

## **APPENDIX D**

### **RIL PRELIMINARY COST ESTIMATES**

**Garfield County Regional Airport  
Rifle, Colorado  
Engineer's Opinion of Probable Cost**

July 1, 2013

**Auto Parking - Alternate 1**

Auto Parking - Alternate 1			Auto Parking - Alternate 1		
			Quantity	Engineer's Estimate	
				Unit \$	Item \$
ITEM	ITEM DESCRIPTION	UNIT	Quantity	Unit \$	Item \$
P-100 P-100a	<b>MOBILIZATION</b> Mobilization	LS	1	\$ 82,400	\$ 82,400.00
P-150 P-150a P-150b	<b>PAVEMENT REMOVAL</b> Pavement Removal (2" - Partial Depth) Pavement Removal (Complete)	SY SY	16,105 500	\$ 12.00 \$ 15.00	\$ 193,260.00 \$ 7,500.00
P-152 P-152a P-152b	<b>EMBANKMENT AND EXCAVATION</b> Unclassified Excavation Subgrade Preparation (12 -Inches)	CY SY	1,900 4,020	\$ 16.00 \$ 10.00	\$ 30,400.00 \$ 40,200.00
P-222 P-222a	<b>SOIL STERILIZATION</b> Soil Sterilization	SY	4,020	\$ 2.00	\$ 8,040.00
P-310 P-310a	<b>GEOTEXTILE FABRIC</b> Stabilization Fabric	SY	4,020	\$ 2.50	\$ 10,050.00
CDOT 304 CDOT 304a	<b>AGGREGATE BASE COURSE</b> Aggregate Base Course - Class 6	CY	1,150	\$ 55.00	\$ 63,250.00
CO-401 CO-401a	<b>PLANT MIX PAVEMENTS</b> Bituminous Paving Course	TON	1,800	\$ 100.00	\$ 180,000.00
CO-403 CO-403a	<b>COLORADO MODIFIED PLANT MIX ASPHALT PAVEMENTS</b> Bituminous Paving Course (Apron)	TON	1,670	\$ 100.00	\$ 167,000.00
P-603 P-603a	<b>BITUMINOUS TACK COAT</b> Tack Coat	GAL	3,500	\$ 1.00	\$ 3,500.00
P-620 P-620a P-620b	<b>PAINTING</b> Temporary Pavment Markings Permanent Pavement Markings	SF SF	2,675 2,674	\$ 3.00 \$ 4.00	\$ 8,025.00 \$ 10,696.00
D-701 D-701a D-701b	<b>PIPE FOR STORM DRAINS AND CULVERTS</b> Reinforce Concrete Pipe Reinforced Concrete Pipe - FES	LF EA	500 2	\$ 100.00 \$ 2,000.00	\$ 50,000.00 \$ 4,000.00
D-751 D-751a D-751b D-751c D-751d	<b>MANHOLES, CATCH BASINS, INLETS AND INSPECTION HOLES</b> Install Parking Lot Inlet Install Aircraft Rated Inlet Install Inspection Pit Install Underdrain Clean Out	EA EA EA EA	2 1 1 3	\$ 4,000.00 \$ 10,000.00 \$ 4,000.00 \$ 2,000.00	\$ 8,000.00 \$ 10,000.00 \$ 4,000.00 \$ 6,000.00
T-901 T-901a T-901b	<b>SEEDING AND EROSION CONTROL</b> Seeding with Hydromulch Erosion Control	AC LS	2 1	\$ 2,500.00 \$ 15,000	\$ 5,000.00 \$ 15,000.00
DIV 16 Div 16a	<b>ELECTRICAL</b> Micellaneous Electrical	LS	1	\$ 25,000.00	\$ 25,000.00
<b>TOTAL</b>				<b>\$</b>	<b>931,321.00</b>
<b>10% CONTINGENCY</b>				<b>\$</b>	<b>93,132.10</b>
<b>18% ENGINEERING of (TOTAL + CONTINGENCY)</b>				<b>\$</b>	<b>167,637.78</b>
<b>TOTAL</b>				<b>\$</b>	<b>1,192,090.88</b>

**ASSUMPTIONS:**

- \* FBO Parking Lot section is 6" CO-401 on 6' of CDOT Crushed Aggregate Base Course.
- \* Expanded Apron section is 8" CO-403 on 12" COT Crushed Aggregate Base Course.
- \* Soil Sterilization to be sprayed on all paved area subgrade.
- \* Class 6 Aggregate Base course to be utilized under all pavement.
- \* Unit Weight for Asphalt Cement assumed to be 150 lb/cf.
- \* Tack Coat placed at 0.15 gal/sy.
- \* Stabilization Fabric to be placd under new construction.
- \* Aircraft Pavment to utilize Aircraft Rated Inlets, parking lot to use standard CDOT Inlets.
- \* Aircraft Pavement to have underdrains and associated structures.
- \* Temporary and Permanent Paint to be applied in two applications.

**Garfield County Regional Airport  
Rifle, Colorado  
Engineer's Opinion of Probable Cost**

July 1, 2013

**Auto Parking - Alternate 2**

			<b>Auto Parking - Alternate 2</b>		
ITEM	ITEM DESCRIPTION	UNIT	Quantity	Engineer's Estimate	
				Unit \$	Item \$
P-100 P-100a	<b>MOBILIZATION</b> Mobilization	LS	1	\$ 153,000	\$ 153,000.00
P-150 P-150a P-150b	<b>PAVEMENT REMOVAL</b> Pavement Removal (2" - Partial Depth) Pavement Removal (Complete)	SY SY	16,105 500	\$ 12.00 \$ 15.00	\$ 193,260.00 \$ 7,500.00
P-152 P-152a P-152b	<b>EMBANKMENT AND EXCAVATION</b> Unclassified Excavation Subgrade Preparation (12-Inches)	CY SY	1,900 13,700	\$ 16.00 \$ 10.00	\$ 30,400.00 \$ 137,000.00
P-222 P-222a	<b>SOIL STERILIZATION</b> Soil Sterilization	SY	13,700	\$ 2.00	\$ 27,400.00
P-310 P-310a	<b>GEOTEXTILE FABRIC</b> Stabilization Fabric	SY	13,700	\$ 2.50	\$ 34,250.00
CDOT 304 CDOT 304a	<b>AGGREGATE BASE COURSE</b> Aggregate Base Course - Class 6	CY	3,450	\$ 55.00	\$ 189,750.00
CO-401 CO-401a	<b>PLANT MIX PAVEMENTS</b> Bituminous Paving Course	TON	4,170	\$ 100.00	\$ 417,000.00
CO-403 CO-403a	<b>COLORADO MODIFIED PLANT MIX ASPHALT PAVEMENTS</b> Bituminous Paving Course (Apron)	TON	3,010	\$ 100.00	\$ 301,000.00
P-603 P-603a	<b>BITUMINOUS TACK COAT</b> Tack Coat	GAL	5,500	\$ 1.00	\$ 5,500.00
P-620 P-620a P-620b	<b>PAINTING</b> Temporary Pavment Markings Permanent Pavement Markings	SF SF	3,710 3,710	\$ 3.00 \$ 4.00	\$ 11,130.00 \$ 14,840.00
D-701 D-701a D-701b	<b>PIPE FOR STORM DRAINS AND CULVERTS</b> Reinforce Concrete Pipe Reinforced Concrete Pipe - FES	LF EA	850 2	\$ 100.00 \$ 2,000.00	\$ 85,000.00 \$ 4,000.00
D-751 D-751a D-751b D-751c D-751d	<b>MANHOLES, CATCH BASINS, INLETS AND INSPECTION HOLES</b> Install Parking Lot Inlet Install Aircraft Rated Inlet Install Inspection Pit Install Underdrain Clean Out	EA EA EA EA	3 2 2 6	\$ 4,000.00 \$ 10,000.00 \$ 4,000.00 \$ 2,000.00	\$ 12,000.00 \$ 20,000.00 \$ 8,000.00 \$ 12,000.00
T-901 T-901a T-901b	<b>SEEDING AND EROSION CONTROL</b> Seeding with Hydromulch Erosion Control	AC LS	2 1	\$ 2,500.00 \$ 15,000	\$ 5,000.00 \$ 15,000.00
DIV 16 Div 16a	<b>ELECTRICAL</b> Miscellaneous Electrical	LS	1	\$ 30,000.00	\$ 30,000.00
<b>TOTAL</b>				<b>\$</b>	<b>1,713,030.00</b>
<b>10% CONTINGENCY</b>				<b>\$</b>	<b>171,303.00</b>
<b>18% ENGINEERING of (TOTAL + CONTINGENCY)</b>				<b>\$</b>	<b>308,345.40</b>
<b>TOTAL</b>				<b>\$</b>	<b>2,192,678.40</b>

**ASSUMPTIONS:**

- \*Parking Lot section is 6" CO-401 on 6' of CDOT Crushed Aggregate Base Course.
- \* Expanded Apron section is 8" CO-403 on 12" COT Crushed Aggregate Base Course.
- \* Soil Sterilant to be sprayed on all paved areas.
- \* Class 6 Aggregate Base course to be utilized under all pavement.
- \* Unit Weight for Asphalt Cement assumed to be 150 lb/cf.
- \* Tack Coat placed at 0.15 gal/sy.
- \* Stabilization Fabric to be placd under new construction.
- \* Aircraft Pavment to utilize Aircraft Rated Inlets, parking lot to use standard CDOT Inlets.
- \* Aircraft Pavement to have underdrains and associated structures.
- \* Temporary and Permanent Paint to be applied in two applications.

**Garfield County Regional Airport  
Rifle, Colorado  
Engineer's Opinion of Probable Cost**

July 1, 2013

**Auto Parking - Alternate 3**

ITEM	ITEM DESCRIPTION	UNIT	Auto Parking - Alternate 3		
			Quantity	Engineer's Estimate	
				Unit \$	Item \$
P-100 P-100a	<b>MOBILIZATION</b> Mobilization	LS	1	\$ 165,800	\$ 165,800.00
P-150 P-150a P-150b	<b>PAVEMENT REMOVAL</b> Pavement Removal (2" - Partial Depth) Pavement Removal (Complete)	SY SY	16,105 500	\$ 12.00 \$ 15.00	\$ 193,260.00 \$ 7,500.00
P-152 P-152a P-152b	<b>EMBANKMENT AND EXCAVATION</b> Unclassified Excavation Subgrade Preparation (12 -Inches)	CY SY	11,500 17,500	\$ 16.00 \$ 10.00	\$ 184,000.00 \$ 175,000.00
P-222 P-222a	<b>SOIL STERILIZATION</b> Soil Sterilization	SY	17,500	\$ 2.00	\$ 35,000.00
P-310 P-310a	<b>GEOTEXTILE FABRIC</b> Stabilization Fabric	SY	4,020	\$ 2.50	\$ 10,050.00
CDOT 304 CDOT 304a	<b>AGGREGATE BASE COURSE</b> Aggregate Base Course - Class 6	CY	1,150	\$ 55.00	\$ 63,250.00
CO-401 P-401a	<b>PLANT MIX PAVEMENTS</b> Bituminous Paving Course	TON	6,900	\$ 100.00	\$ 690,000.00
CO-403 CO-403a	<b>COLORADO MODIFIED PLANT MIX ASPHALT PAVEMENTS</b> Bituminous Paving Course (Apron)	TON	1,100	\$ 100.00	\$ 110,000.00
P-603 P-603a	<b>BITUMINOUS TACK COAT</b> Tack Coat	GAL	5,400	\$ 1.00	\$ 5,400.00
P-620 P-620a P-620b	<b>PAINTING</b> Temporary Pavment Markings Permanent Pavment Markings	SF SF	3,710 3,710	\$ 3.00 \$ 4.00	\$ 11,130.00 \$ 14,840.00
D-701 D-701a D-701b	<b>PIPE FOR STORM DRAINS AND CULVERTS</b> Reinforce Concrete Pipe Reinforced Concrete Pipe - FES	LF EA	700 2	\$ 100.00 \$ 2,000.00	\$ 70,000.00 \$ 4,000.00
D-705 D-705a D-705b	<b>PIPE UNDERDRAINS FOR AIRPORTS</b> Perforated Polyethylene Pipe (6 -Inch) Non-Perforated Polyethylene Pipe (6 -Inch)	LF LF	750 150	\$ 30.00 \$ 30.00	\$ 22,500.00 \$ 4,500.00
D-751 D-751a D-751b D-751c D-751d	<b>MANHOLES, CATCH BASINS, INLETS AND INSPECTION HOLES</b> Install Parking Lot Inlet Install Aircraft Rated Inlet Install Inspection Pit Install Underdrain Clean Out	EA EA EA EA	3 1 1 2	\$ 4,000.00 \$ 10,000.00 \$ 4,000.00 \$ 2,000.00	\$ 12,000.00 \$ 10,000.00 \$ 4,000.00 \$ 4,000.00
T-901 T-901a T-901b	<b>SEEDING AND EROSION CONTROL</b> Seeding with Hydromulch Erosion Control	AC LS	5 1	\$ 2,500.00 \$ 15,000	\$ 12,500.00 \$ 15,000.00
DIV 16 Div 16a	<b>ELECTRICAL</b> Entrance Road Lighting and Miscellaneous Electrical	LS	1	\$ 100,000.00	\$ 100,000.00
<b>TOTAL</b>				<b>\$</b>	<b>1,923,730.00</b>
<b>10% CONTINGENCY</b>				<b>\$</b>	<b>192,373.00</b>
<b>18% ENGINEERING of (TOTAL + CONTINGENCY)</b>				<b>\$</b>	<b>34,627.14</b>
<b>TOTAL</b>				<b>\$</b>	<b>2,150,730.14</b>

**ASSUMPTIONS:**

- \* Parking Lot and Entrance Road section is 6" CO-401 on 6' of CDOT Crushed Aggregate Base Course.
- \* Entrance Road assumes approximate 2' of cut entire length.
- \* Expanded Apron section is 8" CO-403 on 12" COT Crushed Aggregate Base Course.
- \* Class 6 Aggregate Base course to be utilized under all pavement.
- \* Unit Weight for Asphalt Cement assumed to be 150 lb/cf.
- \* Tack Coat placed at 0.15 gal/sy.
- \* Stabilization Fabric to be placed under new construction.
- \* Aircraft Pavment to utilize Aircraft Rated Inlets, parking lot to use standard CDOT Inlets.
- \* Aircraft Pavment to have underdrains and associated structures.
- \* Temporary and Permanent Paint to be applied in two applications.
- \* Entrance Road to be lighted.

**Garfield County Regional Airport  
Rifle, Colorado  
Engineer's Opinion of Probable Cost**

July 2, 2013

**GA Development - Alternate 1**

GA Development - Alternate 1			GA Development - Alternate 1		
			Quantity	Engineer's Estimate	
				Unit \$	Item \$
ITEM	ITEM DESCRIPTION	UNIT	Quantity	Unit \$	Item \$
P-100 P-100a	<b>MOBILIZATION</b> Mobilization	LS	1	\$ 393,500	\$ 393,500.00
P-150 P-150a	<b>PAVEMENT REMOVAL</b> Pavement Removal (2" - Partial Depth)	SY	980	\$ 12.00	\$ 11,760.00
P-152 P-152a P-152b	<b>EMBANKMENT AND EXCAVATION</b> Unclassified Excavation Subgrade Preparation (12 -Inches)	CY SY	28,000 41,600	\$ 14.00 \$ 8.00	\$ 392,000.00 \$ 332,800.00
P-222 P-222a	<b>SOIL STERILIZATION</b> Soil Sterilization	SY	41,600	\$ 1.00	\$ 41,600.00
P-310 P-310a	<b>GEOTEXTILE FABRIC</b> Stabilization Fabric	SY	41,600	\$ 2.50	\$ 104,000.00
CDOT 304 CDOT 304a	<b>AGGREGATE BASE COURSE</b> Aggregate Base Course - Class 6	CY	13,900	\$ 55.00	\$ 764,500.00
CO-403 CO-403a	<b>COLORADO MODIFIED PLANT MIX ASPHALT PAVEMENTS</b> Bituminous Paving Course (Apron)	TON	18,100	\$ 100.00	\$ 1,810,000.00
P-603 P-603a	<b>BITUMINOUS TACK COAT</b> Tack Coat	GAL	12,500	\$ 1.00	\$ 12,500.00
P-620 P-620a P-620b	<b>PAINTING</b> Temporary Pavment Markings Permanent Pavement Markings	SF SF	2,500 2,500	\$ 3.00 \$ 4.00	\$ 7,500.00 \$ 10,000.00
P-640 P-640a	<b>AIRCRAFT TIE DOWN ANCHORS</b> Install Aircraft Tie Downs	EA	60	\$ 500.00	\$ 30,000.00
D-701 D-701a D-701b	<b>PIPE FOR STORM DRAINS AND CULVERTS</b> Reinforce Concrete Pipe Reinforced Concrete Pipe - FES	LF EA	2,800 6	\$ 100.00 \$ 2,000.00	\$ 280,000.00 \$ 12,000.00
D-705 D-705a D-705b	<b>PIPE UNDERDRAINS FOR AIRPORTS</b> Perforated Polyethylene Pipe (6 -Inch) Non-Perforated Polyethylene Pipe (6 -Inch)	LF LF	1,800 300	\$ 30.00 \$ 30.00	\$ 54,000.00 \$ 9,000.00
D-751 D-751a D-751b D-751c	<b>MANHOLES, CATCH BASINS, INLETS AND INSPECTION HOLES</b> Install Inspection Pit Install Underdrain Clean Out Install Aircraft Rated Inlet	EA EA EA	3 8 6	\$ 4,000.00 \$ 2,000.00 \$ 10,000.00	\$ 12,000.00 \$ 16,000.00
T-901 T-901a T-901b	<b>SEEDING AND EROSION CONTROL</b> Seeding with Hydromulch Erosion Control	AC LS	4 1	\$ 2,500.00 25,000	\$ 10,000.00 \$ 25,000.00
L-125 L-125a	<b>AIRFIELD ELECTRICAL</b> Install Airfield Lighting	LS	1	\$ 110,000.00	\$ 110,000.00
<b>TOTAL</b>					<b>\$ 4,438,160.00</b>
<b>10% CONTINGENCY</b>					<b>\$ 443,816.00</b>
<b>18% ENGINEERING of (TOTAL + CONTINGENCY)</b>					<b>\$ 79,886.88</b>
<b>TOTAL</b>					<b>\$ 4,961,862.88</b>

ASSUMPTIONS:

- \* Apron section is 8" CO-403 on 12" CDOT Crushed Aggregate Base Course.
- \* Class 6 Aggregate Base course to be utilized under all pavement.
- \* Unit Weight for Asphalt Cement assumed to be 150 lb/cf.
- \* Tack Coat placed at 0.15 gal/sy.
- \* Stabilization Fabric to be placd under new construction.
- \* Aircraft Pavment to sheet flow to north for drainage
- \* Aircraft Pavement to have underdrains and associated structures.
- \* Temporary and Permanent Paint to be applied in two applications.
- \* Tie down anchors not include in associated costs.

**Garfield County Regional Airport  
Rifle, Colorado  
Engineer's Opinion of Probable Cost**

July 2, 2013

**GA Development - Alternate 2**

ITEM	ITEM DESCRIPTION	UNIT	GA Development - Alternate 2		
			Quantity	Engineer's Estimate	
				Unit \$	Item \$
P-100 P-100a	<b>MOBILIZATION</b> Mobilization	LS	1	\$ 408,400	\$ 408,400.00
P-150 P-150a	<b>PAVEMENT REMOVAL</b> Pavement Removal (2" - Partial Depth)	SY	980	\$ 12.00	\$ 11,760.00
P-152 P-152a P-152b	<b>EMBANKMENT AND EXCAVATION</b> Unclassified Excavation Subgrade Preparation (12 -Inches)	CY SY	28,400 42,600	\$ 14.00 \$ 8.00	\$ 397,600.00 \$ 340,800.00
P-222 P-222a	<b>SOIL STERILIZATION</b> Soil Sterilization	SY	42,600	\$ 1.00	\$ 42,600.00
P-310 P-310a	<b>GEOTEXTILE FABRIC</b> Stabilization Fabric	SY	42,600	\$ 2.50	\$ 106,500.00
CDOT 304 CDOT 304a	<b>AGGREGATE BASE COURSE</b> Aggregate Base Course - Class 6	CY	13,900	\$ 55.00	\$ 764,500.00
CO-403 CO-403a	<b>COLORADO MODIFIED PLANT MIX ASPHALT PAVEMENTS</b> Bituminous Paving Course (Apron)	TON	19,200	\$ 100.00	\$ 1,920,000.00
P-603 P-603a	<b>BITUMINOUS TACK COAT</b> Tack Coat	GAL	12,800	\$ 1.00	\$ 12,800.00
P-620 P-620a P-620b	<b>PAINTING</b> Temporary Pavment Markings Permanent Pavement Markings	SF SF	2,450 2,450	\$ 3.00 \$ 4.00	\$ 7,350.00 \$ 9,800.00
P-640 P-640a	<b>AIRCRAFT TIE DOWN ANCHORS</b> Install Aircraft Tie Downs	EA	104	\$ 500.00	\$ 52,000.00
D-701 D-701a D-701b	<b>PIPE FOR STORM DRAINS AND CULVERTS</b> Reinforce Concrete Pipe Reinforced Concrete Pipe - FES	LF EA	2,800 6	\$ 100.00 \$ 2,000.00	\$ 280,000.00 \$ 12,000.00
D-705 D-705a D-705b	<b>PIPE UNDERDRAINS FOR AIRPORTS</b> Perforated Polyethylene Pipe (6 -Inch) Non-Perforated Polyethylene Pipe (6 -Inch)	LF LF	1,800 300	\$ 30.00 \$ 30.00	\$ 54,000.00 \$ 9,000.00
D-751 D-751a D-751b D-751c	<b>MANHOLES, CATCH BASINS, INLETS AND INSPECTION HOLES</b> Install Inspection Pit Install Underdrain Clean Out Install Aircraft Rated Inlet	EA EA EA	3 8 6	\$ 4,000.00 \$ 2,000.00 \$ 10,000.00	\$ 12,000.00 \$ 16,000.00
T-901 T-901a T-901b	<b>SEEDING AND EROSION CONTROL</b> Seeding with Hydromulch Erosion Control	AC LS	4 1	\$ 2,500.00 25,000	\$ 10,000.00 \$ 25,000.00
L-125 L-125a	<b>AIRFIELD ELECTRICAL</b> Install Airfield Lighting	LS	1	\$ 110,000.00	\$ 110,000.00
<b>TOTAL</b>					<b>\$ 4,602,110.00</b>
<b>10% CONTINGENCY</b>					<b>\$ 460,211.00</b>
<b>18% ENGINEERING of (TOTAL + CONTINGENCY)</b>					<b>\$ 82,837.98</b>
<b>TOTAL</b>					<b>\$ 5,145,158.98</b>

ASSUMPTIONS:

- \* Apron section is 8" CO-403 on 12" CDOT Crushed Aggregate Base Course.
- \* Class 6 Aggregate Base course to be utilized under all pavement.
- \* Unit Weight for Asphalt Cement assumed to be 150 lb/cf.
- \* Tack Coat placed at 0.15 gal/sy.
- \* Stabilization Fabric to be placd under new construction.
- \* Aircraft Pavment to sheet flow to north for drainage
- \* Aircraft Pavement to have underdrains and associated structures.
- \* Temporary and Permanent Paint to be applied in two applications.
- \* Tie down anchors not include in associated costs.

**Garfield County Regional Airport  
Rifle, Colorado  
Engineer's Opinion of Probable Cost**

April 7, 2014

**Helipad Development**

ITEM	ITEM DESCRIPTION	UNIT	Helipad Development - Alternate 1		
			Quantity	Engineer's Estimate	
				Unit \$	Item \$
P-100 P-100a	<b>MOBILIZATION</b> Mobilization	LS	1	\$ 10,200	\$ 10,200.00
P-150 P-150a	<b>PAVEMENT REMOVAL</b> Pavement Removal (2" - Partial Depth)	SY	60	\$ 20.00	\$ 1,200.00
P-152 P-152a P-152b	<b>EMBANKMENT AND EXCAVATION</b> Unclassified Excavation Subgrade Preparation (12 -Inches)	CY SY	240 300	\$ 14.00 \$ 8.00	\$ 3,360.00 \$ 2,400.00
P-222 P-222a	<b>SOIL STERILIZATION</b> Soil Sterilization	SY	300	\$ 1.50	\$ 450.00
P-310 P-310a	<b>GEOTEXTILE FABRIC</b> Stabilization Fabric	SY	300	\$ 2.50	\$ 750.00
CDOT 304 CDOT 304a	<b>AGGREGATE BASE COURSE</b> Aggregate Base Course - Class 6	CY	100	\$ 65.00	\$ 6,500.00
P-403 P-403a P-403b	<b>BITUMINOUS TACK COAT</b> Bituminous Paving Course (Butt Joint) Bituminous Asphalt Binder	Tons Tons	35 2.5	\$ 150.00 \$ 250.00	\$ 5,250.00 \$ 625.00
P603 P-603a	<b>BITUMINOUS TACK COAT</b> Tack Coat	GAL	30	\$ 5.00	\$ 150.00
P-610 P-610a	<b>PORTLAND CEMENT CONCRETE</b> 6" Structural Portland Cement Concrete (Concrete Hard Stand)	SY	300	\$ 150.00	\$ 45,000.00
P-620 P-620a P-620b	<b>PAINTING</b> Temporary Pavment Markings Permanent Pavement Markings	SF SF	270 270	\$ 5.00 \$ 4.00	\$ 1,350.00 \$ 1,080.00
D-705 D-705a	<b>PIPE UNDERDRAINS FOR AIRPORTS</b> Perforated Polyethylene Pipe (6 -Inch)	LF	150	\$ 50.00	\$ 7,500.00
D-751 D-751a D-751b D-751c	<b>MANHOLES, CATCH BASINS, INLETS AND INSPECTION HOLES</b> Install Inspection Pit Install Underdrain Clean Out Install Aircraft Rated Inlet	EA EA EA	3 1 1	\$ 4,000.00 \$ 2,000.00 \$ 10,000.00	\$ 12,000.00 \$ 2,000.00 \$ 10,000.00
T-901 T-901a T-901b	<b>SEEDING AND EROSION CONTROL</b> Seeding with Hydromulch Erosion Control	AC LS	0.5 1	\$ 2,500.00 \$ 1,500.00	\$ 1,250.00 \$ 1,500.00
L-107 L-107a	<b>INSTALLATION OF AIRPORT 8-FOOT WIND CONES</b> Installation of Airport 8-foot Wind Cones and Segmented Circle	EA	1	\$ 7,000.00	\$ 7,000.00
L-125 L-125a	<b>AIRFIELD ELECTRICAL</b> Install Airfield Lighting associated with Helipad	LS	1	\$ 10,000.00	\$ 10,000.00
<b>TOTAL</b>					<b>\$ 129,565.00</b>
<b>10% CONTINGENCY</b>					<b>\$ 12,956.50</b>
<b>18% ENGINEERING of (TOTAL + CONTINGENCY)</b>					<b>\$ 25,653.87</b>
<b>TOTAL</b>					<b>\$ 168,175.37</b>

**ASSUMPTIONS:**

- \* Helipad size is the minimum of 50' length by 50' width
- \* Helipad section is 6" P-610 on 12" CDOT Crushed Aggregate Base Course.
- \* Class 6 Aggregate Base course to be utilized under all pavement.
- \* Stabilization Fabric to be placd under new construction.
- \* Aircraft Pavment to have 2.0% max gradient flow
- \* Aircraft Pavement to have underdrains and associated structures.
- \* Temporary and Permanent Paint to be applied in two applications.
- \* Tie down anchors not include in associated costs.

**Garfield County Regional Airport  
Rifle, Colorado  
Engineer's Opinion of Probable Cost**

April 4, 2014

**Runway Rehabilitation - Alternate 1**

**Auto Parking - Alternate 1**

ITEM	ITEM DESCRIPTION	UNIT	Quantity	Engineer's Estimate	
				Unit \$	Item \$
P-100 P-100a	<b>MOBILIZATION</b> Mobilization	LS	1	\$ 368,500	\$ 368,500.00
P-140 P-140a	<b>PAVEMENT REMOVAL</b> Pavement Removal (2" - Partial Depth)	SY	88,250	\$ 12.00	\$ 1,059,000.00
P-310 P-310a	<b>GEOTEXTILE FABRIC</b> Paving Fabric	SY	88,250	\$ 2.50	\$ 220,625.00
P-401 P-401a P-401b	<b>PLANT MIX PAVEMENTS</b> Bituminous Paving Course Modified Bituminous Binder	TON TON	9,925 645	\$ 100.00 \$ 250.00	\$ 992,500.00 \$ 161,250.00
P-601 P-603a P-603b	<b>CRACK REPAIR</b> Minor Crack Repair Major Crack Repair	LF LF	14,500 14,500	\$ 5.00 \$ 15.00	\$ 72,500.00 \$ 217,500.00
P-603 P-603a P-603b	<b>BITUMINOUS TACK COAT</b> Tack Coat Fog Seal	GAL SY	8,825 88,250	\$ 2.00 \$ 2.00	\$ 17,650.00 \$ 176,500.00
P-620 P-620a P-620b	<b>PAINTING</b> Temporary Pavment Markings Permanent Pavement Markings	SF SF	96,700 96,700	\$ 3.00 \$ 4.00	\$ 290,100.00 \$ 386,800.00
P-650a T-901a	<b>GROOVING</b> Sawcut Grooving	SY	65,150	\$ 1.00	\$ 65,150.00
DIV 16 Div 16a	<b>ELECTRICAL</b> Miscellaneous Electrical	LS	1	\$ 25,000.00	\$ 25,000.00
<b>TOTAL</b>				<b>\$</b>	<b>4,053,075.00</b>
<b>10% CONTINGENCY</b>				<b>\$</b>	<b>405,307.50</b>
<b>18% ENGINEERING of (TOTAL + CONTINGENCY)</b>				<b>\$</b>	<b>729,553.50</b>
<b>TOTAL</b>				<b>\$</b>	<b>5,187,936.00</b>

**ASSUMPTIONS:**

- \* Existing pavement will require a Geosynthetic Pavement Fabric
- \* Existing runway grades are to be retained
- \* Unit Weight for Asphalt Cement assumed to be 150 lb/cf.
- \* Tack Coat placed at 0.15 gal/sy.
- \* Temporary and Permanent Paint to be applied in two applications.
- \* Runway will be grooved 10' out from edge of pavement
- \* No taxiways or taxiway connectors to be accounted for as a part of this project



**Garfield County Regional Airport  
Rifle, Colorado  
Engineer's Opinion of Probable Cost**

June 28, 2013

Runway 8/26 - 500' Extension with no Parallel Taxiway			500-Foot Runway 26 Extension		
ITEM	ITEM DESCRIPTION	UNIT	Quantity	Engineer's Estimate	
				Unit \$	Item \$
P-100 P-100a	<b>MOBILIZATION</b> Mobilization	LS	1	\$ 1,071,100	\$ 1,071,100.00
P-140 P-140a P-140b	<b>PAVEMENT REMOVAL</b> Asphalt Removal (Full Depth) 2" Butt Joint - 10' Wide	SY SY	3,120 115	\$ 10.00 \$ 8.00	\$ 31,200.00 \$ 920.00
P-152 P-152a P-152b	<b>EXCAVATION AND EMBANKMENT</b> Subgrade Preparation Embankment (In Place) - Finish Grading Necessary	SY CY	8,667 1,589,000	\$ 10.00 \$ 3.00	\$ 86,666.67 \$ 4,767,000.00
P-164 P-164a	<b>REINFORCED SOIL SLOPE, COMPLETE</b> Reinforced Soil Slope, Complete	VFF	78,150	\$ 50.00	\$ 3,907,500.00
P-222 P-222a	<b>SOIL STERILIZATION</b> Soil Sterilization	SY	8,667	\$ 1.50	\$ 13,000.00
P-209 P-209a	<b>CRUSHED AGGREGATE BASE COURSE</b> Crushed Aggregate Base Course (12 Inches)	TON	4,800	\$ 55.00	\$ 264,000.00
P-310 P-310a	<b>GEOTEXTILE FABRIC</b> Stabilization Fabric	SY	8,667	\$ 3.00	\$ 26,000.00
P-401 P-401a	<b>BITUMINOUS PAVING COURSE</b> Bituminous Paving Course	TON	3,200	\$ 100.00	\$ 320,000.00
P-603 P-603a	<b>BITUMINOUS TACK COAT</b> Tack Coat	GAL	2,140	\$ 1.00	\$ 2,140.00
P-609 P-609a	<b>POLYMER MODIFIED PAVEMENT SEALER AND REJUVENATOR</b> Asphalt Rejuvenator with Sand (GSB-88)	SY	78,000	\$ 1.50	\$ 117,000.00
P-650 P-650a	<b>RUNWAY GROOVING</b> Runway Grooving	SY	7,225	\$ 3.00	\$ 21,675.00
P-620 P-620a P-620b P-620c	<b>RUNWAY TAXIWAY PAINTING</b> Temporary Pavment Markings Permanent Pavement Markings Permanent Paint Obliteration	SF SF SF	112,500 112,500 105,000	\$ 1.50 \$ 2.00 \$ 2.50	\$ 168,750.00 \$ 225,000.00 \$ 262,500.00
D-701 D-701a D-701b	<b>PIPE FOR STORM DRAINS AND CULVERTS</b> Reinforced Concrete Pipe - Class V Reinforced Concrete Pipe - Flared End Section	LF EA	500 4	\$ 100.00 \$ 2,000.00	\$ 50,000.00 \$ 8,000.00
D-705 D-705a D-705b	<b>PIPE UNDERDRAINS FOR AIRPORTS</b> Perforated Polyethylene Pipe (6 -Inch) Non-Perforated Polyethylene Pipe (6 -Inch)	LF LF	1,000 500	\$ 30.00 \$ 30.00	\$ 30,000.00 \$ 15,000.00
D-751 D-705a D-705b D-705c	<b>MANHOLES, CATCH BASINS, INLETS AND INSPECTION HOLES</b> Aircraft Rated Inlet - Type 1 Inspection Pit Underdrain Clean Out	EA EA EA	4 2 8	\$ 10,000.00 \$ 4,000.00 \$ 2,000.00	\$ 40,000.00 \$ 8,000.00 \$ 16,000.00
T-901 T-901a T-901b	<b>SEEDING AND EROSION CONTROL</b> Seeding with Hydromulch Temporary Erosion Control	AC LS	5 5	\$ 2,500.00 \$ 50,000.00	\$ 12,500.00 \$ 250,000.00
L-108 L-108a	<b>AIRPORT LIGHTING</b> Installation of Airfield Electrical System	LS	1	\$ 100,000.00	\$ 100,000.00
<b>TOTAL</b>					<b>\$ 11,813,951.67</b>
<b>10% CONTINGENCY</b>					<b>\$ 1,181,395.17</b>
<b>18% ENGINEERING of (TOTAL + CONTINGENCY)</b>					<b>\$ 2,126,511.30</b>
<b>TOTAL</b>					<b>\$ 15,121,858.13</b>

ASSUMPTIONS:

- \*The term "vff" will refer to the square foot of vertical finish face. This measurement applies to the Reinforced Soil Slope and Mechanically Stabilized Earth wall. The method of measurement is the projected vertical elevation difference multiplied by the horizontal length.
- \*The EMBANKMENT quantity was calculated by applying a 20% contingency factor to the raw earthwork number. This calculation also assumes that a Mechanically Stabilized Earth wall will be utilized on the north side of the runway extension.
- \*RW 8/26 is a CII category runway
- \*Polymer Modified Pavement to be applied to Runway Surface after obliteration to rejuvenate surface.
- \*15% of pavement area will require painting and obliteration.
- \*Tack Coat to be applied at 0.15 gal/sy. 2 applications on runway and 1 application on blast pad.
- \* 8 inch of runway asphalt section, 4 inch blast pad section with unit weight of 150 lb/cy for asphalt.

**Garfield County Regional Airport  
Rifle, Colorado  
Engineer's Opinion of Probable Cost**

June 28, 2013

**Runway 8/26 - 500' Extension and Parallel Taxiway**

ITEM	ITEM DESCRIPTION	UNIT	Quantity	500' Runway 26 Extension	
				Engineer's Estimate	
				Unit \$	Item \$
P-100 P-100a	<b>MOBILIZATION</b> Mobilization	LS	1	\$ 1,148,900	\$ 1,148,900.00
P-140 P-140a P-140b	<b>PAVEMENT REMOVAL</b> Asphalt Removal (Full Depth) 2" Butt Joint - 10' Wide	SY SY	3,120 115	\$ 10.00 \$ 8.00	\$ 31,200.00 \$ 920.00
P-152 P-152a P-152b	<b>EXCAVATION AND EMBANKMENT</b> Subgrade Preparation Embankment (In Place) - Finish Grading Necessary	SY CY	14,040 1,589,000	\$ 8.00 \$ 3.00	\$ 112,320.00 \$ 4,767,000.00
P-164 P-164a	<b>REINFORCED SOIL SLOPE, COMPLETE</b> Reinforced Soil Slope, Complete	VFF	78,150	\$ 50.00	\$ 3,907,500.00
P-222 P-222a	<b>SOIL STERILIZATION</b> Soil Sterilization	SY	14,040	\$ 1.50	\$ 21,060.00
P-209 P-209a	<b>CRUSHED AGGREGATE BASE COURSE</b> Crushed Aggregate Base Course (12 Inches)	TON	9,475	\$ 55.00	\$ 521,125.00
P-310 P-310a	<b>GEOTEXTILE FABRIC</b> Stabilization Fabric	SY	14,040	\$ 3.00	\$ 42,120.00
P-401 P-401a	<b>BITUMINOUS PAVING COURSE</b> Bituminous Paving Course	TON	5,620	\$ 100.00	\$ 562,000.00
P-603 P-603a	<b>BITUMINOUS TACK COAT</b> Tack Coat	GAL	3,800	\$ 1.00	\$ 3,800.00
P-609 P-609a	<b>POLYMER MODIFIED PAVEMENT SEALER AND REJUVENATOR</b> Asphalt Rejuvenator with Sand (GSB-88)	SY	78,000	\$ 1.50	\$ 117,000.00
P-620 P-620a P-620b P-620c	<b>RUNWAY TAXIWAY PAINTING</b> Temporary Pavment Markings Permanent Pavement Markings Permanent Paint Obliteration	SF SF SF	113,500 113,500 105,000	\$ 1.50 \$ 2.00 \$ 2.50	\$ 170,250.00 \$ 227,000.00 \$ 262,500.00
D-701 D-701a D-701b	<b>PIPE FOR STORM DRAINS AND CULVERTS</b> Reinforced Concrete Pipe - Class V Reinforced Concrete Pipe - Flared End Section	LF EA	750 4	\$ 100.00 \$ 2,000.00	\$ 75,000.00 \$ 8,000.00
D-705 D-705a D-705b	<b>PIPE UNDERDRAINS FOR AIRPORTS</b> Perforated Polyethylene Pipe (6 -Inch) Non-Perforated Polyethylene Pipe (6 -Inch)	LF LF	2,650 1,000	\$ 30.00 \$ 30.00	\$ 79,500.00 \$ 30,000.00
D-751 D-705a D-705b D-705c	<b>MANHOLES, CATCH BASINS, INLETS AND INSPECTION HOLES</b> Aircraft Rated Inlet - Type 1 Inspection Pit Underdrain Clean Out	EA EA EA	6 4 16	\$ 10,000.00 \$ 4,000.00 \$ 2,000.00	\$ 60,000.00 \$ 16,000.00 \$ 32,000.00
T-901 T-901a T-901b	<b>SEEDING AND EROSION CONTROL</b> Seeding with Hydromulch Temporary Erosion Control	AC LS	10 5	\$ 2,500.00 \$ 50,000.00	\$ 25,000.00 \$ 250,000.00
L-108 L-108a	<b>AIRPORT LIGHTING</b> Installation of Airfield Electrical System	LS	1	\$ 200,000.00	\$ 200,000.00
<b>TOTAL</b>				<b>\$</b>	<b>12,670,195.00</b>
<b>10% CONTINGENCY</b>				<b>\$</b>	<b>1,267,019.50</b>
<b>18% ENGINEERING of (TOTAL + CONTINGENCY)</b>				<b>\$</b>	<b>2,280,635.10</b>
<b>TOTAL</b>				<b>\$</b>	<b>16,217,849.60</b>

**ASSUMPTIONS:**

\*The term "vff" will refer to the square foot of vertical finish face.  
This measurement applies to the Reinforced, Soil Slope and Mechanically Stabilized Earth wall. The method of measurement is the projected vertical elevation difference multiplied by the horizontal length.

\*The EMBANKMENT quantity was calculated by applying a 20% contingency factor to the raw earthwork number. This calculation also assumes that a Mechanically Stabilized Earth wall will be utilized on the north side of the runway extension.

\*RW 8/26 is a CII category runway

\*Polymer Modified Pavement to be applied to Runway Surface after obliteration to rejuvenate surface.

\*15% of pavement area will require painting and obliteration.

\*Tack Coat to be applied at 0.15 gal/sy. 2 applications on runway and 1 application on blast pad.

\* 8 inch of runway asphalt section, 4 inch blast pad section with unit weight of 150 lb/cy for asphalt.

**Garfield County Regional Airport  
Rifle, Colorado  
Engineer's Opinion of Probable Cost**

November 11, 2013

**Runway 8/26 and Taxiway Shoulder Widening**

ITEM	ITEM DESCRIPTION	UNIT	Runway Shoulder Widening to RSA				Taxiway Shoulder Widening to RSA			
			Quantity	Engineer's Estimate		UNIT	Quantity	Engineer's Estimate		
				Unit \$	Item \$			Unit \$	Item \$	
P-100 P-100a	MOBILIZATION Mobilization	LS	1	\$ 236,200	\$ 236,200.00	LS	1	\$ 204,200	\$ 204,200.00	
P-140 P-140aa	PAVEMENT REMOVAL Butt Joint (2')	SY	3,380	\$ 16.00	\$ 54,080.00	SY	3,150	\$ 16.00	\$ 50,400.00	
P-152 P-152a P-152b	EXCAVATION AND EMBANKMENT Subgrade Preparation Unclassified Excavation	SY CY	33,600 12,000	\$ 8.00 \$ 18.00	\$ 268,800.00 \$ 216,000.00	SY CY	29,500 10,000	\$ 8.00 \$ 18.00	\$ 236,000.00 \$ 180,000.00	
P-222 P-222a	SOIL STERILIZATION Soil Sterilization	SY	33,600	\$ 1.50	\$ 50,400.00	SY	29,500	\$ 1.50	\$ 44,250.00	
P-209 P-209a	CRUSHED AGGREGATE BASE COURSE Crushed Aggregate Base Course (8 Inches)	CY	7,500	\$ 55.00	\$ 412,500.00	CY	6,600	\$ 55.00	\$ 363,000.00	
P-310 P-310a	GEOTEXTILE FABRIC Stabilization Fabric	SY	33,600	\$ 3.00	\$ 100,800.00	SY	29,500	\$ 3.00	\$ 88,500.00	
P-401 P-401a P-401b	BITUMINOUS PAVING COURSE Bituminous Paving Course (4 Inches) Bituminous Binder	TON TON	8,000 520	\$ 55.00 \$ 800.00	\$ 440,000.00 \$ 416,000.00	TON TON	7,000 455	\$ 55.00 \$ 800.00	\$ 385,000.00 \$ 364,000.00	
P-603 P-603a	BITUMINOUS TACK COAT Tack Coat	GAL	5,500	\$ 1.00	\$ 5,500.00	GAL	5,000	\$ 1.00	\$ 5,000.00	
P-620 P-620b	RUNWAY TAXIWAY PAINTING Permanent Pavement Markings	SF	42,000	\$ 2.00	\$ 84,000.00	SF	2,500	\$ 4.00	\$ 10,000.00	
D-751 D-751a D-751b	MANHOLES, CATCH BASINS, INLETS AND INSPECTION HOLES Adjust Inspection Pit Adjust Underdrain Clean Out	EA EA	10 35	\$ 2,000.00 \$ 1,000.00	\$ 20,000.00 \$ 35,000.00	EA EA	10 35	\$ 2,000.00 \$ 1,000.00	\$ 20,000.00 \$ 35,000.00	
T-901 T-901a T-901b	SEEDING AND EROSION CONTROL Seeding with Hydromulch Temporary Erosion Control	AC LS	3.5 1	\$ 2,500.00 \$ 50,000.00	\$ 8,750.00 \$ 50,000.00	AC LS	3 1	\$ 2,500.00 \$ 50,000.00	\$ 7,500.00 \$ 50,000.00	
L-108 L-108a L-108b	UNDERGROUND POWER CABLE FOR AIRPORTS L-824C #8 AWG 5000V Wire #6 AWG Bare Counterpoise Wire	LF LF	2,500 15,300	\$ 2.00 \$ 3.00	\$ 5,000.00 \$ 45,900.00	LF LF	2,500 14,200	\$ 2.00 \$ 3.00	\$ 5,000.00 \$ 42,600.00	
L-110 L-110a L-110b	AIRPORT UNDERGROUND ELECTRICAL DUCT BANKS Instal 1 - 2" Schedule 40 Conduit (DEB) Extend Existing Duct Banks	LF LF	1,500 1,000	\$ 15.00 \$ 50.00	\$ 22,500.00 \$ 50,000.00	LF LF	1 1,000	\$ 15.00 \$ 50.00	\$ 15.00 \$ 50,000.00	
L-125 L-125a L-125b	AIRPORT LIGHTING Adjust Runway/ Taxiway Edge Lights Remove and Install Guidance Sign on New Base	EA EA	117 10	\$ 650.00 \$ 5,500.00	\$ 76,050.00 \$ 55,000.00	EA EA	172 8	\$ 650.00 \$ 5,500.00	\$ 111,800.00 \$ 44,000.00	
<b>TOTAL</b>					<b>\$ 2,652,480.00</b>				<b>\$ 2,296,265.00</b>	
<b>10% CONTINGENCY</b>					<b>\$ 265,248.00</b>				<b>\$ 229,626.50</b>	
<b>18% ENGINEERING of (TOTAL + CONTINGENCY)</b>					<b>\$ 477,446.40</b>				<b>\$ 413,327.70</b>	
<b>TOTAL</b>					<b>\$ 3,395,174.40</b>				<b>\$ 2,939,219.20</b>	

**ASSUMPTIONS:**

- Shoulders shall tie to existing pavement with 2' Butt Joint.
- Quantity for Unclassified Excavation is the volume of the pavement section and include grading out 10 feet from edge of pavement.
- Subgrade to be prepared to a depth of 12 inches.
- Dry unit weight of aggregate for P-401 is 150 lb/cy. Percent Bituminous Binder assumed to be 6.5% og aggregate weight.
- Tack Coat applicatio rate is 0.15 gal/sy.
- Runway edge stripes and hold short markings will be required to be repainted with a permannet application rate only.
- Underdrain structures will require adjustment. Assumed clean outs every 400 feet and inspection pits every 1200 feet.
- Seeding shall be from edge of pavement out 10 feet.
- Assume some cable will need to be rehabed, but the goal is use existing cable.
- Assume all bare counterpoise will be replaced in pavement section.
- Conduit will need to be replaced in various locations and used to extend signs. The goal is to use existing conduit for runway edge lighting.
- Duct banks extending underneath paved sections will be extended out from underneath widened pavements.
- Existing Runway/Taxiway edge lights will be raised with extensions.
- All guidance signs within limits of shoulder widening will be removed and relocated using the existing sign on a new concrete base.

**Garfield County Regional Airport  
Rifle, Colorado  
Engineer's Opinion of Probable Cost**

May 12, 2014

**SE Hangar Development - Alternate 1**

ITEM		ITEM DESCRIPTION	UNIT	Quantity	SE Hangar Development - Alternate 1	
					Engineer's Estimate	
					Unit \$	Item \$
P-100 P-100a	<b>MOBILIZATION</b> Mobilization	LS	1	\$ 172,100	\$ 172,100.00	
P-150 P-150a	<b>PAVEMENT REMOVAL</b> Pavement Removal (2" - Partial Depth)	SY	250	\$ 12.00	\$ 3,000.00	
P-152 P-152a P-152b	<b>EMBANKMENT AND EXCAVATION</b> Unclassified Excavation Subgrade Preparation (12 -Inches)	CY SY	8,000 13,000	\$ 18.00 \$ 10.00	\$ 144,000.00 \$ 130,000.00	
P-222 P-222a	<b>SOIL STERILIZATION</b> Soil Sterilization	SY	13,000	\$ 1.00	\$ 13,000.00	
P-310 P-310a	<b>GEOTEXTILE FABRIC</b> Stabilization Fabric	SY	12,000	\$ 2.50	\$ 30,000.00	
CDOT 304 CDOT 304a	<b>AGGREGATE BASE COURSE</b> Aggregate Base Course - Class 6	CY	4,200	\$ 55.00	\$ 231,000.00	
CO-401 CO-401a	<b>PLANT MIX PAVEMENTS</b> Bituminous Paving Course	TON	400	\$100.00	\$ 40,000.00	
CO-403 CO-403a	<b>COLORADO MODIFIED PLANT MIX ASPHALT PAVEMENTS</b> Bituminous Paving Course (Apron)	TON	3,450	\$ 100.00	\$ 345,000.00	
P-501 P-501a	<b>PORTLAND CEMENT CONCRETE PAVEMENT</b> 6" Portland Cement Concrete Pavment	SY	4,325	\$ 110.00	\$ 475,750.00	
P-603 P-603a	<b>BITUMINOUS TACK COAT</b> Tack Coat	GAL	3,600	\$ 1.00	\$ 3,600.00	
P-620 P-620a P-620b	<b>PAINTING</b> Temporary Pavment Markings Permanent Pavment Markings	SF SF	1,200 1,200	\$ 3.00 \$ 4.00	\$ 3,600.00 \$ 4,800.00	
D-701 D-701a D-701b	<b>PIPE FOR STORM DRAINS AND CULVERTS</b> Reinforce Concrete Pipe Reinforced Concrete Pipe - FES	LF EA	1,500 2	\$ 100.00 \$ 2,000.00	\$ 150,000.00 \$ 4,000.00	
D-705 D-705a D-705b	<b>PIPE UNDERDRAINS FOR AIRPORTS</b> Perforated Polyethylene Pipe (6 -Inch) Non-Perforated Polyethylene Pipe (6 -Inch)	LF LF	1,000 20	\$ 30.00 \$ 30.00	\$ 30,000.00 \$ 600.00	
D-751 D-751a D-751b D-751c	<b>MANHOLES, CATCH BASINS, INLETS AND INSPECTION HOLES</b> Install Inspection Pit Install Underdrain Clean Out Install Aircraft Rated Inlet	EA EA EA	2 6 6	\$ 4,000.00 \$ 2,000.00 \$ 10,000.00	\$ 8,000.00 \$ 12,000.00 \$ 60,000.00	
T-901 T-901a T-901b	<b>SEEDING AND EROSION CONTROL</b> Seeding with Hydromulch Erosion Control	AC LS	3 1	\$ 2,500.00 \$ 25,000	\$ 7,500.00 \$ 25,000.00	
L-125 L-125a	<b>AIRFIELD ELECTRICAL</b> Install Airfield Lighting	LS	1	\$ 100,000.00	\$ 100,000.00	
U-100 U-101a	<b>UTILITIES</b> Hangar Utilities	LS	1	\$ 100,000.00	\$ 100,000.00	
				<b>TOTAL</b>	<b>\$ 2,092,950.00</b>	
				<b>10% CONTINGENCY</b>	<b>\$ 209,295.00</b>	
				<b>18% ENGINEERING of (TOTAL + CONTINGENCY)</b>	<b>\$ 37,673.10</b>	
				<b>TOTAL</b>	<b>\$ 2,339,918.10</b>	

**ASSUMPTIONS:**

- \* Hangar pavement section to be 6" PCCP on 12" CDOT Crushed Aggregate Base Course.
- \* Apron section is 8" CO-403 on 12" CDOT Crushed Aggregate Base Course.
- \* Parking Lot section is 6" CO-401 on 6" CDOT Crushed Aggregate Base Course.
- \* Class 6 Aggregate Base course to be utilized under all pavement.
- \* Unit Weight for Asphalt Cement assumed to be 150 lb/cf.
- \* Tack Coat placed at 0.15 gal/sy.
- \* Stabilization Fabric to be placd under new construction.
- \* Aircraft Pavement to have underdrains and associated structures.
- \* Temporary and Permanent Paint to be applied in two applications.
- \* Utiles include gas, power, water, and sanitary.

**Garfield County Regional Airport  
Rifle, Colorado  
Engineer's Opinion of Probable Cost**

July 2, 2013

**SE Hangar Development - Alternate 1**

		<b>SE Hangar Development - Alternate 1</b>			
<b>ITEM</b>	<b>ITEM DESCRIPTION</b>	<b>UNIT</b>	<b>Quantity</b>	<b>Engineer's Estimate</b>	
				<b>Unit \$</b>	<b>Item \$</b>
P-100 P-100a	<b>MOBILIZATION</b> Mobilization	LS	1	\$ 252,500	\$ 252,500.00
P-150 P-150a	<b>PAVEMENT REMOVAL</b> Pavement Removal (2" - Partial Depth)	SY	250	\$ 12.00	\$ 3,000.00
P-152 P-152a P-152b	<b>EMBANKMENT AND EXCAVATION</b> Unclassified Excavation Subgrade Preparation (12 -Inches)	CY SY	12,000 20,300	\$ 16.00 \$ 10.00	\$ 192,000.00 \$ 203,000.00
P-222 P-222a	<b>SOIL STERILIZATION</b> Soil Sterilization	SY	20,300	\$ 1.00	\$ 20,300.00
P-310 P-310a	<b>GEOTEXTILE FABRIC</b> Stabilization Fabric	SY	20,300	\$ 2.50	\$ 50,750.00
CDOT 304 CDOT 304a	<b>AGGREGATE BASE COURSE</b> Aggregate Base Course - Class 6	CY	8,789	\$ 55.00	\$ 483,395.00
CO-401 CO-401a	<b>PLANT MIX PAVEMENTS</b> Bituminous Paving Course	TON	2,750	\$100.00	\$ 417,000.00
CO-403 CO-403a	<b>COLORADO MODIFIED PLANT MIX ASPHALT PAVEMENTS</b> Bituminous Paving Course (Apron)	TON	5,423	\$ 100.00	\$ 542,300.00
P-603 P-603a	<b>BITUMINOUS TACK COAT</b> Tack Coat	GAL	3,000	\$ 1.00	\$ 3,000.00
P-620 P-620a P-620b	<b>PAINTING</b> Temporary Pavment Markings Permanent Pavement Markings	SF SF	2,000 2,000	\$ 3.00 \$ 4.00	\$ 6,000.00 \$ 8,000.00
D-701 D-701a D-701b	<b>PIPE FOR STORM DRAINS AND CULVERTS</b> Reinforce Concrete Pipe Reinforced Concrete Pipe - FES	LF EA	2,000 3	\$ 100.00 \$ 2,000.00	\$ 200,000.00 \$ 6,000.00
D-705 D-705a D-705b	<b>PIPE UNDERDRAINS FOR AIRPORTS</b> Perforated Polyethylene Pipe (6 -Inch) Non-Perforated Polyethylene Pipe (6 -Inch)	LF LF	4,000 600	\$ 30.00 \$ 30.00	\$ 120,000.00 \$ 18,000.00
D-751 D-751a D-751b D-751c	<b>MANHOLES, CATCH BASINS, INLETS AND INSPECTION HOLES</b> Install Inspection Pit Install Underdrain Clean Out Install Aircraft Rated Inlet	EA EA EA	3 20 16	\$ 4,000.00 \$ 2,000.00 \$ 10,000.00	\$ 12,000.00 \$ 40,000.00 \$ 160,000.00
T-901 T-901a T-901b	<b>SEEDING AND EROSION CONTROL</b> Seeding with Hydromulch Erosion Control	AC LS	6 1	\$ 2,500.00 25,000	\$ 15,000.00 \$ 25,000.00
L-125 L-125a	<b>AIRFIELD ELECTRICAL</b> Install Airfield Lighting	LS	1	\$ 100,000.00	\$ 100,000.00
U-100 U-101a	<b>UTILITIES</b> Hangar Utilities	LS	1	\$ 100,000.00	\$ 100,000.00
<b>TOTAL</b>					<b>\$ 2,977,245.00</b>
<b>10% CONTINGENCY</b>					<b>\$ 297,724.50</b>
<b>18% ENGINEERING of (TOTAL + CONTINGENCY)</b>					<b>\$ 53,590.41</b>
<b>TOTAL</b>					<b>\$ 3,328,559.91</b>

**ASSUMPTIONS:**

- \* Apron section is 8" CO-403 on 12" CDOT Crushed Aggregate Base Course.
- \* Parking Lot section is 6" CO-401 on 6" CDOT Crushed Aggregate Base Course.
- \* Class 6 Aggregate Base course to be utilized under all pavement.
- \* Unit Weight for Asphalt Cement assumed to be 150 lb/cf.
- \* Tack Coat placed at 0.15 gal/sy.
- \* Stabilization Fabric to be placd under new construction.
- \* Aircraft Pavement to have underdrains and associated structures.
- \* Temporary and Permanent Paint to be applied in two applications.
- \* Utilites include gas, power, water, and sanitary.

**Garfield County Regional Airport  
Rifle, Colorado  
Engineer's Opinion of Probable Cost**

July 2, 2013

**SE Hangar Development - Alternate 2**

			<b>SE Hangar Development - Alternate 2</b>		
ITEM	ITEM DESCRIPTION	UNIT	Quantity	Engineer's Estimate	
				Unit \$	Item \$
P-100 P-100a	<b>MOBILIZATION</b> Mobilization	LS	1	\$ 347,300	\$ 347,300.00
P-150 P-150a	<b>PAVEMENT REMOVAL</b> Pavement Removal (2" - Partial Depth)	SY	200	\$ 12.00	\$ 2,400.00
P-152 P-152a P-152b	<b>EMBANKMENT AND EXCAVATION</b> Unclassified Excavation Subgrade Preparation (12 -Inches)	CY SY	18,400 19,600	\$ 16.00 \$ 10.00	\$ 294,400.00 \$ 196,000.00
P-222 P-222a	<b>SOIL STERILIZATION</b> Soil Sterilization	SY	19,600	\$ 1.00	\$ 19,600.00
P-310 P-310a	<b>GEOTEXTILE FABRIC</b> Stabilization Fabric	SY	19,600	\$ 2.50	\$ 49,000.00
CDOT 304 CDOT 304a	<b>AGGREGATE BASE COURSE</b> Aggregate Base Course - Class 6	CY	11,800	\$ 55.00	\$ 649,000.00
CO-401 CO-401a	<b>PLANT MIX PAVEMENTS</b> Bituminous Paving Course	TON	3,200	\$100.00	\$ 417,000.00
CO-403 CO-403a	<b>COLORADO MODIFIED PLANT MIX ASPHALT PAVEMENTS</b> Bituminous Paving Course (Apron)	TON	13,800	\$ 100.00	\$ 1,380,000.00
P-603 P-603a	<b>BITUMINOUS TACK COAT</b> Tack Coat	GAL	10,600	\$ 1.00	\$ 10,600.00
P-620 P-620a P-620b	<b>PAINTING</b> Temporary Pavment Markings Permanent Pavement Markings	SF SF	900 900	\$ 3.00 \$ 4.00	\$ 2,700.00 \$ 3,600.00
D-701 D-701a D-701b	<b>PIPE FOR STORM DRAINS AND CULVERTS</b> Reinforce Concrete Pipe Reinforced Concrete Pipe - FES	LF EA	2,000 4	\$ 100.00 \$ 2,000.00	\$ 200,000.00 \$ 8,000.00
D-705 D-705a D-705b	<b>PIPE UNDERDRAINS FOR AIRPORTS</b> Perforated Polyethylene Pipe (6 -Inch) Non-Perforated Polyethylene Pipe (6 -Inch)	LF LF	800 200	\$ 30.00 \$ 30.00	\$ 24,000.00 \$ 6,000.00
D-751 D-751a D-751b D-751c	<b>MANHOLES, CATCH BASINS, INLETS AND INSPECTION HOLES</b> Install Inspection Pit Install Underdrain Clean Out Install Aircraft Rated Inlet	EA EA EA	2 4 16	\$ 4,000.00 \$ 2,000.00 \$ 10,000.00	\$ 8,000.00 \$ 8,000.00 \$ 160,000.00
T-901 T-901a T-901b	<b>SEEDING AND EROSION CONTROL</b> Seeding with Hydromulch Erosion Control	AC LS	4 1	\$ 2,500.00 25,000	\$ 10,000.00 \$ 25,000.00
L-125 L-125a	<b>AIRFIELD ELECTRICAL</b> Install Airfield Lighting	LS	1	\$ 75,000.00	\$ 75,000.00
U-100 U-101a	<b>UTILITIES</b> Hangar Utilities	LS	1	\$ 100,000.00	\$ 100,000.00
<b>TOTAL</b>				<b>\$</b>	<b>3,895,600.00</b>
<b>10% CONTINGENCY</b>				<b>\$</b>	<b>389,560.00</b>
<b>18% ENGINEERING of (TOTAL + CONTINGENCY)</b>				<b>\$</b>	<b>70,120.80</b>
<b>TOTAL</b>				<b>\$</b>	<b>4,355,280.80</b>

**ASSUMPTIONS:**

- \* Apron section is 8" CO-403 on 12" CDOT Crushed Aggregate Base Course.
- \* Parking Lot section is 6" CO-401 on 6" CDOT Crushed Aggregate Base Course.
- \* Class 6 Aggregate Base course to be utilized under all pavement.
- \* Unit Weight for Asphalt Cement assumed to be 150 lb/cf.
- \* Tack Coat placed at 0.15 gal/sy.
- \* Stabilization Fabric to be placd under new construction.
- \* Aircraft Pavement to have underdrains and associated structures.
- \* Temporary and Permanent Paint to be applied in two applications.
- \* Utilites include gas, power, water, and sanitary.

**Garfield County Regional Airport  
Rifle, Colorado  
Engineer's Opinion of Probable Cost**

July 2, 2013

**SE Hangar Development - Alternate 3**

ITEM		ITEM DESCRIPTION	UNIT	Quantity	SE Hangar Development - Alternate 3	
					Engineer's Estimate	
					Unit \$	Item \$
P-100 P-100a	<b>MOBILIZATION</b> Mobilization	LS	1	\$ 373,700	\$ 373,700.00	
P-150 P-150a	<b>PAVEMENT REMOVAL</b> Pavement Removal (2" - Partial Depth)	SY	200	\$ 12.00	\$ 2,400.00	
P-152 P-152a P-152b	<b>EMBANKMENT AND EXCAVATION</b> Unclassified Excavation Subgrade Preparation (12 -Inches)	CY SY	18,300 39,650	\$ 16.00 \$ 10.00	\$ 292,800.00 \$ 396,500.00	
P-222 P-222a	<b>SOIL STERILIZATION</b> Soil Sterilization	SY	39,650	\$ 1.00	\$ 39,650.00	
P-310 P-310a	<b>GEOTEXTILE FABRIC</b> Stabilization Fabric	SY	39,650	\$ 2.50	\$ 99,125.00	
CDOT 304 CDOT 304a	<b>AGGREGATE BASE COURSE</b> Aggregate Base Course - Class 6	CY	11,700	\$ 55.00	\$ 643,500.00	
CO-401 CO-401a	<b>PLANT MIX PAVEMENTS</b> Bituminous Paving Course	TON	3,100	\$100.00	\$ 417,000.00	
CO-403 CO-403a	<b>COLORADO MODIFIED PLANT MIX ASPHALT PAVEMENTS</b> Bituminous Paving Course (Apron)	TON	13,800	\$ 100.00	\$ 1,380,000.00	
P-603 P-603a	<b>BITUMINOUS TACK COAT</b> Tack Coat	GAL	10,600	\$ 1.00	\$ 10,600.00	
P-620 P-620a P-620b	<b>PAINTING</b> Temporary Pavment Markings Permanent Pavement Markings	SF SF	900 900	\$ 3.00 \$ 4.00	\$ 2,700.00 \$ 3,600.00	
D-701 D-701a D-701b	<b>PIPE FOR STORM DRAINS AND CULVERTS</b> Reinforce Concrete Pipe Reinforced Concrete Pipe - FES	LF EA	2,000 4	\$ 100.00 \$ 2,000.00	\$ 200,000.00 \$ 8,000.00	
D-705 D-705a D-705b	<b>PIPE UNDERDRAINS FOR AIRPORTS</b> Perforated Polyethylene Pipe (6 -Inch) Non-Perforated Polyethylene Pipe (6 -Inch)	LF LF	800 200	\$ 30.00 \$ 30.00	\$ 24,000.00 \$ 6,000.00	
D-751 D-751a D-751b D-751c	<b>MANHOLES, CATCH BASINS, INLETS AND INSPECTION HOLES</b> Install Inspection Pit Install Underdrain Clean Out Install Aircraft Rated Inlet	EA EA EA	2 4 16	\$ 4,000.00 \$ 2,000.00 \$ 10,000.00	\$ 8,000.00 \$ 8,000.00 \$ 160,000.00	
T-901 T-901a T-901b	<b>SEEDING AND EROSION CONTROL</b> Seeding with Hydromulch Erosion Control	AC LS	4 1	\$ 2,500.00 \$ 25,000	\$ 10,000.00 \$ 25,000.00	
L-125 L-125a	<b>AIRFIELD ELECTRICAL</b> Install Airfield Lighting and Electrical	LS	1	\$ 75,000.00	\$ 75,000.00	
U-100 U-101a	<b>UTILITIES</b> Hangar Utilities	LS	1	\$ 100,000.00	\$ 100,000.00	
	<b>LAND ACQUISITION</b> Acquire . 26 acres	LS	1	\$ 85,000.00	\$ 85,000.00	
<b>TOTAL</b>					<b>\$ 4,370,575.00</b>	
<b>10% CONTINGENCY</b>					<b>\$ 437,057.50</b>	
<b>18% ENGINEERING of (TOTAL + CONTINGENCY)</b>					<b>\$ 78,670.35</b>	
<b>TOTAL</b>					<b>\$ 4,886,302.85</b>	

**ASSUMPTIONS:**

- \* Apron section is 8" CO-403 on 12" CDOT Crushed Aggregate Base Course.
- \* Parking Lot section is 6" CO-401 on 6" CDOT Crushed Aggregate Base Course.
- \* Class 6 Aggregate Base course to be utilized under all pavement.
- \* Unit Weight for Asphalt Cement assumed to be 150 lb/cf.
- \* Tack Coat placed at 0.15 gal/sy.
- \* Stabilization Fabric to be placd under new construction.
- \* Aircraft Pavement to have underdrains and associated structures.
- \* Temporary and Permanent Paint to be applied in two applications.
- \* Utilites include gas, power, water, and sanitary.

**Garfield County Regional Airport  
Rifle, Colorado  
Engineer's Opinion of Probable Cost**

July 1, 2013

**Transient Hangar Expansion**

			<b>Transient Hangar Expansion</b>			
			<b>Engineer's Estimate</b>			
			<b>UNIT</b>	<b>Quantity</b>	<b>Unit \$</b>	<b>Item \$</b>
<b>ITEM</b>	<b>ITEM DESCRIPTION</b>					
P-100 P-100a	<b>MOBILIZATION</b> Mobilization	LS	1	\$ 177,500	\$ 177,500.00	
P-150 P-150a	<b>PAVEMENT REMOVAL</b> Pavement Removal (2" - Partial Depth)	SY	675	\$ 12.00	\$ 8,100.00	
P-152 P-152a P-152b	<b>EMBANKMENT AND EXCAVATION</b> Unclassified Excavation Subgrade Preparation (12 -Inches)	CY SY	12,643 19,000	\$ 16.00 \$ 10.00	\$ 202,288.00 \$ 190,000.00	
P-222 P-222a	<b>SOIL STERILIZATION</b> Soil Sterilization	SY	19,000	\$ 2.00	\$ 38,000.00	
P-310 P-310a	<b>GEOTEXTILE FABRIC</b> Stabilization Fabric	SY	19,000	\$ 2.50	\$ 47,500.00	
CDOT 304 CDOT 304a	<b>AGGREGATE BASE COURSE</b> Aggregate Base Course - Class 6	CY	6,325	\$ 55.00	\$ 347,875.00	
CO-403 CO-403a	<b>COLORADO MODIFIED PLANT MIX ASPHALT PAVEMENTS</b> Bituminous Paving Course (Apron)	TON	8,635	\$ 100.00	\$ 863,500.00	
P-603 P-603a	<b>BITUMINOUS TACK COAT</b> Tack Coat	GAL	5,700	\$ 1.00	\$ 5,700.00	
P-620 P-620a P-620b	<b>PAINTING</b> Temporary Pavment Markings Permanent Pavement Markings	SF SF	1,000 1,000	\$ 3.00 \$ 4.00	\$ 3,000.00 \$ 4,000.00	
D-705 D-705a D-705b	<b>PIPE UNDERDRAINS FOR AIRPORTS</b> Perforated Polyethylene Pipe (6 -Inch) Non-Perforated Polyethylene Pipe (6 -Inch)	LF LF	1,000 200	\$ 30.00 \$ 30.00	\$ 30,000.00 \$ 6,000.00	
D-751 D-751a D-751b	<b>MANHOLES, CATCH BASINS, INLETS AND INSPECTION HOLES</b> Install Inspection Pit Install Underdrain Clean Out	EA EA	1 5	\$ 4,000.00 \$ 2,000.00	\$ 4,000.00 \$ 10,000.00	
T-901 T-901a T-901b	<b>SEEDING AND EROSION CONTROL</b> Seeding with Hydromulch Erosion Control	AC LS	2 1	\$ 2,500.00 \$ 10,000	\$ 5,000.00 \$ 10,000.00	
L-125 L-125a	<b>AIRFIELD ELECTRICAL</b> Airfield Lighting	LS	1	\$ 40,000.00	\$ 40,000.00	
<b>TOTAL</b>					<b>\$ 1,992,463.00</b>	
<b>10% CONTINGENCY</b>					<b>\$ 199,246.30</b>	
<b>18% ENGINEERING of (TOTAL + CONTINGENCY)</b>					<b>\$ 35,864.33</b>	
<b>TOTAL</b>					<b>\$ 2,227,573.63</b>	

**ASSUMPTIONS:**

- \* Expanded Apron section is 8" CO-403 on 12" CDOT Crushed Aggregate Base Course.
- \* Class 6 Aggregate Base course to be utilized under all pavement.
- \* Soil Sterilant to be place on all areas to be paved.
- \* Unit Weight for Asphalt Cement assumed to be 150 lb/cf.
- \* Tack Coat placed at 0.15 gal/sy.
- \* Stabilization Fabric to be placd under new construction.
- \* Aircraft Pavment to sheet flow to north for drainage
- \* Aircraft Pavement to have underdrains and associated structures.
- \* Temporary and Permanent Paint to be applied in two applications.
- \* Tie down anchors not include in associated costs.