

Appendix I

Capital Improvement Project

Cost Worksheets

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Haines Branch Watershed Masterplan - Cost Opinion Worksheet

Project ID: **HB 01**

Project Description: **Grade Control Main Stem HBR005 at S Folsom St and Pipe Outfall Restoration along Bison Trail at Homestead**



SURVEYING

Description	Unit	Quantity	Unit Cost	Sub Total
Boundary and Topo Surveying	ACRE	2.80	\$ 5,000	\$ 14,000
Prepare Easement Plat and Scripts	EACH	0	\$ 400	\$ -
Construction Staking and As-Built Surveying	ACRE	1.00	\$ 2,500	\$ 2,500
			Subtotal =	\$ 16,500
			Contingency = 15%	\$ 2,500
TOTAL OPINION OF SURVEYING COST =				\$ 19,000

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	4	\$ 100	\$ 400
			Subtotal =	\$ 5,900
			Contingency = 15%	\$ 900
TOTAL OPINION OF GEOTECHNICAL COST =				\$ 6,800

ENGINEERING DESIGN AND CONSTRUCTION DOCUMENTS

Description	Unit	Quantity	Unit Cost	Sub Total
Preliminary Design	HOURS	140	\$ 100	\$ 14,000
ROW	HOURS	40	\$ 100	\$ 4,000
Permitting	HOURS	40	\$ 100	\$ 4,000
Final Design	HOURS	100	\$ 100	\$ 10,000
Develop Plans and Construction Documents	HOURS	200	\$ 75	\$ 15,000
Construction Support	HOURS	160	\$ 100	\$ 16,000
			\$ -	\$ -
			Subtotal =	\$ 63,000
			Contingency = 15%	\$ 9,500
TOTAL OPINION OF ENGINEERING AND CONSTRUCTION OBSERVATION COST =				\$ 72,500

CONSTRUCTION

Description	Unit	Quantity	Unit Cost	Sub Total
Removal of Existing Structures	LUMP	0	\$ 2,000	\$ -
Excavation and Embankment in Place	CY	474	\$ 30	\$ 14,200
Rock Grade Control	CY	444	\$ 75	\$ 33,300
Rock Stilling Basin / Outlet Scour Protection	CY	30	\$ 75	\$ 2,300
Rock Toe and Slope Protection	CY	0	\$ 50	\$ -
Riparian Corridor Planting	SF	3,200	\$ 0.70	\$ 2,200
Site Restoration	ACRE	0.92	\$ 30,000	\$ 27,500
New Culvert	LF	0	\$ 500.0	\$ -
Retaining Wall	SF	0	\$ 50	\$ -
Wetland Planting	ACRE	0.00	\$ 40,000	\$ -
			\$ -	\$ -
			\$ -	\$ -
			\$ -	\$ -
Mobilization and Bond	5%	1	\$ 3,975	\$ 4,000
			Subtotal =	\$ 83,500
			Contingency = 15%	\$ 12,500
TOTAL OPINION OF CONSTRUCTION COST =				\$ 96,000

TOTAL SURVEYING, GEOTECHNICAL, ENGINEERING AND CONSTRUCTION COST OPINION =	\$ 194,300
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Haines Branch Watershed Masterplan - Cost Opinion Worksheet

Project ID: **HB 02**



Project Description: **Bank Stabilization and Grade Control Main Stem HBR005 at W Van Dorn St**

SURVEYING

Description	Unit	Quantity	Unit Cost	Sub Total
Boundary and Topo Surveying	ACRE	6.90	\$ 5,000	\$ 34,500
Prepare Easement Plat and Scripts	EACH	0	\$ 400	\$ -
Construction Staking and As-Built Surveying	ACRE	1.50	\$ 2,500	\$ 3,800
			Subtotal =	\$ 38,300
			Contingency = 15%	\$ 5,700
TOTAL OPINION OF SURVEYING COST =				\$ 44,000

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
TOTAL OPINION OF GEOTECHNICAL COST =				\$ 8,400

ENGINEERING DESIGN AND CONSTRUCTION DOCUMENTS

Description	Unit	Quantity	Unit Cost	Sub Total
Preliminary Design	HOURS	140	\$ 100	\$ 14,000
ROW	HOURS	40	\$ 100	\$ 4,000
Permitting	HOURS	80	\$ 100	\$ 8,000
Final Design	HOURS	100	\$ 100	\$ 10,000
Develop Plans and Construction Documents	HOURS	200	\$ 75	\$ 15,000
Construction Support	HOURS	160	\$ 100	\$ 16,000
			\$ -	\$ -
			Subtotal =	\$ 67,000
			Contingency = 15%	\$ 10,100
TOTAL OPINION OF ENGINEERING AND CONSTRUCTION OBSERVATION COST =				\$ 77,100

CONSTRUCTION

Description	Unit	Quantity	Unit Cost	Sub Total
Removal of Existing Structures	LUMP	0	\$ 2,000	\$ -
Excavation and Embankment in Place	CY	2,445	\$ 30	\$ 73,400
Rock Grade Control	CY	889	\$ 75	\$ 66,700
Rock Stilling Basin / Outlet Scour Protection	CY	0	\$ 75	\$ -
Rock Toe and Slope Protection	CY	1,556	\$ 50	\$ 77,800
Riparian Corridor Planting	SF	48,000	\$ 0.70	\$ 33,600
Site Restoration	ACRE	0.46	\$ 30,000	\$ 13,800
New Culvert	LF	0	\$ 500.0	\$ -
Retaining Wall	SF	500	\$ 50	\$ 25,000
Wetland Planting	ACRE	0.00	\$ 40,000	\$ -
			\$ -	\$ -
			\$ -	\$ -
			\$ -	\$ -
Mobilization and Bond	5%	1	\$ 14,515	\$ 14,500
			Subtotal =	\$ 304,800
			Contingency = 15%	\$ 45,700
TOTAL OPINION OF CONSTRUCTION COST =				\$ 350,500

TOTAL SURVEYING, GEOTECHNICAL, ENGINEERING AND CONSTRUCTION COST OPINION =	\$ 480,000
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Haines Branch Watershed Masterplan - Cost Opinion Worksheet

Project ID: **HB 03**



Project Description: **Grade Control Knickpoint On Tributary HB015R005 at Confluence**

SURVEYING

Description	Unit	Quantity	Unit Cost	Sub Total
Boundary and Topo Surveying	ACRE	6.90	\$ 5,000	\$ 34,500
Prepare Easement Plat and Scripts	EACH	0.00	\$ 400	\$ -
Construction Staking and As-Built Surveying	ACRE	0.25	\$ 2,500	\$ 600
			Subtotal =	\$ 35,100
			Contingency = 15%	\$ 5,300
TOTAL OPINION OF SURVEYING COST =				\$ 40,400

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	4	\$ 100	\$ 400
			Subtotal =	\$ 5,400
			Contingency = 15%	\$ 800
TOTAL OPINION OF GEOTECHNICAL COST =				\$ 6,200

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	100	\$ 75	\$ 7,500
Construction Support	HOURS	80	\$ 100	\$ 8,000
			\$ -	\$ -
			Subtotal =	\$ 37,500
			Contingency = 15%	\$ 5,600
TOTAL OPINION OF ENGINEERING AND CONSTRUCTION OBSERVATION COST =				\$ 43,100

CONSTRUCTION

Description	Unit	Quantity	Unit Cost	Sub Total
Removal of Existing Structures	LUMP	0	\$ 2,000	\$ -
Excavation and Embankment in Place	CY	222	\$ 30	\$ 6,700
Rock Grade Control	CY	222	\$ 75	\$ 16,700
Rock Stilling Basin / Outlet Scour Protection	CY	0	\$ 75	\$ -
Rock Toe and Slope Protection	CY	0	\$ 50	\$ -
Riparian Corridor Planting	SF	1,500	\$ 0.70	\$ 1,100
Site Restoration	ACRE	0.11	\$ 30,000	\$ 3,400
New Culvert	LF	0	\$ 500.0	\$ -
Retaining Wall	SF	0	\$ 50	\$ -
Wetland Planting	ACRE	0.00	\$ 40,000	\$ -
			\$ -	\$ -
			\$ -	\$ -
			\$ -	\$ -
Mobilization and Bond	5%	1	\$ 1,395	\$ 1,400
			Subtotal =	\$ 29,300
			Contingency = 15%	\$ 4,400
TOTAL OPINION OF CONSTRUCTION COST =				\$ 33,700

TOTAL SURVEYING, GEOTECHNICAL, ENGINEERING AND CONSTRUCTION COST OPINION =	\$ 123,400
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Haines Branch Watershed Masterplan - Cost Opinion Worksheet

Project ID: **HB 04**

Project Description: **Grade Control Knickpoint at Confluence on Tributary HB040R005 in Pioneers Park**



SURVEYING

Description	Unit	Quantity	Unit Cost	Sub Total
Boundary and Topo Surveying	ACRE	6.90	\$ 5,000	\$ 34,500
Prepare Easement Plat and Scripts	EACH	0	\$ 400	\$ -
Construction Staking and As-Built Surveying	ACRE	0.50	\$ 2,500	\$ 1,300
			Subtotal =	\$ 35,800
			Contingency = 15%	\$ 5,400
TOTAL OPINION OF SURVEYING COST =				\$ 41,200

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	4	\$ 100	\$ 400
			Subtotal =	\$ 5,400
			Contingency = 15%	\$ 800
TOTAL OPINION OF GEOTECHNICAL COST =				\$ 6,200

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	100	\$ 75	\$ 7,500
Construction Support	HOURS	80	\$ 100	\$ 8,000
			\$ -	\$ -
			Subtotal =	\$ 37,500
			Contingency = 15%	\$ 5,600
TOTAL OPINION OF ENGINEERING AND CONSTRUCTION OBSERVATION COST =				\$ 43,100

CONSTRUCTION

Description	Unit	Quantity	Unit Cost	Sub Total
Removal of Existing Structures	LUMP	0	\$ 2,000	\$ -
Excavation and Embankment in Place	CY	444	\$ 30	\$ 13,300
Rock Grade Control	CY	444	\$ 75	\$ 33,300
Rock Stilling Basin / Outlet Scour Protection	CY	0	\$ 75	\$ -
Rock Toe and Slope Protection	CY	0	\$ 50	\$ -
Riparian Corridor Planting	SF	4,000	\$ 0.70	\$ 2,800
Site Restoration	ACRE	0.11	\$ 30,000	\$ 3,400
New Culvert	LF	0	\$ 500.0	\$ -
Retaining Wall	SF	0	\$ 50	\$ -
Wetland Planting	ACRE	0.00	\$ 40,000	\$ -
Remove Existing Debris and Failing Structure	LUMP	1	\$ 10,000	\$ 10,000
			\$ -	\$ -
Mobilization and Bond	5%	1	\$ 3,140	\$ 3,100
			Subtotal =	\$ 65,900
			Contingency = 15%	\$ 9,900
TOTAL OPINION OF CONSTRUCTION COST =				\$ 75,800

TOTAL SURVEYING, GEOTECHNICAL, ENGINEERING AND CONSTRUCTION COST OPINION =	\$ 166,300
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Haines Branch Watershed Masterplan - Cost Opinion Worksheet

Project ID: **HB 05**

Project Description: **Grade Control Knickpoint at Confluence on Tributary HB045R005 in Pioneers Park Nature Center**



SURVEYING

Description	Unit	Quantity	Unit Cost	Sub Total
Boundary and Topo Surveying	ACRE	6.90	\$ 5,000	\$ 34,500
Prepare Easement Plat and Scripts	EACH	0	\$ 400	\$ -
Construction Staking and As-Built Surveying	ACRE	0.50	\$ 2,500	\$ 1,300
			Subtotal =	\$ 35,800
			Contingency = 15%	\$ 5,400
TOTAL OPINION OF SURVEYING COST =				\$ 41,200

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	4	\$ 100	\$ 400
			Subtotal =	\$ 5,400
			Contingency = 15%	\$ 800
TOTAL OPINION OF GEOTECHNICAL COST =				\$ 6,200

ENGINEERING DESIGN AND CONSTRUCTION DOCUMENTS

Description	Unit	Quantity	Unit Cost	Sub Total
Preliminary Design	HOURS	80	\$ 100	\$ 8,000
ROW	HOURS	80	\$ 100	\$ 8,000
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 =	\$ 43,000
			Contingency = 15%	\$ 6,500
TOTAL OPINION OF ENGINEERING AND CONSTRUCTION OBSERVATION COST =				\$ 49,500

CONSTRUCTION

Description	Unit	Quantity	Unit Cost	Sub Total
Removal of Existing Structures	LUMP	0	\$ 2,000	\$ -
Excavation and Embankment in Place	CY	518	\$ 30	\$ 15,500
Rock Grade Control	CY	296	\$ 75	\$ 22,200
Rock Stilling Basin / Outlet Scour Protection	CY	0	\$ 75	\$ -
Rock Toe and Slope Protection	CY	222	\$ 50	\$ 11,100
Riparian Corridor Planting	SF	8,000	\$ 0.70	\$ 5,600
Site Restoration	ACRE	0.11	\$ 30,000	\$ 3,400
New Culvert	LF	0	\$ 500.0	\$ -
Retaining Wall	SF	0	\$ 50	\$ -
Wetland Planting	ACRE	0.00	\$ 40,000	\$ -
Fencing, removal, temporary and replacement	LUMP	1	\$ 10,000	\$ 10,000
Repair dirt road/trail used for access.	LUMP	1	\$ 5,775	\$ 5,800
			\$ -	\$ -
Mobilization and Bond	5%	1	\$ 3,680	\$ 3,700
			Subtotal =	\$ 77,300
			Contingency = 15%	\$ 11,600
TOTAL OPINION OF CONSTRUCTION COST =				\$ 88,900

TOTAL SURVEYING, GEOTECHNICAL, ENGINEERING AND CONSTRUCTION COST OPINION =	\$ 185,800
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Haines Branch Watershed Masterplan - Cost Opinion Worksheet

Project ID: **HB 06**



Project Description: **Grade Control Knickpoint on Tributary HB055R005 at Confluence**

SURVEYING

Description	Unit	Quantity	Unit Cost	Sub Total
Boundary and Topo Surveying	ACRE	1.70	\$ 5,000	\$ 8,500
Prepare Easement Plat and Scripts	EACH	0	\$ 400	\$ -
Construction Staking and As-Built Surveying	ACRE	0.50	\$ 2,500	\$ 1,300
			Subtotal =	\$ 9,800
			Contingency = 15%	\$ 1,500
TOTAL OPINION OF SURVEYING COST =				\$ 11,300

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	4	\$ 100	\$ 400
			Subtotal =	\$ 5,900
			Contingency = 15%	\$ 900
TOTAL OPINION OF GEOTECHNICAL COST =				\$ 6,800

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
TOTAL OPINION OF ENGINEERING AND CONSTRUCTION OBSERVATION COST =				\$ 44,900

CONSTRUCTION

Description	Unit	Quantity	Unit Cost	Sub Total
Removal of Existing Structures	LUMP	0	\$ 2,000	\$ -
Excavation and Embankment in Place	CY	593	\$ 30	\$ 17,800
Rock Grade Control	CY	593	\$ 75	\$ 44,500
Rock Stilling Basin / Outlet Scour Protection	CY	0	\$ 75	\$ -
Rock Toe and Slope Protection	CY	0	\$ 50	\$ -
Riparian Corridor Planting	SF	4,000	\$ 0.70	\$ 2,800
Site Restoration	ACRE	0.23	\$ 30,000	\$ 6,900
New Culvert	LF	0	\$ 500.0	\$ -
Retaining Wall	SF	0	\$ 50	\$ -
Wetland Planting	ACRE	0.00	\$ 40,000	\$ -
			\$ -	\$ -
			\$ -	\$ -
			\$ -	\$ -
Mobilization and Bond	5%	1	\$ 3,600	\$ 3,600
			Subtotal =	\$ 75,600
			Contingency = 15%	\$ 11,300
TOTAL OPINION OF CONSTRUCTION COST =				\$ 86,900

TOTAL SURVEYING, GEOTECHNICAL, ENGINEERING AND CONSTRUCTION COST OPINION =				\$ 149,900
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Haines Branch Watershed Masterplan - Cost Opinion Worksheet

Project ID: **HB 07**

Project Description: **Grade Control Knickpoint on Tributary HB070R005 at Confluence**



SURVEYING

Description	Unit	Quantity	Unit Cost	Sub Total
Boundary and Topo Surveying	ACRE	1.70	\$ 5,000	\$ 8,500
Prepare Easement Plat and Scripts	EACH	0	\$ 400	\$ -
Construction Staking and As-Built Surveying	ACRE	0.50	\$ 2,500	\$ 1,300
			Subtotal =	\$ 9,800
			Contingency = 15%	\$ 1,500
TOTAL OPINION OF SURVEYING COST =				\$ 11,300

GEOTECHNICAL

Description	Unit	Quantity	Unit Cost	Sub Total
Field Borings	LF	80	\$ 20	\$ 1,600
Geotechnical Report	LUMP	1	\$ 4,500	\$ 4,500
Global Stability Analysis	EACH	4	\$ 100	\$ 400
			Subtotal =	\$ 6,500
			Contingency = 15%	\$ 1,000
TOTAL OPINION OF GEOTECHNICAL COST =				\$ 7,500

ENGINEERING DESIGN AND CONSTRUCTION DOCUMENTS

Description	Unit	Quantity	Unit Cost	Sub Total
Preliminary Design	HOURS	100	\$ 100	\$ 10,000
ROW	HOURS	100	\$ 100	\$ 10,000
Permitting	HOURS	40	\$ 100	\$ 4,000
Final Design	HOURS	80	\$ 100	\$ 8,000
Develop Plans and Construction Documents	HOURS	140	\$ 75	\$ 10,500
Construction Support	HOURS	120	\$ 100	\$ 12,000
			\$ -	\$ -
			Subtotal =	\$ 54,500
			Contingency = 15%	\$ 8,200
TOTAL OPINION OF ENGINEERING AND CONSTRUCTION OBSERVATION COST =				\$ 62,700

CONSTRUCTION

Description	Unit	Quantity	Unit Cost	Sub Total
Removal of Existing Structures	LUMP	0	\$ 2,000	\$ -
Excavation and Embankment in Place	CY	888	\$ 30	\$ 26,600
Rock Grade Control	CY	444	\$ 75	\$ 33,300
Rock Stilling Basin / Outlet Scour Protection	CY	0	\$ 75	\$ -
Rock Toe and Slope Protection	CY	444	\$ 50	\$ 22,200
Riparian Corridor Planting	SF	12,000	\$ 0.70	\$ 8,400
Site Restoration	ACRE	0.52	\$ 30,000	\$ 15,500
New Culvert	LF	0	\$ 500.0	\$ -
Retaining Wall	SF	0	\$ 50	\$ -
Wetland Planting	ACRE	0.00	\$ 40,000	\$ -
Debris Removal	LUMP	1	\$ 5,333	\$ 5,300
Resurface Gravel Driveway	LF	1,150	\$ 5	\$ 5,900
			\$ -	\$ -
Mobilization and Bond	5%	1	\$ 5,860	\$ 5,900
			Subtotal =	\$ 123,100
			Contingency = 15%	\$ 18,500
TOTAL OPINION OF CONSTRUCTION COST =				\$ 141,600

TOTAL SURVEYING, GEOTECHNICAL, ENGINEERING AND CONSTRUCTION COST OPINION =				\$ 223,100
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Haines Branch Watershed Masterplan - Cost Opinion Worksheet

Project ID: **HB 08**

Project Description: **Bank Stabilization at W Pioneers Blvd on Tributary HB080R005**



SURVEYING

Description	Unit	Quantity	Unit Cost	Sub Total
Boundary and Topo Surveying	ACRE	0.50	\$ 5,000	\$ 2,500
Prepare Easement Plat and Scripts	EACH	0	\$ 400	\$ -
Construction Staking and As-Built Surveying	ACRE	0.50	\$ 2,500	\$ 1,300
			Subtotal =	\$ 3,800
			Contingency = 15%	\$ 600
TOTAL OPINION OF SURVEYING COST =				\$ 4,400

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	4	\$ 100	\$ 400
			Subtotal =	\$ 5,900
			Contingency = 15%	\$ 900
TOTAL OPINION OF GEOTECHNICAL COST =				\$ 6,800

ENGINEERING DESIGN AND CONSTRUCTION DOCUMENTS

Description	Unit	Quantity	Unit Cost	Sub Total
Preliminary Design	HOURS	100	\$ 100	\$ 10,000
ROW	HOURS	10	\$ 100	\$ 1,000
Permitting	HOURS	40	\$ 100	\$ 4,000
Final Design	HOURS	100	\$ 100	\$ 10,000
Develop Plans and Construction Documents	HOURS	100	\$ 75	\$ 7,500
Construction Support	HOURS	160	\$ 100	\$ 16,000
			\$ -	\$ -
			Subtotal =	\$ 48,500
			Contingency = 15%	\$ 7,300
TOTAL OPINION OF ENGINEERING AND CONSTRUCTION OBSERVATION COST =				\$ 55,800

CONSTRUCTION

Description	Unit	Quantity	Unit Cost	Sub Total
Removal of Existing Structures	LUMP	0	\$ 2,000	\$ -
Excavation and Embankment in Place	CY	659	\$ 30	\$ 19,800
Rock Grade Control	CY	237	\$ 75	\$ 17,800
Rock Stilling Basin / Outlet Scour Protection	CY	22	\$ 75	\$ 1,700
Rock Toe and Slope Protection	CY	400	\$ 50	\$ 20,000
Riparian Corridor Planting	SF	5,400	\$ 0.70	\$ 3,800
Site Restoration	ACRE	0.05	\$ 30,000	\$ 1,400
New Culvert	LF	0	\$ 500.0	\$ -
Retaining Wall	SF	0	\$ 50	\$ -
Wetland Planting	ACRE	0.00	\$ 40,000	\$ -
			\$ -	\$ -
			\$ -	\$ -
			\$ -	\$ -
Mobilization and Bond	5%	1	\$ 3,225	\$ 3,200
			Subtotal =	\$ 67,700
			Contingency = 15%	\$ 10,200
TOTAL OPINION OF CONSTRUCTION COST =				\$ 77,900

TOTAL SURVEYING, GEOTECHNICAL, ENGINEERING AND CONSTRUCTION COST OPINION =	\$ 144,900
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Haines Branch Watershed Masterplan - Cost Opinion Worksheet

Project ID: **HB 09**

Project Description: **Grade Control Incising Reach on Tributary HB080R010**



SURVEYING

Description	Unit	Quantity	Unit Cost	Sub Total
Boundary and Topo Surveying	ACRE	6.70	\$ 5,000	\$ 33,500
Prepare Easement Plat and Scripts	EACH	0	\$ 400	\$ -
Construction Staking and As-Built Surveying	ACRE	0.50	\$ 2,500	\$ 1,300
			Subtotal =	\$ 34,800
			Contingency = 15%	\$ 5,200
TOTAL OPINION OF SURVEYING COST =				\$ 40,000

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
TOTAL OPINION OF GEOTECHNICAL COST =				\$ 9,100

ENGINEERING DESIGN AND CONSTRUCTION DOCUMENTS

Description	Unit	Quantity	Unit Cost	Sub Total
Preliminary Design	HOURS	140	\$ 100	\$ 14,000
ROW	HOURS	40	\$ 100	\$ 4,000
Permitting	HOURS	80	\$ 100	\$ 8,000
Final Design	HOURS	100	\$ 100	\$ 10,000
Develop Plans and Construction Documents	HOURS	200	\$ 75	\$ 15,000
Construction Support	HOURS	160	\$ 100	\$ 16,000
			\$ -	\$ -
			Subtotal =	\$ 67,000
			Contingency = 15%	\$ 10,100
TOTAL OPINION OF ENGINEERING AND CONSTRUCTION OBSERVATION COST =				\$ 77,100

CONSTRUCTION

Description	Unit	Quantity	Unit Cost	Sub Total
Removal of Existing Structures	LUMP	0	\$ 2,000	\$ -
Excavation and Embankment in Place	CY	948	\$ 30	\$ 28,400
Rock Grade Control	CY	948	\$ 75	\$ 71,100
Rock Stilling Basin / Outlet Scour Protection	CY	0	\$ 75	\$ -
Rock Toe and Slope Protection	CY	0	\$ 50	\$ -
Riparian Corridor Planting	SF	6,400	\$ 0.70	\$ 4,500
Site Restoration	ACRE	0.67	\$ 30,000	\$ 20,000
New Culvert	LF	0	\$ 500.0	\$ -
Retaining Wall	SF	0	\$ 50	\$ -
Wetland Planting	ACRE	0.00	\$ 40,000	\$ -
			\$ -	\$ -
			\$ -	\$ -
			\$ -	\$ -
Mobilization and Bond	5%	1	\$ 6,200	\$ 6,200
			Subtotal =	\$ 130,200
			Contingency = 15%	\$ 19,500
TOTAL OPINION OF CONSTRUCTION COST =				\$ 149,700

TOTAL SURVEYING, GEOTECHNICAL, ENGINEERING AND CONSTRUCTION COST OPINION =	\$ 275,900
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Haines Branch Watershed Masterplan - Cost Opinion Worksheet

Project ID: **HB 10**

Project Description: **Grade Control Knickzone on Tributary HB035R040**



SURVEYING

Description	Unit	Quantity	Unit Cost	Sub Total
Boundary and Topo Surveying	ACRE	0.50	\$ 5,000	\$ 2,500
Prepare Easement Plat and Scripts	EACH	0	\$ 400	\$ -
Construction Staking and As-Built Surveying	ACRE	0.50	\$ 2,500	\$ 1,300
			Subtotal =	\$ 3,800
			Contingency = 15%	\$ 600
TOTAL OPINION OF SURVEYING COST =				\$ 4,400

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	4	\$ 100	\$ 400
			Subtotal =	\$ 5,900
			Contingency = 15%	\$ 900
TOTAL OPINION OF GEOTECHNICAL COST =				\$ 6,800

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	80	\$ 100	\$ 8,000
Develop Plans and Construction Documents	HOURS	180	\$ 75	\$ 13,500
Construction Support	HOURS	120	\$ 100	\$ 12,000
			\$ -	\$ -
			Subtotal =	\$ 51,500
			Contingency = 15%	\$ 7,700
TOTAL OPINION OF ENGINEERING AND CONSTRUCTION OBSERVATION COST =				\$ 59,200

CONSTRUCTION

Description	Unit	Quantity	Unit Cost	Sub Total
Removal of Existing Structures	LUMP	0	\$ 2,000	\$ -
Excavation and Embankment in Place	CY	785	\$ 30	\$ 23,600
Rock Grade Control	CY	711	\$ 75	\$ 53,300
Rock Stilling Basin / Outlet Scour Protection	CY	0	\$ 75	\$ -
Rock Toe and Slope Protection	CY	74	\$ 50	\$ 3,700
Riparian Corridor Planting	SF	2,000	\$ 0.70	\$ 1,400
Site Restoration	ACRE	0.09	\$ 30,000	\$ 2,800
New Culvert	LF	0	\$ 500.0	\$ -
Retaining Wall	SF	0	\$ 50	\$ -
Wetland Planting	ACRE	0.00	\$ 40,000	\$ -
			\$ -	\$ -
			\$ -	\$ -
			\$ -	\$ -
Mobilization and Bond	5%	1	\$ 4,240	\$ 4,200
			Subtotal =	\$ 89,000
			Contingency = 15%	\$ 13,400
TOTAL OPINION OF CONSTRUCTION COST =				\$ 102,400

TOTAL SURVEYING, GEOTECHNICAL, ENGINEERING AND CONSTRUCTION COST OPINION =				\$ 172,800
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