

## Memorandum

TO: Kellie McCoy, University Park Subdivision Trustee

FROM: Dave Riechmann, PE

SUBJECT: University Park Subdivision 2022 Street Assessment

DATE: November 30, 2022

H&S JOB NO.: 2221200

This Memo shall be considered a revision to the original street assessment report that was completed by Horner & Shifrin on June 15, 2015, for the Trustees of University Park Subdivision. The scope of this assessment included investigating the current street conditions and providing an updated street rating, detailing improvement options and recommendations for repair limits, provide cost estimate options to improve or lengthen the lifespan of existing infrastructure, evaluate storm drainage, evaluate existing vertical curb conditions, and evaluate existing curb ramps for ADA compliance.

In the 2015 report, 4 sections of streets received a “failed” rating and reconstruction was recommended. Based on these recommendations the subdivision contracted with H&S to develop a roadway design, manage the bid process, and monitor construction progress on these sections of failed streets. Since then, these 4 sections have been replaced and have been identified as “recently replaced” in the updated assessment report. During construction of these failed sections, it was found that the asphalt surface was only 1”-2” thick on poorly graded gravel intermixed with cobbles. The thin layer of asphalt on the surface also agrees with the findings in the geotechnical investigation completed in 2015. During the recent street reconstructions, the subbase was completely replaced. Due to the thin top layer of asphalt that appears to be on most streets subdivision wide, H&S does not recommend a 1.5” depth milling over the entire roadway width for future projects. It is likely the poor subbase will be exposed, and sections of the street will need to be removed and replaced during milling operations. Thus, the full width milling option has been removed from the recommended options for this assessment report.



An 8' wide variable depth milling option has been included for the street rating levels of poor, fair, and good. This option will minimize the risk of exposing poor subbase by only milling the full 1.5" depth directly adjacent to the curb. Milling 1.5" adjacent to the curb will allow the full 6" curb height to be maintained. Inside the 8' wide variable milling area the street will only be overlaid with no milling.

For streets that received a rating of good, fair, and recently reconstructed, it is recommended that a seal coat is placed on the existing roadway to extend the life of the asphalt. This option could be included in a contractor bid or a separate contract directly with the seal coat contractor. Engineered construction administration would not be required for the seal coat option but could be included in a bid package with other street treatments.

For areas that received a rating of very poor or failed, it is recommended that the street receive a full reconstruction. Full reconstruction options were based on St. Louis County typical standards which consists of either 6" of concrete on 4" of aggregate base or 9" of asphalt on 4" of aggregate base. In both options the existing asphalt wearing surface and cobblestone base will be removed to the required depth of the new pavement section. The existing 6" vertical curb and gutter shall remain in place and will be flush with the new pavement.

The existing 6" vertical curb and gutter is generally in good condition. There are a few areas that have been lifted or cracked due to the roots of large trees that are located within the tree lawn. To repair the broken curbs, the tree roots would need to be grinded which could ultimately affect the health of the tree or in some cases the tree would need to be completely removed and the curb could then be replaced. The broken curbed areas can be addressed during the design of the adjacent street improvements.

A drainage issue was identified in front of the property at 7017 Tulane Avenue. The drainage problem appeared to be from a low spot in the curb and gutter which is located within the driveway. To correct the issue a portion of the curb and gutter will need to be replaced to provide positive drainage along the gutter line in the direction of the nearest storm inlet.

All curb ramps located within the subdivision have been identified as non-ADA compliant and will need to be fully replaced if the Subdivision intends to provide pedestrian access meeting ADA guidelines. Proper construction of the curb ramps will require that sections of sidewalks in the vicinity of the curb ramps be replaced to maintain appropriate grades leading up to the ramps. Detectable warning panels would be included in the installation of these curb ramps. There are 36 non-ADA compliant curb ramps within the University Park Subdivision limits.



Cost estimates have been prepared to help the University Park Subdivision Trustees determine the most appropriate schedule for improving the infrastructure within the subdivision. These estimates were developed using recent bid tabs of projects similar in type and scale. It should be noted that depending on the amount of the streets that will be upgraded at one time, the unit costs may be affected. Generally, the more streets that will be addressed at once the cheaper the unit costs. Also, a 15% contingency and inflation rate is included in each option. This will cover adjusting of manholes, water valves, unknowns, and other miscellaneous items. The pavement patch listed in the estimate will be utilized if the contractor uncovers any unsuitable or unusable base material after milling.

In summary, the goal of the street improvements is to maximize the life of the new pavement while considering the impacts to the subdivision's budget. With these concerns in mind, Horner & Shifrin recommends the "failed" and "very poor" pavement areas shown with a full depth pavement. The variable depth mill and 1.5" overlay should provide the best value in improving the streets with the most immediate need, such as "poor" and "fair" areas. The areas that are "fair", "good", and "recently reconstructed" should be sealed to extend the life of the pavement.

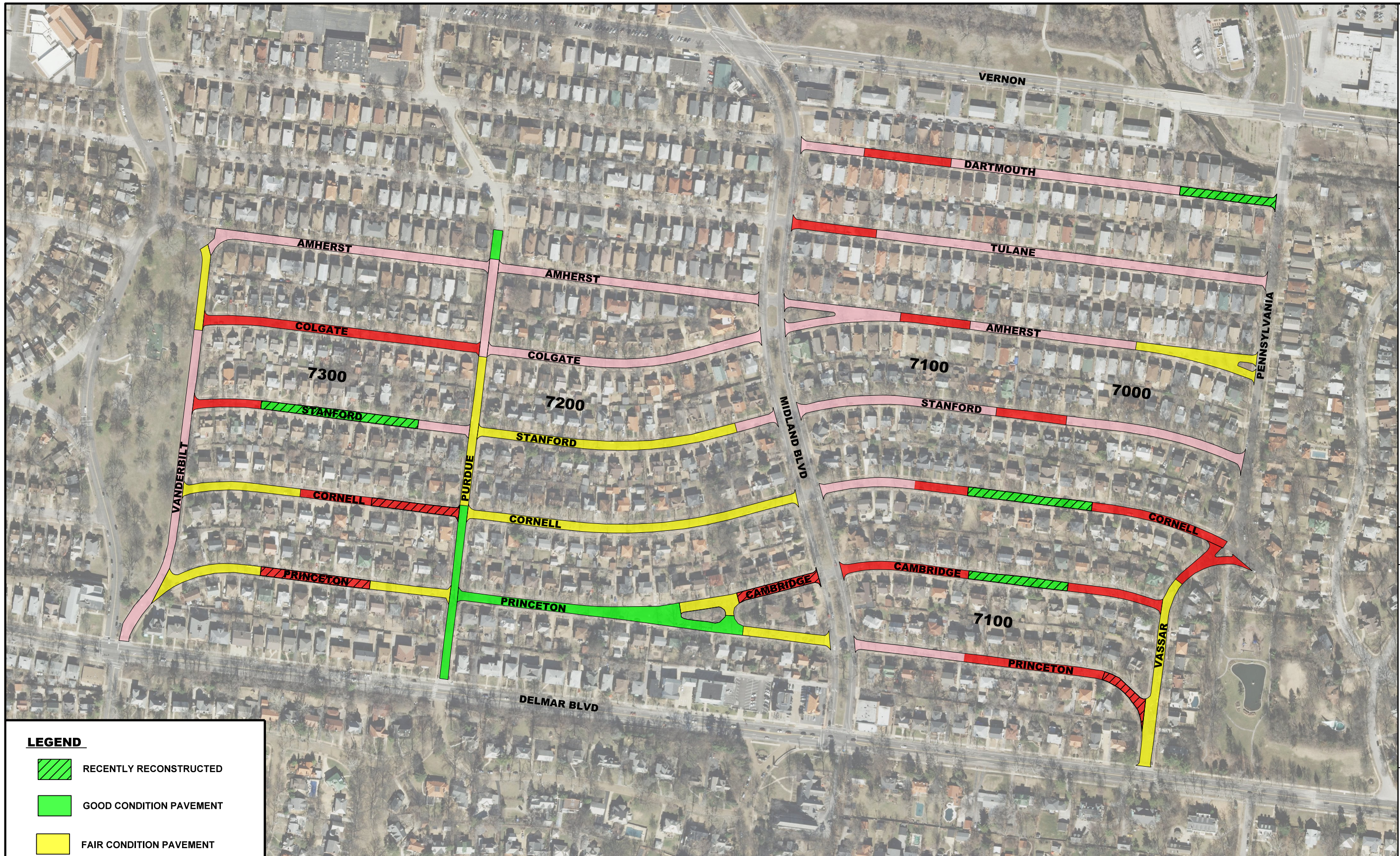
If you have any questions concerning this Memorandum, please feel free to contact me at 314-335-8665.

Sincerely,







**Dave Riechmann, PE**

Project Manager - Transportation

**Horner & Shifrin, Inc.**



**LEGEND**

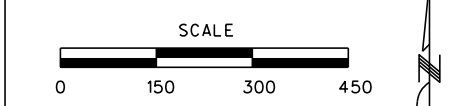
-  RECENTLY RECONSTRUCTED
-  GOOD CONDITION PAVEMENT
-  FAIR CONDITION PAVEMENT
-  POOR CONDITION PAVEMENT
-  VERY POOR CONDITION PAVEMENT
-  FAILED PAVEMENT

DATE PREPARED		<b>11/30/2022</b>
ROUTE	STATE	<b>MO</b>
DISTRICT	SHEET NO.	
COUNTY		
JOB NO.		
CONTRACT ID.		
FEDERAL PROJECT NO.		

DESCRIPTION	DATE

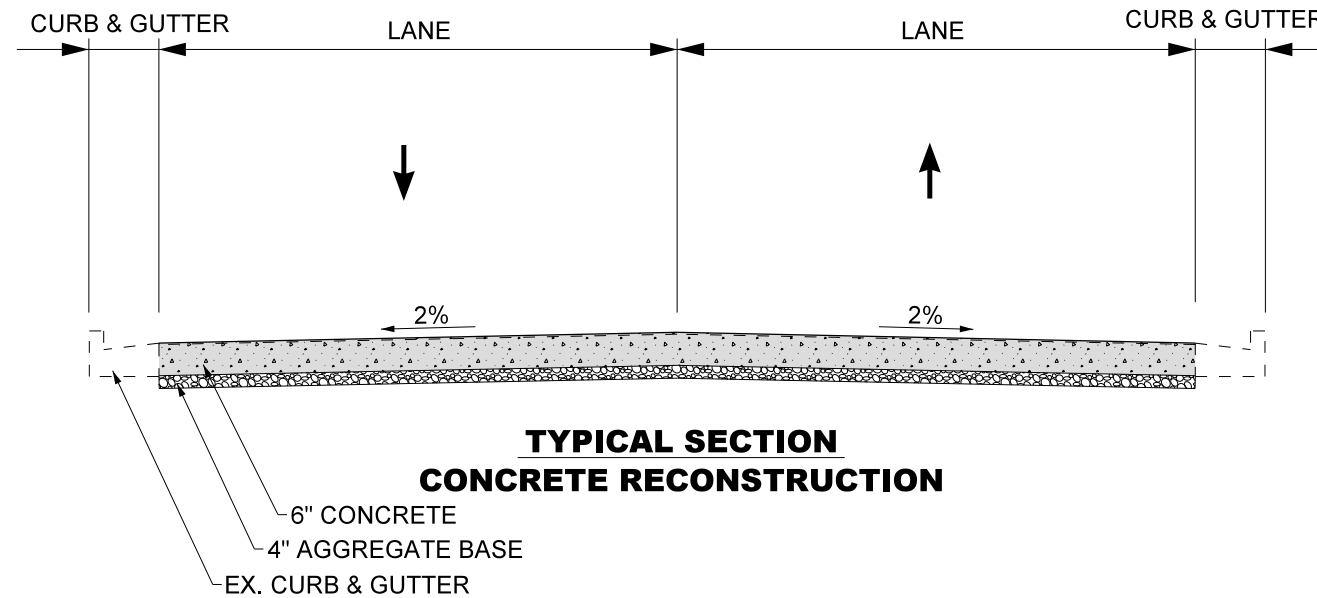
**HORNER SHIFRIN**  
 401 S. 18TH ST., STE. 400 SAINT LOUIS, MO 63103-2296  
 314-531-4321 • FAX 314-531-6866 • WWW.HORNERSHIFRIN.COM  
 DISTRICT OF ST. LOUIS  
 CERTIFICATE OF AUTHORITY: 001639  
 EXPIRATION DATE: DECEMBER 31, 2022

**UNIVERSITY PARK SUBDIVISION**  
**PAVEMENT RATING ASSESSMENT**



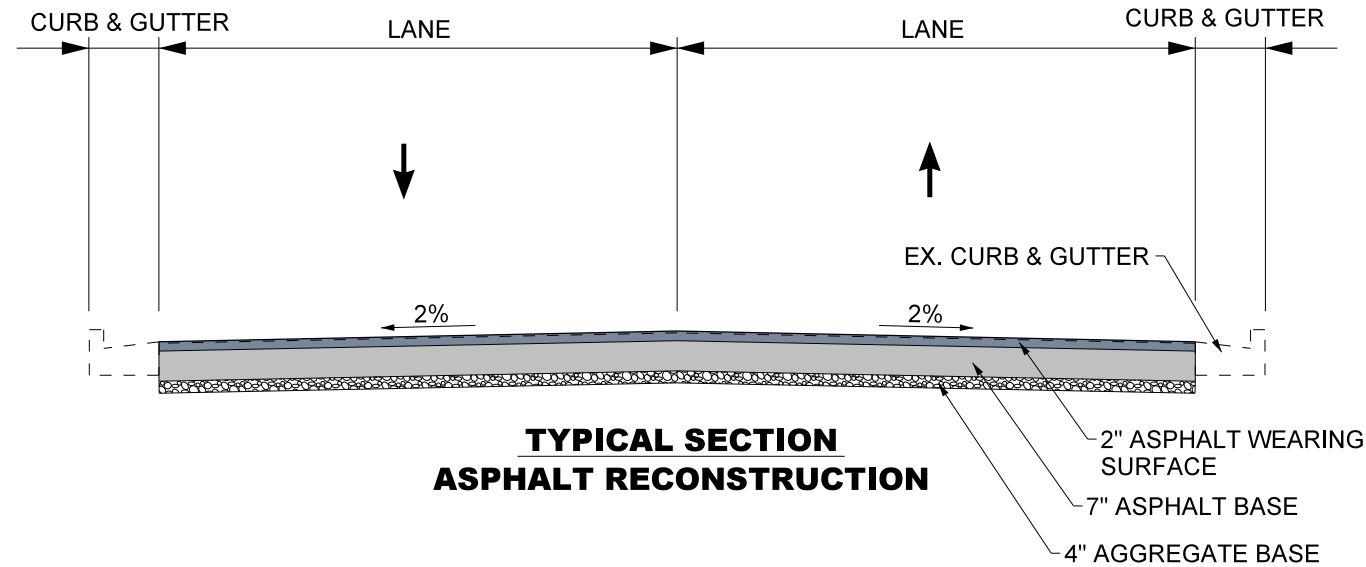
**CONCRETE RECONSTRUCTION**

- 1. FULL PAVEMENT RECONSTRUCTION WITH 6" CONCRETE ON 4" OF AGG. BASE



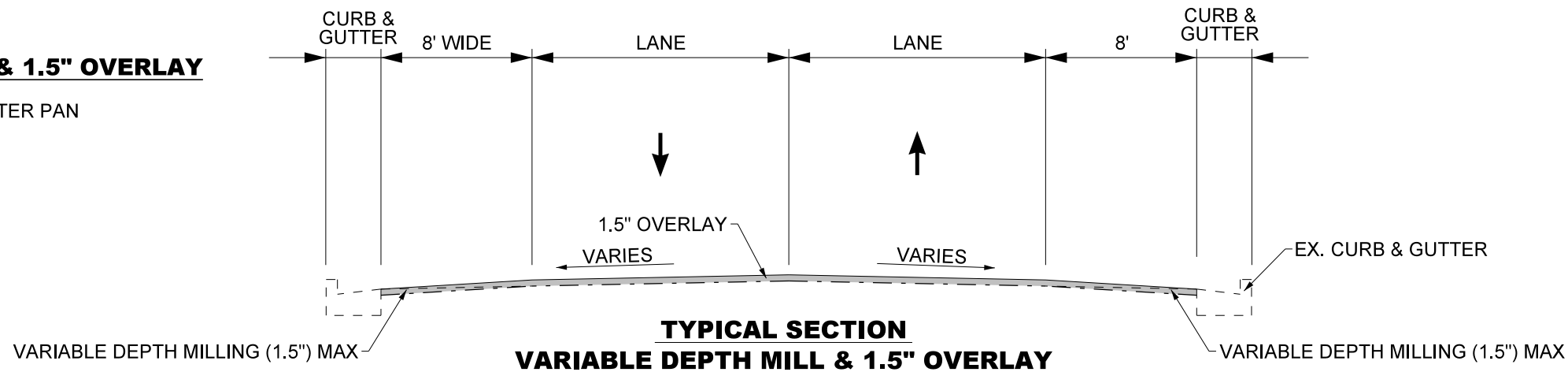
**ASPHALT RECONSTRUCTION**

- 1. FULL PAVEMENT RECONSTRUCTION WITH 2" ASPHALT WEARING SURFACE ON 7" ASPHALT BASE ON 4" AGG. BASE



**VARIABLE DEPTH MILL & 1.5" OVERLAY**

- 1. VARIABLE DEPTH MILL AT GUTTER PAN (MAX DEPTH 1.5" AND 8' WIDE)
- 2. LAY 1.5" ASPHALT OVERLAY



DATE PREPARED <b>11/30/2022</b>	
ROUTE	STATE <b>MO</b>
DISTRICT	SHEET NO.
COUNTY	
JOB NO.	
CONTRACT ID.	
FEDERAL PROJECT NO.	

DESCRIPTION	DATE

**HORNER SHIFRIN, INC.**  
 401 S. 18TH ST., STE. 400 SAINT LOUIS, MO 63103-2286  
 314-531-4321 • FAX 314-531-4866 • WWW.HORNERSHIFRIN.COM  
 DESIGNER OF RECORD FOR THE PROJECT  
 CERTIFICATE OF AUTHORITY: 001530  
 EXPIRATION DATE: DECEMBER 31, 2022

**UNIVERSITY PARK SUBDIVISION**  
**TYPICAL SECTIONS**  
**SHEET 1 OF 1**

NOVEMBER 11, 2022

**UNIVERSITY PARK STREET REPAIR COST BREAKDOWN (BLOCK BY BLOCK)**

<b>2022 PAVEMENT RATING</b>	<b>STREET</b>	<b>FROM</b>	<b>TO</b>	<b>BLOCK</b>	<b>AREA (sf)</b>	<b>AREA (sy)</b>	<b>Concrete Reconstruction</b>	<b>Asphalt Reconstruction</b>	<b>Variable Depth Mill &amp; 1.5" Overlay</b>	<b>Seal Coat</b>
POOR	AMHERST AVENUE	VANDERBILT AVE.	PURDUE AVE.	7300	24923	2,800			\$513,000	
POOR	AMHERST AVENUE	PURDUE AVE.	MIDLAND BLVD.	7200	22315	2,500			\$458,000	
POOR	AMHERST AVENUE	MIDLAND BLVD.	PENNSYLVANIA AVE.	7100 & 7000	30583	3,400			\$623,000	
VERY POOR	AMHERST AVENUE	MIDLAND BLVD.	PENNSYLVANIA AVE.	7100 & 7000	5900	700	\$105,000	\$94,000		
FAIR	AMHERST AVENUE	MIDLAND BLVD.	PENNSYLVANIA AVE.	7100 & 7000	15645	1,800			\$330,000	\$4,000
VERY POOR	COLGATE AVENUE	VANDERBILT AVE.	PURDUE AVE.	7300	24944	2,800	\$420,000	\$373,000		
POOR	COLGATE AVENUE	PURDUE AVE.	MIDLAND BLVD.	7200	24650	2,800			\$513,000	
VERY POOR	STANFORD AVENUE	VANDERBILT AVE.	PURDUE AVE.	7300	5732	700	\$105,000	\$94,000		
RECONSTRUCTED	STANFORD AVENUE	VANDERBILT AVE.	PURDUE AVE.	7300	13717	1,600				\$3,000
POOR	STANFORD AVENUE	VANDERBILT AVE.	PURDUE AVE.	7300	4497	500			\$92,000	
FAIR	STANFORD AVENUE	PURDUE AVE.	MIDLAND BLVD.	7200	23015	2,600			\$476,000	\$5,000
FAIR	STANFORD AVENUE	PURDUE AVE.	MIDLAND BLVD.	7200	3861	500			\$92,000	\$1,000
POOR	STANFORD AVENUE	MIDLAND BLVD.	PENNSYLVANIA AVE.	7100 & 7000	34181	3,800			\$696,000	
VERY POOR	STANFORD AVENUE	MIDLAND BLVD.	PENNSYLVANIA AVE.	7100 & 7000	6173	700	\$105,000	\$94,000		
FAIR	CORNELL AVENUE	VANDERBILT AVE.	PURDUE AVE.	7300	9942	1,200			\$220,000	\$3,000
VERY POOR	CORNELL AVENUE	VANDERBILT AVE.	PURDUE AVE.	7300	5639	700	\$105,000	\$94,000		
FAILED	CORNELL AVENUE	VANDERBILT AVE.	PURDUE AVE.	7300	7297	900	\$135,000	\$120,000		
FAIR	CORNELL AVENUE	PURDUE AVE.	MIDLAND BLVD.	7200	29346	3,300			\$604,000	\$6,000
POOR	CORNELL AVENUE	MIDLAND BLVD.	PENNSYLVANIA AVE.	7100	8228	1,000			\$183,000	
VERY POOR	CORNELL AVENUE	MIDLAND BLVD.	PENNSYLVANIA AVE.	7100 & 7000	16122	1,800	\$270,000	\$240,000		
RECONSTRUCTED	CORNELL AVENUE	MIDLAND BLVD.	PENNSYLVANIA AVE.	7100 & 7000	10519	1,200				\$3,000
FAIR	PRINCETON AVENUE	VANDERBILT AVE.	PURDUE AVE.	7300	17428	2,000			\$366,000	\$4,000
FAILED	PRINCETON AVENUE	VANDERBILT AVE.	PURDUE AVE.	7300	9621	1,100	\$165,000	\$147,000		
GOOD	PRINCETON AVENUE	PURDUE AVE.	MIDLAND BLVD.	7200	32751	3,700			\$678,000	\$7,000
FAIR	PRINCETON AVENUE	PURDUE AVE.	MIDLAND BLVD.	7200	8302	1,000			\$183,000	\$2,000
POOR	PRINCETON AVENUE	MIDLAND BLVD.	VASSAR AVE.	7100	9359	1,100			\$202,000	
VERY POOR	PRINCETON AVENUE	MIDLAND BLVD.	VASSAR AVE.	7100	11718	1,400	\$210,000	\$187,000		
FAILED	PRINCETON AVENUE	MIDLAND BLVD.	VASSAR AVE.	7100	5069	600	\$90,000	\$80,000		
POOR	DARTMOUTH AVENUE	MIDLAND BLVD.	PENNSYLVANIA AVE.	7100 & 7000	25469	2,900			\$531,000	
VERY POOR	DARTMOUTH AVENUE	MIDLAND BLVD.	PENNSYLVANIA AVE.	7100 & 7000	7450	900	\$135,000	\$120,000		
RECONSTRUCTED	DARTMOUTH AVENUE	MIDLAND BLVD.	PENNSYLVANIA AVE.	7100 & 7000	8253	1,000				\$2,000
VERY POOR	TULANE AVENUE	MIDLAND BLVD.	PENNSYLVANIA AVE.	7100 & 7000	7499	900	\$135,000	\$120,000		
POOR	TULANE AVENUE	MIDLAND BLVD.	PENNSYLVANIA AVE.	7100 & 7000	34869	3,900			\$714,000	
FAIR	CAMBRIDGE AVENUE	PRINCETON AVE.	MIDLAND BLVD.	7200	7049	800			\$147,000	\$2,000
FAILED	CAMBRIDGE AVENUE	PRINCETON AVE.	MIDLAND BLVD.	7200	8034	900	\$135,000	\$120,000		
VERY POOR	CAMBRIDGE AVENUE	MIDLAND BLVD.	VASSAR AVE.	7100	18764	2,100	\$315,000	\$280,000		
RECONSTRUCTED	CAMBRIDGE AVENUE	MIDLAND BLVD.	VASSAR AVE.	7100	8389	1,000				\$2,000
POOR	VANDERBILT AVENUE	DELMAR BLVD.	COLGATE AVE.		27928	3,200			\$586,000	
FAIR	VANDERBILT AVENUE	COLGATE AVE.	AMHERST AVE.		6775	800			\$147,000	\$2,000

**UNIVERSITY PARK STREET REPAIR COST BREAKDOWN (BLOCK BY BLOCK)**

<b>2022 PAVEMENT RATING</b>	<b>STREET</b>	<b>FROM</b>	<b>TO</b>	<b>BLOCK</b>	<b>AREA (sf)</b>	<b>AREA (sy)</b>	<b>Concrete Reconstruction</b>	<b>Asphalt Reconstruction</b>	<b>Variable Depth Mill &amp; 1.5" Overlay</b>	<b>Seal Coat</b>
GOOD	PURDUE AVENUE	DELMAR BLVD.	CORNELL AVE.		13944	1,600			\$293,000	\$3,000
FAIR	PURDUE AVENUE	CORNELL AVE.	COLGATE AVE.		12404	1,400			\$257,000	\$3,000
POOR	PURDUE AVENUE	COLGATE AVE.	AMHERST AVE.		8602	1,000			\$183,000	
GOOD	PURDUE AVENUE	AMHERST AVE.	TULANE AVE.		2766	400			\$74,000	\$1,000
FAIR	VASSAR AVENUE	DELMAR BLVD.	CAMBRIDGE AVE.		18919	2,200			\$403,000	\$4,000
VERY POOR	VASSAR AVENUE	CAMBRIDGE AVE.	PENNSYLVANIA AVE.		7891	900	\$135,000	\$120,000		
	<b>TOTALS</b>					<b>74,100</b>	<b>\$2,565,000</b>	<b>\$2,283,000</b>	<b>\$9,564,000</b>	<b>\$57,000</b>

**UNIVERSITY PARK STREET REPAIR COST BREAKDOWN (BY PAVEMENT RATING)**

<b>2022 PAVEMENT RATING</b>	<b>STREET</b>	<b>FROM</b>	<b>TO</b>	<b>BLOCK</b>	<b>AREA (sy)</b>	<b>Concrete Reconstruction</b>	<b>Asphalt Reconstruction</b>	<b>Variable Depth Mill &amp; 1.5" Overlay</b>	<b>Seal Coat</b>
FAILED	CORNELL AVENUE	VANDERBILT AVE.	PURDUE AVE.	7300	900	\$135,000	\$120,000		
FAILED	PRINCETON AVENUE	VANDERBILT AVE.	PURDUE AVE.	7300	1,100	\$165,000	\$147,000		
FAILED	PRINCETON AVENUE	MIDLAND BLVD.	VASSAR AVE.	7100	600	\$90,000	\$80,000		
FAILED	CAMBRIDGE AVENUE	PRINCETON AVE.	MIDLAND BLVD.	7200	900	\$135,000	\$120,000		
VERY POOR	AMHERST AVENUE	MIDLAND BLVD.	PENNSYLVANIA AVE.	7100 & 7000	700	\$105,000	\$94,000		
VERY POOR	COLGATE AVENUE	VANDERBILT AVE.	PURDUE AVE.	7300	2,800	\$420,000	\$373,000		
VERY POOR	STANFORD AVENUE	VANDERBILT AVE.	PURDUE AVE.	7300	700	\$105,000	\$94,000		
VERY POOR	STANFORD AVENUE	MIDLAND BLVD.	PENNSYLVANIA AVE.	7100 & 7000	700	\$105,000	\$94,000		
VERY POOR	CORNELL AVENUE	VANDERBILT AVE.	PURDUE AVE.	7300	700	\$105,000	\$94,000		
VERY POOR	CORNELL AVENUE	MIDLAND BLVD.	PENNSYLVANIA AVE.	7100 & 7000	1,800	\$270,000	\$240,000		
VERY POOR	PRINCETON AVENUE	MIDLAND BLVD.	VASSAR AVE.	7100	1,400	\$210,000	\$187,000		
VERY POOR	DARTMOUTH AVENUE	MIDLAND BLVD.	PENNSYLVANIA AVE.	7100 & 7000	900	\$135,000	\$120,000		
VERY POOR	TULANE AVENUE	MIDLAND BLVD.	PENNSYLVANIA AVE.	7100 & 7000	900	\$135,000	\$120,000		
VERY POOR	CAMBRIDGE AVENUE	MIDLAND BLVD.	VASSAR AVE.	7100	2,100	\$315,000	\$280,000		
VERY POOR	VASSAR AVENUE	CAMBRIDGE AVE.	PENNSYLVANIA AVE.		900	\$135,000	\$120,000		
POOR	AMHERST AVENUE	VANDERBILT AVE.	PURDUE AVE.	7300	2,800			\$513,000	
POOR	AMHERST AVENUE	PURDUE AVE.	MIDLAND BLVD.	7200	2,500			\$458,000	
POOR	AMHERST AVENUE	MIDLAND BLVD.	PENNSYLVANIA AVE.	7100 & 7000	3,400			\$623,000	
POOR	COLGATE AVENUE	PURDUE AVE.	MIDLAND BLVD.	7200	2,800			\$513,000	
POOR	STANFORD AVENUE	VANDERBILT AVE.	PURDUE AVE.	7300	500			\$92,000	
POOR	STANFORD AVENUE	MIDLAND BLVD.	PENNSYLVANIA AVE.	7100 & 7000	3,800			\$696,000	
POOR	CORNELL AVENUE	MIDLAND BLVD.	PENNSYLVANIA AVE.	7100	1,000			\$183,000	
POOR	PRINCETON AVENUE	MIDLAND BLVD.	VASSAR AVE.	7100	1,100			\$202,000	
POOR	DARTMOUTH AVENUE	MIDLAND BLVD.	PENNSYLVANIA AVE.	7100 & 7000	2,900			\$531,000	
POOR	TULANE AVENUE	MIDLAND BLVD.	PENNSYLVANIA AVE.	7100 & 7000	3,900			\$714,000	
POOR	VANDERBILT AVENUE	DELMAR BLVD.	COLGATE AVE.		3,200			\$586,000	
POOR	PURDUE AVENUE	COLGATE AVE.	AMHERST AVE.		1,000			\$183,000	
FAIR	AMHERST AVENUE	MIDLAND BLVD.	PENNSYLVANIA AVE.	7100 & 7000	1,800			\$330,000	\$4,000
FAIR	STANFORD AVENUE	PURDUE AVE.	MIDLAND BLVD.	7200	2,600			\$476,000	\$5,000
FAIR	STANFORD AVENUE	PURDUE AVE.	MIDLAND BLVD.	7200	500			\$92,000	\$1,000
FAIR	CORNELL AVENUE	VANDERBILT AVE.	PURDUE AVE.	7300	1,200			\$220,000	\$3,000
FAIR	CORNELL AVENUE	PURDUE AVE.	MIDLAND BLVD.	7200	3,300			\$604,000	\$6,000
FAIR	PRINCETON AVENUE	VANDERBILT AVE.	PURDUE AVE.	7300	2,000			\$366,000	\$4,000
FAIR	PRINCETON AVENUE	PURDUE AVE.	MIDLAND BLVD.	7200	1,000			\$183,000	\$2,000
FAIR	CAMBRIDGE AVENUE	PRINCETON AVE.	MIDLAND BLVD.	7200	800			\$147,000	\$2,000
FAIR	VANDERBILT AVENUE	COLGATE AVE.	AMHERST AVE.		800			\$147,000	\$2,000
FAIR	PURDUE AVENUE	CORNELL AVE.	COLGATE AVE.		1,400			\$257,000	\$3,000
FAIR	VASSAR AVENUE	DELMAR BLVD.	CAMBRIDGE AVE.		2,200			\$403,000	\$4,000



**UNIVERSITY PARK STREET REPAIR COST BREAKDOWN (BY PAVEMENT RATING)**

<b>2022 PAVEMENT RATING</b>	<b>STREET</b>	<b>FROM</b>	<b>TO</b>	<b>BLOCK</b>	<b>AREA (sy)</b>	<b>Concrete Reconstruction</b>	<b>Asphalt Reconstruction</b>	<b>Variable Depth Mill &amp; 1.5" Overlay</b>	<b>Seal Coat</b>
GOOD	PRINCETON AVENUE	PURDUE AVE.	MIDLAND BLVD.	7200	3,700			\$678,000	\$7,000
GOOD	PURDUE AVENUE	DELMAR BLVD.	CORNELL AVE.		1,600			\$293,000	\$3,000
GOOD	PURDUE AVENUE	AMHERST AVE.	TULANE AVE.		400			\$74,000	\$1,000
RECONSTRUCTED	STANFORD AVENUE	VANDERBILT AVE.	PURDUE AVE.	7300	1,600				\$3,000
RECONSTRUCTED	CORNELL AVENUE	MIDLAND BLVD.	PENNSYLVANIA AVE.	7100 & 7000	1,200				\$3,000
RECONSTRUCTED	DARTMOUTH AVENUE	MIDLAND BLVD.	PENNSYLVANIA AVE.	7100 & 7000	1,000				\$2,000
RECONSTRUCTED	CAMBRIDGE AVENUE	MIDLAND BLVD.	VASSAR AVE.	7100	1,000				\$2,000
	<b>TOTALS</b>				<b>74,100</b>	<b>\$2,565,000</b>	<b>\$2,283,000</b>	<b>\$9,564,000</b>	<b>\$57,000</b>

**ENGINEER'S CONCEPTUAL ESTIMATE OF STREET REPAIR UNIT COSTS****UNIVERSITY PARK SUBDIVISION****UNIVERSITY CITY, MISSOURI****NOVEMBER 30, 2022**

ITEM DESCRIPTION	UNIT	UNIT COST
<b>FULL RECONSTRUCTION - CONCRETE OPTION</b>		
Removals	SY	\$20
Concrete Pavement, 6" Thick	SY	\$90
Type 5 Aggregate for Base, 4" Thick	SY	\$20
Contingency & Inflation (15%)	SY	\$20
<b>Unit Cost Subtotal</b>		<b>\$150</b>
<b>FULL RECONSTRUCTION - ASPHALT OPTION</b>		
Removals	SY	\$20
Asphalt Pavement, 9" Thick	SY	\$75
Type 5 Aggregate for Base, 4" Thick	SY	\$20
Contingency & Inflation (15%)	SY	\$18
<b>Unit Cost Subtotal</b>		<b>\$133</b>
<b>VARIABLE DEPTH MILL &amp; 1.5" OVERLAY</b>		
Variable Depth Milling, 1.5"	SY	\$10
Asphalt Pavement (1.5")	SY	\$14
Pavement Patch (15% Area)	SY	\$135
Contingency & Inflation (15%)	SY	\$24
<b>Unit Cost Subtotal</b>		<b>\$183</b>
<b>BITUMINOUS MATERIAL SEAL COAT</b>		
Seal Coat	SY	\$1.50
Contingency & Inflation (15%)	SY	\$0.25
<b>Unit Cost Subtotal</b>		<b>\$1.75</b>

Assumes \$140/Ton for Asphalt

**ENGINEER'S CONCEPTUAL ESTIMATE OF CURB RAMP UPGRADE COST****UNIVERSITY PARK SUBDIVISION****UNIVERSITY CITY, MISSOURI****NOVEMBER 30, 2022**

ITEM DESCRIPTION	UNIT	UNIT COST	QUANTITY	TOTAL
<b>BLENDED TRANSITION RAMP</b>				
Remove and Replace Concrete Curb Ramp	EACH	\$4,000	1	\$4,000
			<b>TOTAL PER RAMP</b>	<b>\$4,000</b>
			<b>USE</b>	<b>\$4,000</b>
			<i>VANDERBILT AVENUE (10 RAMPS)</i>	<i>\$40,000</i>
			<i>PURDUE AVENUE (20 RAMPS)</i>	<i>\$80,000</i>
			<i>VASSAR AVENUE (6 RAMPS)</i>	<i>\$24,000</i>
			<b>UNIVERSITY PARK SUBDIVISION CURB RAMP UPGRADE TOTAL</b>	<b>\$144,000</b>