

provided for potential development and lands with environmental constraints. The majority of the subject, or approximately 372.84± acres of land, have this zoning. The primary permitted uses under both zoning classifications are essentially farm structures, agricultural use, barn or stable, animal and fowl, crop production commercial, flood control facilities, livestock raising, parks, residential properties limited to one dwelling per 20 acres, wineries, and/or water storage facilities. The accessory permitted uses incidental to primary permitted uses under both zoning classifications are accessory structures, domestic and agricultural wells, guest buildings, and watchman quarters. The conditional uses in both zoning classifications which require approval of a special use permit are agricultural services, animal boarding facilities, cemeteries, child care facilities, churches, extraction operations, fraternal associations, municipal well facilities, oil, gas or geothermal driving operations, agri-recreation facilities, ranch and farm living quarters, bunkhouses, incidental seasonal purposes, recreational vehicle park, and utility substations.

The zoning classifications preclude any high-density residential development. As indicated, any residential uses would be one dwelling unit 20 acres. Since the subject site contains a total of 405.57± acres, a total of approximately 20 homesites could be developed within the area.

The reader's attention is directed to the zoning analysis section of this report as well as the Addendum for a complete list of permitted uses under these zoning classifications and/or requiring a special use permit.

The appraiser has not reviewed a title report for all the parcels. The subject property is encumbered by several typical easements. These easements generally do not have an impact on potential property uses, due to the location of the anticipated easements. It is concluded that these encumbrances would not impact the use or development of the subject property. The subject property does not appear to be restricted by protective covenants, conditions, or restrictions which would not be normal for the immediate area. Zoning and lack of typical protective covenants are common on other similarly zoned properties in the Carson City area.

There are no other deed restrictions or legal encumbrances which further constrain the legally permissible use of the subject site. Based on the legal characteristics of the subject property, specifically the zoning, it is this appraiser's opinion consistent with the current zoning that the land be held vacant for future development when water supplies, roads, schools, sewer, and other public facilities and services are provided for potential development.

### Physically Possible

The next step in estimating the subject site's highest and best use is to determine which legally permissible use(s) is physically possible for the subject property. This analysis considers the physical characteristics of the site as well as surrounding uses which might influence the potential use. As explained in the Site Analysis section of this report, the subject site contains eight identifiable Assessor's Parcel Numbers with a total of 405.57± acres. The site is quite irregular in shape, located on both sides of the Carson River, quite steep in terrain in many areas, and has both AE and X Flood Zones on the property. The subject property has very limited access, indicating minimal potential development as of the date of appraisal. There do not appear to be any adverse easements that would affect value or the utility of the property. There are no public utilities available to the site with the exception of electricity and telephone near the intersection of Deer Run Road. Due to the accessibility, terrain, and topography of the subject site, it is felt that the site is adequate for various types of future residential uses with minimum lot sizes being 20± acres, indicating a potential of twenty 20-acre homesites. The subject's physical attributes do not appear to be conducive to any other potential use other than rural residential sites.

The appraiser has also examined the surrounding properties and development trends in the immediate area in order to gain insight as to physical constraints experienced by other similar sites. The surrounding acreage enjoys the same positive and negative attributes as the subject site and basically the same physical characteristics with minimal or no development in, near, or around the subject property.

Surrounding land use relates to the principle of conformity. This principle holds that "real property value is created and sustained when the characteristics of a property conform to the demands of its market."<sup>4</sup> Inherent in this principle is a compatibility of land uses in an area, as well as a reasonable degree of homogeneity. From a compatibility standpoint it is most likely that the subject site as vacant would be to be held for future development when water supplies, roads, schools, sewer, and other public facilities and services are provided for potential development.

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<sup>4</sup>The Appraisal of Real Estate, 12<sup>th</sup> Edition, published by the Appraisal Institute, 2001, page 319

In conclusion, the physical aspects of the subject site best lend themselves to some type of future residential use, while as of the date of value being held as vacant for future speculation

### **Financially Feasible**

The legally permissible and more specifically, the physically possible and compatible considerations narrow the subject site's potential development alternatives to future residential use. The next consideration is that of financial feasibility, specifically whether or not a future residential use as indicated by the legally permissible and physically possible considerations is profitable at this time. In other words, do the potential benefits from the operation of the selected uses outweigh the cost of constructing such a project?

According to the Area Analysis of Carson City, it is indicated that the Carson City market has seen a major decline in its economic base. Few if any new building permits have been issued within the last few years. Further, the reader is referred to the Direct Sales Comparison Approach which indicates only a minimal supply of similar sales have occurred within the Carson area indicating the demand for this type of property. Foreclosures and vacancies of both residential and commercial properties are high in the Carson area. According to the current economic conditions in the Carson City area, there does not appear to be any demand for any type of new residential use. Therefore, even though the subject site meets the physical and legal characteristics for future residential use, there is no indication in the current market that there is any demand for any new residential development.

Therefore, as of the date of this appraisal, it is this appraiser's opinion that the financially feasible use of the site is to be held as vacant for future speculation.

### **Maximally Productive Use**

As it was concluded in the Financially Feasible section that there is no current demand for any new residential development in the Carson area and the property be held as vacant for future speculation, there is no need for further analysis of the maximally productive use. The highest and best use, as vacant, is estimated to be held as vacant for future speculation.

**Conclusion, As If Vacant**

Based on the preceding analysis of the legal permissible, physically possible, financially feasible, and maximally productive uses, it is the appraiser's opinion that the highest and best use of the subject site, as vacant, would be to be held as vacant for future development at a time when economic conditions would warrant new residential construction within the Carson City market.

## APPRAISAL OVERVIEW

In the appraisal of real estate, there are three basic traditional approaches for estimating property values. The three approaches are: Direct Sales Comparison Approach (also referred to as the Market Approach), the Cost Approach and the Income Approach. The final step in estimating a property's "market value" (i.e., the most probable selling price), is to correlate the value estimate of the three approaches into a single value estimate.

### The Cost Approach

This approach is based on the proposition that an informed purchaser would pay no more than the cost of producing a substitute property with the same utility as the subject property. It is particularly applicable when the property being appraised involves relatively new improvements which represent the highest and best use for the land, or when unique or specialized improvements are located on the site for which there exists no comparable properties on the market. The subject property being appraised is vacant land. The Cost Approach is not considered to be relevant and therefore has been eliminated from this report.

### Income Approach

This approach is based on the proposition that a property is worth no more than the capitalized value of the income stream that the property is capable of generating. The procedure converts anticipated benefits (dollar income), to be derived from the ownership of property into a value estimate. The Income Approach is widely applied in appraising income producing properties. Anticipated future income and/or reversions are discounted to a present worth figure through the capitalization process. The subject property being appraised is vacant land. The Income Approach is not considered to be relevant and therefore has been eliminated from this report.

**Direct Sales Comparison Approach**

This approach is based on the proposition that an informed purchaser would pay no more for a property than the cost to him of acquiring an existing property with the same utility. It is applicable when an active market provides sufficient quantities of reliable data which can be verified from authoritative sources. Adjustments extracted from the market are applied to the comparable sales for any differences that exist between the sales and the subject. The categories of adjustment include, but are not limited to, location, access, size, shape, market conditions at the time of sale and the terms of the sale.



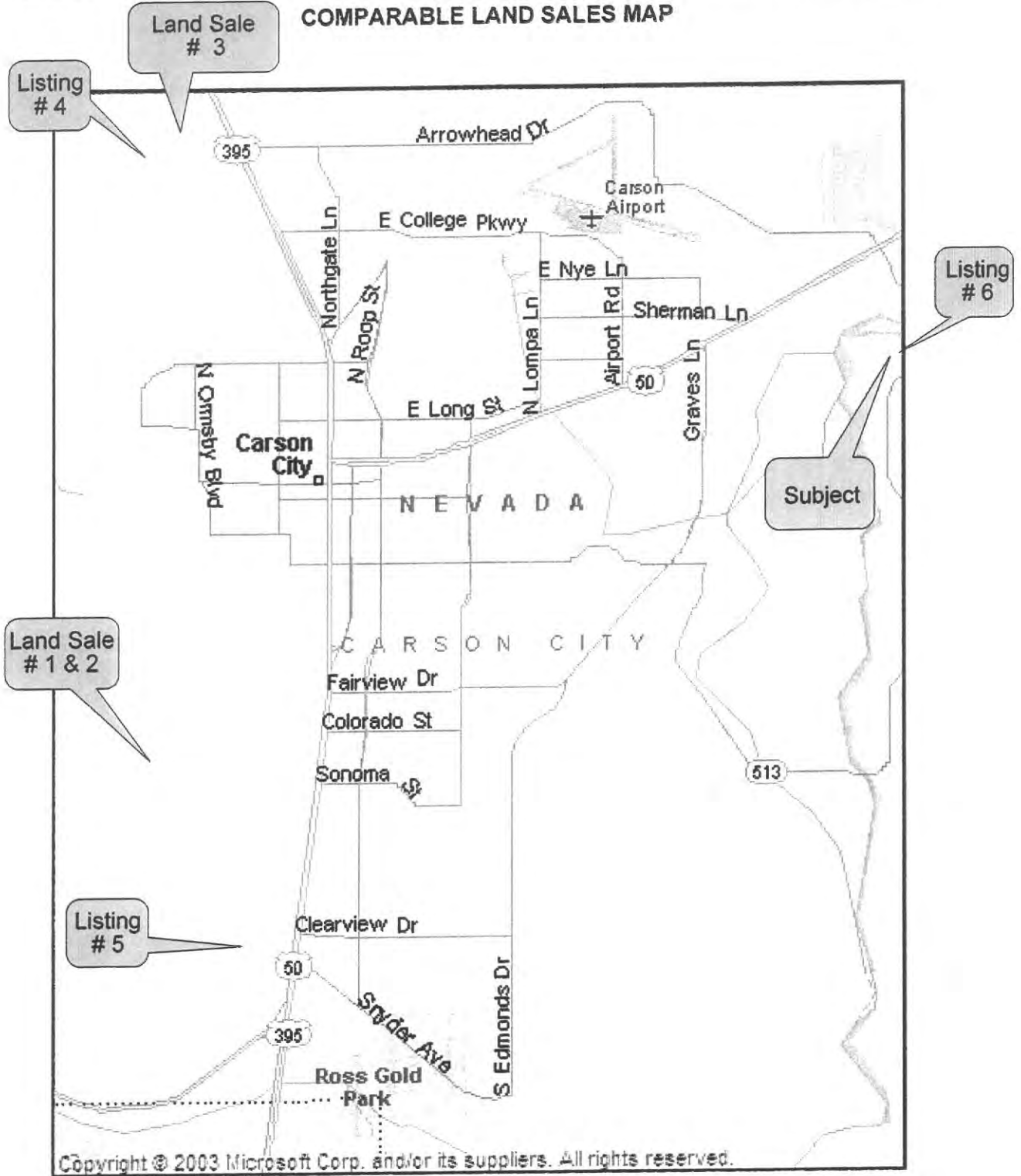
**SALES COMPARISON APPROACH TO VALUE**

The first step in this approach is to identify the highest and best use of the subject. Then the public records are canvassed for sales of properties with the same or a similar highest and best use. The appropriate sales are verified, and the sale prices are reduced to a consistent unit of measure, in this case a site value. These prices can then be used to establish a typical range of value for a property of the subject's class. Individual elements of these sales are compared to the subject, and an overall judgment can be made as to how the subject compares with other properties in its class.

The subject is a large undeveloped section of land containing eight identifiable Assessor's Parcel Numbers containing a total of 405.57± acres located within Carson City, Carson City County, Nevada. Its highest and best use is to be held as speculation for future residential development. As of the date of appraisal, the subject site has no current entitlements and is considered to be vacant.

The highest and best use and marketability of the site is clouded by the current economic conditions. The recession has resulted in a dramatic drop in prices and sales volumes. In this market, the actions of potential sellers, those with the properties listed for sale, are often important and far more indicative of the value of the property than the analysis of past sales. The information on the following chart appears to be appropriate for the valuation of the subject.

COMPARABLE LAND SALES MAP



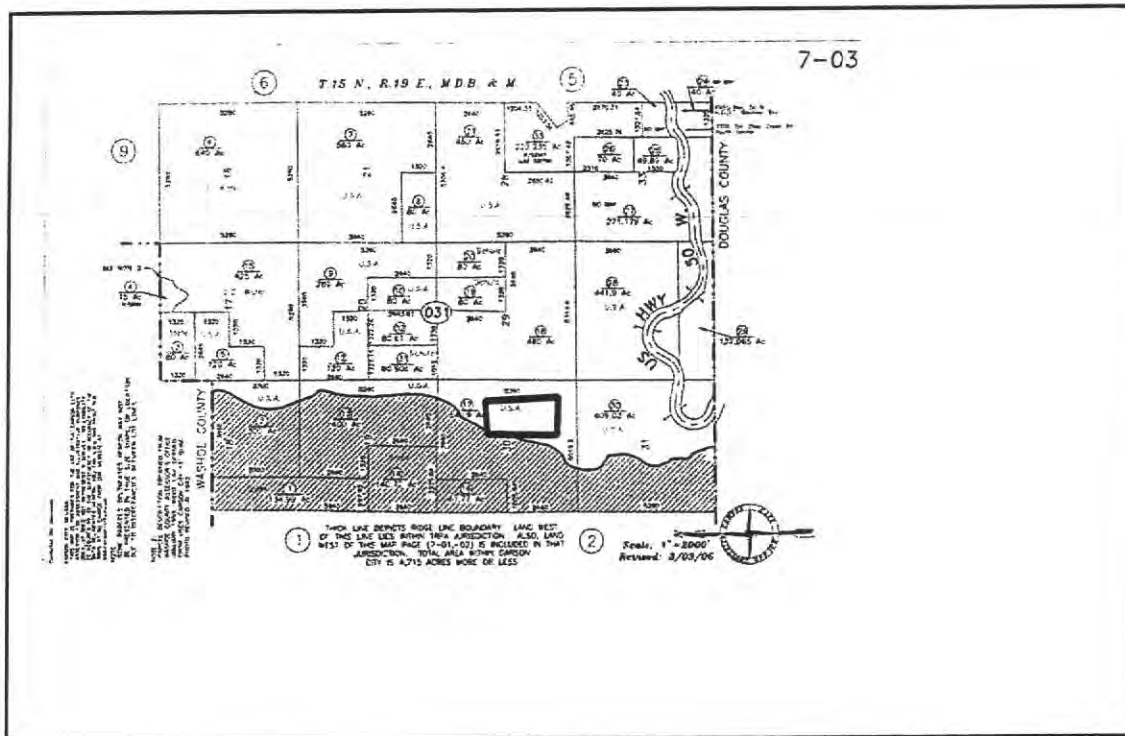


## COMPARABLE LAND SALES AND LISTING CHART

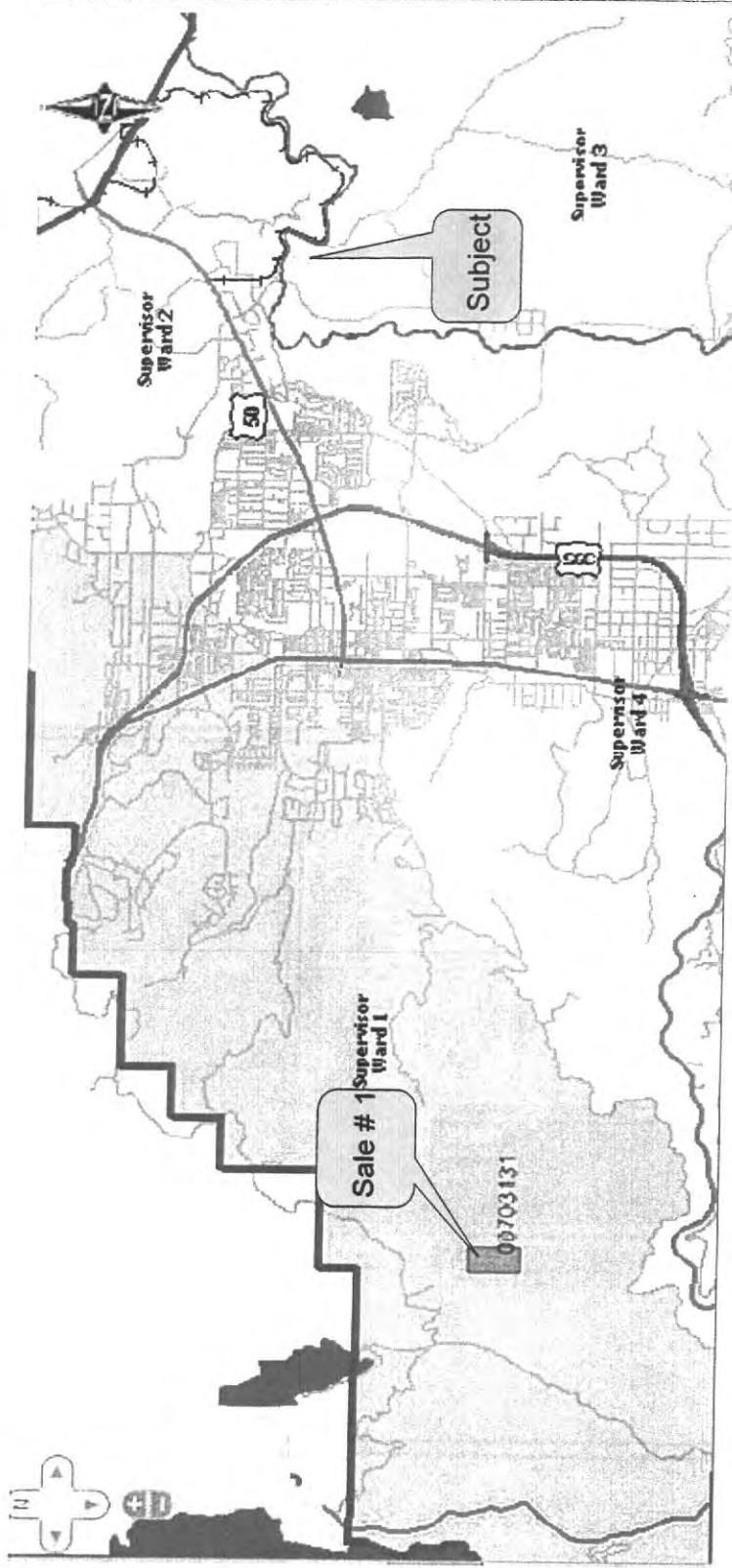
Sale No.	APN Address	Sale Date	Sale Price	Land Area Zoning	Price/Acre	Grantor Grantee
1	07-031-31 Highway 50 Carson City, NV	03-24-06	\$1,200,000	80.906± ac CR	\$14,832.03	Schulte West Peak
2	07-061-34-41 Kings Canyon Road Carson City, NV	12-20-06	\$2,150,000	320± ac CR	\$6,718.75	Swafford USA
3	07-092-12 Buckskin Road Carson City, NV	04-15-09	\$1,000,000	60.118± ac SF1A	\$16,633.95	DiMartino Limited Partners
Listing 4	07-091-91 Combs Canyon Road Carson City, NV	Current	\$600,000	57.04± ac SF1a	\$10,518.93	Combs Canyon LLC N/A
Listing 5	09-031-07, 29 Rhodes Street Carson City, NV	Current	\$651,000	78.48± ac SF12	\$8,295.10	Wells Fargo Bank N/A
Listing 6	10-011-22, 23 Carson 16-151-21 Lyon	Current	\$1,850,000	626± ac CR RR5	\$2,955.27	Scott Erickson N/A

COMPARABLE LAND SALE #1

**Assessor's Parcel No.:** 007-031-31  
**Address:** Unknown  
**Location:** North of US Highway 50  
**Grantor:** Schulz Investment LLC  
**Grantee:** West Peak – HCT, LLC  
**Sale Date:** 03-21-06 **Recording Date:** 03-24-06  
**Document No.:** 351421 **RPPT:** \$4,680  
**Sale Price:** \$1,200,000 **Terms:** Cash  
**Land Use:** Vacant  
**Zoning:** CR (Conservation Reserve)  
**Utilities:** None **Flood Zone:** X  
**Access:** Dirt roads  
**Topography:** Rolling  
**Land Area:** 80.906± acres  
**Price/Acre:** \$14,832.03  
**Verified With:** Public Records

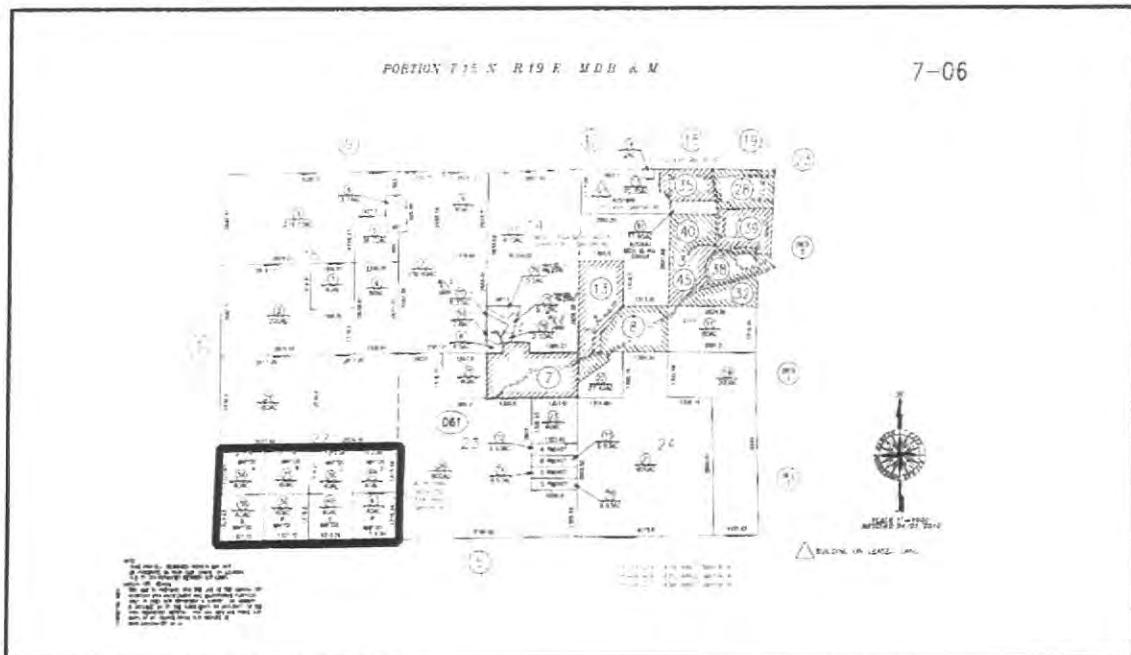


COMPARABLE LAND SALE MAP #1

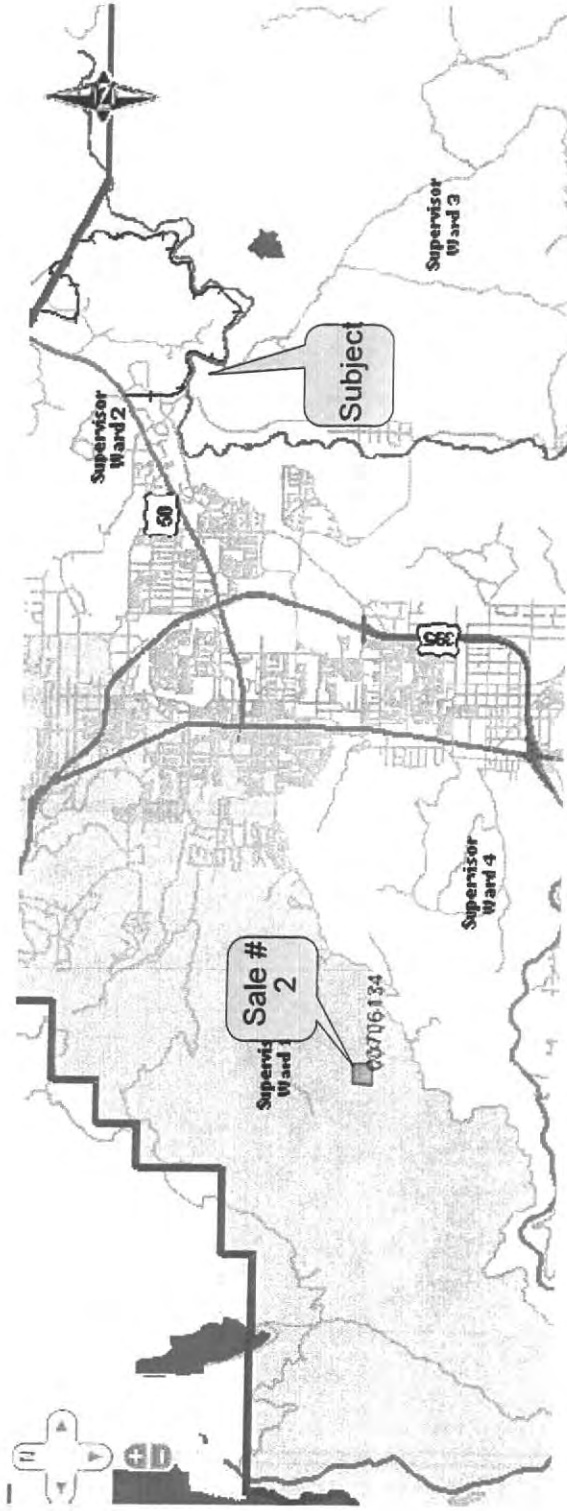


**COMPARABLE LAND SALE #2**

**Assessor's Parcel No.:** 07-061-34 through 41  
**Address:** 5300 Kings Canyon, Carson City, NV  
**Location:** North of Kings Canyon Road, south of Ash Canyon  
**Grantor:** Doyle E. And Maxine Swafford (Trustees)  
**Grantee:** United States of America (Forest Service)  
**Sale Date:** 12-15-06      **Recording Date:** 12-20-06  
**Document No.:** 362368      **RPPT:** Exempt  
**Sale Price:** \$2,150,000      **Terms:** Cash  
**Land Use:** Vacant  
**Zoning:** CR (Conservation Reserve)  
**Utilities:** None      **Flood Zone:** X  
**Access:** Dirt roads  
**Topography:** Level to hilly  
**Land Area:** 320± acres  
**Price/Acre:** \$6,718.75  
**Verified With:** Public Records and Mary Jo Brummer, Broker (775) 721-5905

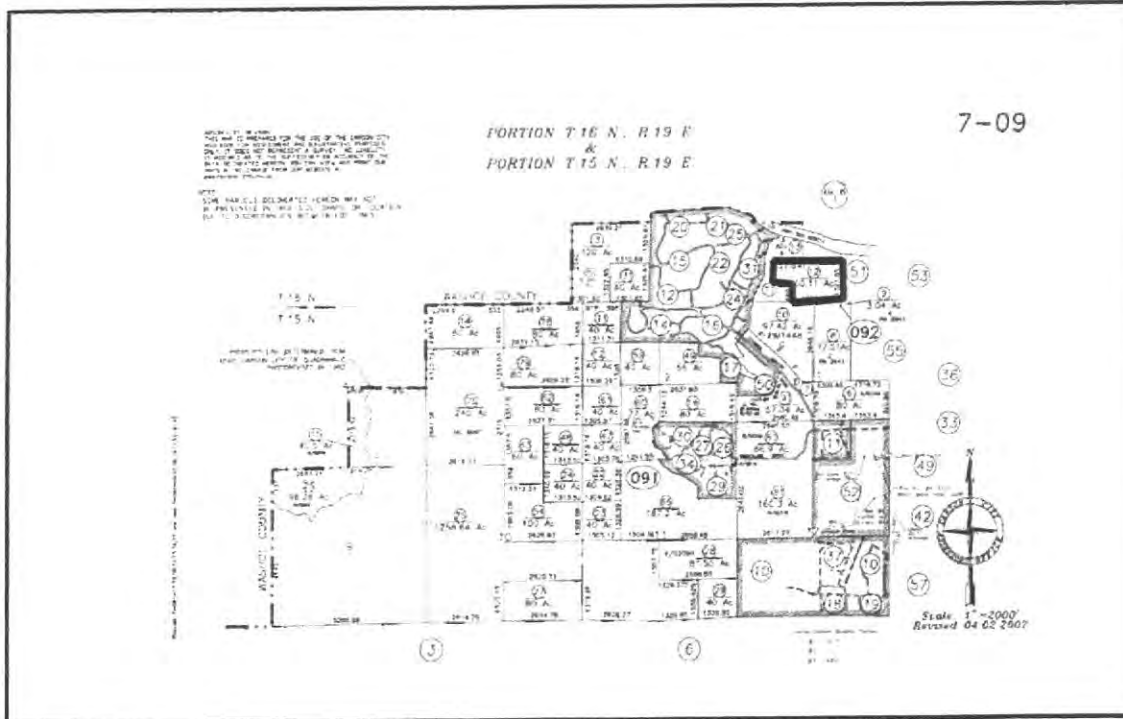


LAND SALES MAP # 2



## COMPARABLE LAND SALE #3

**Assessor's Parcel No.:** 07-092-12  
**Address:** End of Buckskin Road, Carson City, NV  
**Location:** S of US Highway 395, NW end of Skyline Subdivision  
**Grantor:** Francesco DiMartino and Naomi L. DiMartino (Trustees)  
**Grantee:** Limited Partnership Management Services LLC  
**Sale Date:** 04-06-09 **Recording Date:** 04-15-09  
**Document No.:** 388570 **RPPT:** \$3,900  
**Sale Price:** \$1,000,000 **Terms:** Cash  
**Land Use:** Vacant  
**Zoning:** SF1A  
**Utilities:** None **Flood Zone:** X  
**Access:** Dirt roads  
**Topography:** Gently rolling terrain  
**Land Area:** 60.118± acres  
**Price/Acre:** \$16,633,95  
**Verified With:** Public Records and Lori Jenkins, Broker (775) 720-9200





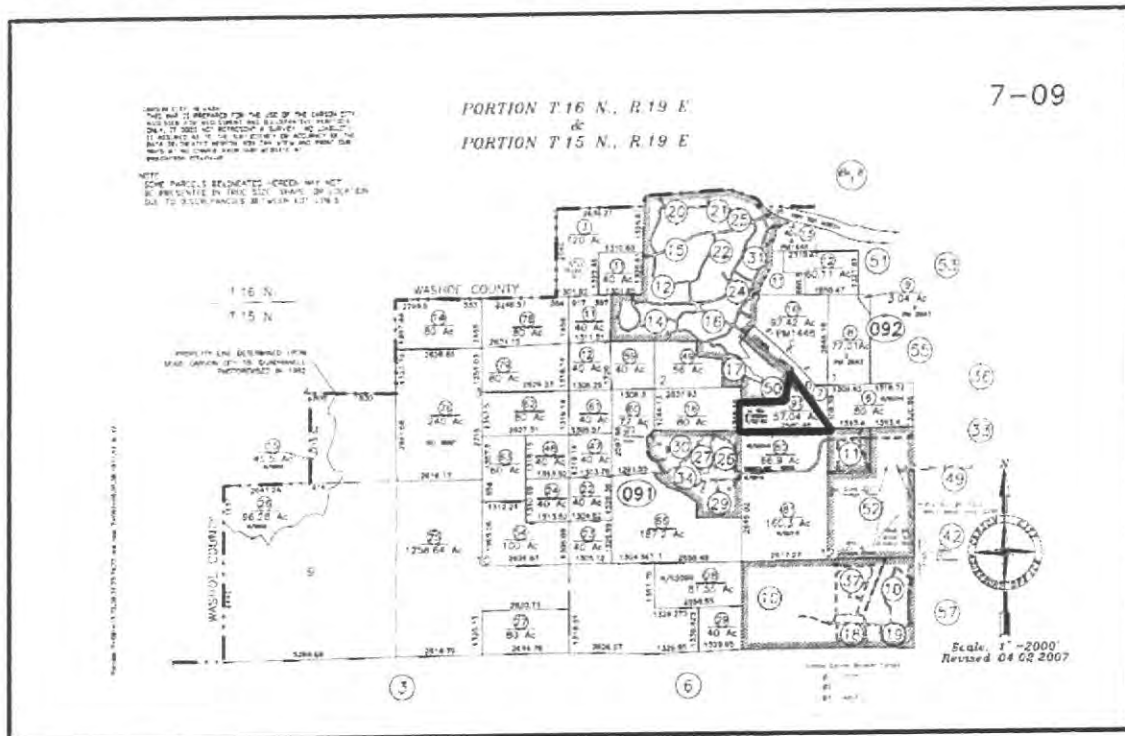
LAND SALES DATA

LAND SALES MAP # 3

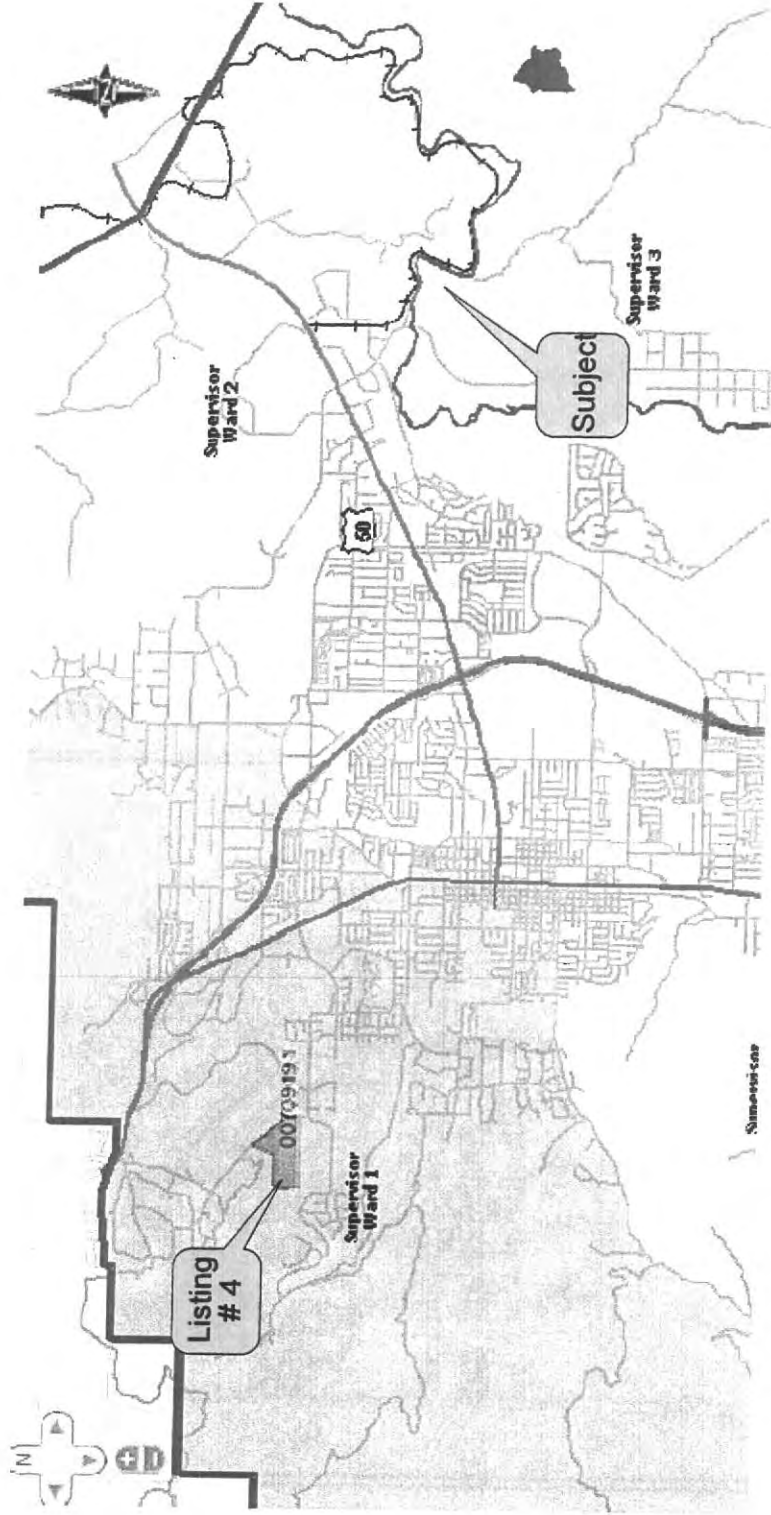


**COMPARABLE LAND LISTING #4**

**Assessor's Parcel No.:** 07-091-91  
**Address:** Combs Canyon Road, Carson City, NV  
**Location:** Northeast Carson City  
**Grantor:** Combs Canyon LLC  
**Grantee:** N/A  
**Sale Date:** Current Listing      **Recording Date:** N/A  
**Document No.:** N/A      **RPPT:** N/A  
**List Price:** \$600,000      **Terms:** Cash  
**Land Use:** Vacant  
**Zoning:** SF1A  
**Utilities:** None      **Flood Zone:** X  
**Access:** Paved road  
**Topography:** Gently rolling  
**Land Area:** 57.04± acres  
**Price/Acre:** \$10,518.93  
**Verified With:** Public Records and Dan Smith, Broker (775) 690-4972

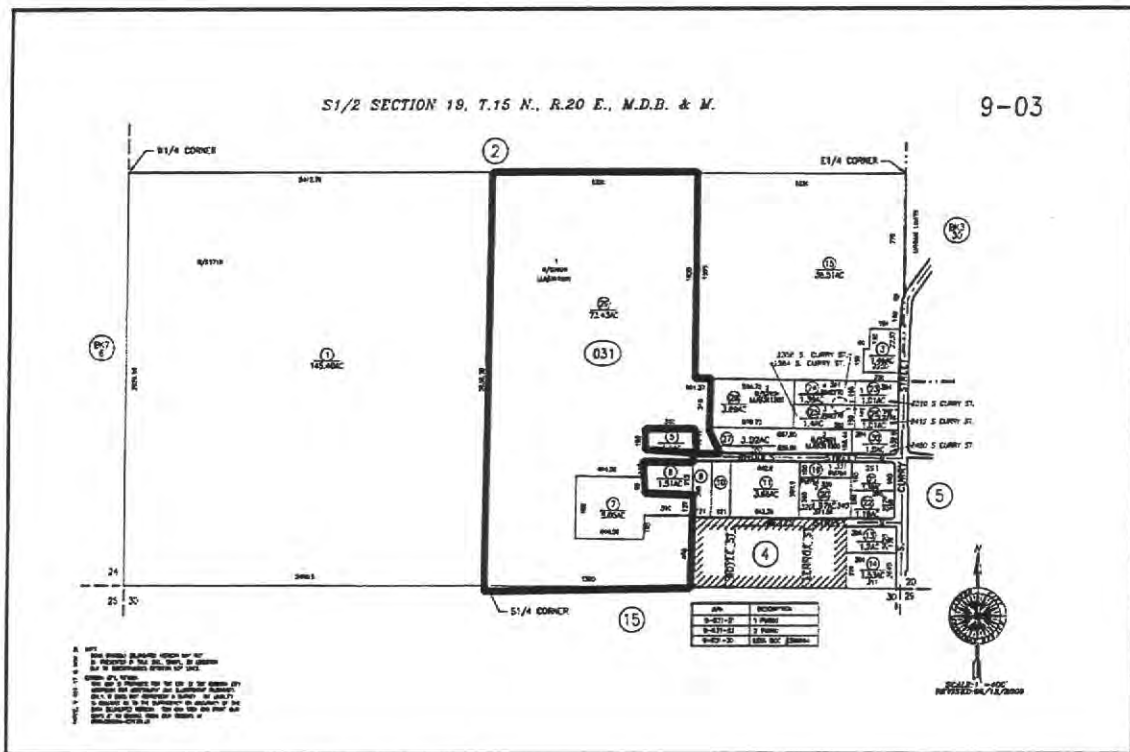


LAND LISTING MAP # 4



COMPARABLE LAND LISTING #5

**Assessor's Parcel No.:** 009-031-07 and 29  
**Address:** Rhodes Street, Carson City, NV  
**Location:** West Carson west of Carson Street  
**Grantor:** Wells Fargo Bank  
**Grantee:** N/A  
**Sale Date:** Current Listing      **Recording Date:** N/A  
**Document No.:** N/A      **RPPT:** N/A  
**List Price:** \$651,000      **Terms:** Cash  
**Land Use:** Vacant  
**Zoning:** SF12  
**Utilities:** Available      **Flood Zone:** X  
**Access:** Paved road  
**Topography:** Level to gently rolling  
**Land Area:** 78.48± acres  
**Price/Acre:** \$8,295.10  
**Verified With:** Public Records and Ron Cobb, Broker (775) 329-4060



LAND LISTING MAP # 5



## COMPARABLE LAND LISTING #6

**Assessor's Parcel No.:** 10-011-22, 23 (Carson City County)  
16-151-21 (Lyon County)

**Address:** Unknown

**Location:** SWC of Lyon County at the Carson City Line

**Grantor:** Scott Erickson

**Grantee:** N/A

**Sale Date:** Current Listing      **Recording Date:** N/A

**Document No.:** N/A      **RPPT:** N/A

**List Price:** \$1,850,000      **Terms:** Cash

**Land Use:** Vacant residential land

**Zoning:** RC (Carson City) and RR5 (Lyon County)

**Utilities:** None      **Flood Zone:** AE and X

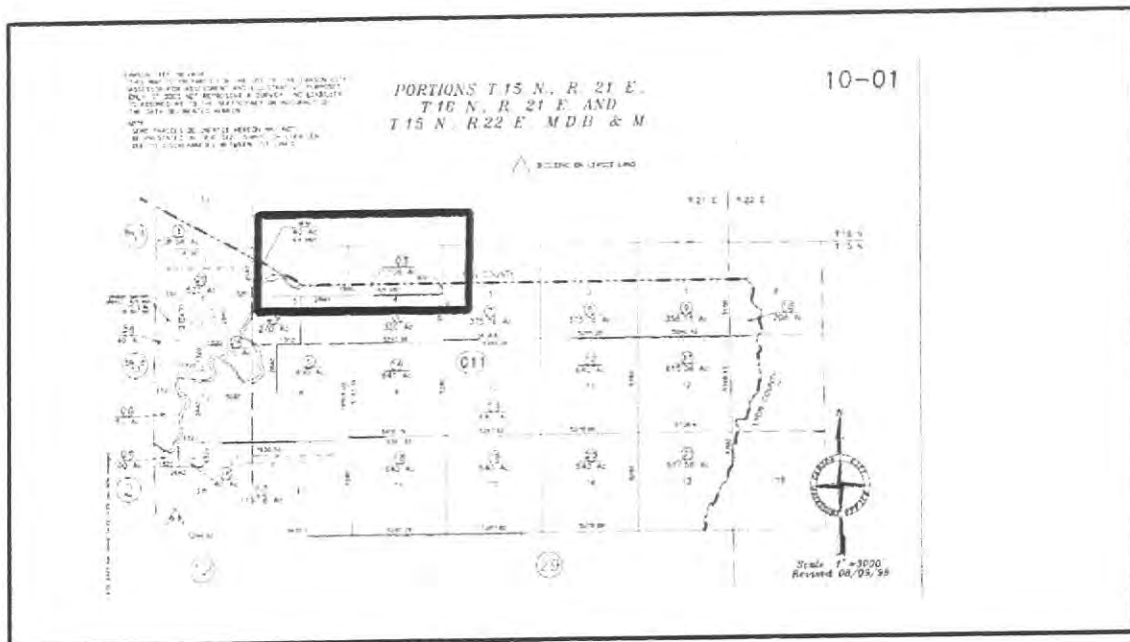
**Access:** Dirt roads

**Topography:** Level to rolling

**Land Area:** 146± acres – Carson City  
480± acres – Lyon County  
626± acres – Total

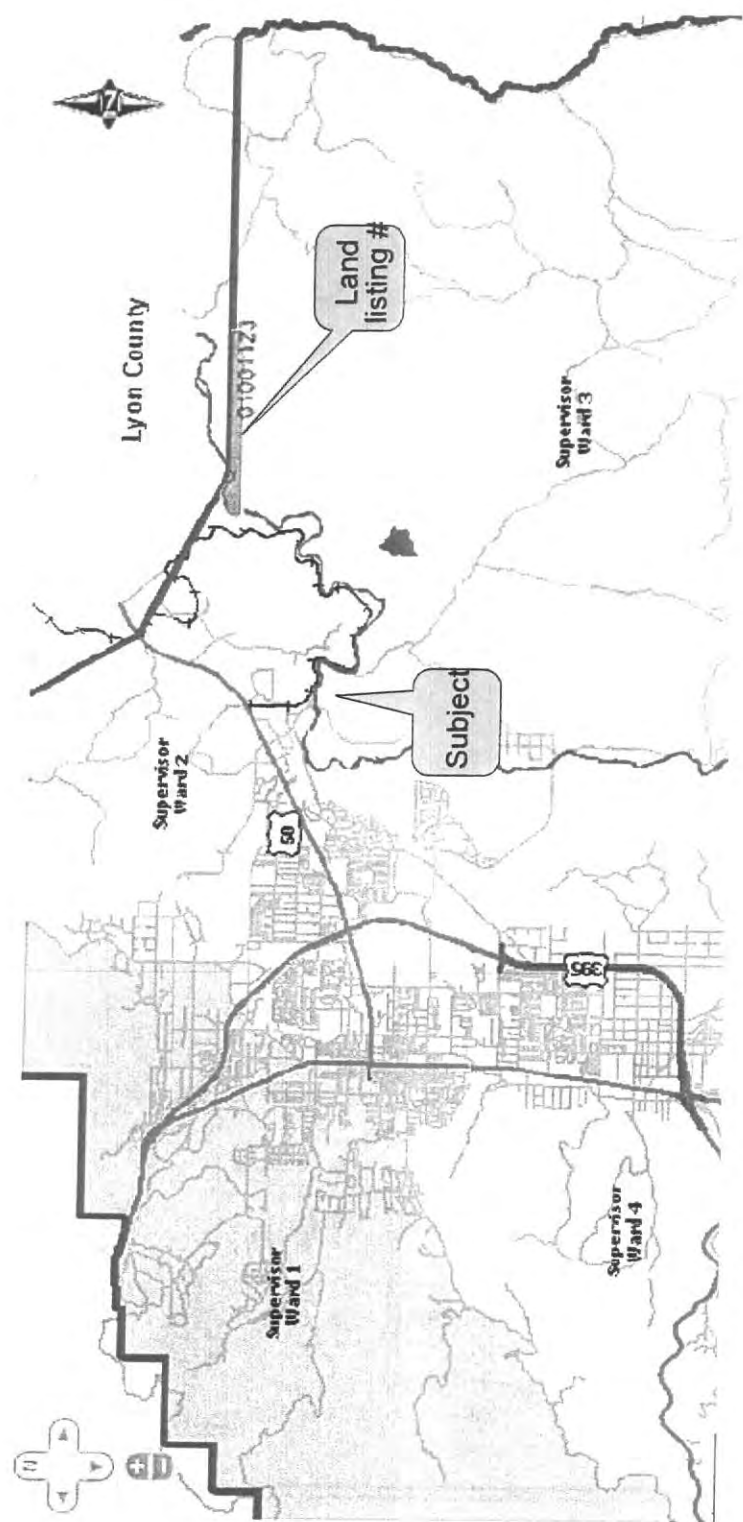
**Price/Acre:** \$2,955.27

**Verified With:** Public Records and Craig Zager, Broker (775) 901-4663





LAND LISTING MAP # 6



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## LAND SALES ANALYSIS, CORRELATION, AND VALUE CONCLUSION

The sales and listings presented are representative of the large acreage, single-family properties available in the Carson City market as of the date of value. These properties were selected because of their size and/or locations. Each has a residential development potential. The activity surrounding these parcels is indicative of the demand for land and the impact of the ongoing recession and collapse of the real estate markets. However, these sales and listings are felt to be current and the best indicators available. The sales sold between March of 2006 and April of 2009, while the three current listings were active as of the current date of value. One manifestation of the current crisis in the real estate market is the almost complete halt of speculative construction, including homes, subdivisions, industrial/commercial, and retail and office properties. While there are some signs of a slowdown in the downward trend, the news is best categorized not as good, but as less bad. However, as can be seen by the three sales and three listings represented in this report, there is still some demand for large acreage parcels for future single-family development on an individual basis.

To quote Raymond Torto, Chief Economist for CBRE "Sellers feel that it is too late to sell and buyers feel that it is too early to buy," resulting in a large bid/ask spread. Recently, this trend is narrowing in favor of the buyers.

The three sales and three listings presented in the preceding section range in size from 57.04± acres to 626± acres, as compared to the subject's 405.57± acres. In each, the comparable properties are limited to single-family development. These properties are large acreages and either tentative maps or approved maps are in place on many of the properties. However, it should be pointed out that tentative maps and some entitlements have shelf lives and in all likelihood, these tentative maps will expire before the properties are ever actually developed. These three sales and three listings are felt to be the best indicators of the subject property. If they are in fact to express market value, they must be examined to see if they meet the test of market value set forth in the definition in this report. The definition used was established in Section 2, NRS 37.009(6).

Market value implies a freewill transaction, where knowledgeable parties transact business without duress and in good faith. The definition calls for the highest price on the date of value that would be agreed upon by a knowledgeable buyer and seller. Market value is time sensitive; it is always as of a specific point in time. In this

case, the date of value is November 17, 2010. The primary elements of a market value transaction are discussed below.

#### **Property Rights Conveyed**

This appraisal considers the subject's fee simple interest. The sales utilized in this analysis were all considered to be transactions in fee simple interest.

#### **Financing**

Although the definition used in this appraisal does not specifically address financing, it is generally accepted that market value contemplates a cash or cash equivalent transaction where unusual financing terms do not affect the price paid. The comparable properties have all sold on a cash or cash equivalency basis. Therefore, no adjustments for financing are necessary.

#### **Conditions of Sale**

This element of comparison addresses the freewill and exposure aspects of the transaction. In each case, there are no indications of duress on the part of either the buyers or the sellers. Given the state of the market at large, no adjustments for conditions of sale are appropriate.

#### **Market Conditions**

Market value is always established as of a specific date. In this case, the date of value is November 17, 2010. It is generally accepted that the peak of the most recent development cycle occurred in the latter part of 2005 and early 2006. After that, as the result of the sub-prime lending crisis, market oversupply, and unrealistic price expectations, the residential market began a steep decline. With home prices dropping more than 50% from their peak in 2006, demand for raw development land has evaporated and many residential developers have either been foreclosed or are liquidating their holdings. The foreclosing lenders are now in control of a significant portion of the inventory and are also in a liquidation mode.

#### **Other Adjustments**

The sales as presented are legitimate representations of market. Having reached this conclusion, the next task in the comparison process is to compare the parcels to the subject in terms of their basic physical characteristics. The physical

and relevant characteristics which appear to have an affect on value are the location, access, and topography as well as entitlements.

Sale #1 is located north of US Highway 50 and is further described as APN 07-031-31. This property transferred from Schultz Investment LLC to West Peak/ACT LLC. This sale was recorded on March 24, 2006 with Document No. 351421. The reported sales price was \$1,200,000. The property was zoned CR or Conservation Reserve. There were no utilities available and the property's access was dirt roads. Topography is level to rolling, similar to that of the subject property. The sale contained 80.906± acres indicating a value of \$14,832.03 an acres. This sale has been verified through public records; however, neither representatives of the buyer or seller could be contacted for further analysis. This sale as compared to the subject property as well as the other sales and listings found in this report appears to be a high indicator. Given the fact that no verification other than the public records was obtainable, this sale is given minimal reliance.

Sale #2 is located north of Kings Canyon Road, south of Ash Canyon in Carson City. This property is further identified as APN 07-061-34 through 41 and has a physical address of 5300 Kings Canyon Road. This property transferred from Doyle E. And Maxine Swafford, Trustees, to the United States of America or the US Forest Service. This property closed on December 20, 2006, and was recorded with Document No. 362368. This property sold for \$2,150,000. This property was zoned CR or Conservation Reserve. The property does not have utilities and access was dirt road. This property contained 320± acres and had an indicated price per acres of \$6,718.75. This property was confirmed through public records as well as the listing broker, Mary Jo Brunner. It was indicated that this property had a very old and rustic cabin on the property at the time of sale. However, neither the buyer nor the seller attributed any value to the improvements and the improvements were subsequently removed shortly after the close of sale. Though the United States government purchased this property, it had been listed on MLS for approximately 975 days and so had adequately been exposed to the market. Though this property does not have the river attributes as does the subject property, it is felt to have superior development potential due to its overall location and availability of infrastructure. Overall, the sales price at \$6,718.75 an acre is felt to be a good indicator when compared to that of the subject property.

Sale #3 is located south of US 395, northwest of the Skyline Subdivision. The property is further identified as APN 07-092-12. The physical address is on Buckskin Road. This property transferred from Francisco DiMartino and Naomi L. DiMartino to



Limited Partners Management Service LLC. This sale was recorded on April 15, 2009, and was recorded with Document No. 388750. The sales price was \$1,000,000. The property was zoned SF1A. The property had no utilities and access was dirt road. Topography of this site was gently rolling terrain. This sale contained 60.11± acres, indicating an overall price of \$16,633.95 per acre. This sale was verified through public records as well as Lori Jenkins, broker and partial owner at the time of sale. At the time of sale, this property had a tentative map for 16 parcels containing 1 to 7 acres. The property also had a will serve letter for water from Carson City. Overall, when compared to the subject property, this property is considered to be inferior when comparison is made to river frontage; however, it is superior in overall development potential and the fact that it had tentative maps for parcels as well as a will serve letter from Carson City for water. Therefore, overall this sale is considered to be a high indicator when compared to that of the subject property.

Listing #4 is located in northeast Carson City. This listing is further identified as APN 07-091-91 and is located on Combs Canyon Road. This property is currently owned by Combs Canyon LLC and is listed for sale for \$600,000. This property is zoned SF1A, has no utilities, and access is via a paved road. Topography is gently rolling. The site contains 57.04± acres. The indicated price per acre for this listing is \$10,518.93. This property has been under its current ownership since 2005 and this listing was verified through public records as well as the listing broker, Dan Smith. This listing had a tentative subdivision map containing 23 acres of approximately 1± acre lots. In comparison to the subject property, this property is considered to be inferior in river frontage location; however, it is superior in overall development potential with tentative maps in place. Overall, when compared to the subject property this listing is considered to be a high indicator.

Listing #5 is located west of Curry Street in west Carson City. This listing is further identified as APN 09-031-07 and 29. The property is accessed via Rhodes Road. This listing is currently offered by Wells Fargo Bank and the current list price is \$651,000. This listing is zoned SF12. Utilities are available and the property is accessed via paved road. This parcel contains 78.48± acres indicating a price per acre of \$8,295.10. This listing is part of the proposed Summer Hawk development. This portion contains 70.52± of the total 545 acres that make up the proposed Summer Hawk development. This portion supports approximately 99 of the proposed 201 units. The broker indicated that the tentative subdivision map No. 06-203 is valid through April 19, 2011, on this parcel. This listing was verified through public records

as well as listing broker Ron Cobb. In comparison with the subject property, this property is considered inferior given the river location; however, it is superior given the overall location, tentative maps, and development potential. In comparison to the subject property, this listing is considered to be superior compared to that of the subject property.

Listing #6 is located within the Carson River Canyon on the border of Lyon County and Carson City County adjacent to the subject property. This property is further identified as APN 10-011-22, 23 (Carson City) and APN 16-151-21 (Lyon County). This property is currently offered for sale by the owner Scott Erickson. The current list price is \$1,850,000. The property is zoned CR in Carson City and RR5 in Lyon County, both large acreage zoning classifications. There are no utilities to this property and access is via a dirt road. The property is rolling to level. This property contains 146± acres in Carson City and 480± acres in Lyon County for a total of 626± acres. The current list price equates to \$2,955.20 an acre. This listing was verified through public records as well as the broker of the current listing, Craig Zager. In comparison to the subject property, this listing is the most comparable of all the sales and listings utilized. This property is located in the same general marketing area as the subject property, along the Carson River, although a portion of it lies in Carson County and a portion lies in Lyon County. Overall, this listing is considered to be a good comparable to the subject property; however, it is considered to be a slightly low listing given the distance from Carson City and infrastructure. Overall, when compared to the subject property, this listing is considered to be a low indicator.

In the preceding analysis, three sales and three listings were presented and analyzed. This analysis addresses the subject's value assuming the property was available on the market, and clear title available. In the Reconciliation, it is necessary to weigh the strength of all of the available information, including but not limited to the property sales, market participant interviews, supply and demand factors, and the health of the local and national economies.

Using the information available, the preceding discussion can be summarized in tabular form as set forth below. The comparables rated superior to the subject have features that make them more desirable and would be worth more than the subject on a price per acre basis. Conversely, the subject's per acre value is likely higher than those comparables rated inferior.



**Comparables Generally Superior to the Subject Property**

Sale #3	\$16,633.95
Sale #1	\$14,850.38
Listing #4	\$10,518.93
Listing #5	\$8,295.10

**Comparables Similar or Slightly Less than the Subject Property**

Sale #2	\$6,718.75
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**Comparables Inferior to the Subject Property**

Listing #6	\$2,955.27
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The comparables utilized in this report were considered to be the most similar to the subject property. The subject property contains 405.57± acres, while the sales ranged in size from 57.04± acres to 626± acres. The subject property appears to be best represented somewhere between Sale #2 at \$6,718.75 and Listing #5 at \$8,295.10.

It is felt, predicated on this information, that the subject's current market value is best represented somewhere around \$7,500 per acre.

To further support this analysis, the appraiser has also looked at other transactions that have occurred within Carson City over the last couple of years. There have been transactions of properties in Carson City that are similar to the subject property; however, they did not meet the test of market value. Five sales that have occurred between March of 2008 and May of 2010 are charted below. Following are those transactions that were also considered in this analysis. However, they did not meet the definition of market value and though they are only given minimal weight, they are also considered.

## COMPARABLE LAND SALES CHART

Sale No.	APN Address	Sale Date	Sale Price	Land Area Zoning	Price/Acre	Grantor Grantee
1	10-121-42, 43, 44 Carson City, NV	03-31-08	\$1,650,000	64.31± ac SFA5	\$25,656	Alpenglow Development Carson City
2	07-091-26 Carson City, NV	09-18-08	\$585,000	96.28± ac CR	\$6,076	E. J. Wilson Carson City
3	07-031-29 Highway 50 Carson City, NV	09-25-09	\$825,000	137.06± ac CR	\$6,019	Duane Steidley USA - Forest Service
4	08-011-55 Carson City, NV	04-15-10	\$1,500,000	140± ac CR	\$10,714	J. T. Ross Golden Sierra Investments
5	10-071-26, 27 10-021-47 Carson City, NV	05-28-10	\$3,700,000	371.78± A	\$9,952	J. P. Jarrard Carson City

The five transactions that are charted above are considered in this analysis because they were recent transactions. However, they did not meet the test of market value.

Sale #1, APN 10-121-42, 43, and 44 sold on March 31, 2008, for a reported sales price of \$1,650,000. This was a parcel containing 64.31± acres with a zoning of SFA5. The price per acre was reported at \$25,656. According to the buyer this property had full entitlements for a residential subdivision at the time of sale. This property transferred from Alpenglow Development to Carson City. This property was never exposed for sale on the market and was purchased by Carson City. Carson City had approached the seller and the price of the transaction was predicated on an appraisal.

The second sale, APN 07-091-26, located in Carson City, sold on September 18, 2008. The reported sales price was \$585,000 for 96.28± acres. This property indicated a price per acre of \$6,076. This property was never exposed for sale on the open market and was purchased by Carson City after Carson City approached the seller and the price was predicated on an appraisal.

The third transaction, APN 07-031-29, located on Highway 50 in Carson City, closed on September 25, 2009. The reported sales price was \$825,000 for 137.06± acres. This property indicated a price per acre of \$6,019. This property was sold by Duane Steidley to the United States of America Forest Service. This property was never exposed for sale on the open market. The Forest Service approached the seller and the price was predicated on an appraisal.

The fourth sale, APN 08-011-55, located in Carson City, sold on April 15, 2010. The reported sales price was \$1,500,000. Land area contained 140 acres and the reported sales price was \$10,714 per acre. The appraiser interviewed Gary Lehman with Cinderlite, representative of the buyer, who indicated that the buyer had had the property under a long-term first right of refusal to purchase the property for over 15 years. The property was never exposed for sale on the market. He indicated they purchased the property for its mineral potential for expansion of their cinder pits, not for just the land value. Mr. Lehman indicated they exercised their option to purchase since the owner, who was a friend, was getting older and they wanted him to be able to live out his life without worrying about consummating this sale. Mr. Lehman indicated that most, if not all, the value was strictly associated with the mineral operation and that he did not feel it had any bearing on the market value of the property, not considering its mineral potential. Therefore, this sale is given no consideration at all.

Sale #5, APN 10-071-26 and 27 and 10-021-47, closed on May 28, 2010. The reported sales price was \$3,700,000. This was the purchase of 371.78± acres zoned A, Agricultural. The sale indicates a price per acre of \$9,952. This property transferred from J. B. Jarrard to the City of Carson City. The property was never exposed for sale on the market. Carson City approached the seller and the price paid was predicated on an appraisal.

These five transactions, again, have been included in this report not as good indicators of the value of the subject property, but transactions representative of other transactions which have occurred in Carson City over the last few years. In the preceding section of this report, the appraiser had correlated to \$7,500 an acre. In looking at these additional five transactions, giving no consideration to #4, at \$10,714 per acre, and only minimal consideration to #1 at \$25,626 per acre, the other three indicators would indicate a value somewhere between \$6,019 an acre and \$9,952 an acre. Though these sales are not considered to be representatives of market value, they do appear to support the overall conclusion of \$7,500 per acre.

Therefore, after careful consideration of all the information available, predicated on the market value as well as other market transactions, it is this appraiser's opinion that the market value of the subject property as of the date of valuation is \$7,500 per acre. Applying \$7,500 per acre to the subject's 405.57± acres indicates a value of \$3,041,775.

**Market Value Conclusion**

**\$3,041,775**

ADDENDUM

**ASSUMPTIONS AND LIMITING CONDITIONS**

The acceptance of this assignment and the completion of the report submitted herewith are contingent upon the following assumptions limiting conditions:

**LIMITS OF LIABILITY:**

The liability of Anthony J. Wren, MAI is limited to the client only and to the fee actually received by the appraisal firm. There is no accountability, obligation, or liability to any third party. If the report is disseminated to anyone other than the client, the client shall make such party or parties aware of all limiting conditions and assumptions affecting the assignment. The appraiser is not in any way to be responsible for any costs incurred to discover or correct any physical, financial and/or legal deficiencies of any type present in the subject property.

**COPIES, PUBLICATION, DISTRIBUTION AND USE OF REPORT:**

Possession of this report or any copy thereof does not carry with it the right of publication, nor may it be used for any purpose or any function other than its intended use, as stated in the body of the report. The fee represents compensation only for the analytical services provided by the appraiser. The report remains the property of the appraiser, though it may be used by the client in accordance with these assumptions and limiting conditions.

The By-Laws and Regulations of the Appraisal Institute require each Member to control the use and distribution of each report signed by such Member. Except as hereinafter provided, the client may distribute copies of this report in its entirety to such third parties as he may select. However, selected portions of this report shall not be given to third parties without the prior written consent of the appraiser. Neither all nor any part of this report shall be disseminated to the general public by use of advertising media, public relations media, news media, sales media, or any other media for public communication without the prior written consent of the appraisal firm.

This report is to be used only in its entirety and no part is to be used without the whole report. All conclusions and opinions concerning the analysis as set forth in the report were prepared by the appraiser(s) whose signature(s) appears on the report, unless it is indicated that one or more of the appraisers was acting as "Review Appraiser." No change of any item in the report shall be made by anyone other than the appraiser. The appraiser shall bear no responsibility for any unauthorized changes.

**CONFIDENTIALITY:**

Except as provided for subsequently, the appraiser may not divulge the analyses, opinions or conclusions developed in the assignment, nor may he give a copy of the report to anyone other than the client or his designee as specified in writing. However, this condition does not apply to any requests made by the Appraisal Institute or the State of Nevada for purposes of confidential ethics enforcement. Also, this condition does not apply to any order or request issued by a court of law or any other body with the power of subpoena.

The appraiser may be requested to submit copies of work to bona fide financial institutions in order to be approved to complete appraisal or consultation work for their institution. When requested, the appraiser will contact the client to obtain release to disseminate copies of the report to requesting institutions. Requests for dissemination will be controlled by the client; however, approval to disseminate the report will not be unreasonably withheld. Any reports disseminated to requesting



financial institutions would be edited to remove specific references to the subject property's name, location and owner. Additionally, any specific reference to the client will also be deleted.

**INFORMATION SUPPLIED BY OTHERS:**

Information (including projections of income and expenses) provided by informed local sources, such as government agencies, financial institutions, Realtors, buyers, sellers, property owners, bookkeepers, accountants, attorneys, and others is assumed to be true, correct and reliable. No responsibility for the accuracy of such information is assumed by the appraiser. The appraiser is not liable for any information or the work product provided by subcontractors. The comparable data relied upon in this report has been confirmed with one or more parties familiar with the transaction or from affidavit or other sources thought reasonable. In some instances, an impractical and uneconomic expenditure of time would be required in attempting to furnish absolutely unimpeachable verification. The value conclusions set forth in the appraisal report are subject to the accuracy of said data. It is suggested that the client consider independent verification as a prerequisite to any transaction involving a sale, a lease or any other commitment of funds with respect to the subject property.

**TESTIMONY, CONSULTATION, COMPLETION OF CONTRACT FOR APPRAISAL SERVICE:**

The contract for each appraisal, consultation or analytical service is fulfilled and the total fee is payable upon completion of the report. The appraiser or anyone assisting in the preparation of the report will not be asked or required to give testimony in court or in any other hearing as a result of having prepared the report, either in full or in part, except under separate and special arrangements at an additional fee. If testimony or a deposition is required because of any subpoena, the client shall be responsible for any additional time, fees and charges, regardless of the issuing party. Neither the appraiser nor anyone assisting in the preparation of the report is required to engage in post assignment consultation with the client or other third parties, except under a separate and special arrangement and at an additional fee.

**EXHIBITS AND PHYSICAL DESCRIPTIONS:**

It is assumed that the improvements and the utilization of the land are within the boundaries of the property lines of the property described in the report and that there is no encroachment or trespass unless noted otherwise within the report. No survey of the property has been made by the appraiser and no responsibility is assumed in connection with such matters. Any maps, plats, or drawings reproduced and included in the report are there to assist the reader in visualizing the property and are not necessarily drawn to scale. The reliability of the information contained on any such map or drawing is assumed accurate by the appraiser and is not guaranteed to be correct.

**TITLE, LEGAL DESCRIPTIONS, AND OTHER LEGAL MATTERS:**

No responsibility is assumed by the appraiser for matters legal in character or nature. No opinion is rendered as to the status of title to any property. The title is presumed to be good and merchantable. The property is analyzed as if free and clear, unless otherwise stated in the report. The legal description, as furnished by the client, his designee or as derived by the appraiser, is assumed to be correct as reported. The report is not to be construed as giving advice concerning liens, title status, or legal marketability of the subject property.

**ENGINEERING, STRUCTURAL, MECHANICAL, ARCHITECTURAL CONDITIONS:**

This report should not be construed as a report on the physical items that are a part of any property described in the report. Although the report may contain information about these physical items (including their adequacy and/or condition), it should be clearly understood that this information is only to be used as a general guide for property analysis and not as a complete or detailed report on these physical items. The appraiser is not a construction, engineering, or architectural expert, and any opinion given on these matters in this report should be considered tentative in nature and is subject to modification upon receipt of additional information from appropriate experts. The client is advised to seek appropriate expert opinion before committing any funds to the property described in the report.

Any statement in the report regarding the observed condition of the foundation, roof, exterior walls, interior walls, floors, heating system, plumbing, insulation, electrical service, all mechanicals, and all matters relating to construction is based on a casual inspection only. Unless otherwise noted in the report, no detailed inspection was made. For instance, the appraiser is not an expert on heating systems and no attempt was made to inspect the interior of the furnace. The structures were not investigated for building code violations and it is assumed that all buildings meet the applicable building code requirements unless stated otherwise in the report.

Such items as conditions behind walls, above ceilings, behind locked doors, under the floor, or under the ground are not exposed to casual view and, therefore, were not inspected, unless specifically so stated in the appraisal. The existence of insulation, if any is mentioned, was discovered through conversations with others and/or circumstantial evidence. Since it is not exposed to view, the accuracy of any statements regarding insulation cannot be guaranteed.

Because no detailed inspection was made, and because such knowledge goes beyond the scope of this analysis, any comments on observed conditions given in this appraisal report should not be taken as a guarantee that a problem does or does not exist. Specifically, no guarantee is given as to the adequacy or condition of the foundation, roof, exterior walls, interior walls, floors, heating systems, air conditioning systems, plumbing, electrical service, insulation, or any other detailed construction matters. If any interested party is concerned about the existence, condition, or adequacy of any particular item, it is strongly suggested that a mechanical and/or structural inspection be made by a qualified and licensed contractor, a civil or structural engineer, an architect or other experts.

This analysis is based on the assumption that there are no apparent or unapparent conditions on the property site or improvements, other than those stated in the report, which would materially alter the value of the subject. No responsibility is assumed for any such conditions or for any expertise or engineering to discover them. All mechanical components are assumed to be in operable condition and standard for the properties of the subject type. Conditions of heating, cooling, ventilating, electrical and plumbing equipment are considered to be commensurate with the condition of the balance of the improvements unless otherwise stated. No judgment is made in the analysis as to the adequacy of insulation, the type of insulation, or the energy efficiency of the improvements or equipment which is assumed to be standard for the subject's age, type and condition.

**AMERICANS WITH DISABILITIES ACT:**

The Americans With Disabilities Act became effective on January 26, 1992. Unless otherwise noted in this report, I have not made a specific compliance survey or

analysis of this property to determine whether or not it is conformance with the various detailed requirements of the ADA. It is possible that a compliance survey of the property, together with a detailed analysis of the requirements of the ADA, would reveal that the property is not in compliance with one or more requirements of the Act. If so, this fact could have a negative effect on the value of the property as derived in the attached report. Since I have no direct evidence relating to this issue, and since I am not an expert at identifying whether a property complies or does not comply with the ADA, unless otherwise stated in the report, I did not consider possible non-compliance with the requirements of ADA in estimating the value of the property. Before committing funds to any property, it is strongly advised that appropriate experts be employed to ascertain whether the existing improvements, if any, comply with the ADA. Should the improvements be found to not comply with the ADA, a reappraisal at an additional cost may be necessary to estimate the effects of such circumstances.

#### **TOXIC MATERIALS AND HAZARDS:**

Unless otherwise stated in the report, no attempt has been made to identify or report any toxic materials and/or conditions such as asbestos, urea-formaldehyde foam insulation, or soils or ground water contamination on any land or improvements described in the report. Before committing funds to any property, it is strongly advised that appropriate experts be employed to inspect both land and improvements for the existence of such toxic materials and/or conditions. If any toxic materials and/or conditions are present on the property, the value of the property may be adversely affected and a reanalysis at an additional cost may be necessary to estimate the effects of such circumstances.

#### **SOILS, SUB-SOILS, AND POTENTIAL HAZARDS**

It is assumed that there are no hidden or unapparent conditions of the soils or sub-soils which would render the subject property more or less valuable than reported in the appraisal. No engineering or percolation tests were made and no liability is assumed for soil conditions. Unless otherwise noted, sub-surface rights (minerals and oil) were not considered in completing this analysis. Unless otherwise noted, the land and the soil in the area being analyzed appeared to be firm, but no investigation has been made to determine whether or not any detrimental sub-soil conditions exist. The appraiser is not liable for any problems arising from soil conditions. Therefore, it is strongly advised that, before any funds are committed to a property, the advice of appropriate experts be sought.

If the appraiser has not been supplied with a termite inspection report, survey or occupancy permit, no responsibility is assumed and no representation is made for any costs associated with obtaining same or for any deficiencies discovered before or after they are obtained.

The appraiser assumes no responsibility for any costs or for any consequences arising from the need or lack of need for flood hazard insurance. An Agent for the Federal Flood Insurance Program should be contacted to determine the actual need for flood hazard insurance.

#### **LEGALITY OF USE**

This analysis assumes that there is full compliance with all applicable federal, state and local environmental regulations and laws, unless non-compliance is stated, defined and considered in the report. It is assumed that all applicable zoning and use regulations and restrictions have been complied with, unless a non-conformity has been stated, defined and considered in the analysis. It is assumed that all required

licenses, consents, or other legislative or administrative authority from any local, state or national government, private entity or organization have been or can be obtained or renewed for any use on which the value estimate contained in this report is based.





**Appraisal Instruction**

Business Practices and Ethics		11/14/08
Several USPAP Updates taught in	2008	and 2010
15-Hour National USPAP Course		03/23/07
15-Hour Standards of Professional Practice (Seattle, WA)		03/22/07
7-Hour National USPAP Update (Las Vegas, NV)		03/02/07
7-Hour National USPAP Update (Chicago, IL)		04/15/05
7-Hour National USPAP Update (Reno, NV)		02/24/05
USPAP Update 2003 – Standards & Ethics for Professionals		09/05/03
Business Practices and Ethics		07/25/03
7-Hour National USPAP Update Course		05/02/03
15-Hour National USPAP		03/22/03
Appraisal Procedures		05/19/01
Sales Comparison Valuation of Small, Mixed-Use Properties		03/31/01
Standards of Professional Practice, Part B (USPAP)		02/10/01
Income Valuation of Small, Mixed-Use Properties		02/19/00
Standards of Professional Practice, A, B, & C, USPAP		1992–2003
Reno, NV, Casper, WY, Eugene, OR, Sacramento, CA, Las Vegas, NV		
Income Valuation of Small Mixed Use Properties		
	(Reno, NV)	1998
	(Casper, WY)	1999
	(Sacramento, CA)	1999
Residential Case Study, Course 210	(Las Vegas, NV)	10/97
Alternative Residential Reporting Forms	(Buffalo, WY)	09/97
	(Polson, MT)	09/97
Data Confirmation and Verification	(Richland, WA)	11/96
	(Riodoso, NM)	09/96
	(Reno, NV)	03/96
	(Savannah, GA)	12/95
Understanding the Limited Appraisal	(Savannah, GA)	12/95
	(Tucson, AZ)	09/94
110 "Real Estate Appraiser Principles"	(Minneapolis, MN)	07/99
	(Sacramento, CA)	05/95
	(Wenatchee, WA)	09/94
	(St. Louis, MO)	02/94
	(Las Vegas, NV)	05/94
URAR Update	(Casper, WY)	01/94
	(Reno, NV)	12/93
1A2 Basic Valuation Procedures	(Las Vegas, NV)	05/92
Course 207B, Income Valuation Appraising	(Reno, NV)	Fall 1989
Truckee Meadows Community College	(Reno, NV)	Spring 1989

**APPRAISAL COURSES AUDITED:**

Case Studies in Real Estate Valuation	1991
Cost Valuation of Small, Mixed-Use Properties	1988
Income Valuation of Small Mixed-Use Properties	
Sales Comparison Valuation of Small, Mixed-Use Properties	



**APPRAISAL COURSES SATISFACTORILY CHALLENGED:**

A1: Course I210 Residential Case Studies	(1993)
A1: Course 410 Standards of Professional Appraisal Practice	(1991)
A1: Course 420 Ethics of the Professional Appraisal Practice	(1991)
A1: Course 420 Ethics of the Professional Appraisal Practice	(1991)
SREA: Course 301 Special Applications of Real Estate Analysis	(1989)
SREA: Course 202 Applied Income Property Valuation	(1985)
SREA: Course 201 Principles of Income Property Appraising	(1984)
SREA: Course 101 An Introduction to Appraising Real Property	(1983)
SREA: Course 102 Applied Residential Property Valuation	(1983)

**Classes Attended**

Uniform Appraisal Standards for Federal Land Acquisitions (Phoenix, AZ)	12/17 & 18/09
Valuation of Easements and Other Partial Interests (Reno, NV)	12/04/09
General Market Analysis and Highest & Best Use (Las Vegas, NV)	08/31/09 – 09/03/09
Introduction to International Valuation Standards (Online)	08/01/31 – 08/31/09
Valuation of Green Residential Properties (Phoenix, AZ)	02/19/09
REO Appraisal: Appraisal of Residential Property Foreclosures (Las Vegas, NV)	10/11/08
Forecasting Review	10/10/08
AQB Awareness Training for Appraisal Institute Instructors (Online)	08/15/07
Committee CE Credit (Chapter Level)	12/31/09
AQB USPAP Instructor Recertification Course (Dedham, MA)	02/24/07
AQB USPAP Instructor Recertification Course (Tucson, AZ)	12/04/04
Water Rights in Nevada	12/01/03
Training & Development Conference	08/26/03
AQB USPAP Instructor Recertification (San Francisco, CA)	10/30/02
Appraisal Continuing Education	12/10/02
Property Flipping and Predatory Lending Seminar	10/17/01
2001 USPAP Update for Instructors & Regulators-CA (San Diego, CA)	12/09/00
Lake Tahoe Case Studies in Commercial Highest & Best Use (Sacramento, CA)	10/20/00
Supporting Sales Comparison Grid Adjustments for Residential Properties (Reno, NV)	09/29/00
Case Studies in Commercial Highest and Best Use (Reno, NV)	07/28/00
Tools For Teaching Excellence, Day 1	07/09/00
USPAP Update for Instructors and Regulators (Las Vegas, NV)	07/08/00
Tools For Teaching Excellence, Day 2	07/10/00
Residential Consulting	03/31/00
Residential Consulting	2000
FHA's Home buyer Protection Plan & the Appraisal Process Seminar	1991
Affordable Housing Valuation Seminar	1997
Alternative Residential Reporting Forms	1986
Business Valuation Part 1	1996
Understanding Limited Appraisals – General	1995
Data Confirmation & Verification Methods	1995
Mandatory Faculty Workshop	1995
Appraising 1- to 4-Family Income Properties	1995
Investment Techniques with the HP-17/19II Calculator	1994
Fair Lending and the Appraiser	1994
Mock Trial	1994

Electronic Spreadsheet Workshop	1994
Basic Argus Training (Spreadsheets)	1994
Investment Techniques with the HP-17/19II Calculator	1994
FNMA URAR Update	1993
Maximizing the Value of an Appraisal Practice	1993
Litigation Valuation	1992
101 "Instructors Clinic	1990
Comprehensive Appraisal Review	1990

**Meetings Attended**

Committee Credit – National	12/31/00
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**FORMAL EDUCATION:**

University of Texas at Arlington (No Degree)	1974
Casper College (No Degree)	1973
Peacock Military Academy	1972

## PARTIAL LIST OF RECENT APPRAISAL CLIENTS

255 North Sierra Street, LLC  
 Abnet  
 Accubank Mortgage  
 Advanta Finance  
 Advantage Financial  
 Affinity Mortgage  
 Affirmative Mortgage  
 Airport Authority of Washoe County  
 All Western Mortgage  
 Allied Mortgage Capital Corp.  
 AMC Financial, Inc.  
 Amera Mortgage Corporation  
 America's Wholesale Lender  
 American Benefit  
 American Fidelity  
 American Realty Advisors  
 American Residential  
 American Trust Mortgage  
 Americorp Relocation Management  
 Amwest Mortgage  
 Appraisal Institute  
 Appraisal Management Company  
 Armada West Campus, Inc.  
 Associates Relocation Management  
 ATM Corp Of America  
 Bank of America  
 Bank of Blue Valley  
 Bank of Clark County  
 Bankers Mutual  
 Barrick Gold Corporation  
 Battle Mountain Flood Plain Pro  
 Baywest Investment, LLC  
 Beneficial Foreclosure  
 Boatmans Relocation  
 BSB Bank & Trust  
 Builder's Association of Northern Nevada  
 Business Bank of Nevada  
 Cal Pacific Mortgage  
 Calaveras  
 California Federal Bank  
 Cendant Mobility Services  
 Cendant Mortgage Service  
 Cendant Relocation  
 Central Pacific Mortgage  
 CFS Mortgage Corporation  
 Chase Manhattan Mortgage  
 Chase Mortgage  
 Chesapeake Appraisal & Settlement  
 Circuit City Relocation  
 Citizens for Affordable Homes  
 City of Reno  
 City of Sparks  
 Claims Adjusting Groups, Inc.  
 CLT Appraisals  
 Coast to Coast  
 Coastal Pacific Financial Services  
 Coldwell Banker Relocation  
 Colonial Bank  
 Commercial Mortgage Services  
 Commonwealth Relocation  
 Commonwealth United Mortgage  
 Countrywide Funding Mortgage  
 Countrywide Valuations  
 County of Lander  
 Crawford Technical Services  
 CTX Mortgage  
 Custom Home Loans  
 Datacomp Appraisal Service  
 Dauenhauer Manufacturing Co.  
 Deere & Company  
 Dept. Of Water Resources  
 Dickson Realty  
 Discount Mortgage  
 Diversified Marketing  
 E-Trade Financial  
 Easton Mortgage  
 EBMC  
 Empire Home Loan  
 Erickson, Thorpe & Swainston Ltd.  
 Eugene Burger Management Corp.  
 Excellerate HRO  
 Executive Relocation  
 Fannie Mae  
 Farmers Home Administration  
 Federal Deposit Insurance Corp.  
 Fidelity Valuation Services  
 Fieldstone Mortgage  
 Financial Mortgage Product Inc.  
 First Bank of Nevada  
 First Federal Lincoln  
 First Financial Funding Group  
 First Horizon  
 First Independent Bank of Nevada  
 First Interstate Bank  
 First Mortgage Corporation  
 First National Bank of Nevada  
 First Nationwide Mortgage  
 First Plus Bank  
 First Priority Financial  
 First Republic Bank  
 First Union National Bank of DE  
 Fleet Mortgage  
 FMEA  
 G.F. Hansen Loan Quality Service  
 GE Capital  
 John Gezelin, Attorney At Law  
 GMAC Commercial Mortgage  
 GMAC Mortgage Company  
 Golden Appraisal  
 Golden Pacific Mortgage  
 Great Basin College  
 Great Bay Funding

GreenLink LLC  
 H & R Block  
 Glade Hall  
 Hammond Securities  
 Harbor View Mortgage  
 Bilbo Helms  
 Heritage Bank  
 HFS Asset Services  
 HFS Mobility Services  
 Hoffman, Test, Guinan & Collier  
 Home Equity Mortgage  
 Home Equity Relocation  
 Home Finance of America  
 Homebuyers Mortgage  
 HomeFocus Valuation Services  
 Homesteps by Freddie  
 Huntington Mortgage  
 INDY MAC  
 Integrated Asset Services, Inc.  
 Interbank Funding Group  
 Interbay Funding  
 Interwest Bank  
 Interwest Mortgage  
 James Nutter & Co.  
 Jenkins & Fry, Attorneys At Law  
 Kennedy Mortgage  
 Key Bank of Wyoming  
 Keystone Realty  
 Keystone Relocation Services  
 KRETS  
 Lakeshore Mortgage  
 LandAmerica One Stop  
 Landsafe Appraisal Service  
 Lane, Duncan & Lambertson  
 LDS Church  
 Legend Mortgage  
 Lender Life Mortgage  
 Lenders Financial Services  
 Lifeline Estate Services, Inc.  
 Lighthouse Funding  
 Lincoln Services Mortgage  
 LMSC Federal  
 LoanWork  
 Lockheed Federal Credit Union  
 M&I Mortgage Corporation  
 Margaretten & Company  
 Metropolitan Mortgage & Securities  
 Michelin North American  
 Mortgage Lenders  
 MRI Relocation Management  
 National Equity Relocation  
 National Handicap Housing Inst.  
 National Residential  
 Nationwide Appraisal Services  
 Navy Federal Credit Union  
 NEI Global Relocation Company  
 Nevada Community Reinvestment  
 Nevada Department of Business  
 Nevada Department of Transportation  
 Nevada Federal Credit Union  
 Nevada Federal Financial  
 Nevada Financial  
 Nevada Land Conservancy  
 Nevada National Bank  
 Nevada Rural Housing Authority  
 Nevada State Bank  
 Northern California Chapter of the  
     Appraisal Institute  
 North American Funding  
 North American Mortgage Company  
 Northern Nevada Bank  
 Norwest Mortgage  
 Nova Mortgage Credit  
 Novastar Mortgage  
 NRI Relocation  
 NW LLC  
 Oakmont Mortgage  
 One Source Relocation  
 Operating Engineers  
 Option One Mortgage Corporation  
 Overlake Mortgage  
 Pacific Mortgage  
 Pacific Relocation  
 Parallel Commercial Capital  
 PHH Homeequity Relocation  
 PHH US Mortgage Company  
 Pinnacle Group Associates  
 Pope & Talbot Inc.  
 Carol Pope, Esq.  
 PPH Asset  
 PPH Homeequity  
 Preferred Financial  
 Primacy Relocation LLC  
 Primis Net  
 Primis Inc.  
 Procter & Gamble Real Estate  
 Property Specialists Inc.  
 Prudential Relocation  
 Quality Mortgage USA Inc.  
 Rainbow Bend Subdivision  
 RE/MAX Relocation  
 Real Estate Recovery  
 Recovery & Compliance Tax Service  
 Reliance Field Services  
 Relo Action  
 Relocation  
 Relocation Today, Inc.  
 Richardson-Miller  
 RKS Mortgage Services Inc.  
 Roussel Financing  
 Running Bear Mortgage  
 Rural Community Assistance Corp.  
 S&L Home Loans  
 Sahara Mortgage Corporation  
 SC Funding

Scarpello, Huss & Oashinski Ltd.Schering-Plough Corporation	Transcoastal Mortgage
Seacoast Equities	Transequity Inc.
Second Generation Mortgage	Transfer Services
Secured Funding	Tri-Corp
Security First Mortgage of Nevada	Truckee Meadows Water Authority
Security Pacific Financial	TruePoint Mortgage Inc.
Security Service FCU	TRW-Countrywide
Shared Services Relocation	USG Annuity & Life Company
SIBCY CLINE Relocation Services	United Lending Group
Sierra Assisted Living	United States Marshall Service
Sierra Nevada Funding	UNR Property Manager
Sierra Pacific Power Company	US BanCorporation
Land & Right-of-Way Agent	US Bank
Land Service	US Bank Mortgage Services
Sierra West Bank	US Dept. Of Housing & Urban Dev.
Silver Lake Mortgage	US Mortgage
Silver Sierra Mortgage	US Relocation
Sointec	USA Federal Credit Union
Source D Realty & Mortgage	USDA FMHA
Source One	Vectra Bank Colorado
Richard Spitzer, Esq.	Verner Construction
St. Mary's Hospital	Viking Freight
Standard Motor Products	Wade Development Company
Stanwell Mortgage	Warren & Schiffmacher LLC
Stars Relocation	Washington Mutual
State of Nevada	Washoe Credit Union
Sterling Capital Mortgage	Washoe Tribe of Nevada
Storey County Building Dept.	Weichert Relocation
Summit Engineering	Wells Fargo
Support Historic Genoa Inc.	West Coast Mortgage
Surrogate Mortgage	Western Federal Mortgage
The 7-Eleven Inc.	Western Financial Bank
The Mortgage Company	Western Relocation
The Relocation Center	Westgate Mortgage Company
Trans Equity Relocation	Westwood Funding
	WHR Group
	Winsor Valley Mortgage
	World Business Credit
	Wright Mortgage
	Zions First National Bank

Also numerous individuals, corporations, law firms, and real estate brokerage firms.

ZONING



**18.04.160 - Agriculture (A).**

The purpose of the A district is to identify those lands that are used for cattle raising or agricultural purposes.

1. The primary permitted uses in the A district are:
  - Accessory farm structure;
  - Agricultural use;
  - Barn or stable;
  - Animals and fowl;
  - Crop production (commercial);
  - Flood control facility;
  - Livestock raising;
  - Park;
  - Residential (limited to 1 dwelling per 20 acres or larger);
  - Winery.
2. The accessory permitted uses incidental to primary permitted and conditional uses in the A district are:
  - Accessory structure;
  - Domestic and agricultural well;
  - Guest building;
  - Watchman's quarters.
3. The conditional uses in the A district which require approval of a special use permit are:
  - Agricultural services;
  - Animal boarding facility;
  - Child care facility;
  - Church;
  - Municipal well facility;
  - Oil, gas or geothermal drilling operation;
  - Outdoor recreational facility (public or private);
  - Ranch and farm hand living quarters/bunkhouses including seasonal housing;
  - Recreational vehicle park
  - Utility substation.

*(Ord. 2006-4 § 10 (part), 2006; Ord. 2001-23 § 2 (part), 2001).*

**18.04.165 - Conservation reserve (CR).**

The purpose of the CR district is to identify the outlying lands that may be developed in the future when water supply, roads, schools, sewer and other public facilities and services are provided for potential development and lands with environmental constraints.

1. The primary permitted uses in the CR district are:
  - Accessory farm structure;
  - Agricultural use;
  - Animals and fowl;
  - Fire protection facility;

- Flood control facility;
  - Park;
  - Residential (limited to 1 dwelling per 20 acres or larger);
  - Water storage facility.
2. The accessory permitted uses incidental to primary permitted and conditional uses in the CR District are:
- Accessory structure;
  - Domestic and agricultural well;
  - Guest building;
  - Watchman's quarters.
3. The conditional uses in the CR district which require approval of a special use permit are:
- Agricultural services;
  - Animal boarding facility;
  - Cemetery;
  - Child care facility;
  - Church;
  - Extraction operation;
  - Fraternal association;
  - Municipal well facility;
  - Oil, gas or geothermal driving operation;
  - Outdoor recreational facility (public or private);
  - Recreational vehicle park;
  - Utility substation.

*(Ord. 2006-4 § 10 (part), 2006: Ord. 2001-23 § 2 (part), 2001).*



JIM GIBBONS  
Governor

MICHAEL E. FISCHER  
Director

STATE OF NEVADA  
DEPARTMENT OF CULTURAL AFFAIRS

716 N. Carson Street, Suite B  
Carson City, Nevada 89701  
(775) 687-8393 · Fax (775) 684-5446  
<http://www.nevadaculture.org>

DIVISIONS  
Historic Preservation  
Library and Archives  
Museums and History  
Nevada Arts Council

September 06, 2007

Pamela B. Wilcox  
Administrator  
Division of State Lands  
901 S. Stewart Street, Suite 5003  
Carson City, Nevada 89701-5246

Re: Q-1 Round 7 Application – Deer Run Project

Dear Administrator Wilcox:

The Nevada Department of Cultural Affairs supports Carson City's acquisition of the Deer Run Property, through the Conservation and Resource Protection Grant Program, Question 1.

The Deer Run Property provides a unique opportunity for Carson City to preserve a piece of history and protect the natural resources and recreational values associated with the Carson River. This project will protect approximately three miles of Carson River frontage and 400 acres of adjacent land, giving Nevada's citizens the opportunity to access this beautiful stretch of the Carson River Canyon.

The legendary Virginia & Truckee Railroad was originally constructed in the Carson River Canyon between Virginia City and Carson City in 1869. Acquisition of the Deer Run Property will preserve Nevada's railroad heritage by protecting this historic Virginia & Truckee Railroad right of way. The Deer Run Property also encompasses Nevada's historic Merrimac mill, Nevada Historical Marker 1. The Merrimac and adjacent Brunswick and Copper Canyon mills were built in the 1860s to process ore from the famous Comstock and Virginia City mines. Fortunes in gold and silver were made in over 40 years of the mills' operations.

The Nevada Department of Cultural Affairs greatly appreciates your consideration of this acquisition. Public ownership of the Deer Run Property would preserve and promote Nevada's rich history and would ensure that these cultural resources are in the public trust and available for future generations to appreciate.

Sincerely,

A handwritten signature in black ink, appearing to read "Michael E. Fischer".

Michael E. Fischer  
Director, Nevada Department of Cultural Affairs

MEF/kg

August 24, 2007

Pamela B. Wilcox  
Administrator  
Division of State Lands  
901 S. Stewart Street, Suite 5003  
Carson City, Nevada 89701-5246

Re: Q-1 Round 7 Application – Deer Run Project

Dear Administrator Wilcox:

The Nevada Commission for the Reconstruction of the V&T Railway (“Commission”) supports Carson City’s acquisition of the Deer Run Property, through the Conservation and Resource Protection Grant Program, Question 1.

The legendary Virginia and Truckee Railroad, a.k.a. “Queen of the Short Lines,” was originally constructed between Virginia City and Carson City in 1869. The Commission’s intent is to reconstruct the historic V&T Railroad on as much of the original right-of-way as possible. Phases 3 and 4 of the V&T Project will pass through the spectacular scenery of the Deer Run Property in Carson River Canyon. Acquisition of the Deer Run Property provides a unique opportunity for Carson City to preserve a piece of history and protect the natural resources and recreational values associated with the Carson River.

Sincerely,

Robert Hadfield, Chairman  
Nevada Commission for the Reconstruction of the V&T Railway

*The original, signed version was sent directly to Administrator Wilcox.*

September 05, 2007

Pamela B. Wilcox  
Administrator  
Division of State Lands  
901 S. Stewart Street, Suite 5003  
Carson City, Nevada 89701-5246

Re: Q-1 Round 7 Application – Deer Run Project

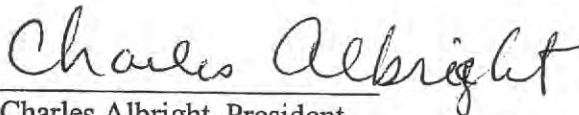
Dear Administrator Wilcox:

Sierra Nevada Whitewater Club supports Carson City's acquisition of the Deer Run Property, through the Conservation and Resource Protection Grant Program, Question 1.


Protection of over 400 acres of riparian and adjacent land from development will provide flood control and give thousands of people the opportunity to access this beautiful stretch of the Carson River Canyon. The property acquisition will protect over three miles of river frontage from possible degradation of both wildlife habitat and water quality. Public ownership of this property could even allow for water quality mitigation projects that enhance water quality, attenuate floodwater, and decrease erosion.

Sierra Nevada Whitewater Club and other users of the Carson River Watershed, already one of six "National Restoration Demonstration Watersheds" in the country, greatly appreciate your consideration of this acquisition. Public ownership of the Deer Run Property provides a unique opportunity for Carson City to preserve a piece of history and to protect the natural resources and recreational values associated with the Carson River.

Sincerely,



Charles Albright, President  
Sierra Nevada Whitewater Club



Lynn Zongg, Secretary  
Sierra Nevada Whitewater Club

City of Carson City  
Agenda Report

**Date Submitted:** August 26, 2008

**Agenda Date Requested:** September 4, 2008

**Time Requested:** 10 Minutes

**To:** Mayor and Supervisors

**From:** Parks and Recreation Department/Open Space

**Subject Title:** Action to accept the Carson River Mercury Site Superfund Study Area report prepared by Resource Concepts, Inc.

**Staff Summary:** In anticipation of potential land purchases along the Carson River, the Open Space Advisory Committee commissioned this study of the Superfund Study Area. The study summarizes the extent of mercury contamination and the role of the Nevada Division of Environmental Protection in reviewing projects within the designated Superfund Areas.

**Type of Action Requested:** (check one)

Resolution

Ordinance

Formal Action/Motion

Other (Specify)

**Does This Action Require A Business Impact Statement:**  Yes  No

**Recommended Board Action:** I move to accept the Carson River Mercury Site Superfund Study area report prepared by Resource Concepts Inc.

**Explanation for Recommended Board Action:** The purpose of this study is to obtain information from an expert third party regarding the significance and potential liabilities that may arise from purchasing lands and developing projects such as trails within the Superfund designated areas for the Carson River.

**Applicable Statute, Code, Policy, Rule or Regulation:** Comprehensive Environmental Response Compensation and Liability Act (CERCLA)

**Fiscal Impact:** The study cost was \$3,880

**Explanation of Impact:** The Open Space approved budget contains funds that are used for the payment of these types of studies and services.

**Funding Source:** Open Space Professional Services account

**Alternatives:**

1. Not to accept the study.
2. To request additional work or information.

**Supporting Material:**

Carson River Mercury Site, Superfund Study area prepared by Resource Concepts, Inc.



Prepared By:

Juan F. Guzman  
Juan F. Guzman, Open Space Manager

Date:

8/29/08

Reviewed By:

Roger Moellendorf  
Roger Moellendorf, Parks & Recreation Director

Date:

1/1

Larry Werner  
Larry Werner, City Manager

Date:

8/26/08

Melanie Bukatta  
District Attorney's Office

Date:

8/26/08

Ullrich Brundent  
Finance Department

Date:

8/26, 08

**Board Action Taken:**

Motion: \_\_\_\_\_

1: \_\_\_\_\_

Aye/Nay

2: \_\_\_\_\_

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

\_\_\_\_\_  
(Vote Recorded By)

# CARSON RIVER MERCURY SITE SUPERFUND STUDY AREA

## Summary Information for Carson City

April 2008

### *Introduction*

In August 1990, the USEPA designated the portion of the Carson River Basin from New Empire to the Carson Sink as a National Priority Listed site under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA or Superfund) (Figure 1). EPA's Office of Solid Waste and Emergency Response (OSWER) in Washington, D.C. oversees the Superfund program. Currently, the NDEP is implementing the Superfund program elements authorized by USEPA such as soil sampling and analysis and remediation for residential development and recreational land use.

### *Pollutants of Concern*

When the Carson River Mercury Site was originally designated, the Pollutants of Concern (POC) included mercury, arsenic and lead. The EPA conducted a baseline human health risk assessment (1990-1994) on these three trace metals in soil, sediment, surface water, ground water and biota in the Carson River Basin and in Washoe Valley. The estimates of the potential severity of human health effects from these trace metals followed the guidelines for the Risk Assessment Guidance for Superfund (1989). The assessment included evaluating the following:

- Concentrations of trace metals,
- Trace metal toxicology, and
- The degree of human exposure to these trace metals.

To characterize the human health risk, EPA combined the results of the exposure assessment and toxicological evaluation. This risk assessment determined that mercury was the primary Pollutant of Concern for the Superfund Study Area. Arsenic human health risk concerns related to ground water consumption continues to be regulated under the Safe Drinking Water Act. Lead human health risk concerns have been eliminated for additional investigation under the Superfund.

Mercury is toxic to humans and other organisms. It affects the central nervous system as well as the kidneys and developing fetuses. It can also bioaccumulate or increase in concentration as it progresses through the food chain.

### *Primary Source of Mercury*

In the 1850s, placer gold deposits were discovered in Gold Canyon near Dayton, NV. During the 1850s, mining consisted of working placer deposits in Gold Canyon and Six Mile Canyon. The rich silver and gold ore deposits eventually became known as the Comstock Lode. Gold

was more dominant in Gold Canyon and silver was more dominant in Six Mile Canyon. Initially, all of the ore was shipped to San Francisco for processing. In 1860, mining companies began operating their own local mills to process the ore and recover gold and silver.

The primary ore-processing method used from 1860 to 1900 was the "Washoe Process", which was effective on the Comstock Lode high-grade gold and silver ore.

The Washoe Process utilized the following process steps to recover gold and silver:

- 1) The raw ore was wet crushed in a stamp mill to form a slurry;
- 2) The crushed ore was separated from the slurry in settling tanks;
- 3) The crushed ore was charged with mercury in the amalgamation pads where the mercury would form an amalgam with the gold and silver;
- 4) Finally, the amalgam was separated from the slurry and the gold and silver was recovered in a retort.

It is believed that a majority of the mercury released into the environment was associated with the tailings separated for the amalgam slurry and discharged into ditches and drainages at the processing mills. Other possible release sources considered by EPA included mercury spills at the mills, fugitive air emissions throughout the process, and air emissions from the retorts. It has been estimated that a minimum of one pound of mercury was lost for each ton of ore processed or approximately 14,000,000 pounds of mercury.

In 1901 the cyanide leaching process was implemented in Six Mile Canyon. The cyanide process was able to recover more gold and silver from low-grade ore deposits than was possible using the mercury amalgamation process. The cyanide process eventually replaced the Washoe Process and continues to be utilized by modern mining operations in Nevada today.

It is estimated that 186 mills were operating during the Comstock Era that utilized the mercury amalgamation process. The release of mercury-laden tailings from these mills represents the primary source of mercury in the Carson River Basin. Today these mill tailings have been eroded and redistributed onto soils and drainages or river sediments below the mills throughout the Carson River Basin below New Empire.

The EPA effort to characterize and assess the level of mercury in the environment resulted in the identification and mapping of 113 mill sites as depicted on Figure 2. The figure illustrates that a majority of the mills were located in Gold Canyon and Six Mile Canyon below Virginia City. Approximately 13 mills were located along the Carson River between New Empire and Dayton.

The EPA assumed the highest mercury concentrations would be found around mill sites and focused soil sampling around these sites. Elevated mercury concentrations in soils were found in tailings in Six Mile Canyon and soils adjacent to the Carson River between New Empire

and Dayton. Table 1 provides sample data on Carson River Basin mill sites between New Empire and Dayton sampled by the EPA. Figure 3 depicts the mill sites and areas sampled.

**Table 1.**  
**Carson River Historic Mill Sites**  
**Summary of Mercury Concentrations in Soils**  
**(From the surface to a depth of six inches)**

Mill Name	Location # Figure 2	Sample Area ID	Sample Size	Max. Conc. mg/kg	Min. Conc. mg/kg	Average mg/kg
Morgan	42	MSO12	19	1,730.91	4.0	225.22
Brunswick	43	MSO13	20	967.55	4.0	90.19
Unidentified	Na	MSO14	10	9.90	4.0	4.59
Merrimac	44	MSO15	14	1,791.67	4.0	383.38
Santiago	45	MSO16	10	267.04	4.0	62.30
Eureka	46	MSO17	10	2,551.06	4.0	515.63

EPA also found elevated mercury concentrations in historic mill tailing deposits. The areas included:

- The alluvial fan below Six Mile Canyon;
- Flood plain of the Carson River below New Empire;
- Carson River channel below New Empire; and
- The sediments in Lahontan Reservoir, Carson Lake, Stillwater Wildlife Refuge and Washoe Lake.

Elevated mercury concentrations were found at six locations, which required immediate corrective action in Dayton and Silver City. These six sites were significant concerns due to the direct access of local residents to the contaminated soils. EPA remediated five of the sites, four in Dayton and one in Silver City, by excavating the contaminated soil to a maximum depth of two (2) feet below ground surface and then backfilled the areas with clean fill. The sixth site was a ditch conveying surface water from Gold Canyon through the center of Dayton. Access to the ditch and contaminated sediment was reduced by installation of a chain link fence along both sides of the ditch. Implementation of these two corrective actions eliminated human access to the contaminated soils or sediment under normal activities.

### *Health Risk Assessment*

As noted above, the EPA determined that mercury may be located in alluvial fan soils and sediments in the Carson River Basin below New Empire. The mercury concentrations detected in the various areas, toxicology data, and human exposure assessment conducted by EPA found that health risks are limited to the following:

- Consumption of fish or waterfowl from the Carson River system below New Empire; and
- Exposure to high mercury concentrations in soils via incidental ingestion.

Bioaccumulation is when a chemical has the ability to enter the food supply and become concentrated at higher levels as it advances up the food chain. Mercury has this capability. Mercury, which has been deposited in sediments in the Carson River system, is taken up by algae and other small organisms, which are then consumed by fish. Rather than excrete the mercury, the mercury is accumulated in the fish tissue and passed on to other fish and/or birds at the next level of the food chain. Thus fish, birds and animals linked to this food chain tend to have elevated mercury concentrations in their bodies.

As a result of the elevated mercury concentrations in fish and waterfowl in the Carson River system, there is a health risk related to individuals who consume fish or waterfowl taken from the system. The level of health risk is proportional to the quantity and type of fish or waterfowl consumed. The State of Nevada has issued advisories recommending that nursing mothers and children less than six (6) years old not consume fish or waterfowl from the Carson River system.

Elevated mercury concentrations in soils also present a significant human health risk to children less than six (6) years old. The EPA assumes that if young children ingest approximately two teaspoons of soil contaminated with mercury concentrations greater than 80 mg/kg per day, then the soil poses a significant health risk. This assessment was only considered feasible for residential land use; therefore the 80 mg/kg action standard is only applicable to residential developments. A similar health risk assessment has determined that mercury concentrations in soil of 300 mg/kg or less are appropriate for recreational land use.

Exposure pathways that were found not to be of concern were:

- Ingestion of surface water and sediment while swimming;
- Ingestion of groundwater from affected areas;
- Consumption of vegetables grown in contaminated soils; and
- Inhalation of mercury vapors and dust (indoors and outdoors).

### *Nevada of Environmental Protection Administration*

Although EPA has direct control over the Carson River Mercury Site, the NDEP has assumed administration of the EPA approved residential and recreational land use action standard for mercury contaminated soils. The following information outlines the corrective actions that must be addressed for current and new developments within the Carson River Mercury Site.

**Residential Land Use:** The NDEP reviews and approves all tentative and final land division maps (residential, commercial) in the state. New residential developments that fall within the Carson River Mercury Site are advised of the mercury risk, residential clean-up standard (80mg/kg mercury in soil). There are two options available to address the mercury risk:

- Option A requires the subdivisions finish grade to provide two (2) feet of clean fill over any mercury contaminated soils which exceed the 80mg/kg standard. Also a durable notification mechanism (deed restriction) to all current and future landowners and



leaseholders of the potential risk associated with the mercury contamination is required. A component of the durable notification is an ongoing Soil Management Plan that ensures that no direct contact with the potentially contaminated soil occurs.

- Option B requires the subdivision finish grade to provide eight feet of clean fill over any mercury contaminated soils which exceed the 80mg/kg residential land use standard. No durable notification or Soil Management Plan is required under this option.

Whether Option A or B is chosen, a statically derived soil sampling plan for finished grade soils from the surface to a depth of two feet (Option A) or eight feet (Option B) must be submitted to the NDEP for approval prior to sampling by a Nevada Certified Environmental Manager. The sampling data results must be submitted to the NDEP for consideration and approval for the final land division map.

**Recreational Land Use:** The NDEP has advised that land disturbing activities for recreation developments would require the implementation of a soils sampling plan of the finished grade of any disturbed area. The soil sampling plan must demonstrate that two feet of clean fill have been placed over any mercury contaminated soils which exceed the 300 mg/kg recreational land use standard. Clean fill in this case is defined as any soil containing less than 300 mg/kg mercury. The soil sampling plan requires the prior approval of the NDEP.

**Summary:** The Carson River Mercury Site Superfund Study Area critical regulatory concerns applicable to the Carson River Canyon in Carson City are summarized below:

1. The US EPA designated the Carson River Mercury Site Superfund Study Area in 1990.
2. The primary source of mercury was from Comstock Lode mines and related ore processing which used mercury to amalgamate and recover gold and silver. It is estimated that 14,000,000 pounds of mercury was discharged with mill tailings into ditches and drainages at the ore processing mills.
3. It is estimated that 186 mills used the mercury amalgamation process. Approximately 13 mills were located along the Carson River below New Empire.
4. Elevated mercury concentrations in soils were found in tailings in Six-Mile Canyon and soils adjacent to the Carson River between New Empire and Dayton
5. The EPA human health risk assessment evaluated the
  - Mercury concentrations in soils;
  - Mercury toxicology; and
  - Degree of human exposure to mercury in soils.

Mercury is toxic to humans and other organisms. It affects the central nervous, kidneys and developing fetus. Mercury bioaccumulates or increases in concentration as it progresses up the food chain. In the Carson River System mercury contaminated sediments are taken up by algae and other small organisms, which are then consumed by fish. Mercury is accumulated in the fish tissue and passed on to other fish and/or



birds. Fish, birds and animals linked to this food chain tend to have elevated mercury concentrations in their bodies.

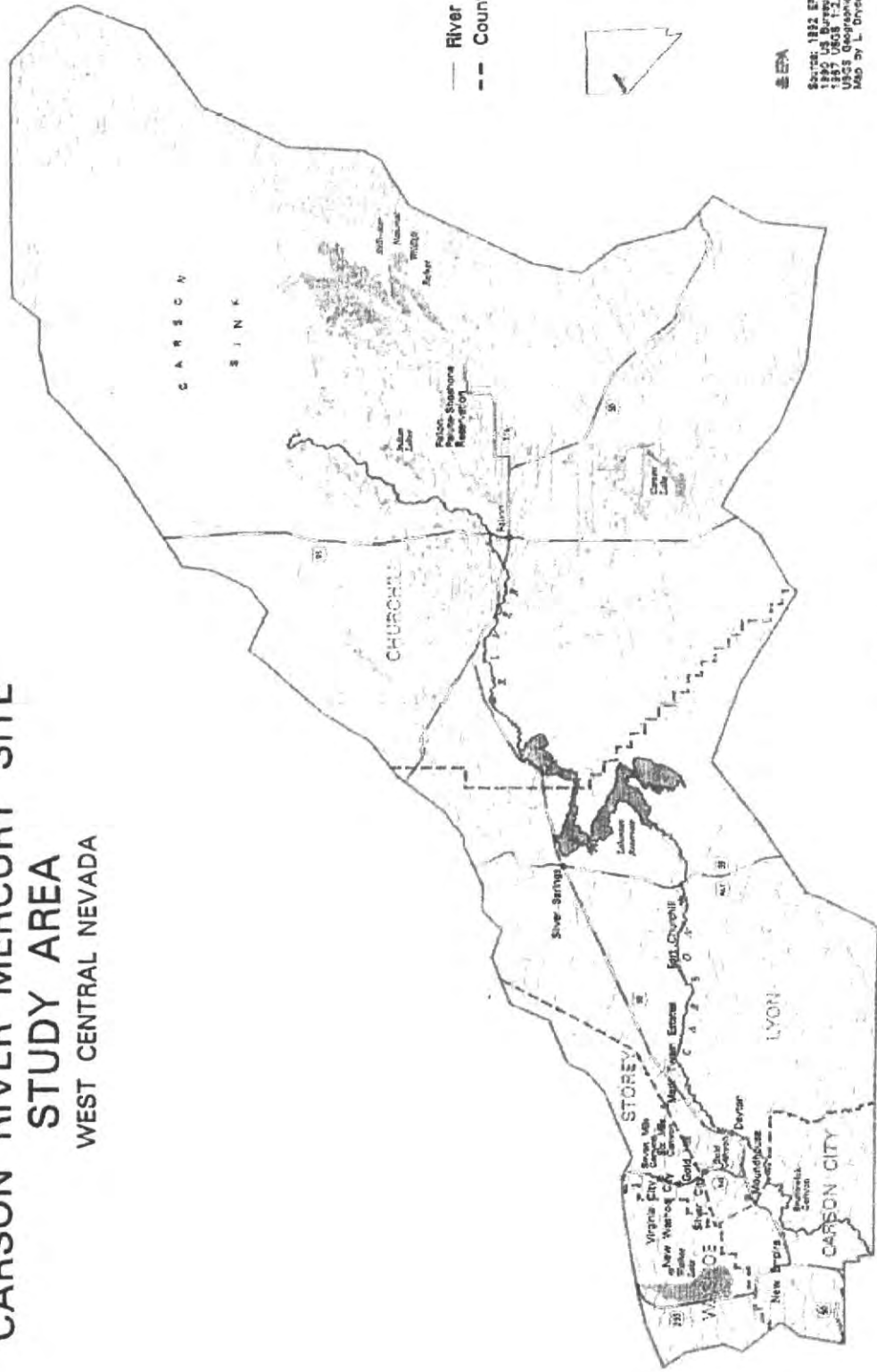
1. The EPA risk assessment found that human health risks are limited to:
  - Consumption of fish or waterfowl from the Carson river system below New Empire and
  - Exposure to high mercury concentrations in soils via ingestion by children less than six (6) years old.
  
2. EPA established mercury contaminated soil standards based on land uses:
  - Residential Land Use was established at 80mg/kg
  - Recreation Land use was established at 300 mg/kg
  
3. Exposure pathways found not to be a concern were:
  - Ingestion of surface water and sediment while swimming
  - Ingestion of groundwater from affected areas
  - Consumption of vegetables grown in contaminated soils and
  - Inhalation of mercury vapors and dust (indoors and outdoors)
  
4. The NDEP is implementing the mercury soils standards for EPA as follows:
  - New residential developments within the Carson River Mercury Site
    - Option A: requires the finished grade to provide 2.0 feet of clean fill over mercury contaminated soils (<80mg/kg) and establish a durable notification mechanism (deed restriction) for current and future landowners or lease holders and provide a Soil Management Plan.
    - Option B: requires the finish grade to provide 8.0 feet of clean fill over mercury-contaminated soils (<80 mg/kg). No deed restrictions or Soil Management Plan are required.
  - Recreational development: the final grade must provide 2.0 feet of clean fill over mercury-contaminated soils <300mg/kg. Clean fill is defined as soils containing mercury concentration >300mg/kg.

### *Reference:*

EPA, 1994. Preliminary Draft Human Health Risk Assessment/Remedial Investigation Report Carson River Mercury Superfund Site. US EPA, Region IX, San Francisco. April 1994, 120 pages.

2008-04-25 Mercury Site 06191.3 CC Parks LZ-sta L4-63.doc

# CARSON RIVER MERCURY SITE STUDY AREA WEST CENTRAL NEVADA



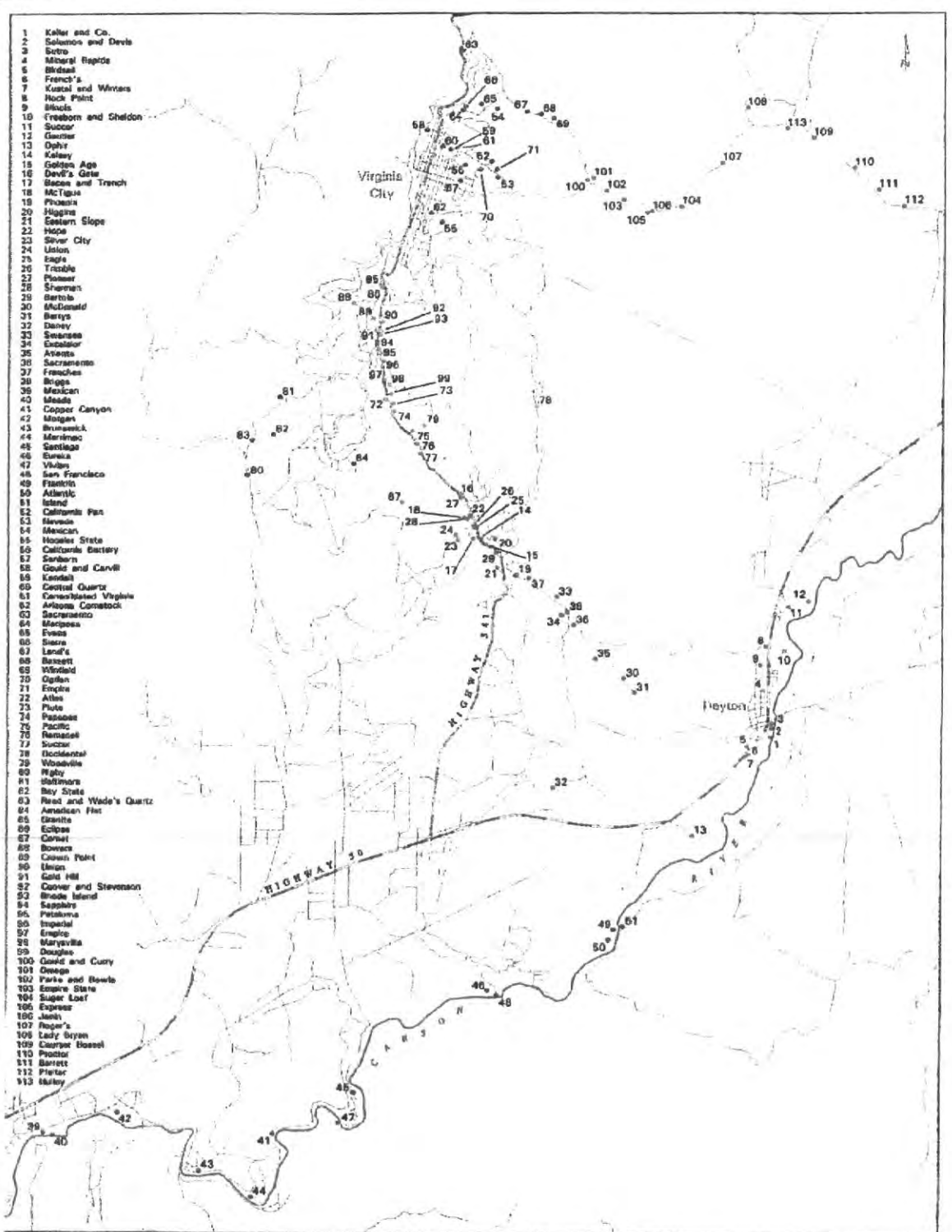
EPA

Source: 1992 EPA REG Files  
1990 US Bureau of Census Tiger Files  
1990 USGS 1:250,000 National Atlas Map  
USGS National Hydrographic System  
Map by L. Dwyer, AIA, 2/28/94



Source: EPA, 1994

FIGURE 1



- 1 Keller and Co.
- 2 Selmon and Devis
- 3 Suro
- 4 Mineral Ridge
- 5 Bristol
- 6 French's
- 7 Kustal and Winters
- 8 Rock Point
- 9 Bluffs
- 10 Freeborn and Cheldon
- 11 Succor
- 12 Gasser
- 13 Ophir
- 14 Kelary
- 15 Golden Age
- 16 Dew's Gate
- 17 Bacon and Trench
- 18 McTigue
- 19 Phoenix
- 20 Higgins
- 21 Eastern Slope
- 22 Hope
- 23 Silver City
- 24 Union
- 25 Eagle
- 26 Tumble
- 27 Pioneer
- 28 Sherman
- 29 Barbo
- 30 McDougal
- 31 Berts
- 32 Daney
- 33 Sevens
- 34 Escobar
- 35 Arista
- 36 Sacramento
- 37 French
- 38 Rippe
- 39 Mexican
- 40 Maids
- 41 Copper Canyon
- 42 Morgan
- 43 Brunsnick
- 44 Merriam
- 45 Santiago
- 46 Barila
- 47 Vaher
- 48 San Francisco
- 49 Franklin
- 50 Atlantic
- 51 Island
- 52 California Pan
- 53 Nevada
- 54 Mexican
- 55 Hooper State
- 56 California Battery
- 57 Sargent
- 58 Gould and Carvill
- 59 Kendall
- 60 Central Quartz
- 61 Consolidated Virginia
- 62 Arizona Comstock
- 63 Sacramento
- 64 Marjess
- 65 Evans
- 66 Sierra
- 67 Lane's
- 68 Sargent
- 69 Woodfield
- 70 Ogden
- 71 Empire
- 72 Atlas
- 73 Pluto
- 74 Papabee
- 75 Pacific
- 76 Remondel
- 77 Succor
- 78 Occidental
- 79 Woodville
- 80 Pigby
- 81 Stillman
- 82 Bay State
- 83 Reed and Wade's Quartz
- 84 American Flat
- 85 Granite
- 86 Eclipse
- 87 Comet
- 88 Bowen
- 89 Crown Point
- 90 Union
- 91 Gold Hill
- 92 Cooper and Stevenson
- 93 Shade Island
- 94 Sappho
- 95 Patricia
- 96 Imperial
- 97 Empire
- 98 Marysville
- 99 Douglas
- 100 Gould and Curry
- 101 Deage
- 102 Park and Bowls
- 103 Empire State
- 104 Sugar Loaf
- 105 Express
- 106 Jamn
- 107 Roger's
- 108 Lady Bryan
- 109 Claryer Bossel
- 110 Proctor
- 111 Barrett
- 112 Pfister
- 113 Ruby

**HISTORIC COMSTOCK MILL LOCATIONS**  
STOREY - LYON COUNTY, NEVADA

**FIGURE 2**

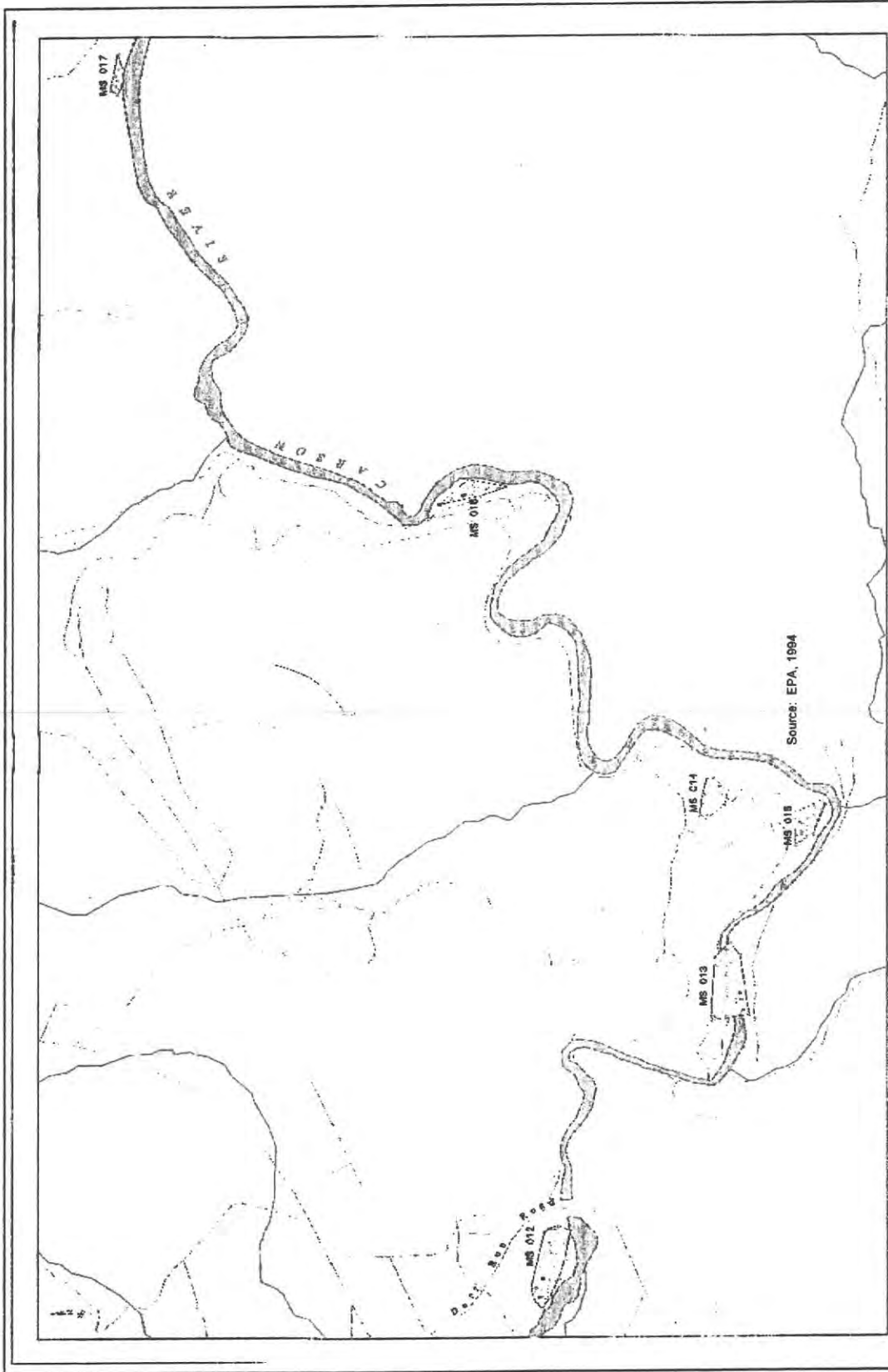
- General Area**
- Dayton
  - Silver City
  - Gold Canyon
  - Carson River
  - Virginia City
  - Gold Hill
  - American Flat
  - Sixmile Canyon



Source: Padon Engineering, 1953;  
1950 US Bureau of Census 100M File.  
Map by L. Dryden, AIA, 3/15/84.

Source: EPA, 1994

FIGURE 2



Total Mercury Concentration  
in mg/kg (0.6 inches)

- Less than 25
- 25 - 79
- 80 and Higher
- Sample ID Area
- River Reach

FIGURE 22

### SURFACE SOIL SAMPLING LOCATIONS FLOOD PLAIN BETWEEN NEW EMPIRE - DAYTON

FIGURE 3



Source: EPA, 1994

Source: 1982 USGS Map  
Ecology & Environment, 1984;  
1982 USGS Map of Carson  
1982 USGS Map of Carson  
Map by L. Dayton, A.T.A. 3/18/94

**CARSON CITY BOARD OF SUPERVISORS**  
**Minutes of the September 4, 2008 Meeting**  
**Page 5**

**CONSISTENCY PURPOSES; AND MAKING VARIOUS TECHNICAL CORRECTIONS, AND OTHER MATTERS PROPERLY RELATED THERETO (8:43:16)** - Planning Division Director Lee Plemel introduced and provided an overview of this item. He advised of having received no additional comments since the first reading. He further advised that the corrections noted during first reading had been made. Mayor Teixeira entertained public and Board member comments. When none were forthcoming, he entertained a motion. **Supervisor Williamson moved to adopt Bill No. 132, on second reading, Ordinance No. 2008-33, an ordinance amending various portions of the Carson City Municipal Code, Title 18, including clarifications relating to the provisions for outside storage and outdoor sales and activities, and including various technical corrections, as published on the agenda, based on the findings contained in the staff report. Supervisor Aldean seconded the motion. Motion carried 5-0.**

**8. PARKS AND RECREATION - ACTION TO ACCEPT THE CARSON RIVER MERCURY SITE SUPERFUND STUDY AREA REPORT PREPARED BY RESOURCE CONCEPTS, INC. (8:52:50)** - Mayor Teixeira recessed the meeting at 8:53 a.m. and reconvened at 8:59 a.m. Open Space / Property Manager Juan Guzman introduced this item and reviewed the agenda report.

(9:00:18) Resource Concepts, Inc. Principal Marvin Tebeau provided an overview of the Study Area Summary, which was included in the agenda materials, and narrated a SlideShow presentation of the same. In response to a question, he advised that any earth moving planned for within the Carson River flood plain is required to be coordinated with the Nevada Division of Environmental Protection. In response to a further question, he advised that the V&T railway project "is well above the flood plain."

Mr. Tebeau advised that the project proposed for the area of the Morgan Mill Road river access area "will require no additional work with respect to mercury. We will need to ... take a few verification samples for NDEP when it's over ..." If mercury is discovered in any area, the protocol is to bury it with "two feet of clean cover."

In response to a question, Mr. Tebeau advised of having been informed by Environmental Protection Agency representatives that brown field funds don't qualify at a superfund site. "Primarily the responsible parties from 1860 ... are the people responsible for the work that should be done here." In response to a further question, Mr. Tebeau advised that mercury does not dissipate, nor is it soluble in water. He explained that mercury is introduced into the food chain by algae assimilation. He acknowledged that mercury is not absorbed by terrestrial plants. Mr. Werner inquired as to issues associated with pipeline trenching. Mr. Tebeau reiterated that any earth moving within the flood plain would need to be coordinated with NDEP. He clarified that mercury issues have mostly been relative to building development envelopes. In response to a further question, he advised that the EPA reduced the superfund study area from the entire watershed to the Carson River flood plain and the small tributaries from Six Mile Canyon and Gold Canyon. "It took ... six years to make that decision." Mr. Tebeau anticipates that Carson City will not be totally relieved of the superfund site any time soon.

Mayor Teixeira called for Board and public comments and, when none were forthcoming, entertained a motion. **Supervisor Williamson moved to accept the Carson River Mercury Site Superfund Study Area report prepared by Resource Concepts, Inc. Supervisor Livermore seconded the motion. Motion carried 5-0.** Mayor Teixeira thanked Mr. Tebeau for his presentation.