

Project Cost Estimates

Appendix J

**48th Avenue Cordova Street Reconstruction
MOA Project No. 06-26**

**ENGINEER'S ESTIMATE - FINAL DSR
ALTERNATIVE 1 (48th Avenue)**

ITEM No.	MASS No.	ITEM DESCRIPTION	UNIT	EST QUANT	UNIT PRICE	TOTAL COST
Schedule A - Roadway Improvements						
A-1	20.02	Storm Water Pollution Prevention Plan (Type 3)	LS	1	\$33,000	\$33,000
A-2	20.03	Test Pit for Utility Locate	Hour	8	\$800	\$6,400
A-3	20.04	Clearing and Grubbing	LS	1	\$13,000	\$13,000
A-4	20.07	Remove Sidewalk or Concrete Apron	SY	109	\$20	\$2,180
A-5	20.08	Remove Curb and Gutter	LF	3,379	\$8	\$27,032
A-6	20.09	Remove Pavement	SY	9,745	\$4	\$38,980
A-7	20.10	Unusable Excavation	CY	16,200	\$18	\$291,600
A-8	20.21	Classified Fill and Backfill (Type II)	Ton	13,900	\$20	\$278,000
A-9	20.21	Classified Fill and Backfill (Type II-A)	Ton	12,600	\$20	\$252,000
A-10	20.22	Leveling Course	Ton	950	\$30	\$28,500
A-11	20.25	Geotextile (Type A)	SY	13,220	\$2.00	\$26,440
A-12	20.26	Insulation Board (R-4.5)	SF	88,800	\$1	\$88,800
A-13	20.26	Insulation Board (R-9)	SF	6,290	\$2	\$12,580
A-14	20.28	Reconstruct Driveway	EA	17	\$2,500	\$42,500
A-15	30.02	P.C.C. Curb and Gutter (All Types)	LF	3,660	\$30	\$109,800
A-16	30.03	P.C.C. Sidewalk	SY	830	\$65	\$53,950
A-17	30.04	P.C.C. Curb Ramp	EA	28	\$2,500	\$70,000
A-18	40.06	A.C. Pavement (Class E)	Ton	835	\$110	\$91,850
A-19	40.06	A.C. Pavement (Class D)	Ton	960	\$115	\$110,400
A-20	50.06	Remove and Replace Manhole Cover and Frame	EA	1	\$750	\$750
A-21	55.08	Adjust Storm Drain Manhole Ring	EA	2	\$750	\$1,500
A-22	60.03	Remove and Replace Valve Box Top Section	EA	14	\$600	\$8,400
A-23	60.04	Furnish and Install Fire Hydrant Assembly Single Pumper	EA	1	\$9,000	\$9,000
A-24	60.05	Adjust Key Box	EA	5	\$500	\$2,500
A-25	60.08	Decommission Fire Hydrant Assembly	EA	1	\$3,500	\$3,500
A-26	65.02	Construction Survey Measurement	LS	1	\$41,000	\$41,000
A-27	65.02	Two-Person Survey Crew	Hour	20	\$275	\$5,500
A-28	70.08	Remove and Reset Fence	LF	560	\$40	\$22,400
A-29	70.10	Inlaid Traffic Markings (Methyl Methacrylate) (4" Yellow) (250 Mil)	LF	3,666	\$8	\$29,328
A-30	70.10	Inlaid Traffic Markings (Methyl Methacrylate) (4" White) (250 Mil)	LF	1,721	\$8	\$13,768
A-31	70.10	Inlaid Traffic Markings (Methyl Methacrylate) (24" White) (250 Mil)	LF	121	\$75	\$9,075
A-32	70.11	Standard Sign	SF	141	\$80	\$11,280
A-33	70.12	Traffic Maintenance	LS	1	\$130,000	\$130,000
A-34	75.10	Remove and Reset Mailbox	EA	1	\$750	\$750
A-35	75.02	Landscaping	LS	1	\$60,000	\$60,000
A-36	75.03	Topsoil (4" Depth)	MSF	18	\$500	\$9,000
A-37	75.03	Topsoil (18-inch depth)	MSF	1	\$2,000	\$2,000
A-38	75.04	Seeding (Schedule A)	MSF	18	\$400	\$7,200
					TOTAL	\$1,943,963

Schedule B - Drainage Improvements

B-1	20.13	Trench Dewatering	LS	1	\$5,000	\$5,000
B-2	20.13	Trench Excavation and Backfill (Various Depths)	LF	2,133	\$33	\$70,389
B-3	20.16	Bedding Material (Class D)	LF	785	\$20	\$15,700
B-4	20.27	Disposal of Unusable or Surplus Material	CY	1,080	\$20	\$21,600
B-5	55.02	Furnish, Install, and Televiser Pipe (12-Inch, Type S, CPEP)	LF	251	\$62	\$15,562
B-6	55.02	Furnish, Install, and Televiser Pipe (24-Inch, Type S, CPEP)	LF	534	\$80	\$42,720
B-7	55.03	Furnish, Install, and Televiser Subdrain with Geotextile (18-Inch, Type SP, CPEP, Cla	LF	1,348	\$90	\$121,320
B-8	55.04	Connect to Existing Storm Drain System	EA	4	\$2,500	\$10,000
B-9	55.05	Construct (Type I) Manhole	EA	12	\$4,500	\$54,000
B-10	55.05	Construct (Type I) Catch Basin Manhole	EA	1	\$5,500	\$5,500
B-11	55.05	Construct (Type II) Bypass Manhole	EA	1	\$15,000	\$15,000
B-12	55.09	Construct Catch Basin	EA	12	\$4,500	\$54,000
B-13	55.11	Remove Manhole	EA	3	\$1,300	\$3,900
B-14	55.11	Remove Catch Basin	EA	4	\$1,200	\$4,800
B-15	55.22	Oil and Grit Separator	EA	2	\$25,000	\$50,000
B-16	55.27	Storm Drain Bypass System	LS	1	\$10,000	\$10,000
B-17	70.07	Remove Pipe	LF	631	\$20	\$12,620
					TOTAL	\$512,111

**48th Avenue Cordova Street Reconstruction
MOA Project No. 06-26**

**ENGINEER'S ESTIMATE - FINAL DSR
ALTERNATIVE 1 (48th Avenue)**

ITEM No.	MASS No.	ITEM DESCRIPTION	UNIT	EST QUANT	UNIT PRICE	TOTAL COST
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Schedule C - Illumination Improvements

C-1	80.02	Trench and Backfill	FT	2,190	\$15	\$32,850
C-2	80.04	Driven Pole Luminaire Pole Foundations	EA	13	\$1,800	\$23,400
C-3	80.04	Load Center Foundation (Type 1A)	EA	1	\$4,000	\$4,000
C-4	80.05	26Ft. - 28Ft. Fixed Base Luminaire Pole	EA	13	\$3,000	\$39,000
C-5	80.06	Luminaire Arm (10Ft. - 20Ft. Length)	EA	17	\$700	\$11,900
C-6	80.07	Steel Conduit (2 inch)	FT	2,140	\$20	\$42,800
C-7	80.08	Junction Box (Type IA)	EA	14	\$900	\$12,600
C-8	80.08	Junction Box (Type II)	EA	7	\$1,800	\$12,600
C-9	80.10	3 Conductor 8 AWG Type XHHW-2 Cable	FT	2,330	\$6	\$13,980
C-10	80.14	Single-Meter Pad-Mount Load Center, Type 1A with Lighting Control	EA	1	\$7,000	\$7,000
C-11	80.23	Luminaire (40 LED, Medium, Type 2)	EA	1	\$1,050	\$1,050
C-12	80.23	Luminaire (60 LED, Medium, Type 2)	EA	7	\$1,150	\$8,050
C-13	80.23	Luminaire (80 LED, Medium, Type 2)	EA	9	\$1,250	\$11,250
C-14	80.23	Spare Luminaire (40 LED, Medium, Type 2)	EA	1	\$800	\$800
C-15	80.23	Spare Luminaire (60 LED, Medium, Type 2)	EA	1	\$850	\$850
C-16	80.23	Spare Luminaire (80 LED, Medium, Type 2)	EA	1	\$900	\$900
					TOTAL	\$223,030

SUMMARY

Schedule A - Roadway Improvements	\$1,943,963
Schedule B - Drainage Improvements	\$512,111
Schedule C - Illumination Improvements	\$223,030
<u>Subtotal</u>	<u>\$2,679,104</u>
15% Construction Contingency	\$400,000

Total Estimated Construction Cost: \$3,079,104

Utility Relocation Summary	
48th Ave Reconstruction: Alternative 1	
Electric (CEA)	\$227,565
Telecommunications (ACS)	\$485,726
Cable Television (GCI)	\$166,348
Natural Gas (Enstar)	\$200,324
<i>Subtotal:</i>	<i>\$1,079,962</i>
<i>Construction Contingency (10%)</i>	<i>\$107,996</i>
Total Utility Relocation Cost:	\$1,187,958

Id No.	APPROX. STATION	OFFSET	UTILITY CONFLICT	DESCRIPTION OF CONFLICT	RECOMMENDED ACTION	AMOUNT	UNIT	UNIT PRICE	COST	COMMENTS
CEA-1	34+76	CL	underground crossing	within improvements	adjust/relocate	54	LF	\$90	\$4,860	
CEA-2	34+80 - 36+42	LT	underground electric line	within improvements	adjust/relocate	177	LF	\$90	\$15,930	
CEA-3	36+46 - 37+72	LT	underground electric line	within improvements	adjust/relocate	128	LF	\$90	\$11,520	
CEA-4	37+81	CL	underground crossing	within improvements	adjust/relocate	57	LF	\$90	\$5,130	
CEA-5	37+85 - 39+19	RT	underground electric line	within improvements	adjust/relocate	137	LF	\$90	\$12,330	
CEA-6	39+21	RT	junction box	within improvements	relocate	1	EA	\$14,100	\$14,100	
CEA-7	39+22 - 43+52	RT	underground electric line	within improvements	adjust/relocate	439	LF	\$90	\$39,510	
CEA-8	43+36 - 43+50	LT	underground electric line	within improvements	adjust/relocate	17	LF	\$90	\$1,530	
CEA-9	43+52	CL	underground crossing	within improvements	adjust/relocate	56	LF	\$75	\$4,200	
CEA-10	43+55 - 46+09	RT	underground electric line	within improvements	adjust/relocate	261	LF	\$90	\$23,490	
CEA-11	46+22 - 49+58	RT	underground electric line	within improvements	adjust/relocate	337	LF	\$90	\$30,330	
CEA-12	49+58	CL	underground crossing	within improvements	adjust/relocate	53	LF	\$90	\$4,770	
CEA-13	49+73	CL	underground crossing	within improvements	adjust/relocate	98	LF	\$75	\$7,350	

Construction Costs: \$175,050
 Engineering/Administration (30%): \$52,515
Total: \$227,565

Id No.	APPROX. STATION	OFFSET	UTILITY CONFLICT	DESCRIPTION OF CONFLICT	RECOMMENDED ACTION	AMOUNT	UNIT	UNIT PRICE	COST	COMMENTS
ACS-1	32+01 - 49+68	RT	underground 2400 pr tele line	within proposed improvements	relocate/adjust	1760	LF	\$60	\$105,600	Replace with 600 pr line
ACS-2	32+10 - 49+68	RT	underground FO line	within proposed improvements	relocate/adjust	1760	LF	\$70	\$123,200	Joint trench with 2400 pr line
ACS-3	33+43 - 33+80	RT	underground 400 pr tele line	within proposed improvements	relocate/adjust	37	LF	\$90	\$3,330	
ACS-4	33+80	RT	FO vault	within proposed improvements	relocate	1	EA	\$10,750	\$10,750	
ACS-5	33+80 - 36+19	RT	underground 400 pr tele line	within proposed improvements	relocate/adjust	243	LF	\$90	\$21,870	
ACS-6	36+19	RT	telephone pedestal	within proposed improvements	relocate	1	EA	\$4,300	\$4,300	
ACS-7	36+19	CL	underground 100 pr tele crossing	within proposed improvements	relocate/adjust	57	LF	\$80	\$4,560	
ACS-8	36+19 - 37+74	LT	underground 100 pr tele line	within proposed improvements	relocate/adjust	155	LF	\$80	\$12,400	
ACS-9	36+59	RT	telephone pedestal	within proposed improvements	relocate	1	EA	\$4,300	\$4,300	
ACS-10	36+59 - 46+62	RT	underground 400 pr tele line	within proposed improvements	relocate/adjust	1005	LF	\$45	\$45,225	Joint trench with FO line
ACS-11	43+57	CL	underground 200 pr tele crossing	within proposed improvements	relocate/adjust	58	LF	\$80	\$4,640	
ACS-12	46+18	RT	telephone pedestal	within proposed improvements	relocate	1	EA	\$4,300	\$4,300	
ACS-13	48+70 - 49+68	RT	underground 600 pr tele line	within proposed improvements	relocate/adjust	100	LF	\$100	\$10,000	
ACS-14	49+68	CL	underground FO crossing	within proposed improvements	relocate/adjust	76	LF	\$130	\$9,880	
ACS-15	49+68	CL	underground 2400 pr tele crossing	within proposed improvements	relocate/adjust	58	LF	\$60	\$3,480	Replace with 600 pr line
ACS-16	49+68	CL	underground 600 pr tele crossing	within proposed improvements	relocate/adjust	58	LF	\$100	\$5,800	

Construction Costs: \$373,635
 Engineering/Administration (30%): \$112,091
Total: \$485,726

Id No.	APPROX. STATION	OFFSET	UTILITY CONFLICT	DESCRIPTION OF CONFLICT	RECOMMENDED ACTION	AMOUNT	UNIT	UNIT PRICE	COST	COMMENTS
GCI-1	31+96 - 39+15	RT	underground FO line	within proposed improvements	relocate/adjust	730	LF	\$60	\$43,800	Joint trench with ACS FO
GCI-2	33+80	RT	FO vault	within proposed improvements	relocate	1	EA	\$4,300	\$4,300	
GCI-3	36+21	LT	cable pedestal	within proposed improvements	relocate	1	EA	\$1,075	\$1,075	
GCI-4	36+25	RT	cable pedestal	within proposed improvements	relocate	1	EA	\$1,075	\$1,075	
GCI-5	36+21 - 41+69	LT	underground C line	within proposed improvements	relocate/adjust	558	LF	\$70	\$39,060	
GCI-6	36+31	CL	underground C crossing	within proposed improvements	relocate/adjust	53	LF	\$80	\$4,240	
GCI-7	38+56	LT	cable pedestal	within proposed improvements	relocate	1	EA	\$1,075	\$1,075	
GCI-8	39+15	RT	FO vault	within proposed improvements	relocate	1	EA	\$4,300	\$4,300	
GCI-9	39+32	CL	underground C crossing	within proposed improvements	relocate/adjust	54	LF	\$75	\$4,050	
GCI-10	39+79	LT	cable pedestal	within proposed improvements	relocate	1	EA	\$1,075	\$1,075	
GCI-11	46+15 - 48+46	RT	underground FO line	within proposed improvements	relocate/adjust	236	LF	\$60	\$14,160	Joint trench with ACS FO
GCI-12	46+16	CL	underground FO crossing	within proposed improvements	relocate/adjust	50	LF	\$120	\$6,000	
GCI-13	46+20	CL	underground C crossing	within proposed improvements	relocate/adjust	50	LF	\$75	\$3,750	

Construction Costs: \$127,960
Engineering/Administration (30%) \$38,388

Total: \$166,348

Id No.	APPROX. STATION	OFFSET	UTILITY CONFLICT	DESCRIPTION OF CONFLICT	RECOMMENDED ACTION	AMOUNT	UNIT	UNIT PRICE	COST	COMMENTS
Enstar-1	31+30 - 36+94	LT	2-inch steel	within proposed improvemnts	adjust/relocate	571	LF	\$75	\$42,825	
Enstar-2	34+30	CL	1.25-inch steel crossing	within proposed improvemnts	adjust/relocate	58	LF	\$108	\$6,264	
Enstar-3	37+18	CL	1.25-inch steel crossing	within proposed improvemnts	adjust/relocate	57	LF	\$108	\$6,156	
Enstar-4	39+07	CL	7/8-inch plastic service crossing	within proposed improvemnts	adjust/relocate	1	EA	\$2,800	\$2,800	
Enstar-5	39+79 - 41+58	LT	2-inch steel	within proposed improvemnts	adjust/relocate	185	LF	\$125	\$23,125	
Enstar-6	41+30	CL	2-inch steel	within proposed improvemnts	adjust/relocate	64	LF	\$125	\$8,000	
Enstar-7	45+01 - 49+80	LT	2-inch steel	within proposed improvemnts	adjust/relocate	479	LF	\$125	\$59,875	
Enstar-8	45+08	CL	7/8-inch plastic service crossing	within proposed improvemnts	adjust/relocate	1	EA	\$2,800	\$2,800	
Enstar-9	48+24	CL	5/8-inch plastic service crossing	within proposed improvemnts	adjust/relocate	1	EA	\$2,250	\$2,250	

Construction Costs:	\$154,095
Engineering/Administration (30%)	\$46,229
Total:	\$200,324

Date: 12/13/19 **Basis:**
Project: 48th Ave & Cordova Street Reconstruction
Project Number: 06-26

Prepared By: CRW **Ver. 5.1**
Alternative 1 (48th Avenue)
[B]=local bond; [S]=state grant; [F]= federal grant

DESIGN		Design Management	\$40,187	
	<i>Start 20??</i>	PM&E Design Services	\$0	
		PM&E Design Survey	\$0	
		PM&E Design Soil	\$0	
		Contractual Dsgn Sers (Basic)	\$321,913	
		Contractual Dsgn Sers (Add'l)	\$204,564	
		Contractual Design Survey	\$53,582	
		Contractual Design Soils	\$26,791	
		Miscellaneous	\$0	
		Subtotal		

WEBPAGE DATA	
Environ	\$0
DS	\$161,759
Prelim Dsgn	\$323,518
Final Dsgn	\$161,759
ROW	\$105,766
Utilities	\$1,180,000
Const	\$4,306,157
Total	\$6,238,960

UTILITIES		AWWU	\$0	
	<i>Start 20??</i>	Enstar	\$220,000	
		CEA	\$250,000	
		ML&P	\$0	
		ACS	\$530,000	
		GCI	\$180,000	
	Subtotal			\$1,180,000

ROW		Real Estate Services	\$25,300	
	<i>Start 20??</i>	Land Acquisition	\$80,466	
	Subtotal			\$105,766

CONSTRUCTION		Construction Management	\$64,298	
	<i>Start 20??</i>	Inspection	\$171,463	
		Materials Testing	\$26,791	
		Survey	\$26,791	
		Miscellaneous	\$0	
		Construction Contract	\$2,679,104	
	Subtotal			\$2,968,447

MISCELLANEOUS		Bond Overhead (15.0%)	\$935,844	
		Grant Overhead (0.0%)	\$0	
		Contingency (15%)	\$401,866	
	Subtotal			\$1,337,710

PROJECT TOTAL				\$6,238,960
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**48th Avenue Cordova Street Reconstruction
MOA Project No. 06-26**

**ENGINEER'S ESTIMATE - FINAL DSR
ALTERNATIVE 1 (Cordova Street)**

ITEM No.	MASS No.	ITEM DESCRIPTION	UNIT	EST QUANT	UNIT PRICE	TOTAL COST
Schedule A - Roadway Improvements						
A-1	20.02	Storm Water Pollution Prevention Plan (Type 3)	LS	1	\$23,000	\$23,000
A-2	20.03	Test Pit for Utility Locate	Hour	8	\$800	\$6,400
A-3	20.04	Clearing and Grubbing	LS	1	\$9,000	\$9,000
A-4	20.07	Remove Sidewalk or Concrete Apron	SY	71	\$20	\$1,420
A-5	20.08	Remove Curb and Gutter	LF	2,698	\$8	\$21,584
A-6	20.09	Remove Pavement	SY	5,718	\$4	\$22,872
A-7	20.10	Unusable Excavation	CY	11,500	\$18	\$207,000
A-8	20.21	Classified Fill and Backfill (Type II)	Ton	9,800	\$20	\$196,000
A-9	20.21	Classified Fill and Backfill (Type II-A)	Ton	9,000	\$20	\$180,000
A-10	20.22	Leveling Course	Ton	680	\$30	\$20,400
A-11	20.25	Geotextile (Type A)	SY	9,370	\$2.00	\$18,740
A-12	20.26	Insulation Board (R-4.5)	SF	62,940	\$1	\$62,940
A-13	20.26	Insulation Board (R-9)	SF	1,990	\$2	\$3,980
A-14	20.28	Reconstruct Driveway	EA	12	\$2,500	\$30,000
A-15	30.02	P.C.C. Curb and Gutter (All Types)	LF	2,566	\$30	\$76,980
A-16	30.03	P.C.C. Sidewalk	SY	427	\$65	\$27,755
A-17	30.04	P.C.C. Curb Ramp	EA	29	\$2,500	\$72,500
A-18	40.06	A.C. Pavement (Class E)	Ton	599	\$110	\$65,890
A-19	40.06	A.C. Pavement (Class D)	Ton	690	\$115	\$79,350
A-20	50.06	Remove and Replace Manhole Cover and Frame	EA	2	\$750	\$1,500
A-21	55.08	Adjust Storm Drain Manhole Ring	EA	2	\$750	\$1,500
A-22	60.03	Remove and Replace Valve Box Top Section	EA	12	\$600	\$7,200
A-23	60.04	Furnish and Install Fire Hydrant Assembly Single Pumper	EA	1	\$9,000	\$9,000
A-24	60.05	Adjust Key Box	EA	3	\$500	\$1,500
A-25	60.08	Decommission Fire Hydrant Assembly	EA	1	\$3,500	\$3,500
A-26	65.02	Construction Survey Measurement	LS	1	\$29,000	\$29,000
A-27	65.02	Two-Person Survey Crew	Hour	20	\$275	\$5,500
A-28	70.08	Remove and Reset Fence	LF	240	\$40	\$9,600
A-29	70.10	Inlaid Traffic Markings (Methyl Methacrylate) (4" Yellow) (250 Mil)	LF	2,476	\$8	\$19,808
A-30	70.10	Inlaid Traffic Markings (Methyl Methacrylate) (4" White) (250 Mil)	LF	1,080	\$8	\$8,640
A-31	70.10	Inlaid Traffic Markings (Methyl Methacrylate) (24" White) (250 Mil)	LF	62	\$75	\$4,650
A-32	70.11	Standard Sign	SF	96	\$80	\$7,680
A-33	70.12	Traffic Maintenance	LS	1	\$100,000	\$100,000
A-34	75.02	Landscaping	LS	1	\$40,000	\$40,000
A-35	75.03	Topsoil (4" Depth)	MSF	12	\$500	\$6,000
A-36	75.03	Topsoil (18-inch depth)	MSF	1	\$2,000	\$2,000
A-37	75.04	Seeding (Schedule A)	MSF	12	\$400	\$4,800
					TOTAL	\$1,387,689

Schedule B - Drainage Improvements

B-1	20.13	Trench Dewatering	LS	1	\$5,000	\$5,000
B-2	20.13	Trench Excavation and Backfill (Various Depths)	LF	1,354	\$33	\$44,682
B-3	20.16	Bedding Material (Class D)	LF	149	\$20	\$2,980
B-4	20.27	Disposal of Unusable or Surplus Material	CY	600	\$20	\$12,000
B-5	55.02	Furnish, Install, and Televiser Pipe (12-Inch, Type S, CPEP)	LF	149	\$62	\$9,238
B-6	55.03	Furnish, Install, and Televiser Subdrain with Geotextile (18-Inch, Type SP, CPEP, Class D)	LF	1,205	\$90	\$108,450
B-7	55.04	Connect to Existing Storm Drain System	EA	1	\$2,500	\$2,500
B-8	55.05	Construct (Type I) Manhole	EA	7	\$4,500	\$31,500
B-9	55.05	Construct (Type II) Bypass Manhole	EA	1	\$15,000	\$15,000
B-10	55.09	Construct Catch Basin	EA	9	\$4,500	\$40,500
B-11	55.22	Oil and Grit Separator	EA	1	\$25,000	\$25,000
B-12	55.27	Storm Drain Bypass System	LS	1	\$10,000	\$10,000
					TOTAL	\$306,850

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MOA Project No. 06-26**

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Schedule C - Illumination Improvements						
C-1	80.02	Trench and Backfill	FT	1,420	\$15	\$21,300
C-2	80.04	Driven Pole Luminaire Pole Foundations	EA	8	\$1,800	\$14,400
C-3	80.05	26Ft. - 28Ft. Fixed Base Luminaire Pole	EA	8	\$3,000	\$24,000
C-4	80.06	Luminaire Arm (10Ft. - 20Ft. Length)	EA	9	\$700	\$6,300
C-5	80.07	Steel Conduit (2 inch)	FT	1,470	\$20	\$29,400
C-6	80.08	Junction Box (Type IA)	EA	9	\$900	\$8,100
C-7	80.08	Junction Box (Type II)	EA	1	\$1,800	\$1,800
C-8	80.10	3 Conductor 8 AWG Type XHHW-2 Cable	FT	1,410	\$6	\$8,460
C-9	80.23	Luminaire (60 LED, Medium, Type 2)	EA	2	\$1,150	\$2,300
C-10	80.23	Luminaire (80 LED, Medium, Type 2)	EA	7	\$1,250	\$8,750
C-11	80.23	Spare Luminaire (60 LED, Medium, Type 2)	EA	1	\$850	\$850
C-12	80.23	Spare Luminaire (80 LED, Medium, Type 2)	EA	1	\$900	\$900
TOTAL						\$126,560

SUMMARY

Schedule A - Roadway Improvements	\$1,387,689
Schedule B - Drainage Improvements	\$306,850
Schedule C - Illumination Improvements	\$126,560
Subtotal	\$1,821,099
15% Construction Contingency	\$270,000

Total Estimated Construction Cost: \$2,091,099

Utility Relocation Summary	
Cordova St Reconstruction: Alternative 1	
Electric (CEA)	\$16,965
Telecommunications (ACS)	\$103,805
Cable Television (GCI)	\$101,504
Natural Gas (Enstar)	\$107,467
<i>Subtotal:</i>	<i>\$329,741</i>
<i>Construction Contingency (10%)</i>	<i>\$32,974</i>
Total Utility Relocation Cost:	\$362,715

Id No.	APPROX. STATION	OFFSET	UTILITY CONFLICT	DESCRIPTION OF CONFLICT	RECOMMENDED ACTION	AMOUNT	UNIT	UNIT PRICE	COST	COMMENTS
CEA-1	10+44	CL	underground crossing	within improvements	adjust/relocate	93	LF	\$90	\$8,370	
CEA-2	22+82	CL	underground crossing	within improvements	adjust/relocate	52	LF	\$90	\$4,680	

Construction Costs:	\$13,050
Engineering/Administration (30%):	\$3,915
Total:	\$16,965

Id No.	APPROX. STATION	OFFSET	UTILITY CONFLICT	DESCRIPTION OF CONFLICT	RECOMMENDED ACTION	AMOUNT	UNIT	UNIT PRICE	COST	COMMENTS
ACS-1	15+52	RT	telephone pedestal	within proposed improvements	relocate	1	EA	\$4,300	\$4,300	
ACS-2	15+53	CL	underground 400 pr tele crossing	within proposed improvements	relocate/adjust	76	LF	\$90	\$6,840	
ACS-3	15+74 - 22+57	LT	underground 400 pr tele line	within proposed improvements	relocate/adjust	684	LF	\$90	\$61,560	
ACS-4	22+88	CL	underground FO crossing	within proposed improvements	relocate/adjust	55	LF	\$130	\$7,150	

Construction Costs: \$79,850
 Engineering/Administration (30%): \$23,955
Total: \$103,805

Id No.	APPROX. STATION	OFFSET	UTILITY CONFLICT	DESCRIPTION OF CONFLICT	RECOMMENDED ACTION	AMOUNT	UNIT	UNIT PRICE	COST	COMMENTS
GCI-1	17+07	RT	FO vault	within proposed improvements	relocate	1	EA	\$4,300	\$4,300	
GCI-2	17+07 - 22+85	RT	underground FO line	within proposed improvements	relocate/adjust	579	LF	\$120	\$69,480	
GCI-3	22+85	RT	FO vault	within proposed improvements	relocate	1	EA	\$4,300	\$4,300	

Construction Costs: \$78,080
 Engineering/Administration (30%) \$23,424

Total: \$101,504

Id No.	APPROX. STATION	OFFSET	UTILITY CONFLICT	DESCRIPTION OF CONFLICT	RECOMMENDED ACTION	AMOUNT	UNIT	UNIT PRICE	COST	COMMENTS
Enstar-1	11+86 - 12+12	LT	2-inch steel	within proposed improvemnts	adjust/relocate	24	LF	\$125	\$3,000	
Enstar-2	12+98 - 13+66	RT	7/8-inch plastic service	within proposed improvemnts	adjust/relocate	2	EA	\$2,800	\$5,600	
Enstar-3	13+47	CL	1-inch plastic crossing	within proposed improvemnts	adjust/relocate	49	LF	\$108	\$5,292	
Enstar-4	13+47 - 22+63	LT	2-inch steel	within proposed improvemnts	adjust/relocate	917	LF	\$75	\$68,775	

Construction Costs:	\$82,667
Engineering/Administration (30%)	\$24,800
Total:	\$107,467

12/13/2019 **Basis:**
Project: 48th Ave & Cordova Street Reconstruction
Project Number: 06-26

Prepared By: CRW **Ver. 5.1**
Alternative 1 (Cordova Street)
[B]=local bond; [S]=state grant; [F]= federal grant

DESIGN		Design Management	\$27,316	
	<i>Start 20??</i>	PM&E Design Services	\$0	
		PM&E Design Survey	\$0	
		PM&E Design Soil	\$0	
		Contractual Dsgn Sers (Basic)	\$219,012	
		Contractual Dsgn Sers (Add'l)	\$139,174	
		Contractual Design Survey	\$36,422	
		Contractual Design Soils	\$18,211	
		Miscellaneous	\$0	
		Subtotal		

WEBPAGE DATA	
Environ	\$0
DS	\$110,034
Prelim Dsgn	\$220,068
Final Dsgn	\$110,034
ROW	\$108,925
Utilities	\$360,000
Const	\$2,864,219
Total	\$3,773,280

UTILITIES		AWWU	\$0	
	<i>Start 20??</i>	Enstar	\$120,000	
		CEA	\$20,000	
		ML&P	\$0	
		ACS	\$110,000	
		GCI	\$110,000	
	Subtotal			\$360,000

ROW		Real Estate Services	\$20,700	
	<i>Start 20??</i>	Land Acquisition	\$88,225	
	Subtotal			\$108,925

CONSTRUCTION		Construction Management	\$45,527	
	<i>Start 20??</i>	Inspection	\$122,014	
		Materials Testing	\$18,211	
		Survey	\$18,211	
		Miscellaneous	\$0	
		Construction Contract	\$1,821,099	
	Subtotal			\$2,025,062

MISCELLANEOUS		Bond Overhead (15.0%)	\$565,992	
		Grant Overhead (0.0%)	\$0	
		Contingency (15%)	\$273,165	
	Subtotal			\$839,157

PROJECT TOTAL				\$3,773,280
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**48th Avenue Cordova Street Reconstruction
MOA Project No. 06-26**

**ENGINEER'S ESTIMATE - FINAL DSR
ALTERNATIVE 2 (48th Avenue)**

ITEM No.	MASS No.	ITEM DESCRIPTION	UNIT	EST QUANT	UNIT PRICE	TOTAL COST
Schedule A - Roadway Improvements						
A-1	20.02	Storm Water Pollution Prevention Plan (Type 3)	LS	1	\$33,000	\$33,000
A-2	20.03	Test Pit for Utility Locate	Hour	8	\$800	\$6,400
A-3	20.04	Clearing and Grubbing	LS	1	\$13,000	\$13,000
A-4	20.07	Remove Sidewalk or Concrete Apron	SY	107	\$20	\$2,140
A-5	20.08	Remove Curb and Gutter	LF	3,379	\$8	\$27,032
A-6	20.09	Remove Pavement	SY	9,035	\$4	\$36,140
A-7	20.10	Unusable Excavation	CY	15,500	\$18	\$279,000
A-8	20.21	Classified Fill and Backfill (Type II)	Ton	12,900	\$20	\$258,000
A-9	20.21	Classified Fill and Backfill (Type II-A)	Ton	12,300	\$20	\$246,000
A-10	20.22	Leveling Course	Ton	820	\$30	\$24,600
A-11	20.25	Geotextile (Type A)	SY	12,150	\$2.00	\$24,300
A-12	20.26	Insulation Board (R-4.5)	SF	81,660	\$1	\$81,660
A-13	20.26	Insulation Board (R-9)	SF	6,560	\$2	\$13,120
A-14	20.28	Reconstruct Driveway	EA	17	\$2,500	\$42,500
A-15	30.02	P.C.C. Curb and Gutter (All Types)	LF	3,636	\$30	\$109,080
A-16	30.03	P.C.C. Sidewalk	SY	1,585	\$65	\$103,025
A-17	30.04	P.C.C. Curb Ramp	EA	28	\$2,500	\$70,000
A-18	30.05	P.C.C. Retaining Wall	CY	36	\$1,500	\$54,000
A-19	40.06	A.C. Pavement (Class E)	Ton	832	\$110	\$91,520
A-20	40.06	A.C. Pavement (Class D)	Ton	830	\$115	\$95,450
A-21	50.06	Remove and Replace Manhole Cover and Frame	EA	1	\$750	\$750
A-22	55.08	Adjust Storm Drain Manhole Ring	EA	2	\$750	\$1,500
A-23	60.03	Remove and Replace Valve Box Top Section	EA	14	\$600	\$8,400
A-24	60.05	Adjust Key Box	EA	3	\$500	\$1,500
A-25	65.02	Construction Survey Measurement	LS	1	\$41,000	\$41,000
A-26	65.02	Two-Person Survey Crew	Hour	20	\$275	\$5,500
A-27	70.08	Remove and Reset Fence	LF	100	\$40	\$4,000
A-28	70.10	Inlaid Traffic Markings (Methyl Methacrylate) (4" Yellow) (250 Mil)	LF	3,667	\$8	\$29,336
A-29	70.10	Inlaid Traffic Markings (Methyl Methacrylate) (4" White) (250 Mil)	LF	1,380	\$8	\$11,040
A-30	70.10	Inlaid Traffic Markings (Methyl Methacrylate) (24" White) (250 Mil)	LF	124	\$75	\$9,300
A-31	70.11	Standard Sign	SF	141	\$80	\$11,280
A-32	70.12	Traffic Maintenance	LS	1	\$130,000	\$130,000
A-33	75.10	Remove and Reset Mailbox	EA	1	\$750	\$750
A-34	75.02	Landscaping	LS	1	\$60,000	\$60,000
A-35	75.03	Topsoil (4" Depth)	MSF	12	\$500	\$6,000
A-36	75.03	Topsoil (18-inch depth)	MSF	1	\$2,000	\$2,000
A-37	75.04	Seeding (Schedule A)	MSF	13	\$400	\$5,200
					TOTAL	\$1,937,523

Schedule B - Drainage Improvements

B-1	20.13	Trench Dewatering	LS	1	\$5,000	\$5,000
B-2	20.13	Trench Excavation and Backfill (Various Depths)	LF	2,133	\$33	\$70,389
B-3	20.16	Bedding Material (Class D)	LF	785	\$20	\$15,700
B-4	20.27	Disposal of Unusable or Surplus Material	CY	1,080	\$20	\$21,600
B-5	55.02	Furnish, Install, and Televiser Pipe (12-Inch, Type S, CPEP)	LF	251	\$62	\$15,562
B-6	55.02	Furnish, Install, and Televiser Pipe (24-Inch, Type S, CPEP)	LF	534	\$80	\$42,720
B-7	55.03	Furnish, Install, and Televiser Subdrain with Geotextile (18-Inch, Type SP, CPEP, Cla	LF	1,348	\$90	\$121,320
B-8	55.04	Connect to Existing Storm Drain System	EA	4	\$2,500	\$10,000
B-9	55.05	Construct (Type I) Manhole	EA	12	\$4,500	\$54,000
B-10	55.05	Construct (Type I) Catch Basin Manhole	EA	1	\$5,500	\$5,500
B-11	55.05	Construct (Type II) Bypass Manhole	EA	1	\$15,000	\$15,000
B-12	55.09	Construct Catch Basin	EA	12	\$4,500	\$54,000
B-13	55.11	Remove Manhole	EA	3	\$1,300	\$3,900
B-14	55.11	Remove Catch Basin	EA	4	\$1,200	\$4,800
B-15	55.22	Oil and Grit Separator	EA	2	\$25,000	\$50,000
B-16	55.27	Storm Drain Bypass System	LS	1	\$10,000	\$10,000
B-17	70.07	Remove Pipe	LF	631	\$20	\$12,620
					TOTAL	\$512,111

**48th Avenue Cordova Street Reconstruction
MOA Project No. 06-26**

**ENGINEER'S ESTIMATE - FINAL DSR
ALTERNATIVE 2 (48th Avenue)**

ITEM No.	MASS No.	ITEM DESCRIPTION	UNIT	EST QUANT	UNIT PRICE	TOTAL COST
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Schedule C - Illumination Improvements

C-1	80.02	Trench and Backfill	FT	2,190	\$15	\$32,850
C-2	80.04	Driven Pole Luminaire Pole Foundations	EA	13	\$1,800	\$23,400
C-3	80.04	Load Center Foundation (Type 1A)	EA	1	\$4,000	\$4,000
C-4	80.05	26Ft. - 28Ft. Fixed Base Luminaire Pole	EA	13	\$3,000	\$39,000
C-5	80.06	Luminaire Arm (10Ft. - 20Ft. Length)	EA	17	\$700	\$11,900
C-6	80.07	Steel Conduit (2 inch)	FT	2,140	\$20	\$42,800
C-7	80.08	Junction Box (Type IA)	EA	14	\$900	\$12,600
C-8	80.08	Junction Box (Type II)	EA	7	\$1,800	\$12,600
C-9	80.10	3 Conductor 8 AWG Type XHHW-2 Cable	FT	2,330	\$6	\$13,980
C-10	80.14	Single-Meter Pad-Mount Load Center, Type 1A with Lighting Control	EA	1	\$7,000	\$7,000
C-11	80.23	Luminaire (40 LED, Medium, Type 2)	EA	1	\$1,050	\$1,050
C-12	80.23	Luminaire (60 LED, Medium, Type 2)	EA	7	\$1,150	\$8,050
C-13	80.23	Luminaire (80 LED, Medium, Type 2)	EA	9	\$1,250	\$11,250
C-14	80.23	Spare Luminaire (40 LED, Medium, Type 2)	EA	1	\$800	\$800
C-15	80.23	Spare Luminaire (60 LED, Medium, Type 2)	EA	1	\$850	\$850
C-16	80.23	Spare Luminaire (80 LED, Medium, Type 2)	EA	1	\$900	\$900
					TOTAL	\$223,030

SUMMARY

Schedule A - Roadway Improvements	\$1,937,523
Schedule B - Drainage Improvements	\$512,111
Schedule C - Illumination Improvements	\$223,030
<u>Subtotal</u>	<u>\$2,672,664</u>
15% Construction Contingency	\$400,000

Total Estimated Construction Cost: \$3,072,664

Utility Relocation Summary	
48th Ave Reconstruction: Alternative 2	
Electric (CEA)	\$211,341
Telecommunications (ACS)	\$463,197
Cable Television (GCI)	\$151,769
Natural Gas (Enstar)	\$119,109
<i>Subtotal:</i>	<i>\$945,415</i>
<i>Construction Contingency (10%)</i>	<i>\$94,541</i>
Total Utility Relocation Cost:	\$1,039,956

Id No.	APPROX. STATION	OFFSET	UTILITY CONFLICT	DESCRIPTION OF CONFLICT	RECOMMENDED ACTION	AMOUNT	UNIT	UNIT PRICE	COST	COMMENTS
CEA-1	34+76	CL	underground crossing	within improvements	adjust/relocate	54	LF	\$90	\$4,860	
CEA-2	34+80 - 36+42	LT	underground electric line	within improvements	adjust/relocate	168	LF	\$90	\$15,120	
CEA-3	37+33 - 37+67	LT	underground electric line	within improvements	adjust/relocate	34	LF	\$90	\$3,060	
CEA-4	37+81	CL	underground crossing	within improvements	adjust/relocate	50	LF	\$90	\$4,500	
CEA-5	37+85 - 39+19	RT	underground electric line	within improvements	adjust/relocate	137	LF	\$90	\$12,330	
CEA-6	39+21	RT	junction box	within improvements	relocate	1	EA	\$14,100	\$14,100	
CEA-7	39+22 - 43+52	RT	underground electric line	within improvements	adjust/relocate	439	LF	\$90	\$39,510	
CEA-8	43+52	CL	underground crossing	within improvements	adjust/relocate	51	LF	\$75	\$3,825	
CEA-9	43+55 - 46+09	RT	underground electric line	within improvements	adjust/relocate	261	LF	\$90	\$23,490	
CEA-10	46+22 - 49+58	RT	underground electric line	within improvements	adjust/relocate	337	LF	\$90	\$30,330	
CEA-11	49+59	CL	underground crossing	within improvements	adjust/relocate	48	LF	\$90	\$4,320	
CEA-12	49+73	CL	underground crossing	within improvements	adjust/relocate	95	LF	\$75	\$7,125	

Construction Costs: \$162,570
 Engineering/Administration (30%): \$48,771
Total: \$211,341

Id No.	APPROX. STATION	OFFSET	UTILITY CONFLICT	DESCRIPTION OF CONFLICT	RECOMMENDED ACTION	AMOUNT	UNIT	UNIT PRICE	COST	COMMENTS
ACS-1	32+07 - 49+69	RT	underground 2400 pr tele line	within proposed improvements	relocate/adjust	1762	LF	\$60	\$105,720	Replace with 600 pr line
ACS-2	32+19 - 49+69	RT	underground FO line	within proposed improvements	relocate/adjust	1751	LF	\$70	\$122,570	Joint trench with 2400 pr line
ACS-3	33+54 - 33+80	RT	underground 400 pr tele line	within proposed improvements	relocate/adjust	29	LF	\$90	\$2,610	
ACS-4	33+80	RT	FO vault	within proposed improvements	relocate	1	EA	\$10,750	\$10,750	
ACS-5	33+80 - 36+19	RT	underground 400 pr tele line	within proposed improvements	relocate/adjust	243	LF	\$90	\$21,870	
ACS-6	36+19	RT	telephone pedestal	within proposed improvements	relocate	1	EA	\$4,300	\$4,300	
ACS-7	36+19	CL	underground 100 pr tele crossing	within proposed improvements	relocate/adjust	50	LF	\$80	\$4,000	
ACS-8	36+59	RT	telephone pedestal	within proposed improvements	relocate	1	EA	\$4,300	\$4,300	
ACS-9	36+59 - 46+60	RT	underground 400 pr tele line	within proposed improvements	relocate/adjust	1003	LF	\$45	\$45,135	Joint trench with FO line
ACS-10	37+33 - 37+67	LT	underground 100 pr tele line	within proposed improvements	relocate/adjust	34	LF	\$80	\$2,720	
ACS-11	43+57	CL	underground 200 pr tele crossing	within proposed improvements	relocate/adjust	51	LF	\$80	\$4,080	
ACS-12	46+19	RT	telephone pedestal	within proposed improvements	relocate	1	EA	\$4,300	\$4,300	
ACS-13	48+71 - 48+98	RT	underground 600 pr tele line	within proposed improvements	relocate/adjust	28	LF	\$100	\$2,800	
ACS-14	48+71 - 48+85	RT	underground 100 pr tele line	within proposed improvements	relocate/adjust	21	LF	\$80	\$1,680	
ACS-15	49+55 - 49+69	RT	underground 600 pr tele line	within proposed improvements	relocate/adjust	15	LF	\$100	\$1,500	
ACS-16	49+68	CL	underground FO crossing	within proposed improvements	relocate/adjust	73	LF	\$130	\$9,490	
ACS-17	49+68	CL	underground 2400 pr tele crossing	within proposed improvements	relocate/adjust	53	LF	\$60	\$3,180	Replace with 600 pr line
ACS-18	49+68	CL	underground 600 pr tele crossing	within proposed improvements	relocate/adjust	53	LF	\$100	\$5,300	

Construction Costs: \$356,305
 Engineering/Administration (30%): \$106,892
Total: \$463,197

Id No.	APPROX. STATION	OFFSET	UTILITY CONFLICT	DESCRIPTION OF CONFLICT	RECOMMENDED ACTION	AMOUNT	UNIT	UNIT PRICE	COST	COMMENTS
GCI-1	31+89 - 39+15	RT	underground FO line	within proposed improvements	relocate/adjust	737	LF	\$40	\$29,480	Joint trench with ACS FO
GCI-2	33+80	RT	FO vault	within proposed improvements	relocate	1	EA	\$4,300	\$4,300	
GCI-3	36+21	LT	cable pedestal	within proposed improvements	relocate	1	EA	\$1,075	\$1,075	
GCI-4	36+21 - 41+69	LT	underground C line	within proposed improvements	relocate/adjust	551	LF	\$70	\$38,570	
GCI-5	36+26	RT	cable pedestal	within proposed improvements	relocate	1	EA	\$1,075	\$1,075	
GCI-6	36+31	CL	underground C crossing	within proposed improvements	relocate/adjust	53	LF	\$80	\$4,240	
GCI-7	38+56	LT	cable pedestal	within proposed improvements	relocate	1	EA	\$1,075	\$1,075	
GCI-8	39+15	RT	FO vault	within proposed improvements	relocate	1	EA	\$4,300	\$4,300	
GCI-9	39+32	CL	underground C crossing	within proposed improvements	relocate/adjust	54	LF	\$75	\$4,050	
GCI-10	39+79	LT	cable pedestal	within proposed improvements	relocate	1	EA	\$1,075	\$1,075	
GCI-11	46+15	RT	FO vault	within proposed improvements	relocate	1	EA	\$4,300	\$4,300	
GCI-12	46+15 - 48+48	RT	underground FO line	within proposed improvements	relocate/adjust	238	LF	\$60	\$14,280	Joint trench with ACS FO
GCI-13	46+16	CL	underground FO crossing	within proposed improvements	relocate/adjust	45	LF	\$120	\$5,400	
GCI-14	46+20	CL	underground C crossing	within proposed improvements	relocate/adjust	47	LF	\$75	\$3,525	

Construction Costs: \$116,745
Engineering/Administration (30%) \$35,024

Total: \$151,769

Id No.	APPROX. STATION	OFFSET	UTILITY CONFLICT	DESCRIPTION OF CONFLICT	RECOMMENDED ACTION	AMOUNT	UNIT	UNIT PRICE	COST	COMMENTS
Enstar-1	34+30 - 36+31	LT	2-inch steel	within proposed improvemnts	adjust/relocate	202	LF	\$125	\$25,250	
Enstar-2	34+30	CL	1.25-inch steel crossing	within proposed improvemnts	adjust/relocate	58	LF	\$108	\$6,264	
Enstar-3	37+18	CL	1.25-inch steel crossing	within proposed improvemnts	adjust/relocate	51	LF	\$108	\$5,508	
Enstar-4	39+08	CL	7/8-inch plastic service crossing	within proposed improvemnts	adjust/relocate	1	EA	\$2,800	\$2,800	
Enstar-5	39+79 - 41+58	LT	2-inch steel	within proposed improvemnts	adjust/relocate	185	LF	\$125	\$23,125	
Enstar-6	41+30	CL	2-inch steel	within proposed improvemnts	adjust/relocate	62	LF	\$125	\$7,750	
Enstar-7	45+01 - 45+50	LT	2-inch steel	within proposed improvemnts	adjust/relocate	49	LF	\$125	\$6,125	
Enstar-8	45+08	CL	7/8-inch plastic service crossing	within proposed improvemnts	adjust/relocate	1	EA	\$2,800	\$2,800	
Enstar-9	47+05 - 47+25	LT	2-inch steel	within proposed improvemnts	adjust/relocate	20	LF	\$125	\$2,500	
Enstar-10	48+24	CL	5/8-inch plastic service crossing	within proposed improvemnts	adjust/relocate	1	EA	\$2,250	\$2,250	
Enstar-11	48+83 - 49+22	LT	2-inch steel	within proposed improvemnts	adjust/relocate	38	LF	\$125	\$4,750	
Enstar-12	49+60 - 49+80	LT	2-inch steel	within proposed improvemnts	adjust/relocate	20	LF	\$125	\$2,500	

Construction Costs:	\$91,622
Engineering/Administration (30%)	\$27,487
Total:	\$119,109

Date: 12/13/19 **Basis:**
Project: 48th Ave & Cordova Street Reconstruction
Project Number: 06-26

Prepared By: CRW **Ver. 5.1**
Alternative 2 (48th Avenue)
[B]=local bond; [S]=state grant; [F]= federal grant

DESIGN		Design Management	\$40,090	
	<i>Start 20??</i>	PM&E Design Services	\$0	
		PM&E Design Survey	\$0	
		PM&E Design Soil	\$0	
		Contractual Dsgn Sers (Basic)	\$321,913	
		Contractual Dsgn Sers (Add'l)	\$204,564	
		Contractual Design Survey	\$53,453	
		Contractual Design Soils	\$26,727	
		Miscellaneous	\$0	
	Subtotal			

WEBPAGE DATA	
Environ	\$0
DS	\$161,687
Prelim Dsgn	\$323,373
Final Dsgn	\$161,687
ROW	\$22,012
Utilities	\$1,040,000
Const	\$4,257,088
Total	\$5,965,848

UTILITIES		AWWU	\$0	
	<i>Start 20??</i>	Enstar	\$130,000	
		CEA	\$230,000	
		ML&P	\$0	
		ACS	\$510,000	
		GCI	\$170,000	
Subtotal				\$1,040,000

ROW		Real Estate Services	\$16,500	
	<i>Start 20??</i>	Land Acquisition	\$5,512	
Subtotal				\$22,012

CONSTRUCTION		Construction Management	\$64,144	
	<i>Start 20??</i>	Inspection	\$171,050	
		Materials Testing	\$26,727	
		Survey	\$26,727	
		Miscellaneous	\$0	
		Construction Contract	\$2,672,664	
Subtotal				\$2,961,312

MISCELLANEOUS		Bond Overhead (15.0%)	\$894,877	
		Grant Overhead (0.0%)	\$0	
		Contingency (15%)	\$400,900	
Subtotal				\$1,295,777

PROJECT TOTAL				<u>\$5,965,848</u>
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**48th Avenue Cordova Street Reconstruction
MOA Project No. 06-26**

**ENGINEER'S ESTIMATE - FINAL DSR
ALTERNATIVE 2 (Cordova Street)**

ITEM No.	MASS No.	ITEM DESCRIPTION	UNIT	EST QUANT	UNIT PRICE	TOTAL COST
Schedule A - Roadway Improvements						
A-1	20.02	Storm Water Pollution Prevention Plan (Type 3)	LS	1	\$22,000	\$22,000
A-2	20.03	Test Pit for Utility Locate	Hour	8	\$800	\$6,400
A-3	20.04	Clearing and Grubbing	LS	1	\$9,000	\$9,000
A-4	20.07	Remove Sidewalk or Concrete Apron	SY	73	\$20	\$1,460
A-5	20.08	Remove Curb and Gutter	LF	2,703	\$8	\$21,624
A-6	20.09	Remove Pavement	SY	5,579	\$4	\$22,316
A-7	20.10	Unusable Excavation	CY	10,800	\$18	\$194,400
A-8	20.21	Classified Fill and Backfill (Type II)	Ton	8,900	\$20	\$178,000
A-9	20.21	Classified Fill and Backfill (Type II-A)	Ton	8,600	\$20	\$172,000
A-10	20.22	Leveling Course	Ton	580	\$30	\$17,400
A-11	20.25	Geotextile (Type A)	SY	8,550	\$2.00	\$17,100
A-12	20.26	Insulation Board (R-4.5)	SF	57,420	\$1	\$57,420
A-13	20.26	Insulation Board (R-9)	SF	1,980	\$2	\$3,960
A-14	20.28	Reconstruct Driveway	EA	12	\$2,500	\$30,000
A-15	30.02	P.C.C. Curb and Gutter (All Types)	LF	2,546	\$30	\$76,380
A-16	30.03	P.C.C. Sidewalk	SY	985	\$65	\$64,025
A-17	30.04	P.C.C. Curb Ramp	EA	29	\$2,500	\$72,500
A-18	40.06	A.C. Pavement (Class E)	Ton	589	\$110	\$64,790
A-19	40.06	A.C. Pavement (Class D)	Ton	590	\$115	\$67,850
A-20	50.06	Remove and Replace Manhole Cover and Frame	EA	2	\$750	\$1,500
A-21	55.08	Adjust Storm Drain Manhole Ring	EA	2	\$750	\$1,500
A-22	60.03	Remove and Replace Valve Box Top Section	EA	10	\$600	\$6,000
A-23	60.05	Adjust Key Box	EA	3	\$500	\$1,500
A-24	60.08	Decommission Fire Hydrant Assembly	EA	0	\$3,500	\$0
A-25	65.02	Construction Survey Measurement	LS	1	\$28,000	\$28,000
A-26	65.02	Two-Person Survey Crew	Hour	20	\$275	\$5,500
A-27	70.10	Inlaid Traffic Markings (Methyl Methacrylate) (4" Yellow) (250 Mil)	LF	2,475	\$8	\$19,800
A-28	70.10	Inlaid Traffic Markings (Methyl Methacrylate) (4" White) (250 Mil)	LF	894	\$8	\$7,152
A-29	70.10	Inlaid Traffic Markings (Methyl Methacrylate) (24" White) (250 Mil)	LF	54	\$75	\$4,050
A-30	70.11	Standard Sign	SF	96	\$80	\$7,680
A-31	70.12	Traffic Maintenance	LS	1	\$90,000	\$90,000
A-32	75.02	Landscaping	LS	1	\$40,000	\$40,000
A-33	75.03	Topsoil (4" Depth)	MSF	7	\$500	\$3,500
A-34	75.03	Topsoil (18-inch depth)	MSF	2	\$2,000	\$4,000
A-35	75.04	Seeding (Schedule A)	MSF	9	\$400	\$3,600
					TOTAL	\$1,322,407

Schedule B - Drainage Improvements

B-1	20.13	Trench Dewatering	LS	1	\$5,000	\$5,000
B-2	20.13	Trench Excavation and Backfill (Various Depths)	LF	1,354	\$33	\$44,682
B-3	20.16	Bedding Material (Class D)	LF	149	\$20	\$2,980
B-4	20.27	Disposal of Unusable or Surplus Material	CY	600	\$20	\$12,000
B-5	55.02	Furnish, Install, and Televis Pipe (12-Inch, Type S, CPEP)	LF	149	\$62	\$9,238
B-6	55.03	Furnish, Install, and Televis Subdrain with Geotextile (18-Inch, Type SP, CPEP, Cla	LF	1,205	\$90	\$108,450
B-7	55.04	Connect to Existing Storm Drain System	EA	1	\$2,500	\$2,500
B-8	55.05	Construct (Type I) Manhole	EA	7	\$4,500	\$31,500
B-9	55.05	Construct (Type II) Bypass Manhole	EA	1	\$15,000	\$15,000
B-10	55.09	Construct Catch Basin	EA	9	\$4,500	\$40,500
B-11	55.22	Oil and Grit Separator	EA	1	\$25,000	\$25,000
B-12	55.27	Storm Drain Bypass System	LS	1	\$10,000	\$10,000
					TOTAL	\$306,850

**48th Avenue Cordova Street Reconstruction
MOA Project No. 06-26**

**ENGINEER'S ESTIMATE - FINAL DSR
ALTERNATIVE 2 (Cordova Street)**

ITEM No.	MASS No.	ITEM DESCRIPTION	UNIT	EST QUANT	UNIT PRICE	TOTAL COST
Schedule C - Illumination Improvements						
C-1	80.02	Trench and Backfill	FT	1,420	\$15	\$21,300
C-2	80.04	Driven Pole Luminaire Pole Foundations	EA	8	\$1,800	\$14,400
C-3	80.05	26Ft. - 28Ft. Fixed Base Luminaire Pole	EA	8	\$3,000	\$24,000
C-4	80.06	Luminaire Arm (10Ft. - 20Ft. Length)	EA	9	\$700	\$6,300
C-5	80.07	Steel Conduit (2 inch)	FT	1,470	\$20	\$29,400
C-6	80.08	Junction Box (Type IA)	EA	9	\$900	\$8,100
C-7	80.08	Junction Box (Type II)	EA	1	\$1,800	\$1,800
C-8	80.10	3 Conductor 8 AWG Type XHHW-2 Cable	FT	1,410	\$6	\$8,460
C-9	80.23	Luminaire (60 LED, Medium, Type 2)	EA	2	\$1,150	\$2,300
C-10	80.23	Luminaire (80 LED, Medium, Type 2)	EA	7	\$1,250	\$8,750
C-11	80.23	Spare Luminaire (60 LED, Medium, Type 2)	EA	1	\$850	\$850
C-12	80.23	Spare Luminaire (80 LED, Medium, Type 2)	EA	1	\$900	\$900
TOTAL						\$126,560

SUMMARY

Schedule A - Roadway Improvements	\$1,322,407
Schedule B - Drainage Improvements	\$306,850
Schedule C - Illumination Improvements	\$126,560
Subtotal	\$1,755,817
15% Construction Contingency	\$260,000

Total Estimated Construction Cost: \$2,015,817

Utility Relocation Summary	
Cordova St Reconstruction: Alternative 2	
Electric (CEA)	\$15,444
Telecommunications (ACS)	\$80,873
Cable Television (GCI)	\$71,136
Natural Gas (Enstar)	\$112,992
<i>Subtotal:</i>	<i>\$280,445</i>
<i>Construction Contingency (10%)</i>	<i>\$28,045</i>
Total Utility Relocation Cost:	\$308,490

Id No.	APPROX. STATION	OFFSET	UTILITY CONFLICT	DESCRIPTION OF CONFLICT	RECOMMENDED ACTION	AMOUNT	UNIT	UNIT PRICE	COST	COMMENTS
CEA-1	10+44	CL	underground crossing	within improvements	adjust/relocate	86	LF	\$90	\$7,740	
CEA-2	22+82	CL	underground crossing	within improvements	adjust/relocate	46	LF	\$90	\$4,140	

Construction Costs:	\$11,880
Engineering/Administration (30%):	\$3,564
Total:	\$15,444

Id No.	APPROX. STATION	OFFSET	UTILITY CONFLICT	DESCRIPTION OF CONFLICT	RECOMMENDED ACTION	AMOUNT	UNIT	UNIT PRICE	COST	COMMENTS
ACS-1	15+53	CL	underground 400 pr tele crossing	within proposed improvements	relocate/adjust	70	LF	\$90	\$6,300	
ACS-2	16+08 - 16+36	LT	underground 400 pr tele line	within proposed improvements	relocate/adjust	29	LF	\$90	\$2,610	
ACS-3	17+16 - 22+34	LT	underground 400 pr tele line	within proposed improvements	relocate/adjust	520	LF	\$90	\$46,800	
ACS-4	22+88	CL	underground FO crossing	within proposed improvements	relocate/adjust	50	LF	\$130	\$6,500	

Construction Costs: \$62,210
 Engineering/Administration (30%): \$18,663

Total:	\$80,873
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Id No.	APPROX. STATION	OFFSET	UTILITY CONFLICT	DESCRIPTION OF CONFLICT	RECOMMENDED ACTION	AMOUNT	UNIT	UNIT PRICE	COST	COMMENTS
GCI-1	17+28 - 20+43	RT	underground FO line	within proposed improvements	relocate/adjust	315	LF	\$120	\$37,800	
GCI-2	21+06 - 22+47	RT	underground FO line	within proposed improvements	relocate/adjust	141	LF	\$120	\$16,920	

Construction Costs: \$54,720
 Engineering/Administration (30%) \$16,416

Total: \$71,136

Id No.	APPROX. STATION	OFFSET	UTILITY CONFLICT	DESCRIPTION OF CONFLICT	RECOMMENDED ACTION	AMOUNT	UNIT	UNIT PRICE	COST	COMMENTS
Enstar-1	11+86 - 12+12	LT	2-inch steel	within proposed improvemnts	adjust/relocate	25	LF	\$125	\$3,125	
Enstar-2	12+98 - 13+48	RT	7/8-inch plastic service	within proposed improvemnts	adjust/relocate	1	EA	\$2,800	\$2,800	
Enstar-3	13+47	CL	1-inch plastic crossing	within proposed improvemnts	adjust/relocate	49	LF	\$108	\$5,292	
Enstar-4	13+47 - 16+36	LT	2-inch steel	within proposed improvemnts	adjust/relocate	290	LF	\$125	\$36,250	
Enstar-5	17+16 - 22+41	LT	2-inch steel	within proposed improvemnts	adjust/relocate	526	LF	\$75	\$39,450	

Construction Costs:	\$86,917
Engineering/Administration (30%)	\$26,075
Total:	\$112,992

Date: 12/13/19 **Basis:**
Project: 48th Ave & Cordova Street Reconstruction
Project Number: 06-26

Prepared By: CRW **Ver. 5.1**
Alternative 2 (Cordova Street)
[B]=local bond; [S]=state grant; [F]= federal grant

DESIGN		Design Management	\$26,337	
	<i>Start 20??</i>	PM&E Design Services	\$0	
		PM&E Design Survey	\$0	
		PM&E Design Soil	\$0	
		Contractual Dsgn Sers (Basic)	\$219,012	
		Contractual Dsgn Sers (Add'l)	\$139,174	
		Contractual Design Survey	\$35,116	
		Contractual Design Soils	\$17,558	
		Miscellaneous	\$0	
		Subtotal		

WEBPAGE DATA	
Environ	\$0
DS	\$109,300
Prelim Dsgn	\$218,599
Final Dsgn	\$109,300
ROW	\$41,482
Utilities	\$310,000
Const	\$2,746,051
Total	\$3,534,730

UTILITIES		AWWU	\$0	
	<i>Start 20??</i>	Enstar	\$120,000	
		CEA	\$20,000	
		ML&P	\$0	
		ACS	\$90,000	
		GCI	\$80,000	
	Subtotal			\$310,000

ROW		Real Estate Services	\$13,500	
	<i>Start 20??</i>	Land Acquisition	\$27,982	
	Subtotal			\$41,482

CONSTRUCTION		Construction Management	\$43,895	
	<i>Start 20??</i>	Inspection	\$117,640	
		Materials Testing	\$17,558	
		Survey	\$17,558	
		Miscellaneous	\$0	
		Construction Contract	\$1,755,817	
	Subtotal			\$1,952,469

MISCELLANEOUS		Bond Overhead (15.0%)	\$530,210	
		Grant Overhead (0.0%)	\$0	
		Contingency (15%)	\$263,373	
	Subtotal			\$793,582

PROJECT TOTAL				\$3,534,730
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**48th Avenue Cordova Street Reconstruction
MOA Project No. 06-26**

**ENGINEER'S ESTIMATE - FINAL DSR
ALTERNATIVE 3 (48th Avenue)**

ITEM No.	MASS No.	ITEM DESCRIPTION	UNIT	EST QUANT	UNIT PRICE	TOTAL COST
Schedule A - Roadway Improvements						
A-1	20.02	Storm Water Pollution Prevention Plan (Type 3)	LS	1	\$34,000	\$34,000
A-2	20.03	Test Pit for Utility Locate	Hour	8	\$800	\$6,400
A-3	20.04	Clearing and Grubbing	LS	1	\$13,000	\$13,000
A-4	20.07	Remove Sidewalk or Concrete Apron	SY	107	\$20	\$2,140
A-5	20.08	Remove Curb and Gutter	LF	3,379	\$8	\$27,032
A-6	20.09	Remove Pavement	SY	9,549	\$4	\$38,196
A-7	20.10	Unusable Excavation	CY	17,000	\$18	\$306,000
A-8	20.21	Classified Fill and Backfill (Type II)	Ton	15,100	\$20	\$302,000
A-9	20.21	Classified Fill and Backfill (Type II-A)	Ton	12,800	\$20	\$256,000
A-10	20.22	Leveling Course	Ton	1,040	\$30	\$31,200
A-11	20.25	Geotextile (Type A)	SY	12,690	\$2.00	\$25,380
A-12	20.26	Insulation Board (R-4.5)	SF	85,280	\$1	\$85,280
A-13	20.26	Insulation Board (R-9)	SF	6,560	\$2	\$13,120
A-14	20.28	Reconstruct Driveway	EA	17	\$2,500	\$42,500
A-15	30.02	P.C.C. Curb and Gutter (All Types)	LF	3,681	\$30	\$110,430
A-16	30.03	P.C.C. Sidewalk	SY	57	\$65	\$3,705
A-17	30.04	P.C.C. Curb Ramp	EA	16	\$2,500	\$40,000
A-18	30.05	P.C.C. Retaining Wall	CY	37	\$1,500	\$55,500
A-19	30.10	Decorative Concrete (4" Thick, Standard Finish)	SY	242	\$100	\$24,200
A-20	40.06	A.C. Pavement (Class E)	Ton	888	\$110	\$97,680
A-21	40.06	A.C. Pavement (Class D)	Ton	1,050	\$115	\$120,750
A-22	50.06	Remove and Replace Manhole Cover and Frame	EA	1	\$750	\$750
A-23	55.08	Adjust Storm Drain Manhole Ring	EA	2	\$750	\$1,500
A-24	60.03	Remove and Replace Valve Box Top Section	EA	14	\$600	\$8,400
A-25	60.04	Furnish and Install Fire Hydrant Assembly Single Pumper	EA	1	\$9,000	\$9,000
A-26	60.05	Adjust Key Box	EA	3	\$500	\$1,500
A-27	60.08	Decommission Fire Hydrant Assembly	EA	1	\$3,500	\$3,500
A-28	65.02	Construction Survey Measurement	LS	1	\$42,000	\$42,000
A-29	65.02	Two-Person Survey Crew	Hour	20	\$275	\$5,500
A-30	70.08	Remove and Reset Fence	LF	120	\$40	\$4,800
A-31	70.10	Inlaid Traffic Markings (Methyl Methacrylate) (4" Yellow) (250 Mil)	LF	3,566	\$8	\$28,528
A-32	70.10	Inlaid Traffic Markings (Methyl Methacrylate) (4" White) (250 Mil)	LF	1,502	\$8	\$12,016
A-33	70.10	Inlaid Traffic Markings (Methyl Methacrylate) (24" White) (250 Mil)	LF	120	\$75	\$9,000
A-34	70.11	Standard Sign	SF	141	\$80	\$11,280
A-35	70.12	Traffic Maintenance	LS	1	\$140,000	\$140,000
A-36	75.10	Remove and Reset Mailbox	EA	1	\$750	\$750
A-37	75.02	Landscaping	LS	1	\$60,000	\$60,000
A-38	75.03	Topsoil (4" Depth)	MSF	7	\$500	\$3,500
A-39	75.03	Topsoil (18-inch depth)	MSF	1	\$2,000	\$2,000
A-40	75.04	Seeding (Schedule A)	MSF	8	\$400	\$3,200
					TOTAL	\$1,981,737

Schedule B - Drainage Improvements

B-1	20.13	Trench Dewatering	LS	1	\$5,000	\$5,000
B-2	20.13	Trench Excavation and Backfill (Various Depths)	LF	2,133	\$33	\$70,389
B-3	20.16	Bedding Material (Class D)	LF	785	\$20	\$15,700
B-4	20.27	Disposal of Unusable or Surplus Material	CY	1,080	\$20	\$21,600
B-5	55.02	Furnish, Install, and Televis Pipe (12-Inch, Type S, CPEP)	LF	251	\$62	\$15,562
B-6	55.02	Furnish, Install, and Televis Pipe (24-Inch, Type S, CPEP)	LF	534	\$80	\$42,720
B-7	55.03	Furnish, Install, and Televis Subdrain with Geotextile (18-Inch, Type SP, CPEP, Cla	LF	1,348	\$90	\$121,320
B-8	55.04	Connect to Existing Storm Drain System	EA	4	\$2,500	\$10,000
B-9	55.05	Construct (Type I) Manhole	EA	12	\$4,500	\$54,000
B-10	55.05	Construct (Type I) Catch Basin Manhole	EA	1	\$5,500	\$5,500
B-11	55.05	Construct (Type II) Bypass Manhole	EA	1	\$15,000	\$15,000
B-12	55.09	Construct Catch Basin	EA	12	\$4,500	\$54,000
B-13	55.11	Remove Manhole	EA	3	\$1,300	\$3,900
B-14	55.11	Remove Catch Basin	EA	4	\$1,200	\$4,800
B-15	55.22	Oil and Grit Separator	EA	2	\$25,000	\$50,000
B-16	55.27	Storm Drain Bypass System	LS	1	\$10,000	\$10,000
B-17	70.07	Remove Pipe	LF	631	\$20	\$12,620
					TOTAL	\$512,111

**48th Avenue Cordova Street Reconstruction
MOA Project No. 06-26**

**ENGINEER'S ESTIMATE - FINAL DSR
ALTERNATIVE 3 (48th Avenue)**

ITEM No.	MASS No.	ITEM DESCRIPTION	UNIT	EST QUANT	UNIT PRICE	TOTAL COST
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Schedule C - Illumination Improvements

C-1	80.02	Trench and Backfill	FT	2,190	\$15	\$32,850
C-2	80.04	Driven Pole Luminaire Pole Foundations	EA	13	\$1,800	\$23,400
C-3	80.04	Load Center Foundation (Type 1A)	EA	1	\$4,000	\$4,000
C-4	80.05	26Ft. - 28Ft. Fixed Base Luminaire Pole	EA	13	\$3,000	\$39,000
C-5	80.06	Luminaire Arm (10Ft. - 20Ft. Length)	EA	17	\$700	\$11,900
C-6	80.07	Steel Conduit (2 inch)	FT	2,140	\$20	\$42,800
C-7	80.08	Junction Box (Type IA)	EA	14	\$900	\$12,600
C-8	80.08	Junction Box (Type II)	EA	7	\$1,800	\$12,600
C-9	80.10	3 Conductor 8 AWG Type XHHW-2 Cable	FT	2,330	\$6	\$13,980
C-10	80.14	Single-Meter Pad-Mount Load Center, Type 1A with Lighting Control	EA	1	\$7,000	\$7,000
C-11	80.23	Luminaire (40 LED, Medium, Type 2)	EA	1	\$1,050	\$1,050
C-12	80.23	Luminaire (60 LED, Medium, Type 2)	EA	7	\$1,150	\$8,050
C-13	80.23	Luminaire (80 LED, Medium, Type 2)	EA	9	\$1,250	\$11,250
C-14	80.23	Spare Luminaire (40 LED, Medium, Type 2)	EA	1	\$800	\$800
C-15	80.23	Spare Luminaire (60 LED, Medium, Type 2)	EA	1	\$850	\$850
C-16	80.23	Spare Luminaire (80 LED, Medium, Type 2)	EA	1	\$900	\$900
					TOTAL	\$223,030

SUMMARY

Schedule A - Roadway Improvements	\$1,981,737
Schedule B - Drainage Improvements	\$512,111
Schedule C - Illumination Improvements	\$223,030
	<u>Subtotal</u>
	\$2,716,878
15% Construction Contingency	\$410,000

Total Estimated Construction Cost: \$3,126,878

Utility Relocation Summary	
48th Ave Reconstruction: Alternative 3	
Electric (CEA)	\$214,676
Telecommunications (ACS)	\$396,565
Cable Television (GCI)	\$153,257
Natural Gas (Enstar)	\$163,449
<i>Subtotal:</i>	<i>\$927,947</i>
<i>Construction Contingency (10%)</i>	<i>\$92,795</i>
Total Utility Relocation Cost:	\$1,020,741

Id No.	APPROX. STATION	OFFSET	UTILITY CONFLICT	DESCRIPTION OF CONFLICT	RECOMMENDED ACTION	AMOUNT	UNIT	UNIT PRICE	COST	COMMENTS
CEA-1	34+76	CL	underground crossing	within improvements	adjust/relocate	50	LF	\$90	\$4,500	
CEA-2	34+80 - 36+42	LT	underground electric line	within improvements	adjust/relocate	168	LF	\$90	\$15,120	
CEA-3	37+33 - 37+66	LT	underground electric line	within improvements	adjust/relocate	33	LF	\$90	\$2,970	
CEA-4	37+82	CL	underground crossing	within improvements	adjust/relocate	50	LF	\$90	\$4,500	
CEA-5	37+85 - 39+19	RT	underground electric line	within improvements	adjust/relocate	137	LF	\$90	\$12,330	
CEA-6	39+21	RT	junction box	within improvements	relocate	1	EA	\$14,100	\$14,100	
CEA-7	39+22 - 43+52	RT	underground electric line	within improvements	adjust/relocate	439	LF	\$90	\$39,510	
CEA-8	43+36 - 43+50	LT	underground electric line	within improvements	adjust/relocate	19	LF	\$90	\$1,710	
CEA-9	43+52	CL	underground crossing	within improvements	adjust/relocate	57	LF	\$75	\$4,275	
CEA-10	43+55 - 46+09	RT	underground electric line	within improvements	adjust/relocate	266	LF	\$90	\$23,940	
CEA-11	46+22 - 49+59	RT	underground electric line	within improvements	adjust/relocate	339	LF	\$90	\$30,510	
CEA-12	49+59	CL	underground crossing	within improvements	adjust/relocate	53	LF	\$90	\$4,770	
CEA-13	49+73	CL	underground crossing	within improvements	adjust/relocate	92	LF	\$75	\$6,900	

Construction Costs: \$165,135
 Engineering/Administration (30%): \$49,541
Total: \$214,676

Id No.	APPROX. STATION	OFFSET	UTILITY CONFLICT	DESCRIPTION OF CONFLICT	RECOMMENDED ACTION	AMOUNT	UNIT	UNIT PRICE	COST	COMMENTS
ACS-1	33+37 - 49+69	RT	underground 2400 pr tele line	within proposed improvements	relocate/adjust	1632	LF	\$60	\$97,920	Replace with 600 pr line
ACS-2	35+66 - 49+69	RT	underground FO line	within proposed improvements	relocate/adjust	1407	LF	\$70	\$98,490	Joint trench with 2400 pr line
ACS-3	36+19	RT	telephone pedestal	within proposed improvements	relocate	1	EA	\$4,300	\$4,300	
ACS-4	36+19	CL	underground 100 pr tele crossing	within proposed improvements	relocate/adjust	50	LF	\$80	\$4,000	
ACS-5	36+59	RT	telephone pedestal	within proposed improvements	relocate	1	EA	\$4,300	\$4,300	
ACS-6	36+59 - 46+79	RT	underground 400 pr tele line	within proposed improvements	relocate/adjust	1022	LF	\$45	\$45,990	Joint trench with FO line
ACS-7	37+33 - 37+67	LT	underground 100 pr tele line	within proposed improvements	relocate/adjust	34	LF	\$80	\$2,720	
ACS-8	43+57	CL	underground 200 pr tele crossing	within proposed improvements	relocate/adjust	61	LF	\$80	\$4,880	
ACS-9	46+19	RT	telephone pedestal	within proposed improvements	relocate	1	EA	\$4,300	\$4,300	
ACS-10	47+48 - 48+99	RT	underground 600 pr tele line	within proposed improvements	relocate/adjust	152	LF	\$100	\$15,200	
ACS-11	48+70 - 48+85	RT	underground 100 pr tele line	within proposed improvements	relocate/adjust	20	LF	\$80	\$1,600	
ACS-12	49+52 - 49+69	RT	underground 600 pr tele line	within proposed improvements	relocate/adjust	18	LF	\$100	\$1,800	
ACS-13	49+68	CL	underground FO crossing	within proposed improvements	relocate/adjust	79	LF	\$130	\$10,270	
ACS-14	49+68	CL	underground 2400 pr tele crossing	within proposed improvements	relocate/adjust	58	LF	\$60	\$3,480	Replace with 600 pr line
ACS-15	49+68	CL	underground 600 pr tele crossing	within proposed improvements	relocate/adjust	58	LF	\$100	\$5,800	

Construction Costs: \$305,050
 Engineering/Administration (30%): \$91,515
Total: \$396,565

Id No.	APPROX. STATION	OFFSET	UTILITY CONFLICT	DESCRIPTION OF CONFLICT	RECOMMENDED ACTION	AMOUNT	UNIT	UNIT PRICE	COST	COMMENTS
GCI-1	31+97 - 39+15	RT	underground FO line	within proposed improvements	relocate/adjust	729	LF	\$40	\$29,160	Joint trench with ACS FO
GCI-2	33+78	RT	FO vault	within proposed improvements	relocate	1	EA	\$4,300	\$4,300	
GCI-3	36+21	LT	cable pedestal	within proposed improvements	relocate	1	EA	\$1,075	\$1,075	
GCI-4	36+21 - 41+69	LT	underground C line	within proposed improvements	relocate/adjust	552	LF	\$70	\$38,640	
GCI-5	36+26	RT	cable pedestal	within proposed improvements	relocate	1	EA	\$1,075	\$1,075	
GCI-6	36+31	CL	underground C crossing	within proposed improvements	relocate/adjust	53	LF	\$80	\$4,240	
GCI-7	38+56	LT	cable pedestal	within proposed improvements	relocate	1	EA	\$1,075	\$1,075	
GCI-8	39+15	RT	FO vault	within proposed improvements	relocate	1	EA	\$4,300	\$4,300	
GCI-9	39+32	CL	underground C crossing	within proposed improvements	relocate/adjust	54	LF	\$75	\$4,050	
GCI-10	39+79	LT	cable pedestal	within proposed improvements	relocate	1	EA	\$1,075	\$1,075	
GCI-11	46+15	RT	FO vault	within proposed improvements	relocate	1	EA	\$4,300	\$4,300	
GCI-12	46+15 - 48+51	RT	underground FO line	within proposed improvements	relocate/adjust	241	LF	\$60	\$14,460	Joint trench with ACS FO
GCI-13	46+16	CL	underground FO crossing	within proposed improvements	relocate/adjust	52	LF	\$120	\$6,240	
GCI-14	46+20	CL	underground C crossing	within proposed improvements	relocate/adjust	52	LF	\$75	\$3,900	

Construction Costs: \$117,890
Engineering/Administration (30%) \$35,367

Total: \$153,257

Id No.	APPROX. STATION	OFFSET	UTILITY CONFLICT	DESCRIPTION OF CONFLICT	RECOMMENDED ACTION	AMOUNT	UNIT	UNIT PRICE	COST	COMMENTS
Enstar-1	31+64 - 32+31	LT	2-inch steel	within proposed improvemnts	adjust/relocate	68	LF	\$125	\$8,500	
Enstar-2	33+32 - 33+60	LT	2-inch steel	within proposed improvemnts	adjust/relocate	28	LF	\$125	\$3,500	
Enstar-3	34+21 - 36+30	LT	2-inch steel	within proposed improvemnts	adjust/relocate	211	LF	\$125	\$26,375	
Enstar-4	34+30	CL	1.25-inch steel crossing	within proposed improvemnts	adjust/relocate	54	LF	\$108	\$5,832	
Enstar-5	37+18	CL	1.25-inch steel crossing	within proposed improvemnts	adjust/relocate	56	LF	\$108	\$6,048	
Enstar-6	39+08	CL	7/8-inch plastic service crossing	within proposed improvemnts	adjust/relocate	1	EA	\$2,800	\$2,800	
Enstar-7	41+30	CL	2-inch steel	within proposed improvemnts	adjust/relocate	62	LF	\$125	\$7,750	
Enstar-8	45+01 - 49+80	LT	2-inch steel	within proposed improvemnts	adjust/relocate	479	LF	\$125	\$59,875	
Enstar-9	45+07	CL	7/8-inch plastic service crossing	within proposed improvemnts	adjust/relocate	1	EA	\$2,800	\$2,800	
Enstar-10	48+24	CL	5/8-inch plastic service crossing	within proposed improvemnts	adjust/relocate	1	EA	\$2,250	\$2,250	

Construction Costs: \$125,730
 Engineering/Administration (30%) \$37,719
Total: \$163,449

12/13/2019 **Basis:**
Project: 48th Ave & Cordova Street Reconstruction
Project Number: 06-26

Prepared By: CRW **Ver. 5.1**
Alternative 3 (48th Avenue)
[B]=local bond; [S]=state grant; [F]= federal grant

DESIGN	Design Management	\$40,753	
	<i>Start 20??</i> PM&E Design Services	\$0	
	PM&E Design Survey	\$0	
	PM&E Design Soil	\$0	
	Contractual Dsgn Sers (Basic)	\$321,913	
	Contractual Dsgn Sers (Add'l)	\$204,564	
	Contractual Design Survey	\$54,338	
	Contractual Design Soils	\$27,169	
	Miscellaneous	\$0	
Subtotal			\$648,737

WEBPAGE DATA	
Environ	\$0
DS	\$162,184
Prelim Dsgn	\$324,368
Final Dsgn	\$162,184
ROW	\$17,440
Utilities	\$1,030,000
Const	\$4,320,305
Total	\$6,016,481

UTILITIES	AWWU	\$0	
	<i>Start 20??</i> Enstar	\$180,000	
	CEA	\$240,000	
	ML&P	\$0	
	ACS	\$440,000	
	GCI	\$170,000	
Subtotal			\$1,030,000

ROW	Real Estate Services	\$14,850	
	<i>Start 20??</i> Land Acquisition	\$2,590	
Subtotal			\$17,440

CONSTRUCTION	Construction Management	\$65,205	
	<i>Start 20??</i> Inspection	\$173,880	
	Materials Testing	\$27,169	
	Survey	\$27,169	
	Miscellaneous	\$0	
	Construction Contract	\$2,716,878	
Subtotal			\$3,010,301

MISCELLANEOUS	Bond Overhead (15.0%)	\$902,472	
	Grant Overhead (0.0%)	\$0	
	Contingency (15%)	\$407,532	
Subtotal			\$1,310,004

PROJECT TOTAL			<u><u>\$6,016,481</u></u>
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**48th Avenue Cordova Street Reconstruction
MOA Project No. 06-26**

**ENGINEER'S ESTIMATE - FINAL DSR
ALTERNATIVE 3 (Cordova Street)**

ITEM No.	MASS No.	ITEM DESCRIPTION	UNIT	EST QUANT	UNIT PRICE	TOTAL COST
Schedule A - Roadway Improvements						
A-1	20.02	Storm Water Pollution Prevention Plan (Type 3)	LS	1	\$24,000	\$24,000
A-2	20.03	Test Pit for Utility Locate	Hour	8	\$800	\$6,400
A-3	20.04	Clearing and Grubbing	LS	1	\$9,000	\$9,000
A-4	20.07	Remove Sidewalk or Concrete Apron	SY	73	\$20	\$1,460
A-5	20.08	Remove Curb and Gutter	LF	2,703	\$8	\$21,624
A-6	20.09	Remove Pavement	SY	5,945	\$4	\$23,780
A-7	20.10	Unusable Excavation	CY	12,100	\$18	\$217,800
A-8	20.21	Classified Fill and Backfill (Type II)	Ton	10,700	\$20	\$214,000
A-9	20.21	Classified Fill and Backfill (Type II-A)	Ton	9,100	\$20	\$182,000
A-10	20.22	Leveling Course	Ton	730	\$30	\$21,900
A-11	20.25	Geotextile (Type A)	SY	9,050	\$2.00	\$18,100
A-12	20.26	Insulation Board (R-4.5)	SF	60,840	\$1	\$60,840
A-13	20.26	Insulation Board (R-9)	SF	1,980	\$2	\$3,960
A-14	20.28	Reconstruct Driveway	EA	12	\$2,500	\$30,000
A-15	30.02	P.C.C. Curb and Gutter (All Types)	LF	2,689	\$30	\$80,670
A-16	30.03	P.C.C. Sidewalk	SY	139	\$65	\$9,035
A-17	30.04	P.C.C. Curb Ramp	EA	16	\$2,500	\$40,000
A-18	30.10	Decorative Concrete (4" Thick, Standard Finish)	SY	155	\$100	\$15,500
A-19	40.06	A.C. Pavement (Class E)	Ton	639	\$110	\$70,290
A-20	40.06	A.C. Pavement (Class D)	Ton	740	\$115	\$85,100
A-21	50.06	Remove and Replace Manhole Cover and Frame	EA	2	\$750	\$1,500
A-22	55.08	Adjust Storm Drain Manhole Ring	EA	2	\$750	\$1,500
A-23	60.03	Remove and Replace Valve Box Top Section	EA	11	\$600	\$6,600
A-24	60.04	Furnish and Install Fire Hydrant Assembly Single Pumper	EA	2	\$9,000	\$18,000
A-25	60.05	Adjust Key Box	EA	3	\$500	\$1,500
A-26	60.08	Decommission Fire Hydrant Assembly	EA	2	\$3,500	\$7,000
A-27	65.02	Construction Survey Measurement	LS	1	\$29,000	\$29,000
A-28	65.02	Two-Person Survey Crew	Hour	20	\$275	\$5,500
A-29	70.08	Remove and Reset Fence	LF	50	\$40	\$2,000
A-30	70.10	Inlaid Traffic Markings (Methyl Methacrylate) (4" Yellow) (250 Mil)	LF	2,476	\$8	\$19,808
A-31	70.10	Inlaid Traffic Markings (Methyl Methacrylate) (4" White) (250 Mil)	LF	1,025	\$8	\$8,200
A-32	70.10	Inlaid Traffic Markings (Methyl Methacrylate) (24" White) (250 Mil)	LF	58	\$75	\$4,350
A-33	70.11	Standard Sign	SF	96	\$80	\$7,680
A-34	70.12	Traffic Maintenance	LS	1	\$90,000	\$90,000
A-35	75.02	Landscaping	LS	1	\$40,000	\$40,000
A-36	75.03	Topsoil (4" Depth)	MSF	3	\$500	\$1,500
A-37	75.03	Topsoil (18-inch depth)	MSF	1	\$2,000	\$2,000
A-38	75.04	Seeding (Schedule A)	MSF	4	\$400	\$1,600
					TOTAL	\$1,383,197

Schedule B - Drainage Improvements

B-1	20.13	Trench Dewatering	LS	1	\$5,000	\$5,000
B-2	20.13	Trench Excavation and Backfill (Various Depths)	LF	1,354	\$33	\$44,682
B-3	20.16	Bedding Material (Class D)	LF	149	\$20	\$2,980
B-4	20.27	Disposal of Unusable or Surplus Material	CY	600	\$20	\$12,000
B-5	55.02	Furnish, Install, and Televiser Pipe (12-Inch, Type S, CPEP)	LF	149	\$62	\$9,238
B-6	55.03	Furnish, Install, and Televiser Subdrain with Geotextile (18-Inch, Type SP, CPEP, Cla	LF	1,205	\$90	\$108,450
B-7	55.04	Connect to Existing Storm Drain System	EA	1	\$2,500	\$2,500
B-8	55.05	Construct (Type I) Manhole	EA	7	\$4,500	\$31,500
B-9	55.05	Construct (Type II) Bypass Manhole	EA	1	\$15,000	\$15,000
B-10	55.09	Construct Catch Basin	EA	9	\$4,500	\$40,500
B-11	55.22	Oil and Grit Separator	EA	1	\$25,000	\$25,000
B-12	55.27	Storm Drain Bypass System	LS	1	\$10,000	\$10,000
					TOTAL	\$306,850

**48th Avenue Cordova Street Reconstruction
MOA Project No. 06-26**

**ENGINEER'S ESTIMATE - FINAL DSR
ALTERNATIVE 3 (Cordova Street)**

ITEM No.	MASS No.	ITEM DESCRIPTION	UNIT	EST QUANT	UNIT PRICE	TOTAL COST
Schedule C - Illumination Improvements						
C-1	80.02	Trench and Backfill	FT	1,420	\$15	\$21,300
C-2	80.04	Driven Pole Luminaire Pole Foundations	EA	8	\$1,800	\$14,400
C-3	80.05	26Ft. - 28Ft. Fixed Base Luminaire Pole	EA	8	\$3,000	\$24,000
C-4	80.06	Luminaire Arm (10Ft. - 20Ft. Length)	EA	9	\$700	\$6,300
C-5	80.07	Steel Conduit (2 inch)	FT	1,470	\$20	\$29,400
C-6	80.08	Junction Box (Type IA)	EA	9	\$900	\$8,100
C-7	80.08	Junction Box (Type II)	EA	1	\$1,800	\$1,800
C-8	80.10	3 Conductor 8 AWG Type XHHW-2 Cable	FT	1,410	\$6	\$8,460
C-9	80.23	Luminaire (60 LED, Medium, Type 2)	EA	2	\$1,150	\$2,300
C-10	80.23	Luminaire (80 LED, Medium, Type 2)	EA	7	\$1,250	\$8,750
C-11	80.23	Spare Luminaire (60 LED, Medium, Type 2)	EA	1	\$850	\$850
C-12	80.23	Spare Luminaire (80 LED, Medium, Type 2)	EA	1	\$900	\$900
TOTAL						\$126,560

SUMMARY

Schedule A - Roadway Improvements	\$1,383,197
Schedule B - Drainage Improvements	\$306,850
Schedule C - Illumination Improvements	\$126,560
Subtotal	\$1,816,607
15% Construction Contingency	\$270,000

Total Estimated Construction Cost: \$2,086,607

Utility Relocation Summary	
Cordova St Reconstruction: Alternative 3	
Electric (CEA)	\$17,901
Telecommunications (ACS)	\$41,587
Cable Television (GCI)	\$84,240
Natural Gas (Enstar)	\$87,122
<i>Subtotal:</i>	<i>\$230,850</i>
<i>Construction Contingency (10%)</i>	<i>\$23,085</i>
Total Utility Relocation Cost:	\$253,935

Id No.	APPROX. STATION	OFFSET	UTILITY CONFLICT	DESCRIPTION OF CONFLICT	RECOMMENDED ACTION	AMOUNT	UNIT	UNIT PRICE	COST	COMMENTS
CEA-1	10+44	CL	underground crossing	within improvements	adjust/relocate	105	LF	\$90	\$9,450	
CEA-2	22+82	CL	underground crossing	within improvements	adjust/relocate	48	LF	\$90	\$4,320	

Construction Costs:	\$13,770
Engineering/Administration (30%):	\$4,131
Total:	\$17,901

Id No.	APPROX. STATION	OFFSET	UTILITY CONFLICT	DESCRIPTION OF CONFLICT	RECOMMENDED ACTION	AMOUNT	UNIT	UNIT PRICE	COST	COMMENTS
ACS-1	15+53	CL	underground 400 pr tele crossing	within proposed improvements	relocate/adjust	69	LF	\$90	\$6,210	
ACS-2	16+08 - 16+36	LT	underground 400 pr tele line	within proposed improvements	relocate/adjust	28	LF	\$90	\$2,520	
ACS-3	17+27 - 17+54	LT	underground 400 pr tele line	within proposed improvements	relocate/adjust	28	LF	\$90	\$2,520	
ACS-4	20+93 - 22+57	LT	underground 400 pr tele line	within proposed improvements	relocate/adjust	164	LF	\$90	\$14,760	
ACS-5	22+88	CL	underground FO crossing	within proposed improvements	relocate/adjust	46	LF	\$130	\$5,980	

Construction Costs: \$31,990
 Engineering/Administration (30%): \$9,597
Total: \$41,587

Id No.	APPROX. STATION	OFFSET	UTILITY CONFLICT	DESCRIPTION OF CONFLICT	RECOMMENDED ACTION	AMOUNT	UNIT	UNIT PRICE	COST	COMMENTS
GCI-1	17+07	RT	FO vault	within proposed improvements	relocate	1	EA	\$4,300	\$4,300	
GCI-2	17+07 - 22+47	RT	underground FO line	within proposed improvements	relocate/adjust	540	LF	\$120	\$64,800	

Construction Costs: \$64,800
 Engineering/Administration (30%) \$19,440

Total: \$84,240

Id No.	APPROX. STATION	OFFSET	UTILITY CONFLICT	DESCRIPTION OF CONFLICT	RECOMMENDED ACTION	AMOUNT	UNIT	UNIT PRICE	COST	COMMENTS
Enstar-1	11+88 - 12+09	LT	2-inch steel	within proposed improvemnts	adjust/relocate	20	LF	\$125	\$2,500	
Enstar-2	12+95 - 13+66	RT	7/8-inch plastic service	within proposed improvemnts	adjust/relocate	2	EA	\$2,800	\$5,600	
Enstar-3	13+47	CL	1-inch plastic crossing	within proposed improvemnts	adjust/relocate	49	LF	\$108	\$5,292	
Enstar-4	13+47 - 15+25	LT	2-inch steel	within proposed improvemnts	adjust/relocate	178	LF	\$125	\$22,250	
Enstar-5	16+08 - 16+36	LT	2-inch steel	within proposed improvemnts	adjust/relocate	28	LF	\$125	\$3,500	
Enstar-6	17+27 - 17+54	LT	2-inch steel	within proposed improvemnts	adjust/relocate	28	LF	\$125	\$3,500	
Enstar-7	20+92 - 22+86	LT	2-inch steel	within proposed improvemnts	adjust/relocate	195	LF	\$125	\$24,375	

Construction Costs:	\$67,017
Engineering/Administration (30%)	\$20,105
Total:	\$87,122

Date: 12/13/19 **Basis:**
Project: 48th Ave & Cordova Street Reconstruction
Project Number: 06-26

Prepared By: CRW **Ver. 5.1**
Alternative 3 (Cordova Street)
[B]=local bond; [S]=state grant; [F]= federal grant

DESIGN		Design Management	\$27,249	
	<i>Start 20??</i>	PM&E Design Services	\$0	
		PM&E Design Survey	\$0	
		PM&E Design Soil	\$0	
		Contractual Dsgn Sers (Basic)	\$219,012	
		Contractual Dsgn Sers (Add'l)	\$139,174	
		Contractual Design Survey	\$36,332	
		Contractual Design Soils	\$18,166	
		Miscellaneous	\$0	
		Subtotal		

WEBPAGE DATA	
Environ	\$0
DS	\$109,983
Prelim Dsgn	\$219,967
Final Dsgn	\$109,983
ROW	\$18,381
Utilities	\$260,000
Const	\$2,823,889
Total	\$3,542,204

UTILITIES		AWWU	\$0	
	<i>Start 20??</i>	Enstar	\$100,000	
		CEA	\$20,000	
		ML&P	\$0	
		ACS	\$50,000	
		GCI	\$90,000	
	Subtotal			\$260,000

ROW		Real Estate Services	\$12,150	
	<i>Start 20??</i>	Land Acquisition	\$6,231	
	Subtotal			\$18,381

CONSTRUCTION		Construction Management	\$45,415	
	<i>Start 20??</i>	Inspection	\$121,713	
		Materials Testing	\$18,166	
		Survey	\$18,166	
		Miscellaneous	\$0	
		Construction Contract	\$1,816,607	
	Subtotal			\$2,020,067

MISCELLANEOUS		Bond Overhead (15.0%)	\$531,331	
		Grant Overhead (0.0%)	\$0	
		Contingency (15%)	\$272,491	
	Subtotal			\$803,822

PROJECT TOTAL				\$3,542,204
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