



RHODESIDE & HARWELL

Fredericksburg Riverfront Park Improvements

**90% CD Estimate
Drawings Dated 7-31-18**

Estimate Dated 8-13-18

Fredericksburg Riverfront Park

Assumptions and Clarifications

The following Assumptions and Clarifications are provided to convey the basis of the estimate and general approach taken by Kohnen-Starkey, Inc. in the preparation of this estimate. The detailed estimate backup provided for each area of the project shall serve as a reference for all scope of work (work activity, assumed quantity and level of quality) which has been taken into account in this estimate. Work not specifically indicated in this detailed backup should be considered Not Included (NIC).

This estimate has been prepared in accordance with the 90% CD design documents provided by Rhodeside and Harwell dated 7-31-18.

General Clarifications

1. *Sole-Source Products* - The estimate makes no provisions for sole-source specified items or products. All items are assumed to be openly specified to allow competitive subcontractor and supplier bidding.
2. *Off Hours Work* – It is assumed that this work will be completed during normal working hours. This estimate does not include a labor premium for off-hours work.
3. *Sales Tax* – Sales tax has been included in the unit pricing of this estimate.
4. *Secure Facility* – This estimate does not include premium cost associated with a secure facility. Labor productivity has been included based on standard commercial construction, with no premiums associated with secured site check in/out times. Deliveries are expected to be typical of standard commercial construction. No delay time has been included for deliveries due to site constraints or a secure facility.
5. *Bonds & Insurance* – Contractor and Subcontractor Bond Cost have been included in this estimate.
6. *General Contractor OH & Fee* – Contractors G&A cost have been calculated at 3% of the cost of work, and the Contractor's Fee at 5%.

7. *Subcontractor OH & Fee* - A 21% overhead and fee has been included on all new Subcontractor scopes of work as applicable.
8. *Design Contingency* – A design contingency has been included at 2.5%, as the design is 90% complete.
9. *Construction Contingency* – No construction contingency has been included in this estimate.
10. *Escalation* - The material and labor cost in this estimate is subject to escalation. Escalation has been included at a rate of 3% per year to the anticipated mid-point of construction.
11. *Sequence of Work* - This estimate assumes that all design changes will be incorporated prior to current contractual scopes of work being installed. This estimate is not inclusive of costs associated with out of sequence work or schedule delays.
12. *Design Fees* – Design fees are not included, as they are carried separately by the Owner.
13. *Owner's Cost* – This estimate does not include: Construction Contingency, Owner's Supervision, Inspection & Overhead Cost (SIOH), or site environmental permits.

General Requirements

1. *General Conditions* – General Conditions cost have been included in this estimate and are calculated at a rate of 10%.
2. *Safety* – This estimate assumes that the Project Superintendent will perform the duties of the on-site Safety Officer, and that an independent full time Safety Officer with no other duties is not a requirement of this project.
3. *Quality Control* – This estimate assumes that the Project Superintendent will perform the duties of the on-site Quality Control Officer, and that an independent full time Quality Control Officer with no other duties is not a requirement of this project.
4. *Testing and Inspections* – Allowances for testing and inspection of soils and concrete are included within the cost of work.
5. *Temporary Utility Cost* – Temporary power and water ***distribution cost only*** has been included in the estimate as a Contractor expense. The estimate assumes that temporary power and water usage costs will be paid for by the Owner.
6. *Permits / Tap Fees* – This estimate assumes that all cost for impact and development fees are assumed to be by the Owner. Allowances are included for tap fees. Utility usage fees

are assumed to be by the Owner. The contractor will be responsible for obtaining and paying for the building permit, and all trade permits, licenses and fees for its work.

Site / Landscaping

1. *General Overview* – All scope included is specifically defined in the estimate detail. Scope not identified in the estimate detail should be considered not included.
2. *Earthwork* – Volume cut / fill is included as provided by Kimley Horn. This volume has been adjusted to include stripping of topsoil and stockpile generated from hardscape / landscape excavations. Material being removed from the site is included as being clean dirt.
3. *Building 609* – KSI has not included any cost for the demolition of building 609, or the underground heating oil tanks, as it is assumed all of this work is being performed by others.
4. *Wetlands* – KSI has included a \$4,500 permit fee for the U.S. Army Corps of Engineers permit.
5. *Storm Water* – KSI has assumed the existing storm water piping and structures will remain, along with added storm as identified on the drawings and in the estimate detail.
6. *Other Site Utilities* – Water and sanitary are included as shown on the drawings and included in the estimate detail.

Electrical

1. *General Overview* – The estimate for the electrical work is based on the 90% CD design submission documents by Rhodeside Harwell, dated July 31, 2018, and as stated in the following clarifications.
2. *Electrical Distribution* – The estimate includes a new 200 amp panelboard with a NEMA 3R enclosure installed on the exterior wall of the bathroom and underground service to an existing power company pole.
3. *Lighting* – The estimate includes providing 23 new pathway LED pole lights as shown on drawings. The site lighting contactor, junction box, underground conduit and wire are also included as shown on drawing C8.0.

4. *Branch Power* – The estimate includes (4) GFI / WP receptacles, connection to the valve hot boxes, sprinkler controller, water feature controller and miscellaneous other equipment as shown on drawing C8.0.
5. *Communications & Security* – The estimate does NOT include any communication or security systems work.

Estimate Qualification:

Consultant exercises no control over fluctuating market conditions. Consultant shall employ their best judgment in analyzing the subject project and assignments, however, Consultant cannot and does not guarantee that proposals, bids, or actual construction costs will not vary from the opinions provided by Consultant from this or subsequent estimates

PROJECT PHASE & SECTOR		Base
GROSS FLOOR AREA:		Riverfront Park
DIV	SCOPE OF WORK	Amount
G	BUILDING SITEWORK	3,685,635
Subtotal - Building & Site Cost of Work		3,685,635
General Conditions		
	General Conditions	10.00% 368,564
	Site Permit Fees Allowance	1 LS 5,000
General Conditions		373,564
Bonds / Insurance		
	- Performance & Payment Bond	1.25% 50,740
	- Builder's Risk Insurance	0.50% 20,550
	- General Liability Insurance	0.50% 20,652
Bonds / Insurance		91,942
*** Design Contingency***		2.50% 103,779
Overhead & Fee		
	Contractor's G&A	3.00% 127,648
	Contractor's FEE	5.00% 212,746
Overhead & Fee		340,394
Subtotal Cost of Work		4,595,313
Construction Escalation		
	- Escalation at 3%/year:	3.00% 137,859
	Anticip. Mid Pt of Construction	1-Aug-19
Construction Escalation		137,859
Design Cost		
	- Design (With Owner)	0
Design		0
ESTIMATED CONTRACT COST (ECC)		\$4,733,172

Riverfront Park				QTY	UNIT	\$/UNIT	TOTAL
G BUILDING SITEWORK							\$3,685,635
G10 Site Preparations							\$640,229
G1020 Site Demolition and Relocations							\$212,237
Above Ground Site Demolition							\$212,237
Temporary Fence	850	LF	10.08			\$8,567	
			0.00			\$0	
Misc. Protection of Existing Allowance	1	LS	1,000.00			\$1,000	
			0.00			\$0	
Remove Existing Surface Pavement / Gravel	32,120	SF	2.00			\$64,240	
Remove Existing Curb	1,566	LF	5.00			\$7,830	
Remove Existing Walkways	16,880	SF	2.00			\$33,760	
Remove Split Rail Fence	760	LF	3.00			\$2,280	
Remove Timber Retaining Walls	110	LF	10.00			\$1,100	
Removal Misc. Items (benches, trash containers, etc..)	23	EA	50.00			\$1,150	
Remove Dock Ramp	500	SF	2.00			\$1,000	
Remove Dock Decking	405	SF	1.00			\$405	
Remove and Salvage Wheel Stops	31	EA	7.40			\$229	
			0.00			\$0	
Sawcut Asphalt	225	LF	3.00			\$675	
			0.00			\$0	
Haul-Off Debris - Pavement / Hardscape	1,500	CY	60.00			\$90,000	
			0.00			\$0	
** End of Section **							
G1030 Site Earthwork							\$427,993
Temporary Erosion & Sediment Control							\$64,535
Erosion / Sediment Control Allowances							
- Construction Entrance	1	EA	7,500.00			\$7,500	
- Silt Fence	1,140	LF	5.00			\$5,700	
- Super Silt Fence	685	LF	7.00			\$4,795	
- Inlet Protection Allowance	11	EA	300.00			\$3,300	
- Maintenance	6	MOS	1,000.00			\$6,000	
- Tree Protection Fencing	260	LF	5.00			\$1,300	
- Misc. Additional Tree Protection Fencing Allowance	500	LF	5.00			\$2,500	
- Diversion	335	CY	5.00			\$1,675	
- Check Dams Allowance	4	EA	500.00			\$2,000	
- Outfall Protection	1	EA	500.00			\$500	
- Temporary Seed (for civil E & S control)	6,100	SY	0.80			\$4,880	
- Temporary Seed - Meadow Area	5,300	SY	0.80			\$4,240	
- Mowing Between Temporary and Permanent Seedings	3	EA	1,700.00			\$5,100	
- Remove, Wash and Replace Rip-Rap	105	SF	5.00			\$525	
			0.00			\$0	
Removal of Temporary Items Allowance	1	LS	5,000.00			\$5,000	
			0.00			\$0	
- Coir Matting @ Slope	5,600	SY	1.70			\$9,520	
			0.00			\$0	
** End of Section **							
Earthwork / Grading							\$363,458
Equipment Mobilization	1	LS	5,000.00			\$5,000	
Traffic Control / Maintenance Allowance	8	MO	421.08			\$3,369	
Water Truck / Sweeper	6	MO	5,892.70			\$35,356	
			0.00			\$0	
Site Earthwork			0.00			\$0	
- Clear and Grub (light)	3.6	ACRE	2,500.00			\$9,000	
- Site Cut (less topsoil)	1,516	CY	7.00			\$10,612	
- Structural / Landscape Excavation Surplus	6,521	CY					
- Place and Compact from On-Site Stock Pile	4,228	CY	6.00			\$25,368	
- General Site Grading	156,800	SF	0.40			\$62,720	

Riverfront Park		QTY	UNIT	\$/UNIT	TOTAL
- Haul Off Surplus (assume no disposal fee for soil material)		4,571	CY	20.00	\$91,416
				0.00	\$0
Add for Hand Excavation Allowance in Archeological Areas (31,650 SF)		1,465	CY	60.00	\$87,917
				0.00	\$0
Remove Exist. Trees		23	EA	750.00	\$17,250
- Remove Stumps		23	EA	150.00	\$3,450
				0.00	\$0
Earthwork and E&S Inspection Fees		80	Hours	150.00	\$12,000
				0.00	\$0
** End of Section **					
Rock Excavation					\$0
No Work Required				0.00	\$0
** End of Section **					
G1040	Hazardous Waste Remediation				\$0
	Removal of Contaminated Soil				\$0
No Work Required				0.00	\$0
** End of Section **					
Soil Restoration and Treatment					\$0
No Work Required				0.00	\$0
** End of Section **					
G20	Site Improvements				\$2,641,856
G2010	Roadways				\$33,690
	Curbs & Gutters				\$11,550
Concrete Curb and Gutter Complete		525	LF	20.00	\$10,500
ADA Ramp		105	SF	10.00	\$1,050
				0.00	\$0
** End of Section **					
Paved Surfaces					\$15,821
Standard Duty Concrete Paving (small area)					
- Excavation		93	CY	7.00	\$651
- 8" Granular Base		2,500	SF	2.00	\$5,000
- Asphalt Base Course, 3"		47	TN	110.00	\$5,170
- Hauloff W/ Earthwork		93	CY		
				0.00	\$0
Allowance for Tie-In & Repair to Existing Roads		1	LS	5,000.00	\$5,000
				0.00	\$0
** End of Section **					
Marking & Signage					\$6,319
Traffic Marking & Signage Allowance					
- Parking Space Striping		930	LF	0.75	\$698
- Handi Cap Symbols		6	EA	50.00	\$300
- Directional Arrows		4	EA	50.00	\$200
- Parking / Drive Signs W/Post and Foundation		8	EA	200.00	\$1,600
- Hatched Areas of Pavement Markings		725	SF	2.00	\$1,450
				0.00	\$0
Reinstall Removed Wheel Stops		29	EA	9.38	\$272
Timber Bollard		3	EA	600.00	\$1,800
				0.00	\$0
** End of Section **					
Other Roadways					\$0
W/Above				0.00	\$0
				0.00	\$0
** End of Section **					
G2030	Pedestrian Paving				\$510,536
	Paved Surfaces				\$510,536

Riverfront Park		QTY	UNIT	\$/UNIT	TOTAL
Concrete Pavement - Type 1					
- Aggregate Sub-base - 6"	19,910	SF	1.50	\$29,865	
- Concrete Paving - 6"	19,910	SF	7.50	\$149,325	
- Excavation	737	CY	6.00	\$4,422	
- Hauloff W/Earthwork	737	CY	0.00	\$0	
			0.00	\$0	
Concrete Pavement - Type 2					
- Aggregate Sub-base - 6"	5,250	SF	1.50	\$7,875	
- Concrete Paving - 6" (exposed aggregate)	5,250	SF	9.50	\$49,875	
- Excavation	195	CY	6.00	\$1,170	
- Hauloff W/Earthwork	195	CY	0.00	\$0	
			0.00	\$0	
Brick Pavers					
- Aggregate Sub-base - 6"	6,440	SF	1.50	\$9,660	
- Sand / Cement Bed - 6"	6,440	SF	5.00	\$32,200	
- Brick Pavers	6,616	SF	13.00	\$86,008	
- Excavation	160	CY	6.00	\$960	
- Hauloff W/Earthwork	160	CY	0.00	\$0	
			0.00	\$0	
Granite Pavers					
- Aggregate Sub-base - 4"	400	SF	1.10	\$440	
- Concrete Paving - 4"	400	SF	6.00	\$2,400	
- 2" Granite Pavers on 1" Mortar Bed	400	SF	58.35	\$23,340	
- Excavation	15	CY	6.00	\$90	
- Hauloff W/Earthwork	15	CY	0.00	\$0	
			0.00	\$0	
Granite Pavers - (pavers furnished by owner)					
- Aggregate Sub-base - 4"	2,127	SF	1.10	\$2,340	
- Filter Fabric	2,127	SF	0.50	\$1,064	
- Granite Cobble on Sand Bed	2,127	SF	12.67	\$26,959	
- Trucking Allowance to Pick-Up Pavers from Storage	1	LS	1,000.00	\$1,000	
- Cleaning / Sorting of Cobbles Prior to Install	2,127	SF	0.38	\$798	
- Excavation	65	CY	6.00	\$390	
- Hauloff W/Earthwork	65	CY	0.00	\$0	
			0.00	\$0	
Decomposed Granite					
- Aggregate Sub-base - 6"	6,885	SF	1.50	\$10,328	
- Decomposed Granite - 3"	130	Ton	156.84	\$20,389	
- Excavation	190	CY	6.00	\$1,140	
- Hauloff W/Earthwork	190	CY	0.00	\$0	
			0.00	\$0	
Granite Curb Wall - LF of Riser					
	275	LF	75.00	\$20,625	
			0.00	\$0	
Edge Restraint					
	2,046	LF	9.00	\$18,414	
			0.00	\$0	
Bed Divider					
	946	LF	10.00	\$9,460	
			0.00	\$0	
** End of Section **					
G2040	Site Development				\$1,346,168
	Railing / Canopies / Decking				\$56,506
Wood Platform - A					
- Foundation	10	EA	200.00	\$2,000	
- 6"X6" Pressure Trtd Post x 1'	10	EA	34.18	\$342	
- 2"X8" Pressure Trtd Beams	65	LF	3.78	\$246	
- 2"X6" Pressure Trtd Joist	82	LF	3.26	\$267	
- 2"X6" Pressure Trtd Band Board	24	LF	3.26	\$78	
- 1"X4" Black Locust Wood Decking at Sides	50	SF	11.89	\$594	
- 1"X4" Black Locust Wood Decking	102	SF	11.89	\$1,213	
Wood Platform - B					

Riverfront Park	QTY	UNIT	\$/UNIT	TOTAL
- Foundation	24	EA	200.00	\$4,800
- 6"X6" Pressure Trtd Post x 1'	24	EA	34.18	\$820
- 2"X8" Pressure Trtd Beams	192	LF	3.78	\$727
- 2"x6" Pressure Trtd Joist	355	LF	3.26	\$1,158
- 2"x6" Pressure Trtd Band Board	50	LF	3.26	\$163
- 1"X4" Black Locust Wood Decking at Sides	56	SF	11.89	\$666
- 1"X4" Black Locust Wood Decking	427	SF	11.89	\$5,076
Stairs to Exist. Wood Dock				
- Cut Exist. Timber Piles Below Walking Surface	4	EA	50.00	\$200
- Foundation	3	EA	500.00	\$1,500
- 8" dia. Pressure Trtd Wood Pole x 10'	3	EA	285.56	\$857
- 3" x 18" Fascia Board	28	LF	12.41	\$347
- 3" x 12" Stringers	70	LF	8.26	\$578
- 2"x 6" Tread	60	LF	3.26	\$196
- 2"x 8" Tread	60	LF	3.78	\$227
- 2"x 6" Riser	60	LF	3.26	\$196
- 2"x 6" Wood Rails	112	LF	3.26	\$365
- Metal Handrail	28	LF	100.00	\$2,800
- Misc. Other	1	LS	1,000.00	\$1,000
Wood Decking on Grade	345	SF	33.91	\$11,698
- Aggregate Sub-base - 6"	345	SF	1.50	\$518
- Concrete Paving - 6"	345	SF	7.50	\$2,588
- Excavation	20	CY	6.00	\$120
- Hauloff W/Earthwork	20	CY	0.00	\$0
			0.00	\$0
Replace Dock Wood Decking	405	SF	20.00	\$8,100
			0.00	\$0
Timber Steps @ Grade	153	LF	10.00	\$1,530
- Anchors	51	EA	54.03	\$2,755
- Excavation	18	CY	7.00	\$126
- Backfill (minor)	5	CY	15.00	\$75
- Aggregate Sub-base - 3"	7	CY	55.00	\$385
- Decomposed Granite - 3"	14	Ton	156.84	\$2,196
- Hauloff W/Earthwork	13	CY		
			0.00	\$0
** End of Section **				
Retaining Walls and Freestanding Walls				\$299,257
Seat Wall #1 (135 SF)			0.00	\$0
- 2 x 4 Black Locust Boards (w/recesses and plugs)	644	LF	20.15	\$12,974
- 1/4" SST Tension Rods	85	LF	10.00	\$850
- 1/4" Expansion Anchors (includes drilling)	425	EA	13.00	\$5,525
- 3/8" Thick SST Plate - Fabricated	31	SF	250.00	\$7,750
- Concrete Wall	6	CY	700.00	\$4,200
- Concrete Footing	10	CY	400.00	\$4,000
- Aggregate Base	3	CY	55.00	\$165
- Excavation	13	CY	7.00	\$91
- Hauloff W/Earthwork	13	CY	0.00	\$0
			0.00	\$0
Seat Wall #2 (118 SF)			0.00	\$0
- 2 x 4 Black Locust Boards (w/recesses and plugs)	564	LF	20.15	\$11,363
- 1/4" SST Tension Rods	96	LF	10.00	\$960
- 1/4" Expansion Anchors (includes drilling)	480	EA	13.00	\$6,240
- 3/8" Thick SST Plate - Fabricated	38	SF	250.00	\$9,500
- Concrete Wall	5	CY	700.00	\$3,500
- Concrete Footing	9	CY	400.00	\$3,600
- Aggregate Base	2	CY	55.00	\$110
- Excavation	11	CY	7.00	\$77
- Hauloff W/Earthwork	11	CY	0.00	\$0
			0.00	\$0

Riverfront Park	QTY	UNIT	\$/UNIT	TOTAL
Seat Wall #3 (98 SF)			0.00	\$0
- 2 x 4 Black Locust Boards (w/recesses and plugs)	468	LF	20.15	\$9,429
- 1/4" SST Tension Rods	81	LF	10.00	\$810
- 1/4" Expansion Anchors (includes drilling)	400	EA	13.00	\$5,200
- 3/8" Thick SST Plate - Fabricated	33	SF	250.00	\$8,250
- Concrete Wall	5	CY	700.00	\$3,500
- Concrete Footing	8	CY	400.00	\$3,200
- Aggregate Base	2	CY	55.00	\$110
- Excavation	10	CY	7.00	\$70
- Hauloff W/Earthwork	10	CY	0.00	\$0
			0.00	\$0
Platform Bench A (24 SF)			0.00	\$0
- 2 x 4 Black Locust Boards (w/recesses and plugs)	115	LF	20.15	\$2,317
- 1/4" SST Tension Rods	24	LF	10.00	\$240
- 1/4" Expansion Anchors (includes drilling)	120	EA	13.00	\$1,560
- 3/8" Thick SST Plate - Fabricated	8	SF	250.00	\$2,000
- Concrete Wall	1	CY	700.00	\$700
- Concrete Footing	2	CY	400.00	\$800
- Aggregate Base	0.5	CY	55.00	\$28
- Excavation	3	CY	7.00	\$21
- Hauloff W/Earthwork	3	CY	0.00	\$0
			0.00	\$0
Platform Bench B2 (54 SF)			0.00	\$0
- 2 x 4 Black Locust Boards (w/recesses and plugs)	256	LF	20.15	\$5,158
- 1/4" SST Tension Rods	41	LF	10.00	\$410
- 1/4" Expansion Anchors (includes drilling)	205	EA	13.00	\$2,665
- 3/8" Thick SST Plate - Fabricated	17	SF	250.00	\$4,250
- Concrete Wall	3	CY	700.00	\$2,100
- Concrete Footing	4	CY	400.00	\$1,600
- Aggregate Base	1	CY	55.00	\$55
- Excavation	5	CY	7.00	\$35
- Hauloff W/Earthwork	5	CY	0.00	\$0
			0.00	\$0
Platform Bench B1 (103 SF)			0.00	\$0
- 2 x 4 Black Locust Boards (w/recesses and plugs)	492	LF	20.15	\$9,912
- 1/4" SST Tension Rods	63	LF	10.00	\$630
- 1/4" Expansion Anchors (includes drilling)	315	EA	13.00	\$4,095
- 3/8" Thick SST Plate - Fabricated	30	SF	250.00	\$7,500
- Concrete Wall	6	CY	700.00	\$4,200
- Concrete Footing	8	CY	400.00	\$3,200
- Aggregate Base	2	CY	55.00	\$110
- Excavation	10	CY	7.00	\$70
- Hauloff W/Earthwork	10	CY	0.00	\$0
			0.00	\$0
Stage Seat Wall #4			0.00	\$0
- Excavation	143	CY	7.00	\$1,001
- Backfill	149	CY	15.00	\$2,235
- 2 x 6 Black Locust Boards Decking	2,256	LF	15.31	\$34,531
- 1"x6" Pressure Trtd Wood Nailer	340	LF	2.62	\$890
- Concrete Slab	1,128	SF	7.50	\$8,460
- Concrete Wall	16	CY	750.00	\$12,000
- Concrete Footing	32	CY	400.00	\$12,800
- Aggregate Base	32	CY	55.00	\$1,760
- Hauloff W/Earthwork	(6)	CY		
			0.00	\$0
Sign Column Wall - Wall #5			0.00	\$0
- Excavation	34	CY	7.00	\$238
- Backfill	24	CY	15.00	\$360
- Concrete Foundation	8	CY	400.00	\$3,200
- Aggregate Base	2	CY	55.00	\$110
- Cot-Ten Steel Wall	210	SF	120.00	\$25,200
- 1" Mortar Bed	45	SF	30.00	\$1,350

Riverfront Park		QTY	UNIT	\$/UNIT	TOTAL
- Hauloff W/Earthwork	10	CY			
				0.00	\$0
Sign Column Wall - Walls #6 & 7				0.00	\$0
- Excavation	44	CY		7.00	\$308
- Backfill	34	CY		15.00	\$510
- Concrete Foundation	8	CY		400.00	\$3,200
- Aggregate Base	2	CY		55.00	\$110
- Cot-Ten Steel Wall	210	SF		120.00	\$25,200
- 1" Mortar Bed	48	SF		30.00	\$1,440
- Hauloff W/Earthwork	10	CY			
				0.00	\$0
- Signage Allowance	1	LS		5,000.00	\$5,000
				0.00	\$0
Concrete / Paving Inspection Fees Allowance	40	Hours		90.00	\$3,600
- Concrete Testing Allowance	25	EA		25.00	\$625
				0.00	\$0
** End of Section **					
Exterior Furnishings					\$313,061
Chaise Lounge	7	EA		6,565.46	\$45,958
- Excavate Footings	7	CY		7.00	\$49
- Place Footings	5	CY		400.00	\$2,000
- Aggregate Base	2	CY		55.00	\$110
- Hauloff W/Earthwork	7	CY			
				0.00	\$0
Bike Racks	6	EA		645.08	\$3,870
				0.00	\$0
Curved Bench "A"	1	EA		24,001.56	\$24,002
Curved Bench "B"	1	EA		13,985.18	\$13,985
Curved Bench "C"	1	EA		9,815.52	\$9,816
Curved Bench "D"	1	EA		14,160.63	\$14,161
Curved Bench "E"	1	EA		14,160.63	\$14,161
- Excavate Footings	10	CY		7.00	\$70
- Place Footings	7	CY		400.00	\$2,800
- Aggregate Base	3	CY		55.00	\$165
- Hauloff W/Earthwork	10	CY			
				0.00	\$0
Freight	1	LS		3,100.00	\$3,100
				0.00	\$0
				0.00	\$0
Site Bench Type 1	12	EA		6,976.86	\$83,722
Site Bench Type 2	3	EA		5,609.56	\$16,829
- Place Footings	2	CY		400.00	\$800
- Aggregate Base	1	CY		55.00	\$55
				0.00	\$0
Litter Bin	8	EA		1,030.32	\$8,243
Picnic Table	9	EA		3,379.83	\$30,418
Picnic Bench	18	EA		1,889.57	\$34,012
				0.00	\$0
Timber Bench				0.00	\$0
- 8" x 8" Timbers (assume some surface prep)	160	LF		15.00	\$2,400
- Earth Anchors	15	EA		61.20	\$918
- Galvanized Plates / Anchors	10	EA		106.78	\$1,068
- Ground Prep Allowance	70	SF		5.00	\$350
				0.00	\$0
** End of Section **					
Signage					\$0
W/Site Walls Above					
				0.00	\$0
** End of Section **					
Fountains & Pools					\$0

Riverfront Park	QTY	UNIT	\$/UNIT	TOTAL
No Work Required			0.00	\$0
			0.00	\$0
** End of Section **				
Other Site Improvements				\$677,344
Engineered Wood Fiber	2,475	SF	2.45	\$6,064
- Aggregate Sub-base - 3" (assume drainage)	2,475	SF	2.00	\$4,950
- Filter Fabric	2,475	SF	0.50	\$1,238
- Excavation	53	CY	6.00	\$318
- Hauloff W/Earthwork	53	CY	0.00	\$0
			0.00	\$0
Synthetic Turf on 2" Cushion (includes waste)	3,143	SF	22.00	\$69,146
- Aggregate Sub-base - 6" (assume drainage)	3,143	SF	3.00	\$9,429
- Filter Fabric	6,286	SF	0.50	\$3,143
- Excavation	78	CY	6.00	\$468
- Hauloff W/Earthwork	78	CY	0.00	\$0
			0.00	\$0
Poured In Place Rubber	4,164	SF	30.18	\$125,669
- Aggregate Sub-base - 6" (assume drainage)	4,164	SF	3.00	\$12,492
- Filter Fabric	8,328	SF	0.50	\$4,164
- Excavation	154	CY	6.00	\$924
- Hauloff W/Earthwork	154	CY	0.00	\$0
			0.00	\$0
Boulders (4' to 5' diameter)	28	EA	1,000.00	\$28,000
- Boulder Selection Time W/LA	1	LS	1,000.00	\$1,000
- Core Boulders for Water Feature / Pins & Grout	4	EA	300.00	\$1,200
			0.00	\$0
Log Net			0.00	\$0
- Foundations	3	EA	200.00	\$600
- 14" dia. Log Post (4', 5', 7')	3	EA	890.56	\$2,672
- 14" dia. Logs, (6' to 13'-2" Lengths)	5	EA	1,410.86	\$7,054
- Bolt Assemblies (Matl Only / Labor w/Setting Logs)	10	EA	30.00	\$300
- Net Assembly	300	SF	37.99	\$11,396
			0.00	\$0
Log Walk			0.00	\$0
- Foundations	16	EA	200.00	\$3,200
- Debarked Black Locust Post, (Center/Side Attached, 8')	9	EA	1,635.92	\$14,723
- Debarked Black Locust Post, (Support Attachment, 4'-5')	7	EA	890.56	\$6,234
- 4" x 10" Black Locust Beams	235	LF	41.50	\$9,753
- SST Plate / Dowel Assembly (Matl. Only / Labor w Setting Bms)	22	EA	50.00	\$1,100
			0.00	\$0
Log Bench			0.00	\$0
- Log Selection Time W/LA	1	LS	1,000.00	\$1,000
- Foundations for Logs Allowance	4	EA	150.00	\$600
- Core Rocks for Logs (6" deep)	2	EA	75.00	\$150
- Logs - Purchase	40	LF	10.00	\$400
- Hauling	1	LS	300.00	\$300
- Strip and Seal	40	LF	65.00	\$2,600
- Place and Anchor Logs	3	EA	500.00	\$1,500
			0.00	\$0
Site Fence - Type 1	282	LF	235.00	\$66,270
- Foundation	50	EA	30.00	\$1,500
			0.00	\$0
Site Fence - Type 2	504	LF	160.00	\$80,640
- Foundation	168	EA	15.00	\$2,520
			0.00	\$0
Shade Structures (Fab and Deliver)	3	EA	19,500.00	\$58,500
- Installation (includes foundations)	3	EA	4,791.60	\$14,375
			0.00	\$0
Water Feature System Complete	1	LS	72,285.40	\$72,285

Riverfront Park		QTY	UNIT	\$/UNIT	TOTAL
- Electrical Allowance for Control Equipment	1	LS	2,500.00	\$2,500	
			0.00	\$0	
Playground Equipment			0.00	\$0	
- Parkour 4 - 'Robinia' Series	1	EA	10,897.26	\$10,897	
- Twisted Net - 'Robina' Series	1	EA	3,673.56	\$3,674	
- Balance Posts W/Rope - 'Robina' Series	1	EA	3,855.06	\$3,855	
- Freight	1	LS	788.92	\$789	
- Foundations	25	EA	175.00	\$4,375	
			0.00	\$0	
Log Scramble			0.00	\$0	
- Model No 4500 - 305-W1	1	EA	7,192.24	\$7,192	
- Model No 4500 - 304-W1	1	EA	5,074.74	\$5,075	
- Model No 4500 - 302-W1	1	EA	7,434.24	\$7,434	
- Foundations	21	EA	175.00	\$3,675	
			0.00	\$0	
** End of Section **					
G2050 Landscaping				\$751,463	
Fine Grading & Soil Preparation				\$266,931	
Strip Topsoil	1,482	CY	2.50	\$3,705	
Excavate Plant Beds	4,943	CY	9.00	\$44,487	
Scarify 4" Deep	12,550	SY	0.10	\$1,255	
High Use Turf Soils	1,390	CY	52.21	\$72,574	
Horticulture Subsoil	760	CY	51.00	\$38,761	
Planting Bedsoil	920	CY	53.42	\$49,148	
Sand Based Structural Soil	816	CY	52.21	\$42,605	
Screened Topsoil - From On-Site Stripped Topsoil	1,760	CY	8.18	\$14,396	
- Hauloff W/Earthwork	4,665	CY	0.00	\$0	
			0.00	\$0	
** End of Section **					
Topsoil & Planting Beds				\$34,050	
Mulch in Plant Beds (1" Riparian Area / 2" Garden Area)	300	CY	65.00	\$19,500	
			0.00	\$0	
Soil Inspection Fees	120	Hours	90.00	\$10,800	
- Soil Testing Allowance	15	EA	250.00	\$3,750	
			0.00	\$0	
** End of Section **					
Seeding, Sprigging and Sodding				\$37,211	
Meadow Permanent Seeding	5,300	SY	2.50	\$13,250	
			0.00	\$0	
Lawn Seeding / Fertilizing	3,290	SY	3.90	\$12,831	
			0.00	\$0	
Site Preparation (3 herbicide apps, 2 mowings)	5,300	SY	2.10	\$11,130	
			0.00	\$0	
** End of Section **					
Plantings				\$348,501	
			0.00	\$0	
Remove Exist. Trees	33	EA	750.00	\$24,750	
- Remove Stumps	12	EA	150.00	\$1,800	
Major Pruning of Trees	16	EA	500.00	\$8,000	
Tree Protection (w/erosion protection above)			0.00	\$0	
			0.00	\$0	
Trees					
- Shade Trees - 5" Caliper	21	EA	1,300.00	\$27,300	
- Shade Trees - 4" Caliper	32	EA	1,000.00	\$32,000	
- Shade Trees - 12' Ht.	24	EA	700.00	\$16,800	
- Shade Trees - 10' Ht.	10	EA	500.00	\$5,000	
- Ornamental Trees - 8' - 10' Ht.	18	EA	1,200.00	\$21,600	
- Ornamental Trees - 6' - 7' Ht.	13	EA	725.00	\$9,425	

Riverfront Park				QTY	UNIT	\$/UNIT	TOTAL
Tree Guying System		118	EA	60.00		\$7,080	
				0.00		\$0	
Shrubs				0.00		\$0	
- 3 Gal.		1,016	EA	45.00		\$45,720	
- 5 Gal.		24	EA	150.00		\$3,600	
				0.00		\$0	
Ornamental Grasses				0.00		\$0	
- 1 Gal.		3,216	EA	30.00		\$96,480	
				0.00		\$0	
Perennials				0.00		\$0	
- 1 Gal.		545	EA	18.00		\$9,810	
				0.00		\$0	
Riparian Area				0.00		\$0	
- Plant Drift Meadow - Qt		212	EA	45.00		\$9,540	
- Quarts - Quart Containers		1,883	EA	12.00		\$22,596	
- Plugs		1,750	EA	4.00		\$7,000	
				0.00		\$0	
** End of Section **							
Planters							\$0
W/Above				0.00		\$0	
** End of Section **							
Irrigation Systems							\$64,770
Irrigation System				0.00		\$0	
- Schedule 40 Piping		4,120	LF	3.00		\$12,360	
- Sleeves		825	LF	3.00		\$2,475	
- Drip Supply Header		490	LF	3.00		\$1,470	
- Drip Tubing		18,900	SF	0.75		\$14,175	
- Drip Manual Flush Valve		19	EA	150.00		\$2,850	
- Turf Rotor		16	EA	150.00		\$2,400	
- Pop-Up Spray Head		51	EA	120.00		\$6,120	
- Tree Root Bubblers		46	EA	120.00		\$5,520	
- Remote Control Valve		8	EA	400.00		\$3,200	
- RCV Drip Assy.		10	EA	400.00		\$4,000	
- Quick Coupling Valve		6	EA	300.00		\$1,800	
- Isolation Ball Valve		3	EA	100.00		\$300	
- Manual Drain Valve		1	EA	250.00		\$250	
- Master Flow Valve and Flow Sensor		1	EA	1,800.00		\$1,800	
- Irrigation Controller		1	EA	4,500.00		\$4,500	
- Irrigation Rain Sensor		1	EA	200.00		\$200	
- Decoder		9	EA	150.00		\$1,350	
- Backflow Preventer (w/water utilites)				0.00		\$0	
				0.00		\$0	
** End of Section **							
Other Landscaping							\$0
None				0.00		\$0	
				0.00		\$0	
** End of Section **							
G30 Site Civil / Mechanical Utilities							\$135,476
G3010 Water / Sanitary / Gas Supply							\$40,926
Water / Sanitary / Gas Distribution							\$40,926
Removal / Cap Existing							
- Remove Existing Water Lines		211	LF	20.00		\$4,220	
- Reset Gas Line Vents		3	EA	250.00		\$750	
				0.00		\$0	
Water				0.00		\$0	
- Excavate		190	CY	10.00		\$1,900	
- Backfill		190	CY	15.00		\$2,850	
- Stone Bedding		12	CY	45.00		\$540	

Riverfront Park				QTY	UNIT	\$/UNIT	TOTAL	
	- 2" Schedule 80 PVC Pipe	240	LF	5.00	\$1,200			
	- 1" Water Meter	1	EA	250.00	\$250			
	- 1-1/2" Water Meter	2	EA	470.00	\$940			
	- 1-1/2" Backflow Preventer	2	EA	1,150.00	\$2,300			
	- 2" x 2" Tee	2	EA	125.00	\$250			
	- 2" Copper Pipe	68	LF	50.00	\$3,400			
	- 2" Tapping Saddle	1	EA	125.00	\$125			
	- 2" Gate Valve	2	EA	800.00	\$1,600			
	- Tap Fee	1	LS	3,500.00	\$3,500			
				0.00	\$0			
	Sanitary			0.00	\$0			
	- Excavate	60	CY	10.00	\$600			
	- Excavate (100 LF of hand dig in archeological area)	60	CY	100.00	\$6,000			
	- Backfill	120	CY	15.00	\$1,800			
	- Stone Bedding	9	CY	45.00	\$405			
	- 4" PVC Pipe	204	LF	7.00	\$1,428			
	- Backwater Valve	1	EA	417.75	\$418			
	- Cleanout	1	EA	250.00	\$250			
	- Connect to Existing Sanitary Sewer	2	EA	300.00	\$600			
	- Restroom and Water Feature Connections	2	EA	250.00	\$500			
	- Tap Fee	1	LS	5,100.00	\$5,100			
				0.00	\$0			
	** End of Section **							
G3030	Storm Sewer						\$94,550	
	Storm Sewer Piping						\$94,550	
	Removal / Cap Existing			0.00	\$0			
	- Cap Existing 15"	2	EA	250.00	\$500			
	- Flow Fill 15" RCP	11	CY	225.00	\$2,475			
	- Remove Existing 15" RCP	32	LF	30.00	\$960			
	- Remove Existing 18" RCP	17	LF	30.00	\$510			
	- Remove Existing Multiple Grate Inlet	1	EA	500.00	\$500			
	- Camera Existing Lines Allowance	1	LS	2,000.00	\$2,000			
				0.00	\$0			
	Temporary Slope Drain			0.00	\$0			
	- Rip-Rap	285	SF	12.00	\$3,420			
	- Excavate for 24" CMP	70	CY	7.00	\$490			
	- 24" CMP	81	LF	60.00	\$4,860			
	- Backfill	70	CY	15.00	\$1,050			
	- Inlet Structure	1	EA	500.00	\$500			
	- Outlet Structure	1	EA	750.00	\$750			
				0.00	\$0			
	Storm Drainage			0.00	\$0			
	- Excavate for RCP	200	CY	7.00	\$1,400			
	- Backfill	200	CY	15.00	\$3,000			
	- Stone Bedding	10	CY	45.00	\$450			
	- 12" RCP	41	LF	35.00	\$1,435			
	- 15" RCP	50	LF	45.00	\$2,250			
	- 18" RCP	40	LF	50.00	\$2,000			
	- 18" Outfall Structure	1	EA	500.00	\$500			
	- Drain Inlet	2	EA	2,500.00	\$5,000			
	- Tie-in to Manhole	4	EA	500.00	\$2,000			
	- Convert DI to Manhole	1	EA	7,000.00	\$7,000			
	- New Manhole	2	EA	6,000.00	\$12,000			
				0.00	\$0			
	Hydrodynamic Separator	1	EA	35,000.00	\$35,000			
				0.00	\$0			
	SWPPP Fee Allowance	1	LS	4,500.00	\$4,500			
				0.00	\$0			
	** End of Section **							
G40	Site Electrical Utilities						\$268,074	
G4010	Electrical Distribution						\$25,499	

Riverfront Park		QTY	UNIT	\$/UNIT	TOTAL
Panels, Transformers & Feeders					\$25,499
200A Panelboard, NEMA 3R	1	EA	3,355.33	\$3,355	
Install Dominion Energy Meter & Ground Service	1	EA	396.88	\$397	
Misc. Conduit & Wire Above Ground at Bathroom	1	EA	1,950.52	\$1,951	
200A Underground Feeder Allowance	70	LF	63.75	\$4,463	
Empty Infrastructure for Future Dominion Energy	1	LS	13,987.60	\$13,988	
			0.00	\$0	
Coordinate with Power Company to Remove Power Lines	2	EA	672.76	\$1,346	
			0.00	\$0	
** End of Section **					
G4020 Site Lighting & Branch Power					\$242,575
Exterior Lighting Fixtures & Controls					\$204,809
KX1 - Pathway Pole Mounted LED Light	23	EA	5,849.14	\$134,530	
Light Fixture Base	23	EA	807.07	\$18,563	
GFI Receptacle w/ Box & WP Cover in Light Base	23	EA	156.39	\$3,597	
1" PVC with Trenching & 5#12, 1#12G	160	LF	24.19	\$3,871	
1" PVC with Trenching & 7#12, 1#12G	50	LF	25.52	\$1,276	
1" PVC with Trenching & 8#12, 1#12G	40	LF	26.18	\$1,047	
1" PVC with Trenching & 3#8, 2#12, 1#10G	120	LF	26.48	\$3,178	
1" PVC with Trenching & 4#8, 3#12, 1#10G	120	LF	27.81	\$3,337	
1" PVC with Trenching & 5#8, 3#12, 1#10G	800	LF	29.13	\$23,305	
1" PVC Adapter to Rigid Elbow & Stub Up	46	EA	157.60	\$7,250	
In Ground Handhole Junction Box	1	EA	1,714.57	\$1,715	
Site Lighting Contactor & Photocell	1	EA	820.38	\$820	
			0.00	\$0	
Remove Misc. Electrical	1	EA	2,320.78	\$2,321	
			0.00	\$0	
** End of Section **					
Site Electric Branch Power					\$37,767
GFI Receptacle w/ Box & WP Cover	4	EA	156.39	\$626	
Electrical Connection to Valve Hot Box	2	EA	517.88	\$1,036	
Electrical Connection to Irrigation Sprinkler Controller	1	EA	517.88	\$518	
Electrical Connection to Water Feature Controller	1	EA	517.88	\$518	
Electrical Connection to Misc. Equipment	2	EA	517.88	\$1,036	
1" PVC with Trenching & 3#12, 1#12G	200	LF	22.87	\$4,574	
1-1/2" PVC with Trenching & 4#4, 1#6G	160	LF	35.46	\$5,673	
1-1/2" PVC with Trenching & 9#6, 1#6G	240	LF	42.98	\$10,315	
2" PVC with Trenching & 4#4, 8#6, 2#12, 1#6G	60	LF	53.34	\$3,201	
1" PVC Adapter to Rigid Elbow & Stub Up	12	EA	157.60	\$1,891	
1-1/2" PVC Adapter to Rigid Elbow & Stub Up	4	EA	233.41	\$934	
2" PVC Adapter to Rigid Elbow & Stub Up	2	EA	294.18	\$588	
In Ground Handhole Junction Box	4	EA	1,714.57	\$6,858	
** End of Section **					
G4030 Site Communication and Security					\$0
					\$0
None Included					
** End of Section **					
Subtotal - Building & Site					\$3,685,635