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City of Ypsilanti, Michigan - Frog Island Park 2008 Conceptual Site Plan

Construction Estimate - Detailed Worksheet

February 1, 2008

* This Estimate is based on the 2008 conceptual plan. Due to the conceptual nature of the plan, all quantities and unit prices are approximate. Numerous factors including construction details, grading plan, project packaging, date of construction and unforeseen site conditions will affect final construction costs.

** Estimate does not include all improvements suggested on the Conceptual Site Plan. Items not estimated include but are not limited to Band Shell Option 2, stabilization of the entire east slope, complete tree planting on stream bank, and grass pave system for large vehicle access.

Phase 1: West & South Improvements - Stream Bank Stabilization, Amphitheater Improvements, Old Mill Fishing Area, B2B Trail and West Spectator Seating				
PROJECT / LINE ITEM	Qty.	Unit	Unit Price	Total Cost
Pre-development				
Park Boundary Survey (Boundary for entire park required even if working on part)	1	Sum	\$ 6,500	\$ 6,500
Topographic and Detailed Feature Survey for Entire Park	1	Sum	\$ 10,000	\$ 10,000
Design Development & Engineering	1	Sum	\$ 90,800	\$ 90,800
Subtotal - Pre-development				\$ 107,300
Oversight, Mobilization and Site Control (0)				
Observation, Staking, Permits, Testing	1	Sum	\$ 88,000	\$ 88,000
Contractor Mobilization	1	Sum	\$ 61,900	\$ 61,900
Construction Fencing (as needed)	2500	LF	\$ 3.50	\$ 8,750
Erosion & Sediment Control	1	Sum	\$ 7,500	\$ 7,500
Subtotal - Oversight, Mobilization and Site Control				\$ 166,150
West Spectator Seating (includes grade modification for berm and other path areas) (5)				
Saw-cut Curb	1	Sum	\$ 500	\$ 500
Demo Track Curb	500	LF	\$ 7	\$ 3,500
Strip and Stockpile Top Soil from Berm (4" depth)	150	CY	\$ 7	\$ 1,050
Excavation (cut & fill on site)	375	CY	\$ 7	\$ 2,625
Excavate Load, Haul, & Dispose Soil & Debris (as needed; explore N. end of infield as fill area)	700	CY	\$ 25	\$ 17,500
Place & Grade on site topsoil	150	CY	\$ 7	\$ 1,050
Seatwalls & Wing Walls	875	LF	\$ 300	\$ 262,500
Supplemental Gravel Base &/or Backfill for Seatwalls (as needed)	225	CY	\$ 50	\$ 11,250
Stairway	1	Sum	\$ 10,000	\$ 10,000
MI Boulder Retaining Walls Along path & Track (as needed; provides flat top for path)	2500	FF	\$ 30	\$ 75,000
Railing along Path (as needed; explore log curbs or other less expensive details for path safety)	875	LF	\$ 80	\$ 70,000
Replace Track Curb (Straight)	215	LF	\$ 10	\$ 2,150
Replace Track Curb (Curved)	240	LF	\$ 20	\$ 4,800
Relocate / Re-chalk Soccer Field & Repair Lawn	1	Sum	\$ 1,500	\$ 1,500
Track Surface Repair	1200	SY	\$ 6	\$ 7,200
Supplemental Electrical & Lighting	1	Sum	\$ 15,000	\$ 15,000
Subtotal -West Spectator Seating				\$ 485,625

Stream Bank Stabilization and Tridge Filter Wetland (1)				
Tree Removal on Slope (as required; if needed stockpile logs for community garden use)	1	Sum	\$ 15,000	\$ 15,000
Excavate Load, Haul, & Dispose Soil & Debris From Banks (as needed)	250	CY	\$ 100	\$ 25,000
Furnish & Grade Planting Soil (as needed; utilize Compost from Waterworks Park if possible)	300	CY	\$ 60	\$ 18,000
Replace Steel Culvert at Tridge Wetland	1	Sum	\$ 2,900	\$ 2,900
Root Wads	9	Ea	\$ 1,200	\$ 10,800
MI Boulder Toe Protection or Rock Vanes	1025	LF	\$ 100	\$ 102,500
Michigan Boulder Checkdam (at tridge Wetland Filter)	65	LF	\$ 100	\$ 6,500
Bioengineering - Fascines & Livestakes (as needed)	2000	LF	\$ 35	\$ 70,000
Stone Slab Stairways to River (Optional)	2	Ea	\$ 7,500	\$ 15,000
Slope Stabilization Seeding	0.6	AC	\$ 6,500	\$ 3,900
Erosion Control Blanket / Netting (as needed)	925	SY	\$ 5	\$ 4,625
Shade Trees (as needed)	45	Ea	\$ 475	\$ 21,375
Ornamental Trees	33	Ea	\$ 350	\$ 11,550
Shrubs	20	Ea	\$ 60	\$ 1,200
Wetland Filter Plantings	1	Sum	\$ 1,500	\$ 1,500
Subtotal - Stream Bank Stabilization				\$ 309,850
Expand Existing Amphitheater Seating				
Excavate Load, Haul, & Dispose Soil & Debris (as needed; explore S. end of infield as fill area)	350	CY	\$ 25	\$ 8,750
Supplemental Gravel Base &/or Backfill for Seatwalls (as needed)	150	CY	\$ 50	\$ 7,500
Seatwalls (explore boulder walls to reduce cost)	385	LF	\$ 300	\$ 115,500
Furnish & Grade Planting Soil	75	CY	\$ 40	\$ 3,000
Supplemental Electrical & Lighting	1	Sum	\$ 15,000	\$ 15,000
Subtotal - Expand Existing Amphitheater Seating				\$ 149,750
Paths (4)				
Strip Asphalt From Ex. Paths	1035	SY	\$ 7	\$ 7,245
Strip Ex. Asphalt at S. End Parking Lot	20	SY	\$ 7	\$ 140
Saw-cut Curb & Gutter & Asphalt at S. End Parking Lot	1	Sum	\$ 500	\$ 500
Demo Curb & Gutter at S. End Parking Lot	44	LF	\$ 8	\$ 352
Remove Conc. Sidewalks at S. End Parking Lot	35	SY	\$ 15	\$ 525
Remove Conc. Steps W. of ex Stage	1	Sum	\$ 500	\$ 500
Remove Ex. Park Sign at Forest Ave.	1	Sum	\$ 250	\$ 250
Remove Ex. Wood Bollards at Forest Ave.	5	Ea	\$ 50	\$ 250
Tree Removal at Forest Ave. (if needed stockpile logs for community garden use)	3	Ea	\$ 400	\$ 1,200
Remove Guard Rail at Forest Ave.	1	Sum	\$ 250	\$ 250
New Curb & Gutter (at S. end parking lot & on Rice St. at Forest Ave.)	135	LF	\$ 30	\$ 4,050
Bollards Removable (at S. end parking lot)	2	Ea	\$ 850	\$ 1,700
Bollards Fixed at Forest Ave. (as needed)	10	Ea	\$ 750	\$ 7,500
Concrete Barrier free Ramps (oversize at S. end parking lot)	1	Ea	\$ 2,000	\$ 2,000
New / Replacement Asphalt Paths	1810	SY	\$ 26	\$ 47,060
New Guard Rail at Forest Ave.	50	LF	\$ 25	\$ 1,250
Path Lighting	1	Sum	\$ 58,000	\$ 58,000
Subtotal - Paths				\$ 132,772
Site Furnishings				
New Bike Racks w/ conc. pad. (S. End)	1	Sum	\$ 3,500	\$ 3,500
B2B Map and Wayfinding Signage (near bike racks and at N. End)	2	Ea	\$ 3,500	\$ 7,000
Interpretive Signage	2	Ea	\$ 1,500	\$ 3,000
Signage ("to Depot town" near tridge)	1	Ea	\$ 2,000	\$ 2,000
Bench (overlooking community garden)	1	Ea	\$ 2,000	\$ 2,000
Metal Trash + Recycling Receptacles (at ex. amphitheater & west spectator seating)	2	Ea	\$ 2,500	\$ 5,000
Metal Trash Receptacles (at community garden)	1	Ea	\$ 1,000	\$ 1,000
Subtotal - Site Furnishings				\$ 23,500
Old Mill Fishing Area				
Michigan Boulder Overlooks	3	Ea	\$ 7,000	\$ 21,000
Michigan Boulders at Detention Wetland Overflow	1	Sum	\$ 5,000	\$ 5,000
Stone Slab Steps & Stepping Stones	11	Ea	\$ 500	\$ 5,500
Subtotal - Old Mill Fishing Area				\$ 31,500

Overlook Platform				
Overlook Deck	800	SF	\$ 50	\$ 40,000
Interpretive Signage	2	Ea	\$ 1,500	\$ 3,000
Benches	3	Ea	\$ 1,500	\$ 4,500
	Subtotal - Overlook Platform			\$ 47,500
Planting & Site Restoration (0)				
Shade Trees	8	Ea	\$ 475	\$ 3,800
Ornamental Trees	14	Ea	\$ 350	\$ 4,900
Evergreen Trees	1	Ea	\$ 450	\$ 450
Shrubs	63	Ea	\$ 60	\$ 3,780
Mulch (as needed)	35	CY	\$ 80	\$ 2,800
Prairie Seeding	0.25	AC	\$ 6,000	\$ 1,500
Fine Grade & Seed Lawn Areas	2628	SY	\$ 3	\$ 7,884
Site Cleanup	1	Sum	\$ 3,500	\$ 3,500
	Subtotal - Planting & Site Restoration			\$ 28,614
Subtotal				\$ 1,482,561
20% Contingency				\$ 296,512
Total - Phase 1: West & South Improvements				\$ 1,779,073

Phase 2: East Improvements - Parking & Roadway Improvements With Stormwater Bioswale & Wetland, East Spectator Seating & Stage, Slope Stabilization, Old Mill Natural Area, Track Improvements, and Entry Plaza.				
PROJECT / LINE ITEM	Qty.	Unit	Unit Price	Total Cost
Pre-development				
Design Development & Engineering	1	Sum	\$ 108,800	\$ 108,800
	Subtotal - Pre-development			\$ 108,800
Oversight, Mobilization and Site Control (0)				
Observation, Staking, Permits, Testing	1	Sum	\$ 105,500	\$ 105,500
Contractor Mobilization	1	Sum	\$ 74,200	\$ 74,200
Silt Fence	250	LF	\$ 2.50	\$ 625
Construction Fencing	1700	LF	\$ 3.50	\$ 5,950
	Subtotal - Oversight, Mobilization and Site Control			\$ 186,275
Relocate Recycling Center (final cost dependent on new site and other factors)				
Relocate Structures	1	Sum	\$ 50,000	\$ 50,000
Demo Existing Conc. Slabs	1	Sum	\$ 5,000	\$ 5,000
Demo Existing Fence Posts	1	Sum	\$ 1,000	\$ 1,000
Abandon Ex. Gas line	1	Sum	\$ 2,500	\$ 2,500
	Subtotal - Relocate Recycling Center			\$ 58,500
Parking & Roadway Improvements With Stormwater Bioswale & Wetland				
Saw-cut Curb & Gutter	1	Sum	\$ 250	\$ 250
Demo Curb & Gutter	765	LF	\$ 7	\$ 5,355
Strip Ex. Asphalt from Parking Lot	1700	SY	\$ 7	\$ 11,900
Remove & Abandon Ex. Storm Drains & Structures from Parking Lot	1	Sum	\$ 4,000	\$ 4,000
Abandon Ex. Water line (to spigot)	1	Sum	\$ 2,000	\$ 2,000
Remove Ex Storm Drain at Old Mill Foundation	1	Sum	\$ 1,000	\$ 1,000
Remove Ex. Wood Bollards	45	Ea	\$ 50	\$ 2,250
Tree Removal on East Slope	1	Sum	\$ 10,000	\$ 10,000
Saw Cut Asphalt (at wetland bridge location)	1	Sum	\$ 500	\$ 500
Strip Asphalt From Ex. Paths (at wetland bridge location; as needed)	50	SY	\$ 7	\$ 350
Strip and Stockpile Top Soil (for use on site)	375	CY	\$ 6	\$ 2,250
Excavation (cut & fill on site)	1000	CY	\$ 7	\$ 7,000
Excavate Load, Haul, & Dispose Soil & Debris (as needed)	2750	CY	\$ 22	\$ 60,500
Place & Grade on site topsoil	375	CY	\$ 6	\$ 2,250
Furnish & Grade Planting Soil (as needed; utilize Compost from Waterworks Park if possible)	700	CY	\$ 40	\$ 28,000
MI Boulder Retaining Walls (as needed for lawn ramp area)	775	FF	\$ 30	\$ 23,250
MI Boulder Retaining Wall (at picnic area)	100	FF	\$ 30	\$ 3,000

Track Improvements (3) (5)				
Demo Remaining Track Curb	1560	LF	\$ 7	\$ 10,920
Replace Remaining Track Curb (Straight)	750	LF	\$ 10	\$ 7,500
Replace Remaining Track Curb (Curved)	820	LF	\$ 20	\$ 16,400
Excavate Trench for Drain Tile Load, Haul, & Dispose (as needed)	150	CY	\$ 20	\$ 3,000
Geotextile Trench Wrap	1250	SY	\$ 3	\$ 3,125
Install 4" PVC Drain Pipe (around inside track edge)	1350	LF	\$ 10	\$ 13,500
Clean Out Ex. Drain(s) (as needed)	1	Sum	\$ 1,000	\$ 1,000
Connect Track Drainage to Ex Drain(s)	1	Sum	\$ 2,500	\$ 2,500
Trench Backfill; Drain Gravel	75	CY	\$ 40	\$ 3,000
Track Surface Gravel (as needed)	150	CY	\$ 40	\$ 6,000
Regrade Track Surface (slope to drain)	2650	SY	\$ 2	\$ 5,300
			Subtotal - Track Improvements	\$ 72,245
Main Entry Plaza				
Metal Entry Arch w/ Cobblestone Base and Metal Lettering	1	Ea	\$ 10,000	\$ 10,000
MI Boulder Outcrops	3	Ea	\$ 600	\$ 1,800
Decorative Paving (Possible Donor Pavers)	1600	SF	\$ 15	\$ 24,000
Benches	4	Ea	\$ 2,000	\$ 8,000
Supplemental Electrical & Lighting	1	Sum	\$ 10,000	\$ 10,000
			Subtotal - Main Entry Plaza	\$ 53,800
Site Furnishings				
Entry Sign at Forest Ave. - Metal Arch w/ Cobblestone Base and Metal Lettering	1	Ea	\$ 15,000	\$ 15,000
New Bike Racks w/ conc. pad. (N. End)	1	Sum	\$ 3,500	\$ 3,500
Picnic Table (at Old Mill Overlook)	1	Ea	\$ 2,750	\$ 2,750
Benches	4	Ea	\$ 2,000	\$ 8,000
Picnic Tables w/ Conc. Slab (at picnic area)	2	Ea	\$ 3,500	\$ 7,000
Boardwalk (to picnic area)	12	LF	\$ 250	\$ 3,000
Boardwalk 6' wide (at Old Mill overlook; explore slab stepping stone alternative)	18	LF	\$ 250	\$ 4,500
Wood Chip Paths at Old Mill Natural Area	30	CY	\$ 80	\$ 2,400
Metal Trash + Recycling Receptacles	2	Ea	\$ 2,500	\$ 5,000
Metal Trash Receptacles	4	Ea	\$ 1,000	\$ 4,000
B2B Map and Wayfinding Signage (as needed at Plaza)	1	Ea	\$ 3,500	\$ 3,500
Interpretive Signage	6	Ea	\$ 1,500	\$ 9,000
			Subtotal - Site Furnishings	\$ 67,650
Restrooms (2)				
Sanitary Service (vault, pump, & plumbing; explore options)	1	Sum	\$ 6,000	\$ 6,000
Concrete Prep (explore options to prep foundation for permanent structure)	1	Sum	\$ 5,000	\$ 5,000
Portable Toilet Shelter	1	Ea	\$ 12,055	\$ 12,055
Portable Toilet Shelter Installation	1	Ea	\$ 12,055	\$ 12,055
			Subtotal - Restrooms	\$ 35,110
Planting & Site Restoration (0)				
Shade Trees	47	Ea	\$ 475	\$ 22,325
Evergreen Trees	19	Ea	\$ 450	\$ 8,550
Ornamental Trees	50	Ea	\$ 350	\$ 17,500
Shrubs	195	Ea	\$ 60	\$ 11,700
Ornamental Grasses / Perennials (at plaza & forebays)	350	Ea	\$ 14	\$ 4,900
Herbicide & Till Prairie Areas Along E. Side Rice St.	1	Sum	\$ 2,500	\$ 2,500
Prairie Seeding	1	AC	\$ 6,000	\$ 6,000
Prairie Seeding E. Side of Rice	0.75	AC	\$ 6,000	\$ 4,500
Wetland Seeding	0.2	AC	\$ 6,500	\$ 1,300
Fine Grade & Seed Lawn Areas	2465	SY	\$ 2	\$ 4,930
Mulch	95	CY	\$ 80	\$ 7,600
Site Cleanup	1	Sum	\$ 5,000	\$ 5,000
			Subtotal - Planting & Site Restoration	\$ 96,805
Subtotal				\$ 1,757,285
20% Contingency				\$ 351,457
Total - Phase 2: East Improvements				\$ 2,108,742

Amphitheater Back Drop Planting (Option 2 / Existing or Option 3)

PROJECT / LINE ITEM	Qty.	Unit	Unit Price	Total Cost
Landscape Architect Fee (as needed)	1	Sum	\$ 2,000	\$ 2,000
Mobilization	1	Sum	\$ 800	\$ 800
Ornamental Trees	10	Ea	\$ 350	\$ 3,500
Evergreen Trees	12	Ea	\$ 450	\$ 5,400
Shrubs	14	Ea	\$ 60	\$ 840
Mulch (as needed)	25	CY	\$ 80	\$ 2,000
Site Cleanup	1	Sum	\$ 1,000	\$ 1,000
Subtotal				\$ 15,540
20% Contingency				\$ 3,108
Total - Amphitheater Back Drop Planting				\$ 18,648

Frog Island Grand Subtotal				\$ 3,255,386
20% Contingency				\$ 651,077.20
Frog Island Grand Total				\$ 3,906,463

PROJECT FOOTNOTES

- (0) Costs for Oversight, Mobilization & Site Control as well as Planting & Site Restoration are based on project packaging as shown. Modifications to project scope will affect these costs and require they be divided and refigured for smaller project phases.
- (1) Streambank stabilization costs are for East side of river only. Costs for Shoreline and bank stabilization are highly dependent on engineering calculations / recommended construction details and may vary significantly from estimated amounts. Inclusion of the east side would more than double the project budget with additional costs likely due to difficult site access (slopes and multiple property owners).
- (2) Portable toilet shelter is an interim solution until a permanent structure is feasible. Site plan should include provisions for permanent structure. Water service should be installed with east spectator seating, and sanitary prep installed with parking lot / plaza improvements.
- (3) Cost shown for track drainage improvements are for a basic retrofit solution; removal and reinstallation of the track would be a significant cost to the project.
- (4) Existing paths may require complete removal and reinstallation to improve base strength and insure durability.
- (5) Explore leaving existing curbs in place and slightly raising infield & track. Explore installation of new curbs adjacent to existing curbs. Explore eliminating curbs on outside edge of track where boulder walls proposed. Explore creating a basin at end of infield to accept runoff and flow from subdrains.
- (6) If Band Shell Option 2 or 3 used match West Spectator Seating plan
- (7) Costs are approximate for a wood Band Shell structure. Final cost will be highly dependent on structure details. Shell structure design should be completed as part of Phase 2 site plan. Installation of structure could then be completed as a stand alone project. Approximate costs for a freestanding Band Shell are provided below. Again, final cost will be highly dependent on design details. If a stand alone Band Shell is used, cost for Phase 2 will be reduced by approximately \$125k.

Freestanding Band Shell (Option 3)

PROJECT / LINE ITEM	Qty.	Unit	Unit Price	Total Cost
Design Development & Engineering	1	Sum	\$ 14,200	\$ 14,200
Subtotal - Pre-development				\$ 14,200
Site Development				
Observation, Staking, Permits, Testing	1	Sum	\$ 13,800	\$ 13,800
Contractor Mobilization	1	Sum	\$ 9,700	\$ 9,700
Stage Foundation Walls (as needed)	150	LF	\$ 110	\$ 16,500
Supplemental Gravel Base &/or Backfill (as needed)	100	CY	\$ 40	\$ 4,000
Concrete Footings for Band Shell (as needed)	4	Ea	\$ 600	\$ 2,400
Concrete Paving	1750	Sf	\$ 6	\$ 10,500
Stairs	1	Sum	\$ 5,000	\$ 5,000
Railing for Stairs	10	LF	\$ 60	\$ 600
Bandshell Structure	1	Sum	\$ 71,500	\$ 71,500
Structure Installation	1	Sum	\$ 40,000	\$ 40,000
Site Cleanup and Restoration	1	Sum	\$ 2,500	\$ 2,500
Supplemental Electrical & Lighting (as needed)	1	Sum	\$ 25,000	\$ 25,000
Subtotal - Freestanding Band Shell				\$ 201,500
Subtotal				\$ 215,700
20% Contingency				\$ 43,140
Total - Freestanding Band Shell				\$ 258,840