



# Guide to West Virginia Air Rights Valuation Concepts and Application

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# Introduction

## Intended Audience

This Guide is written for parties involved in the valuation or acquisition of air rights and avigation easements in the state of West Virginia. The intended audience includes: appraisers, government agencies, and parties to an eminent domain taking.

## Purpose

This Guide has several purposes, including: (1) to illustrate several methods of supporting an air rights adjustment, (2) to summarize the author’s research into the valuation of air rights, and (3) to add to the body of knowledge of air right valuation, as it relates to avigation easement acquisition, in the state of West Virginia.

## Relevance

This Guide is relevant because there is very little published market data on the value of air rights in the state of West Virginia. Of the available information, very little focuses on conclusions supported by market-extracted data.

## Outline

This Guide will follow the outline below:

Section 1: Components of an Air Right Take .....	3
Section 2: Data Analysis .....	7
Case Study 1: Paired Data Analysis .....	8
Case Study 2: Payments Made by Airports to Acquire Air Rights .....	12
Case Study 3: Analysis of Sales Exposed to Air Traffic .....	14
Case Study 4: Analysis of Sales with Known Avigation Easements.....	15
Section 3: Conclusions .....	16
Addenda .....	18

## Section 1: Components of an Air Right Take

This Guide focuses on air rights as part of a partial acquisition through the powers of eminent domain. The appraisal of partial acquisitions aims to determine the value of two major components: (1) the value of the take and (2) the value of any damages to the remainder – the area outside the easement area, which is not encumbered by the easement (International Right of Way Association, 2017).

### Value of the Take

Air rights can be acquired through an easement, specifically referred to as an avigation easement. Avigation easements can be classified in one of two ways: an easement for clearance or an easement for flights (Appraisal Institute, 2018). The avigation easement should define the airspace being acquired. The easement will normally describe the horizontal plane and vertical rise of the easement area.

An easement reduces the property owner's title in the property. In the absence of any encumbrances or reservations, a property owner's title in a property is described as fee simple absolute. Once a property is encumbered with an easement, or reduced otherwise, the title to the property is more appropriately described as less-than-fee. Air rights are generally limited to the height necessary for a property owner's full enjoyment of the property (Appraisal Institute, 2018).

Illustration 1-1 depicts several relevant concepts.

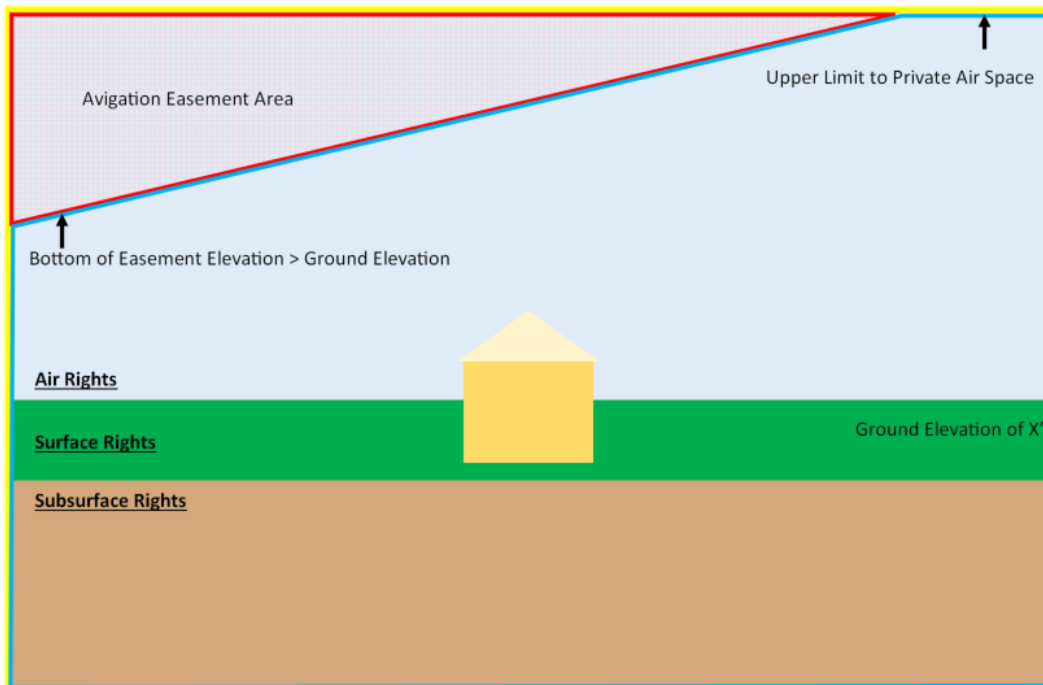


Illustration 1-1

In this illustration:

- The area outlined in yellow represents fee simple absolute ownership.
- The area outlined in red represents the area of an easement. The existence of an easement reduces title to less-than-fee.
- The area outlined in blue represents the less-than-fee ownership (i.e. ownership interests once reduced by an avigation easement.)

The first question in the acquisition of an avigation easement is: “What is the value of the air rights taken?”

The easement value depends on the nature of the easement, the rights taken, the easement term, and the rights that remain with the property owner. Some easement takings have only minimal effect on property values, while others can result in a significant value loss. Easements rarely transfer in the marketplace, and consequently, direct market support is generally not available. (International Right of Way Association, 2012)

Appraisal Institute’s *Real Property Valuation in Condemnation* states,

“The damages to the land due to the imposition of an easement can range from 0% to 100% of the easement area’s fee value. Some courts have ruled, as a matter of law, that under certain circumstances compensation for an easement taking is equal to 100% of the fee value of the land encumbered by the easement.

“Under our law it is firmly settled that when a permanent easement is taken by eminent domain, depriving the owner of the use of the property, the compensation must equal the full value of the land, as if a fee were being acquired,” according to an Arkansas court in a 1963 ruling.

Conversely, other courts have ruled, again as a matter of law, that the compensation for an easement taking cannot equal 100% of the fee value of the land encumbered. As a Texas court put it,

“What the plaintiff took was merely an easement, which, being in law less than the title, can in law only entail compensation for less than the fee title.”

Although appraising is not an exact science, some easement takings have such a minimal effect on value that no discernible difference in market value before and after the taking can be ascertained in the market. Nevertheless, it is generally recognized that no property owner can be expected to convey land or an interest in land without compensation (except in the case of special benefits).”

For this Guide, the total market value of any given parcel of land can generally be allocated as depicted in Illustration 1-2.

As with any rule of thumb, there are instances of significant, observable departures. For example, the value of a large, rural tract of land with very limited surface level utility that has substantial subsurface minerals may be almost totally attributable to the subsurface rights. In any given assignment, there may be evidence that a different maximum allocation is appropriate.

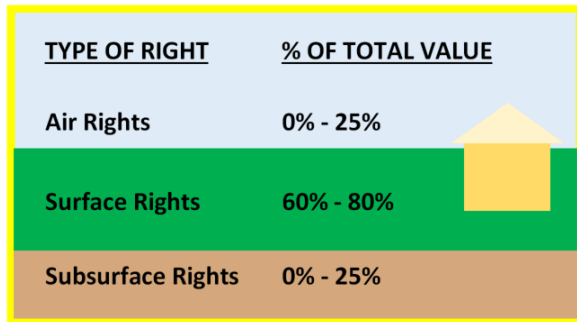


Illustration 1-2

The portion of value attributed to a property's air rights taken should consider the following:

1. What is the lowest bottom elevation of the easement area?
2. What is the highest and best use of the underlying land?
3. How many feet of clearance above ground elevation is needed to allow for the highest and best use?

The two scenarios illustrated on the following page demonstrate the importance of the questions posed above. In Scenario 1, the aviation easement does not interfere with the site's Highest and Best Use. In Scenario 2, however, the aviation easement does interfere with the site's Highest and Best Use. The air rights in Scenario 2 would command a greater value than the air rights in Scenario 1, as a percentage of total value.

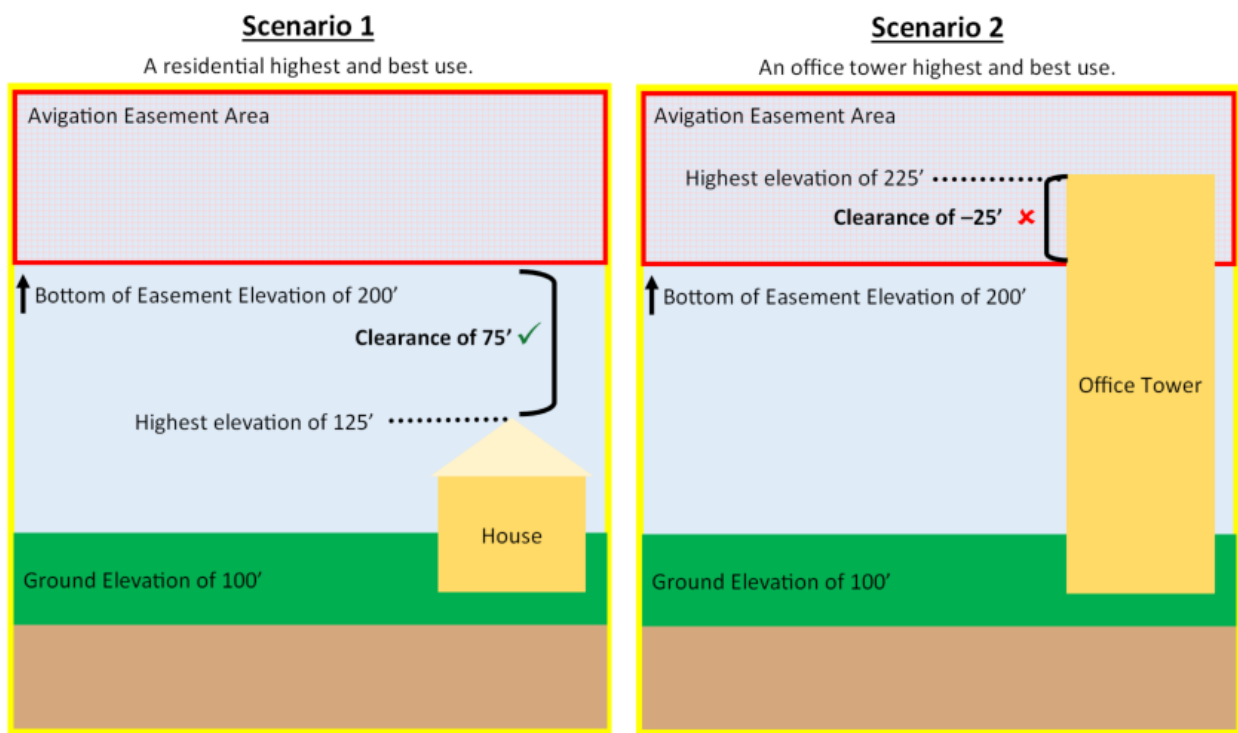


Illustration 1-3

The value of a property's air rights, as a percentage of total value, increases as the lower limit of elevation decreases. An aviation easement that encumbers air space 400' above ground level is likely to have a very nominal impact on the site's total value. To the contrary, an aviation easement that restricts air space 30' above ground level is likely to have a material impact on the site's total value. It is possible that an aviation easement restricts air space so low to ground level that the site's total value is substantially diminished due to the diminution in physical utility. For example, if an aviation easement encumbers air space as low as 10' above ground level, the surface has effectively no physical utility. In such a case, the value of the air space taken, as a percentage of total site value, could approach 100%.

### **Damage to the Residue**

The second question in the acquisition of an avigation easement is: “Has the remaining property been damaged?” For this Guide, the focus is not on *physical damage*, although physical damage is certainly part of the overall appraisal assignment. But because physical damage is more easily observed and measured, this Guide focuses on nonphysical damages.

Let’s consider Scenario 2 of Illustration 1-3. In this case, the proposed easement interferes with the property’s Highest and Best Use. After the imposition of the easement and the removal of obstructions to it, the office tower would have no roof. The cost to replace the roof is an example of physical damage. In addition to the physical damage, there could still be nonphysical damage to the remainder (the office tower). For example, as an office tower, air traffic near the building could cause noise disturbances.

Nonphysical damages to a property are difficult to quantify, reinforcing the relevance of this Guide.

## Section 2: Data Analysis

This Guide presents the research conducted in connection to the following questions:

1. What have airports throughout West Virginia paid to property owners to acquire avigation easements?
2. What does paired data analysis suggest about the effects of air traffic on a property's value?
3. What do sales of properties in direct flight paths suggest about the effect of air traffic on a property's value?
4. What do sales of properties with known avigation easements suggest about the effect of an avigation easement on a property's value?

The research is presented in the following individual case studies.

# Case Study 1: Paired Data Analysis

## Explanation of Approach

In appraisal theory, one of the purest ways to identify the effect an element of comparison has on value is through *paired data analysis*. In essence, this type of analysis compares two sales with nearly identical attributes and characteristics. In a perfect paired data set, there would be only one difference between the two sales, other than price. In such a case, any difference in price would be fully attributed to the difference. Consider the following example:

Element of Comparison	Home A	Home B	Difference
Date of Sale	June, 2022	June, 2022	None
Size	1,600 sf	1,600 sf	None
Location	Eastwinds Subdivision	Eastwinds Subdivision	None
Fireplaces	2	1	1 Fireplace
Price	\$250,000	\$245,000	\$5,000

In this example, two sales of homes of identical size, within the same subdivision, occurred on the same date. The only difference between the homes was the number of fireplaces. Home A sold for \$250,000 while Home B sold for \$245,000. Because the number of fireplaces is the only difference between the homes, the difference in price of \$5,000 is fully attributable to the difference in fireplace count of 1. This type of analysis rarely occurs due to lack of paired sales. When paired sales do occur, they are worthy of analysis.

## Application of Approach

In my research, I found an appropriately homogenous housing development to serve as the basis for paired data analysis. This housing development is 3,000' +/- southwest from the Greenbrier Valley Airport. Approximately half of the development is within the general approach path of the airport while the other half is not. I reviewed sales from 2015 forward. I divided the sales into two groups. The first group is of sales within the approach path, the second group is of sales outside the approach path. Comparing the sales statistics can suggest what impact, if any, being within an approach path has on a property's value.

Illustration 2.1.1 on the following page maps the sales in this study. The area shaded in yellow is within the approach zone path.



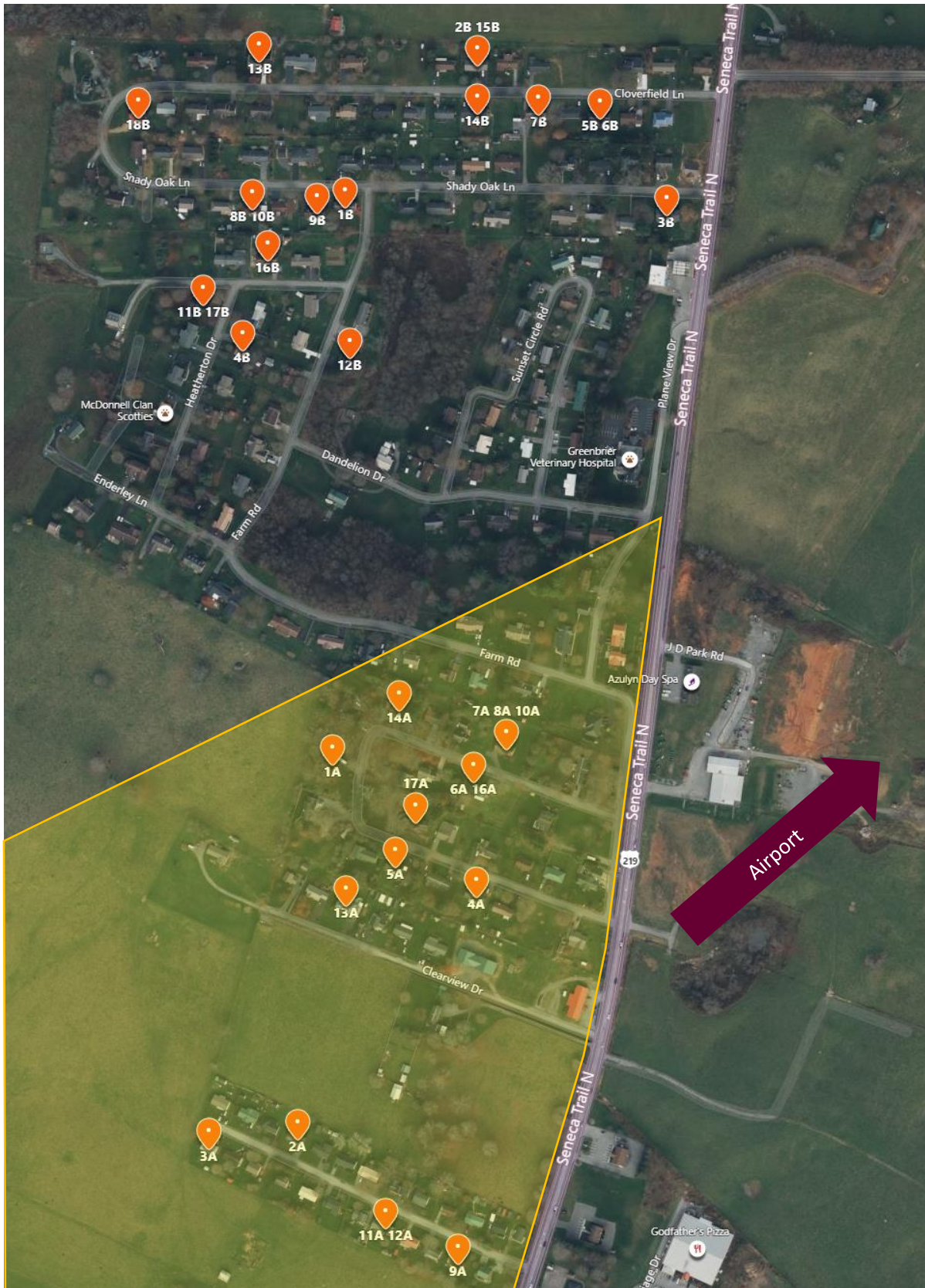


Illustration 2.1.1

## Summary of Sales Statistics

Below is a summary of all the sales in the study. The summary includes measurements of price.

### Sales Within Approach Zone

Record ID	MLS Number	Address	Sale Date	Sale Price	Above Grade SF	Garage Stalls	Bedrooms	Bathrooms	Lot Size (Acres)	Price per SF	Price per Bedroom
1	14-228	48 Talbott Circle, Lewisburg	6/2/2015	\$107,000.00	1,820	1.00	4.00	2.0	0.40	\$58.79	\$26,750.00
2	18-1708	264 Green Acres Drive, Lewisburg	5/30/2019	\$116,000.00	1,040	0.00	3.00	1.0	0.27	\$111.54	\$38,666.67
3	19-1237	309 Green Acres Drive, Lewisburg	10/10/2019	\$120,000.00	1,008	0.00	3.00	1.0	0.26	\$119.05	\$40,000.00
4	16-1568	189 Talbott Circle, Lewisburg	8/29/2017	\$137,500.00	1,680	0.00	3.00	2.0	0.43	\$81.85	\$45,833.33
5	18-1597	241 Talbott Circle, Lewisburg	6/28/2019	\$145,000.00	1,461	0.00	3.00	1.0	0.42	\$99.25	\$48,333.33
6	16-111	HC 81 Box 50, Lewisburg	9/21/2016	\$111,250.00	3,108	0.00	3.00	2.0	1.00	\$35.79	\$37,083.33
7	15-607	407 Talbott Circle, Lewisburg	7/10/2015	\$157,000.00	1,259	1.00	3.00	1.1	0.54	\$124.70	\$52,333.33
8	17-1036	407 Talbott Circle, Lewisburg	9/8/2017	\$164,000.00	1,259	1.00	3.00	1.1	0.54	\$130.26	\$54,666.67
9	21-295	143 Green Acres Drive, Lewisburg	6/7/2021	\$173,000.00	960	0.00	3.00	1.0	0.27	\$180.21	\$57,666.67
10	20-1121	407 Talbott Circle, Lewisburg	9/18/2020	\$191,000.00	1,259	1.00	3.00	1.1	0.54	\$151.71	\$63,666.67
11	19-602	193 Green Acres Drive, Lewisburg	6/13/2019	\$187,500.00	1,600	1.00	4.00	2.0	0.27	\$117.19	\$46,875.00
12	17-149	193 Green Acres Drive, Lewisburg	6/15/2017	\$187,500.00	1,600	1.00	4.00	2.0	0.27	\$117.19	\$46,875.00
13	15-1318	274 Clearview Road, Lewisburg	10/15/2015	\$195,000.00	2,000	0.00	4.00	2.0	0.41	\$97.50	\$48,750.00
14	21-1620	339 Talbott Circle, Lewisburg	11/29/2021	\$214,000.00	1,568	2.00	2.00	2.0	0.41	\$136.48	\$107,000.00
15	17-26	229 Circle Drive, Lewisburg	4/24/2017	\$192,500.00	1,914	2.00	3.00	3.1	0.52	\$100.57	\$64,166.67
16	20-139	400 Talbott Circle, Lewisburg	8/20/2020	\$202,000.00	2,357	0.00	5.00	3.0	0.64	\$85.70	\$40,400.00
17	19-796	238 Talbott Circle, Lewisburg	10/3/2019	\$215,500.00	2,072	2.00	3.00	1.1	0.80	\$104.01	\$71,833.33
		Average		\$165,632.35	1,645				0.47	\$108.93	\$52,405.88
		Average w/ High and Low Eliminated		\$166,216.67	1,593				0.45	\$109.05	\$50,476.67

### Sales Outside Approach Zone

Record ID	MLS Number	Address	Sale Date	Sale Price	Above Grade SF	Garage Stalls	Bedrooms	Bathrooms	Lot Size (Acres)	Price per SF	Price per Bedroom
1	20-1138	321 Shady Oak Lane, Lewisburg	2/5/2021	\$150,250.00	872	2.00	3.00	2.1	0.32	\$172.31	\$50,083.33
2	19-1272	270 Cloverfield Lane, Lewisburg	10/23/2019	\$153,000.00	1,202	1.00	3.00	1.1	0.32	\$127.29	\$51,000.00
3	14-1120	119 Shady Oak Lane, Lewisburg	2/18/2015	\$150,000.00	1,488	1.00	4.00	2.0	0.32	\$100.81	\$37,500.00
4	17-1226	210 Heatherton Drive, Lewisburg	12/5/2017	\$135,000.00	1,500	2.00	4.00	2.1	0.43	\$90.00	\$33,750.00
5	17-1864	175 Cloverfield Lane, Lewisburg	3/28/2018	\$155,000.00	1,440	1.00	2.00	1.1	0.32	\$107.64	\$77,500.00
6	16-161	175 Cloverfield Lane, Lewisburg	6/30/2016	\$157,000.00	1,440	1.00	2.00	1.1	0.32	\$109.03	\$78,500.00
7	14-537	213 Cloverfield Lane, Lewisburg	5/5/2015	\$165,000.00	1,240	2.00	3.00	3.1	0.96	\$133.06	\$55,000.00
8	19-859	379 Shady Oak Lane, Lewisburg	7/31/2019	\$179,000.00	1,340	1.00	4.00	3.0	0.32	\$133.58	\$44,750.00
9	17-1576	341 Shady Oak Lane, Lewisburg	12/11/2017	\$180,000.00	1,488	1.00	4.00	2.1	0.32	\$120.97	\$45,000.00
10	16-146	379 Shady Oak Lane, Lewisburg	11/4/2016	\$165,000.00	1,340	1.00	4.00	3.0	0.32	\$123.13	\$41,250.00
11	17-37	227 Heatherton Drive, Lewisburg	4/10/2017	\$180,000.00	1,288	1.00	4.00	1.1	0.45	\$139.75	\$45,000.00
12	19-1614	344 Farm Road, Lewisburg	1/15/2020	\$157,500.00	2,288	2.00	4.00	2.1	1.54	\$68.84	\$39,375.00
13	19-1424	384 Cloverfield Lane, Lewisburg	3/2/2020	\$210,900.00	1,400	0.00	3.00	2.0	0.46	\$150.64	\$70,300.00
14	20-446	251 Cloverfield Lane, Lewisburg	10/2/2020	\$195,000.00	1,600	1.00	3.00	2.1	0.32	\$121.88	\$65,000.00
15	22-545	270 Cloverfield Lane, Lewisburg	6/6/2022	\$224,000.00	1,202	1.00	3.00	1.1	0.32	\$186.36	\$74,666.67
16	21-1438	152 King Lane, Lewisburg	10/29/2021	\$200,000.00	1,440	1.00	3.00	1.1	0.32	\$138.89	\$66,666.67
17	21-1521	227 Heatherton Drive, Lewisburg	11/16/2021	\$229,000.00	1,288	1.00	4.00	1.1	0.45	\$177.80	\$57,250.00
18	20-1585	471 Cloverfield Lane, Lewisburg	6/16/2021	\$249,900.00	1,900	0.00	5.00	2.1	0.43	\$131.53	\$49,980.00
		Average		\$179,752.78	1,431				0.46	\$129.64	\$54,587.31
		Average w/ High and Low Eliminated		\$178,165.63	1,412				0.40	\$129.89	\$54,395.10

## Observations

I measured the sales in three ways: (1) sale price, (2) sale price per square foot, and (3) sale price per bedroom.

Sale Measurement	Within Approach	Outside Approach	Difference	Difference (%)
Sale Price	\$166,216.67	\$178,165.63	-\$11,948.96	-6.71%
Sale Price per SF	\$109.05	\$129.89	-\$20.84	-16.05%
Sale Price per Bedroom	\$50,476.67	\$54,395.10	-\$3,918.44	-7.20%

## Conclusions

In every measurement, the sales within the approach path to the airport sold for less than the sales outside the approach path. The difference in prices could be attributed to (1) the value of avigation easements or (2) damages to the underlying property or (3) a combination of these factors. My research revealed that the Greenbrier Valley airport has not acquired avigation easements for any of the properties studied. As such, the measured difference in prices is fully attribute to damages to the underlying property. Remember, damages are not only physical. In this case study, the implied damages are all nonphysical. Homes within the approach zone flight path sold for less, presumably because of the overhead traffic.

This case study suggests a property within an approach zone is worth 6% - 16% less than a comparable property outside an approach zone.

# Case Study 2: Payments Made by Airports to Acquire Air Rights

## Explanation of Approach

Case Study 2 aims to research aviation easements acquired by airports throughout the state. Identified aviation easements were studied to measure the price paid.

## Application of Approach

For my research, I reviewed all airports in West Virginia. I analyzed airports that had acquired aviation easements inside counties with online public records. The following airports are in counties with online records and have paid to acquire air rights:

1. Elkins-Randolph
2. Cumberland Wiley Ford

## Summary of Data

Below is a summary of aviation easement acquisitions. Full write ups on each of the acquisitions are included in the addendum of this Guide. Each acquisition is measured in several different ways (price paid, price paid per acre, price paid as a percentage of assessor's appraised land value, etc.). A full summary of all datapoints is presented in the Addendum.

### Improved Parcels

Number of Acquisitions Reviewed:	16
Consideration Range:	\$12,337 - \$68,500
Average Consideration:	\$32,964
Consideration as a % of Total Assessed Value Range:	6.09% - 42.03%
Average Consideration as a % of Total Assessed Value:	20.86%

### Unimproved Parcels

Number of Acquisitions Reviewed:	5
Consideration Range:	\$10,685 - \$25,500
Average Consideration:	\$15,562
Consideration as a % of Assessed Land Value Range:	32.61% - 46.98%
Average Consideration as a % of Assessed Land Value:	39.79%
Consideration per Easement Area Acre Range:	\$6,804 - \$14,167
Average Consideration per Easement Area Acre:	\$10,403

\* The high and low values within each measurement were removed as part of the calculation.

\*\*Assessed values refer to the Assessor's Appraised Values.

## **Observations**

This case study provides the following additional insights:

- There were numerous airports in the State that have not acquired air rights, even though the airports have air traffic that encroaches on adjacent properties. This could be explained in any of the following ways:
  - o These particular airports are not obligated to acquire the air rights of adjacent properties;
  - o The property owners do not know that they may be entitled to compensation for the use of their air space; or
  - o Air rights do not have measurable value.
- Compensation as a % of Total Assessed Value for the acquisitions studied did not appear to be related to the size of the easement area, based on regression analysis.
- Compensation per Easement Area Acre did not appear to be related to the size of the easement area, based on regression analysis.
- Compensation for the acquisitions studied did not appear to be related to the clearance above the site's improvements, based on regression analysis.

## **Conclusions**

The average prices paid by an airport to acquire an aviation easement in the State of West Virginia were:

1. For improved properties, 20.86% of assessor's appraised value.
2. For unimproved properties, 39.79% of assessor's appraised land value.
3. For unimproved properties, \$10,403 per easement area acre.

## **Limitations of Case Study**

The following limitations are acknowledged:

- The analysis compared consideration paid to acquire air rights to the property's assessed values. Assessed values are not always indicative of Market Value. Assessed values, however, for the purpose of this Guide, is the best way to measure considerations paid across the properties studied.
- The considerations paid to property owners may have included damages to the residue in addition to the value of the take. Public records do not explain how the consideration paid was determined or what portion of the consideration was for the value of the take and what portion, if any, was for damages to the remainder.
- Definitions of Market Value usually require the absence of duress. The acquisition of a property, or property right, through the power of eminent domain is not a voluntary process. As such, the prices paid to acquire aviation easements through eminent domain may not be indicative of the Market Value of the aviation easement.

## Case Study 3: Analysis of Sales Exposed to Air Traffic

### Explanation of Approach

The principle of substitution states that when several similar or commensurate commodities, goods, or services are available, the one with the lowest price attracts the greatest demand. According to the principle of substitution, a buyer will not pay more for one property than for another that is equally desirable. Property values tend to be set by the price of acquiring an equally desirable substitute property. (The Appraisal Institute, 2013)

### Application of Approach

For this case study, I searched through various Multiple Listing Services (MLSes) for sales of properties that appeared to be in direct approach paths to an airport (the Identified Sales). I compared the sales prices of the Identified Sales with an array of comparable sales. This comparison was designed to determine if the sales prices of the Identified Sales were affected by the Identified Sales' existence within an approach path to an airport.

Each Identified Sale was compared to at least 3 comparable sales. In general, comparable sales used within the analysis:

- Were within the general market area
- Occurred within 1 year +/- of the identified sale's sales date
- Had the same number of bedrooms +/- 1 bedroom
- Had the same number of square feet +/- 10%

### Summary of Data

Below is a summary of the results of the comparison described above.

Record ID	MLS # of Identified Sale		Date of Sale	Identified Sale Price	Average of Price in the Comparable Sale Array		Difference (%)
	Sale	Address			Sale Array	Difference (\$)	
CS3-1	80156	334 Maplewood Lane, Beaver, WV	7/1/2021	\$135,000.00	\$123,980.00	\$11,020.00	8.89%
CS3-2	10142960	227 Hidden Hills Lane, Buckhannon	5/19/2022	\$269,000.00	\$229,266.67	\$39,733.33	17.33%
CS3-3	174086	540 Lakeview Drive	8/8/2022	\$274,000.00	\$296,850.00	-\$22,850.00	-7.70%
CS3-4	17-635	2061 Maple Avenue, Fayetteville	8/15/2017	\$119,000.00	\$120,000.00	-\$1,000.00	-0.83%
CS3-5	245116	150 Mallory Airport Road, So. Charleston	4/1/2021	\$123,600.00	\$134,166.67	-\$10,566.67	-7.88%
CS3-6	10125452	2096 Oak Street, Morgantown	8/12/2019	\$191,250.00	\$189,500.00	\$1,750.00	0.92%
CS3-7	10125024	2093 Oak Street, Morgantown	4/12/2019	\$298,000.00	\$292,250.00	\$5,750.00	1.97%
CS3-8	10124027	2204 Maple Street, Morgantown	4/12/2019	\$333,000.00	\$336,300.00	-\$3,300.00	-0.98%
				\$1,742,850.00	\$1,722,313.33	\$20,536.67	1.19%

### Conclusions

Overall, the research suggests overhead air traffic does not affect the sales price of a property. However, records CS3-3 and CS3-5 suggest air traffic reduces a property's value by 7.70% – 7.80%.

# Case Study 4: Analysis of Sales with Known Avigation Easements

## Application of Approach

For this case study, I analyzed sales of properties known to be restricted by an avigation easement (the Identified Sales). I compared the sales prices of the Identified Sales with an array of comparable sales. This comparison was designed to determine if the sales prices of the Identified Sales were affected by the avigation easement.

I found one property with a known avigation easement that sold through a Multiple Listing Service. This sale (the Identified Sale) was compared to at least 3 comparable sales. In general, comparable sales used within the analysis:

- Were within the general market area
- Occurred within 2 years of the identified sale’s sales date
- Had the same number of bedrooms +/- 1 bedroom
- Had the same number of square feet +/- 10%

## Summary of Data

Below is a summary of the results of the comparison described above.

Record ID	MLS # of Identified Sale	Address	Date of Sale	Identified Sale Price	Average of Comparable Sale Array	Difference (\$)	Difference (%)
CS4-1	1003272800	257 Mulberry Lane	5/1/2019	\$225,000.00	\$235,355.40	-\$10,355.40	-4.40%
				\$225,000.00	\$235,355.40	-\$10,355.40	-4.40%

## Conclusions

The research suggests an avigation easement reduces a property’s value by 4.40%.

## Section 3: Conclusions

My research into the valuation of air rights and into the nonphysical damages an air right acquisition creates has been summarized in the preceding case studies.

### Observations

#### #1

Property owners have only been compensated for the use of air rights in transactions involving an FAA affiliated airport. I found no records of property owners receiving compensation for the use of air space, except in transactions involving an FAA affiliated airport which have been chronicled herein.

#### #2

There is more evidence to suggest the use of air space does not have quantifiable impact on a property's value than there is to suggest the use of air space does have a quantifiable impact on a property's value.

### Conclusions

#### #1

Case Study 1 suggests a property within an approach zone is worth 6.00% - 16.00% less than a comparable property outside an approach zone.

#### #2

Case Study 2 finds the average price paid by an airport to acquire an avigation easement for an improved property was 20.86% of the property's total assessor's appraised value.

#### #3

Case Study 2 finds the average price paid by an airport to acquire an avigation easement for an unimproved property was 39.79% of the property's assessor's appraised land value.

#### #4

Certain records in Case Study 3 suggest air traffic reduces a property's value by 7.70% – 7.80%.

#### #5

Case Study 4 suggests an avigation easement reduces a property's value by 4.40%.




## Author




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### Biography

Perhaps one day I'll have a New York publicist write an introduction for me. Until then, my candid remarks will have to suffice.

I wore suits in elementary school, cried over getting a B in middle school, and solved calculus problems for fun in high school. I have always been entranced with learning and mesmerized by problem solving. As a professional, I am committed to teaching and being taught. I'm a book worm with an ever-expanding library of reference material. Extracting the value of a variable through multiple regression analysis makes me smile. Small coefficients of variance give me butterflies. And taking deep dives into appraisal theory is one of my favorite activities.

I'm a West Virginia native and attended the University of Charleston. I hold several licenses and credentials including Certified General Appraiser in multiple states, Certified Public Accountant, Real Estate Broker, and Certified Valuation Analyst. I am a candidate for designation through the Appraisal Institute.

I want to hear your feedback. Call me or email me to discuss this Guide.

If you know of relevant data that should be included, please send it my way.

### Disclaimers

The information presented herein shall not be construed as an appraisal or as an appraiser's opinion of value. This publication shall not be construed as legal or financial advice. Elliott Borris is a licensed Certified General appraiser in the following states: WV CG576. VA 4001017960. OH 202202106. KY 5563. Elliott Borris is the broker of record for WV-based Vandalia Real Estate.

The date of this publication is 09/27/2022.

## Works Cited

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International Right of Way Association. (2017). *The Valuation of Partial Acquisitions*. Gardena, California.  
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The Appraisal Institute. (2013). *The Appraisal of Real Estate 14th Edition*. Chicago.

# Addenda

## Case Study 2

On the following pages, I will present details of the sales records I used within Case Study 2.

### Case Study 2-1



#### Basic Information

Parcel IDs:	42-10-0023-0035-0000; 42-10-0023-0036-0000; 42-10-0023-0037-0000; 42-10-0023-0038-0000
Grantor:	Gum, Edward G Jr. & Susan
Type of Acquisition:	Avigation easement with easement to access obstructions
Date of Acquisition:	04/27/2021
Reference:	622/107
Distance from Runway:	2,640' +/-
Land Area:	1.205 Acres +/-
Easement Area:	1.205 Acres +/-
Runway Elevation:	1947'
Subject Property Elevation:	2012' – 2035'
Lower Easement Level:	2,069' +/- (distance from runway divided by 20) +elevation of runway
Clearance from Ground:	34'-57'
Clearance Above Improvement:	25'+/-
Land Assessment:	\$10,900
Improvement Assessment:	\$68,300
Consideration:	\$12,337

## Case Study 2-2



### Basic Information

Parcel IDs:	42-10-0036-0002-0000 & 42-10-0036-0002-0001
Grantor:	Jeffrey Stalnaker
Type of Acquisition:	Avigation easement with easement to access obstructions
Date of Acquisition:	4/15/2021
Reference:	622/111
Distance from Runway:	3325' +/-
Land Area:	2.07
Easement Area:	2.07
Runway Elevation:	1947' +/-
Subject Property Elevation:	2044' +/-
Lower Easement Level:	2103' +/-
Clearance Above Improvement:	59' +/-
Land Assessment:	\$41,752
Improvement Assessment:	\$167,300
Consideration:	\$16,427

## Case Study 2-3



### Basic Information

Parcel IDs:	42-10-0029-0005-0000
Grantor:	William J & Brenda Jo Brown
Type of Acquisition:	Avigation easement with easement to access obstructions
Date of Acquisition:	4/8/2021
Reference:	622/115
Distance from Runway:	4451' +/-
Land Area:	2.16
Easement Area:	2.16
Runway Elevation:	1947' +/-
Subject Property Elevation:	2090' +/-
Lower Easement Level:	2160' +/-
Clearance Above Improvement:	70' +/-
Land Assessment:	\$51,800
Improvement Assessment:	\$393,100
Consideration:	\$23,339

## Case Study 2-4



### Basic Information

Parcel IDs:	42-10-0022-0021-0000
Grantor:	Kenneth B & Paula S Morgan
Type of Acquisition:	Avigation easement with easement to access obstructions
Date of Acquisition:	4/15/2021
Reference:	622/119
Distance from Runway:	4030' +/-
Land Area:	2.94
Easement Area:	2.94
Runway Elevation:	1947' +/-
Subject Property Elevation:	2008' +/-
Lower Easement Level:	2139' +/-
Clearance Above Improvement:	131' +/-
Land Assessment:	\$98,500
Improvement Assessment:	\$79,300
Consideration:	\$37,875

## Case Study 2-5



### Basic Information

Parcel IDs:	42-10-0022-0020-0001
Grantor:	BW Properties, LLC
Type of Acquisition:	Avigation easement with easement to access obstructions
Date of Acquisition:	4/21/2021
Reference:	622/123
Distance from Runway:	4264' +/-
Land Area:	3.1
Easement Area:	3.1
Runway Elevation:	1947' +/-
Subject Property Elevation:	2006' +/-
Lower Easement Level:	2150' +/-
Clearance Above Improvement:	144' +/-
Land Assessment:	\$91,600
Improvement Assessment:	\$369,600
Consideration:	\$28,200

## Case Study 2-6



### Basic Information

Parcel IDs:	42-10-0022-0011-0000
Grantor:	Janed L Civiello
Type of Acquisition:	Avigation easement with easement to access obstructions
Date of Acquisition:	4/21/2021
Reference:	622/127
Distance from Runway:	4454' +/-
Land Area:	1.82
Easement Area:	1.82
Runway Elevation:	1947' +/-
Subject Property Elevation:	2014' +/-
Lower Easement Level:	2160' +/-
Clearance Above Improvement:	146' +/-
Land Assessment:	\$27,800
Improvement Assessment:	\$81,300
Consideration:	\$13,375



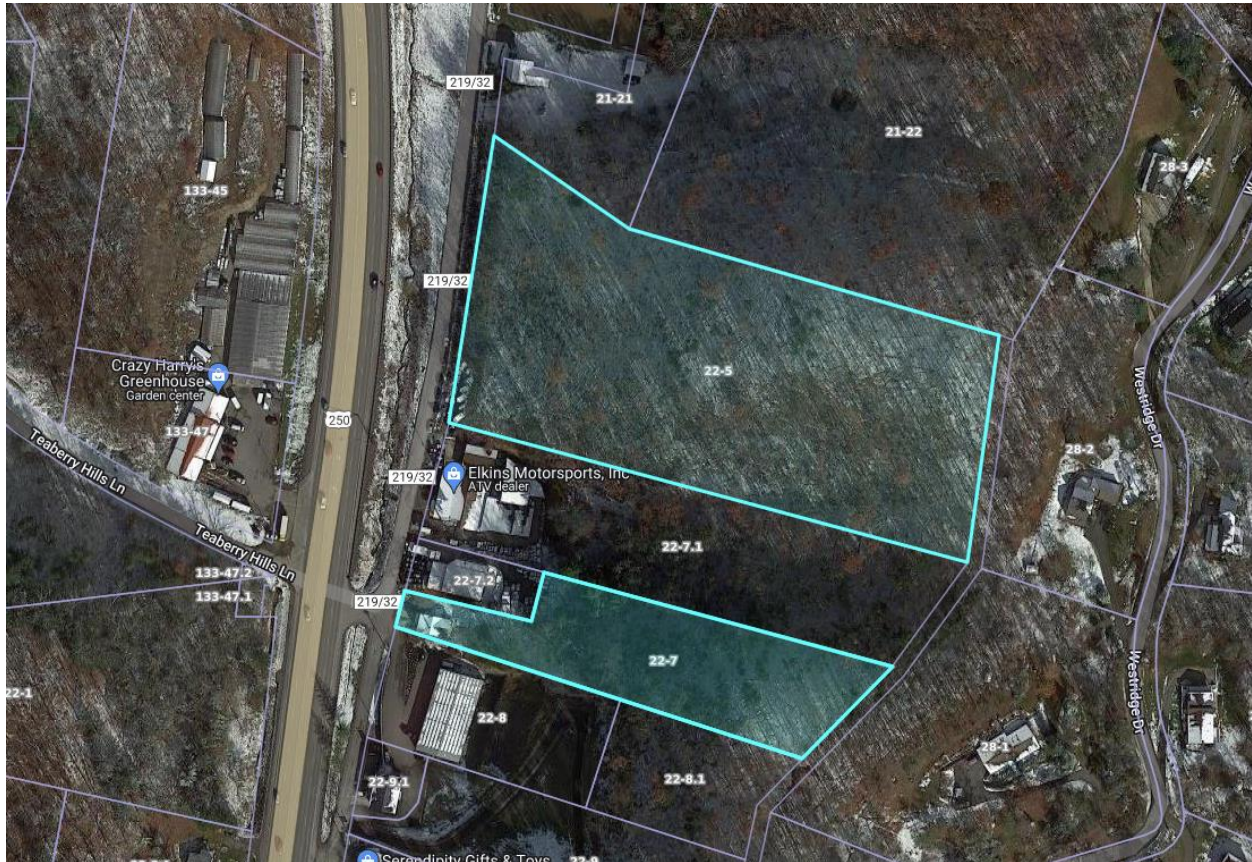
## Case Study 2-7



### Basic Information

Parcel IDs:	42-10-0022-0008-0001 & 42-10-0022-0009-0000
Grantor:	First Priority Real Estate Development, LLC
Type of Acquisition:	Avigation easement with easement to access obstructions
Date of Acquisition:	5/11/2021
Reference:	622/131
Distance from Runway:	4810' +/-
Land Area:	2.38
Easement Area:	2.38
Runway Elevation:	1947' +/-
Subject Property Elevation:	2060' +/-
Lower Easement Level:	2178' +/-
Clearance Above Improvement:	118' +/-
Land Assessment:	\$139,400
Improvement Assessment:	\$57,500
Consideration:	\$29,070

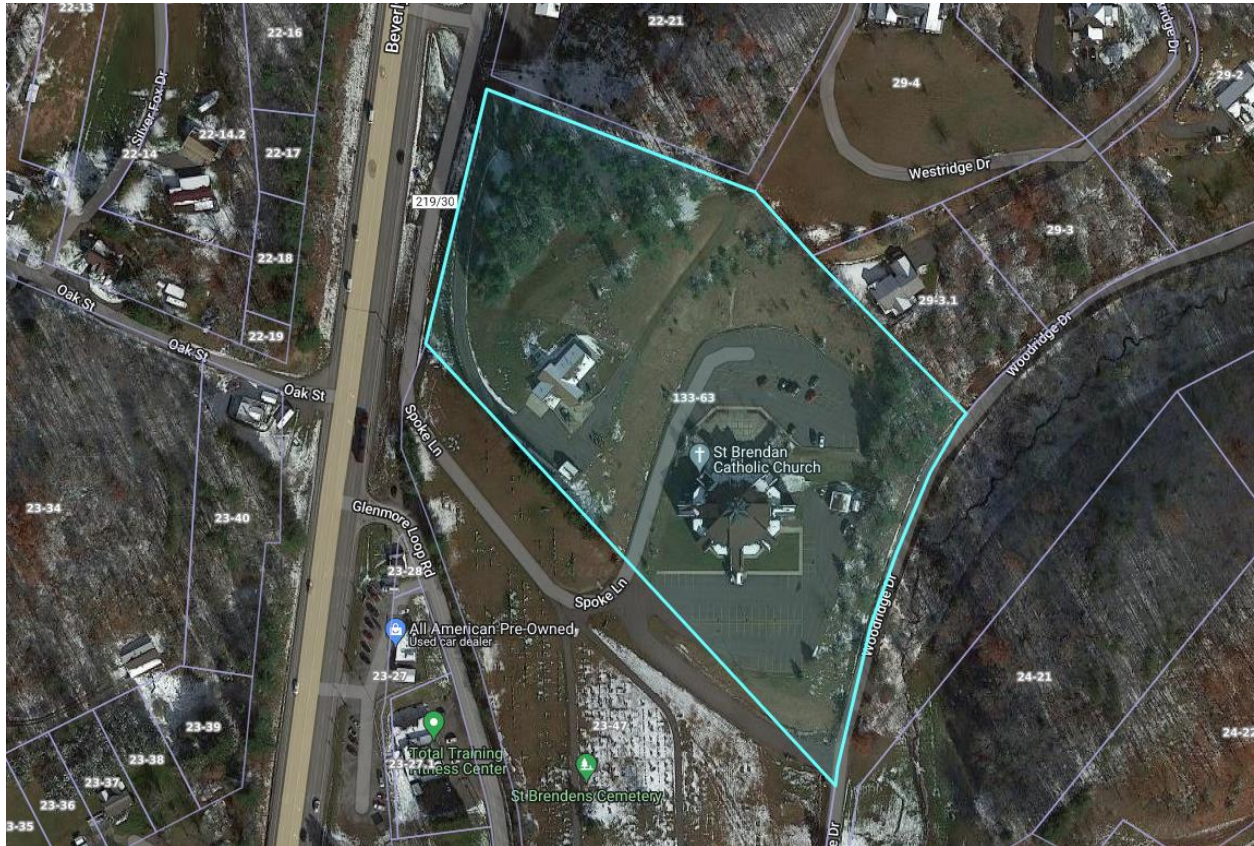
## Case Study 2-8



### Basic Information

Parcel IDs:	42-10-0022-0005-0000 & 42-10-0022-0007-0000
Grantor:	Ronald L & Sandy E Daniels
Type of Acquisition:	Avigation easement with easement to access obstructions
Date of Acquisition:	4/15/2021
Reference:	4/15/2021
Distance from Runway:	5024'-5387' +/-
Land Area:	7.35
Easement Area:	7.35
Runway Elevation:	1947' +/-
Subject Property Elevation:	1980'-2098' +/-
Lower Easement Level:	2188'-2206' +/-
Clearance Above Improvement:	208'-108' +/-
Land Assessment:	\$118,600
Improvement Assessment:	\$35,200
Consideration:	\$64,396

## Case Study 2-9



### Basic Information

Parcel IDs:	42-10-0133-0063-0000
Grantor:	Bishop Mark E Brennan on behalf of St. Brendan Catholic Cemetery
Type of Acquisition:	Avigation easement with easement to access obstructions
Date of Acquisition:	5/18/2021
Reference:	622/139
Distance from Runway:	3642' +/-
Land Area:	8
Easement Area:	8
Runway Elevation:	1947' +/-
Subject Property Elevation:	2030' +/-
Lower Easement Level:	2119' +/-
Clearance Above Improvement:	89' +/-
Land Assessment:	\$24,300
Improvement Assessment:	\$0
Consideration:	\$54,433

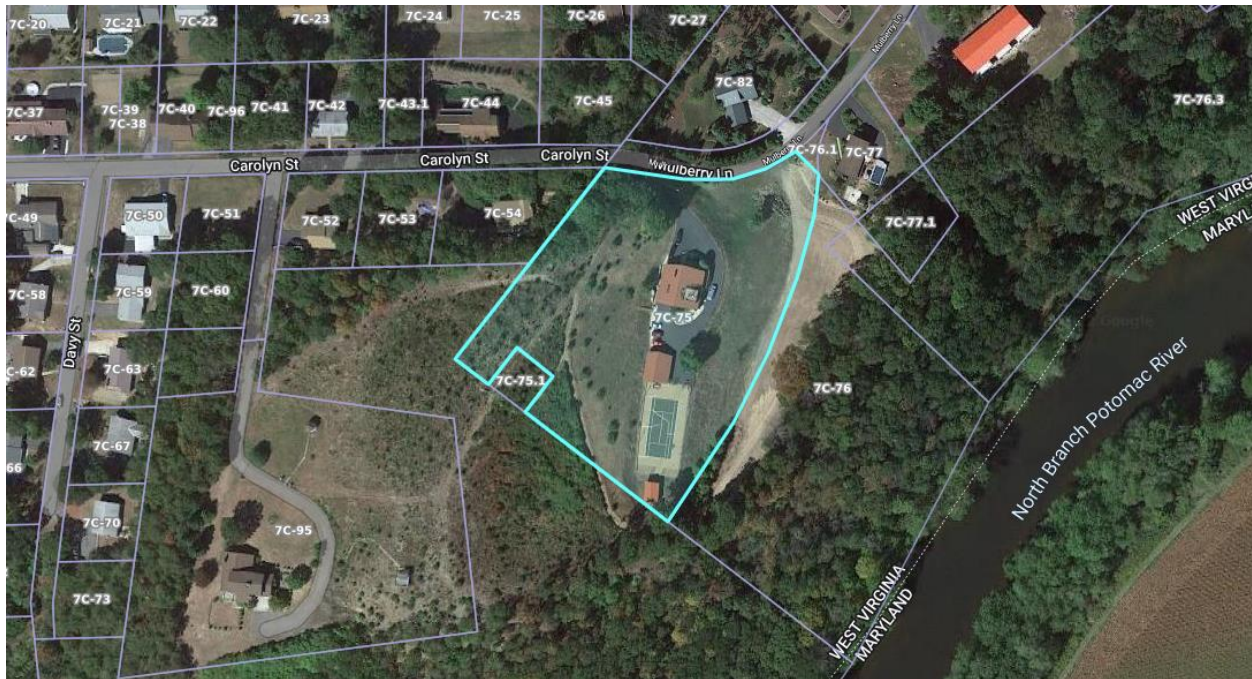
## Case Study 2-10



### Basic Information

Parcel IDs:	42-10-0023-0033-0000
Grantor:	Jackson O & Constance A Bennett
Type of Acquisition:	Avigation easement with easement to access obstructions
Date of Acquisition:	5/11/2021
Reference:	622/143
Distance from Runway:	2386' +/-
Land Area:	0.955
Easement Area:	0.955
Runway Elevation:	1947' +/-
Subject Property Elevation:	2000' +/-
Lower Easement Level:	2056' +/-
Clearance Above Improvement:	56' +/-
Land Assessment:	\$1,200
Improvement Assessment:	\$400; Adjusted to zero for analysis
Consideration:	\$10,685

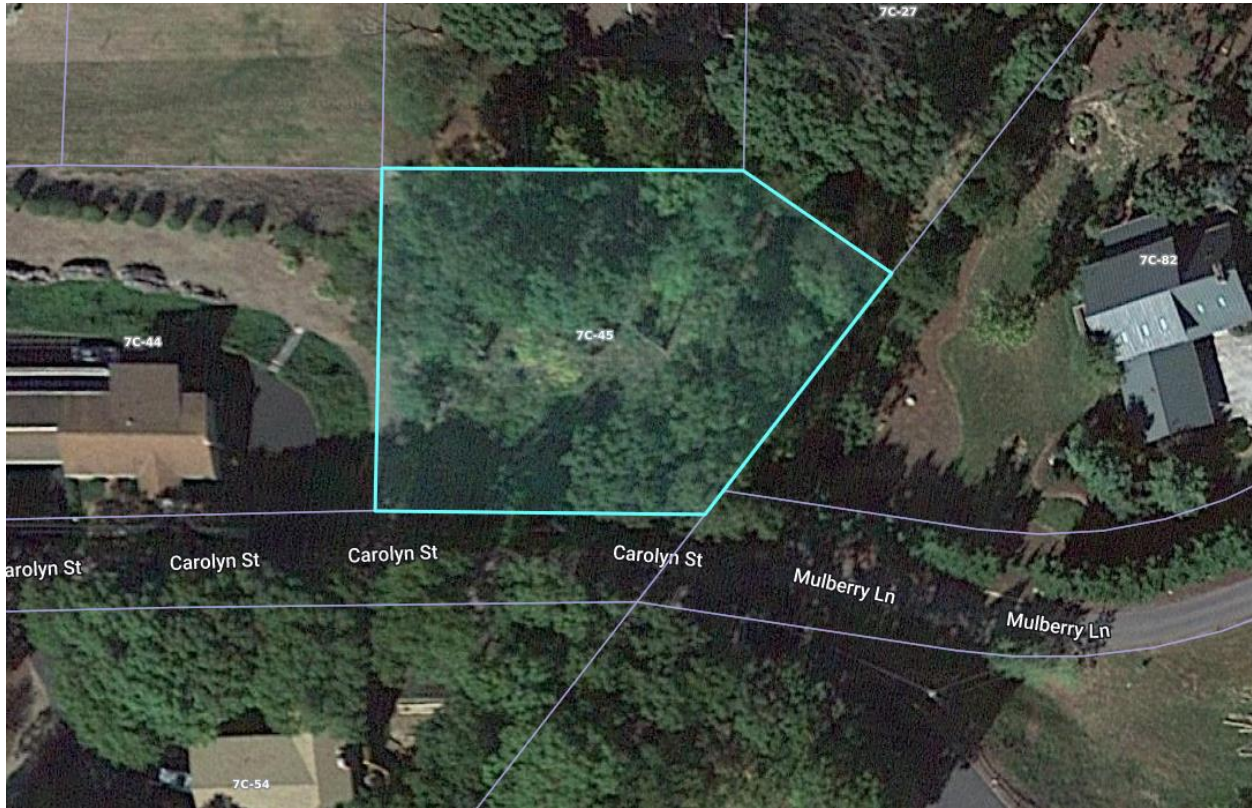
## Case Study 2-11



### Basic Information

Parcel IDs:	29-04-007C-0075-0000
Grantor:	Richard R Welch
Type of Acquisition:	Avigation easement with easement to access obstructions
Date of Acquisition:	11/20/2008
Reference:	337/511
Distance from Runway:	1724' +/-
Land Area:	2.91
Easement Area:	2.91
Runway Elevation:	722' +/-
Subject Property Elevation:	784' +/-
Lower Easement Level:	819'-857' +/-
Clearance Above Improvement:	35'-73' +/-
Land Assessment:	\$31,000
Improvement Assessment:	\$182,200
Consideration:	\$82,000

## Case Study 2-12



### Basic Information

Parcel IDs:	29-04-007C-0045-0000
Grantor:	Richard R Welch
Type of Acquisition:	Avigation easement with easement to access obstructions
Date of Acquisition:	11/20/2008
Reference:	337/517
Distance from Runway:	1784' +/-
Land Area:	0.37
Easement Area:	0.37
Runway Elevation:	722' +/-
Subject Property Elevation:	758' +/-
Lower Easement Level:	842'-866' +/-
Clearance Above Improvement:	84'-108' +/-
Land Assessment:	\$14,900
Improvement Assessment:	\$0
Consideration:	\$7,000

## Case Study 2-15



### Basic Information

Parcel IDs:	29-04-0004-0020-0002
Grantor:	Aaron L & Miranda K White
Type of Acquisition:	Avigation easement with easement to access obstructions
Date of Acquisition:	12/27/2010
Reference:	344/888
Distance from Runway:	714' +/- (adjacent)
Land Area:	1
Easement Area:	1
Runway Elevation:	744' +/-
Subject Property Elevation:	735' +/-
Lower Easement Level:	789'-824 +/-
Clearance Above Improvement:	54'-89' +/-
Land Assessment:	\$26,300
Improvement Assessment:	\$106,900
Consideration:	\$23,300

## Case Study 2-16



### Basic Information

Parcel IDs:	29-04-007C-0044-0000
Grantor:	Thomas C & Donna L Lewis
Type of Acquisition:	Avigation easement with easement to access obstructions
Date of Acquisition:	1/5/2011
Reference:	345/70
Distance from Runway:	1092' +/-
Land Area:	0.39
Easement Area:	0.39
Runway Elevation:	722' +/-
Subject Property Elevation:	772' +/-
Lower Easement Level:	847'-863' +/-
Clearance Above Improvement:	91'-125' +/-
Land Assessment:	\$19,200
Improvement Assessment:	\$88,000
Consideration:	\$24,000



## Case Study 2-17



### Basic Information

Parcel IDs:	29-04-007C-0053-0000 & 29-04-007C-0054-0000
Grantor:	Randy J & Lynn M Hall
Type of Acquisition:	Avigation easement with easement to access obstructions
Date of Acquisition:	1/7/2011
Reference:	345/130
Distance from Runway:	1960' +/-
Land Area:	0.73
Easement Area:	0.73
Runway Elevation:	722' +/-
Subject Property Elevation:	800' +/-
Lower Easement Level:	837'-867' +/-
Clearance Above Improvement:	37'-67' +/-
Land Assessment:	\$28,900
Improvement Assessment:	\$106,100
Consideration:	\$30,000

## Case Study 2-19



### Basic Information

Parcel IDs:	29-04-007C-0076-0001 & 26-04-007C-0077-0000
Grantor:	James T & Rebecca C Minke
Type of Acquisition:	Avigation easement with easement to access obstructions
Date of Acquisition:	3/28/2011
Reference:	345/746
Distance from Runway:	1524' +/-
Land Area:	0.32
Easement Area:	0.32
Runway Elevation:	722' +/-
Subject Property Elevation:	728' +/-
Lower Easement Level:	800'-808' +/-
Clearance Above Improvement:	72'-80' +/-
Land Assessment:	\$11,400
Improvement Assessment:	\$114,200
Consideration:	\$56,964

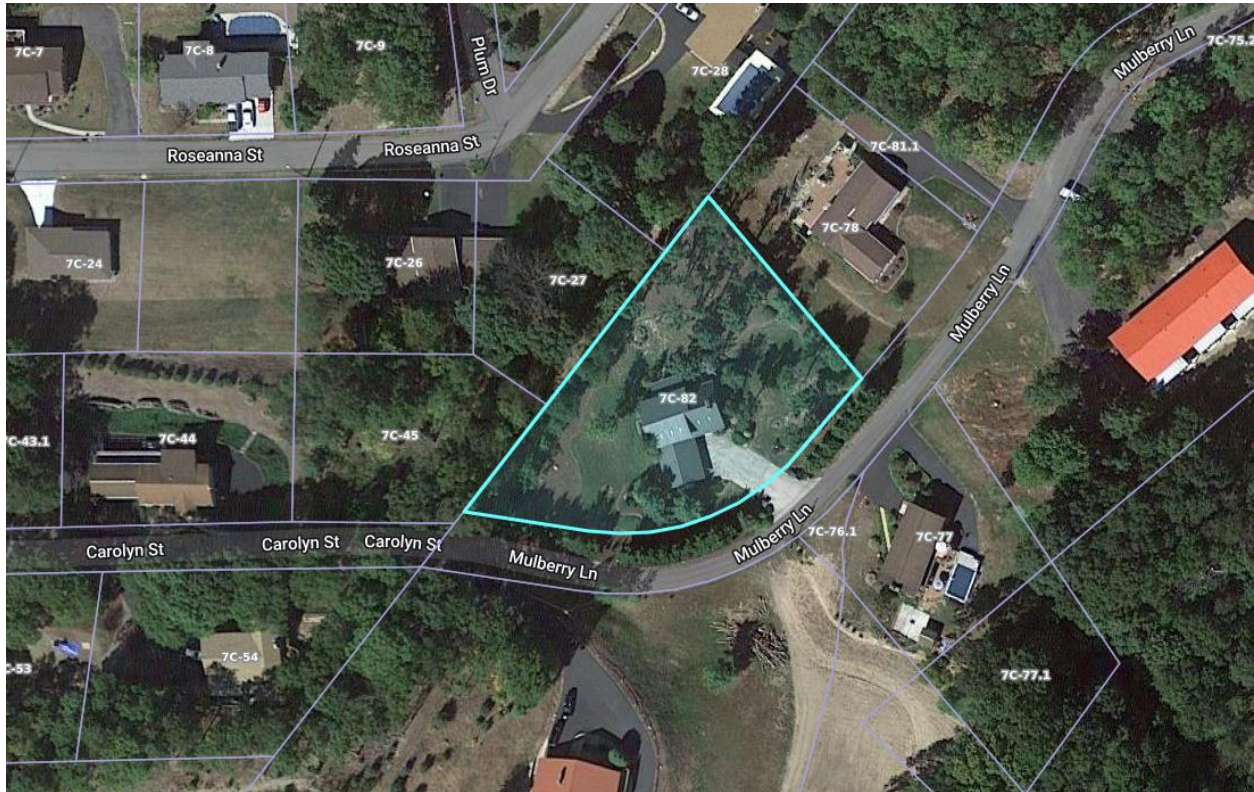
## Case Study 2-20



### Basic Information

Parcel IDs:	29-04-0004-0036-0000
Grantor:	Kristine R Vess
Type of Acquisition:	Avigation easement with easement to access obstructions
Date of Acquisition:	3/30/2011
Reference:	345/750
Distance from Runway:	611' +/- (adjacent)
Land Area:	2.02
Easement Area:	1.80
Runway Elevation:	764' +/-
Subject Property Elevation:	731' +/-
Lower Easement Level:	795'-840' +/-
Clearance Above Improvement:	64'-109' +/-
Land Assessment:	\$5,300
Improvement Assessment:	\$0
Consideration:	\$25,500

## Case Study 2-21



### Basic Information

Parcel IDs:	29-04-007C-0082-0000
Grantor:	Donald W Asher
Type of Acquisition:	Avigation easement with easement to access obstructions
Date of Acquisition:	346/589
Reference:	346/589
Distance from Runway:	1584' +/-
Land Area:	0.74
Easement Area:	0.74
Runway Elevation:	722' +/-
Subject Property Elevation:	740' +/-
Lower Easement Level:	806'-831'+/-
Clearance Above Improvement:	66'-91' +/-
Land Assessment:	\$29,400
Improvement Assessment:	\$263,500
Consideration:	\$68,500

## Case Study 2-22



### Basic Information

Parcel IDs:	29-04-007C-0080-0000
Grantor:	Alan C Cuppett
Type of Acquisition:	Avigation easement with easement to access obstructions
Date of Acquisition:	4/25/2011
Reference:	346/595
Distance from Runway:	925' +/-
Land Area:	0.54
Easement Area:	0.54
Runway Elevation:	722' +/-
Subject Property Elevation:	699' +/-
Lower Easement Level:	767'-781' +/-
Clearance Above Improvement:	68'-82' +/-
Land Assessment:	\$20,300
Improvement Assessment:	\$122,000
Consideration:	\$28,500

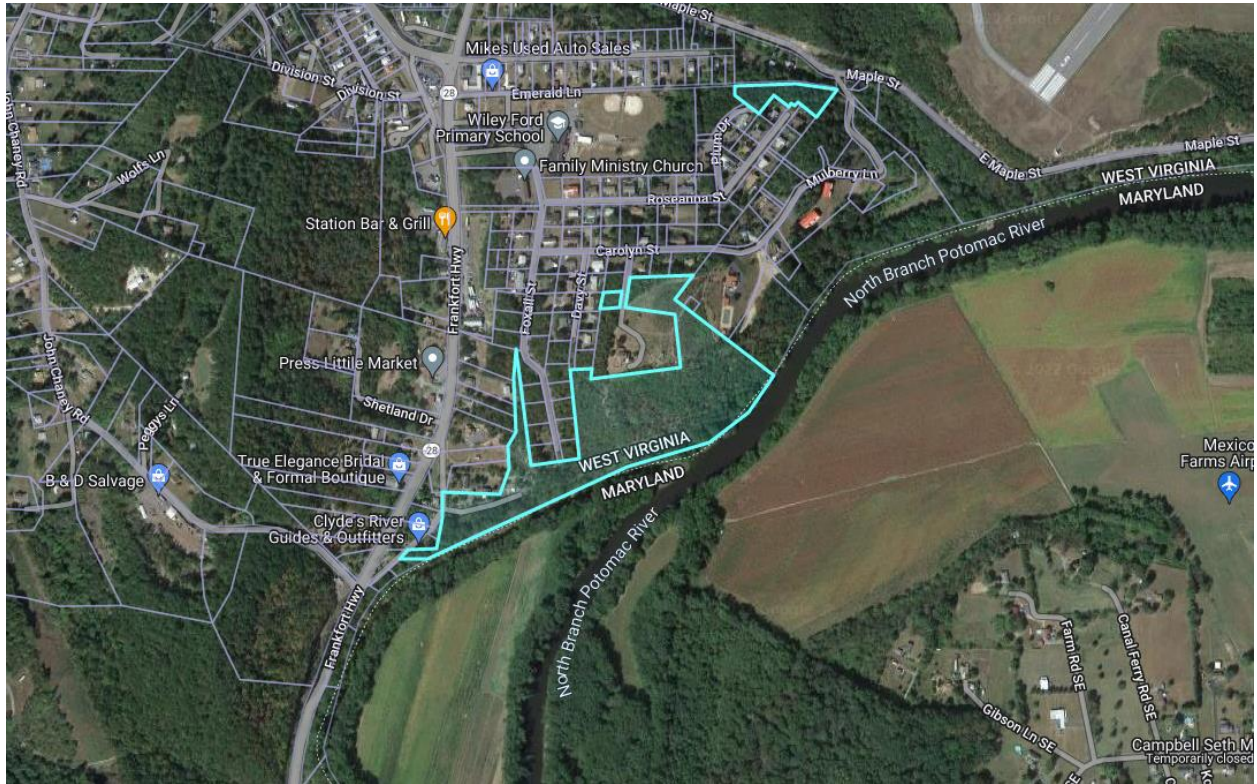
## Case Study 2-23



### Basic Information

Parcel IDs:	29-04-0004-0038-0000
Grantor:	Richard S Y Joyce H Michaels
Type of Acquisition:	Avigation easement with easement to access obstructions
Date of Acquisition:	6/15/2011
Reference:	347/79
Distance from Runway:	745' +/- (adjacent)
Land Area:	2.58
Easement Area:	0.74
Runway Elevation:	771' +/-
Subject Property Elevation:	789' +/-
Lower Easement Level:	812'-848 +/-
Clearance Above Improvement:	23'-59' +/-
Land Assessment:	\$30,400
Improvement Assessment:	\$202,900
Consideration:	\$38,200

## Case Study 2-24



### Basic Information

Parcel IDs:	29-04-0007-0104-0000
Grantor:	Timothy E Nield, Executor
Type of Acquisition:	Avigation easement with easement to access obstructions
Date of Acquisition:	5/10/2011
Reference:	347/136
Distance from Runway:	1072'-2464' +/-
Land Area:	7.499
Easement Area:	2.93
Runway Elevation:	722' +/-
Subject Property Elevation:	619'-813' +/-
Lower Easement Level:	843'-877' +/-
Clearance Above Improvement:	30'-258' +/-
Land Assessment:	\$24,200
Improvement Assessment:	\$0
Consideration:	\$27,700

## Case Study 2-25



### Basic Information

Parcel IDs:	29-04-0007-0111-0000
Grantor:	Charles A Bittinger, Jr.
Type of Acquisition:	Avigation easement with easement to access obstructions
Date of Acquisition:	12/20/2010
Reference:	344/849
Distance from Runway:	630' +/- (adjacent)
Land Area:	11.08
Easement Area:	4.02
Runway Elevation:	730' +/-
Subject Property Elevation:	735' +/-
Lower Easement Level:	773'-816'- +/-
Clearance Above Improvement:	38'-81' +/-
Land Assessment:	\$32,200
Improvement Assessment:	\$0 (improvement built in 2012)
Consideration:	\$10,500