LEE'S SUMMIT
MISSOURI

DESIGN AND CONSTRUCTION MANUAL DESIGN MODIFICATION REQUEST

PROJECT NAME: Streets of West Pryor - Lots 9A, 9B and 9C

PREMISE ADDRESS: NW Pryor Road Lee's Summit, MO 64081

PERMIT NUMBER: PRSITE20221062

OWNER'S NAME: SWP IX, LLC (in Care of) City of Lee's Summit

TO: The City Engineer

In accordance with the Lee's Summit Design and Construction Manual (DCM) Section 1002.A, I wish to apply for a modification to one or more specification (s). The following articulates my request for your review and action. (NOTE: Cite specific code sections and engineering justification and drawings.)

CFS requests to alter the parking lot improvement for the project in accordance with the attached letter, dated 6/29/22

The original section to be revised in the Lee's Summit specification is Table 8-5, "Parking Lot Pavement", Section 8.620.f.1a(1).

SUBMITTED BY:

NAME: Adam McEachron, P.E. ( ) OWNER (X) OWNER'S AGENT

ADDRESS: 1100 W. Cambridge Cir. Dr. #700 Tel.# 913.627.9041

CITY, STATE, ZIP: Kansas City, KS 66103

Email: adamm@cfse.com SIGNATURE:

FORWARDING MANAGER: Kent Mailer RECOMMENDATION (X) APPROVAL ( ) DENIAL

SIGNATURE: KDMailer DATE: 30 Jun 22

GEORGE BINGER III, P.E. – CITY ENGINEER: (X) APPROVED ( ) DENIED

SIGNATURE: George M Binger III DATE: 6-30-2022

COMMENTS

A COPY MUST BE ATTACHED TO THE APPROVED PLANS

Cook, Flatt & Strobel Engineers
1100 W. Cambridge Circle Drive, Suite 700
Kansas City, Kansas 66103
913.627.9040

June 29, 2022

David N. Olson
SWP IX, LLC
P.O. Box 24302
Overland Park, KS 66283

Re: The Streets of West Pryor – Lots 9A, 9B, and 9C Pavement Sections
Lee's Summit, Missouri
CFS # 22-1049

Cook, Flatt & Strobel (CFS) Engineers, P.A. has reviewed the pavement section for the reference project. The developer would like to alter the pavement section so that it can be constructed in fewer placements. To achieve this, we are suggesting that one inch of the base asphalt be replaced with one inch of surface asphalt. Since surface asphalt is a superior product, the Equivalent Single Axel Loads (EASL's) increase with the proposed options. See the attached evaluation performed using the Tensar Plus pavement software. Below is a breakdown of the current Lee's Summit requirements compared with the proposed pavement sections.

Material	Lee's Summit Light Duty Pavement (in)	Lee's Summit Heavy Duty Pavement (in)	Proposed Light Duty Pavement (in)	Proposed Heavy Duty Pavement (in)
Surface Asphalt APWA Type III	1.5	1.5	2.5	2.5
Base Asphalt APWA Type I or II	4.0	5.0	3.0	4.0
MoDOT Type 5 Base Rock	6.0	6.0	6.0	6.0
Geogrid	Yes	Yes	Yes	Yes
Sub-Grade Material	Compacted Soil	Compacted Soil	Compacted Soil	Compacted Soil
ESAL's (millions)	0.437	0.819	0.451	0.844

A CBR value of 3 was utilized for the pavement section sub-grade.

Please contact CFS with further questions. 913-627-4090

Respectfully,
Cook, Flatt & Strobel Engineers, P.A.

STATE OF MISSOURI
ADAM M. McEACHRON
6/29/22
NUMBER PE-2010005591
PROFESSIONAL ENGINEER

Adam M. McEachron, P.E.
Senior Engineer

Pavement Optimization

Design Analysis

Tensar

Design	[redacted]	Reference	
Project		Location	
Customer		Designer	Adam McEachron
Company	CFS Engineers	Date	June 29, 2022

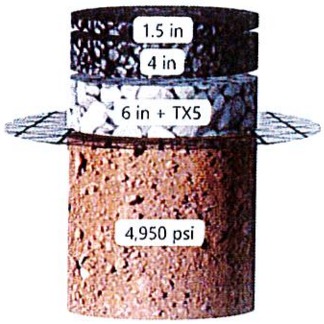
Results

TriAx Stabilized Pavement Section

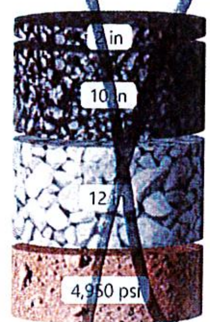
	Thickness	Coeff.	SN
HMA layer 1	1.5 in	0.420	0.630
HMA layer 2	4 in	0.400	1.600
Mechanically stabilized layer	6 in	0.273	1.638
Structural number (SN)			3.868
Calculated traffic (ESALs)			437,000

Unstabilized Pavement Section

	Thickness	Coeff.	SN
HMA layer 1	2 in	0.440	0.880
HMA layer 2	10 in	0.440	4.400
Aggregate base	12 in	0.130	1.560
Structural number (SN)			6.840
Calculated traffic (ESALs)			24,747,700



L.S.
LIGHT



Total HMA thickness should be within the same range on both pavement sections for accurate comparison
2-3 in | 3-6 in | 6-14 in

Parameters

Project Information

Subgrade resilient modulus	Target ESALs	Reliability	Standard deviation	Serviceability Initial	Serviceability Terminal
4,950 psi	10,100,000	95%	0.49	4.2	2.5

Limitations of this Report

Pavement Optimization

Design Analysis

Tensar

Design	[redacted]	Reference	
Project		Location	
Customer		Designer	Adam McEachron
Company	CFS Engineers	Date	June 29, 2022

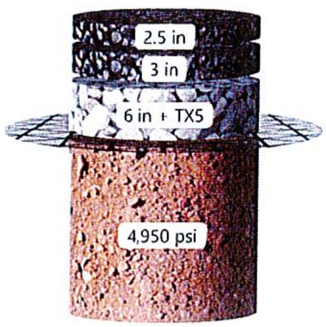
Results

TriAx Stabilized Pavement Section

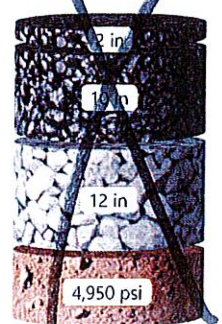
	Thickness	Coeff.	SN
HMA layer 1	2.5 in	0.420	1.050
HMA layer 2	3 in	0.400	1.200
Mechanically stabilized layer	6 in	0.273	1.638
Structural number (SN)			3.888
Calculated traffic (ESALs)			451,400

Unstabilized Pavement Section

	Thickness	Coeff.	SN
HMA layer 1	2 in	0.440	0.880
HMA layer 2	10 in	0.440	4.400
Aggregate base	12 in	0.130	1.560
Structural number (SN)			6.840
Calculated traffic (ESALs)			24,747,700



PROPOSED LIGHT



Total HMA thickness should be within the same range on both pavement sections for accurate comparison
2-3 in | 3-6 in | 6-14 in

Parameters

Project Information

Subgrade resilient modulus	Target ESALs	Reliability	Standard deviation	Serviceability Initial	Serviceability Terminal
4,950 psi	10,100,000	95%	0.49	4.2	2.5

Pavement Optimization

Design Analysis

Tensar

Design	[redacted]	Reference	
Project		Location	
Customer		Designer	Adam McEachron
Company	CFS Engineers	Date	June 29, 2022

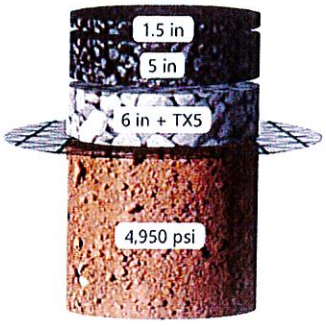
Results

TriAx Stabilized Pavement Section

	Thickness	Coeff.	SN
HMA layer 1	1.5 in	0.420	0.630
HMA layer 2	5 in	0.400	2.000
Mechanically stabilized layer	6 in	0.273	1.638
Structural number (SN)			4.268
Calculated traffic (ESALs)			819,100

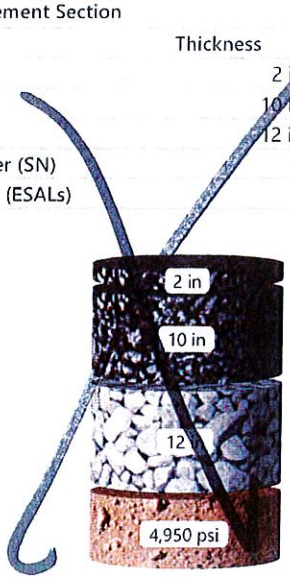
Unstabilized Pavement Section

	Thickness	Coeff.	SN
HMA layer 1	2 in	0.440	0.880
HMA layer 2	10 in	0.440	4.400
Aggregate base	12 in	0.130	1.560
Structural number (SN)			6.840
Calculated traffic (ESALs)			24,747,700



L.S.

HEAVY



Parameters

Project Information

Subgrade resilient modulus	Target ESALs	Reliability	Standard deviation	Serviceability	
				Initial	Terminal
4,950 psi	10,100,000	95%	0.49	4.2	2.5

Pavement Optimization

Design Analysis

Tensar

Design	[redacted]	Reference	
Project		Location	
Customer		Designer	Adam McEachron
Company	CFS Engineers	Date	June 29, 2022

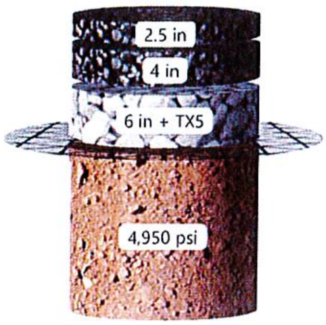
Results

TriAx Stabilized Pavement Section

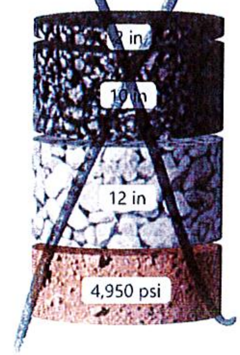
	Thickness	Coeff.	SN
HMA layer 1	2.5 in	0.420	1.050
HMA layer 2	4 in	0.400	1.600
Mechanically stabilized layer	6 in	0.273	1.638
Structural number (SN)			4.288
Calculated traffic (ESALs)			844,400

Unstabilized Pavement Section

	Thickness	Coeff.	SN
HMA layer 1	2 in	0.440	0.880
HMA layer 2	10 in	0.440	4.400
Aggregate base	12 in	0.130	1.560
Structural number (SN)			6.840
Calculated traffic (ESALs)			24,747,700



PROPOSED HEAVY



Parameters

Project Information

Subgrade resilient modulus	Target ESALs	Reliability	Standard deviation	Serviceability Initial	Serviceability Terminal
4,950 psi	10,100,000	95%	0.49	4.2	2.5

Sue Pyles

From: David Olson <daveolson@monarchprojectllc.com>
Sent: Wednesday, June 29, 2022 3:32 PM
To: Sue Pyles; Dawn Bell
Cc: adamm@cfse.com; Drew Larkins; David Olson; 'Bob Snyder'; Codi Brack; Dustin Levell; David Olson
Subject: FW: Lot 9A, 9B 9C pavement sections
Attachments: SWP Lot 9 Pavement Recommendations.pdf; DCM Waiver Request Lot 9A, 9B and 9C.pdf

Follow Up Flag: Follow up
Flag Status: Flagged

To: Sue Pyles

Company: Lee's Summit

As always, I'm a little late to identify a good option, sorry for late notice. Attached is the design and construction manual modification request for lot 9 paving. I know I'm asking a lot, ESS has confirmed they are paving Friday and maybe as early as tomorrow afternoon.

Reducing the type 1 or type 2 base to 4" heavy and 3" standard with 2 ½" type 3 surface allows placement in two lifts (two days) instead of three. With the rain ESS has encountered this spring, every day counts. We have a commitment to turn over to Chase bank at noon on 7/7, Thursday. This gives us another day to "finish" site work.

Confirming that ESS asphalt submittal I received is for type 2 base and type 3 surface.

I am copying everyone so there is no confusion on what is being proposed.

DAVID N. OLSON
President

Monarch Acquisitions, LLC
P.O. Box 24302 | Overland Park, KS 66283
C: 314-413-3598 | O: 913-662-2630

MONARCH ACQUISITIONS

From: Adam McEachron <adamm@cfse.com>
Sent: Wednesday, June 29, 2022 3:15 PM
To: David Olson <daveolson@monarchprojectllc.com>
Subject: Re: Lot 9A, 9B 9C pavement sections