STERLING HIGHWAY, MP 45-60

Juneau Creek Alternative

COST ESTIMATE

Length Total	BOP	EOP	Length (ft)	Length (mi)
	1224+00.00	1977+44.00	75344.00	14.3
Length New Highway (from intersection to intersection of the old Hwy	Int with Old Hwy	Int with Old Hwy	Length (ft)	Length (mi)
	1381+00.00	1867+50.00	48650.00	9.2

TYPICAL SECTION

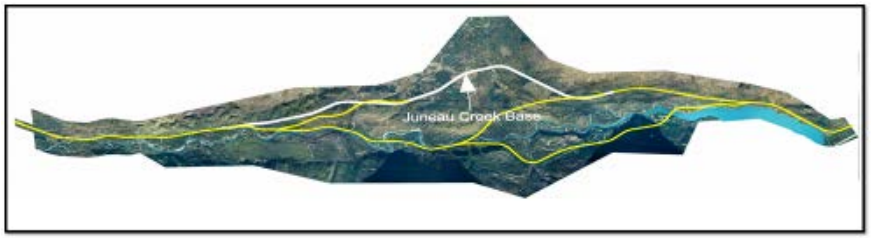
Proposed 2-Lane Sterling Highway: 8' -- 12' - 12' - 8' = **40-feet**
Proposed 2-Lane Sterling Highway W/ Lt Turn Lane: 8' - 12' - 16' - 12' - 8' = **56-feet**
Proposed 2-Lane Sterling Highway W/ Rt Turn Lane: 8' - 12' - 12' - 12' - 8' = **52-feet**
Proposed 2-Lane Sterling Highway W Passing Lane: 8' - 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
Juneau Creek	1631+50±	1640+00±	62



DESCRIPTION	ITEM No	Pay Unit	Unit Price	Quantity	Amount
CLEARING AND GRUBBING	201 (3A)	ACRE	$5,895.04	270	$1,591,659.78
REMOVAL OF STRUCTURES AND OBSTRUCTIONS	202 (1)	LUMP SUM	$431,022.41	0	$0.00
REMOVAL OF PAVEMENT	202 (2)	SQUARE YARD	$5.25	81,000	$425,211.91
REMOVAL AND DISPOSAL OF CULVERT PIPE	202 (4A)	LUMP SUM	$21,551.12	1	$21,551.12
COMMON EXCAVATION	203 (1)	CUBIC YARD	$7.18	2,231,600	$16,031,160.23
ROCK EXCAVATION	203 (2)	CUBIC YARD	$17.24	1,500,000	$25,861,344.70
BORROW, TYPE A	203 (6A)	TON	$12.49	637,600	$7,963,785.53
BORROW, TYPE C	203 (6C)	TON	$7.18	440,000	$3,160,831.02
OBLITERATION OF ROADWAY	203 (9)	SQUARE YARD	$2.16	20,000	$43,102.24
CRUSHED AGGREGATE BASE COURSE	301 (1)	TON	$37.04	125,000	$4,630,059.70
ASPHALT TREATED BASE COURSE	306 (1)	TON	$54.60	76,000	$4,149,309.08
ASPHALT CONCRETE PAVEMENT, TYPE II, CLASS A	401 (1)	TON	$77.34	53,000	$4,098,912.02
ASPHALT CEMENT, GRADE AC-5	401 (2)	TON	$851.61	2,900	$2,469,663.73
CLASS A CONCRETE	501 (1)	LUMP SUM	$71,837.07	1	$71,837.07
MECHANICALLY STABILIZED EMBANKMENT RETAINING WALL	511 (1)	SQUARE FOOT	$64.65	71,450	$4,619,482.70
FIN DRAIN	603 (7-150)	LINEAR FOOT	$57.47	1,500	$86,204.48
24 INCH PIPE	603 (17-24)	LINEAR FOOT	$125.34	3,600	$451,214.33
36 INCH PIPE	603 (17-36)	LINEAR FOOT	$183.64	1,600	$293,830.61
48 INCH PIPE	603 (17-48)	LINEAR FOOT	$245.26	5,200	$1,275,368.41
144 INCH PIPE	603 (17-144)	LINEAR FOOT	$735.79	1,200	$882,947.36
END SECTION FOR 24 INCH PIPE	603 (20-24)	EACH	$829.16	90	$74,624.17
END SECTION FOR 36 INCH PIPE	603 (20-36)	EACH	$993.43	60	$59,605.54
END SECTION FOR 48 INCH PIPE	603 (20-48)	EACH	$1,249.03	40	$49,961.01
W-BEAM GUARDRAIL	606 (1)	LINEAR FOOT	$29.75	34,000	$1,011,409.40
REMOVAL AND DISPOSING OF GUARDRAIL	606 (6)	LINEAR FOOT	$9.32	9,500	$88,577.83
EXTRUDER TERMINAL (ET-2000)	606 (11)	EACH	$4,310.22	30	$129,306.72
GUARDRAIL/BRIDGERAIL CONNECTION	606 (12)	EACH	$2,873.48	4	$11,493.93
DITCH LINING	610 (3)	SQUARE YARD	$28.73	23,000	$660,901.03
RIPRAP, CLASS II	611 (2B)	CUBIC YARD	$116.66	11,000	$1,283,312.05
STANDARD SIGN	615 (1)	SQUARE FOOT	$100.57	1,800	$181,029.41
DOUBLE THAW PIPE	616 (5)	LINEAR FOOT	$35.92	6,400	$229,878.62
SEEDING	618 (1)	POUND	$48.85	8,000	$390,793.65
WATER FOR SEEDING	618 (3)	M GAL	$12.93	8,000	$103,445.38
TOPSOIL	620 (1)	SQUARE YARD	$6.41	1,000,000	$6,411,834.40
SLOPE REINFORCEMENT	637 (1)	LUMP SUM	$718,370.69	1	$718,370.69
MOBILIZATION AND DEMOBILIZATION	640 (1)	LUMP SUM	$2,873,482.74	1	$2,873,482.74
EROSION AND POLLUTION CONTROL ADMINISTRATION	641 (1)	LUMP SUM	$43,102.24	1	$43,102.24
EROSION AND POLLUTION CONTROL	641 (3)	LUMP SUM	$215,511.21	1	$215,511.21
SILT FENCE	641 (4)	LINEAR FOOT	$5.75	45,000	$258,613.45
CONSTRUCTION SURVEYING	642 (1)	LUMP SUM	$718,370.69	1	$718,370.69
THREE PERSON SURVEY PARTY	642 (3)	HOUR	$350.39	300	$105,117.04
TRAFFIC MAINTENANCE	643 (2)	LUMP SUM	$143,674.14	1	$143,674.14
PERMANENT CONSTRUCTION SIGNS	643 (3)	LUMP SUM	$17,240.90	1	$17,240.90
FLAGGING	643 (15)	LUMP SUM	$287,348.27	1	$287,348.27
TRAFFIC CONTROL DEVICES	643 (28)	CONTINGENT SUM	$718,370.69	1	$718,370.69
ENGINEERING TRANSPORTATION	644 (6)	EACH	$35,918.53	14	$502,859.48
WIDE PAD DOZER 48 KW MINIMUM	646 (1)	HOUR	$172.41	1,000	$172,408.96
METHYL METHCRYLATE PAVEMENT MARKINGS	670 (10)	LUMP SUM	$862,044.82	1	$862,044.82
ROADWAY SUBTOTAL					**$96,450,164**
BRIDGE SUBTOTAL					**$52,392,926**
CONTIGENCY (20%)					**$29,768,618**
CONSTRUCTION ENGINEERING (15%)					**$26,791,756**
CONSTRUCTION COSTS SUBTOTAL					**$205,403,464**
ENVIRONMENTAL PERMITING (2%)					**$4,108,069**
DESIGN ENGINEERING (12%)					**$24,648,416**
UTILITIES					**$700,000**
ROW					**$2,877,323**
SUBTOTAL					**$237,737,273**
ICAP (5%)					**$11,886,864**
GRAND TOTAL					**$249,600,000**

*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.

ASSUMPTIONS:

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

TABLE of ESTIMATING FACTORS

ITEM	FACTOR	QUANTITY
Select Material Type C (tons)	140 lb/ft^3	440,000
Select Material Type B (tons)	140 lb/ft^3	
Select Material Type A (tons)	145 lb/ft^3	637,600
Crushed Aggregate Base Course (tons)	145 lb/ft^3	125,000
Asphalt Treated Aggregate Base Course (tons)	148 lb/ft^3	76,000
ACP (tons)	152 lb/ft^3	53,000
ATB AC Oil (tons)	5.5 % of ATB	4,180

SUMMARY

Borrow Type C (CY→ft3)	232,804	6,285,714
Borrow Type B (CY→ft3)		
Borrow Type A (CY→ft3)	325,722	8,794,483
Aggregate Base COurse (CY→ft^3)	63,857	1,724,138
ATB (CY→ft^3)	38,038	1,027,027
ACP (CY→ft^3):	25,828	697,368

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
1391+50 RT TO 1412+00 RT	2,050
1422+00 RT TO 1452+00 RT	3,000
1657+00 LT TO 1668+00 LT	1,100
1657+00 RT TO 1668+00 RT	1,100
1721+00 LT TO 1730+00 LT	900
1721+00 RT TO 1730+00 RT	900
1806+00 RT TO 1835+00 RT	2,900
1855+50 RT TO 1899+50 RT	4,400
1909+50 RT TO 1918+00 RT	900
1938+00 RT TO 1943+00 RT	500
OFF-MAINLINE	10,850
TOTAL:	34,000

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
1368+00 LT TO 1377+50 LT	950	11	11,050
1399+50 RT TO 1405+50 RT	600	20	13,000
1405+00 LT TO 1409+00 LT	400	13	5,650
1825+50 RT TO 1827+00 RT	150	17	2,550
1830+50 RT TO 1833+50 RT	300	14	4,525
1873+50 RT TO 1877+50 RT	400	25	10,425
1887+00 LT TO 1889+00 LT	200	12	2,400
1911+50 LT TO 1912+00 LT	50	6	300
1939+50 RT TO 1941+50 RT	200	11	2,275
OFF_MAINLINE			1,250
TOTAL:			71,450

Bridge Rail Connections

Structures:	1
x4	4
TOTAL:	4

Guardrail End Sections

Rail Runs	19
X1 (Opposing Traffic)	19
Clear Zone Need	11
TOTAL:	30

Bridge Structure Costs

Crossing	SF	Cost ($/SF)	Revised Cost ($/SF)	Bridge Cost
Forest Service Crossing 1	8448		$270.40	$2,284,348.86
Forest Service Crossing 2	8448		$270.40	$2,284,348.86
Juneau Creek	75082	$800.00	$697.81	$52,392,925.52

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 mobolization. This number was then brought to 2014 Dollars via AK CPI inflation averages between 2011 and 2014.