

## ENGINEER'S REPORT

The undersigned is the engineer for the City of West Fargo, Cass County, North Dakota, and submits the following report to the Board of City Commissioners of said city:

The purpose of the proposed Street Improvement District No. 2250 (Project) is to widen Sheyenne Street between Beaton Drive to 40th Avenue and reconstruct the Interstate Highway 94 interchange at Sheyenne Street to address capacity needs, roadway reliability and social and economic development along the proposed corridor. The need for the proposed Project is warranted by increasing motorist delay; congestion from development along the corridor; crash susceptibility issues; and lack of multimodal opportunities. Current and projected needs within this corridor include increasing capacity, addressing social demands, accommodating economic development and improving roadway reliability. Additional information on the purpose, need and scope of work can be found in the approved NDDOT Documented Categorical Exclusion prepared by Kadrmas, Lee and Jackson, Inc. A portion of the Project will be funded by the NDDOT.

The Project will involve the construction of improvements on Sheyenne Street consisting of a 6 lane concrete roadway with curb and gutter from Beaton Drive to 32nd Avenue and a 4 lane concrete roadway with curb and gutter from 32nd Avenue to 40th Avenue, sidewalks, multi-use path, storm sewer, sanitary sewer force main relocation, sewer and water extensions, traffic signals, street lighting and other miscellaneous installations. Also included are the local share of cost related to the NDDOT reconstruction of the interchange at Interstate Highway 94 and Sheyenne Street, including concrete pavement, storm sewer, traffic signals, street lighting and other miscellaneous installations.

Based upon the estimate of the probable cost, attached hereto and made a part thereof, and the engineering information and studies, the work proposed in said district is feasible.

Dated this 16<sup>th</sup> day of October, 2017.

Dustin Scott  
Moore Engineering, Inc.  
West Fargo ND



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Engineer for the City of West Fargo, ND

**STREET IMPROVEMENT DIST. NO. 2250  
SHEYENNE STREET - BEATON DR TO 40TH AVE (SEGMENTS 2 & 3)  
WEST FARGO ND**

*Engineer's Opinion of Probable Cost Summary*

**Segment 2 - Beaton Drive to 32nd Avenue**

1. SU-8-992(039)040: Alt. B2: (6) 10" Concrete Lanes, Traffic Signals & Bridge Modifications	\$15,122,640.50
2. SU-8-992(039)040: Pedestrian Underpass at 32nd Avenue	\$954,469.93
3. SU-8-992(039)040: Increase Concrete Thickness from 8" to 10" at Interchange	\$74,016.11
	\$16,151,126.54
Construction Subtotal	\$16,151,126.54
Contingencies	\$1,623,873.46
Private Utility Relocation	\$325,000.00
<b>Total Construction</b>	<b>\$18,100,000.00</b>
Engineering	\$3,100,000.00
Legal & Administration	\$1,267,000.00
Bond Discount	\$362,000.00
Land Acquisition	\$1,100,000.00
<b>Segment 2 - Subtotal Project Cost</b>	<b>\$23,929,000.00</b>

**Segment 3 - 32nd Avenue to 40th Avenue**

1. Alt. C3 - (4) 10" Concrete Lanes & Traffic Signals	\$10,138,822.94
	\$10,138,822.94
<b>Construction Subtotal</b>	<b>\$10,138,822.94</b>
Contingencies	\$1,021,177.06
Private Utility Relocation	\$300,000.00
<b>Total Construction</b>	<b>\$11,460,000.00</b>
Engineering	\$2,100,000.00
Legal & Administration	\$802,000.00
Bond Discount	\$230,000.00
Land Acquisition	\$750,000.00
<b>Segment 3 - Subtotal Project Cost</b>	<b>\$15,342,000.00</b>
<b>TOTAL PROJECT COST</b>	<b>\$39,271,000.00</b>

Preliminary Funding Breakdown

Eligible Federal Funding	\$11,000,000.00
Local Share	\$28,271,000.00
<b>Total Project Cost</b>	<b>\$39,271,000.00</b>

\*See attached documents for detailed construction costs.

**STREET IMPROVEMENT DIST. NO. 2250**  
**SHEYENNE STREET - BEATON DR TO 32ND AVE (SEGMENT 2)**  
**WEST FARGO ND**

*Engineer's Opinion of Probable Cost*

<i>SPEC</i>	<i>CODE</i>	<i>ITEM DESCRIPTION</i>	<i>UNIT</i>	<i>Total</i>	<i>UNIT PRICE</i>	<i>TOTAL PRICE</i>
<b><u>SU-8-992(039)040: ALT B2 - 6 LANES 32ND AVE TO BEATON DRIVE</u></b>						
103	100	CONTRACT BOND	L SUM	1	\$140,000.00	\$140,000.00
202	114	REMOVAL OF CONCRETE PAVEMENT	SY	14,456	\$10.00	\$144,560.00
202	130	REMOVAL OF CURB & GUTTER	LF	4,857	\$7.50	\$36,427.50
202	132	REMOVAL OF BITUMINOUS SURFACING	SY	21,665	\$5.00	\$108,325.00
203	101	COMMON EXCAVATION-TYPE A	CY	14,420	\$5.00	\$72,100.00
203	109	TOPSOIL	CY	12,754	\$5.00	\$63,770.00
203	140	BORROW-EXCAVATION	CY	63,335	\$12.00	\$760,020.00
251	0	EROSION CONTROL	L SUM	1	\$270,000.00	\$270,000.00
302	100	SALVAGED BASE COURSE	TON	46,137	\$15.00	\$692,055.00
550	310	10IN NON REINF CONCRETE PVMT CL AE-DOWELED	SY	57,106	\$65.00	\$3,711,890.00
702	100	MOBILIZATION	L SUM	1	\$1,370,000.00	\$1,370,000.00
704	0	TEMPORARY TRAFFIC CONTROL	L SUM	1	\$500,000.00	\$500,000.00
706	0	FIELD LABORATORIES	L SUM	1	\$40,000.00	\$40,000.00
714	0	STORM SEWER	L SUM	1	\$1,476,688.00	\$1,476,688.00
748	140	CURB & GUTTER-TYPE I	LF	23,512	\$20.00	\$470,240.00
750	30	PIGMENTED IMPRINTED CONCRETE	SY	3,731	\$100.00	\$373,100.00
750	100	SIDEWALK CONCRETE	SY	9,306	\$40.00	\$372,240.00
750	1000	DRIVEWAY CONCRETE	SY	323	\$75.00	\$24,225.00
750	2115	DETECTABLE WARNING PANELS	SF	600	\$40.00	\$24,000.00
754	0	SIGNING	L SUM	1	\$50,000.00	\$50,000.00
762	0	PAVEMENT MARKING	L SUM	1	\$85,000.00	\$85,000.00
764	0	GUARDRAIL	L SUM	1	\$38,000.00	\$38,000.00
770	0	LIGHTING SYSTEM	L SUM	1	\$480,000.00	\$480,000.00
772	2800	INTERIM TRAFFIC SIGNALS	EA	4	\$80,000.00	\$320,000.00
772	3125	REMOVE TRAFFIC SIGNAL SYSTEM	EA	4	\$5,000.00	\$20,000.00
772	9200	IT SYSTEM	EA	1	\$55,000.00	\$55,000.00
772	9811	TRAFFIC SIGNAL SYSTEM - SITE 1	EA	4	\$250,000.00	\$1,000,000.00
930	1	BRIDGE	LSUM	1	\$1,550,000.00	\$1,550,000.00
930	2	BRIDGE RETAINING WALL	LSUM	1	\$125,000.00	\$125,000.00
930	3	BRIDGE WIDENING	LSUM	1	\$750,000.00	\$750,000.00
<b>Construction Subtotal</b>						<b>\$15,122,640.50</b>

**STREET IMPROVEMENT DIST. NO. 2250**  
**SHEYENNE STREET - BEATON DR TO 32ND AVE (SEGMENT 2)**  
**WEST FARGO ND**

*Engineer's Opinion of Probable Cost*

<i>SPEC CODE</i>	<i>ITEM DESCRIPTION</i>	<i>UNIT</i>	<i>QUANTITIY</i>	<i>UNIT PRICE</i>	<i>TOTAL PRICE</i>
<b>SU-8-992(039)040: PEDESTRIAN UNDERPASS AT 32ND AVENUE</b>					
103	100 CONTRACT BOND	L SUM	1	\$8,600.00	\$8,600.00
203	101 COMMON EXCAVATION-TYPE A	CY	3,804	\$5.00	\$19,020.00
203	109 TOPSOIL	CY	387	\$5.00	\$1,935.00
203	140 BORROW-EXCAVATION	CY	-3,804	\$12.00	-\$45,648.00
210	201 FOUNDATION PREPARATION	EA	1	\$50,000.00	\$50,000.00
210	210 FOUNDATION FILL	CY	1,472	\$40.00	\$58,880.00
251	0 EROSION CONTROL	L SUM	1	\$6,300.00	\$6,300.00
302	100 SALVAGED BASE COURSE	TON	175	\$15.00	\$2,625.00
602	130 CLASS AAE-3 CONCRETE	CY	247	\$955.00	\$235,885.00
602	7000 SPECIAL SURFACE FINISH	SF	24,855	\$4.00	\$99,420.00
606	1209 12FT X 9FT PRECAST RCB CULVERT	LF	160	\$950.00	\$152,000.00
612	115 REINFORCING STEEL-GRADE 60	LBS	17,896	\$1.75	\$31,318.00
702	100 MOBILIZATION	L SUM	1	\$86,000.00	\$86,000.00
708	1540 INLET PROTECTION-SPECIAL	EA	2	\$175.00	\$350.00
708	1541 REMOVE INLET PROTECTION-SPECIAL	EA	2	\$30.00	\$60.00
714	825 PIPE CONC REINF 30IN CL III-STORM DRAIN	LF	-195	\$70.00	-\$13,650.00
714	825 PIPE CONC REINF 30IN CL III-STORM DRAIN	LF	250	\$70.00	\$17,500.00
714	910 PIPE CONC REINF 36IN CL III-STORM DRAIN	LF	700	\$90.00	\$63,000.00
722	110 MANHOLE 60IN	EA	2	\$3,500.00	\$7,000.00
722	130 MANHOLE 84IN	EA	4	\$7,000.00	\$28,000.00
724	210 FITTINGS-DUCTILE IRON	LBS	2,800	\$9.00	\$25,200.00
724	852 WATERMAIN 16IN PVC	LF	245	\$75.00	\$18,375.00
724	860 20IN FORCEMAIN	LF	240	\$175.00	\$42,000.00
724	944 CONNECTION TO EXISTING MAIN	EA	4	\$4,000.00	\$16,000.00
750	100 SIDEWALK CONCRETE	SY	1,649	\$45.00	\$74,205.00
920	90 LIFT STATION	EA	1	\$50,000.00	\$50,000.00
<b>Construction Subtotal</b>					<b>\$1,034,375.00</b>

**STREET IMPROVEMENT DIST. NO. 2250**  
**SHEYENNE STREET - BEATON DR TO 32ND AVE (SEGMENT 2)**  
**WEST FARGO ND**

*Engineer's Opinion of Probable Cost*

<i>SPEC</i>	<i>CODE</i>	<i>ITEM DESCRIPTION</i>	<i>UNIT</i>	<i>QUANTITY</i>	<i>UNIT PRICE</i>	<i>TOTAL PRICE</i>
<b><u>SU-8-992(039)040: INCREASE PAVEMENT THICKNESS AT INTERCHANGE</u></b>						
103	100	CONTRACT BOND	L SUM	1	\$700.00	\$700.00
203	101	COMMON EXCAVATION-TYPE A	CY	701	\$5.00	\$3,506.11
550	300	8IN NON-REINF CONCRETE PVMT CL AE-DOWELED	SY	-12,622	\$60.00	-\$757,320.00
550	310	10IN NON REINF CONCRETE PVMT CL AE-DOWELED	SY	12,622	\$65.00	\$820,430.00
702	100	MOBILIZATION	L SUM	1	\$6,700.00	\$6,700.00
<b>Construction Subtotal</b>						<b>\$74,016.11</b>

**STREET IMPROVEMENT DIST. NO. 2250**  
**SHEYENNE STREET - 32ND AVE TO 40TH AVE (SEGMENT 3)**  
**WEST FARGO ND**

*Engineer's Opinion of Probable Cost*

SPEC CODE	ITEM DESCRIPTION	UNIT	Total	UNIT PRICE	TOTAL PRICE
<b><u>SU-8-992(040)041: ALT C3 - 4 LANES FROM 32ND AVE TO 40TH AVE</u></b>					
103	100 CONTRACT BOND	L SUM	1	\$100,000.00	\$100,000.00
201	300 CLEARING & GRUBBING	ACRE	0.65	\$100.00	\$65.00
201	370 REMOVAL OF TREES 10IN	EA	51	\$250.00	\$12,750.00
202	21 REMOVE AGGREGATE BASE & SURFACING	TON	105	\$5.00	\$525.00
202	114 REMOVAL OF CONCRETE PAVEMENT	SY	1,544	\$10.00	\$15,440.00
202	130 REMOVAL OF CURB & GUTTER	LF	2,163	\$7.50	\$16,222.50
202	132 REMOVAL OF BITUMINOUS SURFACING	SY	40,617	\$5.00	\$203,085.00
202	169 REMOVAL OF END SECTION-ALL TYPES & SIZES	LF	30	\$355.00	\$10,650.00
202	174 REMOVAL OF PIPE ALL TYPES AND SIZES	LF	1,203	\$20.00	\$24,060.00
202	210 REMOVAL OF MANHOLES	EA	3	\$750.00	\$2,250.00
202	235 REMOVAL OF CATCH BASIN	EA	2	\$420.00	\$840.00
203	101 COMMON EXCAVATION-TYPE A	CY	12,247	\$5.00	\$61,235.00
203	109 TOPSOIL	CY	9,263	\$5.00	\$46,315.00
203	140 BORROW-EXCAVATION	CY	29,427	\$12.00	\$353,124.00
216	100 WATER	M GAL	1,006	\$25.00	\$25,150.00
230	300 SUBGRADE PREPARATION-TYPE A	STA	68	\$1,200.00	\$81,600.00
251	200 SEEDING CLASS II	ACRE	23	\$500.00	\$11,500.00
253	201 HYDRAULIC MULCH	ACRE	23	\$2,500.00	\$57,500.00
261	106 FIBER ROLLS 6IN	LF	660	\$3.00	\$1,980.00
261	107 REMOVE FIBER ROLLS 6IN	LF	660	\$1.00	\$660.00
265	100 STABILIZED CONSTRUCTION ACCESS	EA	2	\$3,500.00	\$7,000.00
265	101 REMOVE STABILIZED CONSTRUCTION ACCESS	EA	2	\$1,500.00	\$3,000.00
302	100 SALVAGED BASE COURSE	TON	44,249	\$15.00	\$663,735.00
302	314 TEMPORARY TRAFFIC SURFACE AGGREGATE	TON	100	\$20.00	\$2,000.00
430	500 COMMERCIAL GRADE HOT MIX ASPHALT	TON	3,893	\$130.00	\$506,090.00
550	310 10IN NON REINF CONCRETE PVMT CL AE	SY	37,235	\$65.00	\$2,420,275.00
622	6760 STEEL SHEET PILING	SF	6,000	\$31.00	\$186,000.00
702	100 MOBILIZATION	L SUM	1	\$920,000.00	\$920,000.00
704	1100 TRAFFIC CONTROL	L SUM	1	\$150,000.00	\$150,000.00
708	1540 INLET PROTECTION-SPECIAL	EA	73	\$185.00	\$13,505.00
708	1541 REMOVE INLET PROTECTION-SPECIAL	EA	73	\$60.00	\$4,380.00
709	161 GEOSYNTHETIC MATERIAL TYPE S1	SY	55,440	\$2.00	\$110,880.00
714	210 PIPE CONC REINF 15IN CL III-STORM DRAIN	LF	3,721	\$45.00	\$167,445.00
714	315 PIPE CONC REINF 18IN CL III-STORM DRAIN	LF	1,763	\$50.00	\$88,150.00
714	405 PIPE CONC REINF 21IN CL III-STORM DRAIN	LF	101	\$55.00	\$5,555.00
714	620 PIPE CONC REINF 24IN CL III-STORM DRAIN	LF	1,925	\$60.00	\$115,500.00
714	825 PIPE CONC REINF 30IN CL III-STORM DRAIN	LF	1,494	\$70.00	\$104,580.00
714	910 PIPE CONC REINF 36IN CL III-STORM DRAIN	LF	649	\$90.00	\$58,410.00
714	1010 PIPE CONC REINF 42IN CL III-STORM DRAIN	LF	131	\$135.00	\$17,685.00
714	1110 PIPE CONC REINF 48IN CL III-STORM DRAIN	LF	567	\$165.00	\$93,555.00
714	3045 END SECT-CONC REINF 48IN	EA	1	\$2,750.00	\$2,750.00
714	9720 UNDERDRAIN PIPE PVC PERFORATED 4IN	LF	12,152	\$6.00	\$72,912.00
722	100 MANHOLE 48IN	EA	20	\$3,000.00	\$60,000.00
722	110 MANHOLE 60IN	EA	17	\$3,500.00	\$59,500.00
722	120 MANHOLE 72IN	EA	1	\$4,500.00	\$4,500.00
722	130 MANHOLE 84IN	EA	4	\$7,000.00	\$28,000.00
722	200 MANHOLE 108IN	EA	1	\$13,000.00	\$13,000.00
722	3510 INLET-TYPE 2	EA	73	\$3,300.00	\$240,900.00
724	210 FITTINGS-DUCTILE IRON	LBS	368	\$9.00	\$3,312.00

724	300 GATE VALVE & BOX 6IN	EA	7	\$1,700.00	\$11,900.00
724	411 6IN HYDRANT	EA	3	\$5,000.00	\$15,000.00
724	425 RESET HYDRANT	EA	4	\$1,800.00	\$7,200.00
724	510 TAPPING SLEEVE & VALVE 8IN X 8IN	EA	1	\$4,000.00	\$4,000.00
724	552 TAPPING SLEEVE & VALVE 16IN X 8IN	EA	1	\$5,000.00	\$5,000.00
724	621 WATER SERVICE LINE 2IN	LF	273	\$50.00	\$13,650.00
724	810 WATERMAIN 6IN PVC	LF	36	\$60.00	\$2,160.00
724	830 WATERMAIN 8IN PVC	LF	935	\$60.00	\$56,100.00
724	852 WATERMAIN 16IN PVC	LF	932	\$75.00	\$69,900.00
724	860 20IN FORCEMAIN	LF	928	\$175.00	\$162,400.00
724	944 CONNECTION TO EXISTING MAIN	EA	5	\$1,150.00	\$5,750.00
748	140 CURB & GUTTER-TYPE I	LF	23,645	\$20.00	\$472,900.00
750	30 PIGMENTED IMPRINTED CONCRETE	SY	3,273	\$100.00	\$327,300.00
750	120 SIDEWALK CONCRETE 5IN REINF	SY	11,925	\$45.00	\$536,625.00
750	210 CONCRETE MEDIAN NOSE PAVING	SY	199	\$80.00	\$15,920.00
750	1021 DRIVEWAY CONCRETE 8IN REINFORCED	SY	117	\$75.00	\$8,775.00
750	2115 DETECTABLE WARNING PANELS	SF	440	\$40.00	\$17,600.00
752	911 TEMPORARY SAFETY FENCE	LF	500	\$3.00	\$1,500.00
754	110 FLAT SHEET FOR SIGNS - TYPE XI REFLECTIVE SHEETING	SF	500	\$30.00	\$15,000.00
754	112 FLAT SHEET FOR SIGNS - TYPE IV REFLECTIVE SHEETING	SF	72	\$30.00	\$2,160.00
754	206 STEEL GALV POSTS - TELESCOPING PERFORATED TUBE	LF	369	\$20.00	\$7,380.00
754	592 RESET SIGN PANEL	EA	10	\$75.00	\$750.00
762	122 PREFORMED PATTERNED PVMT MK-MESSAGE(GROOVED)	SF	320	\$24.00	\$7,680.00
762	1305 PREFORMED PATTERNED PVMT MK 4IN LINE-GROOVED	LF	6,660	\$4.00	\$26,640.00
762	1309 PREFORMED PATTERNED PVMT MK 8IN LINE-GROOVED	LF	3,504	\$9.00	\$31,536.00
762	1325 PREFORMED PATTERNED PVMT MK 24IN LINE-GROOVED	LF	1,962	\$31.00	\$60,822.00
766	120 RESET MAILBOX	EA	3	\$200.00	\$600.00
770	1 LIGHTING SYSTEM	EA	1	\$450,000.00	\$450,000.00
772	2800 INTERIM TRAFFIC SIGNALS	EA	1	\$80,000.00	\$80,000.00
772	3125 REMOVE TRAFFIC SIGNAL SYSTEM	EA	1	\$5,000.00	\$5,000.00
772	9200 IT SYSTEM	EA	1	\$55,000.00	\$55,000.00
772	9811 TRAFFIC SIGNAL SYSTEM - SITE 1	EA	2	\$250,000.00	\$500,000.00
920	99 PUMPING EQUIPMENT	EA	1	\$5,000.00	\$5,000.00
970	105 HERBICIDE WEED CONTROL	SF	1,000,444	\$0.01	\$10,004.44
				<b>Construction Subtotal</b>	<b>\$10,138,822.94</b>