



RIVER FOR ALL

# GRAND RIVER CORRIDOR

SCHEMATIC DESIGN FOR SIX OPPORTUNITY SITES

NOVEMBER 2019



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OPPORTUNITY SITES OVERVIEW

The 2016 *GR Forward* plan identified fifteen ‘Opportunity Sites’ for improvements and new programming along the river’s edge. Following the completion of the *GR Forward* planning process, and in collaboration with Grand Rapids Whitewater and the ongoing Grand River restoration efforts, the City of Grand Rapids selected six of these sites for further design study. These sites were selected based on their location within the Grand River restoration construction area and anticipated role in future in-river and trails circulation.

The plans included in the following pages were driven by community and stakeholder feedback, coordination with the Grand River restoration engineering team and the City of Grand Rapids, Downtown Grand Rapids, Inc. and Grand Rapids Public Museum staff.

This document, the Schematic Designs for Six Opportunity Sites, was completed alongside the parallel Grand River Corridor Design Guidelines and Strategic Asset Management Plan (SAMP) efforts. This document is intended to be used in conjunction with these documents and the schematic designs represent steps towards the first implementation of the larger corridor-wide design vision that is detailed in the Grand River Corridor Design Guidelines document and incorporated into the City’s financial planning and budgeting through the Strategic Asset Management Planning process.

OPPORTUNITY SITES

- 1 Leonard to Ann Street Trail Connection
- 2 Decommissioned Water Department Storage Yard Site
- 3 Coldbrook Decommissioned Water Pump Station Site
- 4 North Monroe Redevelopment Site
- 5 Fish Ladder Park
- 6 Grand Rapids Public Museum

See the following pages in this section for detailed descriptions of the schematic design plan for each opportunity site.

Figure I - Grand River Corridor Opportunity Sites Key Plan





# 1 | LEONARD TO ANN STREET TRAIL CONNECTION

The Leonard to Ann Trail Connection provides a critical missing link in the larger regional trail network along the Grand River Corridor. The River Trail will be a minimum 10' concrete trail per the Design Guidelines (SEC 2.1). Other design improvements include:

- ① A public/private river-oriented plaza, based on coordination with private development.
- ② River Trail extension to Ann Street.
- ③ Cantilevered or elevated trail connection under the railroad bridge creates a new crossing above the high water flows.
- ④ Neighborhood connections link communities along North Monroe Avenue at Caledonia Street to the river, the proposed plaza, and play area.
- ⑤ River Trail extension through the center of the Water Storage Yard site provides continuous ADA trail accessibility while maintaining an elevation above the 100-year flood event.
- ⑥ Planned improvements at Decommissioned Water Department Storage Yard site are detailed in the following pages.
- ⑦ Lower boardwalk trail provides access along the water's edge while protecting sensitive habitat areas.
- ⑧ Stepped connections provide access from the regional trail to the lower trail between Leonard Street and the Water Storage Yard Site.
- ⑨ Low water trail connection to the existing ramp at the Coldbrook Demonstration Site provides a seasonal, separated crossing below Leonard Street.
- ⑩ Mid-block crossing at Leonard Street provide a trail connection during high water.



The following images illustrate the design and program intent for the Leonard to Ann Street Trail section.



① Public/private river-oriented plaza



⑥ New programs and park improvements  
(See Water Department Storage Site Plan)



⑦ Lower boardwalk trail



⑨ Low water trail



⑩ Mid-block crossing



2 | DECOMMISSIONED WATER DEPARTMENT STORAGE YARD SITE

This site will be decommissioned as a storage yard for the City of Grand Rapids Water Department and is re-envisioned as a riverfront park. When the rapids are restored and an adjustable hydraulic structure is added, boat passage and river access will dramatically transform this site into a regional activity hub. Design plans call for:

- ① An elevated canopy trail to connect pedestrians to the forested canopy and protect habitat areas.
- 2a Protected ceremonial fire rings for Anishinaabe and Great River Bands of Ottawa Indian use.
- 2b Public-use outdoor fire pits Activate the plaza in the winter
- ③ A winter lodge for year-round educational and cultural events.
- ④ A repurposed water storage tank provides a unique space for large events and daily use.
- ⑤ A log-jam inspired nature playground ensures this park will provide on-land destination recreation for users of all ages.
- ⑥ A dedicated drop-off area can accommodate large group access and circulating river traffic.
- ⑦ The mid-level terrace provides a flexible, multi-use lawn area closer to the water.
- ⑧ River terraces provide additional access to the water's edge for anglers, tubers, and waders.
- ⑨ Small gathering overlooks allow friends, family and fans to watch boaters from the river's edge.

Integrated Grand River restoration improvements:  
Adjustable hydraulic structure (AHS)  
AHS maintenance and control building  
Boat passage



The following images illustrate the design and program intent for the Decommissioned Water Department Storage Yard site.



① Canopy trail



2b Public-use outdoor fire pits



④ Repurposed water tank



⑤ Log jam inspired playground



⑧ River terraces



⑨ Small gathering overlook





### 3 COLDBROOK DECOMMISSIONED WATER PUMPING STATION SITE

This site is unique because Coldbrook Creek historically outfalled to the Grand River at this location, but was buried in a pipe as part of industrial development. This is an opportunity to divert a portion of the creek into a low-flow channel and open up the outfall for natural, visible stormwater treatment. Following the Grand River restoration, this site will be a critical hub for river access.

- ① The mid-block crossing and low-trail connection links this site to the larger River Trail network.
- ② Stepped river access connects to the trail and can potentially be used for commercial boat launches and fishing access.
- ③ Existing overlook will remain.
- ④a Diversion and surfacing of a portion of Coldbrook Creek demonstrates the channel's historic alignment.
- ④b Water quality treatment area at the outfall treats stormwater before it enters the Grand River.
- ⑤ A reinforced earth green wall softens the corridor.
- ⑥ A sculptural play area connects learning and play.
- ⑦ A repurposed water department building is planned for public use, and may include relocation of the Parks and Recreation offices, recreation fitness classes, and river-centric event spaces.
- ⑧ Flexible plaza spaces adjacent to the building provide areas for outdoor learning and events. Cultural activities, such as canoe building with the Anishinaabe and programmed outdoor recreation activities should be pursued here.
- ⑨ Mixed use redevelopment is anticipated at the corner of Leonard Street and North Monroe Avenue with plazas oriented towards the river.
- ⑩ A large multipurpose lawn provides flexible space with an option for future bus drop off and trailers transporting tubers and kayakers to the site.
- ⑪ ADA and small parking lot is located onsite.
- ⑫ An emergency boat-access ramp, placed in coordination with the ongoing Grand River restoration planning.
- ⑬ Proposed overlook complements existing design.



The following images illustrate the design and program intent for the Coldbrook Decommissioned Water Pump Station site



① Mid-block crossing and low-water trail connection



② Existing overlook  
⑬ Proposed overlook



④a Diversion and surfacing of a portion of Coldbrook Creek



⑤ Reinforced earth / green wall



⑥ Sculptural play elements

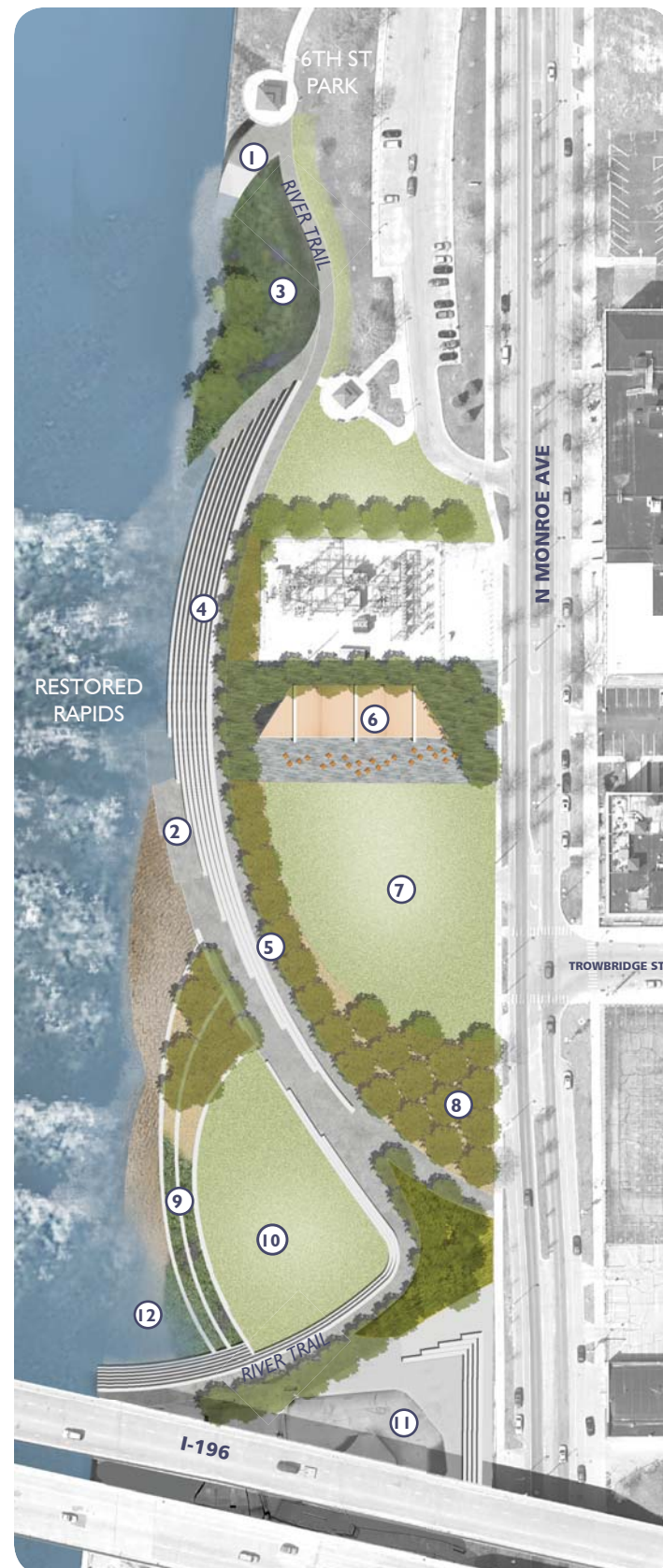




## 4 | NORTH MONROE REDEVELOPMENT SITE

The North Monroe opportunity site faces noise from nearby I-196, but conversations with the community yielded creative park uses to parallel the rapids.

- ① **River landing** provides safe river access and a public boat launch space.
- ② **An ADA accessible ramp** provides river recreation opportunities to the entire community south of the viewing steps.
- ③ **A daylighted stormwater outfall and stormwater marsh** provide resilient, natural stormwater treatment and re-establish a healthy river edge.
- ④ **Stepped seating terraces** at the rapids edge provide an expanded, resilient rapids viewing area.
- ⑤ **A shaded seating edge** expands spectator access, even during high water events.
- ⑥ **An event pavilion** accommodates concessions, restrooms and services to support recreation.
- ⑦ **An event lawn** is sized for markets, concerts and a number of other uses.
- ⑧ **A community plaza** along Monroe Avenue connects the community to the river's edge.
- ⑨ **Stormwater terraces** treat onsite runoff and provide ecological interest and support habitat restoration.
- ⑩ **A flexible mid-level terrace** can host seasonal events and recreation.
- ⑪ **A skate park** activates the area beneath I-196.
- ⑫ **Primary boating/tubing takeout** at the bottom of the restored rapids.



The following images illustrate the design and program intent for the North Monroe Redevelopment site.



① River landing



③ Stormwater marsh



④ Stepped seating terraces



⑥ Event pavilion with services to support recreation



⑥ Event pavilion with services to support recreation



⑩ Skate park





## 5 FISH LADDER PARK

Fish Ladder Park has been identified as an important community gathering spot and the structure is an iconic piece of functional art. Following removal of the 6th Street Dam, the Fish Ladder structure will be modified to continue to provide fish passage, and the surrounding park will become a the primary destination for whitewater competition spectators, as well as a hub for boaters and fishing access.

- ① An upper-falls trail deck is located in the existing tree canopy north of the Fish Ladder.
- ② The existing fish ladder structure will remain for rapids viewing and fish observation.
- ③ The existing pump station is operated by City Environmental Services and will remain onsite.
- ④ A small changing room, restroom and fish cleaning station provide services for river users and screen the pump station maintenance court.
- ⑤ A flexible plaza and adjacent parking area can accommodate small seasonal farmers' markets or other events.
- ⑥ A series of picnic groves are located near the parking lot provide shaded seating.
- ⑦ A sloped event lawn next to new trees, planted on the high point of the existing berm to provide shade next to a sloped event lawn.
- ⑧ An overlook deck screens an existing outfall .
- ⑨ River's edge viewing terraces allow viewing and lounging at the water.
- ⑩ Emergency boat ramp provides river access.
- ⑪ Upper viewing perches on the embankment link to Scribner with Fish Ladder Park, provide small lounging pockets and expand spectator areas.
- ⑫ A high-water trail connection and stepped walkway creates a critical year-round trail connection for the west bank of the Grand River.
- ⑬ Angling and wading access steps link the River Trail to the bank below the rapids.



The following images illustrate the design and program intent for the Fish Ladder site.



① Upper falls trail deck in tree canopy



② Existing fish ladder (to remain)



⑦ Sloped event lawn next to new trees



⑧ Overlook deck



⑨ River's edge viewing terrace



⑬ Angling and wading access steps





6 | GRAND RAPIDS PUBLIC MUSEUM

The Grand Rapids Public Museum recognizes that an ecologically diverse, accessible river's edge can become a unique educational opportunity, drawing the Museum's programming out-of-doors.

- ① A 'flume' water feature creates a summer play area that alludes to the historic canal and flume that once existed onsite.
- ② A lower trail allows seasonal access to the river's edge for habitat observation.
- ③ Multiple terraced gathering areas can become event spaces or outdoor classrooms.
- ④ An overlook activity lawn along the east wall accommodates Museum events or ArtPrize installations.
- ⑤ An expanded plaza between the carousel and Museum, allows lobby events to flow out-of-doors.
- ⑥ A 'treehouse' deck expands trail access, makes this area ADA accessible, and creates a raised river overlook and social space.
- ⑦ The 'woods' play area illustrates the historic lumber industry while providing a unique river edge nature play experience within a lush riparian habitat zone below the 'treehouse' above.
- ⑧ The south event lawn and a new shared-use amphitheater provide flexible space for weddings, Art Prize or other sculptural or performance installations, and informal gathering space.



The following images illustrate the design and program intent for the Grand Rapids Public Museum site.



① Flume water feature



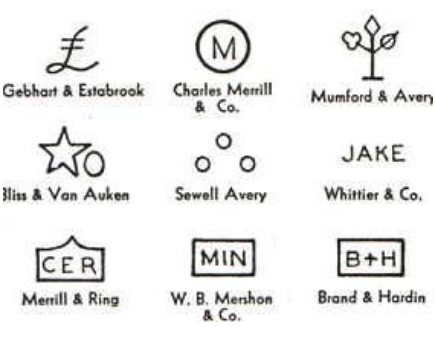
③ River classroom



⑥ Treehouse deck



⑦ 'Woods' adventure play



⑦ 'Woods' - historic lumber brands mark tree stumps to merge learning and play



⑨ New shared use amphitheater





1 | LEONARD TO ANN STREET TRAIL CONNECTION

ESTIMATE OF PROBABLE COSTS

August 2018

Opportunity Site - Leonard to Ann Trail  
City of Grand Rapids



Opinion of Probable Costs – Segment A (Leonard Street to Caledonia)

| Item                               | Quantity | Unit | Unit Price  | Total              |
|------------------------------------|----------|------|---|--------------------|
| <b>Removals / Site Prep</b>        |          |      |   |                    |
| Remove Trees                       | 40       | EA   | \$500.00  | \$20,000           |
|                                    |          |      | Subtotal  | \$20,000           |
| <b>General Site Improvements</b>   |          |      |   |                    |
| Shared-Use Path, Type 1            | 19,000   | SF   | \$10.00   | \$190,000          |
| Underpass Retaining Wall           | 260      | LF   | \$600.00  | \$156,000          |
| Boardwalk, 16' Wide                | 230      | LF   | \$1,650.00  | \$379,500          |
| Boardwalk, 8' Wide                 | 1,150    | LF   | \$600.00  | \$690,000          |
| Signage                            | 1        | LS   | \$5,000.00  | \$5,000            |
|                                    |          |      | Subtotal  | \$1,420,500        |
| <b>Landscaping</b>                 |          |      |   |                    |
| Seeding / Restoration              | 33,000   | SF   | \$0.20  | \$6,600            |
| Topsoil - Seeding/Restoration 6"   | 612      | CY   | \$40.00   | \$24,480           |
|                                    |          |      | Subtotal  | \$31,080           |
| <b>Earthwork</b>                   |          |      |   |                    |
| Imported Class II Fill             | 5,000    | CY   | \$25.00   | \$125,000          |
| Earthwork Cut and Fill             | 5,700    | CY   | \$15.00   | \$85,500           |
| SESC Measures                      | 1        | LS   | \$20,000.00                                       | \$20,000           |
| Riprap                             | 462      | SY   | \$50.00   | \$23,100           |
| Bioengineering/Slope Stabilization | 16,000   | SF   | \$8.00  | \$128,000          |
|                                    |          |      | Subtotal  | \$381,600          |
| <b>Utilities</b>                   |          |      |   |                    |
| Electrical Service                 | 1        | LS   | \$20,000.00                                       | \$20,000           |
| Light Poles                        | 22       | EA   | \$8,500.00  | \$187,000          |
|                                    |          |      | Subtotal  | \$207,000          |
|                                    |          |      | Construction Subtotal                             | \$2,060,180        |
|                                    |          |      | Permitting, Mobilization, & General Conditions    | \$309,027          |
|                                    |          |      | 12% Contingency                                   | \$247,222          |
|                                    |          |      | <b>Construction Total</b>                         | <b>\$2,616,429</b> |
|                                    |          |      | 5% City Administration                            | \$130,821          |
|                                    |          |      | 3% Geotechnical and Construction Testing Services | \$78,493           |
|                                    |          |      | 15% A&E Services                                  | \$392,464          |
|                                    |          |      | <b>Project Total</b>                              | <b>\$3,218,207</b> |

Note: OPC based on 2018 estimated costs. Increase 4.5% per year for inflation.

August 2018

Opportunity Site - Leonard to Ann Trail  
City of Grand Rapids



Opinion of Probable Costs – Segment B (Caledonia to Ann via boardwalk under railroad bridge)

| Item                             | Quantity | Unit | Unit Price  | Total              |
|----------------------------------|----------|------|---|--------------------|
| <b>Removals / Site Prep</b>      |          |      |   |                    |
| Remove Pavements                 | 4,000    | SF   | \$2.00  | \$8,000            |
| Remove Trees                     | 60       | EA   | \$500.00  | \$30,000           |
|                                  |          |      | Subtotal  | \$30,000           |
| <b>General Site Improvements</b> |          |      |   |                    |
| Shared-Use Path, Type 1          | 30,000   | SF   | \$10.00   | \$300,000          |
| Boardwalk, 16' Wide              | 430      | LF   | \$1,650.00  | \$709,500          |
| Signage                          | 1        | LS   | \$5,000.00  | \$5,000            |
|                                  |          |      | Subtotal  | \$1,014,500        |
| <b>Landscaping</b>               |          |      |   |                    |
| Seeding / Restoration            | 26,500   | SF   | \$0.20  | \$5,300            |
| Topsoil - Seeding/Restoration 6" | 492      | CY   | \$40.00   | \$19,680           |
|                                  |          |      | Subtotal  | \$24,980           |
| <b>Earthwork</b>                 |          |      |   |                    |
| Imported Class II Fill           | 5,000    | CY   | \$25.00   | \$125,000          |
| Earthwork Cut and Fill           | 4,185    | CY   | \$10.00   | \$41,850           |
| SESC Measures                    | 1        | LS   | \$10,000.00                                       | \$10,000           |
| Riprap                           | 300      | SY   | \$50.00   | \$15,000           |
|                                  |          |      | Subtotal  | \$191,850          |
| <b>Utilities</b>                 |          |      |   |                    |
| Light Poles                      | 30       | EA   | \$8,500.00  | \$255,000          |
|                                  |          |      | Subtotal  | \$255,000          |
|                                  |          |      | Construction Subtotal                             | \$1,516,330        |
|                                  |          |      | Permitting, Mobilization, & General Conditions    | \$227,450          |
|                                  |          |      | 12% Contingency                                   | \$181,960          |
|                                  |          |      | <b>Construction Total</b>                         | <b>\$1,925,739</b> |
|                                  |          |      | 5% City Administration                            | \$96,287           |
|                                  |          |      | 3% Geotechnical and Construction Testing Services | \$57,772           |
|                                  |          |      | 15% A&E Services                                  | \$288,861          |
|                                  |          |      | <b>Project Total</b>                              | <b>\$2,368,659</b> |

Note: OPC based on 2018 estimated costs. Increase 4.5% per year for inflation.



1 | LEONARD TO ANN STREET TRAIL CONNECTION

ESTIMATE OF PROBABLE COSTS

July 2018

Opportunity Site - Leonard to Ann Trail  
City of Grand Rapids



Opinion of Probable Costs – Segment C (Caledonia to Ann via parallel trail on north side of railroad)

| Item                             | Quantity | Unit | Unit Price  | Total              |
|----------------------------------|----------|------|---|--------------------|
| <b>Removals / Site Prep</b>      |          |      |   |                    |
| Remove Pavements                 | 7,000    | SF   | \$2.00  | \$14,000           |
| Remove Trees                     | 20       | EA   | \$500.00  | \$10,000           |
|                                  |          |      | Subtotal  | \$10,000           |
| <b>General Site Improvements</b> |          |      |   |                    |
| Shared-Use Path, Type 1          | 30,000   | SF   | \$10.00   | \$300,000          |
| Retaining Wall                   | 370      | LF   | \$200.00  | \$74,000           |
| Signage                          | 1        | LS   | \$5,000.00  | \$5,000            |
|                                  |          |      | Subtotal  | \$379,000          |
| <b>Landscaping</b>               |          |      |   |                    |
| Seeding / Restoration            | 40,000   | SF   | \$0.20  | \$8,000            |
| Topsoil - Seeding/Restoration 6" | 741      | CY   | \$40.00   | \$29,640           |
|                                  |          |      | Subtotal  | \$37,640           |
| <b>Earthwork</b>                 |          |      |   |                    |
| Imported Class II Fill           | 6,000    | CY   | \$25.00   | \$150,000          |
| Earthwork Cut and Fill           | 7,700    | CY   | \$10.00   | \$77,000           |
| SESC Measures                    | 1        | LS   | \$10,000.00                                       | \$10,000           |
|                                  |          |      | Subtotal  | \$237,000          |
| <b>Utilities</b>                 |          |      |   |                    |
| Light Poles                      | 30       | EA   | \$8,500.00  | \$255,000          |
|                                  |          |      | Subtotal  | \$255,000          |
|                                  |          |      | Construction Subtotal                             | \$918,640          |
|                                  |          |      | Permitting, Mobilization, & General Conditions    | \$137,796          |
|                                  |          |      | 12% Contingency                                   | \$110,237          |
|                                  |          |      | <b>Construction Total</b>                         | <b>\$1,166,673</b> |
|                                  |          |      | 5% City Administration                            | \$58,334           |
|                                  |          |      | 3% Geotechnical and Construction Testing Services | \$35,000           |
|                                  |          |      | 15% A&E Services                                  | \$175,001          |
|                                  |          |      | <b>Project Total</b>                              | <b>\$1,435,008</b> |

Note: OPC based on 2018 estimated costs. Increase 4.5% per year for inflation.

July 2018

Opportunity Site - Leonard to Ann Trail  
City of Grand Rapids



Opinion of Probable Costs – Baker Furniture (Publicly owned edges next to trail per GR Forward Design)

| Item                               | Quantity | Unit | Unit Price  | Total     |
|------------------------------------|----------|------|-------------|-----------|
| <b>Removals / Site Prep</b>        |          |      |             |           |
| Remove Pavements                   | 30,000   | SF   | \$2.00      | \$60,000  |
| Remove Vegetation                  | 1        | AC   | \$15,000.00 | \$15,000  |
|                                    |          |      | Subtotal    | \$75,000  |
| <b>General Site Improvements</b>   |          |      |             |           |
| Concrete Walks and Pavements       | 8,500    | SF   | \$6.00      | \$51,000  |
| Seat Steps                         | 3,000    | SF   | \$50.00     | \$150,000 |
| River Landing                      | 6,000    | SF   | \$20.00     | \$120,000 |
| Bike Racks                         | 20       | EA   | \$800.00    | \$16,000  |
| Benches                            | 16       | EA   | \$2,500.00  | \$40,000  |
| Trash Receptacles                  | 8        | EA   | \$1,500.00  | \$12,000  |
| Signage                            | 1        | LS   | \$20,000.00 | \$20,000  |
|                                    |          |      | Subtotal    | \$409,000 |
| <b>Landscaping</b>                 |          |      |             |           |
| Deciduous Trees                    | 100      | EA   | \$600.00    | \$60,000  |
| Riparian Edge and Upland Landscape | 20,000   | SF   | \$6.00      | \$120,000 |
| Retaining Walls                    | 9,000    | FF   | \$20.00     | \$180,000 |
| Stormwater Marsh                   | 15,000   | SF   | \$7.00      | \$105,000 |
| Seeding / Restoration              | 20,000   | SF   | \$0.20      | \$4,000   |
| Topsoil - Seeding/Restoration 6"   | 1,000    | CY   | \$40.00     | \$40,000  |
| Topsoil - Landscape Beds 12"       | 1,000    | CY   | \$40.00     | \$40,000  |
| Irrigation                         | 30,000   | SF   | \$1.00      | \$30,000  |
|                                    |          |      | Subtotal    | \$579,000 |
| <b>Earthwork</b>                   |          |      |             |           |
| Imported Class II Fill             | 10,000   | CY   | \$25.00     | \$250,000 |
| Earthwork Cut and Fill             | 9,680    | CY   | \$15.00     | \$145,200 |
| SESC Measures                      | 1        | LS   | \$50,000.00 | \$50,000  |
| Riprap                             | 1,100    | SY   | \$50.00     | \$55,000  |
|                                    |          |      | Subtotal    | \$500,200 |
| <b>Utilities</b>                   |          |      |             |           |
| Storm                              | 1        | LS   | \$80,000.00 | \$80,000  |
| Light Poles                        | 10       | EA   | \$8,500.00  | \$85,000  |
| Misc. Lighting/Electric            | 1        | LS   | \$60,000.00 | \$60,000  |
|                                    |          |      | Subtotal    | \$225,000 |



ESTIMATE OF PROBABLE COSTS

July 2018

Opportunity Site - Leonard to Ann Trail  
City of Grand Rapids



| Opinion of Probable Costs – Summary                                    |             |
|--|-------------|
| Item   | Total       |
| Segment A (Leonard Street to Caledonia)                                | \$3,218,207 |
| Segment B (Caledonia to Ann via boardwalk under railroad bridge)       | \$2,368,659 |
| Segment C (Caledonia to Ann via parallel trail on north side of railro | \$1,435,008 |
| Baker Furniture (Publicly-owned edges next to trail per GR Forward     | \$2,838,768 |
| Complete Trail From Leonard to Ann Options                             |             |
| Option 1 (Segment A+B)   | \$5,586,866 |
| Option 2 (Segment A+B+Baker)   | \$8,425,634 |
| Option 3 (Segment A+C)   | \$4,653,215 |
| Option 4 (Segment A+C+Baker)   | \$7,491,982 |



3 | COLDBROOK DECOMMISSIONED WATER PUMPING STATION SITE

ESTIMATE OF PROBABLE COSTS

July 2018

Opportunity Site - Coldbrook Site  
City of Grand Rapids



Opinion of Probable Costs – Schematic Design

| Item                             | Quantity | Unit | Unit Price  | Total       |
|----------------------------------|----------|------|-------------|-------------|
| <b>Removals / Site Prep</b>      |          |      |             |             |
| Remove Curb and Gutter           | 140      | LF   | \$5.00      | \$700       |
| Remove Pavements                 | 61,500   | SF   | \$2.00      | \$123,000   |
| Remove Light Poles               | 7        | EA   | \$500.00    | \$3,500     |
| Remove Gates                     | 1        | EA   | \$500.00    | \$500       |
| Remove Fence                     | 500      | LF   | \$2.00      | \$1,000     |
| Remove Trees                     | 14       | EA   | \$500.00    | \$7,000     |
| Remove Retaining Wall            | 46       | LF   | \$5.00      | \$230       |
| Remove Flood Wall                | 620      | LF   | \$30.00     | \$18,600    |
| Remove Landscaping               | 2,000    | SF   | \$2.00      | \$4,000     |
| Remove/Abandon Vaults            | 1        | LS   | \$20,000.00 | \$20,000    |
|                                  |          |      | Subtotal    | \$178,530   |
| <b>General Site Improvements</b> |          |      |             |             |
| Shared-Use Path, Type 1          | 18,500   | SF   | \$10.00     | \$185,000   |
| Concrete Walks and Pavements     | 19,600   | SF   | \$6.00      | \$117,600   |
| Detectable Warning Plates (2x6)  | 1        | EA   | \$300.00    | \$300       |
| Unit Pavers on Concrete Base     | 29,600   | SF   | \$14.00     | \$414,400   |
| Porous Tree Surround             | 18       | EA   | \$500.00    | \$9,000     |
| Concrete Header Curb             | 650      | LF   | \$20.00     | \$13,000    |
| Integral Curb                    | 200      | LF   | \$20.00     | \$4,000     |
| H/D Bituminous Drive             | 660      | SY   | \$32.00     | \$21,120    |
| Pavement Striping                | 300      | LF   | \$3.00      | \$900       |
| Barrier Free Parking Sign        | 1        | EA   | \$300.00    | \$300       |
| Concrete Curb and Gutter         | 210      | LF   | \$20.00     | \$4,200     |
| Concrete Retaining Wall          | 600      | LF   | \$500.00    | \$300,000   |
| Playground                       | 3,800    | SF   | \$100.00    | \$380,000   |
| Playground Curb                  | 250      | LF   | \$20.00     | \$5,000     |
| Board Form Walls                 | 900      | LF   | \$520.00    | \$468,000   |
| Overlook                         | 900      | SF   | \$120.00    | \$108,000   |
| Emergency Boat Launch            | 700      | SF   | \$10.00     | \$7,000     |
| Bridge over Coldbrook Creek      | 40       | LF   | \$2,000.00  | \$80,000    |
| Drinking Fountain                | 1        | EA   | \$7,200.00  | \$7,200     |
| Bike Racks                       | 10       | EA   | \$1,200.00  | \$12,000    |
| Benches                          | 20       | EA   | \$2,500.00  | \$50,000    |
| Trash Receptacles                | 8        | EA   | \$1,800.00  | \$14,400    |
| Signage                          | 1        | LS   | \$10,000.00 | \$10,000    |
|                                  |          |      | Subtotal    | \$2,211,420 |

Landscaping

|                                    |        |    |          |           |
|------------------------------------|--------|----|----------|-----------|
| Deciduous Trees                    | 31     | EA | \$600.00 | \$18,600  |
| Landscape Beds                     | 13,600 | SF | \$6.00   | \$81,600  |
| Vegetated Retaining Wall/Soil Wall | 2,000  | FF | \$20.00  | \$40,000  |
| Stormwater Marsh                   | 12,000 | SF | \$7.00   | \$84,000  |
| Seeding / Restoration              | 27,000 | SF | \$0.20   | \$5,400   |
| Topsoil - Seeding/Restoration 6"   | 500    | CY | \$40.00  | \$20,000  |
| Topsoil - Landscape Beds 12"       | 504    | CY | \$40.00  | \$20,160  |
| Irrigation                         | 13,600 | SF | \$1.00   | \$13,600  |
|                                    |        |    | Subtotal | \$283,360 |

Earthwork

|                        |        |     |             |           |
|------------------------|--------|-----|-------------|-----------|
| Imported Class II Fill | 1,000  | CY  | \$25.00     | \$25,000  |
| Earthwork Cut and Fill | 10,000 | CY  | \$10.00     | \$100,000 |
| SESC Measures          | 1      | LS  | \$10,000.00 | \$10,000  |
| Riprap                 | 300    | SY  | \$50.00     | \$15,000  |
| Outcropping Stone      | 600    | Ton | \$500.00    | \$300,000 |
|                        |        |     | Subtotal    | \$450,000 |

Utilities

|                         |    |    |              |           |
|-------------------------|----|----|--------------|-----------|
| Storm                   | 1  | LS | \$255,000.00 | \$255,000 |
| Water                   | 1  | LS | \$25,000.00  | \$25,000  |
| Sanitary                | 1  | LS | \$50,000.00  | \$50,000  |
| Electrical Service      | 1  | LS | \$30,000.00  | \$30,000  |
| Light Poles             | 12 | EA | \$8,500.00   | \$102,000 |
| Misc. Lighting/Electric | 1  | LS | \$50,000.00  | \$50,000  |
|                         |    |    | Subtotal     | \$512,000 |

|   |                    |
|---|--------------------|
| Construction Subtotal                             | \$3,635,310        |
| Permitting, Mobilization, & General Conditions    | \$545,297          |
| 12% Contingency                                   | \$436,237          |
| <b>Construction Total</b>                         | <b>\$4,616,844</b> |
| 5% City Administration                            | \$230,842          |
| 3% Geotechnical and Construction Testing Services | \$138,505          |
| 15% A&E Services                                  | \$692,527          |
| <b>Project Total</b>                              | <b>\$5,678,718</b> |

Note: OPC based on 2018 estimated costs. Increase 4.5% per year for inflation.

Note: Partial demolition of City Water Building not included in estimate.



ESTIMATE OF PROBABLE COSTS

July 2018

Opportunity Site - North Monroe  
City of Grand Rapids



Opinion of Probable Costs – Schematic Design

| Item                                    | Quantity | Unit | Unit Price  | Total       |
|---|----------|------|-------------|-------------|
| <b><u>Removals / Site Prep</u></b>      |          |      |             |             |
| Remove Floodwall                        | 810      | LF   | \$60.00     | \$48,600    |
| Remove Pavements                        | 120,900  | SF   | \$2.00      | \$241,800   |
| Remove Light Poles                      | 15       | EA   | \$500.00    | \$7,500     |
| Remove Parking Booth and Gates          | 1        | LS   | \$1,000.00  | \$1,000     |
| Remove Retaining Wall                   | 200      | LF   | \$10.00     | \$2,000     |
| Remove Trees                            | 25       | EA   | \$500.00    | \$12,500    |
| Remove Signage                          | 1        | LS   | \$1,000.00  | \$1,000     |
|   |          |      | Subtotal    | \$314,400   |
| <b><u>General Site Improvements</u></b> |          |      |             |             |
| Pavilion                                | 5,000    | SF   | \$500.00    | \$2,500,000 |
| Restroom/Maintenance/Storage            | 2,000    | SF   | \$250.00    | \$500,000   |
| Shared-Use Path, Type 1                 | 21,670   | SF   | \$10.00     | \$216,700   |
| Concrete Walks and Pavements            | 25,000   | SF   | \$6.00      | \$150,000   |
| Unit Pavers on Concrete Base            | 28,000   | SF   | \$14.00     | \$392,000   |
| Skate Park                              | 15,000   | SF   | \$60.00     | \$900,000   |
| Concrete Curb and Gutter                | 200      | LF   | \$25.00     | \$5,000     |
| Seat Steps                              | 16,550   | SF   | \$50.00     | \$827,500   |
| River Landing                           | 17,770   | SF   | \$20.00     | \$355,400   |
| Living Fence                            | 515      | LF   | \$200.00    | \$103,000   |
| Drinking Fountain                       | 1        | LS   | \$7,200.00  | \$7,200     |
| Bike Racks                              | 20       | EA   | \$800.00    | \$16,000    |
| Benches                                 | 25       | EA   | \$2,500.00  | \$62,500    |
| Watercraft Storage                      | 1        | EA   | \$50,000.00 | \$50,000    |
| Trash Receptacles                       | 12       | EA   | \$1,500.00  | \$18,000    |
| Signage                                 | 1        | LS   | \$20,000.00 | \$20,000    |
|   |          |      | Subtotal    | \$6,123,300 |
| <b><u>Landscaping</u></b>               |          |      |             |             |
| Deciduous Trees                         | 65       | EA   | \$600.00    | \$39,000    |
| Landscape Beds                          | 19,300   | SF   | \$6.00      | \$115,800   |
| Vegetated Retaining Wall/Soil Wall      | 8,000    | FF   | \$20.00     | \$160,000   |
| Stormwater Marsh                        | 23,150   | SF   | \$7.00      | \$162,050   |
| Seeding / Restoration                   | 109,270  | SF   | \$0.20      | \$21,854    |
| Topsoil - Seeding/Restoration 6"        | 2,024    | CY   | \$40.00     | \$80,960    |
| Topsoil - Landscape Beds 12"            | 715      | CY   | \$40.00     | \$28,600    |
| Irrigation                              | 128,570  | SF   | \$1.00      | \$128,570   |
|   |          |      | Subtotal    | \$736,834   |

**Earthwork**

|                        |        |    |              |             |
|------------------------|--------|----|--------------|-------------|
| Imported Class II Fill | 5,000  | CY | \$25.00      | \$125,000   |
| Earthwork Cut and Fill | 64,000 | CY | \$20.00      | \$1,280,000 |
| SESC Measures          | 1      | LS | \$50,000.00  | \$50,000    |
| Riprap                 | 555    | SY | \$50.00      | \$27,750    |
| Due Care Measures      | 1      | LS | \$250,000.00 | \$250,000   |
|                        |        |    | Subtotal     | \$1,482,750 |

**Utilities**

|                         |    |    |              |           |
|-------------------------|----|----|--------------|-----------|
| Storm                   | 1  | LS | \$182,000.00 | \$182,000 |
| Water                   | 1  | LS | \$50,000.00  | \$50,000  |
| Sanitary                | 1  | LS | \$70,000.00  | \$70,000  |
| Electrical Service      | 1  | LS | \$40,000.00  | \$40,000  |
| Light Poles             | 20 | EA | \$8,500.00   | \$170,000 |
| Misc. Lighting/Electric | 1  | LS | \$150,000.00 | \$150,000 |
|                         |    |    | Subtotal     | \$662,000 |

|   |                     |
|---|---------------------|
| Construction Subtotal                             | \$9,319,284         |
| Permitting, Mobilization, & General Conditions    | \$1,397,893         |
| 12% Contingency                                   | \$1,118,314         |
| <b>Construction Total</b>                         | <b>\$11,835,491</b> |
| 5% City Administration                            | \$591,775           |
| 5% Geotechnical and Construction Testing Services | \$591,775           |
| 15% A&E Services                                  | \$1,775,324         |
| <b>Project Total</b>                              | <b>\$14,794,363</b> |

Note: OPC based on 2018 estimated costs. Increase 4.5% per year for inflation.



ESTIMATE OF PROBABLE COSTS

July 2018

Opportunity Site - Fish Ladder  
City of Grand Rapids



Opinion of Probable Costs – Schematic Design

| Item                             | Quantity | Unit | Unit Price  | Total       |
|----------------------------------|----------|------|-------------|-------------|
| <b>Removals / Site Prep</b>      |          |      |             |             |
| Remove Pavements                 | 21,500   | SF   | \$2.00      | \$43,000    |
| Remove Concrete Curb             | 100      | LF   | \$3.00      | \$300       |
| Remove Light Poles               | 1        | EA   | \$500.00    | \$500       |
| Remove Concrete Stairs           | 150      | SF   | \$10.00     | \$1,500     |
| Remove Restroom Building         | 240      | SF   | \$3.00      | \$720       |
| Remove Gate                      | 1        | EA   | \$500.00    | \$500       |
| Remove Concrete Boat Launch      | 500      | SF   | \$2.00      | \$1,000     |
| Remove Trees                     | 40       | EA   | \$500.00    | \$20,000    |
|                                  |          |      | Subtotal    | \$67,520    |
| <b>General Site Improvements</b> |          |      |             |             |
| Restroom/Fish Cleaning Building  | 1,000    | SF   | \$250.00    | \$250,000   |
| Shared-Use Path, Type 1          | 10,000   | SF   | \$10.00     | \$100,000   |
| Concrete Walks and Pavements     | 4,600    | SF   | \$8.00      | \$36,800    |
| H/D Bituminous Drive             | 560      | SY   | \$32.00     | \$17,920    |
| Unit Pavers on Concrete Base     | 6,200    | SF   | \$14.00     | \$86,800    |
| Concrete Curb and Gutter         | 64       | LF   | \$25.00     | \$1,600     |
| Concrete Stairs w/ Handrails     | 450      | SF   | \$33.00     | \$14,850    |
| 6" Concrete Curb                 | 560      | LF   | \$20.00     | \$11,200    |
| Overlook                         | 3,400    | LF   | \$120.00    | \$408,000   |
| Viewing Terrace                  | 1,600    | SF   | \$120.00    | \$192,000   |
| Emergency Boat Launch            | 1,900    | SF   | \$10.00     | \$19,000    |
| River Landing                    | 3,200    | SF   | \$20.00     | \$64,000    |
| River Steps                      | 250      | SF   | \$50.00     | \$12,500    |
| Retaining Wall                   | 140      | LF   | \$700.00    | \$98,000    |
| Retractable Bollards             | 3        | EA   | \$2,000.00  | \$6,000     |
| Drinking Fountain                | 1        | EA   | \$7,200.00  | \$7,200     |
| Bike Racks                       | 10       | EA   | \$800.00    | \$8,000     |
| Benches                          | 10       | EA   | \$2,500.00  | \$25,000    |
| Picnic Tables                    | 6        | EA   | \$900.00    | \$5,400     |
| Grills                           | 2        | EA   | \$900.00    | \$1,800     |
| Trash Receptacles                | 4        | EA   | \$1,500.00  | \$6,000     |
| Signage                          | 1        | LS   | \$10,000.00 | \$10,000    |
|                                  |          |      | Subtotal    | \$1,382,070 |
| <b>Landscaping</b>               |          |      |             |             |
| Deciduous Trees                  | 17       | EA   | \$600.00    | \$10,200    |
| Seeding / Restoration            | 41,400   | SF   | \$0.20      | \$8,280     |
| Topsoil - Seeding/Restoration 6" | 766      | CY   | \$40.00     | \$30,640    |
| Irrigation                       | 41,400   | SF   | \$1.00      | \$41,400    |
|                                  |          |      | Subtotal    | \$90,520    |

Earthwork

|                                    |        |    |             |          |
|------------------------------------|--------|----|-------------|----------|
| Imported Class II Fill             | 2,000  | CY | \$25.00     | \$50,000 |
| Earthwork Cut and Fill             | 4,000  | CY | \$10.00     | \$40,000 |
| SESC Measures                      | 1      | LS | \$10,000.00 | \$10,000 |
| Bioengineering/Slope Stabilization | 10,000 | SF | \$8.00      | \$80,000 |

Subtotal \$180,000

Utilities

|                         |    |    |             |          |
|-------------------------|----|----|-------------|----------|
| Storm                   | 1  | LS | \$20,000.00 | \$20,000 |
| Water                   | 1  | LS | \$15,000.00 | \$15,000 |
| Sanitary                | 1  | LS | \$30,000.00 | \$30,000 |
| Electrical Service      | 1  | LS | \$20,000.00 | \$20,000 |
| Light Poles             | 10 | EA | \$8,500.00  | \$85,000 |
| Misc. Lighting/Electric | 1  | LS | \$50,000.00 | \$50,000 |

Subtotal \$220,000

Construction Subtotal \$1,940,110

Permitting, Mobilization, & General Conditions \$291,017

12% Contingency \$232,813

**Construction Total \$2,463,940**

5% City Administration \$123,197

3% Geotechnical and Construction Testing Services \$73,918

15% A&E Services \$369,591

**Project Total \$3,030,646**

Note: OPC based on 2018 estimated costs. Increase 4.5% per year for inflation.



ESTIMATE OF PROBABLE COSTS

July 2018

Opportunity Site - Museum Site  
City of Grand Rapids



Opinion of Probable Costs – Schematic Design

| Item   | Quantity | Unit | Unit Price   | Total       |
|--|----------|------|--------------|-------------|
| <b>Removals / Site Prep</b>                        |          |      |              |             |
| Remove Pavements                                   | 5,790    | SF   | \$2.00       | \$11,580    |
| Remove Light Poles                                 | 7        | EA   | \$500.00     | \$3,500     |
| Remove Retaining Wall                              | 400      | LF   | \$100.00     | \$40,000    |
| Remove Stairs                                      | 255      | SF   | \$10.00      | \$2,550     |
| Remove Vegetation                                  | 17,640   | SF   | \$0.50       | \$8,820     |
|  |          |      | Subtotal     | \$66,450    |
| <b>General Site Improvements</b>                   |          |      |              |             |
| Shared-Use Path, Type 1                            | 7,685    | SF   | \$10.00      | \$76,850    |
| Lower Path   | 3,240    | SF   | \$6.00       | \$19,440    |
| Concrete Walks and Pavements                       | 2,005    | SF   | \$6.00       | \$12,030    |
| Concrete Stairs w/ Handrails                       | 320      | SF   | \$33.00      | \$10,560    |
| 16' Wide Elevated Boardwalk                        | 93       | LF   | \$1,600.00   | \$148,800   |
| Stonework allowance for flume and river classroom? |          |      |              |             |
| Seat Steps   | 1,290    | SF   | \$50.00      | \$64,500    |
| Recirculating Fountain                             | 1        | LS   | \$800,000.00 | \$800,000   |
| Amphitheater                                       | 2,040    | SF   | \$52.00      | \$106,080   |
| Observatory  | 750      | SF   | \$30.00      | \$22,500    |
| Treehouse Deck                                     | 780      | SF   | \$120.00     | \$93,600    |
| Woods Adventure Play                               | 2,100    | SF   | \$30.00      | \$63,000    |
| Retaining Wall                                     | 400      | LF   | \$700.00     | \$280,000   |
| Guardrail (above normal HWM)                       | 429      | LF   | \$150.00     | \$64,350    |
| Handrail (above normal HWM)                        | 158      | LF   | \$80.00      | \$12,640    |
| Drinking Fountain                                  | 1        | LS   | \$7,200.00   | \$7,200     |
| Bike Racks   | 12       | EA   | \$800.00     | \$9,600     |
| Benches  | 10       | EA   | \$2,500.00   | \$25,000    |
| Trash Receptacles                                  | 4        | EA   | \$1,500.00   | \$6,000     |
| Signage  | 1        | LS   | \$10,000.00  | \$10,000    |
|  |          |      | Subtotal     | \$1,832,150 |
| <b>Landscaping</b>                                 |          |      |              |             |
| Deciduous Trees                                    | 40       | EA   | \$600.00     | \$24,000    |
| Landscape Beds                                     | 6,850    | SF   | \$6.00       | \$41,100    |
| Seeding / Restoration                              | 30,000   | SF   | \$0.20       | \$6,000     |
| Topsoil - Seeding/Restoration 6"                   | 313      | CY   | \$40.00      | \$12,520    |
| Topsoil - Landscape Beds 12"                       | 254      | CY   | \$40.00      | \$10,160    |
| Irrigation   | 23,750   | SF   | \$0.75       | \$17,813    |
|  |          |      | Subtotal     | \$111,593   |

|   |       |     |              |          |                    |
|---|-------|-----|--------------|----------|--------------------|
|   |       |     |              | Subtotal | \$111,593          |
| <b>Earthwork</b>                                  |       |     |              |          |                    |
| Imported Class II Fill                            | 3,000 | CY  | \$25.00      |          | \$75,000           |
| Earthwork Cut and Fill                            | 9,481 | CY  | \$10.00      |          | \$94,810           |
| SESC Measures                                     | 1     | LS  | \$50,000.00  |          | \$50,000           |
| Riprap  | 505   | SY  | \$50.00      |          | \$25,250           |
| Outcropping Stone                                 | 600   | Ton | \$500.00     |          | \$300,000          |
| Bioengineering/Slope Stabilization                | 6,140 | SF  | \$8.00       |          | \$49,120           |
|   |       |     |              | Subtotal | \$594,180          |
| <b>Utilities</b>                                  |       |     |              |          |                    |
| Storm   | 1     | LS  | \$45,000.00  |          | \$45,000           |
| Water   | 1     | LS  | \$70,000.00  |          | \$70,000           |
| Sanitary  | 1     | LS  | \$40,000.00  |          | \$40,000           |
| Electrical Service                                | 1     | LS  | \$35,000.00  |          | \$35,000           |
| Light Poles                                       | 12    | EA  | \$8,500.00   |          | \$102,000          |
| Misc. Lighting/Electric                           | 1     | LS  | \$100,000.00 |          | \$100,000          |
|   |       |     |              | Subtotal | \$392,000          |
| Construction Subtotal                             |       |     |              |          | \$2,996,373        |
| Permitting, Mobilization, & General Conditions    |       |     |              |          | \$449,456          |
| 12% Contingency                                   |       |     |              |          | \$359,565          |
| <b>Construction Total</b>                         |       |     |              |          | <b>\$3,805,393</b> |
| 5% City Administration                            |       |     |              |          | \$190,270          |
| 3% Geotechnical and Construction Testing Services |       |     |              |          | \$114,162          |
| 15% A&E Services                                  |       |     |              |          | \$570,809          |
| <b>Project Total</b>                              |       |     |              |          | <b>\$4,680,633</b> |

Note: OPC based on 2018 estimated costs. Increase 4.5% per year for inflation.