

June 4, 2025

Fairways at Fieldcreek Ranch HOA
Attn: Norm Kelly, HOA Board President
1205 Springer Ct.
Reno, NV 89511

**RE: PAVEMENT EVALUATION & MAINTENANCE PLAN
FIELDCREEK
RENO, NV**

Dear Norm:

Padovan Consulting, LLC. (PC) has recently completed a pavement evaluation for the Fieldcreek community. This included on-site visits to review the pavement condition, review of historic satellite imagery, review of civil improvement plans and review of the reserve study. The following presents a discussion on the pavement condition and recommended maintenance including estimates of present-day probable cost.

The small, private road network is displayed on Exhibit A for reference. The community has two main roads, Silver Wolf and Springer Ct., and an emergency access road.

CONDITION DISCUSSION

The roads are access controlled by an automated gate. The traffic volume for the roads is very low. The streets are designed without through access and exclusively serve 64 residential single-family lots. The asphalt roads are bordered by 2-foot-wide concrete curb and gutter. The street pavement is generally 33 feet in width. From review of the civil improvement plans the pavement structural section consists of 3" of Type 3 hot mix asphalt underlain by 6" of Type 2 Class B aggregate base. The theoretical design life of asphalt pavement is typically 20 years but quite often the usable life exceeds this with proper maintenance. The roads are approximately 25 years old.

The overall condition of the asphalt roads are good. The only visible pavement distress is linear transverse cracking. A field measurement of the linear cracking resulted in 6,017 linear-feet (lf) and 1,559 lf on Silver Wolf and Springer Ct., respectively. These cracks are currently considered to be narrow cracks. Transverse cracking are linear cracks in the asphalt pavement that generally run perpendicular to the centerline of the road. These cracks are usually not associated with load related failure. These distresses result from thermal expansion and contraction of the asphalt layer, shrinkage properties of the asphalt, cold pavement joints and sometimes movement in the underlying support layer. The

separation cracks from previous patches result from the original asphalt continuing to shrink after new asphalt patches were done on distressed areas. It is hard to avoid this problem as patching is the primary treatment for large cracks and severely distressed pavements. The linear cracks create ride quality problems and allow moisture to infiltrate into the supporting base layers further degrading the structural integrity of the asphalt which leads to further structural pavement distresses. The linear cracks also create a negative aesthetic impression. These cracks require maintenance through crack sealing and/or full depth patching. There has been past treatment with both patching and crack seal of the linear cracks. From conversation with community representatives these treatments have been timely and consistent leading to the good, long-standing performance of the road.

The surface condition of the roads is very good with a fresh slurry coat applied last year. There were no signs of surface raveling of the asphalt which occurs when the original asphalt is left exposed to the sun and moisture. Raveling occurs as individual aggregate particles from the pavement are exposed and break away from the surface creating a rough surface. Raveling is typically caused by oxidation (i.e. drying out of the asphalt oils) of the surface layer of asphalt. The reserve study contemplates slurry seal applications every 5 years and in discussions with the community representatives the slurry seal applications may occur even more frequently.

Eventually the pavement will progress to more substantial load related (structural) failure of the asphalt and underlying base material. This usually presents itself as alligator cracking. Alligator cracking is a tightly spaced interconnected web resembling and alligator's skin. Alligator cracking therefore typically requires full depth asphalt removal and replacement along with underlying base re-compaction. Regular crack seal and preventative (not reactive) treatments will delay this progression of the asphalt pavement failure. A well-timed mill and overlay is an effective means to delay progression of the structural failure by removing the aged older top lift of asphalt and replacing with new asphalt. This creates a like-new road surface. There are other less expensive means to treat aging roads, such as cape seals, but this does not address the underlying structural failures. However, the cape seal is more resistant to reflective cracking and lasts longer than slurry seals.

A cape seal is a two-layer treatment consisting of a chip seal overlaid by a slurry seal. The chip seal consists of applying an asphalt oil emulsion that penetrates, and seals cracks, partially restores the asphalt and provides the adhesion for the chip rock (i.e aggregate) that is spread on the top of the asphalt oil. This chip seal provides a new aggregate layer over the distressed pavement. Once cured the chip seal is covered with a slurry seal to complete the double layer treatment.

MAINTENANCE RECOMMENDATIONS

The following recommendations are based on the current pavement condition, past treatments, general age of roads, industry standards and general experience with road maintenance.

The recommended near-term maintenance for the asphalt pavement is to continue to treat the linear cracks with hot rubberized crack seal on an annual basis. The recommended treatment time would be in the fall as that allows quick curing of the crack seal and with the milder temperatures puts the crack in the middle of normal expansion and contraction. There is approximately 7600 lf of cracks presently visible. I would recommend budgeting \$10,000 annually for the crack seal. This may not need to be done every year but it is prudent to budget for this expense and should always be done before slurry seal applications.

Based on the road conditions and low traffic volumes I would recommend having a 6-year frequency for the slurry seal treatments. Therefore, in 2030 treat all roads and the paths with a Type 2 rapid set slurry seal and full depth patch larger transverse cracks (if necessary). Based on the condition of the roads I would assume a patch rate of 1% of the total road surface area. The road quantity was taken from the reserve study and includes the emergency access road.

2030 Estimate of Probably Cost Summary for Slurry Seal and Patching

- Type 2 Slurry Seal All Roads = $191,370 \text{ sf} \times \$0.38/\text{sf} = \$72,857.40$
- Full Depth Patch Wide Transverse Cracks = $1917 \text{ sf} \times \$10/\text{sf} = \$19,170$

The timing recommended for the overlays in the reserve study are reasonable and prudent, however, alternate treatments may be considered to lower the overall cost. Keep in mind that there is not a prescriptive standard that must be followed for pavement maintenance. There are often subjective considerations such as budget constraints and aesthetics. And the reserve is a budget so the more conservative assumptions will reduce the risk of being underfunded in the future but of course will result in higher monthly dues to the residents. All this must be balanced and considered when deciding on road maintenance treatments.

In this instance a 1.5" overlay should be considered in 2036 or as an alternative a cape seal. The SNC proposal considered a 2" mill depth which I would not recommend since the total thickness of the paving mat is only 3". The remaining 1" of asphalt would be too thin and risks breaking up to where full removal would be required. Thus a 1.5" mill would be recommended with a 2" overlay resulting in a slight reveal on the curb and gutter. This would slightly increase the overall thickness of the pavement.

As an alternative a cape seal could be considered. There would likely be some full depth patching associated with the cape seal to address more severe cracking. A cape seal does not result in new pavement but rather it is an enhanced surface treatment. So, it is only masking underlying road distresses. Nonetheless, the county has started using these in lieu of road overlays, mostly on rural roads, and has been found to be effective albeit for a shorter time span. The access road does not need to be included in these options and can continue to be slurry sealed and patched as needed.

Below are the cost summaries for both of these options:

OPTION 1 – Asphalt Mill and Overlay
Engineers Estimate of Probable Cost

No.	Bid Item	Quantity	Unit	Unit Cost	Cost
1	Mobilization	1	LS	\$ 35,000	\$ 35,000.00
2	1.5" Mill Existing Pavement	175320	LF	\$ 0.35	\$ 61,362.00
3	2" Asphalt Concrete Pavement	175320	LF	\$ 2.20	\$ 385,704.00
4	Raise and Lower Manholes	35	EA	\$ 2,500	\$ 87,500.00
5	Raise and Lower Utility Vaults	36	EA	\$ 1,500	\$ 54,000.00
6	Type 2 Slurry Seal Access Road	16500	SF	\$ 0.70	\$ 11,550.00
TOTAL BASE BID PRICE =					\$ 635,116.00

OPTION 2 - Patch and Cape Seal
Engineers Estimate of Probable Cost

No.	Bid Item	Quantity	Unit	Unit Cost	Cost
1	Mobilization	1	LS	\$ 10,000	\$ 10,000.00
2	Full Depth Patching	3834	SF	\$ 10.00	\$ 38,340.00
3	Cape Seal	175320	LF	\$ 1.10	\$ 192,852.00
6	Type 2 Slurry Seal Access Road	16500	SF	\$ 0.38	\$ 6,270.00
TOTAL BASE BID PRICE =					\$ 247,462.00

If option 1 is chosen, then the first slurry seal should be applied in 2039 to preserve the new pavement and continue with a 6-year application frequency. The patching would be minimal to non-existent in 2039 and for budgeting purposes assume 1% of the total surface area in 2045 and so on. The above present day unit cost for slurry seal and patching would apply. The next overlay would be outside the 30-year window of the reserve study.

If option 2 is chosen, then the next patch and slurry seal would be in 6 years (2036) with a 1% patch rate. So, the costs presented for 2030 should be used. Then another cape seal in 2042 with a 1% patch rate and a subsequent slurry seal and patch in 2048. In 2054 a full reconstruction would likely be needed at an approximate cost of \$6.75/sf over the entire road area including the access road.

Not specifically part of the asphalt pavement evaluation, the concrete curb and gutter should be considered when planning for road maintenance costs. The current unit costs per linear foot of curb are around \$90 as compared to \$14 in the reserve study. The reserve study costs are much too low. The entire curb system would likely need to be replaced by 2055. That may be piece meal as the need arises or largely en masse at the time of road reconstruction.

The above recommended maintenance and estimated costs are presented in present day costs for the purposes of planning and budgeting and should not be considered absolute. Factors of inflation must be applied for the reserve study. There should be follow-up pavement condition review visits as needed the season before planned treatments to evaluate current conditions, to decide on exact treatment needed, or as specific distresses or problems arise. These recommendations follow practical industry standards combined with some judgement based on the anticipated road usage.

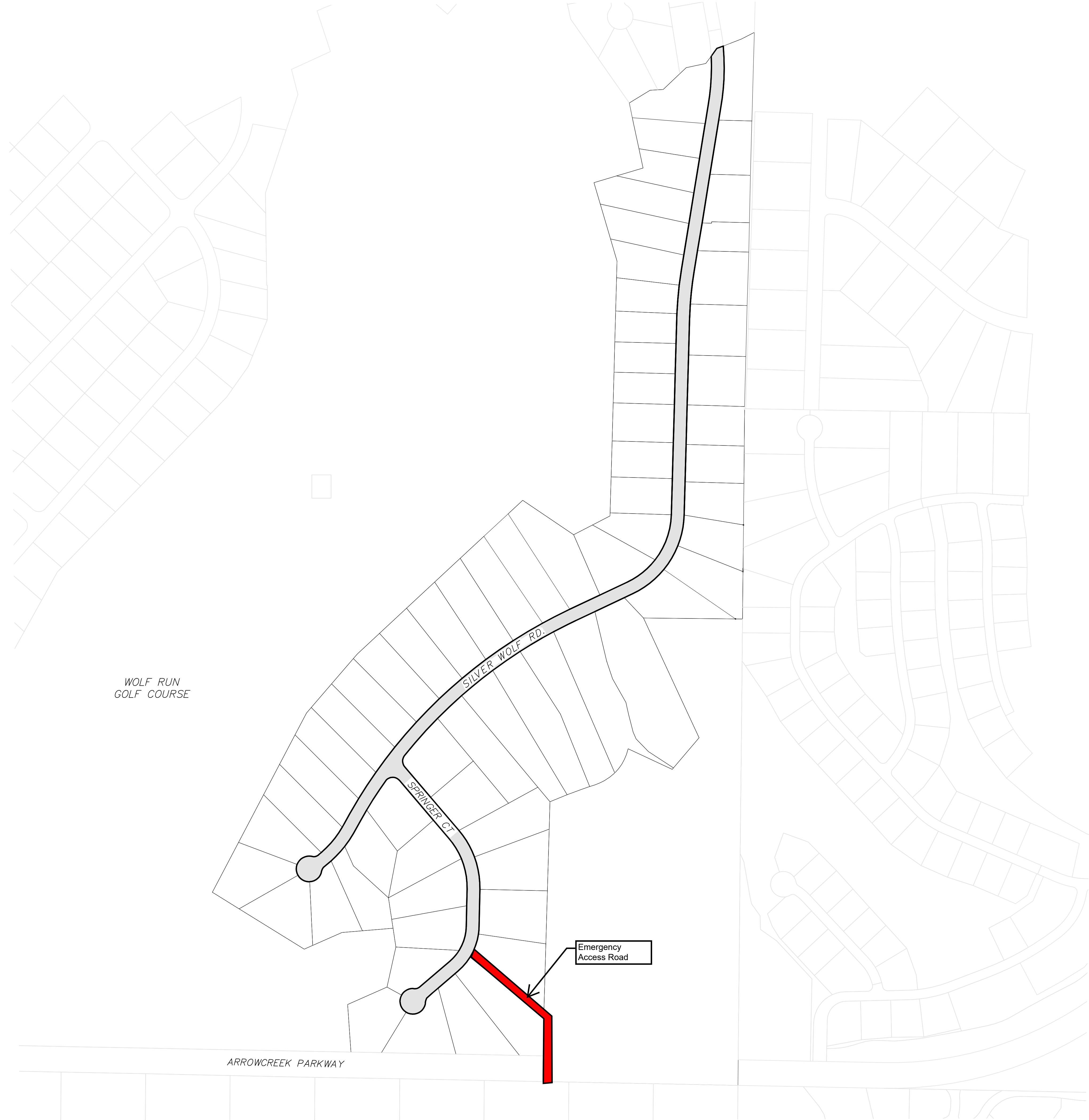
It is recommended to bid on these maintenance items in the winter before the planned treatment year as that will result in the most competitive pricing from the contractors and ease in scheduling the following year. Padovan Consulting can provide construction management services which would generally include preparation of request for bid (RFB) with a detailed scope of work and specifications, pre-bid meetings with contractors, respond to contractor requests for information (RFIs), review bids, seal and deliver bids to the HOA and coordinate and observe the maintenance project.

Please do not hesitate to contact me with any questions regarding this information.

Very truly yours,
PADOVAN CONSULTING, LLC.



Seth A. Padovan
President



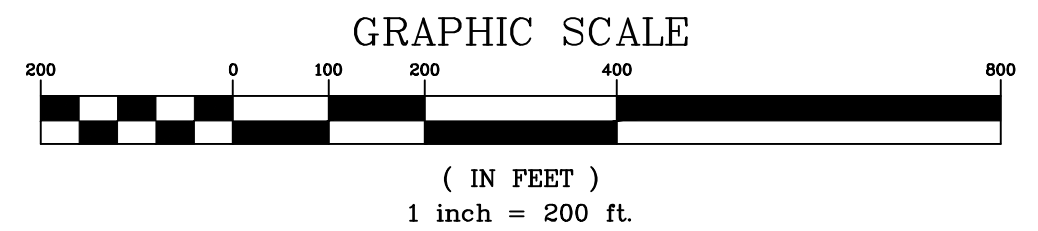
WOLF RUN
GOLF COURSE

SILVER WOLF RD.

SPRINGER CT

ARROWCREEK PARKWAY

Emergency
Access Road



FIELD CREEK RANCH
COMMUNITY STREETS



DRAWN BY:
SCALE:
DATE:
SHEET:

EXHIBIT
A