

# Appendix I

# Capital Improvement Project

# Cost Worksheets

Content:

- CIP Project Cost Worksheets

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# South Salt Creek Watershed Masterplan - Cost Opinion Worksheet

Project ID: **SSC 1**  
 Project Description: **Grade Control Tributary SC005R005**



## SURVEYING

Description	Unit	Quantity	Unit Cost	Sub Total
Boundary and Topo Surveying	ACRE	2.50	\$ 5,000	\$ 12,500
Prepare Easement Plat and Scripts	EACH	2	\$ 400	\$ 800
Construction Staking and As-Built Surveying	ACRE	1.00	\$ 2,500	\$ 2,500
			Subtotal =	\$ 15,800
			Contingency = 15%	\$ 2,400
<b>TOTAL OPINION OF SURVEYING COST =</b>				<b>\$ 18,200</b>

## GEOTECHNICAL

Description	Unit	Quantity	Unit Cost	Sub Total
Field Borings	LF	50	\$ 20	\$ 1,000
Geotechnical Report	LUMP	1	\$ 4,500	\$ 4,500
Global Stability Analysis	EACH	2	\$ 100	\$ 200
			Subtotal =	\$ 5,700
			Contingency = 15%	\$ 900
<b>TOTAL OPINION OF GEOTECHNICAL COST =</b>				<b>\$ 6,600</b>

## ENGINEERING DESIGN AND CONSTRUCTION DOCUMENTS

Description	Unit	Quantity	Unit Cost	Sub Total
Preliminary Design	HOURS	80	\$ 100	\$ 8,000
ROW	HOURS	8	\$ 100	\$ 800
Permitting	HOURS	40	\$ 100	\$ 4,000
Final Design	HOURS	40	\$ 100	\$ 4,000
Develop Plans and Construction Documents	HOURS	200	\$ 75	\$ 15,000
Construction Support	HOURS	150	\$ 100	\$ 15,000
			\$ -	\$ -
			Subtotal =	\$ 46,800
			Contingency = 15%	\$ 7,000
<b>TOTAL OPINION OF ENGINEERING AND CONSTRUCTION OBSERVATION COST =</b>				<b>\$ 53,800</b>

## CONSTRUCTION

Description	Unit	Quantity	Unit Cost	Sub Total
Removal of Existing Structures	LUMP	0	\$ 20,000	\$ -
Excavation and Embankment in Place	CY	810	\$ 30	\$ 24,300
Rock Grade Control	CY	770	\$ 75	\$ 57,800
Rock Stilling Basin	CY	40	\$ 75	\$ 3,000
Rock Toe and Slope Protection	CY	0	\$ 50	\$ -
Riparian Corridor Planting	SF	10,400	\$ 1.70	\$ 17,700
Site Restoration	ACRE	1.00	\$ 30,000	\$ 30,000
New Culvert	LF	0	\$ 500.0	\$ -
Retaining Wall	SF	0	\$ 50	\$ -
Wetland Planting	ACRE	0.00	\$ 40,000	\$ -
			\$ -	\$ -
			\$ -	\$ -
			\$ -	\$ -
Mobilization and Bond	5%	1	\$ 6,640	\$ 6,600
			Subtotal =	\$ 139,400
			Contingency = 15%	\$ 20,900
<b>TOTAL OPINION OF CONSTRUCTION COST =</b>				<b>\$ 160,300</b>

<b>TOTAL SURVEYING, GEOTECHNICAL, ENGINEERING AND CONSTRUCTION COST OPINION =</b>	<b>\$ 238,900</b>
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# South Salt Creek Watershed Masterplan - Cost Opinion Worksheet

Project ID: **SSC 2**  
 Project Description: **Irvingdale Park Channel Improvements on Tributary SC015R015**



## SURVEYING

Description	Unit	Quantity	Unit Cost	Sub Total
Boundary and Topo Surveying	ACRE	2.50	\$ 5,000	\$ 12,500
Prepare Easement Plat and Scripts	EACH	1	\$ 400	\$ 400
Construction Staking and As-Built Surveying	ACRE	1.25	\$ 2,500	\$ 3,100
			Subtotal =	\$ 16,000
			Contingency = 15%	\$ 2,400
<b>TOTAL OPINION OF SURVEYING COST =</b>				<b>\$ 18,400</b>

## GEOTECHNICAL

Description	Unit	Quantity	Unit Cost	Sub Total
Field Borings	LF	200	\$ 20	\$ 4,000
Geotechnical Report	LUMP	1	\$ 4,500	\$ 4,500
Global Stability Analysis	EACH	8	\$ 100	\$ 800
			Subtotal =	\$ 9,300
			Contingency = 15%	\$ 1,400
<b>TOTAL OPINION OF GEOTECHNICAL COST =</b>				<b>\$ 10,700</b>

## ENGINEERING DESIGN AND CONSTRUCTION DOCUMENTS

Description	Unit	Quantity	Unit Cost	Sub Total
Preliminary Design	HOURS	120	\$ 100	\$ 12,000
ROW	HOURS	40	\$ 100	\$ 4,000
Permitting	HOURS	40	\$ 100	\$ 4,000
Final Design	HOURS	80	\$ 100	\$ 8,000
Develop Plans and Construction Documents	HOURS	200	\$ 75	\$ 15,000
Construction Support	HOURS	200	\$ 100	\$ 20,000
			\$ -	\$ -
			Subtotal =	\$ 63,000
			Contingency = 15%	\$ 9,500
<b>TOTAL OPINION OF ENGINEERING AND CONSTRUCTION OBSERVATION COST =</b>				<b>\$ 72,500</b>

## CONSTRUCTION

Description	Unit	Quantity	Unit Cost	Sub Total
Removal of Existing Structures	LUMP	0	\$ 20,000	\$ -
Excavation and Embankment in Place	CY	1,617	\$ 30	\$ 48,500
Rock Grade Control	CY	284	\$ 75	\$ 21,300
Rock Stilling Basin	CY	0	\$ 75	\$ -
Rock Toe and Slope Protection	CY	1,333	\$ 50	\$ 66,700
Riparian Corridor Planting	SF	24,000	\$ 1.70	\$ 40,800
Site Restoration	ACRE	1.49	\$ 30,000	\$ 44,700
New Culvert	LF	0	\$ 500.0	\$ -
Retaining Wall	SF	0	\$ 50	\$ -
Wetland Planting	ACRE	0.00	\$ 40,000	\$ -
			\$ -	\$ -
			\$ -	\$ -
			\$ -	\$ -
Mobilization and Bond	5%	1	\$ 11,100	\$ 11,100
			Subtotal =	\$ 233,100
			Contingency = 15%	\$ 35,000
<b>TOTAL OPINION OF CONSTRUCTION COST =</b>				<b>\$ 268,100</b>

<b>TOTAL SURVEYING, GEOTECHNICAL, ENGINEERING AND CONSTRUCTION COST OPINION =</b>	<b>\$ 369,700</b>
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# South Salt Creek Watershed Masterplan - Cost Opinion Worksheet

Project ID: **SSC 3**  
 Project Description: **Grade Control on Main Stem SCR010 at W Pioneers Blvd Bridge**



## SURVEYING

Description	Unit	Quantity	Unit Cost	Sub Total
Boundary and Topo Surveying	ACRE	2.00	\$ 5,000	\$ 10,000
Prepare Easement Plat and Scripts	EACH	1	\$ 400	\$ 400
Construction Staking and As-Built Surveying	ACRE	2.00	\$ 2,500	\$ 5,000
			Subtotal =	\$ 15,400
			Contingency = 15%	\$ 2,300
<b>TOTAL OPINION OF SURVEYING COST =</b>				<b>\$ 17,700</b>

## GEOTECHNICAL

Description	Unit	Quantity	Unit Cost	Sub Total
Field Borings	LF	160	\$ 20	\$ 3,200
Geotechnical Report	LUMP	1	\$ 4,500	\$ 4,500
Global Stability Analysis	EACH	4	\$ 100	\$ 400
			Subtotal =	\$ 8,100
			Contingency = 15%	\$ 1,200
<b>TOTAL OPINION OF GEOTECHNICAL COST =</b>				<b>\$ 9,300</b>

## ENGINEERING DESIGN AND CONSTRUCTION DOCUMENTS

Description	Unit	Quantity	Unit Cost	Sub Total
Preliminary Design	HOURS	100	\$ 100	\$ 10,000
ROW	HOURS	40	\$ 100	\$ 4,000
Permitting	HOURS	40	\$ 100	\$ 4,000
Final Design	HOURS	60	\$ 100	\$ 6,000
Develop Plans and Construction Documents	HOURS	200	\$ 75	\$ 15,000
Construction Support	HOURS	80	\$ 100	\$ 8,000
			\$ -	\$ -
			Subtotal =	\$ 47,000
			Contingency = 15%	\$ 7,100
<b>TOTAL OPINION OF ENGINEERING AND CONSTRUCTION OBSERVATION COST =</b>				<b>\$ 54,100</b>

## CONSTRUCTION

Description	Unit	Quantity	Unit Cost	Sub Total
Removal of Existing Structures	LUMP	1	\$ 20,000	\$ 20,000
Excavation and Embankment in Place	CY	3,000	\$ 30	\$ 90,000
Rock Grade Control	CY	267	\$ 75	\$ 20,000
Rock Stilling Basin	CY	1,067	\$ 75	\$ 80,000
Rock Toe and Slope Protection	CY	1,667	\$ 50	\$ 83,300
Riparian Corridor Planting	SF	18,000	\$ 1.70	\$ 30,600
Site Restoration	ACRE	0.25	\$ 30,000	\$ 7,500
New Culvert	LF	0	\$ 500.0	\$ -
Retaining Wall	SF	0	\$ 50	\$ -
Wetland Planting	ACRE	0.00	\$ 40,000	\$ -
			\$ -	\$ -
			\$ -	\$ -
			\$ -	\$ -
Mobilization and Bond	5%	1	\$ 16,570	\$ 16,600
			Subtotal =	\$ 348,000
			Contingency = 15%	\$ 52,200
<b>TOTAL OPINION OF CONSTRUCTION COST =</b>				<b>\$ 400,200</b>

<b>TOTAL SURVEYING, GEOTECHNICAL, ENGINEERING AND CONSTRUCTION COST OPINION =</b>	<b>\$ 481,300</b>
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# South Salt Creek Watershed Masterplan - Cost Opinion Worksheet

Project ID: **SSC 4**  
 Project Description: **Grade Control on Main Stem SCR020 at Old Cheney Rd Bridge**



## SURVEYING

Description	Unit	Quantity	Unit Cost	Sub Total
Boundary and Topo Surveying	ACRE	2.00	\$ 5,000	\$ 10,000
Prepare Easement Plat and Scripts	EACH	0	\$ 400	\$ -
Construction Staking and As-Built Surveying	ACRE	2.00	\$ 2,500	\$ 5,000
			Subtotal =	\$ 15,000
			Contingency = 15%	\$ 2,300
<b>TOTAL OPINION OF SURVEYING COST =</b>				<b>\$ 17,300</b>

## GEOTECHNICAL

Description	Unit	Quantity	Unit Cost	Sub Total
Field Borings	LF	160	\$ 20	\$ 3,200
Geotechnical Report	LUMP	1	\$ 4,500	\$ 4,500
Global Stability Analysis	EACH	4	\$ 100	\$ 400
			Subtotal =	\$ 8,100
			Contingency = 15%	\$ 1,200
<b>TOTAL OPINION OF GEOTECHNICAL COST =</b>				<b>\$ 9,300</b>

## ENGINEERING DESIGN AND CONSTRUCTION DOCUMENTS

Description	Unit	Quantity	Unit Cost	Sub Total
Preliminary Design	HOURS	100	\$ 100	\$ 10,000
ROW	HOURS	40	\$ 100	\$ 4,000
Permitting	HOURS	40	\$ 100	\$ 4,000
Final Design	HOURS	60	\$ 100	\$ 6,000
Develop Plans and Construction Documents	HOURS	200	\$ 75	\$ 15,000
Construction Support	HOURS	80	\$ 100	\$ 8,000
			\$ -	\$ -
			Subtotal =	\$ 47,000
			Contingency = 15%	\$ 7,100
<b>TOTAL OPINION OF ENGINEERING AND CONSTRUCTION OBSERVATION COST =</b>				<b>\$ 54,100</b>

## CONSTRUCTION

Description	Unit	Quantity	Unit Cost	Sub Total
Removal of Existing Structures	LUMP	0	\$ 20,000	\$ -
Excavation and Embankment in Place	CY	2,601	\$ 30	\$ 78,000
Rock Grade Control	CY	267	\$ 75	\$ 20,000
Rock Stilling Basin	CY	667	\$ 75	\$ 50,000
Rock Toe and Slope Protection	CY	1,667	\$ 50	\$ 83,400
Riparian Corridor Planting	SF	5,047	\$ 1.70	\$ 8,600
Site Restoration	ACRE	1.81	\$ 30,000	\$ 54,400
New Culvert	LF	0	\$ 500.0	\$ -
Retaining Wall	SF	0	\$ 50	\$ -
Wetland Planting	ACRE	0.00	\$ 40,000	\$ -
			\$ -	\$ -
			\$ -	\$ -
			\$ -	\$ -
Mobilization and Bond	5%	1	\$ 14,720	\$ 14,700
			Subtotal =	\$ 309,100
			Contingency = 15%	\$ 46,400
<b>TOTAL OPINION OF CONSTRUCTION COST =</b>				<b>\$ 355,500</b>

<b>TOTAL SURVEYING, GEOTECHNICAL, ENGINEERING AND CONSTRUCTION COST OPINION =</b>	<b>\$ 436,200</b>
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# South Salt Creek Watershed Masterplan - Cost Opinion Worksheet

Project ID: **SSC 5**

Project Description: **Grade Control Incision and Knickzone on Tributary SC040R005**



## SURVEYING

Description	Unit	Quantity	Unit Cost	Sub Total
Boundary and Topo Surveying	ACRE	2.00	\$ 5,000	\$ 10,000
Prepare Easement Plat and Scripts	EACH	0	\$ 400	\$ 200
Construction Staking and As-Built Surveying	ACRE	1.00	\$ 2,500	\$ 2,500
			Subtotal =	\$ 12,700
			Contingency = 15%	\$ 1,900
<b>TOTAL OPINION OF SURVEYING COST =</b>				<b>\$ 14,600</b>

## GEOTECHNICAL

Description	Unit	Quantity	Unit Cost	Sub Total
Field Borings	LF	150	\$ 20	\$ 3,000
Geotechnical Report	LUMP	1	\$ 4,500	\$ 4,500
Global Stability Analysis	EACH	4	\$ 100	\$ 400
			Subtotal =	\$ 7,900
			Contingency = 15%	\$ 1,200
<b>TOTAL OPINION OF GEOTECHNICAL COST =</b>				<b>\$ 9,100</b>

## ENGINEERING DESIGN AND CONSTRUCTION DOCUMENTS

Description	Unit	Quantity	Unit Cost	Sub Total
Preliminary Design	HOURS	120	\$ 100	\$ 12,000
ROW	HOURS	40	\$ 100	\$ 4,000
Permitting	HOURS	40	\$ 100	\$ 4,000
Final Design	HOURS	80	\$ 100	\$ 8,000
Develop Plans and Construction Documents	HOURS	200	\$ 75	\$ 15,000
Construction Support	HOURS	150	\$ 100	\$ 15,000
			\$ -	\$ -
			Subtotal =	\$ 58,000
			Contingency = 15%	\$ 8,700
<b>TOTAL OPINION OF ENGINEERING AND CONSTRUCTION OBSERVATION COST =</b>				<b>\$ 66,700</b>

## CONSTRUCTION

Description	Unit	Quantity	Unit Cost	Sub Total
Removal of Existing Structures	LUMP	0	\$ 20,000	\$ -
Excavation and Embankment in Place	CY	1,697	\$ 30	\$ 50,900
Rock Grade Control	CY	156	\$ 75	\$ 11,700
Rock Stilling Basin	CY	208	\$ 75	\$ 15,600
Rock Toe and Slope Protection	CY	1,333	\$ 50	\$ 66,700
Riparian Corridor Planting	SF	20,000	\$ 1.70	\$ 34,000
Site Restoration	ACRE	0.50	\$ 30,000	\$ 15,000
New Culvert	LF	0	\$ 500.0	\$ -
Retaining Wall	SF	0	\$ 50	\$ -
Wetland Planting	ACRE	0.00	\$ 40,000	\$ -
			\$ -	\$ -
			\$ -	\$ -
			\$ -	\$ -
Mobilization and Bond	5%	1	\$ 9,695	\$ 9,700
			Subtotal =	\$ 203,600
			Contingency = 15%	\$ 30,500
<b>TOTAL OPINION OF CONSTRUCTION COST =</b>				<b>\$ 234,100</b>

<b>TOTAL SURVEYING, GEOTECHNICAL, ENGINEERING AND CONSTRUCTION COST OPINION =</b>				<b>\$ 324,500</b>
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# South Salt Creek Watershed Masterplan - Cost Opinion Worksheet

Project ID: **SSC 6**  
 Project Description: **Grade Control Main Stem SCR030 at Old Railroad Bridge and Knickpoint on Tributary SC050R005 at Wilderness Park Tail Bridge**



## SURVEYING

Description	Unit	Quantity	Unit Cost	Sub Total
Boundary and Topo Surveying	ACRE	3.90	\$ 5,000	\$ 19,500
Prepare Easement Plat and Scripts	EACH	1	\$ 400	\$ 400
Construction Staking and As-Built Surveying	ACRE	2.00	\$ 2,500	\$ 5,000
			Subtotal =	\$ 24,900
			Contingency = 15%	\$ 3,700
<b>TOTAL OPINION OF SURVEYING COST =</b>				<b>\$ 28,600</b>

## GEOTECHNICAL

Description	Unit	Quantity	Unit Cost	Sub Total
Field Borings	LF	300	\$ 20	\$ 6,000
Geotechnical Report	LUMP	1	\$ 4,500	\$ 4,500
Global Stability Analysis	EACH	6	\$ 100	\$ 600
			Subtotal =	\$ 11,100
			Contingency = 15%	\$ 1,700
<b>TOTAL OPINION OF GEOTECHNICAL COST =</b>				<b>\$ 12,800</b>

## ENGINEERING DESIGN AND CONSTRUCTION DOCUMENTS

Description	Unit	Quantity	Unit Cost	Sub Total
Preliminary Design	HOURS	180	\$ 100	\$ 18,000
ROW	HOURS	40	\$ 100	\$ 4,000
Permitting	HOURS	40	\$ 100	\$ 4,000
Final Design	HOURS	120	\$ 100	\$ 12,000
Develop Plans and Construction Documents	HOURS	200	\$ 75	\$ 15,000
Construction Support	HOURS	200	\$ 100	\$ 20,000
			\$ -	\$ -
			Subtotal =	\$ 73,000
			Contingency = 15%	\$ 11,000
<b>TOTAL OPINION OF ENGINEERING AND CONSTRUCTION OBSERVATION COST =</b>				<b>\$ 84,000</b>

## CONSTRUCTION

Description	Unit	Quantity	Unit Cost	Sub Total
Removal of Existing Structures	LUMP	0	\$ 20,000	\$ -
Excavation and Embankment in Place	CY	2,563	\$ 30	\$ 76,900
Rock Grade Control	CY	711	\$ 75	\$ 53,300
Rock Stilling Basin	CY	0	\$ 75	\$ -
Rock Toe and Slope Protection	CY	1,852	\$ 50	\$ 92,600
Riparian Corridor Planting	SF	27,000	\$ 1.70	\$ 45,900
Site Restoration	ACRE	0.50	\$ 30,000	\$ 15,000
New Culvert	LF	0	\$ 500.0	\$ -
Retaining Wall	SF	0	\$ 50	\$ -
Wetland Planting	ACRE	0.00	\$ 40,000	\$ -
			\$ -	\$ -
			\$ -	\$ -
			\$ -	\$ -
Mobilization and Bond	5%	1	\$ 14,185	\$ 14,200
			Subtotal =	\$ 297,900
			Contingency = 15%	\$ 44,700
<b>TOTAL OPINION OF CONSTRUCTION COST =</b>				<b>\$ 342,600</b>

<b>TOTAL SURVEYING, GEOTECHNICAL, ENGINEERING AND CONSTRUCTION COST OPINION =</b>				<b>\$ 468,000</b>
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# South Salt Creek Watershed Masterplan - Cost Opinion Worksheet

Project ID: **SSC 7**

Project Description: **Stilling Basin at Perched W Rokeby Rd Culvert Outfall on Tributary SC155R005**



## SURVEYING

Description	Unit	Quantity	Unit Cost	Sub Total
Boundary and Topo Surveying	ACRE	1.00	\$ 5,000	\$ 5,000
Prepare Easement Plat and Scripts	EACH	1	\$ 400	\$ 400
Construction Staking and As-Built Surveying	ACRE	1.00	\$ 2,500	\$ 2,500
			Subtotal =	\$ 7,900
			Contingency = 15%	\$ 1,200
<b>TOTAL OPINION OF SURVEYING COST =</b>				<b>\$ 9,100</b>

## GEOTECHNICAL

Description	Unit	Quantity	Unit Cost	Sub Total
Field Borings	LF	100	\$ 20	\$ 2,000
Geotechnical Report	LUMP	1	\$ 4,500	\$ 4,500
Global Stability Analysis	EACH	4	\$ 100	\$ 400
			Subtotal =	\$ 6,900
			Contingency = 15%	\$ 1,000
<b>TOTAL OPINION OF GEOTECHNICAL COST =</b>				<b>\$ 7,900</b>

## ENGINEERING DESIGN AND CONSTRUCTION DOCUMENTS

Description	Unit	Quantity	Unit Cost	Sub Total
Preliminary Design	HOURS	100	\$ 100	\$ 10,000
ROW	HOURS	40	\$ 100	\$ 4,000
Permitting	HOURS	40	\$ 100	\$ 4,000
Final Design	HOURS	60	\$ 100	\$ 6,000
Develop Plans and Construction Documents	HOURS	120	\$ 75	\$ 9,000
Construction Support	HOURS	80	\$ 100	\$ 8,000
			\$ -	\$ -
			Subtotal =	\$ 41,000
			Contingency = 15%	\$ 6,200
<b>TOTAL OPINION OF ENGINEERING AND CONSTRUCTION OBSERVATION COST =</b>				<b>\$ 47,200</b>

## CONSTRUCTION

Description	Unit	Quantity	Unit Cost	Sub Total
Removal of Existing Structures	LUMP	0	\$ 20,000	\$ -
Excavation and Embankment in Place	CY	713	\$ 30	\$ 21,400
Rock Grade Control	CY	222	\$ 75	\$ 16,700
Rock Stilling Basin	CY	200	\$ 75	\$ 15,000
Rock Toe and Slope Protection	CY	290	\$ 50	\$ 14,500
Riparian Corridor Planting	SF	6,500	\$ 1.70	\$ 11,100
Site Restoration	ACRE	0.85	\$ 30,000	\$ 25,500
New Culvert	LF	0	\$ 500.0	\$ -
Retaining Wall	SF	0	\$ 50	\$ -
Wetland Planting	ACRE	0.00	\$ 40,000	\$ -
			\$ -	\$ -
			\$ -	\$ -
			\$ -	\$ -
Mobilization and Bond	5%	1	\$ 5,210	\$ 5,200
			Subtotal =	\$ 109,400
			Contingency = 15%	\$ 16,400
<b>TOTAL OPINION OF CONSTRUCTION COST =</b>				<b>\$ 125,800</b>

<b>TOTAL SURVEYING, GEOTECHNICAL, ENGINEERING AND CONSTRUCTION COST OPINION =</b>	<b>\$ 190,000</b>
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# South Salt Creek Watershed Masterplan - Cost Opinion Worksheet

Project ID: **SSC 8**  
 Project Description: **Stilling Basin at Perched SW 12th St Culvert Outfall on Tributary SC155R005**



## SURVEYING

Description	Unit	Quantity	Unit Cost	Sub Total
Boundary and Topo Surveying	ACRE	1.00	\$ 5,000	\$ 5,000
Prepare Easement Plat and Scripts	EACH	1	\$ 400	\$ 400
Construction Staking and As-Built Surveying	ACRE	1.00	\$ 2,500	\$ 2,500
			Subtotal =	\$ 7,900
			Contingency = 15%	\$ 1,200
<b>TOTAL OPINION OF SURVEYING COST =</b>				<b>\$ 9,100</b>

## GEOTECHNICAL

Description	Unit	Quantity	Unit Cost	Sub Total
Field Borings	LF	50	\$ 20	\$ 1,000
Geotechnical Report	LUMP	1	\$ 4,500	\$ 4,500
Global Stability Analysis	EACH	2	\$ 100	\$ 200
			Subtotal =	\$ 5,700
			Contingency = 15%	\$ 900
<b>TOTAL OPINION OF GEOTECHNICAL COST =</b>				<b>\$ 6,600</b>

## ENGINEERING DESIGN AND CONSTRUCTION DOCUMENTS

Description	Unit	Quantity	Unit Cost	Sub Total
Preliminary Design	HOURS	80	\$ 100	\$ 8,000
ROW	HOURS	40	\$ 100	\$ 4,000
Permitting	HOURS	40	\$ 100	\$ 4,000
Final Design	HOURS	60	\$ 100	\$ 6,000
Develop Plans and Construction Documents	HOURS	120	\$ 75	\$ 9,000
Construction Support	HOURS	80	\$ 100	\$ 8,000
			\$ -	\$ -
			Subtotal =	\$ 39,000
			Contingency = 15%	\$ 5,900
<b>TOTAL OPINION OF ENGINEERING AND CONSTRUCTION OBSERVATION COST =</b>				<b>\$ 44,900</b>

## CONSTRUCTION

Description	Unit	Quantity	Unit Cost	Sub Total
Removal of Existing Structures	LUMP	0	\$ 20,000	\$ -
Excavation and Embankment in Place	CY	533	\$ 30	\$ 16,000
Rock Grade Control	CY	67	\$ 75	\$ 5,000
Rock Stilling Basin	CY	200	\$ 75	\$ 15,000
Rock Toe and Slope Protection	CY	267	\$ 50	\$ 13,300
Riparian Corridor Planting	SF	4,400	\$ 1.70	\$ 7,500
Site Restoration	ACRE	0.90	\$ 30,000	\$ 26,900
New Culvert	LF	0	\$ 500.0	\$ -
Retaining Wall	SF	0	\$ 50	\$ -
Wetland Planting	ACRE	0.00	\$ 40,000	\$ -
			\$ -	\$ -
			\$ -	\$ -
			\$ -	\$ -
Mobilization and Bond	5%	1	\$ 4,185	\$ 4,200
			Subtotal =	\$ 87,900
			Contingency = 15%	\$ 13,200
<b>TOTAL OPINION OF CONSTRUCTION COST =</b>				<b>\$ 101,100</b>

<b>TOTAL SURVEYING, GEOTECHNICAL, ENGINEERING AND CONSTRUCTION COST OPINION =</b>	<b>\$ 161,700</b>
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# South Salt Creek Watershed Masterplan - Cost Opinion Worksheet

Project ID: **SSC 9**

Project Description: **Grade Control Farm Crossing Holding Up Knickpoint in Tributary SC055R025**



## SURVEYING

Description	Unit	Quantity	Unit Cost	Sub Total
Boundary and Topo Surveying	ACRE	1.00	\$ 5,000	\$ 5,000
Prepare Easement Plat and Scripts	EACH	1	\$ 400	\$ 400
Construction Staking and As-Built Surveying	ACRE	1.00	\$ 2,500	\$ 2,500
			Subtotal =	\$ 7,900
			Contingency = 15%	\$ 1,200
<b>TOTAL OPINION OF SURVEYING COST =</b>				<b>\$ 9,100</b>

## GEOTECHNICAL

Description	Unit	Quantity	Unit Cost	Sub Total
Field Borings	LF	50	\$ 20	\$ 1,000
Geotechnical Report	LUMP	1	\$ 4,500	\$ 4,500
Global Stability Analysis	EACH	2	\$ 100	\$ 200
			Subtotal =	\$ 5,700
			Contingency = 15%	\$ 900
<b>TOTAL OPINION OF GEOTECHNICAL COST =</b>				<b>\$ 6,600</b>

## ENGINEERING DESIGN AND CONSTRUCTION DOCUMENTS

Description	Unit	Quantity	Unit Cost	Sub Total
Preliminary Design	HOURS	80	\$ 100	\$ 8,000
ROW	HOURS	40	\$ 100	\$ 4,000
Permitting	HOURS	40	\$ 100	\$ 4,000
Final Design	HOURS	60	\$ 100	\$ 6,000
Develop Plans and Construction Documents	HOURS	120	\$ 75	\$ 9,000
Construction Support	HOURS	80	\$ 100	\$ 8,000
			\$ -	\$ -
			Subtotal =	\$ 39,000
			Contingency = 15%	\$ 5,900
<b>TOTAL OPINION OF ENGINEERING AND CONSTRUCTION OBSERVATION COST =</b>				<b>\$ 44,900</b>

## CONSTRUCTION

Description	Unit	Quantity	Unit Cost	Sub Total
Removal of Existing Structures	LUMP	0	\$ 20,000	\$ -
Excavation and Embankment in Place	CY	267	\$ 30	\$ 8,000
Rock Grade Control	CY	267	\$ 75	\$ 20,000
Rock Stilling Basin	CY	0	\$ 75	\$ -
Rock Toe and Slope Protection	CY	0	\$ 50	\$ -
Riparian Corridor Planting	SF	3,500	\$ 1.70	\$ 6,000
Site Restoration	ACRE	0.09	\$ 30,000	\$ 2,700
New Culvert	LF	0	\$ 500.0	\$ -
Retaining Wall	SF	0	\$ 50	\$ -
Wetland Planting	ACRE	0.00	\$ 40,000	\$ -
			\$ -	\$ -
			\$ -	\$ -
			\$ -	\$ -
Mobilization and Bond	5%	1	\$ 1,835	\$ 1,800
			Subtotal =	\$ 38,500
			Contingency = 15%	\$ 5,800
<b>TOTAL OPINION OF CONSTRUCTION COST =</b>				<b>\$ 44,300</b>

<b>TOTAL SURVEYING, GEOTECHNICAL, ENGINEERING AND CONSTRUCTION COST OPINION =</b>	<b>\$ 104,900</b>
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# South Salt Creek Watershed Masterplan - Cost Opinion Worksheet

Project ID: **SSC 10**  
 Project Description: **Grade Control Knickpoint on Tributary SC265R005**



## SURVEYING

Description	Unit	Quantity	Unit Cost	Sub Total
Boundary and Topo Surveying	ACRE	1.00	\$ 5,000	\$ 5,000
Prepare Easement Plat and Scripts	EACH	1	\$ 400	\$ 400
Construction Staking and As-Built Surveying	ACRE	1.00	\$ 2,500	\$ 2,500
			Subtotal =	\$ 7,900
			Contingency = 15%	\$ 1,200
<b>TOTAL OPINION OF SURVEYING COST =</b>				<b>\$ 9,100</b>

## GEOTECHNICAL

Description	Unit	Quantity	Unit Cost	Sub Total
Field Borings	LF	50	\$ 20	\$ 1,000
Geotechnical Report	LUMP	1	\$ 4,500	\$ 4,500
Global Stability Analysis	EACH	2	\$ 100	\$ 200
			Subtotal =	\$ 5,700
			Contingency = 15%	\$ 900
<b>TOTAL OPINION OF GEOTECHNICAL COST =</b>				<b>\$ 6,600</b>

## ENGINEERING DESIGN AND CONSTRUCTION DOCUMENTS

Description	Unit	Quantity	Unit Cost	Sub Total
Preliminary Design	HOURS	80	\$ 100	\$ 8,000
ROW	HOURS	40	\$ 100	\$ 4,000
Permitting	HOURS	40	\$ 100	\$ 4,000
Final Design	HOURS	60	\$ 100	\$ 6,000
Develop Plans and Construction Documents	HOURS	180	\$ 75	\$ 13,500
Construction Support	HOURS	80	\$ 100	\$ 8,000
			\$ -	\$ -
			Subtotal =	\$ 43,500
			Contingency = 15%	\$ 6,500
<b>TOTAL OPINION OF ENGINEERING AND CONSTRUCTION OBSERVATION COST =</b>				<b>\$ 50,000</b>

## CONSTRUCTION

Description	Unit	Quantity	Unit Cost	Sub Total
Removal of Existing Structures	LUMP	0	\$ 20,000	\$ -
Excavation and Embankment in Place	CY	311	\$ 30	\$ 9,300
Rock Grade Control	CY	133	\$ 75	\$ 10,000
Rock Stilling Basin	CY	0	\$ 75	\$ -
Rock Toe and Slope Protection	CY	178	\$ 50	\$ 8,900
Riparian Corridor Planting	SF	1,600	\$ 1.70	\$ 2,700
Site Restoration	ACRE	0.10	\$ 30,000	\$ 3,000
New Culvert	LF	0	\$ 500.0	\$ -
Retaining Wall	SF	0	\$ 50	\$ -
Wetland Planting	ACRE	0.00	\$ 40,000	\$ -
			\$ -	\$ -
			\$ -	\$ -
			\$ -	\$ -
Mobilization and Bond	5%	1	\$ 1,695	\$ 1,700
			Subtotal =	\$ 35,600
			Contingency = 15%	\$ 5,300
<b>TOTAL OPINION OF CONSTRUCTION COST =</b>				<b>\$ 40,900</b>

<b>TOTAL SURVEYING, GEOTECHNICAL, ENGINEERING AND CONSTRUCTION COST OPINION =</b>	<b>\$ 106,600</b>
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# South Salt Creek Watershed Masterplan - Cost Opinion Worksheet

Project ID: **SSC 11**  
 Project Description: **Grade Control Knickzone in Tributary SC435R005**



## SURVEYING

Description	Unit	Quantity	Unit Cost	Sub Total
Boundary and Topo Surveying	ACRE	1.00	\$ 5,000	\$ 5,000
Prepare Easement Plat and Scripts	EACH	1	\$ 400	\$ 400
Construction Staking and As-Built Surveying	ACRE	1.00	\$ 2,500	\$ 2,500
			Subtotal =	\$ 7,900
			Contingency = 15%	\$ 1,200
<b>TOTAL OPINION OF SURVEYING COST =</b>				<b>\$ 9,100</b>

## GEOTECHNICAL

Description	Unit	Quantity	Unit Cost	Sub Total
Field Borings	LF	100	\$ 20	\$ 2,000
Geotechnical Report	LUMP	1	\$ 4,500	\$ 4,500
Global Stability Analysis	EACH	4	\$ 100	\$ 400
			Subtotal =	\$ 6,900
			Contingency = 15%	\$ 1,000
<b>TOTAL OPINION OF GEOTECHNICAL COST =</b>				<b>\$ 7,900</b>

## ENGINEERING DESIGN AND CONSTRUCTION DOCUMENTS

Description	Unit	Quantity	Unit Cost	Sub Total
Preliminary Design	HOURS	80	\$ 100	\$ 8,000
ROW	HOURS	40	\$ 100	\$ 4,000
Permitting	HOURS	40	\$ 100	\$ 4,000
Final Design	HOURS	60	\$ 100	\$ 6,000
Develop Plans and Construction Documents	HOURS	180	\$ 75	\$ 13,500
Construction Support	HOURS	80	\$ 100	\$ 8,000
			\$ -	\$ -
			Subtotal =	\$ 43,500
			Contingency = 15%	\$ 6,500
<b>TOTAL OPINION OF ENGINEERING AND CONSTRUCTION OBSERVATION COST =</b>				<b>\$ 50,000</b>

## CONSTRUCTION

Description	Unit	Quantity	Unit Cost	Sub Total
Removal of Existing Structures	LUMP	0	\$ 20,000	\$ -
Excavation and Embankment in Place	CY	667	\$ 30	\$ 20,000
Rock Grade Control	CY	667	\$ 75	\$ 50,000
Rock Stilling Basin	CY	0	\$ 75	\$ -
Rock Toe and Slope Protection	CY	0	\$ 50	\$ -
Riparian Corridor Planting	SF	10,800	\$ 1.70	\$ 18,400
Site Restoration	ACRE	0.75	\$ 30,000	\$ 22,500
New Culvert	LF	0	\$ 500.0	\$ -
Retaining Wall	SF	0	\$ 50	\$ -
Wetland Planting	ACRE	0.00	\$ 40,000	\$ -
			\$ -	\$ -
			\$ -	\$ -
			\$ -	\$ -
Mobilization and Bond	5%	1	\$ 5,545	\$ 5,500
			Subtotal =	\$ 116,400
			Contingency = 15%	\$ 17,500
<b>TOTAL OPINION OF CONSTRUCTION COST =</b>				<b>\$ 133,900</b>

<b>TOTAL SURVEYING, GEOTECHNICAL, ENGINEERING AND CONSTRUCTION COST OPINION =</b>	<b>\$ 200,900</b>
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# South Salt Creek Watershed Masterplan - Cost Opinion Worksheet

Project ID: **SSC 12**  
 Project Description: **Stilling Basin at Perched S 1st St Culvert on Tributary SC365R005**



## SURVEYING

Description	Unit	Quantity	Unit Cost	Sub Total
Boundary and Topo Surveying	ACRE	1.00	\$ 5,000	\$ 5,000
Prepare Easement Plat and Scripts	EACH	1	\$ 400	\$ 400
Construction Staking and As-Built Surveying	ACRE	1.00	\$ 2,500	\$ 2,500
			Subtotal =	\$ 7,900
			Contingency = 15%	\$ 1,200
<b>TOTAL OPINION OF SURVEYING COST =</b>				<b>\$ 9,100</b>

## GEOTECHNICAL

Description	Unit	Quantity	Unit Cost	Sub Total
Field Borings	LF	100	\$ 20	\$ 2,000
Geotechnical Report	LUMP	1	\$ 4,500	\$ 4,500
Global Stability Analysis	EACH	4	\$ 20	\$ 100
			Subtotal =	\$ 6,600
			Contingency = 15%	\$ 1,000
<b>TOTAL OPINION OF GEOTECHNICAL COST =</b>				<b>\$ 7,600</b>

## ENGINEERING DESIGN AND CONSTRUCTION DOCUMENTS

Description	Unit	Quantity	Unit Cost	Sub Total
Preliminary Design	HOURS	100	\$ 100	\$ 10,000
ROW	HOURS	40	\$ 100	\$ 4,000
Permitting	HOURS	40	\$ 100	\$ 4,000
Final Design	HOURS	60	\$ 100	\$ 6,000
Develop Plans and Construction Documents	HOURS	180	\$ 75	\$ 13,500
Construction Support	HOURS	80	\$ 100	\$ 8,000
			\$ -	\$ -
			Subtotal =	\$ 45,500
			Contingency = 15%	\$ 6,800
<b>TOTAL OPINION OF ENGINEERING AND CONSTRUCTION OBSERVATION COST =</b>				<b>\$ 52,300</b>

## CONSTRUCTION

Description	Unit	Quantity	Unit Cost	Sub Total
Removal of Existing Structures	LUMP	0	\$ 20,000	\$ -
Excavation and Embankment in Place	CY	741	\$ 30	\$ 22,200
Rock Grade Control	CY	111	\$ 75	\$ 8,300
Rock Stilling Basin	CY	333	\$ 75	\$ 25,000
Rock Toe and Slope Protection	CY	296	\$ 50	\$ 14,800
Riparian Corridor Planting	SF	7,479	\$ 1.70	\$ 12,700
Site Restoration	ACRE	0.76	\$ 30,000	\$ 22,800
New Culvert	LF	0	\$ 500.0	\$ -
Retaining Wall	SF	0	\$ 50	\$ -
Wetland Planting	ACRE	0.00	\$ 40,000	\$ -
			\$ -	\$ -
			\$ -	\$ -
			\$ -	\$ -
Mobilization and Bond	5%	1	\$ 5,290	\$ 5,300
			Subtotal =	\$ 111,100
			Contingency = 15%	\$ 16,700
<b>TOTAL OPINION OF CONSTRUCTION COST =</b>				<b>\$ 127,800</b>

<b>TOTAL SURVEYING, GEOTECHNICAL, ENGINEERING AND CONSTRUCTION COST OPINION =</b>	<b>\$ 196,800</b>
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# South Salt Creek Watershed Masterplan - Cost Opinion Worksheet

Project ID: **SSC 13**  
 Project Description: **Stilling Basin at Perched S 1st St Culvert on Tributary SC165R010**



## SURVEYING

Description	Unit	Quantity	Unit Cost	Sub Total
Boundary and Topo Surveying	ACRE	1.00	\$ 5,000	\$ 5,000
Prepare Easement Plat and Scripts	EACH	1	\$ 400	\$ 400
Construction Staking and As-Built Surveying	ACRE	1.00	\$ 2,500	\$ 2,500
			Subtotal =	\$ 7,900
			Contingency = 15%	\$ 1,200
<b>TOTAL OPINION OF SURVEYING COST =</b>				<b>\$ 9,100</b>

## GEOTECHNICAL

Description	Unit	Quantity	Unit Cost	Sub Total
Field Borings	LF	50	\$ 20	\$ 1,000
Geotechnical Report	LUMP	1	\$ 4,500	\$ 4,500
Global Stability Analysis	EACH	2	\$ 100	\$ 200
			Subtotal =	\$ 5,700
			Contingency = 15%	\$ 900
<b>TOTAL OPINION OF GEOTECHNICAL COST =</b>				<b>\$ 6,600</b>

## ENGINEERING DESIGN AND CONSTRUCTION DOCUMENTS

Description	Unit	Quantity	Unit Cost	Sub Total
Preliminary Design	HOURS	80	\$ 100	\$ 8,000
ROW	HOURS	40	\$ 100	\$ 4,000
Permitting	HOURS	40	\$ 100	\$ 4,000
Final Design	HOURS	60	\$ 100	\$ 6,000
Develop Plans and Construction Documents	HOURS	180	\$ 75	\$ 13,500
Construction Support	HOURS	80	\$ 100	\$ 8,000
			\$ -	\$ -
			Subtotal =	\$ 43,500
			Contingency = 15%	\$ 6,500
<b>TOTAL OPINION OF ENGINEERING AND CONSTRUCTION OBSERVATION COST =</b>				<b>\$ 50,000</b>

## CONSTRUCTION

Description	Unit	Quantity	Unit Cost	Sub Total
Removal of Existing Structures	LUMP	0	\$ 20,000	\$ -
Excavation and Embankment in Place	CY	433	\$ 30	\$ 13,000
Rock Grade Control	CY	56	\$ 75	\$ 4,200
Rock Stilling Basin	CY	200	\$ 75	\$ 15,000
Rock Toe and Slope Protection	CY	178	\$ 50	\$ 8,900
Riparian Corridor Planting	SF	4,800	\$ 1.70	\$ 8,200
Site Restoration	ACRE	0.85	\$ 30,000	\$ 25,500
New Culvert	LF	0	\$ 500.0	\$ -
Retaining Wall	SF	0	\$ 50	\$ -
Wetland Planting	ACRE	0.00	\$ 40,000	\$ -
			\$ -	\$ -
			\$ -	\$ -
			\$ -	\$ -
Mobilization and Bond	5%	1	\$ 3,740	\$ 3,700
			Subtotal =	\$ 78,500
			Contingency = 15%	\$ 11,800
<b>TOTAL OPINION OF CONSTRUCTION COST =</b>				<b>\$ 90,300</b>

<b>TOTAL SURVEYING, GEOTECHNICAL, ENGINEERING AND CONSTRUCTION COST OPINION =</b>	<b>\$ 156,000</b>
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# South Salt Creek Watershed Masterplan - Cost Opinion Worksheet

Project ID: **SSC 14**  
 Project Description: **Stilling Basin at Perched Saltillo Rd Culvert on Tributary SC065R010**



## SURVEYING

Description	Unit	Quantity	Unit Cost	Sub Total
Boundary and Topo Surveying	ACRE	1.00	\$ 5,000	\$ 5,000
Prepare Easement Plat and Scripts	EACH	1	\$ 400	\$ 400
Construction Staking and As-Built Surveying	ACRE	1.00	\$ 2,500	\$ 2,500
			Subtotal =	\$ 7,900
			Contingency = 15%	\$ 1,200
<b>TOTAL OPINION OF SURVEYING COST =</b>				<b>\$ 9,100</b>

## GEOTECHNICAL

Description	Unit	Quantity	Unit Cost	Sub Total
Field Borings	LF	100	\$ 20	\$ 2,000
Geotechnical Report	LUMP	1	\$ 4,500	\$ 4,500
Global Stability Analysis	EACH	4	\$ 100	\$ 400
			Subtotal =	\$ 6,900
			Contingency = 15%	\$ 1,000
<b>TOTAL OPINION OF GEOTECHNICAL COST =</b>				<b>\$ 7,900</b>

## ENGINEERING DESIGN AND CONSTRUCTION DOCUMENTS

Description	Unit	Quantity	Unit Cost	Sub Total
Preliminary Design	HOURS	100	\$ 100	\$ 10,000
ROW	HOURS	40	\$ 100	\$ 4,000
Permitting	HOURS	40	\$ 100	\$ 4,000
Final Design	HOURS	60	\$ 100	\$ 6,000
Develop Plans and Construction Documents	HOURS	180	\$ 75	\$ 13,500
Construction Support	HOURS	80	\$ 100	\$ 8,000
			\$ -	\$ -
			Subtotal =	\$ 45,500
			Contingency = 15%	\$ 6,800
<b>TOTAL OPINION OF ENGINEERING AND CONSTRUCTION OBSERVATION COST =</b>				<b>\$ 52,300</b>

## CONSTRUCTION

Description	Unit	Quantity	Unit Cost	Sub Total
Removal of Existing Structures	LUMP	0	\$ 20,000	\$ -
Excavation and Embankment in Place	CY	433	\$ 30	\$ 13,000
Rock Grade Control	CY	56	\$ 75	\$ 4,200
Rock Stilling Basin	CY	200	\$ 75	\$ 15,000
Rock Toe and Slope Protection	CY	178	\$ 50	\$ 8,900
Riparian Corridor Planting	SF	4,800	\$ 1.70	\$ 8,200
Site Restoration	ACRE	0.20	\$ 30,000	\$ 6,000
New Culvert	LF	0	\$ 500.0	\$ -
Retaining Wall	SF	0	\$ 50	\$ -
Wetland Planting	ACRE	0.00	\$ 40,000	\$ -
			\$ -	\$ -
			\$ -	\$ -
			\$ -	\$ -
Mobilization and Bond	5%	1	\$ 2,765	\$ 2,800
			Subtotal =	\$ 58,100
			Contingency = 15%	\$ 8,700
<b>TOTAL OPINION OF CONSTRUCTION COST =</b>				<b>\$ 66,800</b>

<b>TOTAL SURVEYING, GEOTECHNICAL, ENGINEERING AND CONSTRUCTION COST OPINION =</b>	<b>\$ 136,100</b>
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# South Salt Creek Watershed Masterplan - Cost Opinion Worksheet

Project ID: **SSC 15**  
 Project Description: **Grade Control Incision on Tributary SC095R005 at Homestead Trail Bridge**



## SURVEYING

Description	Unit	Quantity	Unit Cost	Sub Total
Boundary and Topo Surveying	ACRE	1.00	\$ 5,000	\$ 5,000
Prepare Easement Plat and Scripts	EACH	1	\$ 400	\$ 300
Construction Staking and As-Built Surveying	ACRE	1.00	\$ 2,500	\$ 2,500
			Subtotal =	\$ 7,800
			Contingency = 15%	\$ 1,200
<b>TOTAL OPINION OF SURVEYING COST =</b>				<b>\$ 9,000</b>

## GEOTECHNICAL

Description	Unit	Quantity	Unit Cost	Sub Total
Field Borings	LF	50	\$ 20	\$ 1,000
Geotechnical Report	LUMP	1	\$ 4,500	\$ 4,500
Global Stability Analysis	EACH	2	\$ 100	\$ 200
			Subtotal =	\$ 5,700
			Contingency = 15%	\$ 900
<b>TOTAL OPINION OF GEOTECHNICAL COST =</b>				<b>\$ 6,600</b>

## ENGINEERING DESIGN AND CONSTRUCTION DOCUMENTS

Description	Unit	Quantity	Unit Cost	Sub Total
Preliminary Design	HOURS	80	\$ 100	\$ 8,000
ROW	HOURS	40	\$ 100	\$ 4,000
Permitting	HOURS	40	\$ 100	\$ 4,000
Final Design	HOURS	60	\$ 100	\$ 6,000
Develop Plans and Construction Documents	HOURS	180	\$ 75	\$ 13,500
Construction Support	HOURS	80	\$ 100	\$ 8,000
			\$ -	\$ -
			Subtotal =	\$ 43,500
			Contingency = 15%	\$ 6,500
<b>TOTAL OPINION OF ENGINEERING AND CONSTRUCTION OBSERVATION COST =</b>				<b>\$ 50,000</b>

## CONSTRUCTION

Description	Unit	Quantity	Unit Cost	Sub Total
Removal of Existing Structures	LUMP	0	\$ 20,000	\$ -
Excavation and Embankment in Place	CY	444	\$ 30	\$ 13,300
Rock Grade Control	CY	267	\$ 75	\$ 20,000
Rock Stilling Basin	CY	0	\$ 75	\$ -
Rock Toe and Slope Protection	CY	178	\$ 50	\$ 8,900
Riparian Corridor Planting	SF	4,000	\$ 1.70	\$ 6,800
Site Restoration	ACRE	0.10	\$ 30,000	\$ 3,000
New Culvert	LF	0	\$ 500.0	\$ -
Retaining Wall	SF	0	\$ 50	\$ -
Wetland Planting	ACRE	0.00	\$ 40,000	\$ -
			\$ -	\$ -
			\$ -	\$ -
			\$ -	\$ -
Mobilization and Bond	5%	1	\$ 2,600	\$ 2,600
			Subtotal =	\$ 54,600
			Contingency = 15%	\$ 8,200
<b>TOTAL OPINION OF CONSTRUCTION COST =</b>				<b>\$ 62,800</b>

<b>TOTAL SURVEYING, GEOTECHNICAL, ENGINEERING AND CONSTRUCTION COST OPINION =</b>	<b>\$ 128,400</b>
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# South Salt Creek Watershed Masterplan - Cost Opinion Worksheet

Project ID: **SSC 16**  
 Project Description: **Grade Control Knickpoints on Wagon Train Main Stem WTR005**



## SURVEYING

Description	Unit	Quantity	Unit Cost	Sub Total
Boundary and Topo Surveying	ACRE	3.50	\$ 5,000	\$ 17,500
Prepare Easement Plat and Scripts	EACH	3	\$ 400	\$ 1,200
Construction Staking and As-Built Surveying	ACRE	1.00	\$ 2,500	\$ 2,500
			Subtotal =	\$ 21,200
			Contingency = 15%	\$ 3,200
<b>TOTAL OPINION OF SURVEYING COST =</b>				<b>\$ 24,400</b>

## GEOTECHNICAL

Description	Unit	Quantity	Unit Cost	Sub Total
Field Borings	LF	120	\$ 20	\$ 2,400
Geotechnical Report	LUMP	1	\$ 4,500	\$ 4,500
Global Stability Analysis	EACH	4	\$ 100	\$ 400
			Subtotal =	\$ 7,300
			Contingency = 15%	\$ 1,100
<b>TOTAL OPINION OF GEOTECHNICAL COST =</b>				<b>\$ 8,400</b>

## ENGINEERING DESIGN AND CONSTRUCTION DOCUMENTS

Description	Unit	Quantity	Unit Cost	Sub Total
Preliminary Design	HOURS	120	\$ 100	\$ 12,000
ROW	HOURS	40	\$ 100	\$ 4,000
Permitting	HOURS	40	\$ 100	\$ 4,000
Final Design	HOURS	80	\$ 100	\$ 8,000
Develop Plans and Construction Documents	HOURS	200	\$ 75	\$ 15,000
Construction Support	HOURS	150	\$ 100	\$ 15,000
			\$ -	\$ -
			Subtotal =	\$ 58,000
			Contingency = 15%	\$ 8,700
<b>TOTAL OPINION OF ENGINEERING AND CONSTRUCTION OBSERVATION COST =</b>				<b>\$ 66,700</b>

## CONSTRUCTION

Description	Unit	Quantity	Unit Cost	Sub Total
Removal of Existing Structures	LUMP	0	\$ 20,000	\$ -
Excavation and Embankment in Place	CY	911	\$ 30	\$ 27,300
Rock Grade Control	CY	111	\$ 75	\$ 8,300
Rock Stilling Basin	CY	356	\$ 75	\$ 26,700
Rock Toe and Slope Protection	CY	444	\$ 50	\$ 22,200
Riparian Corridor Planting	SF	3,600	\$ 1.70	\$ 6,100
Site Restoration	ACRE	1.75	\$ 30,000	\$ 52,500
New Culvert	LF	0	\$ 500.0	\$ -
Retaining Wall	SF	0	\$ 50	\$ -
Wetland Planting	ACRE	0.00	\$ 40,000	\$ -
			\$ -	\$ -
			\$ -	\$ -
			\$ -	\$ -
Mobilization and Bond	5%	1	\$ 7,155	\$ 7,200
			Subtotal =	\$ 150,300
			Contingency = 15%	\$ 22,500
<b>TOTAL OPINION OF CONSTRUCTION COST =</b>				<b>\$ 172,800</b>

<b>TOTAL SURVEYING, GEOTECHNICAL, ENGINEERING AND CONSTRUCTION COST OPINION =</b>	<b>\$ 272,300</b>
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# South Salt Creek Watershed Masterplan - Cost Opinion Worksheet

Project ID: **SSC 17**  
 Project Description: **Grade Control Knickpoint on Tributary WT010R005**



## SURVEYING

Description	Unit	Quantity	Unit Cost	Sub Total
Boundary and Topo Surveying	ACRE	1.00	\$ 5,000	\$ 5,000
Prepare Easement Plat and Scripts	EACH	1	\$ 400	\$ 400
Construction Staking and As-Built Surveying	ACRE	1.00	\$ 2,500	\$ 2,500
			Subtotal =	\$ 7,900
			Contingency = 15%	\$ 1,200
<b>TOTAL OPINION OF SURVEYING COST =</b>				<b>\$ 9,100</b>

## GEOTECHNICAL

Description	Unit	Quantity	Unit Cost	Sub Total
Field Borings	LF	25	\$ 20	\$ 500
Geotechnical Report	LUMP	1	\$ 4,500	\$ 4,500
Global Stability Analysis	EACH	2	\$ 100	\$ 200
			Subtotal =	\$ 5,200
			Contingency = 15%	\$ 800
<b>TOTAL OPINION OF GEOTECHNICAL COST =</b>				<b>\$ 6,000</b>

## ENGINEERING DESIGN AND CONSTRUCTION DOCUMENTS

Description	Unit	Quantity	Unit Cost	Sub Total
Preliminary Design	HOURS	80	\$ 100	\$ 8,000
ROW	HOURS	40	\$ 100	\$ 4,000
Permitting	HOURS	40	\$ 100	\$ 4,000
Final Design	HOURS	60	\$ 100	\$ 6,000
Develop Plans and Construction Documents	HOURS	120	\$ 75	\$ 9,000
Construction Support	HOURS	80	\$ 100	\$ 8,000
			\$ -	\$ -
			Subtotal =	\$ 39,000
			Contingency = 15%	\$ 5,900
<b>TOTAL OPINION OF ENGINEERING AND CONSTRUCTION OBSERVATION COST =</b>				<b>\$ 44,900</b>

## CONSTRUCTION

Description	Unit	Quantity	Unit Cost	Sub Total
Removal of Existing Structures	LUMP	0	\$ 20,000	\$ -
Excavation and Embankment in Place	CY	67	\$ 30	\$ 2,000
Rock Grade Control	CY	67	\$ 75	\$ 5,000
Rock Stilling Basin	CY	0	\$ 75	\$ -
Rock Toe and Slope Protection	CY	0	\$ 50	\$ -
Riparian Corridor Planting	SF	1,600	\$ 1.70	\$ 2,700
Site Restoration	ACRE	1.75	\$ 30,000	\$ 52,500
New Culvert	LF	0	\$ 500.0	\$ -
Retaining Wall	SF	0	\$ 50	\$ -
Wetland Planting	ACRE	0.00	\$ 40,000	\$ -
			\$ -	\$ -
			\$ -	\$ -
			\$ -	\$ -
Mobilization and Bond	5%	1	\$ 3,110	\$ 3,100
			Subtotal =	\$ 65,300
			Contingency = 15%	\$ 9,800
<b>TOTAL OPINION OF CONSTRUCTION COST =</b>				<b>\$ 75,100</b>

<b>TOTAL SURVEYING, GEOTECHNICAL, ENGINEERING AND CONSTRUCTION COST OPINION =</b>	<b>\$ 135,100</b>
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# South Salt Creek Watershed Masterplan - Cost Opinion Worksheet

Project ID: **SSC 18**  
 Project Description: **Grade Control Knickpoint on Wagon Train Main Stem WTR010 Upstream of Bennet Rd**



## SURVEYING

Description	Unit	Quantity	Unit Cost	Sub Total
Boundary and Topo Surveying	ACRE	1.00	\$ 5,000	\$ 5,000
Prepare Easement Plat and Scripts	EACH	0	\$ 400	\$ -
Construction Staking and As-Built Surveying	ACRE	1.00	\$ 2,500	\$ 2,500
			Subtotal =	\$ 7,500
			Contingency = 15%	\$ 1,100
<b>TOTAL OPINION OF SURVEYING COST =</b>				<b>\$ 8,600</b>

## GEOTECHNICAL

Description	Unit	Quantity	Unit Cost	Sub Total
Field Borings	LF	25	\$ 20	\$ 500
Geotechnical Report	LUMP	1	\$ 4,500	\$ 4,500
Global Stability Analysis	EACH	2	\$ 100	\$ 200
			Subtotal =	\$ 5,200
			Contingency = 15%	\$ 800
<b>TOTAL OPINION OF GEOTECHNICAL COST =</b>				<b>\$ 6,000</b>

## ENGINEERING DESIGN AND CONSTRUCTION DOCUMENTS

Description	Unit	Quantity	Unit Cost	Sub Total
Preliminary Design	HOURS	80	\$ 100	\$ 8,000
ROW	HOURS	40	\$ 100	\$ 4,000
Permitting	HOURS	40	\$ 100	\$ 4,000
Final Design	HOURS	60	\$ 100	\$ 6,000
Develop Plans and Construction Documents	HOURS	120	\$ 75	\$ 9,000
Construction Support	HOURS	80	\$ 100	\$ 8,000
			\$ -	\$ -
			Subtotal =	\$ 39,000
			Contingency = 15%	\$ 5,900
<b>TOTAL OPINION OF ENGINEERING AND CONSTRUCTION OBSERVATION COST =</b>				<b>\$ 44,900</b>

## CONSTRUCTION

Description	Unit	Quantity	Unit Cost	Sub Total
Removal of Existing Structures	LUMP	0	\$ 20,000	\$ -
Excavation and Embankment in Place	CY	89	\$ 30	\$ 2,700
Rock Grade Control	CY	89	\$ 75	\$ 6,700
Rock Stilling Basin	CY	0	\$ 75	\$ -
Rock Toe and Slope Protection	CY	0	\$ 50	\$ -
Riparian Corridor Planting	SF	1,600	\$ 1.70	\$ 2,700
Site Restoration	ACRE	0.10	\$ 30,000	\$ 3,000
New Culvert	LF	0	\$ 500.0	\$ -
Retaining Wall	SF	0	\$ 50	\$ -
Wetland Planting	ACRE	0.00	\$ 40,000	\$ -
			\$ -	\$ -
			\$ -	\$ -
			\$ -	\$ -
Mobilization and Bond	5%	1	\$ 755	\$ 800
			Subtotal =	\$ 15,900
			Contingency = 15%	\$ 2,400
<b>TOTAL OPINION OF CONSTRUCTION COST =</b>				<b>\$ 18,300</b>

<b>TOTAL SURVEYING, GEOTECHNICAL, ENGINEERING AND CONSTRUCTION COST OPINION =</b>	<b>\$ 77,800</b>
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# South Salt Creek Watershed Masterplan - Cost Opinion Worksheet

Project ID: **SSC 19**  
 Project Description: **Grade Control Knickpoint on Wagon Train Main Stem WTR015 Downstream of Saltillo Rd**



## SURVEYING

Description	Unit	Quantity	Unit Cost	Sub Total
Boundary and Topo Surveying	ACRE	2.00	\$ 5,000	\$ 10,000
Prepare Easement Plat and Scripts	EACH	1	\$ 400	\$ 400
Construction Staking and As-Built Surveying	ACRE	1.00	\$ 2,500	\$ 2,500
			Subtotal =	\$ 12,900
			Contingency = 15%	\$ 1,900
<b>TOTAL OPINION OF SURVEYING COST =</b>				<b>\$ 14,800</b>

## GEOTECHNICAL

Description	Unit	Quantity	Unit Cost	Sub Total
Field Borings	LF	50	\$ 20	\$ 1,000
Geotechnical Report	LUMP	1	\$ 4,500	\$ 4,500
Global Stability Analysis	EACH	2	\$ 100	\$ 200
			Subtotal =	\$ 5,700
			Contingency = 15%	\$ 900
<b>TOTAL OPINION OF GEOTECHNICAL COST =</b>				<b>\$ 6,600</b>

## ENGINEERING DESIGN AND CONSTRUCTION DOCUMENTS

Description	Unit	Quantity	Unit Cost	Sub Total
Preliminary Design	HOURS	80	\$ 100	\$ 8,000
ROW	HOURS	40	\$ 100	\$ 4,000
Permitting	HOURS	40	\$ 100	\$ 4,000
Final Design	HOURS	60	\$ 100	\$ 6,000
Develop Plans and Construction Documents	HOURS	120	\$ 75	\$ 9,000
Construction Support	HOURS	80	\$ 100	\$ 8,000
			\$ -	\$ -
			Subtotal =	\$ 39,000
			Contingency = 15%	\$ 5,900
<b>TOTAL OPINION OF ENGINEERING AND CONSTRUCTION OBSERVATION COST =</b>				<b>\$ 44,900</b>

## CONSTRUCTION

Description	Unit	Quantity	Unit Cost	Sub Total
Removal of Existing Structures	LUMP	0	\$ 20,000	\$ -
Excavation and Embankment in Place	CY	89	\$ 30	\$ 2,700
Rock Grade Control	CY	89	\$ 75	\$ 6,700
Rock Stilling Basin	CY	0	\$ 75	\$ -
Rock Toe and Slope Protection	CY	0	\$ 50	\$ -
Riparian Corridor Planting	SF	1,600	\$ 1.70	\$ 2,700
Site Restoration	ACRE	0.10	\$ 30,000	\$ 3,000
New Culvert	LF	0	\$ 500.0	\$ -
Retaining Wall	SF	0	\$ 50	\$ -
Wetland Planting	ACRE	0.00	\$ 40,000	\$ -
			\$ -	\$ -
			\$ -	\$ -
			\$ -	\$ -
Mobilization and Bond	5%	1	\$ 755	\$ 800
			Subtotal =	\$ 15,900
			Contingency = 15%	\$ 2,400
<b>TOTAL OPINION OF CONSTRUCTION COST =</b>				<b>\$ 18,300</b>

<b>TOTAL SURVEYING, GEOTECHNICAL, ENGINEERING AND CONSTRUCTION COST OPINION =</b>				<b>\$ 84,600</b>
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