squares estimates of the hedonic price model are listed in table 2 along with their t-values. The adjusted R^2 of 0.74 indicates that the model explains 74% of the variance in price. All variables are of the expected sign except for the *YEAR* dummy variables. All variables are significant at the 1% level except for *LT, LAK, Y90, Y91, Y92,* and *Y94. LT* is negative and significant at the 10% level. As expected, *WBHT* is positive, indicating that property buyers value wider beaches. *DBHT* is negative, indicating that lots farther from the beach decrease in value, other factors being constant. Both *WBHT* and *DBHT* are strongly significant, indicating the importance of adjusting for the beach amenity in a coastal community.

Although all *YEAR* dummy variables are negative, indicating that property values fell during this period, only *Y93* and *Y94* are significant. Several factors may explain the unexpected negative relationship. Most lots were sold after Hurricane Hugo hit the coast nearby in September 1989. Consequently, property owners in the post-Hugo period may be more concerned about the risk of damage from severe storms in coastal areas. Secondly, the 1986 federal tax reforms reduced incentives to buy real estate. Among other things, the 1986 federal tax law reduced passive losses, eliminated some interest deductions, and lengthened depreciation time for houses, apartments, and condos. Third, potential buyers were concerned about the long-term viability of the Seabrook development.

Of particular interest to the study are the view variables *CRK, OCNV, GOLF,* and *LAK.* All four are positive, while *CRK, OCNV,* and *GOLF* are strongly significant, indicating the importance of nice views to property owners. When the dependent variable is in the log form, the estimated coefficient of the dummy variable must be transformed by using the formula: $100(e^{(B1)}-1)\%$, where *B1* is the coefficient of the dummy variable. Therefore, $(e^{0.9026}-1) = 1.466$, $(e^{0.7039}-1) = 1.147$, and $(e^{0.3324}-1) = 0.3943$.[10]

The results show that ocean views add 147% to lot values, location on a creek or marsh adds 115% to lot prices, and golf course location adds 39% to lot values. Consequently, a view of the ocean, creek, and golf course would add $78,558, $61,457, and $20,842, respectively, to the average price of a vacant lot. The value added to the price of the average vacant lot for the three views is listed in the following table. The insignificance of *LAK* may result because the lakes on Seabrook are small and generally not suitable for swimming and other water sports. Also, since the lakes are small, privacy may be reduced.

TABLE 2 Estimates of Hedonic Model for Vacant Lots on Seabrook Island, South Carolina

Variable	Coefficient	T-ratio
ONE	11.3188	18.47
SQFT	0.2532	4.52
LT	-0.0522*	-1.79
DBHT	-0.3771	-20.10
WBHT	0.3500	12.58
GOLF	0.3324	5.53
CRK	0.7639	14.52
OCNV	0.9026	5.73
LAK	0.0919**	1.32
Y90	-0.0644**	-0.59
Y91	-0.0746**	-0.75
Y92	-0.0747**	-0.86
Y93	-0.3539	-4.26
Y94	-0.3408	-3.93

Notes: Dependent variable = natural logarithm of deflated selling price.

$N = 297$

Adjusted $R^2 = 0.742$

$F = 66.441$

All variables are significant at 1% level except for the following: * significant at 10%, and ** not significant.

Ocean view	147%	$78,558
Marsh or creek view	115%	$61,457
Golf course view	39%	$20,842

10. Peter Kennedy, "Estimation with Correctly Interpreted Dummy Variables in Semilogarithmic Equations," *American Economic Review*, v. 71 (1981): 802.

The results indicate that a good view can have a major impact on property value, but also that the value of views can vary greatly. The value of views may vary widely for different communities. Retirement property owners may place higher value on a view than other residential dwellers since retirees have more time to enjoy the view. Also, for lots that have dock access to a waterway, unlike those in the study, recreational benefits may increase the value of location on a waterbody. Alternatively, location on a busy lake or stream (i.e., excessive motor boat or jet ski activity) may negatively impact value.

CONCLUSION

The value of residential lots is determined by size, location, neighborhood characteristics, and market conditions. The literature reveals scant information on the value of good views, an important determinant of property value in many areas. This study contributes to the information that is available by examining the value of good views for unimproved lots on Seabrook Island. Using multiple regression techniques to estimate the value of alternative types of views as measured by lot prices, the study found that lot values are increased by 147% for ocean views, 115% for a creek or a marsh view, and 39% for a golf course view.

Barrier islands, such as Seabrook, offer property owners numerous amenities usually superior to those in most residential communities. Clearly, view amenities are valuable, and different types of good views can have significantly different quantitative effects on property values. As populations in coastal areas have increased, the demand for property with a view, especially of water, has also increased, thereby increasing land prices.

The method used here can be applied to other barrier islands as well as inland residential communities. The value of a good view may vary from one area to another, so that the estimates from this study should be used as guides, not as definitive values. Such information is of value not only to developers, but to tax assessors, potential property buyers, and real estate appraisers.

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Randall Bell, MAI

The Impact of Detrimental Conditions on Property Values

Detrimental conditions that affect property values range from temporary conditions and market perceptions to construction defects, environmental contamination, and geotechnical issues. Quantifying the impact of DCs is significantly more complex and challenging than working through the three approaches to value. The author has discovered distinctive graphic patterns in his study of DCs and grouped them into 10 general categories, each with unique characteristics. The article urges appraisers to address the costs associated with assessment, remediation, ongoing costs, and the effects of any market resistance.

There are over 200 detrimental conditions (DCs) that can affect real estate values. They include temporary easements, airport noise, construction defects, serious toxic waste, geotechnical issues, and natural disasters. Determining the diminution in property value brought about by a DC requires the application of specialized methods, procedures, and formulas. In fact, contamination and geotechnical issues present some of the most involved problems in real estate valuation.

All DCs can be classified into 10 categories, each having unique patterns and attributes that can be illustrated on a graph. Further, a DC's impact on value can vary from case to case. A DC could even be completely benign. Therefore, each situation must be independently and competently analyzed. The Bell Chart[1] defines each classification and graphs the relationship between property values and typical events (see figure 1).

DETRIMENTAL CONDITIONS MODEL

All DCs involve some or all of six basic elements that lead to an understanding of: the costs or losses associated with the assessment of the condition, the repair or remediation costs, any ongoing conditions, and any residual market resistance to the condition. The DC Model[2] illustrates the costs before, during, and after the actual remediation (see figure 2). These costs are shown as A or the value as if unaffected by

1. Randall Bell, "The Ten Standard Categories of Detrimental Conditions," *Right of Way* (July 1996): 14–16.
2. Randall Bell, "Quantifying Diminution in Value Due to Detrimental Conditions: An Application to Environmentally Contaminated Properties," *Environmental Claims Journal* (October 1996): 135.

Randall Bell, MAI, directs the real estate damages practice of PricewaterhouseCoopers in Costa Mesa, California. He specializes in the valuation of properties affected by detrimental conditions, and is the developer and an instructor of the Appraisal Institute's seminar, "Valuation of Detrimental Conditions." His book on the same subject, titled *Real Estate Damages*, will be released in 1999. Mr. Bell earned an MBA from the University of California, Los Angeles.

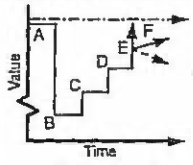
FIGURE 1 The Bell Chart: The 10 Classifications of Detrimental Conditions

Class		Detrimental Conditions
I	No Detrimental Condition (DC) or Benign Condition	Any DC If No Impact Sales Arrangement at Market *(If Over Market: II or If Under: IV)* Sale-Leaseback/Land Contract Build-to-Suit/Tenant Purchase Threat of Condemnation/Auction First Right-of-Refusal/Double Escrow
II	Non-Market Premium	Special Buyer Motivation Assemblage/Expansion Redevelopment Project Feng Shui Short-Term Windfall
III	Market Condition	Economy/Supply & Demand Recession/Depression Lease Option/Rolling Option Exercise of Option/Takedown
IV	Temporary Condition	Distress Sale*/Tragedy** Bulk-Portfolio Sale/Business Inc. High Vacancy/Temp. Easement Deferred Maintenance/Legal * Bankruptcy/Probate-Estate-Short Sale US Marshall/REO/Private REO/FDIC/RTC ** Crime Scene/Accident/Disease/Riot/Fire
V	Imposed Condition	Neighboring Issue* Eminent Domain/Bond/Tax Deed Restriction/Ground Lease Leasehold/Leased Fee Physical Depreciation/Historical * Sewage-Power-Nuclear Plant/Blight Illegal Use/Jail/EMF/Traffic-Airport Noise
VI	Building Construction Condition	Construction Defect Building Code Violations Poor Workmanship/Leaks ADA Non-Compliance Functional Depreciation
VII	Soil or Geotechnical Construction Condition	Soil Construction Drainage/Tunneling Foundation/Cut & Fill Retaining Wall or Slope Grading/Soil Compaction
VIII	Environmental Condition	Soil Contamination Building Contamination Hydrocarbons/Metals/Solvents Asbestos/Radioactive Ground Water/Landfill/LUST
IX	Natural Condition	Natural Disasters Natural Habitat Flood/Earthquake/Volcano Tornado/Landslide/Soil Types Infestation/Sulfates/Wetlands
X	Incurable Condition	Applicable to many DCs in severe situations where a complete loss or net liability exists

Analysis

There are hundreds of Detrimental Conditions (DCs) that may impact property values. The analysis of property damages starts with the DC Model, which illustrates the array of related issues. All six elements of the DC Model should be considered in every analysis. This can yield a variety of valuation patterns based upon the inclusion, exclusion and timing of each element.

Detrimental Condition Model



Key to Graphs

---- Unimpaired Value
——— Value With DC

A: Unimpaired Value
B: DC Occurs or Discovered
C: Assessment Stage
Cost & Responsibility
Use
Uncertainty Factor (Risk)
D: Repair Stage
Cost & Responsibility
Use
Project Incentive (Risk)
E: On-Going Stage
Cost & Responsibility
Use
F: Market Resistance (Risk)

Damages are benchmarked against the *Unimpaired Value*. In determining the impact on value, it is critical that a distinction be made between the DC and unrelated issues. For example, market conditions may be responsible for a change in value that is unrelated to the condition being studied.

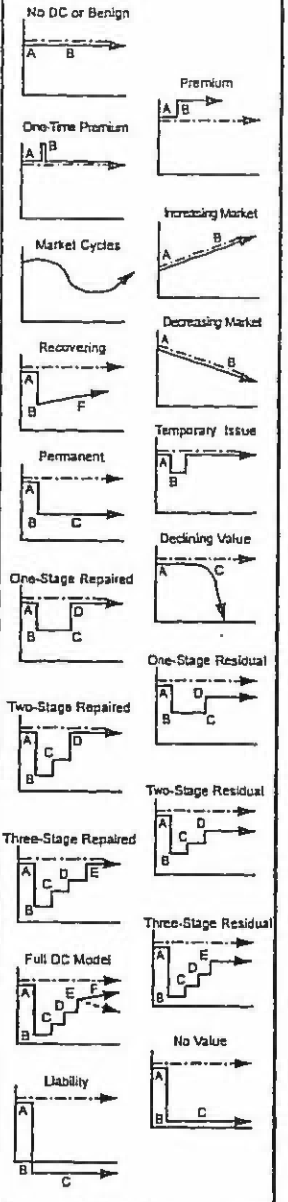
The impact of DCs on property values is ultimately an empirical question that requires the application of one or more of the three traditional approaches to value:

1. The Sales Comparison Approach utilizing market data with and without the DC.
2. The Income Capitalization Approach utilizing income and risk factors with and without the DC.
3. The Cost Approach utilizing data with and without the costs and losses associated with a DC.

The DC Model, coupled with the three approaches to value, provides the fundamental framework for the analysis of DCs.

Result

DCs have a variety of impacts which, upon analysis, vary on a case-by-case basis.



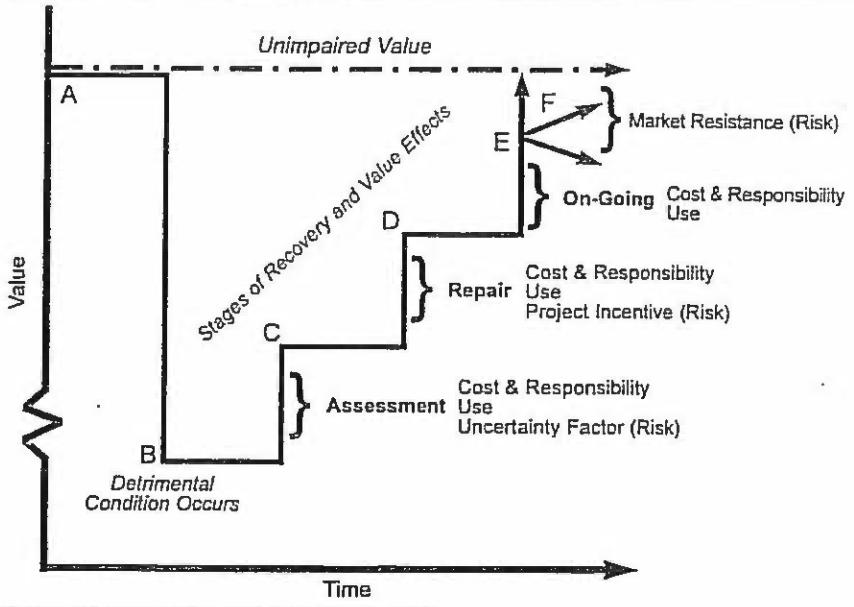
the DC; B, the value upon the realization that a DC exists; C, the value upon assessment of the situation; D, the value upon repair or otherwise resolved; E, the value upon the consideration of any ongoing costs; and F, the impact of any market resistance.

The value patterns of any DC will involve some or all of these six basic elements. For example, Classes III through VI generally utilize only components of this model, as may Classes VI and IX although they may have all the elements of the model. The point is that all elements must be considered in any DC assignment.

SIX BASIC ELEMENTS

Valuation as if no detrimental condition. The first step of a DC assignment is to value the property as if there were no DC. This es-

FIGURE 2 Detrimental Condition Model



tablishes a benchmark for the following studies.

Assessment costs. These encompass all the costs associated with monitoring and assessing the DC before any repairs or remediation, including the Phase I and II studies, soils and geotechnical studies, and other monitoring costs. These costs are provided by the engineering firms that do such monitoring, and because requests for this work are commonplace, the cost estimates are generally well established.

Remediation costs. The remediation costs represent all costs associated with the actual repairs, cleanup, and correction of the condition. A vast spectrum of costs could be included, depending on the remediation method chosen. The costs would also include any agency oversight, engineering, legal review, permits, sampling, improvement demolition, improvement reconstruction, additional scientific analysis, and backfill. Again, these costs are often provided by the engineers of the firm contracted to conduct the remediation. However, special care should be taken in reviewing the completeness of such estimates because the original cost estimates are often exceeded. The firm providing the estimates should clearly set forth whether the costs are *best case, expected case,* or *worst case* scenarios—an important point for implementing the next step.

As stated, remediation costs can exceed their original estimates. For this reason, a contingency factor may be required to adjust remediation costs to reflect a complete and reasonable cost estimate, so that the real estate market is reasonably assured that *all* reasonable remediation costs are accounted for in the estimates provided. It is important to note that the contingency factor applied to the remediation costs relate to the hard costs of remediation and should not be confused with intangible losses, such as onus or stigma. Because informed potential buyers must be reasonably assured that they have a clear indication of their potential cash liability, it is essential that the total remediation costs accurately reflect the total reasonable repair costs, not just a cursory and optimistic estimate.

Carrying costs must also be considered. During the remediation process, there may be disruptions to the property's use, resulting in a loss of rental revenues or the utility of the property. In addition, operating expenses, which may be paid by the tenant under the terms of a net lease, would also be considered.

The final element of the repair process is the project incentive. This is the entrepreneurial profit required for a buyer to purchase damaged property and make the repairs.

Ongoing costs. Some damaged properties incur ongoing costs even after repairs or remediation is completed. For example, a contaminated property may undergo continued monitoring. Formally damaged or contaminated properties may have difficulty in

obtaining financing. Lenders may not consider financing an unremediated site and may also be reluctant to finance a property that has been remediated, usually due to concerns that government agencies do not permanently certify a site as clean. The result could be an environmental review of the property, additional loan points, a higher interest rate, or a lower loan-to-value ratio. In the end, the property owner could pay additional financing costs.

A damaged property may also incur restrictions in use. For example, a formally contaminated site may be limited to industrial uses, even if it had previously been a commercial or residential use. This issue must be individually studied for any damaged property.

Market resistance. At this point, the total costs and losses are subtotaled, and an adjustment is made for the overall market resistance to the property, if any. This adjustment reflects the market's post-repair resistance to purchase the property when similar properties without a history of defectiveness are available.

Valuation as is. To derive the value, as is, all the above issues must be addressed, quantified, and deducted from the value as if no DC exists. The total losses attributable to a DC can range from being nominal to exceeding the Class I value. Additionally, the costs of remediation may actually be minor compared with all the associated costs.

DC CLASSIFICATIONS

Class I—No Detrimental Conditions or Benign Condition. Class I is the most straightforward because it involves an absence of DCs. Many DC assignments include the initial step of determining the market value as if no DC exists. The formulas relating to the concepts of Classes I through X are summarized in figure 3.

This class also involves situations in which an act or event occurs, but the issue has no effect on value. Such cases can involve any one of the DC Classes II through IX. This concept is straightforward, but it can be the grounds for litigation.

For example, a plaintiff may contend that some condition affected his or her property value, while the defendant claims that the event had no impact on value. One way to determine if an issue is, in fact, a DC is with a paired-sales analysis. In this process, market data that is clearly unaffected by the issue is collected and then compared with similar market data that is affected. If a legitimate DC exists, there will likely be a measurable and consistent difference between the two sets of market data; if not, there will likely be no significant difference between the two sets of data. When a published study about a neighborhood adjacent to a well-designed landfill in the Los Angeles area was compared with comparable neighborhoods some distance from the landfill, the results indicated no significant difference between the two neighborhoods in either current prices or appreciation rates.[3]

During the remediation process, there may be disruptions to the property's use, resulting in a loss of rental revenues or the utility of the property.

Class II—Non-market Premium. Class II includes asemblage, redevelopment zones, and other situations where the buyer paid a premium. This is a detrimental condition in terms of the higher price being paid by the buyer.

Class III—Market Condition. Class III includes the normal cycle of the real estate market when values increase, decrease, or remain level over a specific period of time. These patterns of value are simply the effects of the general economy coupled with real estate supply and demand. This is a significant classification because a certain condition might be suspected to have affected the value when, in fact, the DC was benign, and the market conditions caused the loss or gain in value.

In addition, each of the other graphs depicting the common characteristics of the impact of various DCs on value is based on level market conditions. In reality, market conditions may have an added impact in and of themselves, thereby requiring adjustments for market conditions with any one of the various classifications of DCs.

One way of measuring Class III conditions may be to study several comparable sales that resold at a later date. By comparing the initial and subsequent sales dates and values, a determination can be made about the market trends. Graphically, Class III simply reflects increased, decreased, or level market conditions over time.

Class IV—Temporary Condition. Because this class describes DCs that are only tem-

3. Donald H. Bleich, M. Chapman Findlay, III, and G. Michael Phillips, "An Evaluation of the Impact of a Well-Designed Landfill on Surrounding Property Values," *The Appraisal Journal* (April 1991): 247.

FIGURE 3 Detrimental Condition Valuation Formulas

DC Cost Approach

Unimpaired Value
- Assessment Stage Value Effects
  - Cost & Responsibility
  - Use
  - Risk (Uncertainty Factor)
- Repair Stage Value Effects
  - Cost & Responsibility
  - Use
  - Risk (Project Incentive)
- Ongoing Stage Value Effects
  - Cost & Responsibility
  - Use
  - Risk (Market Resistance)

= Impaired Value

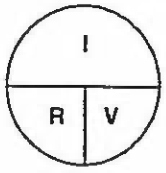
DC Sales Comparison Approach

Control Area Market Data
(No DC, Point A)
- Test Area Market Data
(With DC, Points B, C, D, E or F)

= Diminution in Value

DC Income Capitalization Approach

$$\text{Value (V)} = \frac{\text{Net Operating Income (I)}}{\text{Capitalization Rate (R)}}$$



Cost Effects, Use Effects } Impacts Income (I)

Risk Effects } Impacts Rate (R)

porary in nature, the loss in value is limited to the disruption caused by the temporary condition. The most common Class IV situation involves temporary construction easements in which a portion of a property is used by another party while adjoining construction is underway. Upon the completion of construction, the full use of the property is returned to its original state.

This temporary disruption can affect value. For example, if temporary construction disrupts the traffic patterns of a shopping center, the diminution in value may be extracted from the lost revenues, higher vacancy rates, and other related losses. The diminution in value would be in addition to the rental rate of the land being used during the temporary construction. Further, while the effects of bankruptcy are often a benign Class I DC, this situation may be a Class IV DC if there is substantial deferred maintenance or there are other temporary conditions that affect the value.

Another type of Class IV DC involves absorption losses. For example, if a particular condition causes a major tenant to vacate the building abruptly, the property value would drop upon the tenant's departure and then increase over time as the vacant space is absorbed. Absorption losses specifically include lost rents, leasing commissions, and tenant improvements.

Class IV conditions may also be the result of a crime scene or other tragic event. Media coverage of the incident might negatively influence the market's perception. Interviews with brokers and agents indicate that, when disclosed, a violent crime committed within a residence adversely affects value.[4] As depicted by the graphs, these types of conditions may either have a brief effect only or have a long-lasting effect that could diminish with time. In some extreme situations, the memories caused by the tragedy may be so unpleasant that the improvements are eventually demolished; however, the stigma tends to impact the site continously.

Measuring Class IV DCs often involve comparing the subject property to other properties in similar Class IV situations and subsequently sold to buyers informed of the tragic event. (A lower sales price is often required to entice buyers to purchase these properties.)

The Class IV graphs may reflect only a short and temporary drop in value if the condition is minor and forgotten by market participants quickly. It may also reflect a sudden drop with a gradual increase in value as the market eventually becomes more accepting of the situation.

Class V—Imposed Condition. Adverse external factors, eminent domain, undesirable acts, or forced events by another person or entity constitute Class V conditions. Specifi-

4. Sheila A. Little, "Effects of Violent Crimes on Residential Property Values," *The Appraisal Journal* (July 1988): 342.

cally, the DCs can be imposed governmental conditions such as down-zoning, special bond assessments, or the designation of a property as a historic site. Examples of adverse external factors are dumps, landfills, factories that produce noise and bad odors, neighbors that allow their property to deteriorate, and transmission lines.[5] They may also include the discovery that improvements were illegally constructed, or the development of surrounding nuisances (or perceived nuisances) such as a sewer treatment plant, airport noise, or a prison. For example, published studies illustrate that there is a measurable impact on values due to international airport noise.[6] In addition, Class VI DCs apply to eminent domain situations, especially a partial taking, and to willful acts of the property owner, such as entering into a ground lease.

In some situations, the effects of an imposed condition may be relatively easy to assess. In other cases, the imposed condition may be unclear and require special studies to predict how the market will change. Upon full investigation and assessment, the uncertainties are eliminated and the value of the property generally increases.

Graphically, Class V often reflects a sudden drop in value upon the occurrence of the DC and a permanent loss in value as a result of the imposed condition. In a situation involving diminishing effects, such as a ground lease, the leasehold value gradually decreases over time.

Class VI—Building Construction Condition. The basic premise of both Class VI and VII DCs is that they are manmade, which means that they can often be repaired. Class VI DCs involve construction issues above grade. As such, they are relatively easy to assess, and often result in the restoration of the property's full value upon completion of the repairs. Typically, the problems are self-evident, and no special studies are required to determine the scope of the problem; however, all potential losses should be addressed.

To quantify these types of DCs, the appraiser must study the cost of repairs, engineering, related services such as relocating the tenant, free rent for the tenant while repairs are being made, post-repair cleanup, and so forth. Some tenant relocation costs can partially, if not entirely, be mitigated simply by waiting until the property is vacant to make the repairs.

Depicted on a graph, a Class VI situation may show a drop in value upon the discovery of the condition and a return to full value upon the repair of the condition. In unusual circumstances, there may be an ongoing condition that remains because it is not physically or economically possible to cure, thereby resulting in a permanent loss in the value of the improvements. For example, if a construction defect cannot be economically repaired, it may be a situation similar to inadequate insulation or asbestos abatement. The most noteworthy example of this situation is asbestos-containing materials which, because they may be impractical to remove from a building, are an ongoing condition. Air monitoring may be required throughout the life of the improvements and special handing and disposal costs would be incurred if the building is eventually demolished.[7] Under this condition, the graphic illustration reflects a permanent loss of value because the condition remains, or is perceived to remain, unchanged over time.

Class VI DCs are relatively easy to assess, and often result in the restoration of the property's full value upon completion of the repairs.

Class VII—Soil or Geotechnical Construction Condition. These DCs, which involve construction issues below grade, are more difficult to assess and repair than Class VI conditions because of the challenges of assessing conditions below grade and the associated drilling, coring, and excavation. This category of DCs could include site grading; soil cut, fill, and compacting; slopes; drainage; tunneling; or retaining walls.

Often, Class VII DCs can be assessed and repaired even if the foundation must be reinforced or the improvements underpinned. Like Class VI DCs, calculating the diminution in value would involve the review of the functional utility of the property, repairs that are necessary to prevent a loss to life or property, repair costs, engineering costs, disruption to the property, etc. These conditions are manmade and can usually be corrected although in some extreme conditions, they cannot be repaired and an ongoing condition may remain, affecting the value if the functional utility of the property is dimin-

5. Hsiang-te Kung and Charles F. Seagle, "Impact of Transmission Lines on Property Values: A Case Study," *The Appraisal Journal* (July 1992): 413.

6. Marvin Frankel, "Airport Noise and Residential Property Values: Results of a Survey Study," *The Appraisal Journal* (January 1991): 96–110.

7. Randall Bell, "The Impact of Asbestos on Real Estate Values," *Right of Way* (October 1994): 10–21.

No government agency will irrevocably certify a site as clean even if the site has undergone remediation and has site closure status.

ished or the market perceives the ongoing issue to impact the value. Thus, the functional use of the property and the necessary repairs must be carefully reviewed.

For example, if a site has fill soil that is up to 100 feet deep and differential settlement occurs, it may not be economically or physically possible to install piles and extra building foundations to the bedrock to support the improvements and fully mitigate the situation. As a result, it may be reasonable to expect that the property will be more prone to earthquake damage and continued settlement damage. In this type of condition, the value of the property may be permanently impaired and beyond the other Class VI and VII categories.

On the other hand, some Class VI and VII DCs do not have any effect on the rental rates paid by tenants, or the property's liability or utility and may, therefore, be questionable as Class VI or VII DCs at all, if the capitalization rate is also unaffected.

For example, if improperly compacted shallow soils cause some minor settlement cracks on the floor of a warehouse building, and similar settlement cracks are commonly found in comparable properties with no known soils problems, the issue may not have any impact on value. This is particularly true if the tenants' use of the property is unaffected by the condition and the marketability of the space is comparable to that of similar properties.

The Class VII graph indicates a loss in value when the condition is discovered and a return to the non-impacted value upon the assessment and repair of the condition. As stated, in some unusual conditions, there may be a residual market resistance remaining even after repairs are made.

Class VIII—Environmental Condition. Class VIII involves environmental contamination such as hydrocarbons, asbestos, radioactive waste, solvents, and metals. In these situations, remediation costs must be analyzed carefully. There may be a variance between estimated and actual remediation costs.[8] However, in recent years, this concern has subsided somewhat due to the introduction of cost cap insurance and increased use of indemnifications by responsible parties. In addition, if the property is contaminated, there may be continued and justified concerns about problems and issues resurfacing in the future. The Environmental Protection Agency maintains a list of problem sites, including those yet to be investigated. These lists are available on request, and if a problem arises, a Freedom of Information Act officer can be contacted.[9] No government agency will irrevocably certify a site as clean even if the site has undergone remediation and has *site closure* status.[10] In fact, once contaminated, a site is always on *a list* and, as a result, may be reexamined in the future. Further, it is difficult to prove that all contaminants were removed and no longer exist. In other words, it is logically and scientifically impossible to prove a negative hypothesis and regardless of how much time, energy, or resources are expended, absolute assurance is impossible.[11] Figure 4 shows the general flow of activity related to a contaminated site and the possible circular nature of this process:[12] In recent years, "letters of nonresponsibility" and other mitigation techniques have elevated many of these concerns.

As shown on the chart, even with *site closure*, the sale, refinancing, or new use of a property may trigger a Phase I survey, which in turn could lead to a Phase II study. This, of course, could result in another review of the property by the government regulatory agency, with possible new political agendas or other factors altered since the previous *site closure* was issued. This means that, in rare instances, a formerly contaminated site could be subjected through the site assessment and remediation process again.

Stigma-related losses can be nonexistent, nominal or, in extreme situations, virtually destroy a property's value.[13] When environmental features are viewed as repulsive, upsetting, or disruptive, they are stigmatized as undesirable.[14] While engineering experts may possess the expertise to judge that a specific

8. Albert R. Wilson, "Emerging Approaches to Impaired Property Valuation," *The Appraisal Journal* (April 1996): 156.
9. Ralph K. Olsen, "Hazardous Waste Sites," *The Appraisal Journal* (April 1989): 234.
10. Wilson, 158.
11. Albert R. Wilson, "The Environmental Opinion: Basis for an Impaired Value Opinion," *The Appraisal Journal* (July 1994): 441.
12. Randall Bell, "Quantifying Diminution in Value Due to Detrimental Conditions: An Application to Environmentally Contaminated Properties," *Environmental Claims Journal* (October 1996): 135.
13. Peter J. Patchin, "Contaminated Properties and the Sales Comparison Approach," *The Appraisal Journal* (July 1994): 408.
14. Bill Mundy, "Stigma and Value," *The Appraisal Journal* (January 1992): 10.

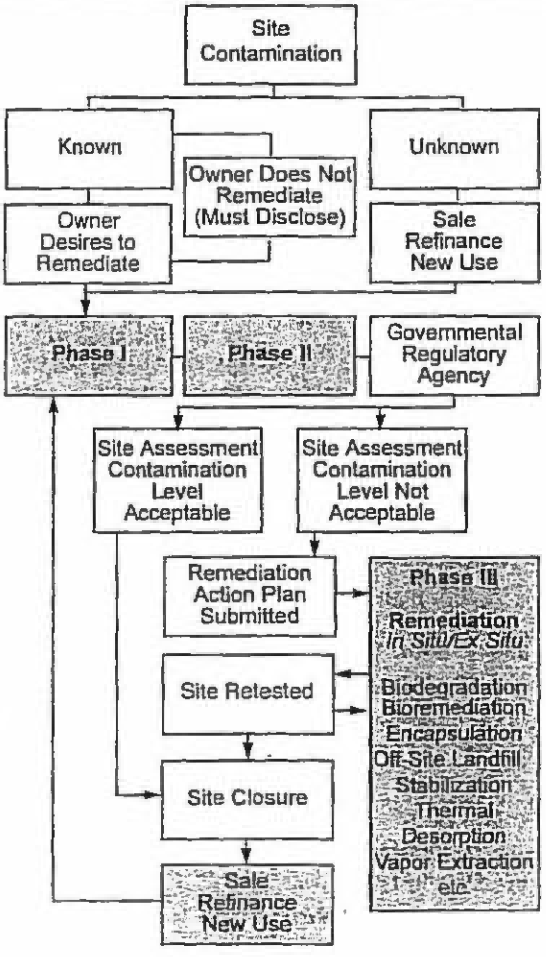
situation is not a cause for concern, the non-engineer, who is also often the potential buyer and lender, may view a formerly damaged property with skepticism. In contamination cases, the reduction in value results from the increased risk associated with the contaminated property.[15] Such ongoing concerns may create market resistance—sometimes referred to as stigma, onus, taint, or impairment—against properties that have a history of problems and have potentially incurred future liabilities or hidden cleanup costs, as well as against the general hassle involved with owning the property. With source contamination properties, all elements of the DC Model should be considered.

Class IX—Natural Condition. Class IX involves curable natural conditions that may be economically and physically repaired. These would include earthquakes, tornadoes, floods, landslides, endangered species, and other natural conditions.

These DCs may involve a significant safety issue to the occupants of the property. If the DC can be fully assessed and repaired, the property value may return to the previous level before the condition existed. However, if there is still a question about the effectiveness of the repair or remediation, there may be a residual loss of value. Again, the impact on value involves the costs to clean up or fortify the site, incidental costs, and any residual conditions. All the elements of the DC Model should be considered.

Class X—Incurable Condition. This class represents the most serious cases, for the property may not be economically or physically remedied, resulting in considerable or total loss in property value. The property may be a liability if the condition creates a

FIGURE 4 Environmental Contamination: Flow of Events



15. James A. Chalmers and Scott A. Roehr, "Issues in the Valuation of Contaminated Property," *The Appraisal Journal* (January 1993): 33.

serious hazard or the cost to repair exceeds the property value.

Examples of Class X DCs would include extreme toxic or hazardous waste issues and major landslides—situations that pose a risk to life, health, and property, and cannot be economically and physically repaired.

Even if the DC is curable, it would still be considered Class X because the problem cannot be cured by the property owner. For example, if a landslide originates in an adjoining canyon, the property owner cannot make repairs to the affected property because it belongs to another person or entity.

Class X conditions bring about a total or an overwhelming loss in value upon the discovery of the condition and are so severe that property becomes worthless or even a liability if the costs to correct the DC exceeds the property's Class I value.

Methodologies to Quantify Diminution in Value

General research sources. Regardless of the method used in quantifying the impact of a DC, market data must be collected and analyzed. The challenge is that comparable information on DCs is often not provided in typical appraisal reports. For this reason, specialized research methods must be employed. For example, if the DC is soils subsidence, a search may be conducted for all articles published on the topic. From this information, property owners and brokers may be contacted and interviewed. Also, government agencies, environmental engineers, and soils engineers often have logs of completed remediation projects from which specific projects may be identified and studied. Of course, brokers and sales agents often provide excellent leads on properties affected by DCs. Comps Infosystems, Inc., based in San Diego, California, now publishes market data nationwide that is categorized by the Bell Chart.

Paired-sales analysis. This process involves comparing sales affected by a DC with similar sales not affected by a DC. For example, a group of properties under the flight path of an airport can be compared with similar properties not located under the flight path.

Resale analysis. To conduct this analysis, the appraiser would study sales comparables and the subsequent resales of the same properties, usually to determine the increase, decrease, or level conditions of market values, or to determine the impact of a DC by comparing values before and after the DC is discovered. For example, if there is a discernible pattern to the selling prices of a specific property type, the effects and direction of the market can be determined.

Cost-to-remediate analysis. Conducting this analysis means studying the costs to remediate a DC, including engineering, tenant relocation, lost rents, demolition, repair, cleanup, new tenant improvement buildout, leasing commissions, carrying costs, etc.

Market data analysis. This analysis consists of studying the effects of DCs on other properties. Although the unique characteristics of every DC makes direct comparison difficult, market data can help support the appraiser's conclusions. A study designed to cross-reference remediation and stigma costs and losses illustrates the wide range of effects of DCs and provides market data on conditions of sales comparables (see table 1).

Direct capitalization analysis. This process capitalizes permanent lost rents brought about by a DC. For example, if a property leases for a certain rate before the construction of an adjoining sewage treatment plant and then leases for less upon the completion of the plant, the difference in the net operating income may be capitalized to determine the permanent impact of the DC. If the income and risks (capitalization or discount rates) are affected, the situation must be addressed, using specific methods.[16]

Discounted cash flow analysis. This analysis involves the calculation of the net present value of a stream of income that reflects an affected property's various costs and fluctuating revenues. If a property is undergoing asbestos abatement or soils remediation, the cash flow study would incorporate all the costs cited in the cost-to-repair approach. In addition, the cash flow would include air or ground water monitoring costs and, if some contaminants remain, any future demolition, disposal, or cleanup costs. Further, the discount rate may be increased to account for the perceived risks of property ownership, if supported by the market.

Modified cash flow studies are also required to measure the impact of a ground lease on leasehold estates. These leasehold

16. Richard A. Neustein, "Estimating Value Diminution by the Income Approach," *The Appraisal Journal* (April 1992): 283–287.

advantage studies involve the calculation of market and contract ground rents and the computation of the net present value of any difference.

ANALYZING DETRIMENTAL CONDITIONS

The basic guidelines for analyzing DCs are summarized in the following:

1. Always use market data when quantifying the impact of DCs on value. Quantifying damages based *solely* on experience and professional judgment is reckless and probably unethical, particularly when market data exists for virtually all DCs. In the absence of direct market data, surveys may be used.

   Failing to research and apply relevant market data is the single most common flaw in DC analysis. Some individuals tend to lump all DCs together when discussing or writing about various conditions. Be careful to understand the limitations of such information, as there are distinct traits for each classification of DCs.
2. Be cautious in using market data from one DC classification when attempting to quantify the diminution in value of another DC category. This is the basic concept of comparing apples to apples. The common characteristics of each class of DCs are graphically distinct. Some DCs involve repairs and some do not; some involve permanent residual conditions while others diminish over time; some involve engineering studies and others do not, and so forth.
3. An appraiser should never go beyond his or her area of expertise. It is unethical for appraisers to go beyond their area of expertise, such as assessing soils conditions, making engineering calculations, identifying contaminants, estimating the extent of damages or contamination, or estimating the time to remediate.[17]
4. Consider the reliability of remediation estimates. It is not uncommon for remediation projects to incur cost overruns. Many issues and questions should be considered, such as: Does the contractor have a contract clause that allows for additional costs? Is the property indemnified against cost overruns? Are the estimates best case, most likely, or worst case scenarios? Do bonds, cost capitalization insurance, or indemnifications exist that shift the liability overruns to the contractor, insurance company, or other party? Are the estimates itemized to reveal any additional incidental costs? Is the site assessment comprehensive enough to yield a realistic cost estimate?[18]
5. Always review the remediation costs and related engineering costs for "reasonableness." While real estate appraisers and analysts are generally not also engineers, it is not only possible but appropriate that these costs be reviewed for basic reasonableness.[19]
6. Consider all the associated repair costs. The actual cost of repair can often be relatively minor compared with all the associated costs, such as engineering costs, tenant relocation, lost rents, demolition, repair, clean-up, tenant improvement buildout, leasing commissions, and absorption. All costs should be itemized, categorized, and analyzed.
7. Never attempt to quantify damages based solely on the Bell Chart. The chart is in no way intended to quantify any loss in value. This can be accomplished only by a comprehensive study by a qualified expert. However, the Bell Chart does show the general issues, typical value patterns, and relative impact on values for various classifications.
8. Exceptions do exist, but usually only in more extreme circumstances. These charts reflect the common characteristics of DCs, but exceptions do exist. For example, a construction defect may be so major that it takes many years to repair. This situation may involve considerable disruptions to the tenants and even create media attention. In these types of conditions, the property value may be impacted by negative market reactions to the problems even after the repairs are fully completed.

Appraisers should always review the remediation costs and related engineering costs for reasonableness.

17. Appraisal Institute, "Guide Notes to The Standards of Professional Appraisal Practice, Guide Note 8—The Consideration of Hazardous Substances in the Appraisal Process" (Chicago, Illinois: Appraisal Institute, 1991): D21.
18. Ibid., Guide Note 6—Reliance on Reports Prepared by Others, D14.
19. Ibid.

TABLE 1 Soils Contamination Survey

Number	Property	Value Uncontaminated	Value Pre-remediation	Estimated Remediation	Project Incentive and Market Resistance	Actual Remediation	Estimated Versus Actual
1	Industrial	$1,100,000	$700,000	$100,000 (B)	30%	$150,000	50%
2	Service station	$550,000	$390,000	$500,000 (S)	29%	n/a	n/a
3	Subdivision	$3,800,000	$3,800,000	$250,000 (S)	0%	$100,000	-60%
4	Retail site	$9,142,368	$9,142,368	$10,000,000 (S)	0%	$20,000,000	100%
5	Industrial	$1,000,000	$400,000	$175,000 (B)	51%	n/a	n/a
6	Industrial	$700,000	$580,000	$100,000 (S)	n/a	n/a	n/a
7	Subdivision	$2,000,000	$1,268,000	$150,000 (S)	n/a	n/a	n/a
8	Auto repair	$655,000	$500,000	$100,000 (B)	10%	$30,000	-70%
9	Service station	$750,000	$340,000	$200,000 (B)	38%	$700,000	250%
10	Industrial	$500,000	$330,000	$30,000 (B)	30%	n/a	n/a

(S) = Seller paid remediation costs.

(B) = Buyer paid remediation costs.

Stigma losses computed on estimated remediation costs.

1 Project incentive and market resistance losses computed by (value uncontaminated – projected remediation) / post-remediation value.

2 Remediation still in progress at the time of interview.

3 Remediation completed by seller without a contractor reported a savings of $150,000 on this basis.

4 The seller paid all remediation costs. The property had no value contaminated.

5 Remediation not started at time of interview.

6 Sold remediated, with $150,000 in monitoring costs.

9 Buyer purchased property believing remediation costs would be low. In actuality, they were much higher than expected.

10 Remediation not started at time of interview .

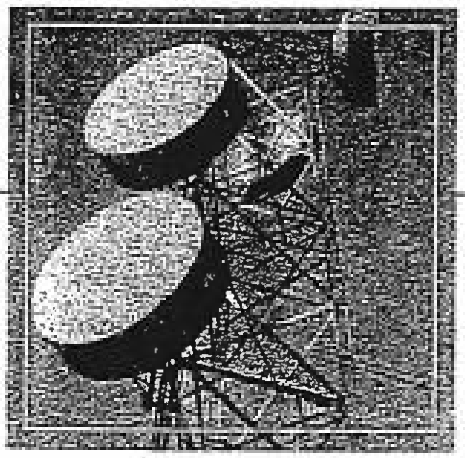
Sources: COMPS InfoSystems, Inc., San Diego, California; Orell C. Anderson of PricewaterhouseCoopers, Costa Mesa, California; and Joseph B. Haeussler, MAI, Mason & Mason, Montrose, California.

9. Study the functional utility and mitigation issues carefully. The issues related to the DC's actual impact on the utility of a property must be addressed. For example, some DCs do not require immediate repair, and the costs may be significantly mitigated by merely waiting for a naturally occurring tenant vacancy before repairing the problem. Other DCs may affect the property, but the rents, occupancy, and resale value remain unaffected. In these cases, the DC may, in fact, be benign. How the DC has had a real or perceived impact on the day-to-day use of the property must be considered. For example, a few years ago asbestos abatement was considered a necessity by many. Today the perception that asbestos is a heath risk has diminished.
10. Recognize the various dimensions of using the Bell Chart. The applications for using the standard Bell Chart classifications are far-reaching. In fact, it is possible that one property issue will involve the use of three or more classifications.

    A property owner may contend that an adjoining development caused his or her property value to decline when market conditions are actually to blame. The property owner might inappropriately use the Class V criteria and presume an impact on value, but the proper analysis would involve a Class I analysis to demonstrate that the condition is benign. Class III would be used to illustrate the real cause of the declining value. By properly classifying DCs, selecting the appropriate method, and following these basic rules, each individual situation may be more effectively and accurately studied. Relevant market data can then be researched and the proper methods applied.

CONCLUSION

Quantifying the value diminution of property affected by a detrimental condition can be a challenging appraisal assignment. The appraiser must recognize six basic issues: (1) the value as if the property is unaffected by the DC; (2) the value upon the DC's occurrence or its discovery; (3) the necessity for a proper and thorough assessment of the situation; (4) the determination of value upon completion of repairs—i.e., the condition is otherwise resolved; (5) the necessity for the value conclusion to take into account any ongoing costs; and (6) the need to examine the impact of any market resistance. In other words, the appraiser must examine the full spectrum of events—before remediation, the remediation process itself, post-remediation, and any post-repair market resistance caused by the situation. The result should be a meaningful and accurate assessment of how a detrimental condition has affected the value.



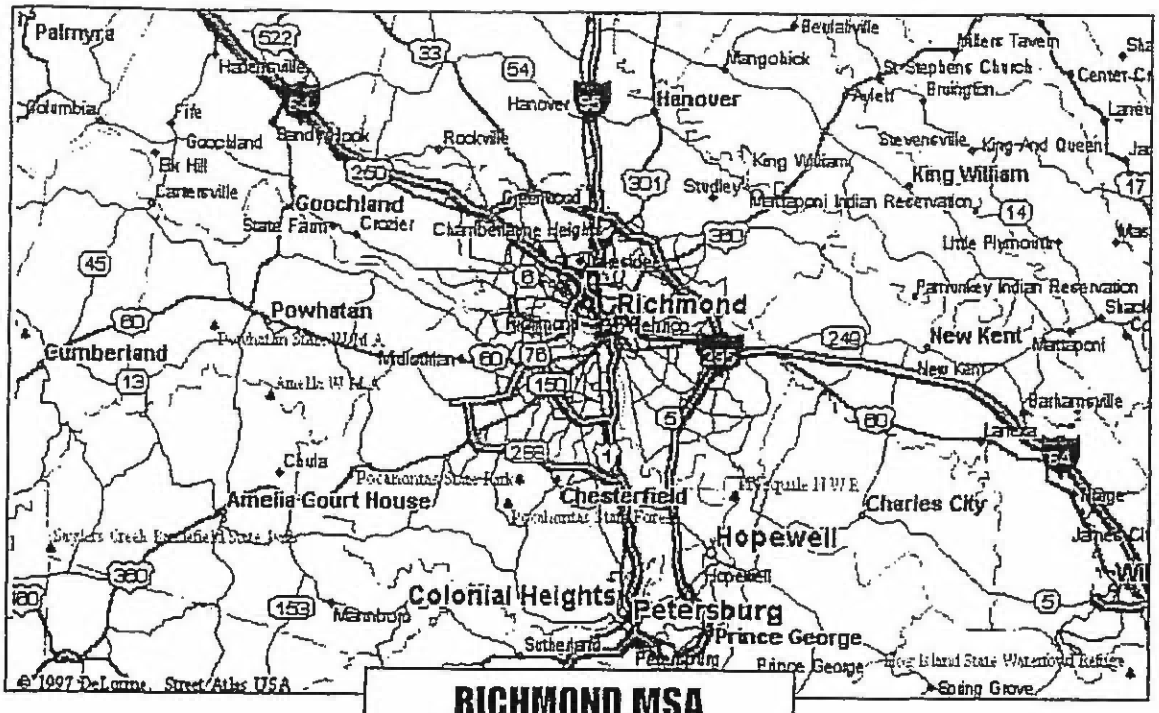
The Impact of Communication Towers on Residential Property Values

Overview

A major cellular phone provider recently hired our firm to conduct a study of the impact on residential property values due to proximity or view of communication towers. A sufficient amount of empirical data was available to develop a comparative analysis model to demonstrate the findings of this study.

By Allen G. Dorin, Jr., MAI, SRA and Joseph W. Smith, III

ROW March/April 1999



RICHMOND MSA

The methodology employed indicated that the presence of communication towers resulted in essentially no impact on residential values in the price range of $70,000 to $150,000 in those areas investigated. The upper part of this range is above the average sales price of a single-family dwelling in the Richmond MSA.

Introduction

The crux of the market study was to inform the client of the economic impact that communication towers may have on nearby improved residential housing values within the Richmond Metropolitan Statistical Area. The client specifically wanted to use the findings of the study to determine whether there was sufficient market evidence to conclude that the presence of communication towers does in fact, negatively influence the market value of improved residential dwellings by reason of proximity or view. In turn, the client intends to use the findings and conclusions of the report to assist in the acquisition of new tower sites.

Background

The subject study area is in the Richmond-Petersburg Metropolitan Statistical Area (MSA), which consists of the cities of Richmond, Petersburg, Colonial Heights, and Hopewell; and the counties of Chesterfield, Henrico, Hanover, Goochland, Powhatan, New Kent, Charles City, Dinwiddie, and Prince George in central Virginia. The following map provides a brief overview of the Richmond MSA market study area.

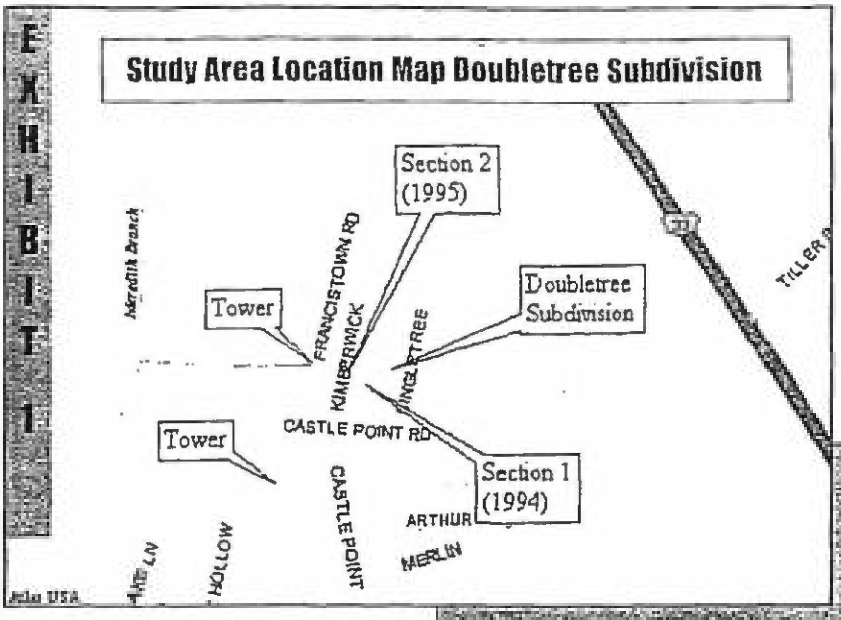
At the request of the client, the market study was restricted to the counties of Chesterfield, Goochland, Hanover, Henrico, and New Kent and the city of Richmond. A thorough search for adequate market data on which to base the findings of the study required a great deal of research and analysis from the counties previously mentioned. By process of elimination, the study parameters were reduced to the counties of Chesterfield and Henrico. The counties of Goochland, Hanover, New Kent, and city of Richmond were excluded, due to the lack of sufficient market evidence available to prove the existence, if any, of any adverse effects upon residential values because of an individual tower location. The individual test sites were eliminated for reasons such as location in remote undeveloped areas, industrial neighborhoods, commercial corridors, or along interstate highways.

From the research available, six test sites were located. These tower sites were selected based on their proximity to or visibility from residential properties that were deemed to have the possibility of potential negative impact upon property values.

Location of Test Sites

The county of Chesterfield, located in the south and southwest quadrants of the MSA had one test site located just east of a townhouse project. This county was traditionally a bedroom community of the city of Richmond until the 1970s during a period when a building boom occurred. It has become a heavily populated suburban county with a full complement of residential, commercial, and industrial land uses.

The county of Henrico, located in the western, northern, and eastern quadrants of the MSA had the remaining



five test sites used in this study. The county was the original bedroom community of the city of Richmond. Because of proximity to major linkages with the city of Richmond, its establishment as a significant suburban entity preceded that of Chesterfield County.

Tower Research

The client was particularly interested in identifying and locating communication towers in excess of 150 feet in height that may have potential negative impact on nearby residential property values. Only six existing tower sites were deemed applicable to this study out of the 77 sites inspected. The structure of the towers varied from steel lattice type to steel columnar type with guy-wire supports. Three of the tower sites were located within close proximity of single family detached residential subdivisions ranging in price from $70,000 to $150,000. This price range is typical of most first time homebuyers in the areas investigated. Of the three remaining tower sites, one was located near a multi-family residential apartment complex and the other two within view of a single family townhouse development. To clarify the methodology and analysis used to arrive at a conclusion, only one of the three residential subdivisions studied will be discussed.

Explanation of Research Methodology

Research was conducted at each of the respective localities previously mentioned in order to locate existing communication tower sites. This task was primarily accomplished by interviewing planning department officials familiar with this type improvement, obtaining copies of meeting minutes of the governing boards or council authorizing the construction of the towers, and familiarity with the general vicinity of the Richmond MSA. Based on the data obtained from research, the tower sites were plotted on maps showing their relative proximity to residential development.

Primary attention was focused upon residential properties adjacent to or surrounding each of the tower sites investigated. Those properties deemed to be located in sparsely developed areas, industrial neighborhoods, or commercial corridors were eliminated from further study.

After selecting the six test sites, further information was gathered including physical information on the respective towers, correspondence regarding the permitting process, specific public data on the residential sites deemed to be

within the potential impact area of the tower, and sales/physical data on similarly improved properties in the general vicinity but not considered impacted by the tower. If possible, interviews were conducted with property owners and real estate agents who had current listings of properties included in the analysis.

After assimilating the gathered data, a summary of each test site neighborhood was prepared by means of quantitative and qualitative adjustment techniques for a comparative analysis.

Brief Overview of Analysis

According to the Eleventh Edition of *The Appraisal of Real Estate*, published by the Appraisal Institute (Chicago: 1996, page 414), "A comparative analysis includes the consideration of both quantitative and qualitative factors. Quantitative adjustments are developed as either dollar or percentage amounts. Factors that cannot be quantified are dealt with in qualitative analysis." In essence, the quantitative method is a mathematical procedure that is typically accomplished through a paired sales or cost comparison analysis. The qualitative analysis is much more subjective in its approach, and is commonly used when no basis for a quantitative adjustment can be concluded.

The sales of the properties included in the analysis were sorted according to price paid per square foot of dwelling area after adjusting each property to a common denominator (quantitative). The potential impact of the respective tower sites was rated for each property based upon observation. The impact rating was then compared to the adjusted prices paid per square foot as an indication of any definitive correlation (qualitative).

Analysis

Doubletree Subdivision, one of the three subdivisions studied, will be examined in order to explain the methodology and thought process used throughout the study analysis. Doubletree is a 67-lot subdivision located

in a developing area in Henrico County on the east line of Francistown Road between Hungary and Springfield Roads (See Exhibit 1, page 11). Section 1 was approved in 1994 and Section 2 in 1995. Construction of the dwellings began in 1995. The majority of the lots sold over a two-year period, a rate considered average for this price range. The average lot size is .204 acre (8,903 square feet) with a minimum width of 63 feet. Improved properties sold mostly in the $135,000 to $145,000 price range. All of the dwellings are two story and most have front-loading garages.

There are two communication towers visible to properties in this subdivision. One is located on the west side of Francistown Road at the west end of Wildtree Drive. It is a 168-foot high steel lattice structure, which was built in 1964. It is visible from all of the front yards of the lots fronting on Wildtree Drive and the rear yards of those lots backing to Francistown Road.

Those property owners adjacent to Francistown Road did state that the seller discounted the lots for exposure to that road.

The other tower is also located on the west side of Francistown Road but south of the subdivision. It is a 305-foot high steel lattice tower, which was constructed in 1982. Because of the wooded area between it and the subject subdivision, its visual impact is less dramatic; however, it is within noticeable sight of the lots in Section 1 backing to Francistown Road.

Out of 67 lots, 25 improved properties were studied within the subdivision. In analyzing the properties, all those adjacent and nearby lots deemed to be impacted by their proximity to and/or view of the two towers in question were researched. In addition, several other properties in the subdivision considered to have only minor or no impact at all were also researched. The recorded sales price for each of the 25 properties was broken down to a unit price per square foot for the purposes of comparison. The unit prices, before adjustments, range from $64.54 to $93.75 per square foot, with a median unit price of $77.47 per square foot.

For the comparative analysis model, a hypothetical base dwelling was created to represent the typical improved dwelling in Doubletree Subdivision. The hypothetical dwelling was a 1,800 square foot two story, colonial style having central air and heat, 2 1/2 baths, no fireplace, attached one car garage, no frontage on Francistown Road, and sold in 1997. All of the 25 improved sales were then compared to the base dwelling with adjustments being made relative to time of sale and major physical and location differences. A 5 percent annual appreciation rate for time was used in the model.

In an effort to achieve total sellout, the lots abutting Francistown Road were given a $4,000 discount, according to the developer/builder. Thus, an upward adjustment of $4,000 was made to the improved lots that abut Francistown Road for inferior location on a busy thoroughfare.

The remaining adjustments were based on differences in the costs of the various building components. After application of the adjustments, the properties were then sorted in ascending order by the indicated adjusted sale price per square foot. The spreadsheet in (See Exhibit 2.) provides a descriptive summary of the comparative analysis model.

Primary attention was focused upon seven improved lots that were deemed to have major impact potential, due to their proximity to the tower located on the west side of Francistown Road directly across from the entrance of the subdivision via Wildtree Drive. Two out of the eight lots are situated at the northeast entrance of Doubletree Subdivision fronting the intersection of Wildtree and Kimberwick Drives. The remaining six contiguous lots are located along the northeast line of the subdivision fronting Kimberwick Drive. Each of these lots has direct rear exposure to Francistown Road and the 168-foot high tower.

A total of seven improved lots were classified as having significant impact potential due to their exposure to the two towers. Five of the lots are located along the northeastern line of the subdivision facing Kimberwick Drive and abutting Francistown Road to the rear. The two remaining lots in this classification are located along the northern line of the subdivision facing the intersection of Kimberwick Drive.

The classifications of minor and no impact were given to properties that were considered to have little or no impact at all due to a buffered view or sufficient proximity away from the two towers.

Eleven of the lots studied in this subdivision, located along the northwestern and southwestern lines of the subdivision via Singletree Lane, Singletree Court, and Wildtree Court fell under these two classifications.

Summary of Analysis

The adjustment process used was an attempt to equalize the properties. Overall, the range in unit prices paid per square foot was narrower after adjustments were made in the comparative analysis model. After making adjustments for the major items categorized in the adjustment grid (See Exhibit 2.), a range of $66.29 to $92.31 in indicated price per square foot was reflected. Even after making adjustments for these items, a significant range in unit price per square foot remained evident.

However, the fluctuation in these

adjusted unit prices per square foot can be attributed to a variety of amenity packages that the individual homeowner may have purchased in an attempt to customize their homes, such as upgrades in appliances or finish features. Although, no adjustments for the varying degree of amenities or custom work were made, the range of adjusted unit prices per square foot is deemed to be supportive of showing the effect, if any, of the two towers on property values within the subdivision.

From on site observations, each property was rated relative to the impact of the tower due to proximity or view in one of four categories: major, significant, minor, or none. Those properties in which the tower was deemed to have a "major" impact were mostly adjacent to and/or having full view of the tower. "Significant" impact was assigned to those properties having full or obvious view of the tower.

"Minor" impact was assigned to those having a "winter view" or noticeable presence of the tower. Those rated as "none" had little or no view of the tower.

The rationale behind this rating system is that if there were a noticeable trend where those properties rated as having a major or significant impact were at the lower end of the range of unit prices paid per square foot, further research would then be warranted as to the cause of this tendency. In an effort to further substantiate the findings of the comparative model, personal interviews were held with property owners whose property was ranked in the major to significant categories. All of the respondents stated the towers had no impact on their purchase decisions. However, those property owners adjacent to Francistown Road did state that the seller discounted the lots for exposure to that road.

Summary of Study

The chart on page 16 is a summary categorizing the results of the investigation of the six existing communications towers in each of the localities included in this study:

SUMMARY OF STUDY

Locality	Subdivision	No. of Properties Studied	No./Percentage of Properties Considered as Being Impacted in Either a Major or Significant Category	Lower Quartile Major or Significant Impact *	Lower Half Major or Significant Impact *	Higher Half Major or Significant Impact *	Higher Quartile Major or Significant Impact *
(1) Chesterfield	Rolling Hills at Buford	23	10/44%	20.0%	50.0%	50.0%	20.0%
(2) Henrico	Doubletree	25	17/68%	29.4%	47.1%	52.9%	23.5%
(3) Henrico	Eagles Ridge	18	9/50%	22.2%	66.7%	33.3%	11.1%
(4) Henrico	Edenberry	21	11/52%	27.3%	59.1%	40.9%	18.2%
(5) Henrico	The Timbers	22	10/46%	20.0%	40.0%	60.0%	30.0%
(6) Henrico	Wilkinson Estates	31	14/45%	14.3%	64.3%	35.7%	7.1%

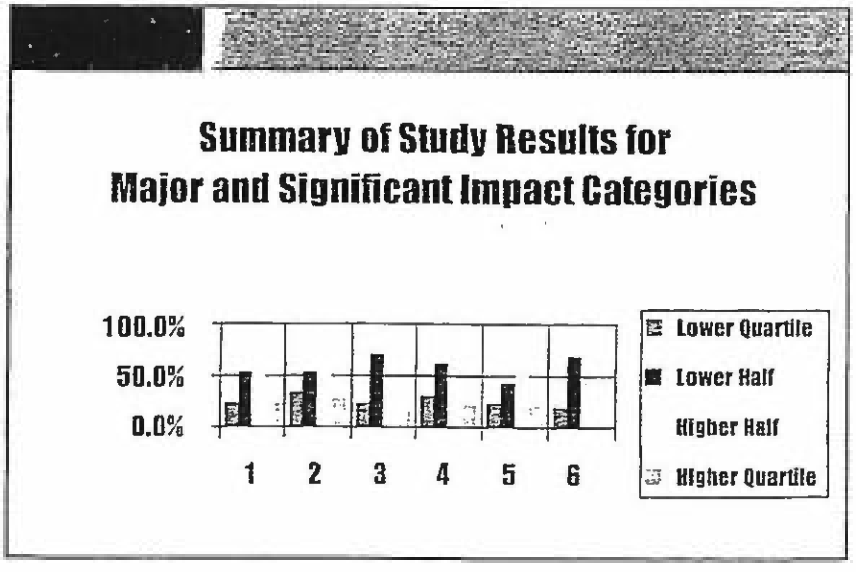
* Allocation of the percentage of properties considered as being impacted in a major or significant category; range in comparison units based on adjusted sale price per square foot of finished living area.

The graph below represents the results of the investigation of the six existing communication towers. Graphical representation is a useful technique that provides the reader with an overall picture of the empirical data previously mentioned.

In each of the study areas, approximately half the properties were deemed as being impacted in a Major or Significant category. The remaining properties were in the Minor or None category. The allocation of the percentages was based upon the number of properties impacted in the Significant or Major categories in the lower and upper quartiles and lower and upper halves divided by the total number of properties impacted as such.

For example, in the Doubletree subdivision, 25 properties were included in the study. Of those 25 properties, 17 were considered as being in the Significant or Major impact category (68 percent). Five of those 17 properties impacted as such, (representing 29.4 percent of the total number of properties in those categories) were in the lower quartile (bottom 25 percent) of the range in adjusted unit prices paid. Eight properties (47.1 percent) were in the lower half of the range. However, nine (52.9 percent) were in the upper half and four (23.5 percent) in the upper quartile of the range in unit prices paid.

Because of the diversity of representation in each of the allocated segments of the range in adjusted unit prices, it is concluded that there is insufficient evidence to suggest there was any measurable impact on value. This is further supported by the responses from personal interviews with the property



owners who stated that the towers had no detrimental impact on their decision to purchase their homes. Several listing agents and the builder stated that the two towers were never an issue. The impact of Francistown Road was the only concern that came from potential purchasers and a discount of $4,000 was made for this reason.

Statistical analysis can provide background information to enhance the understanding of a given environment and directly assist in making specific decisions. It can range from simple summaries of data to the identification of patterns of data that can form the basis for a conclusion of central tendencies. For the purpose of this study, measures of relative standing for characterizing the distribution of empirical data were used. This technique served as a useful alternative to frequency distribution and was indicative of particular data values relative to the entire data set for each test site.

Similar findings occurred with the other study areas where properties in the Significant and Major impact categories were found at both ends of the range in adjusted unit prices paid. Again, interviews with the affected property owners revealed no impact upon purchase decisions. On site managers were interviewed in regards the potential tower impact upon individual units for both the apartment complex and town house development in an effort to establish a basis for any potential rent loss. Not one negative impact response could be attributed to the towers.

Overall, there were 52 interviews conducted with individual property owners. None of the interviews resulted in a negative response. In fact, several of the interviewees said that they paid a premium for their homes in order to be within close proximity to the towers. When asked the reasoning behind this decision, the most common reply was that the tower was perceived as being a potential asset because it served as a buffer against further development. The only adversities noted throughout the entire interviewing process were towards busy thoroughfares running adjacent to the residential developments and close proximity to shopping/retail centers.

Conclusion

Based upon the comparative analysis methodology used in this study, as well as interviews with purchasers of properties located adjacent to and/or in full view of communication tower structures, it was concluded that there was no consistent market evidence suggesting any negative impact upon improved residential properties exposed to such facilities in the areas included in the study.

The model used in this study could be applied to any type of perceived adverse influence such as a water tower, overhead transmission line or sanit ary landfill. The validity of the study is enhanced where the comparative analysis includes similar type properties that require minimal and well supported adjustments as well as interviews with market participants potentially affected by the respective adverse influence. The statistical measure of central tendency not only validates a typical variate but also the lack thereof. ■

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