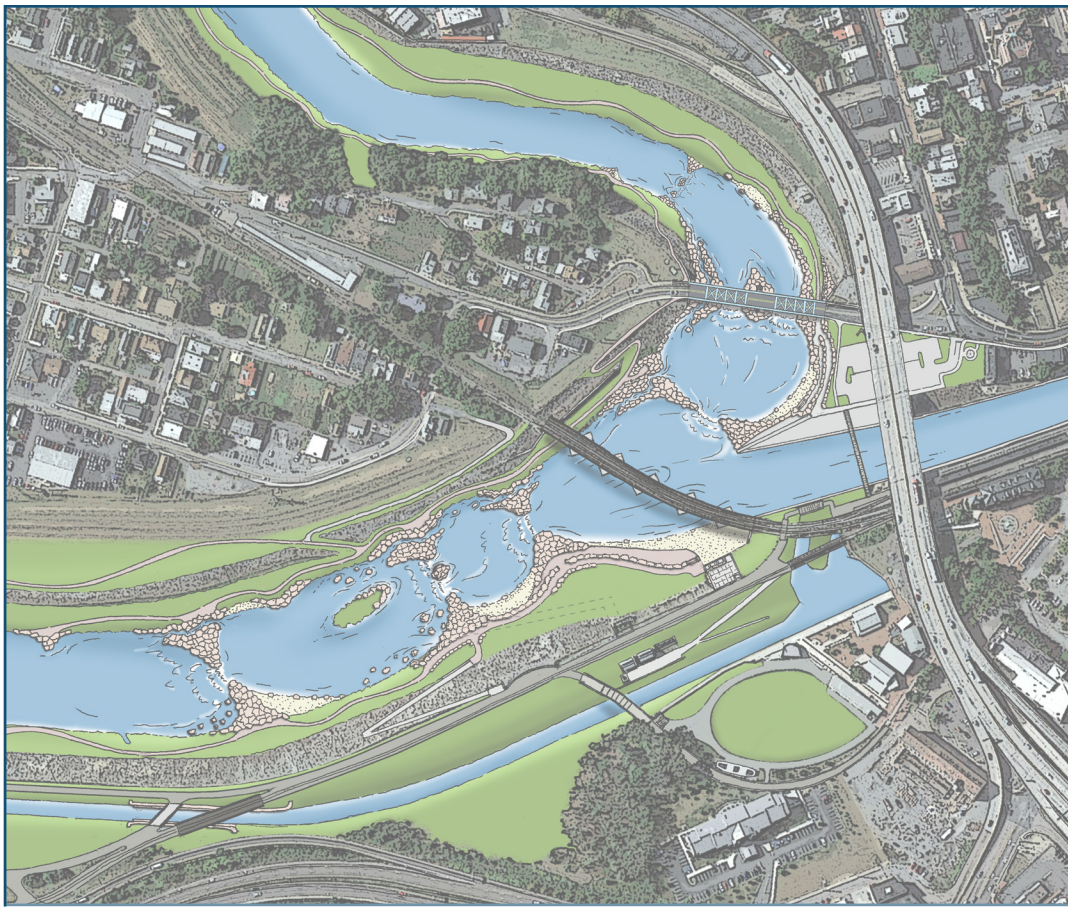




PASSAGES
OF THE
WESTERN POTOMAC
HERITAGE AREA

River Park at Canal Place Feasibility Study

Cumberland, Maryland



Prepared by:



Civil & Environmental Consultants, Inc.



Recreation
Engineering & Planning

3/06/2020

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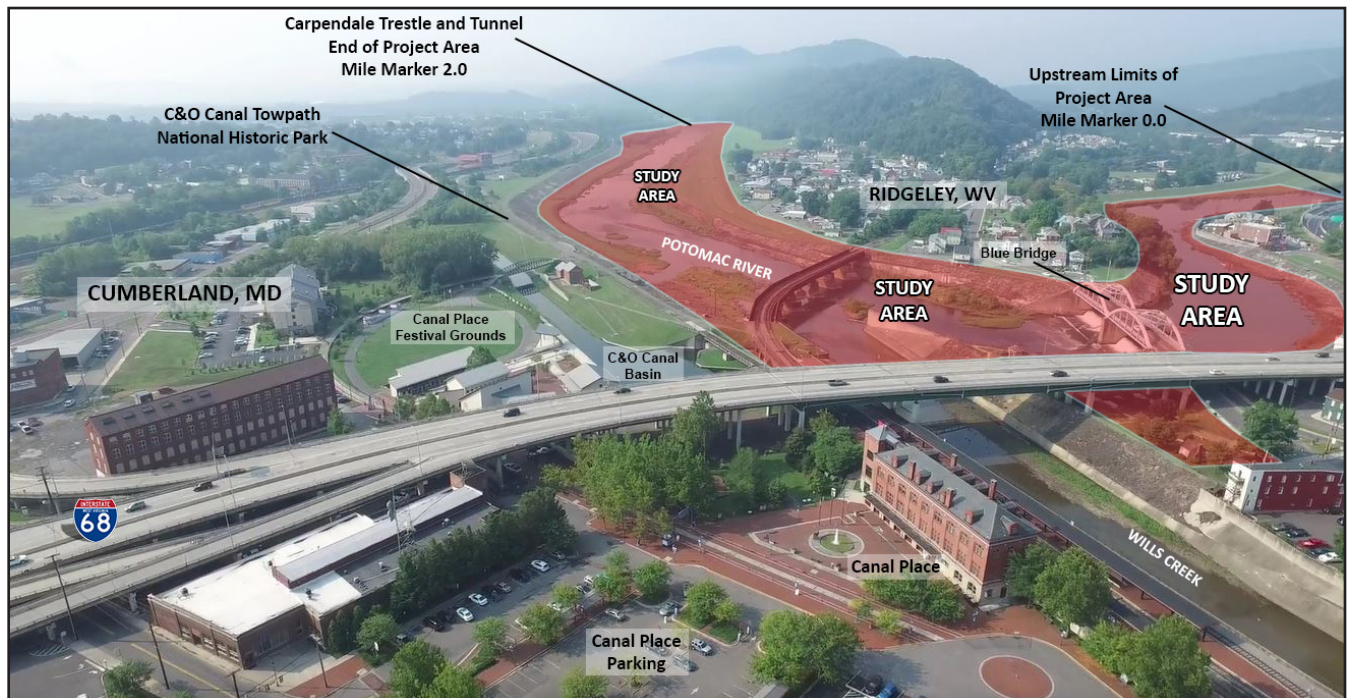


PROJECT LOCATION

The River Park at Canal Place Feasibility Study (Study) area is located in Cumberland, Maryland and includes property in both Maryland and West Virginia. The length of the Study is approximately 2 miles of the Potomac River and the shorelines to the top of the USACE levee. The 2 miles are located approximately 0.5 miles upstream of the Blue Bridge (and 1.5 miles downstream to the Carpendale Trestle).

Adjacent to the Study area are many historic properties such as the C&O Canal Towpath National Historic Park and the National Road as well as tourism opportunities in the Great Allegheny Passage trail and the Western Potomac Scenic Railroad.

The Study area focus is located adjacent to the historic and tourism opportunities.



Aerial Photo of Project Location

PROJECT HISTORY

The River Park at Canal Place is an idea that has been around for close to thirty years as the first study of the area, Canal Parkway Development Study, was completed in 1991. At that time, the concepts were utilizing on-grade trails. In the early 2000's, with the national movement of creating water access for recreation, the concepts shifted from all on-grade trails to the inclusion of water access.

In 2009 and 2010 multiple studies took place to study the removal of the dam below the Blue Bridge. The studies focused on the sediment located behind the dam. Princeton Hydro performed and completed the Phase 1 Industrial Dam Removal Feasibility Study (Phase I). The sediment was found to have containments (dioxins) within the sediment which would require additional input from MDE and downstream sediment studies. Second to the sediment study, GPM Associates studied the affect the removal of the dam would have on the available supply of water for capacity for the C&O Canal Re-watering Project (Canal Project). The findings showed that the dam could not be removed completely



and still supply the water required for the Canal Project. This is an important finding for the current Study.

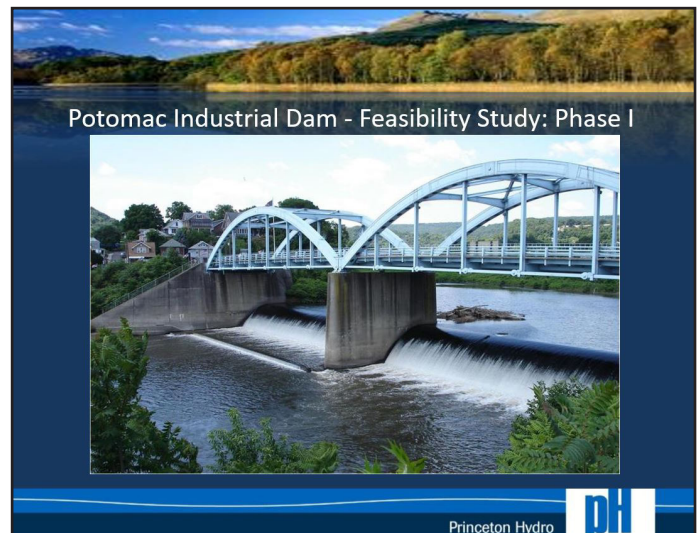
In 2015, American Rivers performed an additional study on the sediments behind the dam in 10 locations upstream. This study confirmed the finds from the 2009 Phase I study and that the sediment would need to be removed and MDE would need to be involved with the removal of sediment and/or removal of the dam.

From 2013 - 2017, Dr. Robert Kauffman Professor of Recreation and Parks Management at Frostburg State University had a concept for a whitewater park and has continued to keep the discussion going which helped lead to the Passages of the Western Potomac Heritage Area to pursue funding for a feasibility study on a River Park including both in-water and on-land recreation systems.

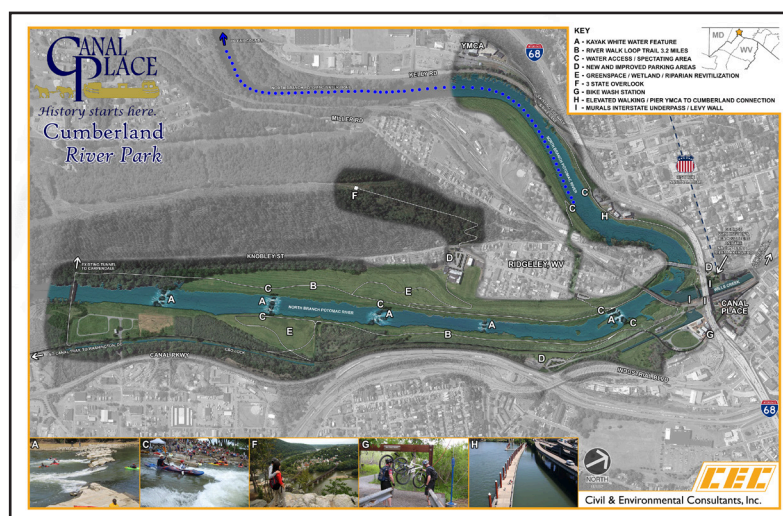
PAST STUDY EXAMPLES



The River Meander Marsh concept drawing from the 1991 Canal Parkway Development Study



Potomac Industrial Dam Feasibility Study: Phase I



2017 Funding Concept Plan



EXISTING SITE CONDITIONS



Aerial view of whitewater feature area



Drop feature #4 area facing upstream





Aerial view of whitewater feature area



Feature drop #1 and water intake area



Upper pool area facing downstream



Feature drop #2 from proposed spectator area



EXISTING SITE CONDITIONS



End of Phase 1 on-grade trail and beginning of wetland trail system



Carpendale trestle and tunnel





On-grad trail near drop feature #6



Overlook and ADA access to whitewater park



EXECUTIVE SUMMARY

The River Park at Canal Place Feasibility Study (Study) will create an exciting river experience for Cumberland and the Allegany County region as well as realize a dream decades in the making. The objective is to create access to the Potomac River for recreational destination for bikers, hikers, fishermen and both flat water and whitewater river enthusiasts. The design team looked at the success of the two major rail trails in Cumberland, the Great Allegheny Passage (GAP) and the C&O Canal Towpath Trail (Towpath) and their impact on Cumberland's recreational tourism. They also looked at how this project can expand upon that success by using the currently underutilized Potomac River Corridor. Keeping with the objectives of creating access to the river and expanding upon the existing recreational opportunities, the Study connects users to the River Park with ADA accessible ramps, paved multi-use paths and in-water features that allow navigation past the existing dam (See Figure 1).

The goal is to create a whitewater park that is inviting to families and safe for the general public by creating features using concrete and large boulders to divert water into more natural channels. Each feature spans the river from bank to bank. By building these features, we can then create gentle passages for novice users, upgraded whitewater passages for more advanced users, and also fish passage. The first whitewater feature begins just upstream of



Figure 1 - Blue Bridge and Dam

the blue dam at the location of the former historic bridge. The second feature will be at the dam underneath the blue bridge. The dam once seen as a impediment is now an opportunity for this project, as it allows for both whitewater features and for the current water intake pool for the C&O Canal Basin. Our masterplan includes removing approximately half the height of the dam or 10-12' in elevation. In doing so, this allows for one (1) upstream feature and four (4) downstream features plus the area of the dam. Between all of the features and the distance between them, the elevations works within the confines of the USACE Project parameters. Each feature includes gentle drops 1.5' to 2', designed for the 98% of the general public and gentle fish passage for the native fish of the Potomac River. The features are spaced from 200'-300' apart to allow for safe boating. The fish passage areas are shown on river right but final design may move fish passage to other areas.

Additional to the in-water features are streamside amenities such as boat put-ins and take-outs, terraced seating for spectators and paved trails linking each of the areas. The whitewater park section of the project is approximately 1,800 LF and is the heart of the River Park. It was determined by our team that additional parking will be needed and a site was selected under I-68 near the National Road Memorial and George Washington's Headquarters. The team has found that the parking area would benefit the National Road Memorial by creating better access for visitors and that the George Washington's Headquarters could be moved, as there is no significant historical value to the location. This Study suggests moving the building to a new and more appropriate site to be determined in the future. This new parking area has easy access to the upstream whitewater features and Canal Place via the existing pedestrian bridge.

Trails are another important aspect of the River Park and there are opportunities in the way of on-grade trails both upstream and downstream on both the Maryland and West Virginia sides of the river. The trails have multiple destinations downstream and connect to the Towpath, a wetland boardwalk



trail system, a trestle over the Potomac River and a tunnel. These trails eventually create full loops in Maryland and West Virginia, creating a Greater Cumberland trail network within the River Park. The paved trail adjacent to the river heads downstream for approximately 0.6 miles where it splits to connect to the Towpath and existing wetland area. The wetland area is approximately five (5) acres in size and a perfect destination to learn about the importance of wetlands and for wildlife viewing. This unique area was suggested in the 1991 Canal Parkway Development Study by the Maryland State

Highway Administration (SHA) and the US National Park Services (NPS).

Leaving the wetland trail system via the existing Towpath, the user will travel approximately one (1) mile to the next destination, the Carpendale Trestle and ultimately the 1,500' long tunnel through Knobley Mountain. This Study does not include the area on the Carpendale side of Knobley Mountain but West Virginia is currently working on the connection from Carpendale, WV to the blue bridge, eventually finishing the tunnel loop. For this Study, a multi-use trail parallels the Potomac River heading north from the trestle for



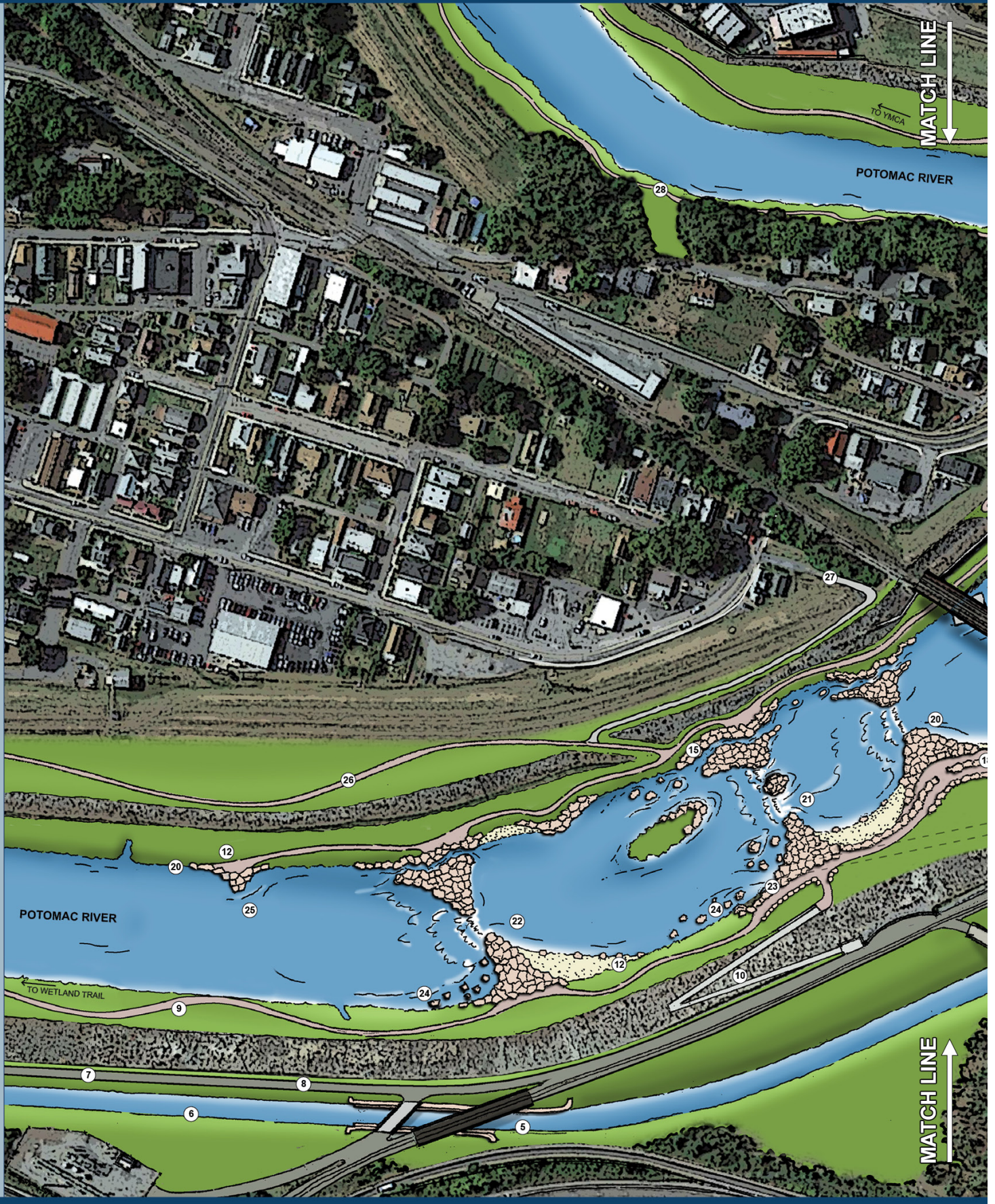
Figure 2 - Example of a Wetland Boardwalk Trail

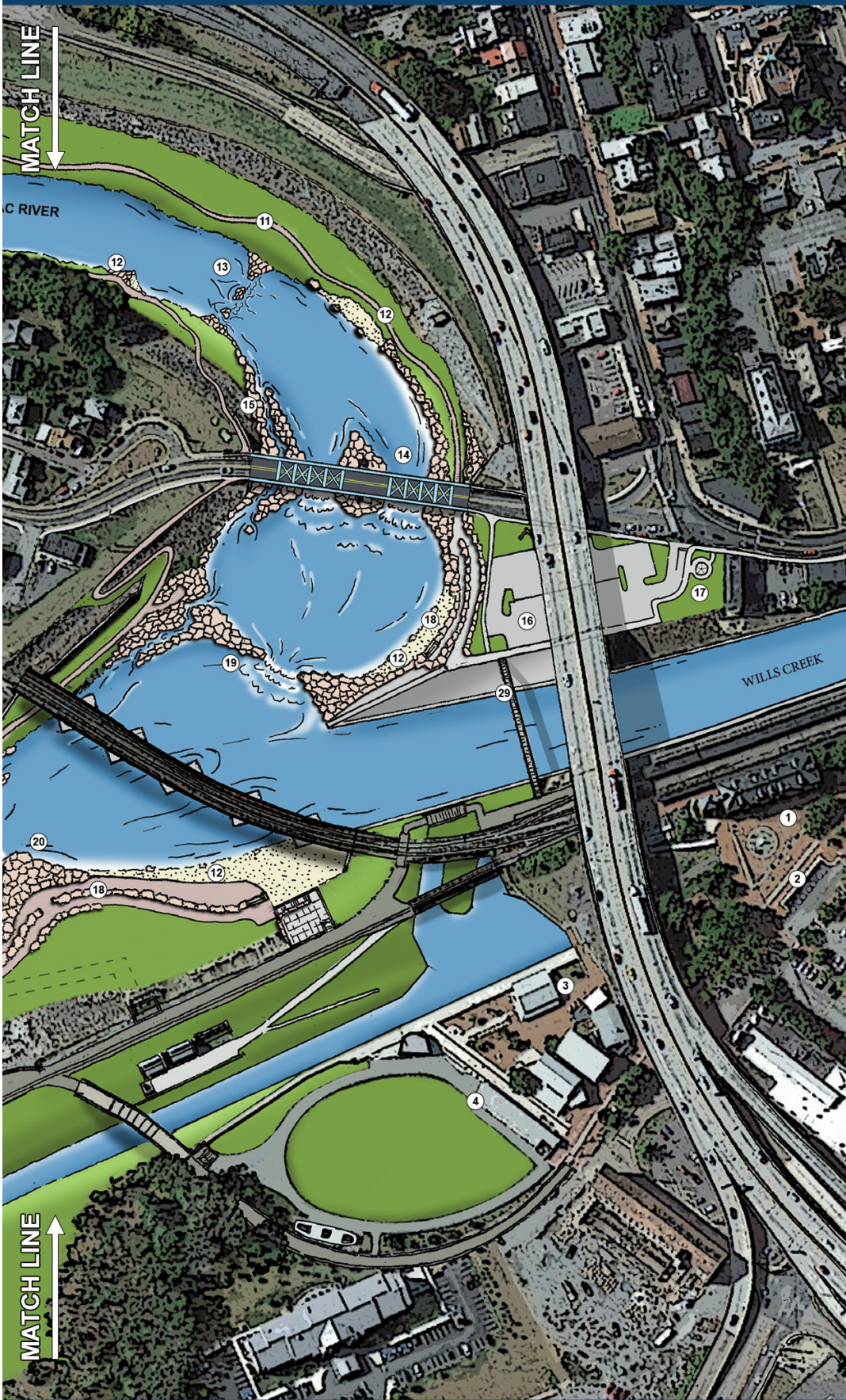
approximately 1.5 miles back upstream to the blue bridge. During the journey back up river, the trail splits to have multiple opportunities for an upper elevation trail for grand views and a lower elevation along the river with access points for fishing, boating and wildlife viewing.

There are many existing opportunities for the success of the River Park starting with the facilities at Canal Place, the existing infrastructure in Greater Cumberland, and tourism-based businesses such as the Western Maryland Scenic Railroad and multiple shops, restaurants and hotels. The River Park will be an extension of those services by offering new opportunities for recreation and businesses related to those opportunities.



CONCEPTUAL MASTER PLAN





LEGEND

- 1 CANAL PLACE &
- W. MD. SCENIC RAILROAD
- 2 GREAT ALLEGHENY PASSAGE
- 3 NPS
- 4 FESTIVAL GROUNDS/SHOPS
- 5 PROPOSED FLOOD GATE/LOCK
- SEPARATE STUDY
- 6 RE-WATERED CANAL
- 7 LOWERED LEVEE
- SEPARATE PROJECT
- 8 C&O CANAL TOWPATH NP
- 9 MD RIVER TRAIL LOOP - 1.3 MILES
- 10 ADA RIVER ACCESS
- 11 YMCA CONNECTOR TRAIL WITH
- UNDERPASS AT BLUE BRIDGE
- 12 BOATER ACCESS
- 13 FEATURE #1 AND WATER INTAKE
- 14 FEATURE DROP #2
- DAM LOWERED 10-12'
- 15 FISH PASSAGE
- CONTINUOUS PASSAGE
- 16 PARKING
- UNDER I-68
- 17 WASHINGTON'S HEADQUARTERS &
- NATIONAL RD MARKER ZERO
- 18 NATURAL ROCK SEATING
- 19 FEATURE DROP #3
- 20 FEATURE DROP #4
- 21 FEATURE DROP #5
- 22 FEATURE DROP #6
- 23 CSO OUTLET
- 24 FISH HABITAT
- 25 DEFLECTOR
- 26 TRESTLE LOOP TRAIL - 3.5 MILES
- MARYLAND & WEST VIRGINIA
- 27 EMERGENCY VEHICLE ENTRANCE
- 28 FUTURE CARPENDALE, WV LOOP
- 29 EXISTING PEDESTRIAN BRIDGE
- OVER WILLS CREEK

NOTE: The master plan is in conceptual form and subject to change during final design and funding.



SIMILAR PROJECT EXAMPLES

The Great Miami Riverscape Park - Dayton, Ohio

The Great Miami River flows through downtown Dayton, Ohio. The flow was obstructed by a river-wide low head dam located downstream of Dayton's Riverscape Park. This site was currently very dangerous for in-stream users due to the recirculating hydraulic that is formed at the base of the dam. The purpose of this project was to remove the current dam while restoring the channel to a more natural appearance. The dam has now been converted to create an attractive environmental and recreational amenity. The resulting project not only provides for increased safety in the river, but serve as an attraction to both residents and out of town visitors who seek an attractive recreational amenity. The net effect of this project has been to transform a dangerous hazard into a popular attraction that stimulates the local economy.



Dayton's fountains feature



Drop feature





Former dam site with drop features and murals on flood wall



ADA access and multi-use concrete trail



SIMILAR PROJECT EXAMPLES

The Great Miami Riverscape Park - Dayton, Ohio



Celtic Festival Race



Drop feature during a flood event





P

Murals on flood wall and on-grade multi-use trail



Q

Drop feature under construction



PRELIMINARY BUDGET - OVERALL

PRELIMINARY ESTIMATE OF PROBABLE CONSTRUCTION COSTS						
All Phases						
On-Grade Trail - Concrete Surface						
DESCRIPTION	QTY	UNIT	UNIT PRICE		COST	
Trail A - 0.6 Miles (MD Side)	2800	SY	\$150	\$/SY	\$420,000	
Ramp 1 (Near Overlook)	400	SY	\$150	\$/SY	\$60,000	
Ramp 1 Landscape Wall	2100	SF	\$40	\$/SF	\$84,000	
Ramp 2 (Near Dam)	260	SY	\$150	\$/SY	\$39,000	
Ramp 2 Landscape Wall	1330	SF	\$40	\$/SF	\$53,200	
Railing	160	LF	\$80	\$/LF	\$12,800	
Steps	20	SY	\$200	\$/SY	\$4,000	
Path From Pedestrian Bridge to Overlook	110	SY	\$150	\$/SY	\$16,500	
Small Pedestrian Bridge	1	LS	\$50,000	\$/LS	\$50,000	
<i>SUBTOTAL</i>					<i>\$739,500</i>	
Event Terrace Area						
DESCRIPTION	QTY	UNIT	UNIT PRICE		COST	
Concrete Sidewalk	3100	SY	\$110	\$/SY	\$341,000	
Boulders	1200	LF	\$150	\$/LF	\$180,000	
Unclassified Excavation	1	LS	\$150,000	\$/LS	\$150,000	
<i>SUBTOTAL</i>					<i>\$671,000</i>	
Parking Lot						
DESCRIPTION	QTY	UNIT	UNIT PRICE		COST	
Asphalt Surface	3900	SY	\$60	\$/SY	\$234,000	
Concrete Sidewalk	320	SY	\$110	\$/SY	\$35,200	
Concrete Curbing	500	LF	\$50	\$/LF	\$25,000	
Storm System	1	LS	\$180,000	\$/LS	\$180,000	
<i>SUBTOTAL</i>					<i>\$294,200</i>	
Whitewater Features						
DESCRIPTION	QTY	UNIT	UNIT PRICE		COST	
Feature 1 - Old Bridge Site	1	LS	\$1,000,000	\$/LS	\$1,000,000	
Feature 2 - Blue Bridge	1	LS	\$2,400,000	\$/LS	\$2,400,000	
Feature 3 - Wills Creek Conversion	1	LS	\$1,000,000	\$/LS	\$1,000,000	
Feature 4 - Below WM Trestle	1	LS	\$1,000,000	\$/LS	\$1,000,000	
Feature 5 - Above CSO Outlet	1	LS	\$1,200,000	\$/LS	\$1,200,000	
Feature 6 - River Bend and Diversions	3	LS	\$200,000	\$/LS	\$600,000	
<i>SUBTOTAL</i>					<i>\$7,200,000</i>	



Wetland Trail						
DESCRIPTION	QTY	UNIT	UNIT PRICE		COST	
Trail A - 0.5 Mile (crushed gravel surface)	2950	SY	\$40	/	SY	\$118,000
Trail B - 0.2 Mile (helical pier boardwalk)	1060	LF	\$700	/	LF	\$742,000
<i>SUBTOTAL</i>						<i>\$860,000</i>
On-Grade Trail - (West Virginia Side)						
DESCRIPTION	QTY	UNIT	UNIT PRICE		COST	
Trail B - 0.6 Miles (WV Side Lower, Conc.)	3500	SY	\$150	/	SY	\$525,000
Trail C - 1.4 Miles (WV Side Upper, Asphalt)	6700	SY	\$60	/	SY	\$402,000
<i>SUBTOTAL</i>						<i>\$927,000</i>
Miscellaneous Items						
DESCRIPTION	QTY	UNIT	UNIT PRICE		COST	
Beach Put Ins / Take Outs	35000	SF	\$4	/	SF	\$140,000
Overlooks C&O Trail	300	SY	\$150	/	SY	\$45,000
Signal Adjustment	1	LS	\$100,000	/	LS	\$100,000
Relocation of George Washington's Headquarters	1	LS	\$20,000	/	LS	\$20,000
Sidewalk Demolition	350	SY	\$40	/	SY	\$14,000
Grading (Overexcavation of On-Grade Trails)	12000	CY	\$30	/	CY	\$360,000
Box Culvert (10' x 4')	300	LF	\$2,000	/	LF	\$600,000
<i>SUBTOTAL</i>						<i>\$1,279,000</i>
TOTAL						\$11,970,700
CONTINGENCY 15%						\$1,795,605
Engineering Design, Permitting & Construction Inspection						\$1,197,070
<i>PRELIMINARY GRAND TOTAL</i>						<i>\$14,963,375</i>
<p>NOTE: Estimates are for planning/budgetary purposes only. Budgets must be updated during the design phases of the project.</p>						

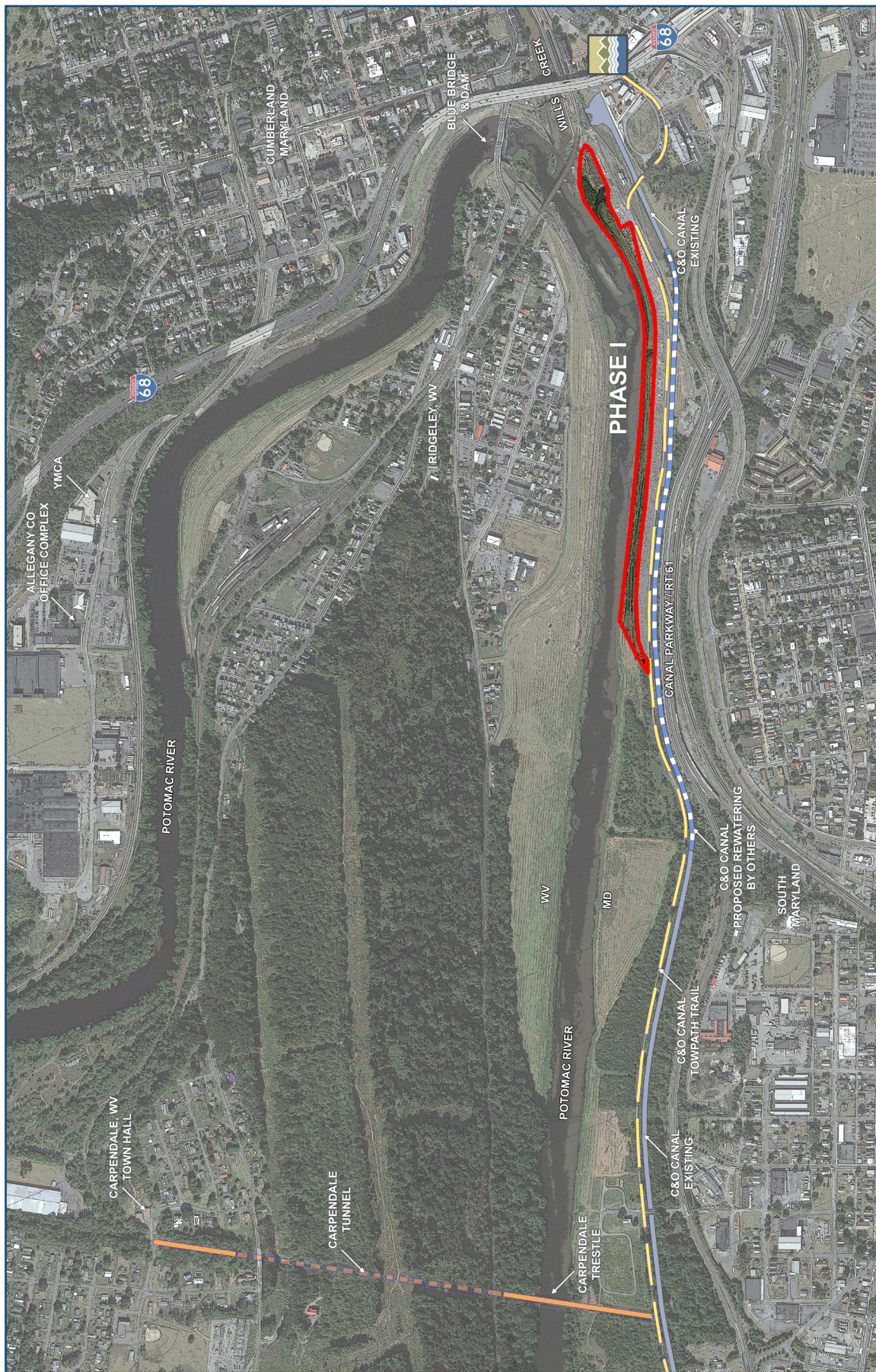


PRELIMINARY BUDGET - PHASE I

PRELIMINARY ESTIMATE OF PROBABLE CONSTRUCTION COSTS						
Phase I						
On-Grade Trail - Concrete Surface						
DESCRIPTION	QTY	UNIT	UNIT PRICE		COST	
Trail A - 0.6 Miles (MD Side)	2800	SY	\$150	\$/ SY	\$420,000	
Ramp 1 (Near Overlook)	400	SY	\$150	\$/ SY	\$60,000	
Ramp 1 Landscape Wall	2100	SF	\$40	\$/ SF	\$84,000	
<i>SUBTOTAL</i>					<i>\$564,000</i>	
Event Terrace Area						
DESCRIPTION	QTY	UNIT	UNIT PRICE		COST	
Concrete Sidewalk	3100	SY	\$110	\$/ SY	\$341,000	
Boulders	1200	LF	\$150	\$/ LF	\$180,000	
Unclassified Excavation	1	LS	\$150,000	\$/ LS	\$150,000	
<i>SUBTOTAL</i>					<i>\$671,000</i>	
Miscellaneous Items						
DESCRIPTION	QTY	UNIT	UNIT PRICE		COST	
Beach Put Ins / Take Outs	8750	SF	\$4	\$/ SF	\$35,000	
Grading (Overexcavation of On-Grade Trails)	6000	CY	\$30	\$/ CY	\$180,000	
Box Culvert (10' x 4')	300	LF	\$2,000	\$/ LF	\$600,000	
<i>SUBTOTAL</i>					<i>\$815,000</i>	
TOTAL					\$2,050,000	
CONTINGENCY 15%					\$307,500	
Engineering Design, Permitting & Construction Inspection					\$205,000	
<i>PRELIMINARY GRAND TOTAL</i>					<i>\$2,562,500</i>	
<p>NOTE: Estimates are for planning/budgetary purposes only. Budgets must be updated during the design phases of the project.</p>						



PHASE I - Area Map

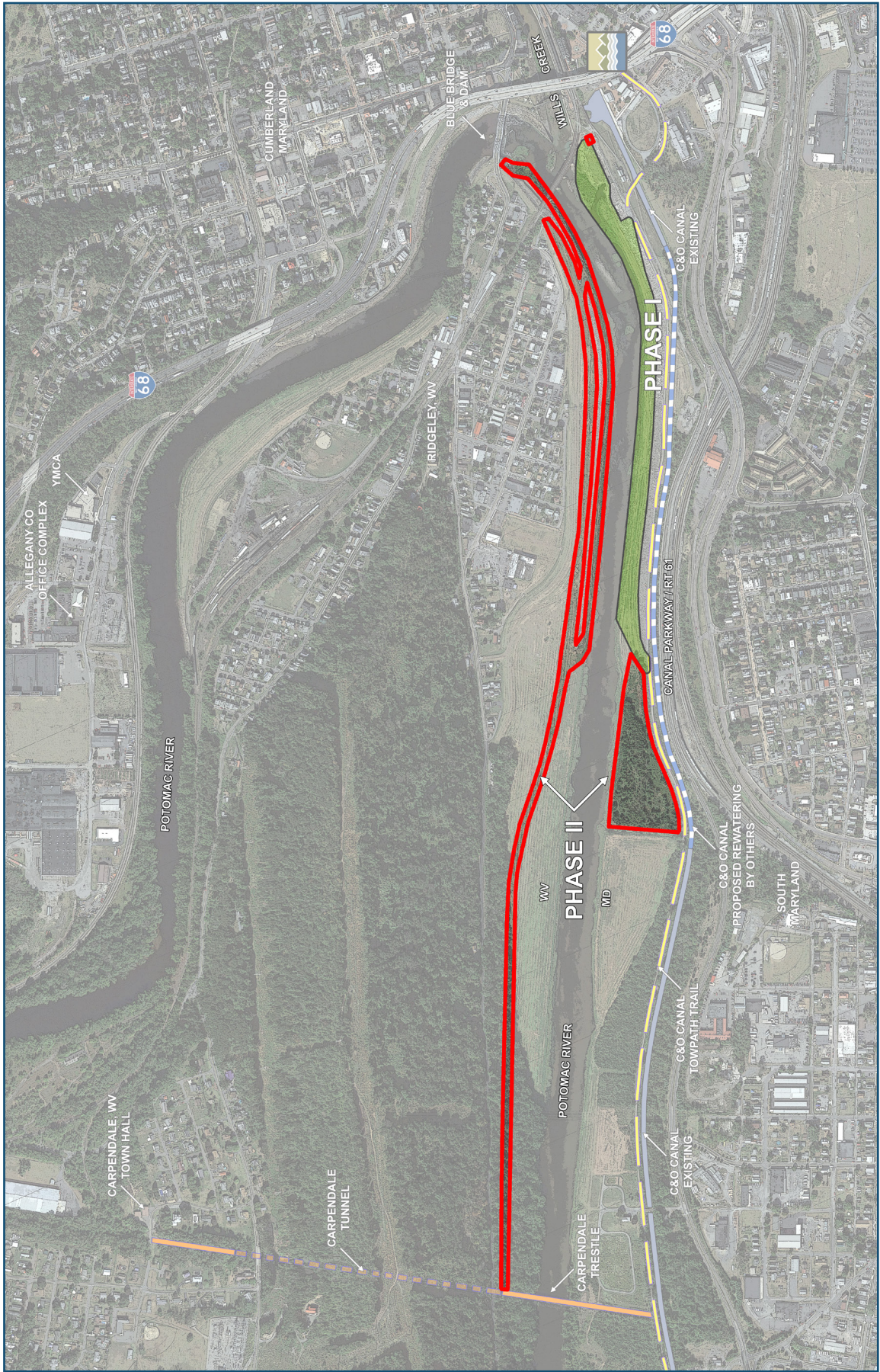


PRELIMINARY BUDGET - PHASE II

PRELIMINARY ESTIMATE OF PROBABLE CONSTRUCTION COSTS						
Phase II						
On-Grade Trail - Concrete Surface						
DESCRIPTION	QTY	UNIT	UNIT PRICE		COST	
Railing	160	LF	\$80	/	LF	\$12,800
Steps	20	SY	\$200	/	SY	\$4,000
<i>SUBTOTAL</i>						<i>\$16,800</i>
Wetland Trail						
DESCRIPTION	QTY	UNIT	UNIT PRICE		COST	
Trail A - 0.5 Mile (crushed gravel surface)	2950	SY	\$40	/	SY	\$118,000
Trail B - 0.2 Mile (helical pier boardwalk)	1060	LF	\$700	/	LF	\$742,000
<i>SUBTOTAL</i>						<i>\$860,000</i>
On-Grade Trail - (West Virginia Side)						
DESCRIPTION	QTY	UNIT	UNIT PRICE		COST	
Trail B - 0.6 Miles (WV Side Lower, Conc.)	3500	SY	\$150	/	SY	\$525,000
Trail C - 1.4 Miles (WV Side Upper, Asphalt)	6700	SY	\$60	/	SY	\$402,000
<i>SUBTOTAL</i>						<i>\$927,000</i>
Miscellaneous Items						
DESCRIPTION	QTY	UNIT	UNIT PRICE		COST	
Beach Put Ins / Take Outs	8750	SF	\$4	/	SF	\$35,000
Overlooks C&O Trail	300	SY	\$150	/	SY	\$45,000
Grading (Overexcavation of On-Grade Trails)	6000	CY	\$30	/	CY	\$180,000
<i>SUBTOTAL</i>						<i>\$260,000</i>
TOTAL						\$2,063,800
CONTINGENCY 15%						\$309,570
Engineering Design, Permitting & Construction Inspection						\$206,380
PRELIMINARY GRAND TOTAL						\$2,579,750
<p>NOTE: Estimates are for planning/budgetary purposes only. Budgets must be updated during the design phases of the project.</p>						



PHASE II - Area Map

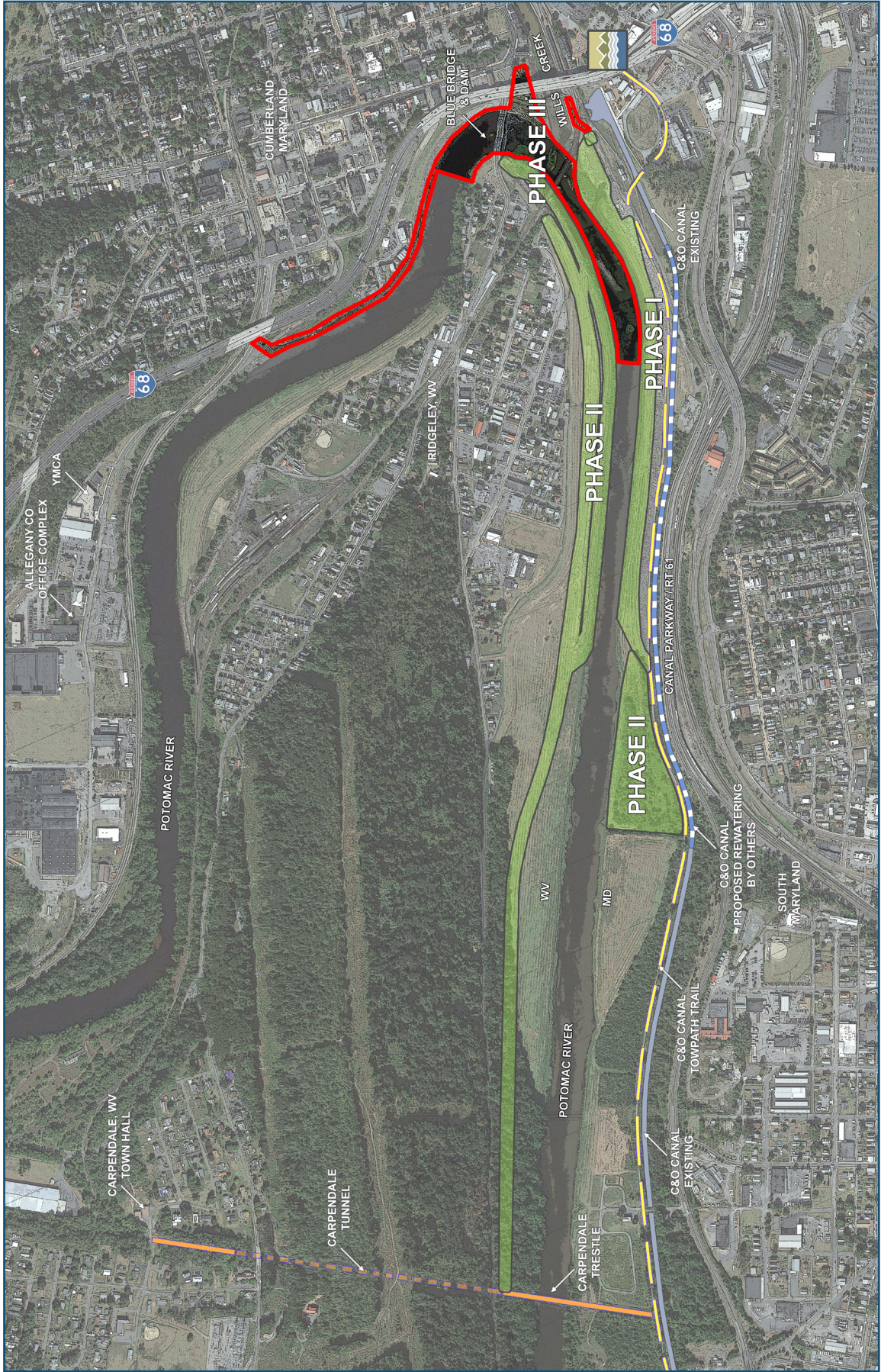


PRELIMINARY BUDGET - PHASE III

PRELIMINARY ESTIMATE OF PROBABLE CONSTRUCTION COSTS						
Phase III						
On-Grade Trail - Concrete Surface						
DESCRIPTION	QTY	UNIT	UNIT PRICE		COST	
Ramp 2 (Near Dam)	260	SY	\$150	\$/SY	\$39,000	
Ramp 2 Landscape Wall	1330	SF	\$40	\$/SF	\$53,200	
Path From Pedestrian Bridge to Overlook	110	SY	\$150	\$/SY	\$16,500	
Small Pedestrian Bridge	1	LS	\$50,000	\$/LS	\$50,000	
<i>SUBTOTAL</i>						<i>\$158,700</i>
Parking Lot						
DESCRIPTION	QTY	UNIT	UNIT PRICE		COST	
Asphalt Surface	3900	SY	\$60	\$/SY	\$234,000	
Concrete Sidewalk	320	SY	\$110	\$/SY	\$35,200	
Concrete Curbing	500	LF	\$50	\$/LF	\$25,000	
Storm System	1	LS	\$180,000	\$/LS	\$180,000	
<i>SUBTOTAL</i>						<i>\$294,200</i>
Whitewater Features						
DESCRIPTION	QTY	UNIT	UNIT PRICE		COST	
Feature 1 - Old Bridge Site	1	LS	\$1,000,000	\$/LS	\$1,000,000	
Feature 2 - Blue Bridge	1	LS	\$2,400,000	\$/LS	\$2,400,000	
Feature 3 - Wills Creek Conversion	1	LS	\$1,000,000	\$/LS	\$1,000,000	
Feature 4 - Below WM Trestle	1	LS	\$1,000,000	\$/LS	\$1,000,000	
Feature 5 - Above CSO Outlet	1	LS	\$1,200,000	\$/LS	\$1,200,000	
Feature 6 - River Bend and Diversions	3	LS	\$200,000	\$/LS	\$600,000	
<i>SUBTOTAL</i>						<i>\$7,200,000</i>
Miscellaneous Items						
DESCRIPTION	QTY	UNIT	UNIT PRICE		COST	
Beach Put Ins / Take Outs	17500	SF	\$4	\$/SF	\$70,000	
Signal Adjustment	1	LS	\$100,000	\$/LS	\$100,000	
Relocation of George Washington's Headquarters	1	LS	\$20,000	\$/LS	\$20,000	
Sidewalk Demolition	350	SY	\$40	\$/SY	\$14,000	
<i>SUBTOTAL</i>						<i>\$204,000</i>
TOTAL						\$7,856,900
CONTINGENCY 15%						\$1,178,535
Engineering Design, Permitting & Construction Inspection						\$785,690
PRELIMINARY GRAND TOTAL						\$9,821,125
NOTE: Estimates are for planning/budgetary purposes only. Budgets must be updated during the design phases of the project.						



PHASE I - Area Map



FUNDING OPPORTUNITIES

Projects of this size are typically a challenge for most municipalities. Deliberate and consistent budgeting of funds for matching funds for grants or for small projects within the overall plan will serve as the seed money for the ultimate realization of the River Park master plan. There are many opportunities for funding and typically a project such as this will utilize many types of funding mechanism overlaps over many years. Below are some typical funding options and some creative options.

FUNDING OPPORTUNITY	PHASE I	PHASE II	PHASE III
Private Foundations			
- American Rivers			
Corporate Foundations			
Taxpayer Financed Bonds			
Public Private Partnerships			
Private Grants			
Federal and State Grants			
- MD Bikeways			
- Program Open Space			
- Community Parks and Playgrounds			
- Community Development Block Grant			
- DNR Boat Ramp Funds			
- Transportation Enhancement Fund			
- Recreational Trails / Transportation Alternatives			
- Land and Water conservation Fund			
- Land Access Fund			
- Maryland Heritage Area Authorities			
- EDA Brownfield Assessment and Cleanup Grants			
- Innovative Nutrient and Sediment Reduction Grants			
- Compensatory Mitigation Credits for the Removal of Obsolete Dams			
NOTE: Funding opportunities change overtime. This list does not include all available grants.			



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ECONOMIC IMPACT EVALUATION

Table 1
Project Assumptions
The River Park at Canal Place Master Plan Improvements
2020 Dollars

Annual Utilization Assumptions					
Whitewater Utilization Estimates	Total Population	Utilization Rate	Total Users	Trips per User	Total Trips
Primary Utilization Area (0-10 Miles)	71,029	11.4%	8,097	4.8	34,009
Casual/Moderate Users (60%)	42,617	11.4%	4,858	2.0	9,717
Active Users (40%)	28,412	11.4%	3,239	7.5	24,292
Secondary Utilization Area (10-30 Miles)	126,759	7.6%	9,634	3.3	27,938
Casual/Moderate Users (60%)	76,055	7.6%	5,780	1.5	8,670
Active Users (40%)	50,704	7.6%	3,853	5.0	19,267
Additional Regional Utilization (30-60 Miles)	1,128,277	2.9%	30,012	1.8	55,737
Casual/Moderate Users (60%)	676,966	1.9%	12,862	1.0	12,862
Active Users (40%)	451,311	3.8%	17,150	2.5	42,875
Total	1,326,065	3.60%	47,743	3.3	117,683
Casual/Moderate Users (60%)	795,639	2.95%	23,501	1.5	31,249
Active Users (40%)	530,426	4.57%	24,242	5.0	86,434

Utilization by Age Cohort (4/)		
Cohort	%	Trips
Under 18	17.4%	20,477
18-34	37.0%	43,543
35-54	30.7%	36,129
55+	14.9%	17,535
TOTAL TRIPS		117,683

Construction Costs (2/)	
	TOTAL COST
On-Grade Trail - Concrete Surface	\$739,500
Event Terrace Area	\$671,000
Parking Lot	\$294,200
Whitewater Features	\$7,200,000
Wetland Trail	\$860,000
On-Grade Trail - (West Virginia Side)	\$927,000
Miscellaneous Items	\$1,279,000
Soft Costs (3/)	\$2,992,675
TOTAL ESTIMATED COST	\$14,963,375

Source Notes

- 1/ Whitewater recreation utilization estimated by CEC based on national utilization trends
- Utilization rates based on a national whitewater recreation average of 7.6%, adjusted for proximity and frequency of use
- Total population includes only the population within the designated ring, not the total population
- 2/ Construction costs estimated by CEC, see detailed estimates in Table 2
- 3/ Include Contingency, Environmental Design, Permitting, and Inspections
- 4/ Outdoor Foundation Recreation Survey 2018



Sources: CEC, Outdoor Foundation, US Census Data

Table 2
Summary of Estimated Economic and Fiscal Impacts
The River Park at Canal Place Master Plan Improvements
Construction Period (2020 Dollars)

Economic Impacts (1/)			
	Direct	Indirect	Total
Jobs (FTE)	83	73	156
Payroll	\$4,489,013	\$3,203,808	\$7,692,821
Material Purchases (regional)	\$4,563,829		\$4,563,829
Consumer Expenditures	\$3,727,344		\$3,727,344

One-Time Fiscal Impacts	State	Allegany County	Other Local Jurisdictions	TOTAL
Income Tax	\$160,016	\$96,601	\$41,835	\$298,452
Direct Sales Tax	\$260,138	-	-	\$260,138
Indirect Sales Tax	\$173,080	-	-	\$173,080
TOTAL	\$593,234	\$96,601	\$41,835	\$731,670

Source Notes

1/ Total estimated jobs and payroll do not differentiate as to where employees live or as to where employees make consumer expenditures



ECONOMIC IMPACT EVALUATION

Table 3
 Summary of Estimated Economic and Fiscal Impacts
 The River Park at Canal Place Master Plan Improvements
 Annual Operations at Build Out (2020 Dollars)(1/)

Economic Impacts (2/)	Direct	Indirect (3/)	Total
Jobs (FTE)	5	8	13
Payroll	\$140,095	\$157,668	\$297,763
Retail Sales (On-Site)	\$1,028,212	-	\$1,028,212
Consumer Expenditures	\$116,325	-	\$116,325

Annual Fiscal Impacts	State	Allegany County	TOTAL
Hotel Taxes		\$47,073	\$47,073
Direct Sales Tax	\$58,608		\$58,608
Indirect Sales Tax (off-site)	\$264,081	-	\$264,081
Total	\$322,689	\$47,073	\$369,763

Source Notes

1/ Figures based on at build out and provided in current 2020 dollars

2/ Total estimated jobs and payroll do not differentiate as to where employees live or as to where employees make consumer expenditures

3/ Indirect jobs impact includes spin-off jobs created as a result of new jobs created by project; Does not specify location of these jobs



Sources: Allegany County

Table 4
Preliminary Evaluation of Economic Impact
The River Park at Canal Place Master Plan Improvements

Estimated Direct Retail Sales - Whitewater Craft Rental
The River Park at Canal Place Master Plan Improvements
2020 Dollars

	Total Trips	Average	% of Users	Gross Sales
Local Boat Rental Activity (1/)				
Primary Area	34,009	\$47.50	21.0%	\$339,237
Casual/Moderate Users	9,717		28.0%	\$129,233
Active Users	24,292		14.0%	\$161,541
Secondary Area	27,938		19.0%	\$252,138
Casual/Moderate Users	8,670		28.0%	\$115,315
Active Users	19,267	10.0%	\$91,520	
Additional Regional Trips	55,737		16.5%	\$436,838
Casual/Moderate Users	12,862		28.0%	\$171,069
Active Users	42,875		5.0%	\$101,827
TOTALS	117,683			\$1,028,212

Source Notes

- 1/ Assumes whitewater utilization demand would create immediate need for rental shop(s)
- 2/ Based on CEC analysis of regional watercraft rental rates. \$47.50 represents blended rate for all craft (paddleboard, kayak, canoe)
- 3/ Based on Outdoor Foundation Recreation Trends Report 2018. National average of 28%, adjusted for user activity

Sources: CEC, Outdoor Foundation



ECONOMIC IMPACT EVALUATION

Table 5
Preliminary Evaluation of Economic Impact
The River Park at Canal Place Master Plan Improvements

Economic, Employment and Expenditure Impacts: Construction Period
2020 Dollars

Project Cost (Construction) (1/) **\$14,963,375**

1. Estimated Earnings Impacts

Type of Labor	Construction Value	Labor as % of Total Cost (2/)	Labor Expenditure (2/)	Total FTE Jobs	Average Earnings/Hr. (3/)	Total Annual Earnings / FTE Job
Construction	\$14,963,375	30%	4,489,013	83	\$26.09	\$54,257

2. Total Economic Impact

Output (\$)	Output Multiplier (4/)	Indirect and Induced Economic Impact	Total Economic Impact
\$14,963,375	1.8460	\$12,659,015	\$27,622,390

3. Expenditure Impacts

Total Earnings	Disposable Earnings (5/)	Consumption Expenditures (6/)
\$4,489,013	\$3,990,732	\$3,727,344

4. Total Construction Period Employment Impacts

Output Type	Total FTE Jobs	Employment Multiplier (7/)	Indirect Employment Impact	Total Employment Impact (8/)
Construction Labor	83	1.8826	73	156

5. Total Earnings Impacts

Output Type	Total Annual Earnings	Earnings Multiplier (9/)	Indirect Earnings Impact	Total Earnings Impact (10/)
Construction Labor	\$4,489,013	1.7137	\$3,203,808	\$7,692,821

6. Material Purchases

Type of Purchase	Per \$1,000	
	Const. Cost	Expenditure
Regionally Purchased	\$305	\$4,563,829
Purchased Out of Region	\$105	\$1,571,154
Total Material Purchases		\$6,134,984
Percentage Total Purchases		74%

Source Notes

- 1/ Values based on hard construction costs only. Excludes soft construction costs such as land value, A&E, contingency, financing, legal, insurance, taxes, etc.
- 2/ Percentage based on Urban Land Institute findings and observed expenses from comparable projects Labor expenditure represents total construction labor costs associated with total project cost
- 3/ Bureau of Labor Statistics Occupational Wage Estimates for Construction Sector
- 4/ Output Multiplier for Construction Sector
RIMS II Model, Bureau of Economic Analysis
- 5/ Disposable Income at 88.9% of Personal Income
- 6/ Consumption Expenditures at 93.4% of Disposable Income, Bureau of Economic Analysis
- 7/ Employment Multiplier Estimates for Construction Sector, RIMS II Model
- 8/ Direct, Indirect and Induced Employment
- 9/ Earnings Multiplier for Construction Sector, RIMS II Model
- 10/ Direct, Indirect, and Induced Earnings



Sources: CEC, Bureau of Economic Analysis, Bureau of Labor Statistics, Urban Land Institute

Table 6
Preliminary Evaluation of Economic Impact
The River Park at Canal Place Master Plan Improvements

Annual Tourism Estimate Worksheet - Whitewater Improvement Tourists
2020 Dollars

Users (1/)	Total
Primary Area	8,097
Secondary Area	9,634
Additional Regional Trips	30,012
TOTAL	47,743

Tourist Wages (2/)						
	No. of Users	Annual Hours	Total Hours	Average Hourly Wage	Average Annual Wage (3/)	Total Annual Wages
All	47,743	2,080	99,305,769	\$13.47	\$28,019	\$1,337,715,550
Subtotal	47,743		99,305,769			\$1,337,715,550
Total Weighted Average Wage Per Hour						\$13.47

Source Notes

1/ FTE indicates "full-time equivalent", working 2,080 hours annually

2/ Calculations of total wages associated with users

3/ Average wages of recreation users, based on per capita incomes for 60 mile radius around Cumberland



ECONOMIC IMPACT EVALUATION

Table 7
 Preliminary Evaluation of Economic Impact
 The River Park at Canal Place Master Plan Improvements

**Employment and Expenditure Impacts: Annual Operations (At Build-Out) - Tourism
 2020**

1. Estimated Annual Earnings Impacts - Permanent Employment

Factor	Total FTE (8/)	Average Earnings per User per Hr (1/)	Total Annual Earnings
Retail	5	\$13.47	\$140,095

2. Expenditure Impacts

Output Type	Total Annual Earnings	Disposable Earnings (2/)	Consumer Expenditures (3/)
Retail	\$140,095	\$124,544	\$116,325

3. Total Employment Impacts

Output Type	Total FTE Jobs	Employment Multiplier (4/)	Indirect Employment Impact	Total Employment Impact (5/)
Retail	5	2.610966667	8	13

4. Total Earnings Impacts

Output Type	Total Annual Earnings	Earnings Multiplier (6/)	Indirect Earnings Impact	Total Earnings Impact (7/)
Retail	\$140,095	2.125433333	\$157,668	\$297,763

Sources Notes

1/ Weighted average for all employees

2/ Disposable Income was 88.9% of Personal Income, Bureau of Economic Analysis

3/ Consumption Expenditures was 93.4% of Disposable Income, Bureau of Economic Analysis

4/ Employment Multiplier Estimates for Retail Trade Sector, RIMS II Model

5/ Direct, Indirect and Induced Employment

6/ Earnings Multiplier for Retail Trade Sector, RIMS II Model

7/ Direct, Indirect, and Induced Earnings

8/ FTE indicates "full-time equivalent", working 2080 hours annually



Sources: CEC, Bureau of Economic Analysis,
 Bureau of Labor Statistics

Table 8
Preliminary Evaluation of Economic Impact
The River Park at Canal Place Master Plan Improvements

Income Tax Receipts - Construction Period
2020

Inputs	State Personal Income Tax Rate	Local Tax Rate (2/)	
		Allegany County	Other Jurisdictions
Income Tax	4.75%	3.05%	3.05%

Period/Worker Category	BASELINE Estimated Number of FTE Jobs	Average Wage/Hour (3/)	Estimated Annual Wages Per FTE Job (4/)	Estimated Individual Taxable Income (5/)	Total Taxable Income	BASELINE Realized Personal Income Taxes (9/)
Construction Workers	83	\$26.09	\$54,257	\$54,257	\$4,489,013	\$130,922
A&E, legal, marketing and promotion (6/)					\$997,558	\$29,094
Total					\$5,486,571	\$160,016

Period/Worker Category	Total Taxable Income	BASELINE Realized Local EIT Taxes (7/)	
		Allegany County	Other Jurisdictions
Construction Workers	\$4,489,013	\$95,840	\$41,074
A&E, legal, marketing and promotion (8/)	\$997,558	\$761	\$761
Total	\$5,486,571	\$96,601	\$41,835

Sources Notes

1/ Earned income Tax (Piggyback) based on resident location

2/ Rates for Allegany County and Other Surrounding Counties

3/ See table on preliminary economic impact of construction

4/ Annual wages for a full-time job are estimated by multiplying average wage by 2080 hours

5/ Gross compensation is taxable. No standard deductions or personal exemptions permitted

6/ Labor income estimated at 1/3 of soft costs for A&E, legal, marketing and promotion, etc.

7/ Local EIT rates for 2020. Assumes 70% of workers live in Allegany County, 30 percent outside of the area.

8/ Assumed FTEs for A&E, legal, marketing and promotion (based on average salary of \$45,000 annually)

9/ Based on 3.07% State tax rate and assumes 95% of workers live in state

10/ Assumes all construction workers work is conducted in Allegany County and 5% of A&E, legal, marketing and promotion workers work in Allegany County



ECONOMIC IMPACT EVALUATION

Table 9
 Preliminary Evaluation of Economic Impact
 The River Park at Canal Place Master Plan Improvements

Direct Sales Tax Impacts: Construction Period
 2020

Inputs	Maryland Tax Rate
Sales & Use Tax Rate / Food and Beverage	6.00%

Construction Period	
	Direct Expenditures
Regional Material Purchases (1/)	\$4,563,829
Estimated Percent Made in State	95%
Estimated State Sales Tax Revenue	\$260,138
Total Estimated Sales Tax Revenue	\$260,138

Annual Operations (At Build Out)	
	Retail
Total Taxable Sales (2/)	\$1,028,212
Estimated Percent of Retail Goods/Services Not Tax Exempt (3/)	95%
Estimated Direct Sales Tax Revenue to State	\$58,608
TOTAL SALES TAX REVENUE	\$58,608

Source Notes

- 1/ Regional Purchases are taken, per national averages, to represent 30.5% of contract construction work
- 2/ Total Taxable Sales based on Sales per SF of comparable projects
- 3/ Major items exempt from Sales Tax include food (not ready-to-eat)



Sources: CEC, Maryland Department of Revenue

Table 10
Preliminary Evaluation of Economic Impact
The River Park at Canal Place Master Plan Improvements

Indirect Sales Tax Impacts: Construction Period (One Time Impact) (1/)
2020

Inputs	State Tax Rate
Sales & Use Tax Rate	6.00%

Work Related Impacts - Construction Workers	
Construction Workers (FTE)	83
Retail Expenditure Per Employee Per Year in State	\$2,500
Total Retail Sales in State	\$206,840
Estimated Percent of Retail Goods/Services <u>Not</u> Tax Exempt (2/)	85%
Total Estimated Indirect Sales Tax Revenue	\$10,549

Residential Related Impacts - Construction Workers	
Total Project Employees (FTE)	83
Total Consumption Expenditures	\$3,727,344
Percent State Residents	95%
Consumption Expenditures for State Residents	\$3,540,977
Percent Retail Expenditures in State	90%
Total Retail Sales in State	\$3,186,879
Estimated Percent of Retail Goods/Services <u>Not</u> Tax Exempt (2/)	85%
Estimated Indirect Sales Tax Revenue to State	\$162,531

Source Notes

1/ Indirect sales tax revenue to State is off-site sales tax revenues

generated as a result of purchases made by project occupants and employees in off-site locations

2/ Major items exempt from Sales Tax include food (not ready-to-eat), most wearing apparel, drugs, textbooks, sales for resale and residential heating fuels



ECONOMIC IMPACT EVALUATION

Table 11
Preliminary Evaluation of Economic Impact
The River Park at Canal Place Master Plan Improvements

Indirect Sales Tax Impacts: Annual Operations (At Build Out) (1/)
2020

Inputs	State Tax Rate
Sales & Use Tax Rate	6.00%
Tourists - Visit Related Expenditures (2/)	
Primary Area	34,009
Secondary Area	27,938
Additional Regional Trips	55,737
Total Trips	117,683
Retail Expenditure Per User Per Trip	\$44
Total Visit Retail Expenditures in State	\$5,178,063
Estimated Percent of Retail Goods/Services <u>Not</u> Tax Exempt (1/)	85%
Total Estimated Indirect Sales Tax Revenue	\$264,081
Visitor - Hotel Related Impacts	
Total Trips	117,683
Total Room Nights Generated	5,884
Average Room Rate	\$100
Total Gross Revenue	\$588,416.26
Hotel Tax Rate	8%
Total Estimated Hotel Tax Revenue	\$47,073

Source Notes

1/ Major items exempt from Sales Tax include food (not ready-to-eat), most wearing apparel, drugs, textbooks, sales for resale and residential heating fuels
2/ FTE - Full Time Equivalent working 2080 hours per year



Sources: CEC, Maryland Department of Revenue

ACKNOWLEDGMENTS

On behalf of the Passages of the Western Potomac Heritage Area, we would like to thank the Board Members, the legislatures and especially the public for their dedication and support during the feasibility study. Each working stakeholders working session and public input session was heavily attended and interactive.

Funding

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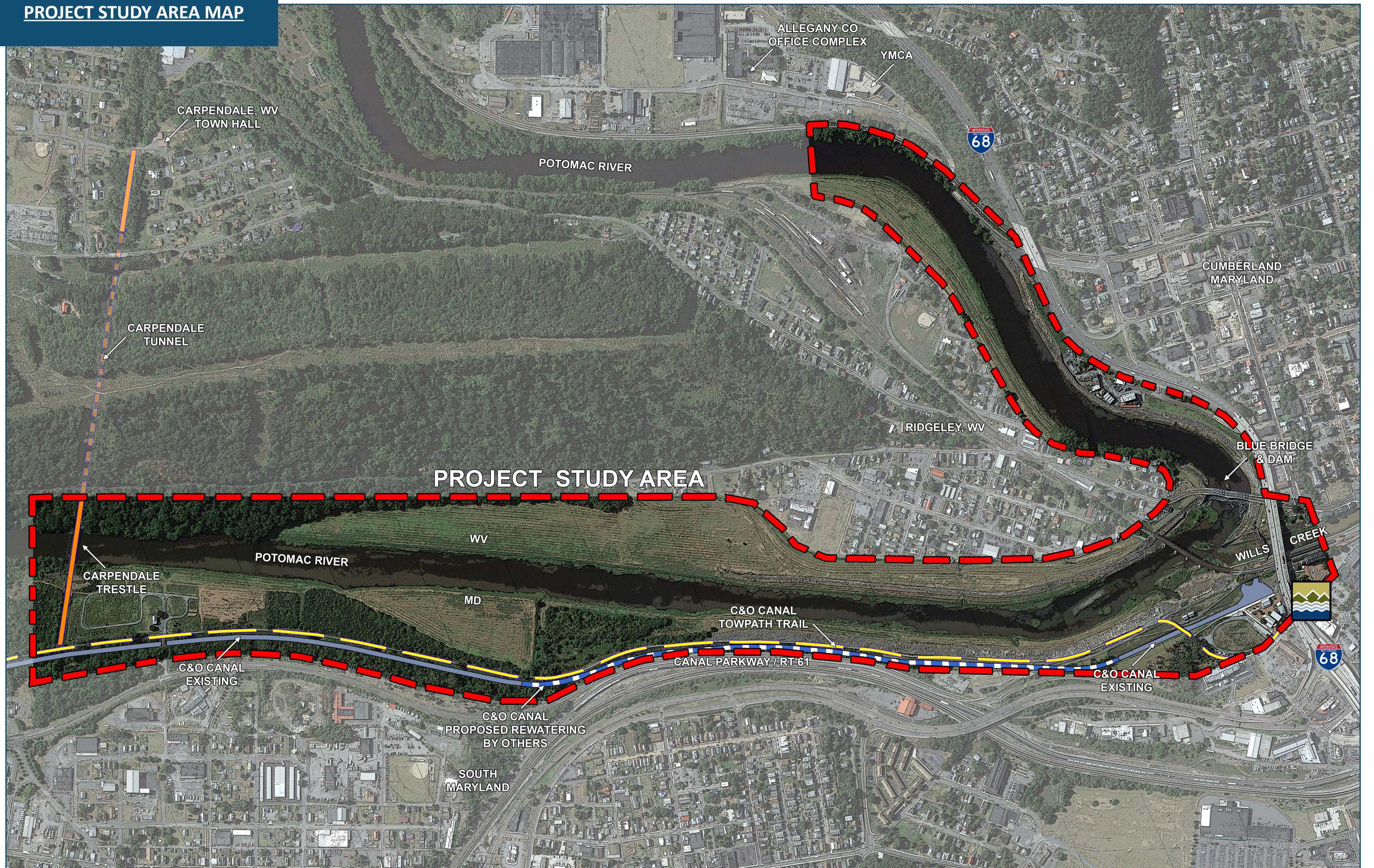
APPENDIX



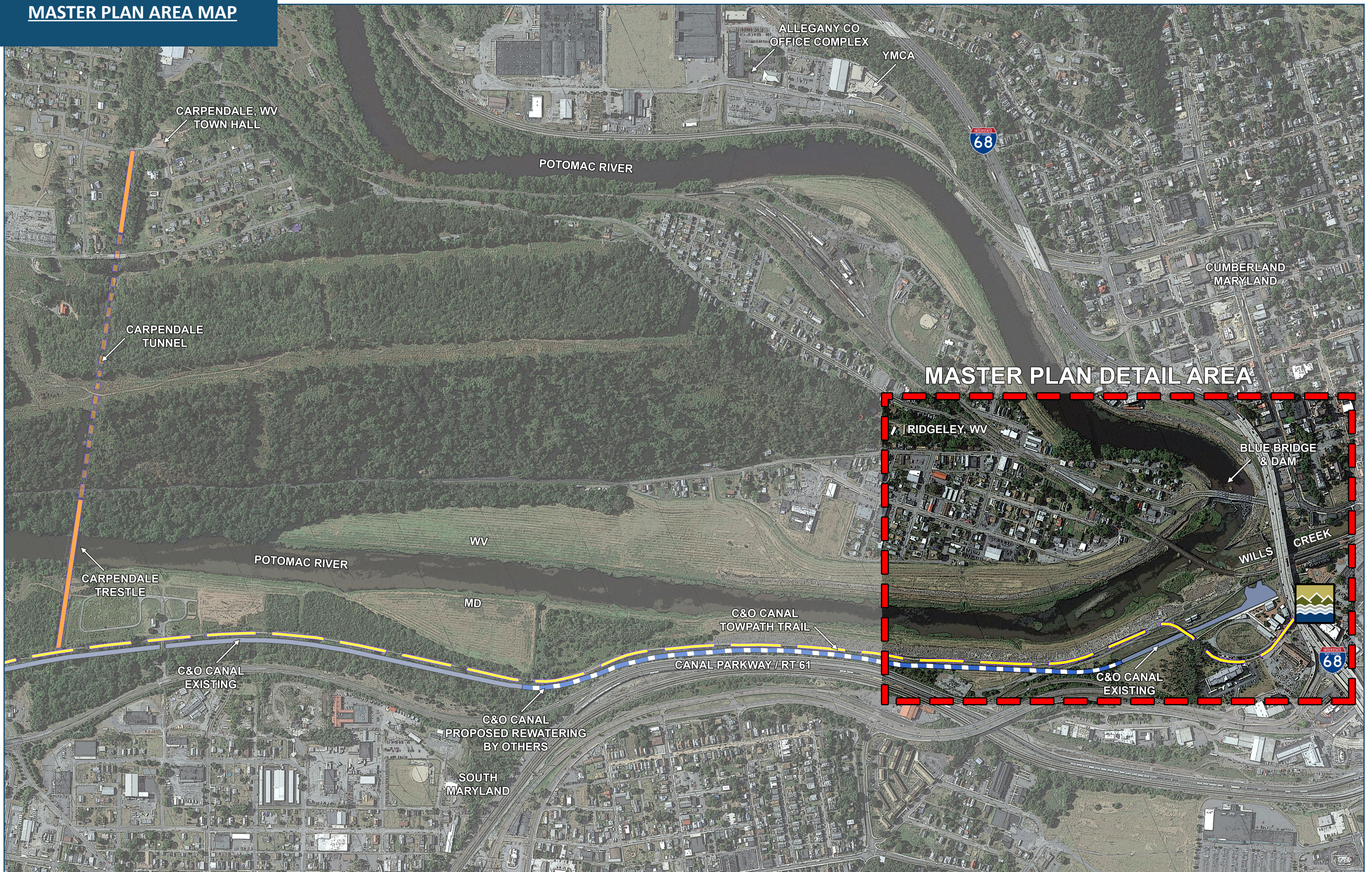
REGIONAL MAP



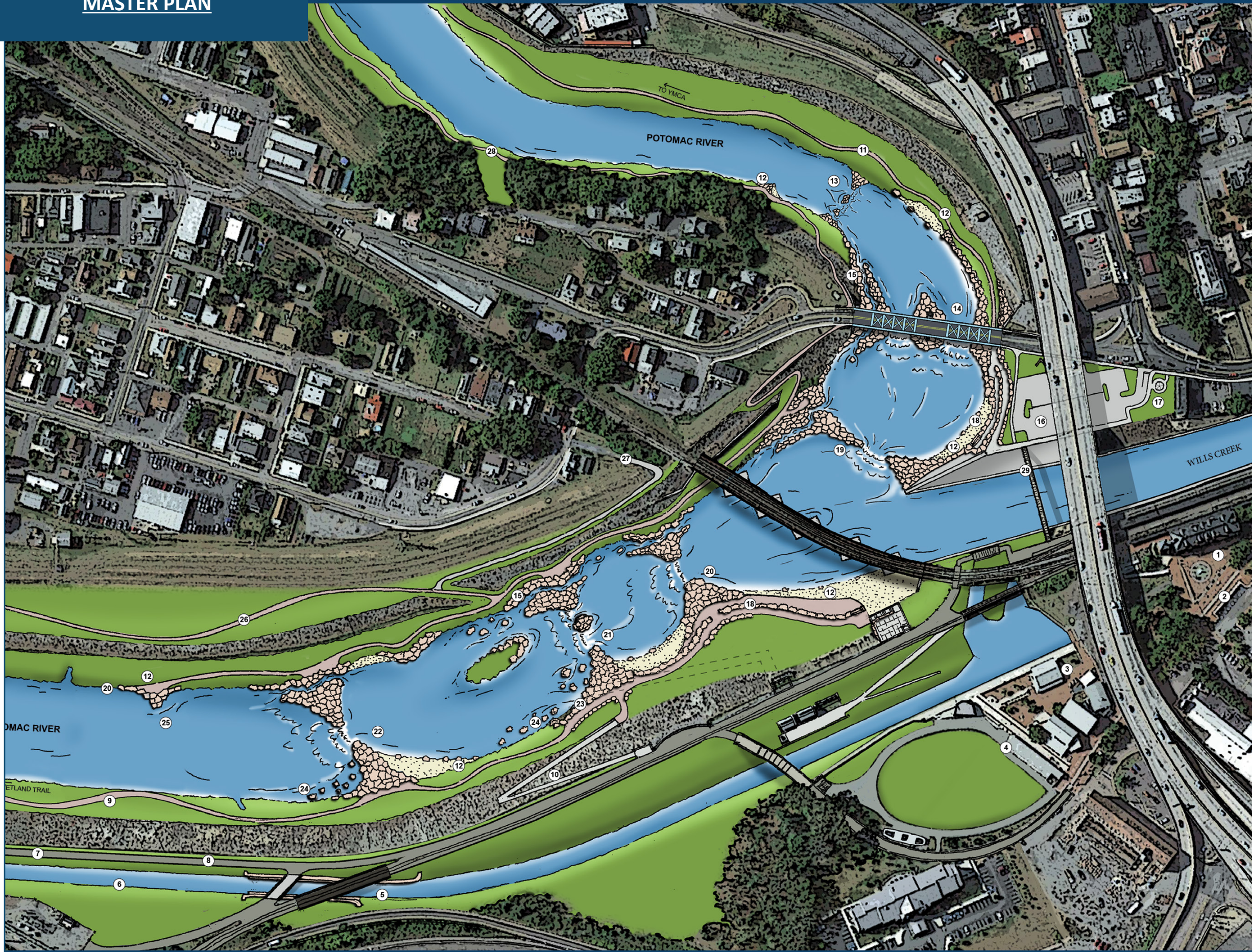
PROJECT STUDY AREA MAP



MASTER PLAN AREA MAP



MASTER PLAN



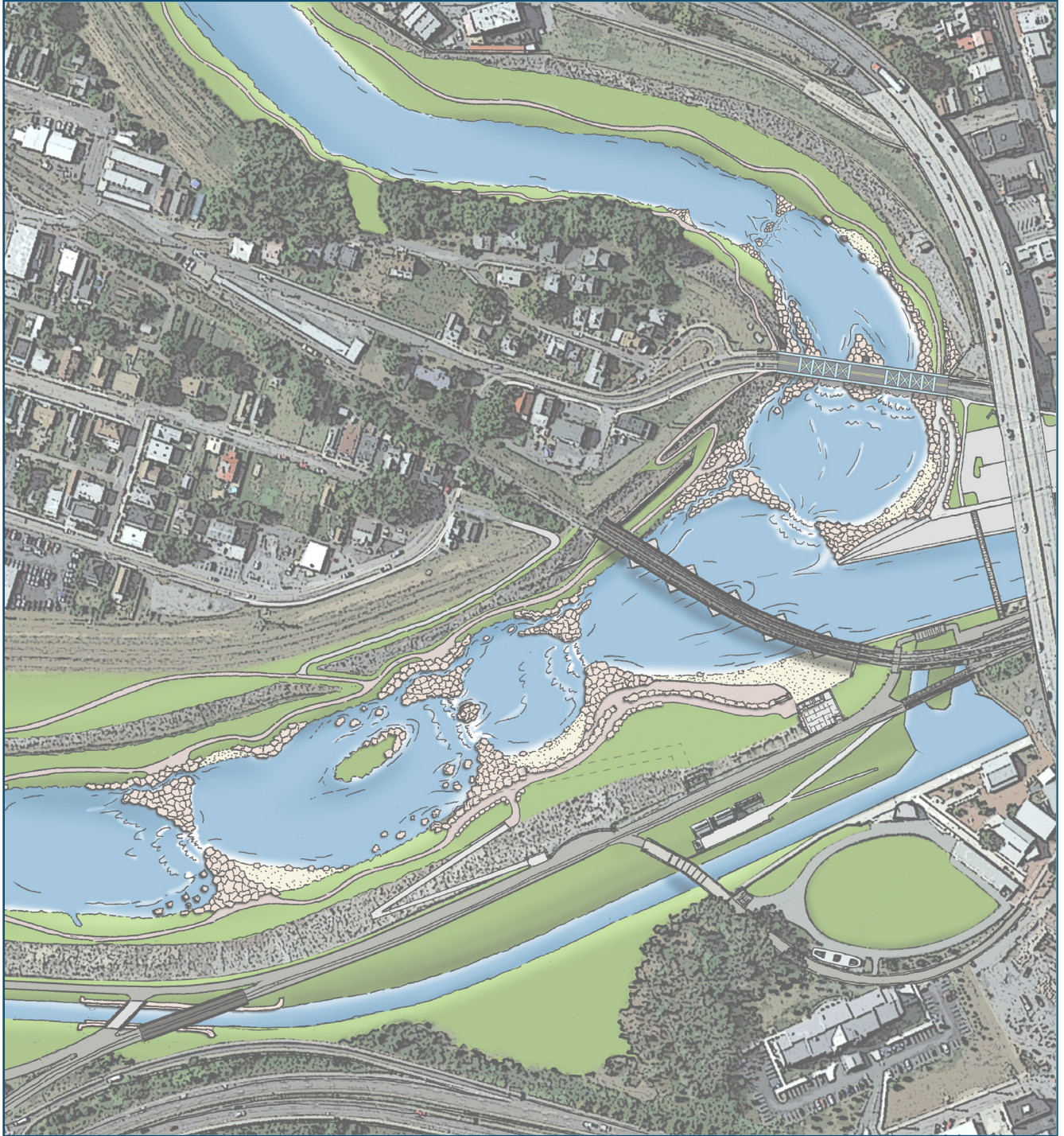
LEGEND

- 1 CANAL PLACE &
- W. MD. SCENIC RAILROAD
- 2 GREAT ALLEGHENY PASSAGE
- 3 NPS
- 4 FESTIVAL GROUNDS/SHOPS
- 5 PROPOSED FLOOD GATE/LOCK
- SEPARATE STUDY
- 6 RE-WATERED CANAL
- 7 LOWERED LEVEE
- SEPARATE PROJECT
- 8 C&O CANAL TOWPATH NP
- 9 MD RIVER TRAIL LOOP - 1.3 MILES
- 10 ADA RIVER ACCESS
- 11 YMCA CONNECTOR TRAIL WITH
- UNDERPASS AT BLUE BRIDGE
- 12 BOATER ACCESS
- 13 FEATURE #1 AND WATER INTAKE
- 14 FEATURE DROP #2
- DAM LOWERED 10-12'
- 15 FISH PASSAGE
- CONTINUOUS PASSAGE
- 16 PARKING
- UNDER I-68
- 17 WASHINGTON'S HEADQUARTERS &
- NATIONAL RD MARKER ZERO
- 18 NATURAL ROCK SEATING
- 19 FEATURE DROP #3
- 20 FEATURE DROP #4
- 21 FEATURE DROP #5
- 22 FEATURE DROP #6
- 23 CSO OUTLET
- 24 FISH HABITAT
- 25 DEFLECTOR
- 26 TRESTLE LOOP TRAIL - 3.5 MILES
- MARYLAND & WEST VIRGINIA
- 27 EMERGENCY VEHICLE ENTRANCE
- 28 FUTURE CARPENDALE, WV LOOP
- 29 EXISTING PEDESTRIAN BRIDGE
- OVER WILLS CREEK

NOTE: The master plan is in conceptual form and subject to change during final design and funding.

WETLAND TRAIL AREA MAP





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