

Office Memorandum

TO: Shiloh Wahl
 District Engineer – District 4

FROM: Nathan Bausman
 Soils Engineer – District 4

DATE: November ⁵~~8~~, 2018

SUBJECT: REQUEST FOR AN EXCEPTION TO
 SELECTING THE LOW COST ALTERNATE

SP #	2180-115
Highway #	94 (EB)
Project Limits	RP 18+00.400 to RP 23+00.839
Project Description	Pavement Rehabilitation of I-94 EB between 0.6 mile east of TH 114 and 0.1 miles west of TH 29 to reduce maintenance patching and provide an acceptable ride.

LCCA Results

Alternative	Design Life	Total Present Cost	Initial Cost	Requested Selection	% of Low Cost
12" Bituminous Reconstruct.	20	\$6,596,795.85	\$5,385,085.44	No	111.5
8" Concrete Reconstruct.	20	\$5,916,081.24	\$4,530,578.27	No	100.0
8" Unbonded Overlay	35	\$6,485,747.94	\$3,653,638.20	Yes	109.6

Reason for Request

Over the 50 year pavement lifecycle the net present cost of an 8" concrete reconstruct was lower than an 8" unbonded overlay for this project. The District has decided to complete an 8" unbonded overlay due to the lower initial cost of pavement fix. Other considerations that influenced this decision included the duration of a bituminous/concrete reconstruction project and the continuity of the pavement designs for the I-94 corridor (SP 2180-109 to the northwest of this segment was also an unbonded concrete overlay).

The roadway was graded and constructed in 1967 with 9" x 24' wide concrete with 3' and 10' bituminous shoulders. A 5" bituminous overlay was completed in 1988 and the last rehab consisted of 4.5" mill and 4.5" HMA overlay in 2004.


 District Engineer

11-5-18
 Date

Office Memorandum

TO: Shiloh Wahl
 District Engineer – District 4

FROM: Nathan Bausman
 Soils Engineer – District 4

DATE: February 27, 2019

SUBJECT: REQUEST FOR AN EXCEPTION TO
 SELECTING THE LOW COST ALTERNATE

SP #	8408-58
Highway #	75
Project Limits	RP 227+00.113 to RP 233+00.200
Project Description	Pavement Rehabilitation of US 75 between Wilkin County Road 184 and the Clay/Wilkin County line to provide an acceptable ride for the traveling public (projected RQI in 2016 was below the acceptable 2.5 by 2018).

LCCA Results

Alternative	Design Life	Total Present Cost	Initial Cost	Requested Selection	% of Low Cost
1.5" Mill & 3" Bituminous Overlay	13	\$2,749,004.06	\$974,694.84	Yes	104.1
5" Mill & 5" Bituminous Overlay	20	\$2,639,992.25	\$1,502,554.53	No	100.0
6" Unbonded Overlay	20	\$4,001,296.39	\$2,805,349.85	No	151.6

Reason for Request

Over the 35 year pavement lifecycle the net present cost of a 5" mill and 5" bituminous overlay was lower than a 1.5" mill and 3" bituminous overlay for this project. The District has decided to complete a 1.5" mill and 3" bituminous overlay due to the lower initial cost of pavement fix. Other considerations that influenced this decision included the duration of a longer term thick bituminous overlay/unbonded concrete overlay project and the continuity of the pavement designs for the US 75 corridor (SP 8408-57 to the south of this segment was also a medium mill and bituminous overlay).

The roadway was graded and constructed with a bituminous surfacing treatment in 1947. 9-7-9 by 22' concrete was added in 1949. 10' of gravel shoulders were added in 1989. A 4.5" HMA overlay was completed in 1991. The last rehab consisted of 4.5" mill, crack and seating of the in place concrete and 5" HMA overlay in 2004.


 District Engineer

3-1-19
 Date