

Las Vegas Ranch Estates

Reserve Study

June 1st, 2016



Prepared by Joseph Dalmas
LVRE Treasurer

Disclaimer:

Because we have no control over future events, we cannot claim events will occur as anticipated. We expect inflationary trends will continue, and we believe that reasonable estimates for inflationary trends are more accurate than ignoring economic realities.

Although permutations are possible and changes are inevitable, this study is based on what we know at this point in time.

Purpose:

The Board of Directors has a fiduciary responsibility to maintain and preserve the value of assets belonging to the Association. As part of their fiduciary duty, Board Members are responsible for the long-term planning and funding of future repairs and replacement of community assets. The purpose of this study is to provide the Association with an inventory of community assets that require periodic repair and replacement, and a reserve funding plan to offset the cost of these projects. This report provides condition assessments and maintenance schedules for Association assets to assist the Board of Directors in making budget decisions regarding reserve funding.

Methodology:

1. Establish an estimate for operating costs and liabilities based on historical data
2. Determine the expected useful life of Association assets by
 - Visual inspection (observed wear and age)
 - Experience with similar assets
 - Vendor expertise and recommendations
3. Create a plan to repair and/or replace Association assets
4. Establish an estimate for reserve expenditures based on
 - Cost history
 - Comparison to similar projects
 - Vendor recommendations
5. Balance income and funding requirements

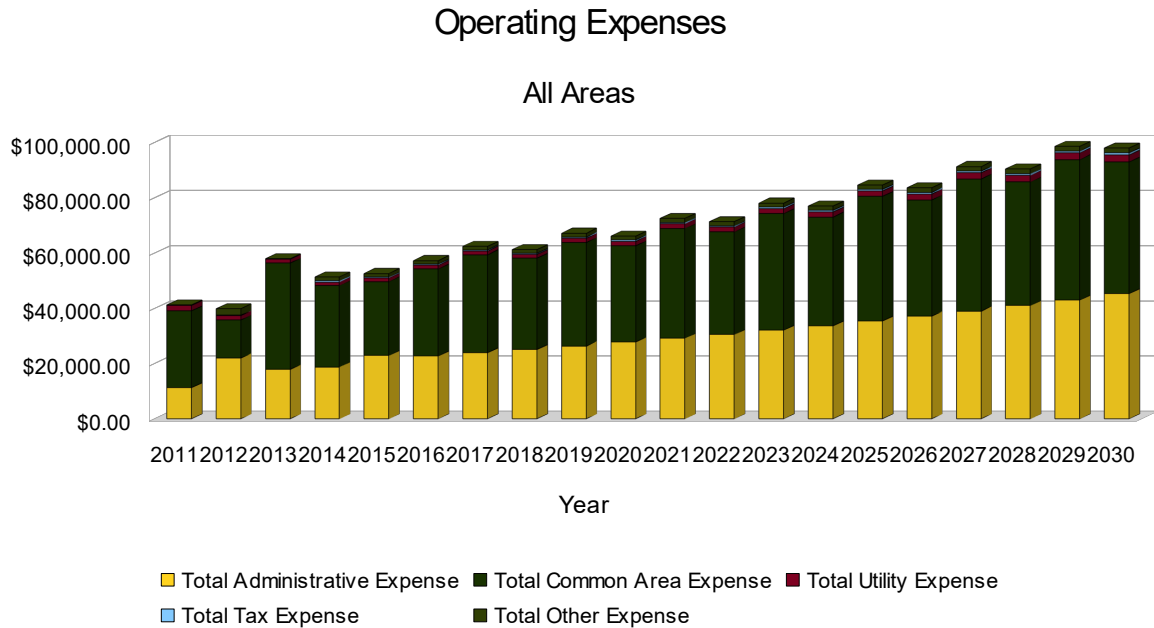
Income and Operating Expenses:

Estimates for 2016 income and operating expenses were based on historical data from 2011 through 2015, and the 2016 budget was used as a baseline to project future income and expenditures.

In all areas, operating expense is expected to increase at a steady rate.

Additional information for income and operating expense projections has been provided in the Appendix.

Graph 1. Operating Expenses by Year



Operating expense is expected to increase at a steady rate.

Reserve Fund Expenditures:

Roads:

In 2016, the road committee will complete the seal coat project started in 2015, at an estimated cost of \$45,000. In 2017, approximately 40,000 square yards of damaged and deteriorating road will be repaired. Major repairs and improvements will be done in three phases on alternating years, beginning in 2019. Each phase will address 47,000 square yards of road. With an eight year life cycle, the maintenance process will resume in 2026. (Note: On average, there are 12,000 square yards per mile of road in Las Vegas Ranch Estates.)

For the reserve study, we have assumed our roads will be maintained with a seal coat and chip seal. We have also assumed the current cost for chip seal maintenance is \$2.00 / square yard, and will increase 7% each year. For the plan outlined in this document, we will spend just over \$1,135,000 through 2030 to maintain our roads.

Table 1. Reserve Expenditures for Roads

Year	Cost of Project	Comment
2016	\$45,000	Complete seal coat project started in 2015
2017	\$85,600	Chip seal 40,000 square yards of roadway to correct problem areas
2019	\$115,154	Chip Seal Phase IA – Chip seal 47,000 square yards of roadway
2021	\$131,840	Chip Seal Phase IIA – Chip seal 47,000 square yards of roadway
2023	\$150,943	Chip Seal Phase IIIA – Chip seal 47,000 square yards of roadway
2026	\$133,766	Chip seal 34,000 square yards of roadway to correct problem areas
2028	\$220,715	Chip Seal Phase IB – Chip seal 49,000 square yards of roadway
2030	\$252,696	Chip Seal Phase IIB – Chip seal 49,000 square yards of roadway
	\$1,135,715	Total Reserve Expenditures for Roads 2016-2030

Bridge and Water Crossings:

We have included \$15,000 in the reserve estimate for repairs to the bridge on Las Vegas Ranch Road and the water crossings at seasonal washes. Repairs could include replacement of the wooden guard rails at the bridge, and repairs to the concrete at water crossings.

Table 2. Reserve Expenditures for the Bridge and Water Crossings

Year	Cost of Project	Comment
2022	\$7,500	Replace guard rails at the Las Vegas Ranch Road bridge
2029	\$7,500	Repair damaged concrete at water crossings
	\$15,000	Total Reserve Expenditures for Bridge and Water Crossings 2016-2030

Entry Gates:

We have included just over \$34,000 in the reserve estimate for repairs to the gate operators and key pads. Costs are based on life expectancies and current estimates from our gate maintenance contractor, with a 3% per year increase.

Table 3. Reserve Expenditures for Entry Gates

Year	Cost of Project	Comment
2018	\$6,611	Replace gate operators at Fair Oaks entrance
2019	\$6,810	Replace gate operators at Camp Wood south entrance
2020	\$7,014	Replace gate operators at Camp Wood north entrance
2022	\$13,372	Replace key pads at all three entrances
	\$33,807	Total Reserve Expenditures for Entry Gates 2016-2030

Entry Area Landscape:

While a sizable investment was made to develop the entry areas, little was done to maintain them for more than a decade. Having reviewed various options, it appears that dramatic changes to the entry areas are not necessary. However, regular maintenance with small, periodic improvements are required to restore the areas and preserve the initial investment.

We have included almost \$20,000 in the reserve estimate for repairs and improvements to the entry areas. Repairs and improvements could include the irrigation system, plants, hard scape, and additional mailboxes.

Table 4. Reserve Expenditures for Entry Area Landscape

Year	Cost of Project	Comment
2017	\$3,740	Additional pavement and upgraded lighting at Fair Oaks entrance
2018	\$500	Periodic upgrade or replacement of plants
2019	\$1,875	New crushed granite (DG) at the Camp Wood Entrances
2020	\$550	Periodic upgrade or replacement of plants
2021	\$2,375	Valves and timers for irrigation systems
2022	\$600	Periodic upgrade or replacement of plants
2023	\$6,322	Mail box expansion
2025	\$700	Periodic upgrade or replacement of plants
2029	\$850	Periodic upgrade or replacement of plants
2030	\$2,125	New crushed granite (DG) at the Camp Wood Entrances
	\$19,637	Total Reserve Expenditures for Entry Area Landscape 2016-2030

Perimeter Fence:

We have included \$4,500 in the reserve estimate for major repairs to the perimeter fence.

Table 5. Reserve Expenditures for Perimeter Fence

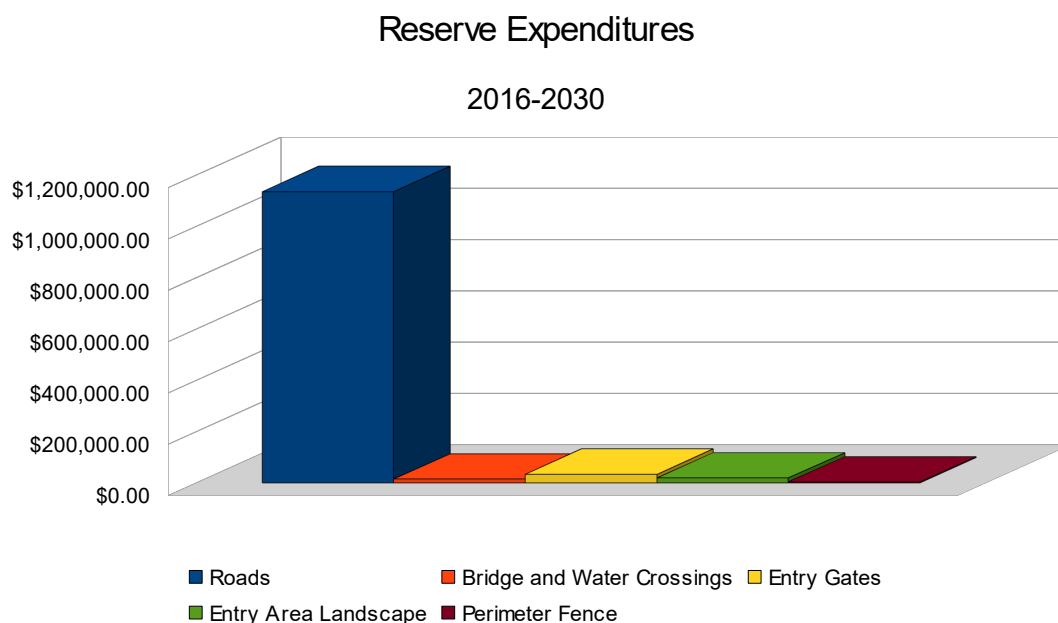
Year	Cost of Project	Comment
2018	\$2,000	Repair perimeter fence
2027	\$2,500	Repair perimeter fence
	\$4,500	Total Reserve Expenditures for Perimeter Fence 2016-2030

Reserve Fund Expenditure Summary:

Table 6. Reserve Expenditures by Year and Asset

Year	Roads	Bridge Crossings	Gates	Entry Landscape	Perimeter Fence	Total
2016	\$45,000					\$45,000
2017	\$85,600			\$3,740		\$89,340
2018			\$6,611	\$500	\$2,000	\$9,111
2019	\$115,154		\$6,810	\$1,875		\$123,839
2020			\$7,014	\$550		\$7,564
2021	\$131,840			\$2,375		\$134,215
2022		\$7,500	\$13,372	\$600		\$21,472
2023	\$150,943			\$6,322		\$157,265
2024						\$0
2025				\$700		\$700
2026	\$133,766					\$133,766
2027					\$2,500	\$2,500
2028	\$220,715					\$220,715
2029		\$7,500		\$850		\$8,350
2030	\$252,696			\$2,125		\$254,821
Total	\$1,135,715	\$15,000	\$33,807	\$19,637	\$4,500	\$1,208,659

Graph 2. Reserve Expenditures by Asset



Maintenance and repairs to roads is our greatest expense.

Income and Reserve Fund Options:

Major repairs and maintenance of assets are paid out of the reserve fund, and the primary source of income for the reserve fund is the annual assessment or a special assessment.

Because road maintenance is an ongoing process – not a one time event, it would be better to raise the annual assessment. However, it would be possible to levy a \$3,100 special assessment in 2018 to repair the roads north of the cattle guard. Roads south of the cattle guard would be maintained as needed without increasing the annual assessment. The advantages of a special assessment are:

- Repairs to roads north of the cattle guard would be done while maintenance costs are low.
- A special assessment will save an Association Member a total of \$400 through 2026.

The disadvantages of a special assessment are:

- Collection rates for special assessments are lower than annual assessments. A \$3,100 special assessment assumes a 90% collection rate.
- A special assessment places a significant burden on Association Members that own multiple parcels.
- Not all roads fail at the same rate, and it is wasteful to do unnecessary or premature maintenance.
- With a special assessment, we have pushed the reserve fund problem out to 2027, when road maintenance costs are expected to be twice the current rate.

For the reserve study, we have assumed reserves will be funded through annual assessments, and the Board will not approve a special assessment.

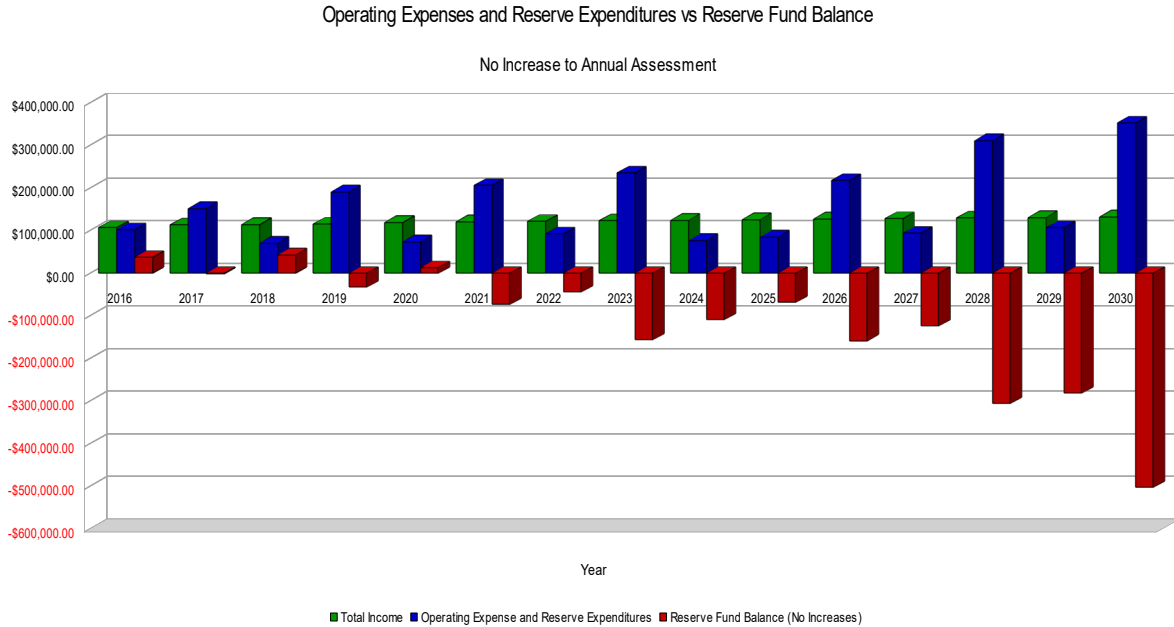
Reserve Fund Analysis:

Below is an analysis of the reserve fund balance.

Without increases to the annual assessment, income is essentially flat, operating expenses rise steadily, and the reserve fund deficit is significant (Graph 3). Although operating expenses rise steadily, a \$200 increase to the annual assessment in 2017 and an additional \$250 increase in 2021 will fund reserve expenditures through 2030 (Graph 4).

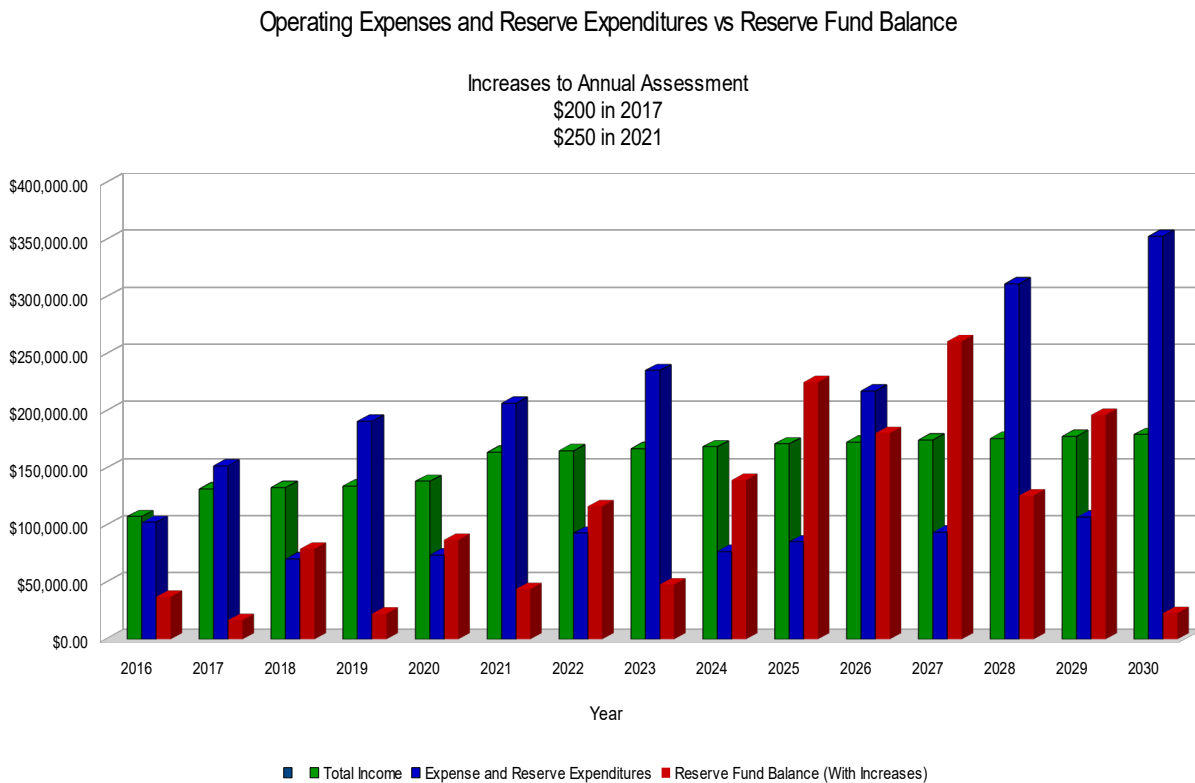
It is clear that the annual assessment should be raised to fund reserve expenditures beyond 2018 (Graph 5).

Graph 3. No Special Assessment, No Increase to the Annual Assessment



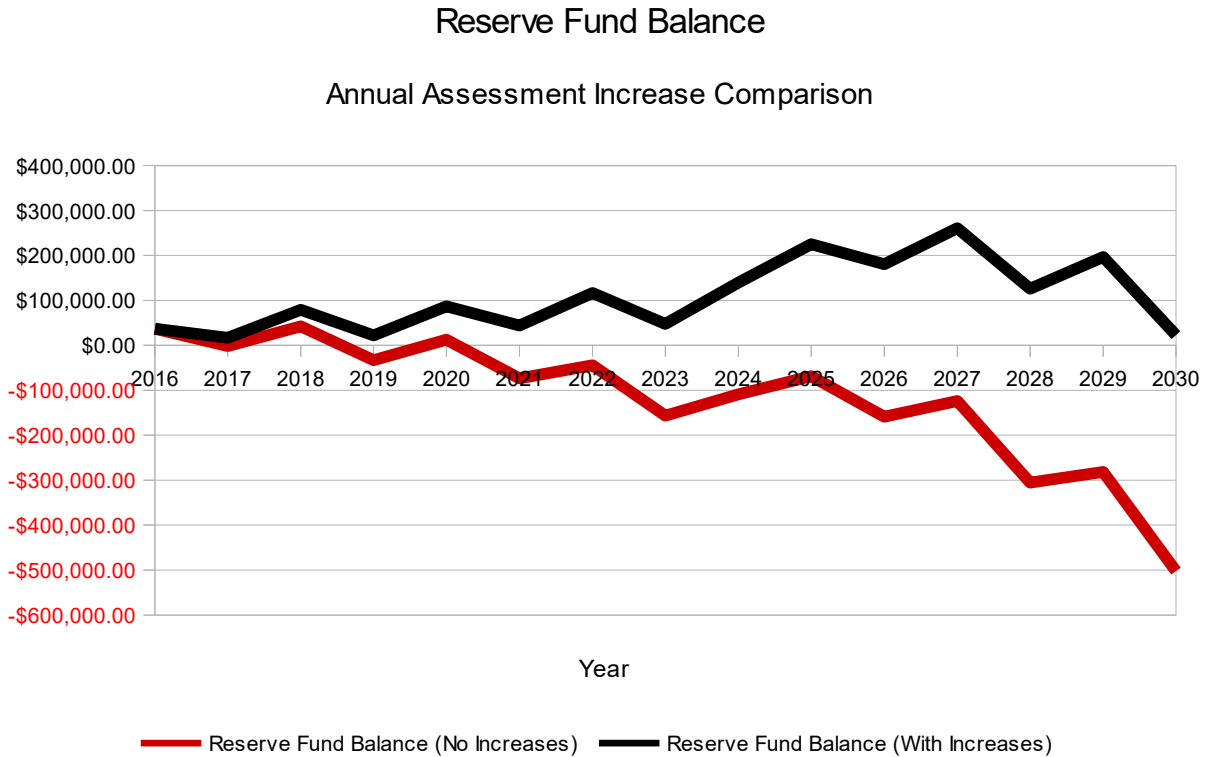
Income is essentially flat, operating expenses rise steadily, and the reserve fund deficit is significant.

Graph 4. No Special Assessment, Increases to the Annual Assessment



Although operating expenses rise steadily, modest increases to the annual assessment will fund reserve expenditures through 2030.

Graph 5. Assessment Increase Comparison with Respect to the Reserve Fund Balance



The annual assessment should be raised to fund reserve expenditures beyond 2018.

Recommendation:

The annual assessment should be raised \$200 in 2017. A reserve study should be conducted each year to assess the health of the reserve fund and track spending to the plan outlined in this document.

The Board should be prepared to raise the annual assessment an additional \$250 in 2021.

Appendix:

Acknowledgments:

I would like to thank the Committee Chairman for their input to the plans presented in the reserve study. I would also like to thank Tom Turner for reviewing the document and providing suggestions that have improved the content.

Assumptions for Income Projection:

- Property Owner Assessments – We will add one additional assessment each year from parcel splits and sales.
- Right of Way Assessment – We will add one additional assessment in 2020 and another assessment in 2025.
- Architectural Review Fees – There will be two reviews per year until 2020, and then three reviews per year through 2030. Each review will provide \$2,000 in income.
- All other sources of income are insignificant and were not included in the reserve study.

Assumptions for Administrative Expense Projection:

- Accounting and tax preparation fees will increase \$50 every five years.
- Insurance premiums will increase 3% per year.
- Legal fees are difficult to forecast. It is unlikely that we would need more than minimal support from legal counsel, but litigation can be very expensive. For the purposes of this study, legal fees will increase 7% per year.
- Charges for long distance and faxes will increase by \$25 every five years.
- HOAMCO Management fees will increase 5% per year.
- Meeting expenses will increase by \$25 every five years.
- Office supplies, postage, and printing charges will increase 5% per year.
- The cost for our website will increase 2% per year.
- All other administrative expenses are insignificant and were not included in the reserve study.

Assumptions for Common Area Expense Projection:

- Gate maintenance contract and telephone expense will increase 5% per year.
- Landscape maintenance and supplies will increase by 2% per year.
- General maintenance and repairs will increase by 3% per year.
- Road side mowing will increase \$250 in 2025.
- We will crack seal our roads every other year and maintenance costs will increase 5% per year.
- All other common area expenses are insignificant and were not included in the reserve study.

Assumptions for Other Expenses:

- Utilities will increase 5% per year.
- Although our taxes are minimal, we have budgeted a 5% increase each year.
- Miscellaneous expenses will increase 2% per year.

Table 7. Income and Operating Expense Baseline – 2016 Budget

Area	Item	Qty	Value	Comment
Income				
	POA Assessment	86	\$103,200	
	Right of Way Assessment	7	\$4,200	
	Architectural Review Fees	0	\$0	\$4,000 in 2017
Expense				
	Accounting and Tax Prep		\$600	
	Insurance		\$3,014	
	Legal Fees		\$3,000	
	Long Distance and Fax		\$0	\$25 in 2017
	HOAMCO Fees		\$14,400	
	Meeting Expense		\$0	\$25 in 2017
	Office Supplies		\$100	
	Postage		\$500	
	Printing		\$1,000	
	Website		\$125	
	Gate Maintenance		\$7,632	
	Gate Telephone		\$3,122	
	Landscape Maintenance		\$7,650	
	Landscape Supplies		\$3,110	
	General Maintenance		\$1,000	
	Road Mowing		\$1,500	
	Road Maintenance		\$8,850	
	Utilities		\$1,300	
	Taxes		\$360	
	Miscellaneous Expense		\$1,300	

Road Maintenance Options:

Asphalt Seal Coat:

An asphalt seal coat is a bituminous liquid mixture. There are primarily three types of asphalt sealers. They are commonly known as coal-tar, asphalt emulsions, and acrylics. The advantages of a seal coat are ease of application and low cost. The primary benefit of a seal coat is its ability to lock in aggregate and create a barrier to protect the road surface from water, oils, and UV damage. Roadways chosen for a seal coat would typically be treated every 3 to 5 years. We spent \$85,000 to seal coat 10 miles of Las Vegas Ranch Road in 2015, and we will spend \$45,000 in 2016 to complete the project.

Chip Seal:

A chip seal is an evenly distributed, thin layer of bitumen or asphalt onto an existing road surface that is then embedded with finely graded aggregate. The aggregate is evenly distributed over the seal spray, then rolled into a smooth pavement surface. A chip-seal-surface can also be covered with a seal coat, more commonly known as a fog coat/seal. The introduction of polymer-modified bitumen and emulsion binder has decreased crack reflection and improved stone retention. Adding ground rubber will decrease road noise and improve elasticity. When applied to an asphalt road, a chip seal will typically last between 5 and 10 years. When applied to compacted aggregate, a chip seal will typically last between 3 and 7 years. Because access to the roads in Las Vegas Ranch Estates is restricted, we could expect a chip seal to last 6 to 8 years. With costs currently at \$1.75-\$5.50 / square yard, a chip seal is a low cost alternative for road maintenance. Also, a road can be chip sealed multiple times.

Slurry Seal:

A slurry seal is a mixture of water, bitumen, aggregate, and additives. A slurry seal is similar to a seal coat except the slurry seal has aggregate as part of the mixture. Polymer is commonly added to the emulsion to improve the properties of the mixture. A slurry seal is a good choice for asphalt pavement with low to moderate distress and narrow crack width. Roadways chosen for a slurry seal would typically be treated every 5 to 7 years. Estimates for a slurry seal range from \$1.80-\$5.00 / square yard. However, a slurry seal is generally considered a poor choice for a compacted sub-grade and chip sealed road because it is brittle and susceptible to reflective cracking.

Asphalt Overlay:

An asphalt overlay is the application of a thin layer of asphalt to an existing road surface. Asphalt overlays are popular because they reduce life-cycle costs and provide long-lasting service. Asphalt overlays should only be applied to a stable, and structurally sound substrate. Roadways chosen for an overlay would typically last 10 to 20 years. Estimates for asphalt overlays range from \$8.00-\$15.50 / square yard, and are cost prohibitive for our project.

Road Life-Cycle:

The useful life of any road will vary depending on the following:

- Traffic volume – High usage roads will wear quickly. Exposure to laden vehicles will also shorten the life of a road.
- Exposure to the elements – Extreme temperatures and poor drainage will shorten the life of a road.
- Stability of the substrate – Asphalt and other petroleum based coatings applied to a poorly compacted and unstable substrate will fracture and deteriorate sooner.

Factors That Effect the Cost of Road Maintenance:

- The Price of Oil – As the price of oil increases, the price of bitumen increases.
- Improvements in the Refining Process – As improvements are made to the petroleum refining process, there is less bitumen per unit of oil, and the price of asphalt increases.
- Economies of Scale – Mobilization and trucking costs can significantly impact the cost of road maintenance. Contractors will bid lower costs per square yard on larger projects. We could get a better price if we coordinate our project with a large private or government job.

Table 8. Road Surface Area and Condition Assessment

Street Name	Width (ft)	Length (ft)	Turn Around Area (sq-ft)	Total Area (sq-ft)	Total Area (sq-yds)	Road Condition
Slate Road	16	2155	0	34480	3831	Good
Peridot Place	18	1926	3743	38411	4268	Good
Jasper Ridge Road (East)	18	5594	3743	104435	11604	Good
Jasper Ridge Road (West)	18	2760	3743	53423	5936	Fair
Hitt Wash Road	18	5728	3743	106847	11872	Good
Las Vegas Ranch Road (Slate Road to Hitt wash crossing)	20	8721	0	174420	19380	Good
Las Vegas Ranch Road (Hitt Wash crossing to Camp Wood entrance gate)	20	4916	0	98320	10924	Fair
Las Vegas Ranch Road (Camp Wood entrance to cattle guard)	21	3856	0	80976	8997	Fair
Las Vegas Ranch Road (cattle guard to asphalt at bridge)	21	21246	0	446166	49574	Fair
Las Vegas Ranch Road (asphalt from bridge to chapel)	21	3840	0	80640	8960	Good
Las Vegas Ranch Road (chapel to Fair Oaks entrance)	21	6075	0	127575	14175	Fair
Simmons Way	20	8448	3668	172628	19181	Fair
Shangri La Place	20	1073	3668	25128	2792	Good
Doric Way	20	2567	3668	55008	6112	Fair
Fair Oaks Entrance	17	551	0	12645	1405	Good
Camp Wood Entrance (south)	20	352	0	8800	978	Good
Camp Wood Entrance (north)	18	366	0	8235	915	Good
Total		80174		1628137	180904	