SMALL TOWN GEM + TOURISM + WV CERTIFIED ARTS COMMUNITY + RECREATION + TREE CITY, USA + HISTORY + WV MAIN STREET

WATERFRONT STUDY

Data Gathering Report

Prepared For:

CITY OF ELKINS
WEST VIRGINIA
INCORPORATED IN 1890

Prepared By:

PICKERING ASSOCIATES
Architects • Engineers • Surveyors

APRIL 2021

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Introduction

In early 2015, the City of Elkins in association with the WVU Law, Land Use & Sustainable Development Law Clinic issued a Comprehensive Plan. The Comprehensive Plan was aimed toward five areas including: Public Safety, Transportation, Economic Development, Land Use, and Implementation. This effort was a wide-ranging effort to plan for the future of the City as a whole. According to the plan, the City created a Vision Statement which is shown below.

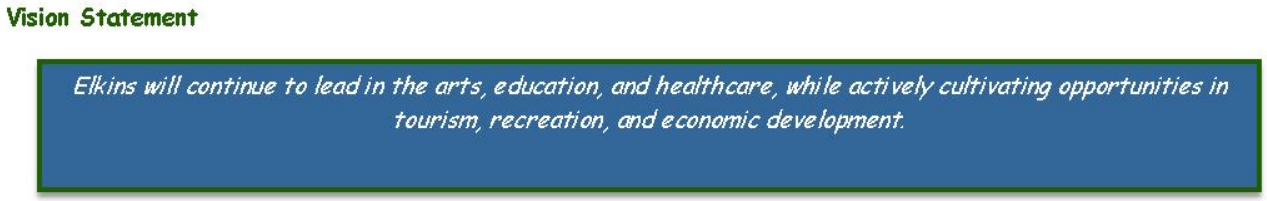

Figure 1: Vision Statement, City of Elkins Comprehensive Plan, Jan. 2015

The City of Elkins has approached Pickering Associates to assist with a Waterfront Study that will help to detail portions of the overall Comprehensive Plan in relation to access and utilization of one the City's great resource, namely the Tygart Valley River. The Tygart Valley River, a.k.a. the Tygart River flows through the heart of the City. The Tygart River is adjacent to the Monongahela National Forest and provides an abundance of opportunities for tourism and recreation though fishing, kayaking, canoeing, hiking, and enjoying the beauty of nature.

Development and utilization of the Tygart River is in alignment with the areas of Transportation, Economic Development, and Land Use as outlined in the City's Comprehensive Plan. This effort is also in harmony with the City's Vision Statement. In conjunction with the 2015 Comprehensive Plan, the City of Elkins worked with the Woodlands Development Group to create a Master Plan specifically targeted toward the riverfront in 2016. The plan was titled, "Master Plan: Riverfront Redevelopment – Elkins, West Virginia, Phase 1 – River Street Neighborhood and Adjacent Riverfront." This Master Plan covered topics such as socio-economic status/development and historical impact/preservation. This document is aimed at complementing the Master Plan while going to a more granular level on the physical development of the riverfront from an engineering and regulatory frame of reference.

This Waterfront Study will explain data gathered in an effort to understand the opportunities, restrictions, and existing conditions of the Tygart River frontage within the City. This study will be limited to the stretch of river from the flood control structure near River Bend Park to the Davis Avenue Bridge (See Appendix A for the Study Area Map). A summary of the gathered data will be provided at the end of this Study.

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History

The City of Elkins (incorporated 1890) has a rich and long heritage. Elkins started as a railroad town developed by Stephen Benton Elkins. He and fellow prominent West Virginian, Henry Gassaway Davis, were instrumental in founding Elkins as a railroad hub. The main rail lines emerged from Elkins in the four cardinal directions: North to Cumberland, Maryland, West to Belington, WV, South to Huttonsville, WV, and East to Durbin, WV. Elkins and the surrounding areas were rich in logging, leather tanning, and coal mining. The railroad system enabled these local resources to be transported to a large consumer base. The rail hub was the heart of the town and employed many of the residents in the early days. Over time, the use of the railway system also served as an opportunity for tourism for the City. Parks and other features were developed to draw visitors from around the state of West Virginia and beyond.

Over time, natural resources were reduced, and transportation demands waned. Throughout the middle of the 1900s, the rail hub in the heart of Elkins saw less and less use. By 1960, all passenger train operations had been cancelled and by the 1980s the rail hub was officially closed. A once great industry and tourism opportunity had phased out due to progress and time. The remnants of the railway system remain and call back to the deep history of the area.

Figure 2: City of Elkins Railway Station - Elkins Depot Welcome Center, Current Day

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Agriculture is another facet of the history of the City of Elkins and the surrounding areas. Large flat valleys, benefiting from fertile floodplains, have been exploited by farmers from the time before Elkins was a city. The Tygart River winds through the area flowing from South to North toward Morgantown, WV. The river is a tributary to the Monongahela River which eventually flows into the Ohio River at Pittsburgh, PA. The flooding of the Tygart River has proved a challenge to development. Eventually, a series of flood control projects were completed in the 1930s along the Tygart River to help alleviate the damaging effects of annual flooding. These projects were instrumental in developing most of the Tygart Valley. Elkins has benefited greatly from a combination of flood control structures that control the river elevations around the oxbow flowing through downtown.

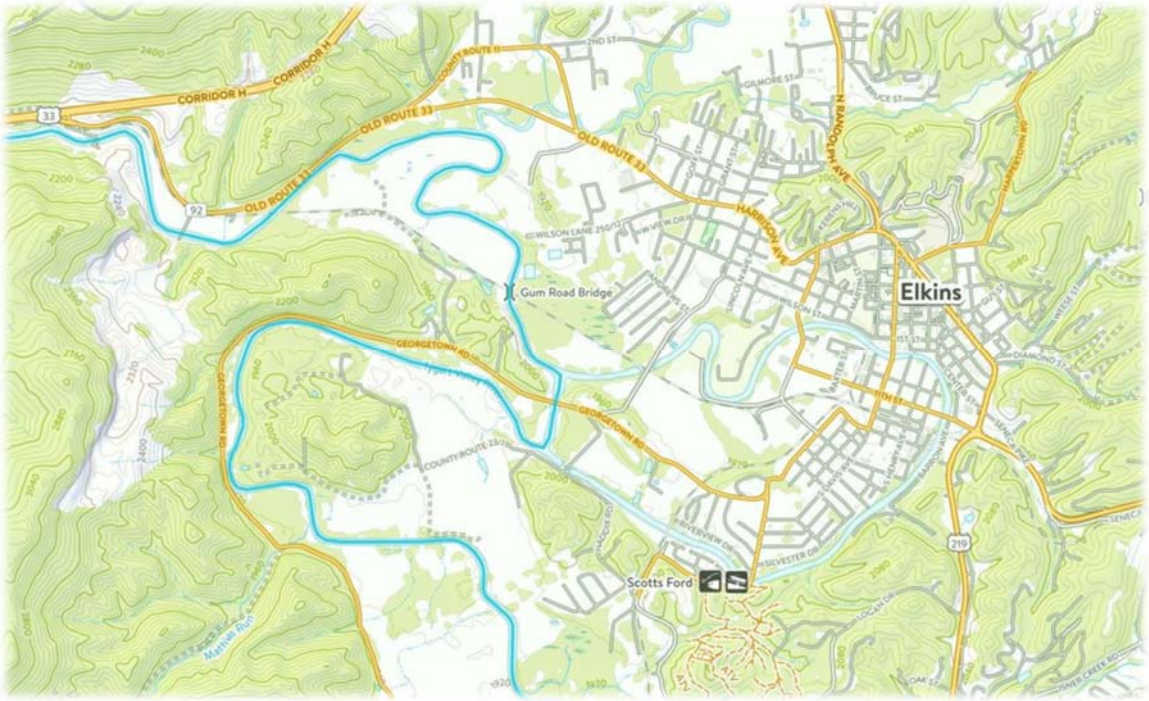

Figure 3: Tygart River Map - Flowing through downtown Elkins

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Current Conditions

The section of the Tygart River that flows through downtown Elkins from the upstream flood control levee structure to the downstream flood control levee structure will be considered for this study; however, the emphasis area is the Northern section of the oxbow. The flood control structures regulate the inflow and outflow of water. The structures also help to minimize flow velocities in this section of river, which in turn helps to minimize erosive forces. The river is subject to stagnation and low elevations during dry summer periods. The riverbanks are subject to erosion and riverbank sloughing and falling trees represent the majority of the debris found in the river.

The river is lined with a large portion of residential properties with some commercial and city properties interlaced. Several of the residential properties have developed river access points with docks. This portion of the river is frequently fished, and small boat traffic is allowed with motor restrictions. The river is also used for kayaking, canoeing, and paddle boarding.

The City of Elkins contains two city-owned and managed parks that reside near the oxbow and inside of the study limits: Glendale Park and River Bend Park. Glendale Park lies on the Northern side of the Tygart River. This park is the largest park in the city and has many amenities for the community, including: a nature trail, skateboard park, soccer fields, and a playground. Glendale Park is approximately 36 acres and is used year-round.

Figure 4: Glendale Park and River Bend Park Map

Separated by a short walk over a pedestrian bridge is River Bend Park. This park lies on the South side of the Tygart River and provides another large recreational space for Elkins. River Bend Park is approximately 22 acres and, like Glendale Park, provides numerous options for visitors. The park has three lighted Little League fields, a soccer field, volleyball courts, a nature trail, two pavilions, a playground, and several picnic areas.

These two parks act as existing assets along the Tygart Valley River and promote the idea of recreation near the river. It is this promotional recreation that is a goal of the City of Elkins and will be evaluated as part of this study.

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Outside of the previously mentioned park areas, the City of Elkins owns a few other properties along the Tygart River inside the study limits. These properties are mostly undeveloped and/or small acreage remnants. Opportunities are limited on these properties, but options such as connecting sidewalks, river overlooks, kayak/canoe dock locations are a possibility.

Overall, the riverbank area along downtown Elkins is fairly utilized but there still remains a large amount of potential that could be accessed through planning, communication, and outreach to the community.

Figure 5: Pedestrian Bridge between Glendale Park and River Bend Park

Regulatory Authority/Restrictions and Limitations

Any work related to rivers and riverbanks is subject to a variety of regulatory agencies. Several federal, state, and local authorities have jurisdiction over bodies of water to ensure safety, preserve waterway quality, and monitor compliance. The US Army Corps of Engineers (USACE) is responsible for bodies of water including oceans, rivers, lakes, streams, ponds, and wetlands. The more general term, often referred to, is any 'navigable water' . Additionally, these jurisdictional features are known as "waters of the United States." Any work in, over, or under these falls within the authority of the USACE by means of several different permits. Whether by means of Section 401/404 (Water Quality), Section 10 (Rivers and Harbors Act) or Nationwide permits, these endeavors are sometimes lengthy, but ultimately result in favorable use of these navigable streams to maximize benefit to society, while minimizing environmental and ecological impacts to waterways.

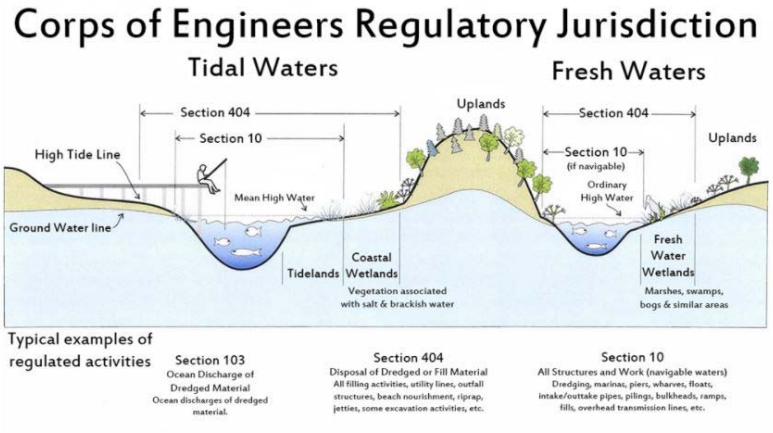

Figure 6: USACE Regulatory Jurisdiction Diagram

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Another agency that has similar jurisdiction to the United States Army Corps of Engineers is the US Fish and Wildlife Service (USFWS). The USFWS is a bureau within the Department of the Interior. The primary responsibility of USFWS is conservation and management of important natural resources including fish, wildlife and plants, and their habitats. The USFWS works to protect threatened and endangered species, enforce federal wildlife laws, and conserve wetlands as well as many other responsibilities. According to the Environmental Conservation Online System on the USFWS website, there are 14 different listed species believed to or known to occur in Randolph County, WV. The presence or even suspected presence of any of these threatened or endangered species within a project area can trigger several requirements, including wildlife studies and remediation measures.

Outside of ecological and environmental impacts, streambank and floodway projects can also affect the overall geometry of the river. If structures are put into place that will cause water to backup, there is the potential for upstream flooding. At times, if channel geometry and cross-sections are reduced in size, this may increase flow velocities and in turn scour potential. For this reason, development on or along rivers fall under floodplain regulations. The Federal Emergency Management Agency (FEMA) assists local agencies with creation and administration of floodplain regulations. FEMA is involved in many areas and became part of the newly formed US Department of Homeland Security in 2003. In relation specifically to flooding, FEMA manages the National Flood Insurance Program (NFIP). The NFIP was established by the National Flood Insurance Act of 1968. FEMA manages this program by providing risk mapping known as Flood Insurance Rate Maps (FIRMs) that show areas that are exposed to a 1% or greater risk of annual flooding (100-year flood). Generally speaking, under most floodplain regulations, all development in the floodway is prohibited while development within the 1% (100-year) floodplain require hydraulic studies to prove no significant rise to the floodplain.

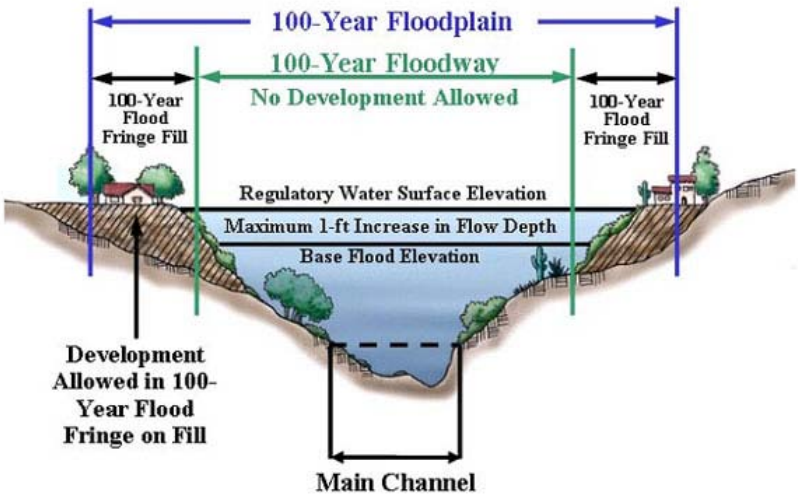

Figure 7: Floodway and Floodplain Diagram

Almost any construction project that is completed will disturb the natural land cover and could lead to erosion and transport of sediment. Because of this, construction stormwater is regulated by the US Environmental Protection Agency (EPA). The EPA administers Stormwater Construction and Industrial Programs through the National Pollutant Discharge Elimination System (NPDES). These programs help to effectively manage stormwater runoff. Benefits such as protection of wetlands, improved water quality, water resources conservation, protection of public health, and flood control, are the result of effective stormwater management.

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The WV Department of Environmental Protection (WVDEP) has jurisdiction over project construction stormwater in the State of West Virginia. The WVDEP issues General Construction Stormwater Permits which explain all requirements for projects to successfully comply with all NPDES regulations. Construction Stormwater permitting is prepared for each site with sites from 1 acre to 3 acres being covered by a Minor Construction permit (previously named a Notice of Intent) under the General Permit, while site larger than 3 acres are subject to a Site Registration (Major Construction). Engineers design projects with the appropriate Best Management Practices (BMPs) that are to be implemented by Contractors to reduce erosion, control sediment, and comply with the permit terms. Project sites are inspected by WVDEP inspectors periodically to check for compliance and denote any deficiencies.

Planning Approach

The approach for this study is mainly focused on data gathering and analysis from the lens of physical advantages and disadvantages of the existing area while balancing the restrictions and requirements of the authorities having jurisdiction. This study aims to expand on the waterfront portion of the 2015 City of Elkins Comprehensive Plan, while also complementing the information presented in the 2016 Woodlands Group Master Plan. This study was performed primarily as a desktop level review. The intention is for the next step to be the conceptual development of individual waterfront projects which will then proceed toward detailed design and ultimately construction.

Data was gathered from a variety of online locations. Geographic Information System (GIS) data was obtained from the following sources: WV GIS Technical Center, National Map 3D Elevation Program, FEMA National Flood Hazard Mapping, WV Sheriffs Association Map Service Imagery, and the Fish and Wildlife Services – National Wetlands Inventory.

Data Gathering

Inventory of Site Elements

According to the Fish and Wildlife Service National Wetlands Inventory, wetlands were found inside the study area (See Appendix B for the Study Area Streams & Wetlands Map). A larger freshwater emergent wetland lies near the center of Glendale Park adjacent to the parking area. A second smaller freshwater emergent wetland is north of the nature trail at the top side of Glendale Park. Three freshwater forested/shrub wetlands are located across from the northern point of River Bend Park, near the entrance to the wastewater treatment facility, and near the flood control structure. No streams other than the Tygart River were identified within the study area. From the mapping it appears that the only wetland that may affect development is the approximately 1.2-acre wetland near the center of Glendale Park. This area is currently not being used for any purposes and maintenance crews have stopped mowing this area dues to moisture. As a whole, wetlands should have little to no impact on any waterfront development.

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Property ownership within the study area limits was identified (See Appendix C for the City Owned Parcels within Study Area Map). Properties that are already owned by the city are an asset because they can be developed without any added land costs. The City of Elkins owns very little property within the study area that is not associated with the city parks. One of these parcels is part of the abandoned Hinkle Street off of Glendale Avenue near the entrance to Glendale Park. This property is approximately 60 feet wide by 340 feet long and 0.45 acres. The other property is on the North side of the Tygart River and is partly under the railroad bridge and to the West of the bridge along the riverbank. This property is approximately 650' long and covers the area between the river and Wilson Street and is 1.32 acres. The possibility of developing this property is very good for options such as a fishing pier. The city also owns property on the river along Haddix Road near the flood control structure. This property does not seem to provide much potential for development.

Vegetative Cover

Throughout the study area, the Tygart River is densely lined with trees. This is a normal state of most riverbanks and is helpful to reduce erosion and control water temperatures, proving beneficial for aquatic habitat. While the dense lining is beneficial in some respects, it can lead to some disadvantages for the city. Firstly, this eventually leads to trees falling into the river. From conversations with city officials, fallen trees contribute to most of the debris in this river section. Secondly, the dense lining of vegetation forms a boundary between the city and the river. Heavy tree cover will obstruct viewsheds and dense underbrush will inhibit access to the river for fishing and other activities that require riverbank access. Some solutions are preventative cutting of leaning and dying trees. Cutting these trees before they fall into the river helps reduce debris while also increasing river visibility. Also, underbrush clearing is beneficial. Another option is selective cutting of trees in sections of the river that are less susceptible to erosion, such as the inside of riverbends where the water velocity is slower. The south end of Glendale Park is a good example. This part of the park is in the inside of a large riverbend. This area is also already relatively clear and is an excellent location for waterfront development.

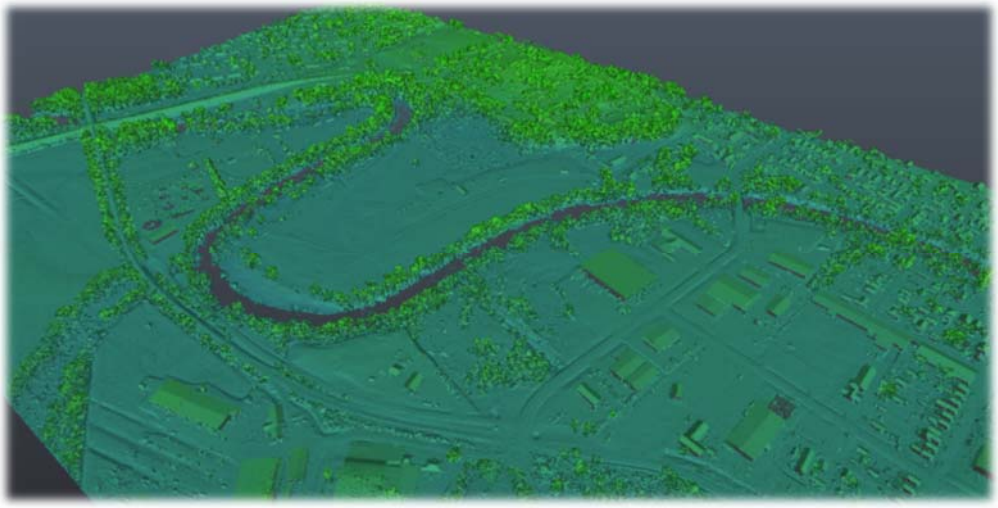

Figure 8: Tree Cover Imagery

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Water Table/Floodplain

As discussed previously, floodplain regulations can have a large impact on development. The floodplain was evaluated within the study area (See Appendix D for the Floodplain Extents within Project Area Map). From the Davis Avenue bridge to the Industrial Park Road bridge, the 100-year floodplain is mostly within the banks of the river. All of Glendale Park is in the 100-year floodplain. Inside the flood control structures, FEMA denotes the floodplain elevation to be approximately 1911' above mean sea level. This elevation is a good number to keep in mind for any future development. A large section of the middle of River Bend Park is in the 100-year floodplain. As such, any riverbank development will need to go through the local floodplain management office. There are options for riverbank features that minimally impact the floodplain and are designed to be easily cleaned after flood events.

Site Topography

Site topography can have a drastic effect on development. Earthwork can be expensive and expose unsuitable soils or interfere with underground utilities. If a project requires fill or cut, a soil borrow or waste site may be required if the earthwork is not balanced. When evaluating riverbank development, existing topography is critical for ease of construction, ADA access, and many other concerns. The existing site topography within the study area varies for different stretches of the river (See Appendix E for the Waterfront Study Topography Map). The riverbank slope is fairly steep (>3:1) for most of the study area. The steeper slopes will inhibit access to the river without cut and benching of the existing riverbank. Two area, namely the southern side of Glendale Park and a small section of riverbank on the west side of River Bend Park. These two areas are the most suitable for development within the study area, especially when considering pedestrian and vehicular access.

Existing Utilities

Water and sewer are the utilities that were evaluated for this study. Existing utility drawings were obtained from the City of Elkins. After reviewing the utilities, it appears as though the existing water and sewer lines will not interfere with any proposed riverbank development. According to the drawings, there are no existing water lines or sewer lines below Bishop Avenue in Glendale Park. There was very little information on existing utilities provided for River Bend Park. The only utility that followed the riverbank was a sewer line from Worth Avenue to the Glendale Lift Station near the entrance of Glendale Park.

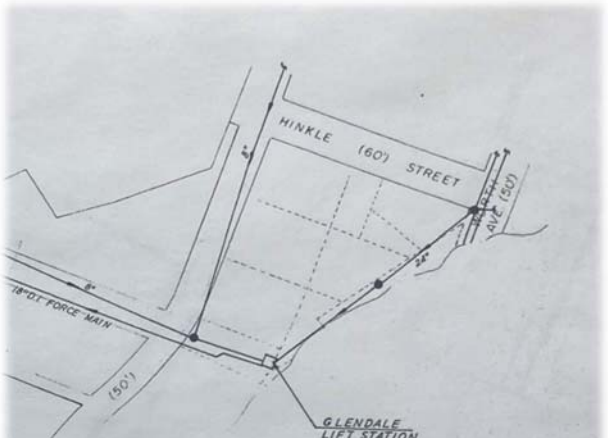

Figure 9: Glendale Lift Station

Auto/Pedestrian Traffic Flow Patterns

Another item to consider when evaluating a study area is connectivity. How easy is it to travel to/from points of interest whether pedestrian or vehicular travel. This study evaluated the site elements of walking paths, sidewalks, roadways,

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etc., from downtown Elkins to the main attractions in the study area, namely Glendale Park and Riverbend Park (See Appendix F for the Waterfront Study Site Elements Map). When looking at the existing sidewalks, there is a fairly good connectivity from downtown to the parks along Wilson Street to Glendale Avenue. One recommendation would be to construct sidewalk on Worth Avenue from Carl Lane to Wilson Street. This would connect the neighborhood to the north more directly to the waterfront and parks. The sidewalk infrastructure on the south side of the river within the study area is extremely limited. This likely inhibits pedestrian traffic from south of the study area to the waterfront and parks. There is also a large section of commercial and industrial properties that lie adjacent to the south side of the river. There may not be a large need to increase access for pedestrian traffic from the south.

Traffic counts are shown in a few areas along Wilson Street, Davis Avenue, and Sycamore Street. The counts show that a good portion of the downtown traffic flows down Davis Avenue. The traffic on Wilson Street is approximately a third of the volume on Davis Avenue. All of these numbers are dwarfed by the traffic counts on US 33/219/250 which bypasses downtown Elkins, which around between 16,000 and 19,000 ADT. This is normal for cities and towns that have downtown bypasses. One takeaway from the traffic count analysis is that while wayfinding signage in the downtown area will help to promote traffic flow to the waterfront and parks; however, there will be even more impact by placing wayfinding signage along US 33/219/250.

Area Demographics

Randolph County ranks 19th in most populated WV counties, but as most other counties has seen a population reduction of around 3% in the last 10 years. This population drop is in line with the state as a whole. The City of Elkins follows the same pattern as the county and state with a reduction of 3.5% over the same time period. While this is somewhat alarming, Elkins remains as a top 25 population city in West Virginia out of over 400 cities. As identified by the Woodlands Development Group Master Plan, the City of Elkins does lag behind Randolph County and the state of West Virginia average in many economic categories such as poverty rate, median household income, and owners vs. renters percentage.

Parks and recreational development provide great benefits to citizens who live nearby and increase tourism. Homebuyers prefer homes close to parks and open spaces. According to research, property values can be estimated at around 5% higher if they are within 500 feet of a park. Parks can host many activities including festival, concerts, sporting events, etc. Parks also provide low or no-cost recreation for patrons and encourage exercise. Development of the waterfront in or near parks will only increase access and usage of these facilities which in turn is a direct aid to the welfare of the surrounding community.

Tourism Trends/Statistics

Tourism is a huge business in West Virginia. The state boasts many natural resources and tourist attractions that bring in millions of visitors each year. According to the West Virginia Tourism Office 2020 Annual Report, the state saw over 65 million visitors last year with an overall visitor satisfaction rating of 74%. State parks have seen increases in revenues of over 18.5% over the past 2 years. All of these positive trends were upended by the Covid-19 shutdowns in the middle of 2020. West Virginia suffered an initial 65% decrease in tourism according to the Elkins-Randolph County Tourism

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2020 Annual Report. While it is hard to foresee the future, if the state and country can continue to climb out of the economic downturn and restrictions, tourism could get back to pre-Covid upward trends. Many states and municipalities are opening up their economies and with the financial benefits of the recent recovery packages passed by the federal government should help individuals and families to again schedule recreational trips and vacations.

Summary

The City of Elkins has strategic goals set for the future with regard to development and revitalization. These goals are targeted at improving the quality of the life for the residents of the city. Today, many cities are also rediscovering the value of their natural resources, such as lakes and rivers. These waterfronts represent environmental, aesthetic, and economic opportunities and can help to preserve the culture and history of the city's past.

The Tygart River flowing through the heart of downtown Elkins provides great opportunities. While the study area is the main focus of this study, two focus areas stood out as integral to the waterfront development of the city. One is the Scott's Ford Fishing Pier. This is the only ADA accessible access point to the portion of the Tygart River inside the flood control structures. The facility is also owned and operated by the WVDNR, which eliminates any yearly maintenance costs to the city. The second focus area is the new location of the Big Timber Brewing Company. The building is located on the North side of the Tygart River on the East side of the Davis Avenue bridge. The new location is right on the riverbank and Big Timber Brewing is also constructing a beer garden patio between the building and the river. This business, and others like it located along the river, provide destination points for boaters and kayakers alike. It is recommended that the city reach out to Big Timber Brewing and find out if there are plans for any direct access to the river such as a dock which would enable visitors to stop at the dock and walk up to the business.

Figure 10: Example Fishing Pier

The study area was evaluated for the best possible locations for waterfront development. Specific riverbank areas have been identified as options for future projects. The following areas are detailed with conceptual site options for waterfront development. These options could be developed as separate projects or a multi-location single project.

The first area that was identified was the city owned property along Wilson Street just West of the railroad bridge. This area could be utilized for additional city parking and a fishing pier. In the conceptual plan that was prepared a fishing pier is shown with ADA access and picnic tables and park benches. The site is located near the existing swinging bridge that has been decommissioned. An opportunity at

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this location would be to demolish and remove the swinging bridge and provide a commemorative plaque for the swinging bridge on the new fishing pier. Additional city parking could be used for the fishing pier and for city events such as festivals, etc. One last recommendation at this location would be having a mural painted on the railroad bridge abutment. This could represent historical aspects of Elkins or a picture related to the Tygart River.

Figure 11: Wilson Street Fishing Pier Conceptual Layout

The second area for development is the Southern portion of Glendale Park. The fact that this area is relatively flatter with a gentle slope to the river. With the path being mostly clear, it would take little effort to prepare the site for construction. Many communities are building amphitheaters along their waterfronts that offer low-impact development and take advantage of the slope of the land. These amphitheaters are generally constructed of flood resistant materials that are easily cleaned after flooding events. Amphitheaters provide a stage for band concerts, plays and productions, pageants, and many other community events.

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Figure 12: Amphitheater Example

Figure 13: Amphitheater Sketch

In addition to an amphitheater, additional parking and a new walking/biking path closer to the riverbank with park benches and picnic tables are proposed. The additional parking would be beneficial for events at the amphitheater but also help to accommodate sporting events that are already taking place at the park.

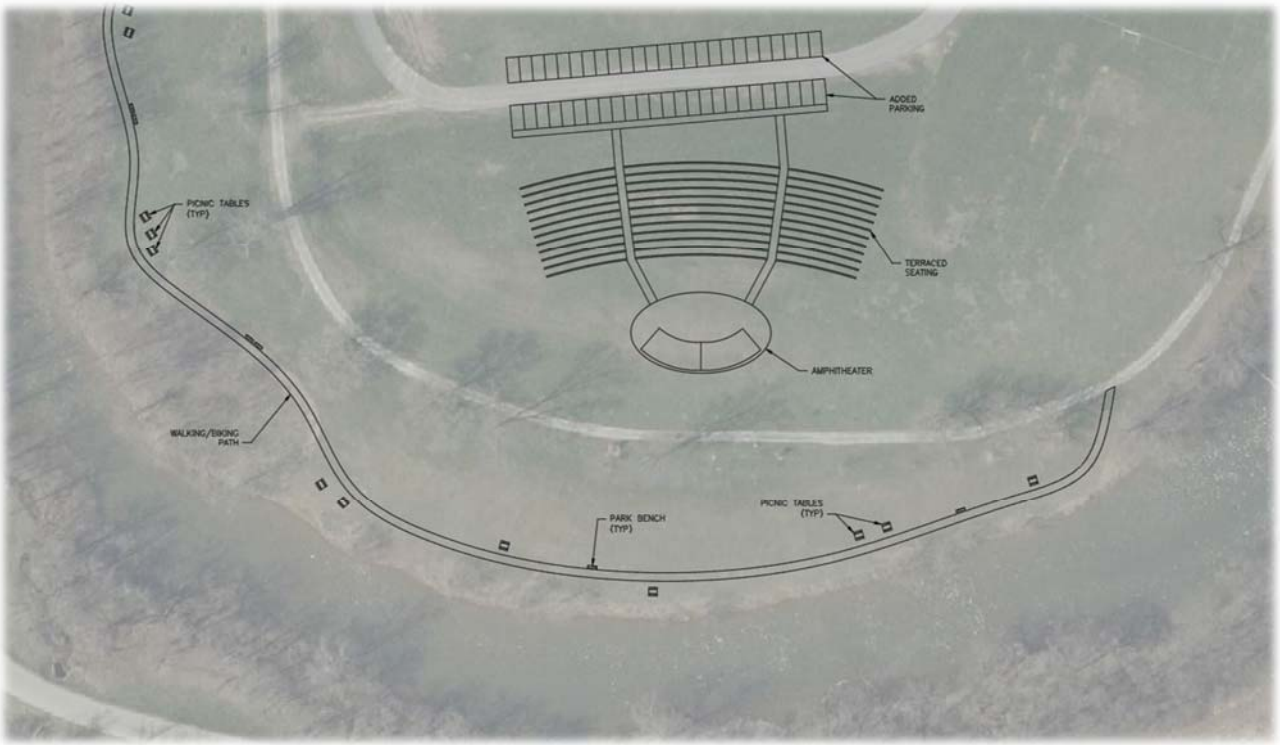

Figure 14: Glendale Park Amphitheater Conceptual Layout

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The third and fourth development areas are both optional locations for new low-profile canoe/kayak docks on the West side of Glendale Park or on the West side of River Bend Park. The idea would be to give another access to the Tygart River in addition to the Scott's Ford Fishing Pier. This would also allow for approximately 3-mile canoe and kayak trips from the city parks to the Scott's Ford Fishing Pier and vice versa. Kayakers could be dropped off on one side and have a nice paddle down the Tygart River and then picked up at the other dock. Another opportunity would be the city hosting events that start at the Scott's Ford Fishing Pier and end at Glendale Park. There could also be intermediate stops at riverside businesses like Big Timber Brewing Company. Cities use events to highlight their local waterways. The City of Marietta host its annual Rivers Trails and Ales Festival, which includes a paddle down the Muskingum River that culminates in downtown Marietta where vendors provide snacks and beverages for the patrons and river-related events are held.

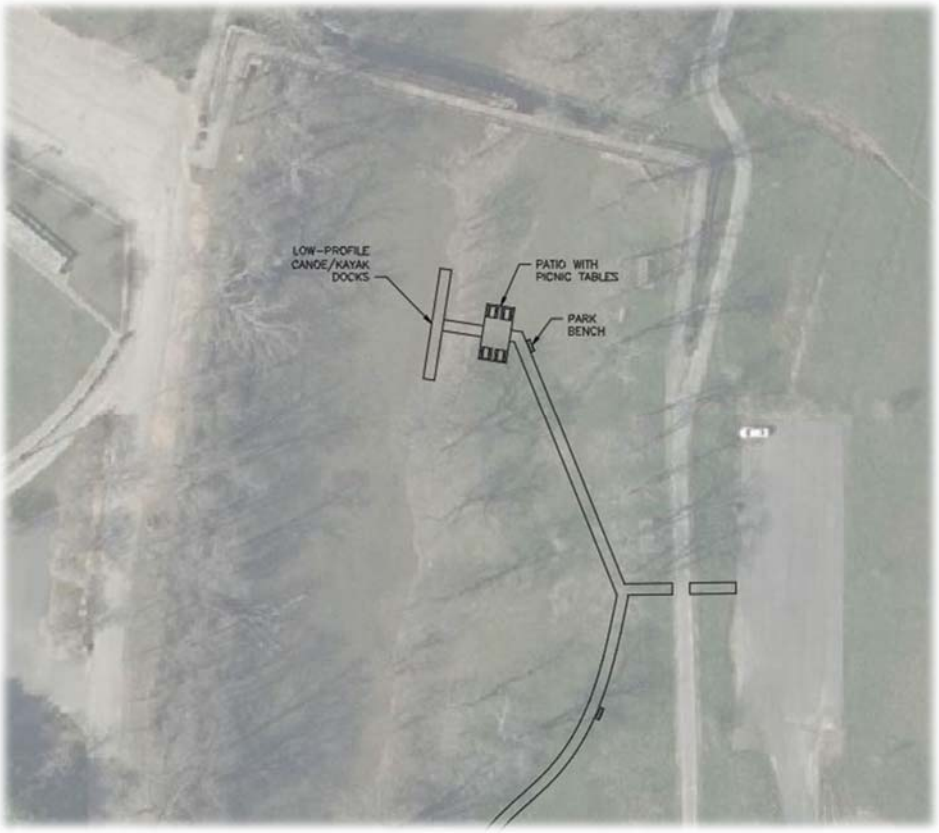

Figure 15: Glendale Park Kayak Dock Conceptual Layout

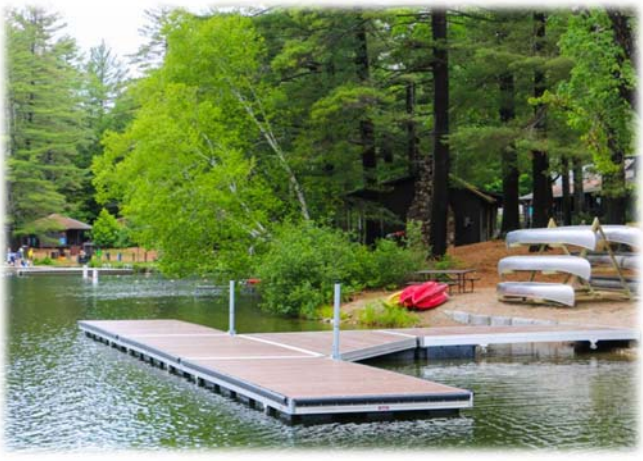

Figure 16: Example Low-Profile Kayak Dock

Docks can be constructed on piling or steel posts to allow the dock to float up and down with changing water elevations. The docks can also be removed seasonally or in the case of imminent flood events. The docks can be fitted with many accessories such as canoe and kayak racks and ADA accessible ramps. In addition to the docks, picnic patios are shown near the proposed docks along with an access path. Adjacency to parking will be important for any new dock construction for loading and unloading.

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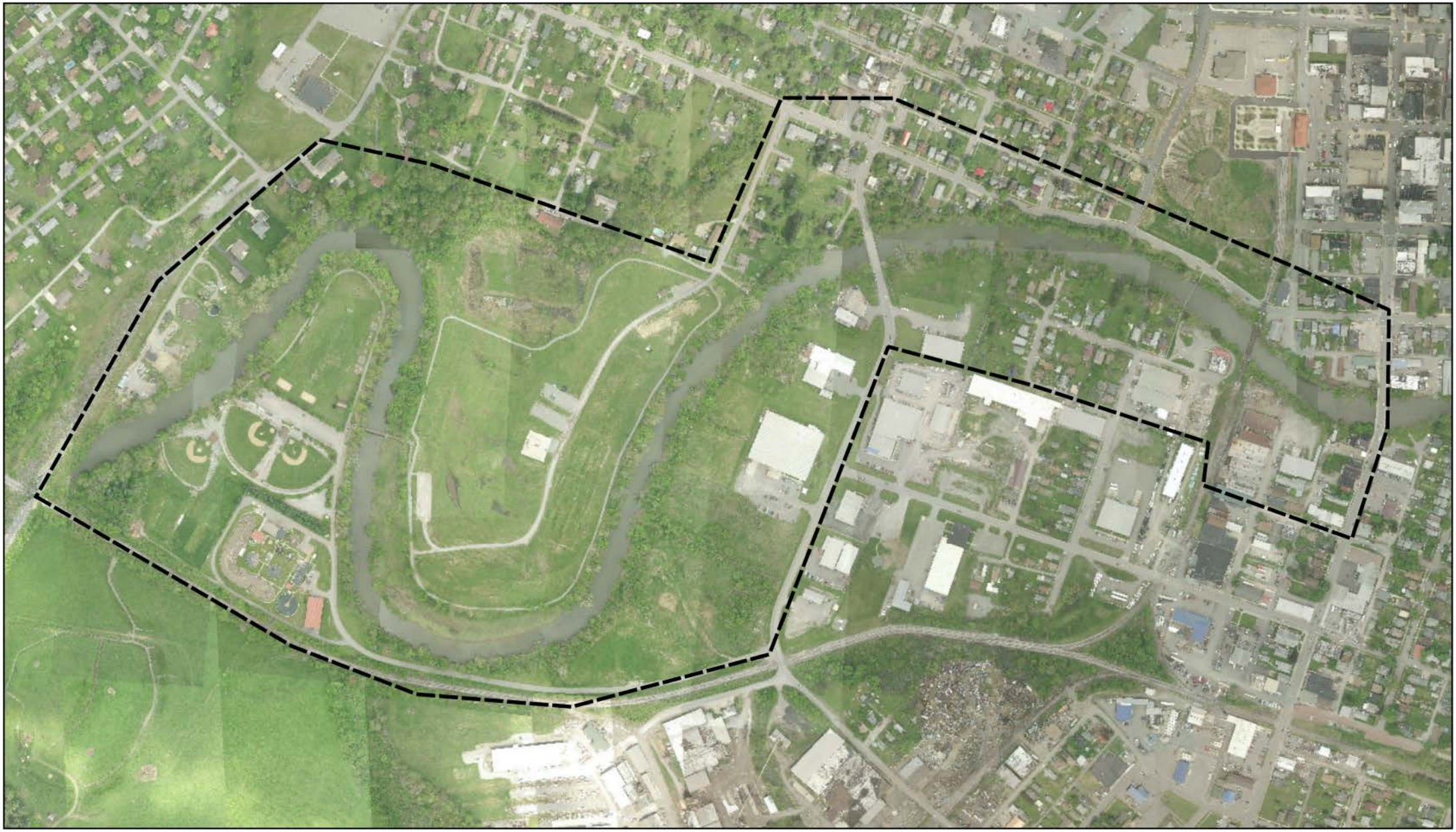
Figure 17: River Bend Park Kayak Dock Conceptual Layout

In conclusion, the City of Elkins has some great opportunities for waterfront development. Some of the options provided are smaller and more economical while others are a little more complicated and costly. It should also be noted that there may be other options or ideas not represented in this study that could prove feasible for future projects. There are also other opportunities for adding landscaping throughout the study area that have not been addressed. Any development that is planned should be also considered for landscaping improvements.

Pickering Associates is thankful for this opportunity to work with the City of Elkins. We look forward to working with you on developing these ideas into projects. If there are any questions about the study, please contact Pickering Associates for further discussion.



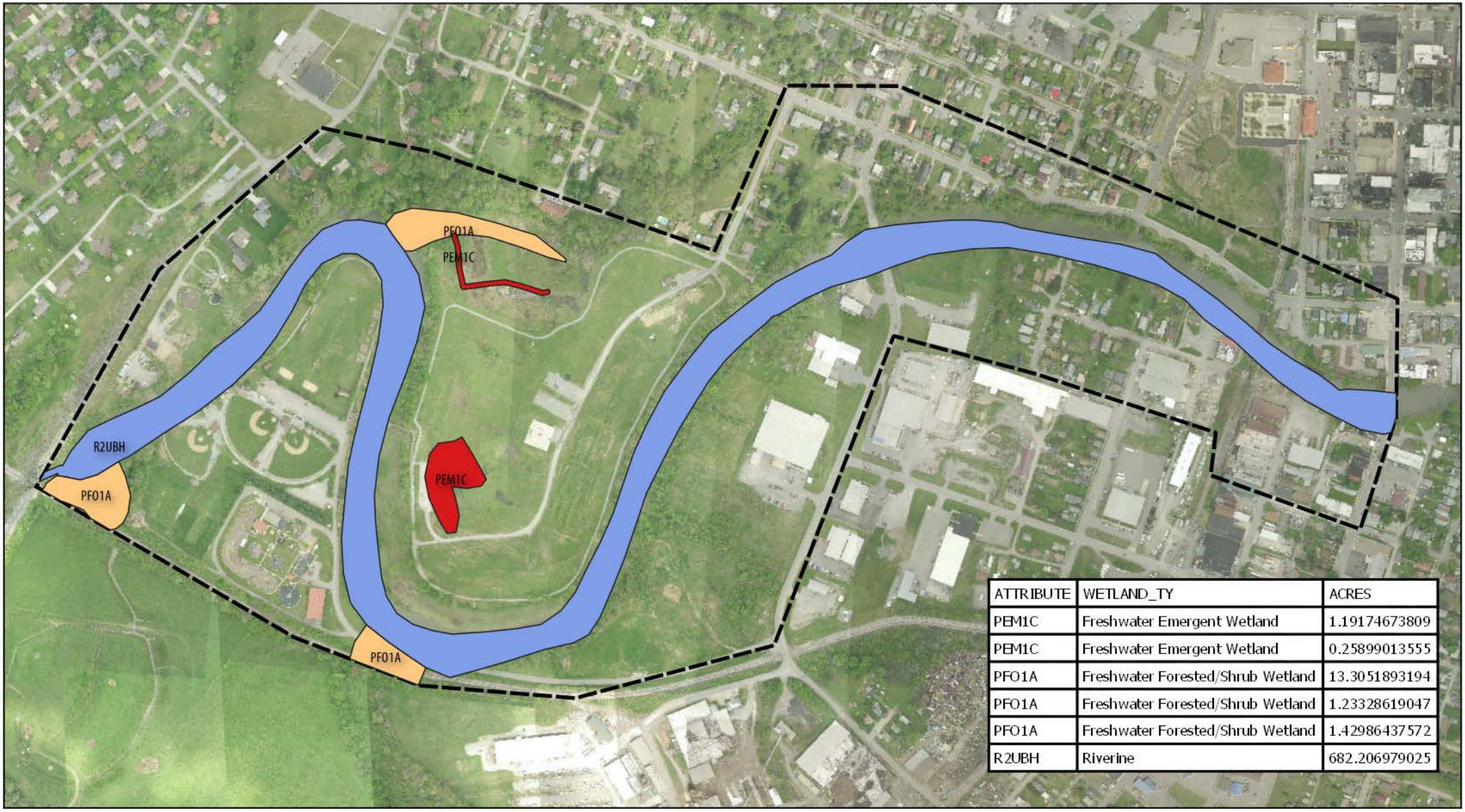
Waterfront Study Area

0 500 1000 ft

Reference:
WV Sheriffs Association Map Service Imagery,
Shared Licensing by Pictometry International Corporation & the state of West Virginia

Legend

Study Limits



ATTRIBUTE	WETLAND_TY	ACRES
PEM1C	Freshwater Emergent Wetland	1.19174673809
PEM1C	Freshwater Emergent Wetland	0.25899013555
PFO1A	Freshwater Forested/Shrub Wetland	13.3051893194
PFO1A	Freshwater Forested/Shrub Wetland	1.23328619047
PFO1A	Freshwater Forested/Shrub Wetland	1.42986437572
R2UBH	Riverine	682.206979025

Study Area Streams & Wetlands

0 500 1000 ft

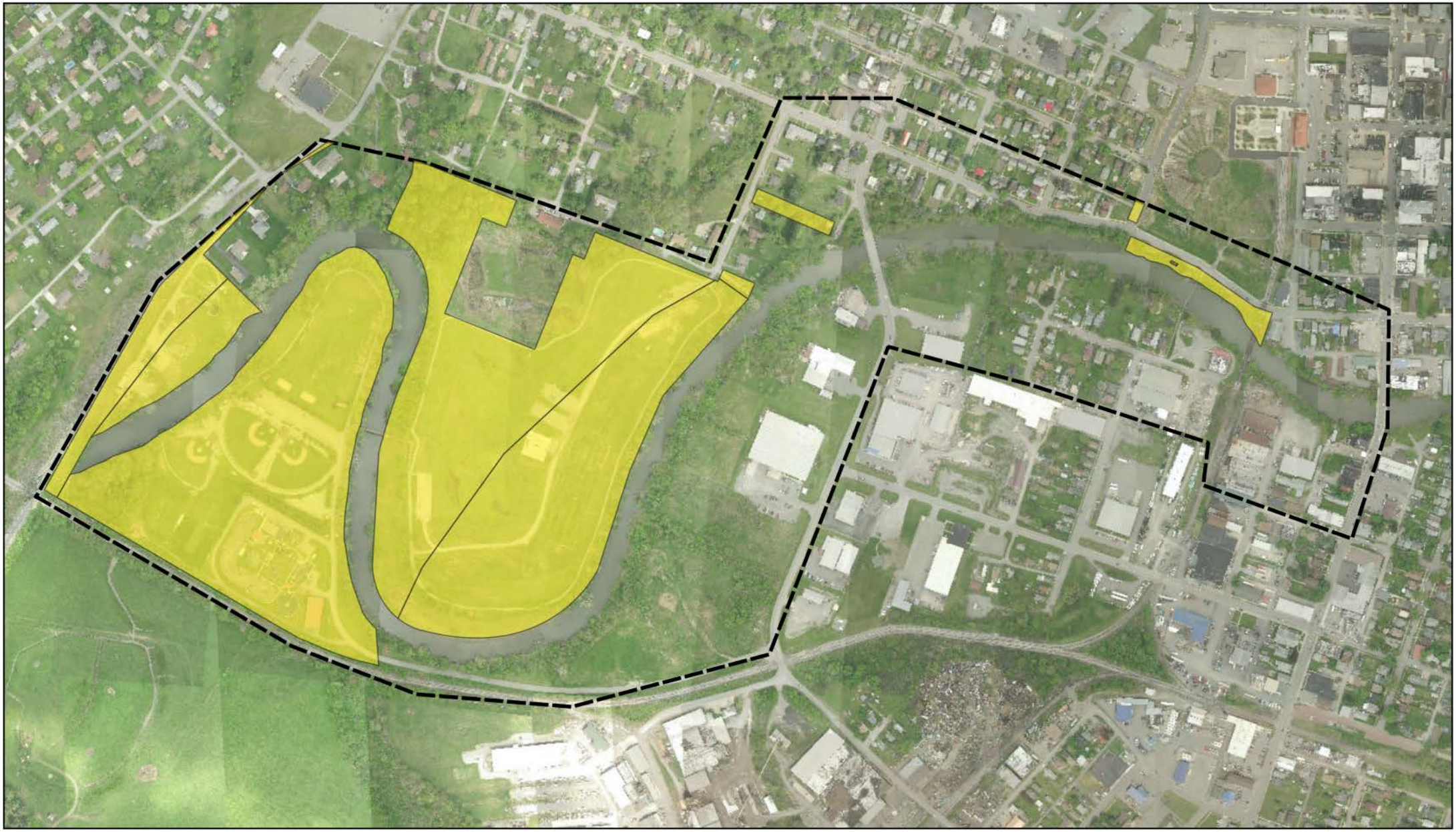
Reference:
WV Sheriffs Association Map Service Imagery,
Shared Licensing by Pictometry International Corporation & the state of West Virginia
Fish and Wildlife Service: National Wetlands Inventory

Legend

Study Limits

Streams/Wetlands

- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Riverine



City Owned Parcels within Study Area

0 500 1000 ft

Legend

City Parcels

Study Limits

Reference:
http://data.wvgis.wvu.edu/pub/Clearinghouse/planningLanduseCadastres/parcels/WVGISTC_2020/CountySplits/

Floodplain Extents within Project Area

0 500 1000 ft

Reference:
FEMA Flood Map Service Center

Legend

Floodplain Zone
AE
X
Study Limits

Waterfront Study Topography

0 500 1000 ft

Reference:
National Map Data Download

Legend

- Study Limits
- Major Contour
- Minor Contour

Waterfront Study Site Elements Map

0 500 1000 ft

Reference:
WV Sheriffs Association Map Service Imagery,
Shared Licensing by Pictometry International Corporation & the state of West Virginia
West Virginia GIS Technical Center

Legend

- Walking Path
- WVDOT Traffic Count (2019)
- NRHP Point of Interest
- NRHP Boundary
- Parking Areas
- Sidewalks
- Study Limits