



## MEMORANDUM

**TO:** Anke Voss, Director of Facilities Urbana Free Library

**FROM:** Craig E. Shonkwiler, P.E., Assistant City Engineer  
Shannon Beranek, E.I.T., Civil Engineer I

**DATE:** May 8, 2019

**RE:** Library Staff Parking Lot Rehabilitation/Reconstruction Options

### Action Requested

The Urbana Free Library staff parking lot located near the 300 block of South Race Street is in need of attention due to extensive deterioration of the existing pavement. An evaluation of the lot was requested in order to begin the process of formulating rehabilitation/reconstruction options and associated costs for the Library to pursue.

### Analysis

City of Urbana Engineering staff performed a field visit of the parking lot and the pavement distresses were evaluated to come up with three possible options for the rehabilitation or reconstruction of the lot.

The three parking lot options with estimated base construction costs are:

1. Patching with Oil & Chip Overlay (\$50,000)
2. Patching with Mill & Fill of 2" of Asphalt (\$80,600)
3. (A) Full Asphalt Reconstruction (\$102,000) or (B) Full Concrete Reconstruction (\$102,000)

All three options include common items that will need to be addressed during the lot rehabilitation regardless of which option may be pursued. These common items include the following:

1. Removing the large tree from the middle of the parking lot
2. Trimming the surrounding trees
3. Removing the broken fence that borders a portion of the parking lot
4. Clearing the overgrowth of weeds and other vegetation around the parking lot
5. Adding an aggregate border on the south and west sides of the parking lot
6. Removing and replacing the parking bumpers
7. Striping of parking spaces

Attached to this memo is a cost comparison matrix that includes estimated costs for an engineering consultant to perform the design and construction observation work, possible maintenance needs, and the largest benefit and largest drawback of each option.

Stormwater detention/retention is not expected to be required since the impervious area of the lot is not expected to increase.

### **Recommendation**

The Reconstruction option would give the greatest longevity for minimum lifetime maintenance costs. Even though both reconstruction options are expected to cost the same, Option 3B Full Concrete Reconstruction is expected to require the least recurring maintenance costs over the life of the parking lot. In lieu of selecting asphalt or concrete, the Library could direct the engineering consultant to prepare alternate bids which would allow for the market to determine optimal costs.

While Options 1, Patching with Oil & Chip Overlay, and 2 Patching with Mill & Fill of 2 inches are lower cost than reconstructing the parking lot, the current conditions of the parking lot pavement make it so these are not ideal options as there would be the need for continuous upkeep and maintenance over the life of the parking lot.

## Library Staff Parking Lot Rehabilitation/Reconstruction Options

Prepared by: SLB  
Reviewed by: CES



Options	Estimated Construction Cost <sup>1</sup>	Estimated Engineering Consultant Fee <sup>2</sup>	Total Estimated Costs	Expected Maintenance	Largest Benefit	Largest Drawback
1 Patching with Oil&Chip Overlay	\$ 50,000	\$ 15,000	\$ 65,000	Frequent re-striping, new surface seal (oil/chip, slag, etc.) every three to five years, repairing deterioration around patches	Lowest cost	Short term solution
2 Patching with Mill&Fill of 2 inches	\$ 80,600	\$ 24,180	\$ 104,780	seal coating every few years, crack repair/sealing, re-striping of spaces, more frequent mill/fill	Longer life than #1 and can be chip sealed in the future	Frequent maintenance
3A Full Asphalt Reconstruction	\$ 102,000	\$ 30,600	\$ 132,600	Seal coating every few years, crack repair/sealing, re-striping of spaces, possible future mill/fill	Longer life than #1 and #2 and can be chip sealed (or milled/filled) in the future	Periodic maintenance
3B Full Concrete Reconstruction	\$ 102,000	\$ 30,600	\$ 132,600	Re-striping of spaces, crack and joint repair/sealing	Lowest long term maintenance and longest pavement life	More frequent re-striping of spaces

1. Includes contingency of 15%, material testing of 2.5%, and construction using prevailing wages. Cost is 2019 dollars. Actual construction costs to be determined by market in low bid situation.
2. Fee estimated at 30% of construction cost. Fee includes topographic survey, design and construction observation. Actual fee to be negotiated with engineering consultant.