

STERLING HIGHWAY, MP 45-60

Cooper Creek Alternative
COST ESTIMATE

Length	BOP 1224+00.00	EOP 1983+45.00	Length (ft) 75945.00	Length (mi) 14.4
Length New Highway (from intersection to intersection of the old Hwy)	Int with Old Hwy 1617+75.00	Int with Old Hwy 1803+00.00	Length (ft) 18525.00	Length (mi) 3.5

TYPICAL SECTION

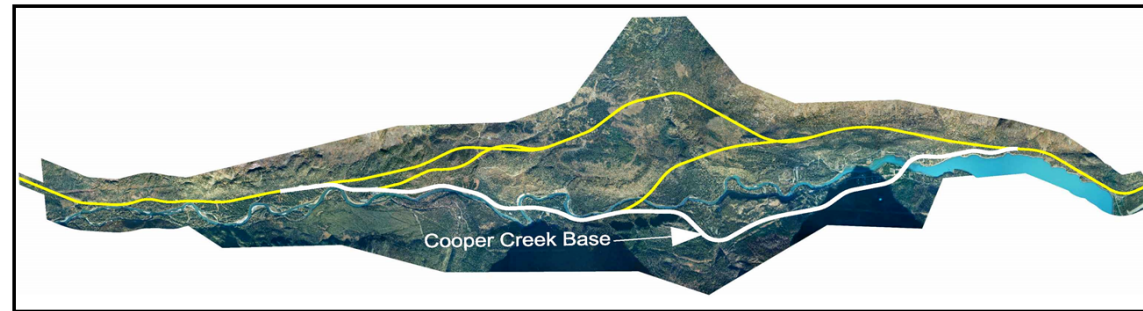
Proposed 2-Lane Sterling Highway: 8' - 12' - 12' - 8' = 40-feet
 Proposed 2-Lane Sterling Highway W/ Lt Turn Lane: 8' - 12' - 16' - 12' - 8' = 56-feet
 Proposed 2-Lane Sterling Highway W/ Rt Turn Lane: 8' - 12' - 12' - 12' - 8' = 52-feet
 Proposed 2-Lane Sterling Highway W Passing Lane: 8' - 12' - 12' - 12' - 8' = 52-feet

STRUCTURAL SECTION (inches)

ACP Type II =	2"	
Binder =	3"	
ABC =	4"	
Borrow "A" =	20"	Combined and listed as "Borrow "A" for
Borrow "B" =	20"	Cost Estimating Purposes
Borrow "C" =	varies	

STRUCTURES (feet)

Crossing	Beg Sta	End Sta	Width
Schooner Bend Bridge	1531+00	1534+25	40
Cooper Creek Crossing	1667+00	1675+00	52
Kenai River Crossing	1809+65	1816+35	78



ASSUMPTIONS:

Clear Zone: 30-feet
Slopes: 6:1 (22'); 2:1

DESCRIPTION	ITEM No	Pay Unit	Unit Price	Quantity	Amount
CLEARING AND GRUBBING	201 (3A)	ACRE	\$5,977.97	200	\$1,195,594.15
REMOVAL OF STRUCTURES AND OBSTRUCTIONS	202 (1)	LUMP SUM	\$437,086.27	1	\$437,086.27
REMOVAL OF PAVEMENT	202 (2)	SQUARE YARD	\$5.32	180,000	\$958,208.93
REMOVAL AND DISPOSAL OF CULVERT PIPE	202 (4A)	LUMP SUM	\$43,708.63	1	\$43,708.63
COMMON EXCAVATION	203 (1)	CUBIC YARD	\$7.28	2,182,200	\$15,896,827.48
ROCK EXCAVATION	203 (2)	CUBIC YARD	\$17.48	915,000	\$15,997,357.32
BORROW, TYPE A	203 (6A)	TON	\$12.67	618,100	\$7,828,837.85
BORROW, TYPE B	203 (6B)	TON	\$7.28	265,000	\$1,930,464.34
BORROW, TYPE C	203 (6C)	TON	\$5.83	200,000	\$1,165,563.37
OBLITERATION OF ROADWAY	203 (9)	SQUARE YARD	\$2.19	40,000	\$87,417.25
CRUSHED AGGREGATE BASE COURSE	301 (1)	TON	\$37.56	127,000	\$4,770,321.02
ASPHALT TREATED BASE COURSE	306 (1)	TON	\$55.36	77,000	\$4,263,048.04
ASPHALT CONCRETE PAVEMENT, TYPE II, CLASS A	401 (1)	TON	\$78.43	54,000	\$4,235,003.71
ASPHALT CEMENT, GRADE AC-5	401 (4)	TON	\$863.59	3,000	\$2,590,767.19
CLASS A CONCRETE	501 (1)	LUMP SUM	\$72,847.71	1	\$72,847.71
MECHANICALLY STABILIZED EMBANKMENT RETAINING WALL	511 (1)	SQUARE FOOT	\$65.56	83,400	\$5,467,949.18
FIN DRAIN	603 (7-150)	LINEAR FOOT	\$58.28	11,000	\$641,059.86
24 INCH PIPE	603 (17-24)	LINEAR FOOT	\$127.10	3,600	\$457,562.25
36 INCH PIPE	603 (17-36)	LINEAR FOOT	\$186.23	1,600	\$297,964.38
48 INCH PIPE	603 (17-48)	LINEAR FOOT	\$248.71	5,200	\$1,293,310.98
144 INCH PIPE	603 (17-144)	LINEAR FOOT	\$746.14	1,200	\$895,369.14
END SECTION FOR 24 INCH PIPE	603 (20-24)	EACH	\$840.82	90	\$75,674.03
END SECTION FOR 36 INCH PIPE	603 (20-36)	EACH	\$1,007.40	60	\$60,444.10
END SECTION FOR 48 INCH PIPE	603 (20-48)	EACH	\$1,266.60	40	\$50,663.89
W-BEAM GUARDRAIL	606 (1)	LINEAR FOOT	\$30.17	22,500	\$678,731.33
REMOVAL AND DISPOSING OF GUARDRAIL	606 (6)	LINEAR FOOT	\$9.46	12,000	\$113,461.88
PARALLEL GUARDRAIL TERMINAL	606 (13)	EACH	\$4,370.86	34	\$148,609.33
TRANSITION RAIL	606 (16)	EACH	\$2,913.91	12	\$34,966.90
DITCH LINING	610 (317)	SQUARE YARD	\$29.14	23,000	\$670,198.94
RIPRAP, CLASS II	611 (1B)	CUBIC YARD	\$118.31	14,000	\$1,656,284.47
STANDARD SIGN	615 (1)	SQUARE FOOT	\$101.99	1,800	\$183,576.23
DOUBLE THAW PIPE	616 (5)	LINEAR FOOT	\$36.42	6,400	\$233,112.67
SEEDING	618 (2)	POUND	\$49.54	8,000	\$396,291.55
WATER FOR SEEDING	618 (3)	M GAL	\$13.11	8,000	\$104,900.70
TOPSOIL	620 (1)	SQUARE YARD	\$6.50	880,000	\$5,721,794.77
SLOPE REINFORCEMENT	637 (1)	LUMP SUM	\$4,618,362.17	1	\$4,618,362.17
MOBILIZATION AND DEMOBILIZATION	640 (1)	LUMP SUM	\$8,300,000.00	1	\$8,300,000.00
EROSION AND POLLUTION CONTROL ADMINISTRATION	641 (1)	LUMP SUM	\$75,000.00	1	\$75,000.00
EROSION AND POLLUTION CONTROL	641 (3)	LUMP SUM	\$300,000.00	1	\$300,000.00
SILT FENCE	641 (4)	LINEAR FOOT	\$5.83	45,000	\$262,251.78
CONSTRUCTION SURVEYING	642 (1)	LUMP SUM	\$740,000.00	1	\$740,000.00
THREE PERSON SURVEY PARTY	642 (3)	HOURLY	\$355.32	300	\$106,595.89
TRAFFIC MAINTENANCE	643 (2)	LUMP SUM	\$350,000.00	1	\$350,000.00
PERMANENT CONSTRUCTION SIGNS	643 (3)	LUMP SUM	\$17,483.45	1	\$17,483.45
FLAGGING	643 (15)	LUMP SUM	\$875,000.00	1	\$875,000.00
TRAFFIC CONTROL DEVICES	643 (25)	CONTINGENT SUM	\$1,450,000.00	1	\$1,450,000.00
ENGINEERING TRANSPORTATION	644 (8)	EACH	\$36,423.86	14	\$509,933.98
WIDE PAD DOZER 48 KW MINIMUM	646 (1)	HOURLY	\$174.83	1,000	\$174,834.51
METHYL METHACRYLATE PAVEMENT MARKINGS	670 (10)	LUMP SUM	\$874,172.53	1	\$874,172.53

ROADWAY SUBTOTAL	\$99,308,614
BRIDGE SUBTOTAL	\$77,739,256
CONTINGENCY (20%)	\$35,409,574
CONSTRUCTION ENGINEERING (15%)	\$31,868,617
CONSTRUCTION COSTS SUBTOTAL	\$244,326,061
WILDLIFE IMPACT MITIGATION	\$7,500,000
WETLAND IMPACT MITIGATION	\$700,000
SECTION 106	\$4,175,000
DESIGN ENGINEERING (12%)	\$29,319,127
UTILITIES	\$2,300,000
ROW	\$5,572,795
SUBTOTAL	\$293,892,983
ICAP (5%)	\$14,694,649
GRAND TOTAL	\$308,600,000

ITEM	FACTOR	QUANTITY
Select Material Type C (tons)	140 lb/ft ³	200,000
Select Material Type B (tons)	140 lb/ft ³	265,000
Select Material Type A (tons)	145 lb/ft ³	618,100
Crushed Aggregate Base Course (tons)	145 lb/ft ³	40,000
Asphalt Treated Aggregate Base Course (tons)	148 lb/ft ³	127,000
ACP (tons)	152 lb/ft ³	77,000
ATB AC Oil (tons)	5.5 % of ATB	6,985

SUMMARY	
Borrow Type C (CY--ft ³)	105,820
Borrow Type B (CY--ft ³)	140,212
Borrow Type A (CY--ft ³)	315,760
Aggregate Base Course (CY--ft ³)	20,434
ATB (CY--ft ³)	63,564
ACP (CY--ft ³)	37,524

GUARDRAIL (LF)	
Segment:	Length
1255+00 RT TO 1268+00 RT	1,300
1268+00 RT TO 1275+50 RT	750
1275+50 RT TO 1281+50 RT	600
1281+50 RT TO 1285+50 RT	400
1285+50 RT TO 1291+00 RT	550
1307+50 RT TO 1313+00 RT	550
1366+00 RT TO 1383+50 RT	1,750
1383+50 RT TO 1387+00 RT	350
1387+00 RT TO 1391+50 RT	450
1403+50 RT TO 1405+50 RT	200
1405+50 RT TO 1409+50 RT	400
1409+50 RT TO 1415+00 RT	550
1415+00 RT TO 1424+50 RT	950
1438+50 RT TO 1452+00 RT	1,350
1568+00 LT TO 1571+50 LT	350
1657+00 LT TO 1667+50 LT	1,050
1856+00 RT TO 1864+00 RT	800
1877+00 RT TO 1883+00 RT	600
1899+00 RT TO 1903+50 RT	450
1918+50 RT TO 1921+00 RT	250
1944+00 RT TO 1949+00 RT	500
OFF-MAINLINE	8,350
TOTAL:	22,500

MSE RETAINING WALLS (SF)			
Location	Length	Height	Face
1258+00 LT TO 1259+25 LT	125	22	2,125
1261+50 LT TO 1262+50 LT	100	20	1,950
1265+00 LT TO 1272+50 LT	750	16	12,250
1288+50 LT TO 1289+00 LT	50	4	175
1313+50 LT TO 1315+50 LT	200	3	500
1348+50 LT TO 1351+00 LT	250	4	1,025
1370+00 LT TO 1377+50 LT	750	7	5,550
1399+25 LT TO 1399+75 LT	50	5	125
1404+50 LT TO 1408+00 LT	350	12	3,950
1405+50 RT TO 1409+00 RT	350	8	2,875
1409+75 LT TO 1410+75 LT	100	26	1,275
1414+50 LT TO 1415+50 LT	100	15	1,500
1641+00 RT TO 1642+50 RT	150	18	2,875
1659+50 RT TO 1667+50 RT	800	20	15,850
1662+50 LT TO 1667+50 LT	500	29	14,500
1893+50 LT TO 1895+50 LT	200	17	3,400
1916+00 LT TO 1918+50 LT	250	8	1,850
1946+00 RT TO 1947+50 RT	150	9	1,400
OFF-MAINLINE			10,225
TOTAL:			83,400

Bridge Rail Connections	
Structures:	3
x4	12
TOTAL:	12

Guardrail End Sections	
Rail Runs	21
X1 (Opposing Traffic)	21
Clear Zone Need	13
TOTAL:	34

Bridge Structure Costs				
Crossing	SF	Cost (\$/SF)	Revised Cost (\$/SF)	Bridge Cost
Dam Access Road	8448		\$267.73	\$2,261,801.34
Cooper Creek	52452	\$800.00	\$690.92	\$36,240,226.09
Kenai River @ Cooper Landing	52260	\$675.00	\$582.97	\$30,465,761.45
Kenai River @ Schooners	16250	\$625.00	\$539.78	\$8,771,467.16
Totals				\$77,739,256.04

Bridge Structure Cost Revision Assumptions: From the Bridge Report the most expensive bridge option was used to provide a conservative estimate, the cost per sq ft from the bridge report was adjusted to construction only costs by dividing by 1.55 (55% increase over basic furnishing and installation costs) and then including 10% for detours and 15% for mobilization. This number was then brought to 2014 Dollars via AK CPI inflation averages between 2011 and 2014.

*Right-of-Way costs estimate the land payment portion only of ROW acquisition. It does not address the other per parcel costs of ROW acquisition. Furthermore, these costs only consider privately owned land impacted by the alternatives. Impacted parcels owned by federal, state, and municipal agencies are assumed to be acquired in lieu of fee.

** The bridge costs are taken from the Preliminary Bridge Structures Technical Memo August 2011 and are not intended to reflect actual construction costs but rather to be used for cost comparisons between alternatives.