PROFESSIONAL ENGINEERS, INC.
Delivering Quality Solutions

PAVEMENT DESIGN REPORT

Smith County

Interstate 40

Truck Parking and Bridges Replacement over the Caney Fork River

PIN: 131552.01

Submitted to:

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Region 3 Alternative Delivery

Pavement Designer:

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Highway Design Team
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Quality Control Reviewer:

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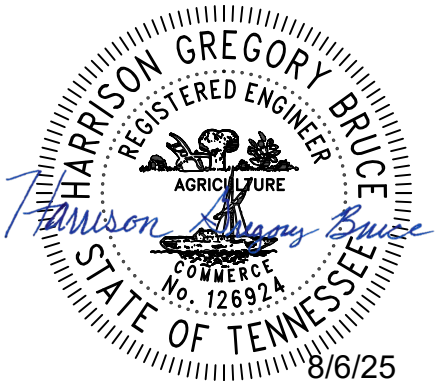

County:	Smith	PIN	131552.01
Route	Interstate 40	Design YR	2046
Description:	Truck Parking and Bridges Replacement over the Caney Fork River		
Road:	Interstate 40		

Traffic Information

Proj Year	2026	ADL	N/A
Design Year	2046	Design ESALs	85,495,812
Traffic Data Provided by	TDOT	Traffic Data Date	12/19/2023
		Design Yr ADT	45,960

Soil Data

CBR	6.2	Mr	9,300 psi
Geotech Report Number	8001625	Report Date	6/6/2025
Geotech Provided by	UES Professional Solutions 25, LLC		

Proposed Design Data

SN Required	6.52	SN Proposed	6.70
	The proposed design provides	102.7%	of the required SN
The proposed pavement design is designed up to		105,711,900	ESALs

County:	Smith	PIN	131552.01
Route	Interstate 40	Design YR	2046
Description:	Truck Parking and Bridges Replacement over the Caney Fork River		
Road:	Interstate 40		

Pavement Schedule

	Mainline		
	Item #	Description	Depth (in)
Pavement	411-03.23	ACS Mix (PG76-22) OGFC	1.25
	307-03.12	AC Mix (PG76-22) Grading “CM”	1.50
	307-03.01	AC Mix (PG76-22) Grading “A”	3.50
	307-03.01	AC Mix (PG76-22) Grading “A”	4.00
	307-01.22	AC Mix (PG76-22) Grading “A-S”	3.00
Base	303-01	Mineral Aggregate, Type A	12.00
Subgrade			

Notes:

1. Add Tack Coat Per Standard Specification 403.05 between each layer
2. Apply Prime Coat at 0.35 Gallons/S.Y. between base and pavement
3. Aggregate for Cover Material (PC) at 12lb. / S.Y.
4. Tack coat shall not be applied on top of A-S layer
5. For A-S layer, subsurface drainage: aggregate underdrain with pipe

County:	Smith	PIN	131552.01
Route	Interstate 40	Design YR	2046
Description:	Truck Parking and Bridges Replacement over the Caney Fork River		
Road:	Rest Area and Parking Lots		

Traffic Information

Proj Year	2026	ADL	N/A
Design Year	2046	Design ESALs	2,580,330
Traffic Data Provided by	TDOT	Traffic Data Date	12/19/2023
		Design Yr ADT	1,710

Soil Data

CBR	6.2	Mr	9,300 psi
Geotech Report Number	8001625	Report Date	6/6/2025
Geotech Provided by	UES Professional Solutions 25, LLC		

Proposed Design Data

SN Required	3.97	SN Proposed	5.38
	The proposed design provides	135.5%	of the required SN
The proposed pavement design is designed up to		20,173,700	ESALs

County:	Smith	PIN	131552.01
Route	Interstate 40	Design YR	2046
Description:	Truck Parking and Bridges Replacement over the Caney Fork River		
Road:	Rest Area Parking Lot Access Road		

Pavement Schedule

	Mainline		
	Item #	Description	Depth (in)
Pavement	411-02.10	ACS Mix (PG70-22) Grading "D"	1.25
	307-02.08	AC Mix (PG70-22) Grading "B-M2"	2.00
	307-02.01	AC Mix (PG70-22) Grading "A"	3.00
	307-02.01	AC Mix (PG76-22) Grading "A"	3.00
Base	303-01	Mineral Aggregate, Type A	10.00
Subgrade			

Notes:

1. Add Tack Coat Per Standard Specification 403.05 between each layer
2. Apply Prime Coat at 0.35 Gallons/S.Y. between base and pavement
3. Aggregate for Cover Material (PC) at 12lb. / S.Y.

County:	Smith	PIN	131552.01
Route	Interstate 40	Design YR	2046
Description:	Truck Parking and Bridges Replacement over the Caney Fork River		
Road:	Rest Area Concrete Parking Lot		

Pavement Schedule

	Mainline		
	Item #	Description	Depth (in)
Pavement	501-01.01	Portland Cement Concrete Pavement (Plain)	8.00
Base	313-03	Treated Permeable Base	4.00
	303-01	Mineral Aggregate, Type A	4.00
Subgrade			

Notes:

1. Add Tack Coat Per Standard Specification 403.05 between each layer
2. Apply Prime Coat at 0.35 Gallons/S.Y. between base and pavement
3. Aggregate for Cover Material (PC) at 12lb. / S.Y.
4. Tack coat shall not be applied on top of Treated Permeable Base