



Welcome to the Lehigh Riverfront...
 A new center for Heritage, Recreation,
 Living & Innovation in the Lehigh Valley

THE LEHIGH RIVERFRONT MASTER PLAN

ALLENTOWN , PENNSYLVANIA

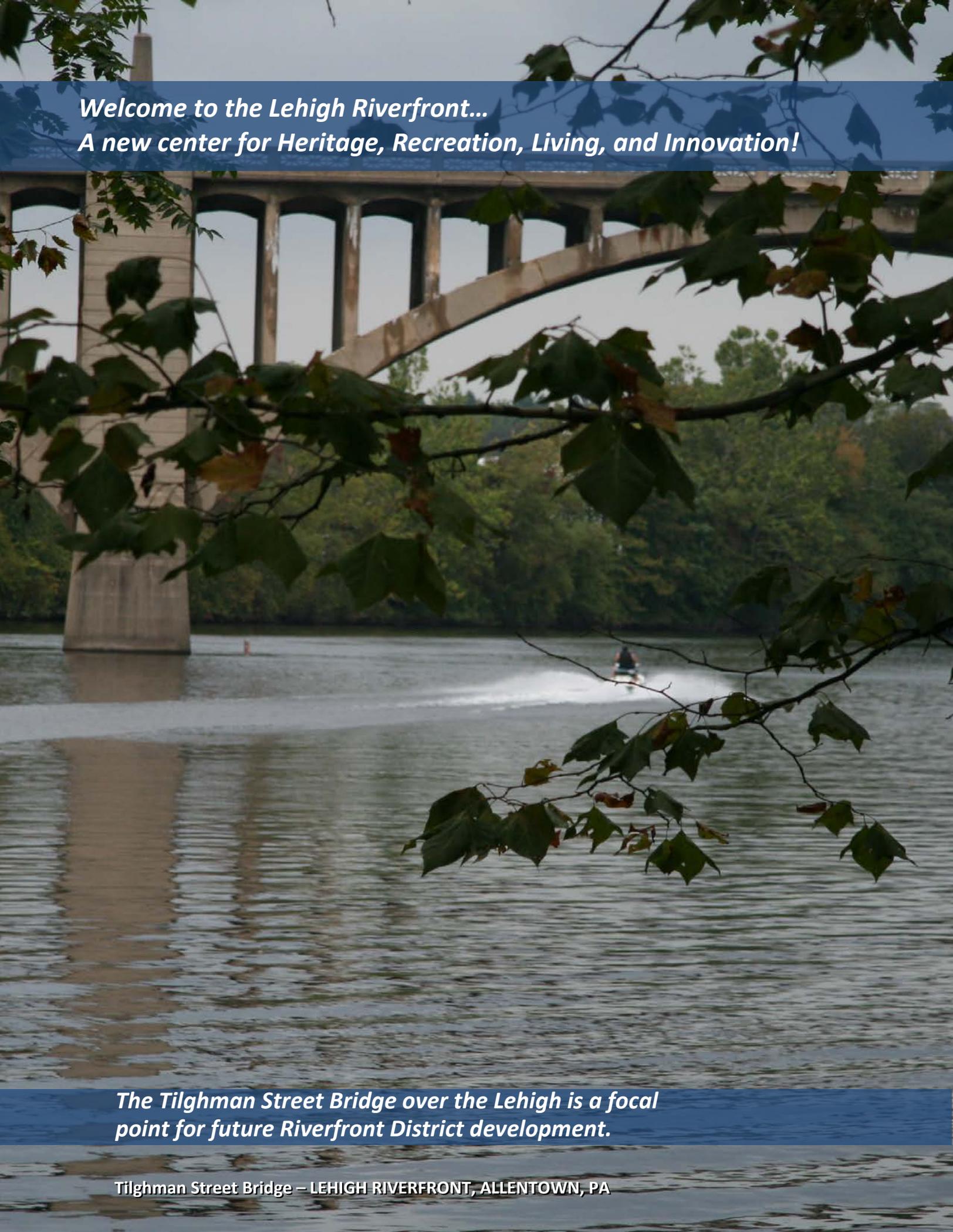


Prepared for:
The City of Allentown



Prepared by:
EDSA, Inc. in collaboration with:
 Olszak Management Consulting, Inc.
 Delta Development Group, Inc.
 Gannett Fleming, Inc.
 Tim Haahs & Associates, Inc.
 SSM Group, Inc.
 Stromberg/Garrigan & Associates, Inc.

August 2012



*Welcome to the Lehigh Riverfront...
A new center for Heritage, Recreation, Living, and Innovation!*

The Tilghman Street Bridge over the Lehigh is a focal point for future Riverfront District development.

Tilghman Street Bridge – LEHIGH RIVERFRONT, ALLENTOWN, PA

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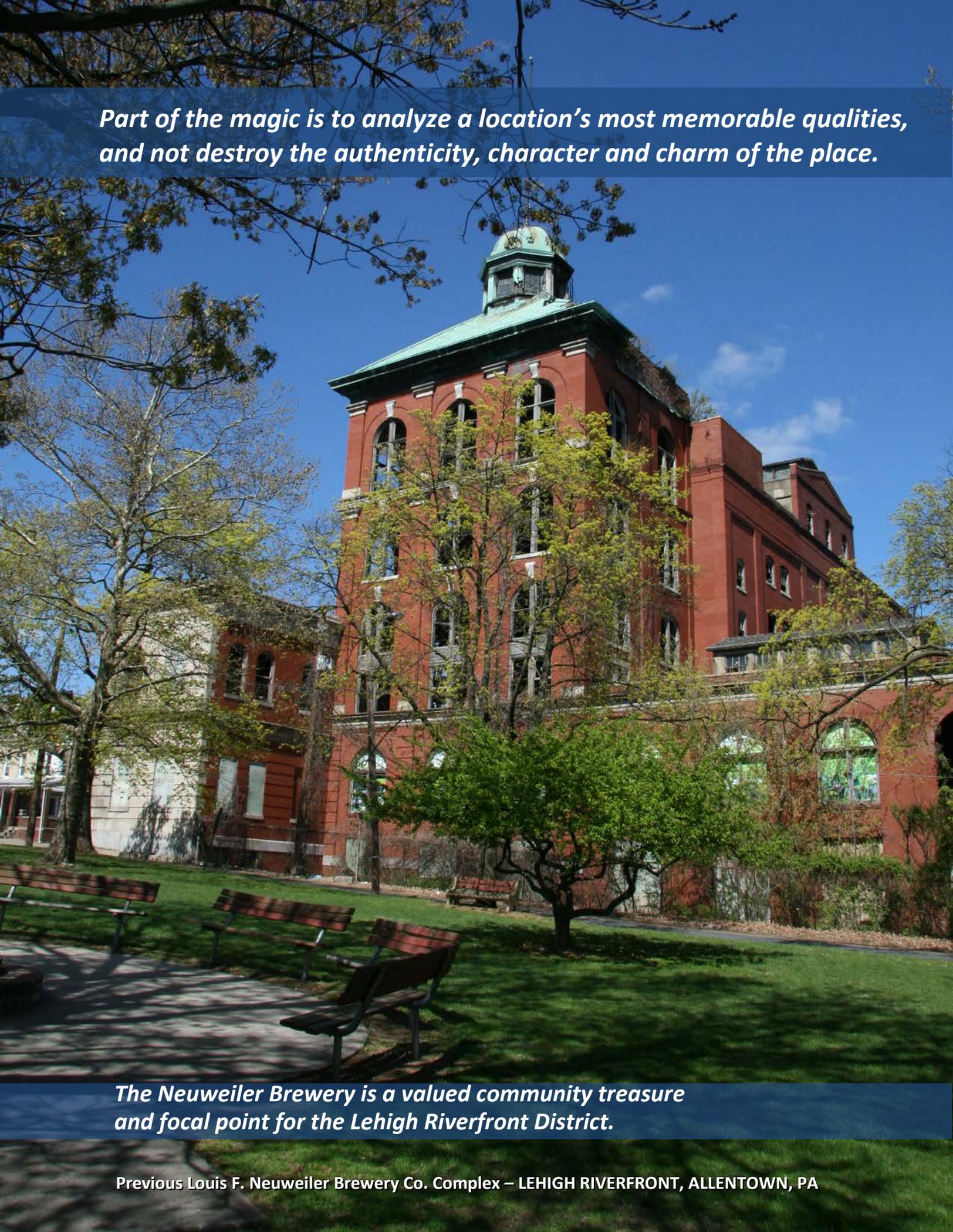
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The Lehigh Riverfront is an important public asset for both the Allentown Community and the larger Lehigh Valley Region.

The Lehigh University Boathouse and sculling activity on the Lehigh is a welcome use to be expanded on the Riverfront.

Lehigh University Boathouse and Adams Island – LEHIGH RIVERFRONT, ALLENTOWN, PA

A large, multi-story red brick building with a prominent green copper dome on top, surrounded by trees and a grassy area with benches.

Part of the magic is to analyze a location's most memorable qualities, and not destroy the authenticity, character and charm of the place.

The Neuweiler Brewery is a valued community treasure and focal point for the Lehigh Riverfront District.

Previous Louis F. Neuweiler Brewery Co. Complex – LEHIGH RIVERFRONT, ALLENTOWN, PA

I. FOREWORD

A MESSAGE FROM THE MAYOR

The Lehigh Riverfront has been the topic of much discussion and speculation over the years, all the while remaining a hidden treasure right in the middle of Allentown. As is the case with similar waterfronts in cities across the country, these areas that were often neglected and primarily used to support industry are now being reclaimed to take advantage of their natural environments and the redevelopment opportunities they represent.

Our Riverfront can be anything we want it to be, from providing waterfront recreation and entertainment opportunities, to providing a unique residential experience and even to its continuance as a place for business and commerce. For the past 10 months we have been studying these alternatives and developing a vision for its future redevelopment. Based on these studies and much public input, this vision foresees an area that once again invites people back to the water; an area where people want to live, work and play; and an area that does not ignore its roots or the surrounding neighborhood. It envisions a mile long river trail that connects to other trails being developed in the City. It includes places where you can launch a boat or simply touch the water. It foresees new business uses and housing that coexist to create a unique riverfront community where people can walk to work or do their shopping. And finally, it respects the heritage of the area and the need to develop a cohesive and undivided community by providing additional street, pedestrian and bicycle connections with the First and Sixth Wards and the rest of the City.

I would like to take this opportunity to thank everyone for their help and support and look forward to working with the community in the plan's implementation.



Mayor Pawlowski addresses the Riverfront Task Force.

WELCOME TO THE LEHIGH RIVERFRONT

The City of Allentown would like to welcome you to the Lehigh Riverfront Master Plan.

By its very name, the “Lehigh Riverfront Master Plan,” is intended to enhance public areas of the Riverfront and its neighborhood edges along with attracting new businesses to the Riverfront zones. While building on the unique character and heritage of the adjacent neighborhoods and by being creative and flexible, the Master Plan accommodates a broader mix of building uses, to be served by much improved multi-modal transportation and parking systems within a grand network of parks, plazas and natural open spaces for the Allentown community and visitors to the area to enjoy!



The Lehigh River Dam at the Hamilton Street Bridge

Through a common community vision that includes creative design principles, strategies and innovative site development concepts, the Plan will build upon the City's river orientation, architectural heritage,

cultural mix, industrial economy and Eastern Pennsylvania quality of life that Allentown's residents enjoy.

The goal for this study is to help the Lehigh Riverfront reach its optimal potential as a balanced, live-work-tourism destination known for its classic residential atmosphere, niche commercial/entertainment uses, strong urban streets and transit corridors, expanded employment opportunities, surrounding open areas, creative reuse of historic structures, celebrated civic heritage and a magnetic riverfront.

ABOUT THE ASSIGNMENT

The Lehigh River is one of Allentown's most valued natural and recreational resources in the City; however, many years of historical industrial, rail and truck transportation use along the banks have left it largely underutilized, until now. The City began its rediscovery of the Lehigh Riverfront with a site specific master plan for a small portion of the Riverfront above the Hamilton Street Bridge, now affectionately referred to as Lehigh Landing. Since that time, redevelopment and implementation along the river has been primarily focused around two key areas; the America on Wheels Transportation Museum and City Visitor Center, and recreational improvements at the City's Bucky Boyle Park. Until late 2010, redevelopment of other areas of the Riverfront had been primarily encouraged through the City's Comprehensive Plan, traditional zoning incentives, a relatively new Riverfront Redevelopment Overlay District and the Pennsylvania Keystone Opportunity Zone program for key sites.



“The magnitude of the project area (120 acres) will necessitate the efforts and investments of multiple developers in multiple phases and will be guided by a community supported and well thought-out master plan”

The Lehigh Riverfront Master Plan was made possible through a federally funded grant from the Pennsylvania Department of Transportation, under its Pennsylvania Community Transportation Initiative

Fund. This Master Plan addresses the City’s need for an overall plan to guide a phased development approach for the Lehigh Riverfront needed to complete the full reuse of the District over the next decade. The Plan also serves as an information piece to attract additional developer interest to the many potential development opportunities along the Riverfront.

This Master Plan is built upon the following plan elements requested by the City of Allentown, each of which plays a critical role in defining “What the Lehigh should become in the future.”

- **Public outreach and participation** by the Allentown Community, including neighborhood residents; city, regional and state officials; the development community and other identified stakeholders which resulted in broad community ideas, support and buy-in for the Plan.
- **Marketplace and economic development planning** resulting in a market-based economic development program for the Riverfront District.
- **Overall urban and riverfront design planning** that creates a distinct sense of place within the new Riverfront District area yet is connected to and a complement to the adjoining heritage neighborhoods. The urban design plan will guide future phases of redevelopment and public realm enhancements to ensure that the development is sensitive to the existing 1st and 6th Ward Neighborhoods.
- **Land use planning** that considers and integrates office, entertainment, commercial, recreational and residential mixed-use developments into the Riverfront District with reuse alternatives identified for the former Neuweiler Brewery buildings, Ribbon Works Factory buildings, American Atelier Factory Buildings and the A&B Meats Loading Dock buildings.
- **Zoning considerations** to guide the implementation of the suggested land use/development plans through improved development standards and initial design guidelines that focus on the public realm as well as private parcel development.
- **Park and open space planning** for the existing Bucky Boyle Riverfront Park area and new public spaces integrated within the suggested private redevelopment and complementary to the City’s recent regional park and trail network master plan.
- **Parking design and management** recommendations for the many public and private parking resources that will be needed to serve the existing neighborhood residents and active businesses, as well as phased adaptive reuse and infill development along the Lehigh River.
- **Traffic and transportation planning** that suggest expanding the existing transportation infrastructure through an efficient multi-modal transportation plan of streets, transit ways, walkways and bikeways that supports the optimum potential for redevelopment in the District.
- **Infrastructure and environmental planning** to define the expanded utility systems and eco-system elements that will be needed to serve existing and new development.
- **Brownfield site re-use analysis** that assesses the intended uses for documented Riverfront brownfield sites and advises if there are special circumstances and precautions that would have to be made for development.
- **An implementation strategy** that provides direction for the City and its development agencies in terms of property acquisition; marketing to developers; infrastructure improvements; incentives and marketing/branding identity.

It’s important to note that the resulting Master Plan is a flexible, illustrative vision of what the Riverfront could become, built upon detailed recommendations in each of these topic areas that are supported by a thorough analysis of existing conditions and an equally thorough public participation process that generated tremendous enthusiasm and support for many of the ideas presented herein. We invite you now to come and explore the new vision for the Lehigh Riverfront Master Plan! Thank you.

II. ACKNOWLEDGEMENTS

On behalf of the Lehigh Riverfront Master Plan consultant team, we would like to thank Mayor Ed Pawlowski and the Lehigh Riverfront Master Plan Task Force for their leadership during the Master Plan process and the opportunity to work with the City in creating a Vision for the Lehigh Riverfront. The Lehigh Riverfront Master Plan is the culmination of several months of dedicated work by the City's Resource Staff and the Lehigh Riverfront Task Force members listed below. The consultant team would also like to thank the many other citizens of Allentown who participated in interviews, responded to comment forms and questionnaires, attended the public forums, and extended their hospitality to our team. We would like to extend special thanks to the residents and business people of the Ward 1 and Ward 6 Neighborhoods who provided substantial input that helped to shape the Lehigh Riverfront Master Plan vision for future generations to enjoy.



Opening Lehigh Riverfront Task Force meeting

MASTER PLAN FUNDING

Special thanks are extended to the Pennsylvania Department of Transportation for providing the grant funding that made this Lehigh Riverfront Master Plan and its future redevelopment, transportation and enhancement initiatives possible for the Allentown community.

ALLENTOWN LEADERSHIP

The Honorable Ed Pawlowski, Mayor, City of Allentown

The Allentown City Council Members

Julio A. Guridy – Council President

Ray O'Connell – Council Vice President

Joe Davis

Jeanette Eichenwald

Cynthia Mota

Mike Schlossberg

Peter G. Schweyer

CITY RESOURCE TEAM

Michael Hefele, AICP, Director of Planning, City of Allentown

Sara Hailstone, Director of Community & Economic Development, City of Allentown

Phyllis Alexander, Neighborhood Coordinator & former Weed and Seed Coordinator, City of Allentown

Todd Collins, Business Development Manager, City of Allentown

Mark Geosits, Senior Civil Engineer/Assistant City Engineer, City of Allentown

Mark Hartney, Community Planner, City of Allentown

Owen O'Neil, Director of Planning, Lehigh & Northampton Transportation Authority (LANTA)

Jackie Parker, Community Solutions, LLC

Ronald Penrose, Traffic Control Superintendent, City of Allentown

Richard Rasch, Utility Engineer, City of Allentown

Alan Salinger, Chief Planner, City of Allentown

Molly Slevin Wood, Project Manager, Allentown Economic Development Corporation

Scott Unger, Executive Director, Allentown Economic Development Corporation

Greg Weitzel, Director of Parks and Recreation, City of Allentown

Tamara Weller, Executive Director, Allentown Parking Authority

Richard Young, Engineer, Director of Public Works, City of Allentown

LEHIGH RIVERFRONT MASTER PLAN TASK FORCE MEMBERS

The Honorable Ed Pawlowski, Mayor
City of Allentown

The Honorable Peter Schweyer,
Allentown City Council

Mr. Gerald Alfano, Chairman,
Allentown Commercial & Industrial
Development Authority

Mr. Donald Bernhard, Manager
Economic Development and Community Affairs,
Pennsylvania Power and Light (PPL) Electric
Utilities

Mr. Anthony Boyle, Chairman
Boyle Construction Inc.

Ms. Tammy Checo,
Casa Guadalupe Center

Mr. Silas Chamberlin,
The Delaware & Lehigh National Heritage
Corridor

Ms. Holly Edinger, Director
Lehigh Valley Land Recycling Initiative

Mr. Oldrich Foucek III Esq., Chairman
Allentown City Planning Commission

Mr. Todd Gibbs, Chief Executive Officer
ASGCO Manufacturing Inc.

Mr. Armando Greco, Executive Director
Lehigh & Northampton Transportation
Authority

Mr. Larry Hilliard
Allentown Redevelopment Authority



Mr. Anthony Iannelli, President & CEO
Greater Lehigh Valley Chamber Of Commerce

David and Janet Keshl, Members
Frick Boat Club

Mr. Glenn Lichtenwalner, AIA, Chief Architect,
COO & Principal
W2A Design Group

Ms. Linda Merkel, Executive Director
America on Wheels Museum

Mr. Brent Nichols,
Lehigh Valley Youth Academy

Mr. Eric Olson,
Olson Technologies, Inc.

Mr. Michael Rebert, District Executive
Pennsylvania Department of Transportation
Engineering District 5-0

Reverend Jim Rivera, Pastor
City Limits Assembly of God

Mr. John Schneider, President
LSS Realty Corporation, Inc.

Mr. Michael Stershic, President
Discover Lehigh Valley

Mr. Seymour Traub, Esq., President
Allentown Economic Development Corporation

Mr. Andrew Twigg, Principal
Dunn Twigg Company, LLC.

Imagine a Lehigh Riverfront that pays homage to its industrial heritage through creative re-use of buildings, signage and industrial artifacts.



The Lehigh Structural Steel signs have been and will continue to be visual icons for the Lehigh Riverfront.

Previous Lehigh Structural Steel Facility – LEHIGH RIVERFRONT, ALLENTOWN, PA

III. MASTER PLAN SUMMARY

A NEW VISION FOR ALLENTOWN & THE LEHIGH RIVERFRONT



New visions and goals for Allentown have played a large part in the City's 250-year growth from a small, creek side village to Pennsylvania's third largest City. During this period, the future aspirations of its many leaders, entrepreneurs and citizens have

helped to guide and shape Allentown into the City that it is today. The City continues to celebrate its on-going growth, reported in the 2010 census, while paving the way for continued advancement through designation of two new, companion downtown districts; the "Arena District" and the "Lehigh Riverfront District".



Allentown at the height of industrial growth



The new Allentown Arena District in the CBD

The Arena District and Riverfront District initiatives mark a new and exciting chapter in the history and evolution of Allentown. The new arena is well underway, with many spin-off developments and benefits planned or underway for the Central Business District. The Lehigh Riverfront District has been undergoing a parallel, stakeholder planning process that now culminates with this Master Plan document. The plan is intended to be a visionary guide for optimizing the future potential of the Lehigh, while respecting existing residents, businesses and the environment.

Just imagine a new and exciting place in the City of Allentown and the Lehigh Valley where...

- *You can join over 30,000 regional visitors a year already drawn to the area's attractions and destinations;*
- *Your new, innovative business is encouraged to locate through substantial State and local tax incentive programs; including sites located within the Keystone Opportunity Zone (KOZ) and the newly created Neighborhood Improvement Zone (NIZ);*
- *Your fellow residents and employees are able to walk freely to over a mile of publicly controlled riverfront offering new passive and active recreation amenities;*
- *You can walk, run and bike on over five-miles of designated riverside and rail trails, where vehicles, pedestrians and cyclists can coexist;*
- *You can live, work or recreate in a rehabilitated brewery, ribbon factory, furniture factory or meat factory that celebrates the industrial roots of the area;*
- *You can easily access shared parking resources where you park once, leave your car for the day and explore the entire area within a five to ten minute walk of your car;*
- *Your business patrons, employees and/or residents can participate in a shared public/private parking program, passing on less cost to you through a reduction in your required parking to build or lease;*
- *You have a choice in multi-modal transportation options with a state-of-the-art transit system serving the area with five designated routes and passenger amenities at all transit stops;*

- You can navigate and recreate on over three miles of Lehigh River water with your personal watercraft;
- You can partner with the City of Allentown to redevelop key public land holdings at high profile locations;
- You can better serve your growing business through improved roadway access via the new American Parkway Bridge and railway access via the RJ Corman Railway;
- You have ample utilities and infrastructure to facilitate new development;
- You can enjoy a setting that offers something for everyone; and,
- You can chose to live or work in an eco-friendly riverfront village showcasing low impact development practices, LEED certified or green building systems and home to new green and clean industries for Allentown.

*This is the vision for the new Lehigh Riverfront... **a new center for Heritage, Recreation, Living, and Innovation in Allentown and the Greater Lehigh Valley.***

BY AND FOR THE ALLENTOWN COMMUNITY

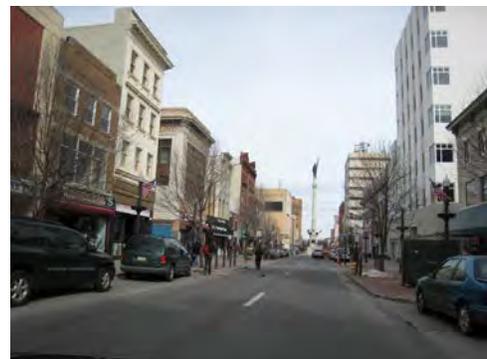
Building upon Allentown’s history of great visions originating from its people, the Lehigh Riverfront vision and supporting Master Plan were developed through an open public planning process designed to encourage transparency and idea sharing amongst Riverfront and community stakeholders throughout Allentown and the Greater Lehigh Valley. Stakeholder involvement consisted of three community forums and a charrette session, three Lehigh Riverfront Task Force work sessions, a number of individual stakeholder interviews, and numerous meetings and webinars with the City’s Resource Team. One of the most important outcomes of the Lehigh Riverfront Master Plan was the public planning process itself making the Lehigh Riverfront plan by and for the people of Allentown. These sessions are further detailed in Section 1.4 of the Master Plan.



You are the change agents in the Allentown Community

WORKING WITH A MARKET-BASED DEVELOPMENT PROGRAM

A key directive from the City, the Lehigh Riverfront Task Force and the public stakeholders during the Master Plan process was for the Lehigh Riverfront Vision and Master Plan to be built upon a market-based development program that could be predicted with some certainty over the next decade. Since the Arena District and the Riverfront District were both initiated at roughly the same time, it became clear that identified market sector growth for the Downtown could be directed toward either the Arena District or Riverfront District, and would be difficult to differentiate given their relatively close proximity. The key will be attracting appropriate development downtown that could either benefit from or be a benefit to sustaining and reinforcing the business activity in the Central



The market area for the Riverfront included the downtown core.

Business District, while directing an equal or larger number of appropriate uses to the Riverfront District which can benefit from and be a benefit to the Lehigh River experience!

Incentive Programs Context for the Riverfront

The City of Allentown has been laying the groundwork for the revitalization of the Riverfront by creating two financial incentive programs that can be used to attract both developers and new business and industry.

The **Neighborhood Improvement Zone (NIZ)** program was established by Act 50 of 2009 and Act 26 of 2011. State and local taxes collected by businesses within the boundaries of the Allentown NIZ are used to repay bonds issued by the Allentown Economic Development Corporation to fund various economic development projects within the zone. The NIZ can be used to offset the initial development costs of a project, thereby allowing the developers to offer lower, more marketable rental rates. This program positions the Riverfront to successfully compete within the regional marketplace.

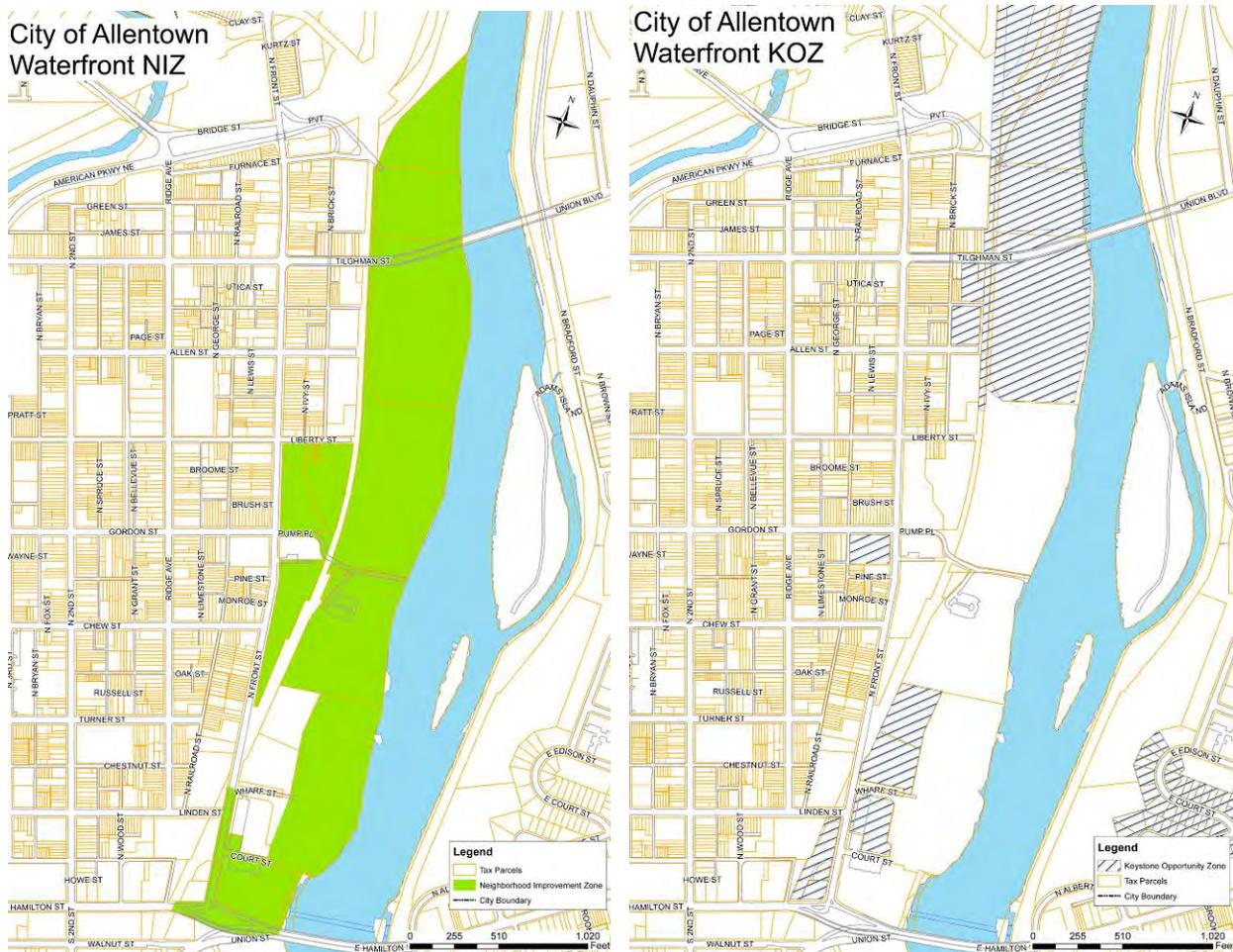


Exhibit 1-1: The Lehigh Riverfront portion of the Neighborhood Improvement Zone in green (left) and the Riverfront Keystone Opportunity Sites in blue hatch (right)

The **Keystone Opportunity Zones (KOZs)** were established in the City of Allentown during the Governor Ridge administration. Businesses that locate within a KOZ enjoy the waiver, abatement or exemption of certain state and local taxes. For the Commonwealth of Pennsylvania these would include the corporate net income tax, capital stock and foreign franchise tax, personal income tax, sales and use tax on

purchased consumed by businesses in the zone, mutual thrift institution tax, bank and trust company shares tax and insurance premiums tax. For the City of Allentown, these taxes would include earned income/net profits tax, business gross receipts, business occupancy, business privileged and mercantile tax, sales and use tax on purchases consumed and used by a business in the zone, property taxes including the school district. This program has been used for years to attract new business and industry to the City of Allentown. The abatement of taxes allows companies to recoup their initial start up costs over time. It also provides an incentive to attract employees and residents to the zone.

These two financial incentive programs will help in attracting and implementing mixed-use development along the Riverfront that builds upon, but is not limited to, the initial economic development program projected for the Riverfront on the pages that follow.

Potential Retail/ Restaurant/ Entertainment Program - Considering regional consumer capture rate, Allentown Arena and Events Center visitor spending, general visitor spending and downtown employee spending, it is estimated that the City of Allentown can currently support **62,701 square feet in new retail space, 105,216 square feet in new restaurant space, and 14,000 square feet in new entertainment space** between the downtown core and the Lehigh Riverfront. This development; however, must be constructed in a phased approach. Adding approximately 20,000 square feet of combined retail, restaurant, and entertainment space at a time would allow this space to be absorbed into the market before continuing to the next phase.



Riverside Market House – Wilmington, DE



Waterside inn – Charleston, SC

Potential Hotel Program - The Lehigh Valley offers a total of 5,716 hotel rooms with 21% of the market share located within three miles of the Riverfront. Many of the closer in hotels were constructed prior to 2005, with some recent renovations or mergers. In 2010, the average occupancy rate of the hotels in the Lehigh Valley was 56.2%, which was slightly lower than the statewide average. Approximately \$134,622,000 of regional spending occurs on lodging with a historical average occupancy of 56.2% and an average daily rate of \$85.00 per room. It is assumed that the

new hotel product would be more attractive in the market and therefore would maintain a higher occupancy and daily rate than the competition. A 70% occupancy rate and \$125.00 daily rate were assumed for determining the potential for additional hotel rooms in the Allentown Arena and Riverfront Districts. Current market conditions indicate that a new downtown hotel(s) could capture 5% of the lodging expenditures which translates to ±225 new hotel rooms in proximity to the Riverfront or the new downtown arena site at 7th and Hamilton Streets. The estimated 225 additional rooms are a conservative estimate based on the current visitor spending.



Riverside downtown hotel – Savannah, GA



Waterside apartment lofts – Frederick, MD

Potential Housing Program - An assessment of the potential for new housing included a review of Allentown’s neighborhoods, new rental products that have been recently introduced to the market, the commuter patterns for the City’s employees, and an analysis of young residents living within 50 miles of the Riverfront. Based on this assessment, it was determined that the Riverfront should offer new and unique riverside housing products anchored by interesting commercial development, which includes unique retail and restaurants, as well as a health and wellness center.

Within the past decade, three new luxury apartment buildings were added to the Allentown housing market in close proximity to the Riverfront with units ranging from \$900.00 per month to \$1,150.00 per month. These properties currently have a waiting list with the primary demographic of the residents being young professionals. Although the market analysis identified young professionals as a target market for new housing in the Riverfront, this type of living will also appeal to empty nesters and those wishing to sell their home in exchange for the carefree lifestyle an apartment or condominium can provide. Once the Riverfront’s housing is established by young professionals, other demographic age groups will then be drawn to the site. Current market conditions indicate that a conservative estimate of **500 new rental housing units** could be added to the Riverfront in a strategically phased approach, where 60 to 80 units are incrementally added with commercial and retail development. As these units are absorbed into the market, additional residential should be considered.



Waterside residential/mixed-use – Seattle, WA

Potential Office/ Industrial Development Program - The Finance/Insurance, Professional/Scientific/ Technical, and Transportation/Warehousing are the strongest industry sectors for the City of Allentown. Continued job growth in these sectors during the recent economic downturn, coupled with their higher location quotients, suggests that both the Finance/Insurance and the Professional/Scientific/Technical sectors should play a key role in the Riverfront’s revitalization and redevelopment. Current market conditions indicate the Finance/Insurance sector would add an additional 3,300 jobs requiring **1,101,897 square feet of Class A office space** over the next 10-year period. The Professional/Scientific/Technical sector would add 931 jobs requiring **310,023 square feet in office/lab/flex space** during the next 10-year period. Introducing Class A office space with the proposed retail, restaurants, and entertainment will add additional consumers to the market place; those employed within these buildings may also prefer to live within the housing units proposed for the Riverfront.



Riverside office development – Wilmington, DE

The Transportation/Warehousing sector could also add an additional 5,047 jobs supporting **over 15 million square feet of industrial/flex space** expansion over the next 10-years period. This use is not recommended within the Riverfront but should be certainly considered for more appropriate sites on the periphery of the City of Allentown near major transportation corridors.



Riverside office-flex development-Wilmington, DE

PROJECTED PROGRAM VS. MASTER PLAN DEVELOPMENT CAPACITY

The resulting market-based economic development program summary for the Downtown Allentown area is listed in the table to the right. The Lehigh Riverfront Master Plan, illustrated on the following page, represents over 1.8 million square feet of redevelopment capacity in the Riverfront District through a combination of both adaptive reuse of noted heritage structures and new building development. Of this total, roughly 1.57 million square feet of redevelopment is suggested for specific non-residential uses and approximately 270,000 square feet is initially identified for medium to higher-density residential use. If either the PPL Site or the Iron Mountain Storage site were to be eventually redeveloped at some point in the future, as suggested in the optional development plans, the Riverfront District’s development capacity could easily exceed 2.0 million square feet of mixed retail, restaurant, commercial, office, residential and employment uses.

Use	Estimated Market Demand
Retail	62,701 sq. ft.
Restaurant	105,216 sq. ft.
Entertainment	14,000 sq. ft.
Residential Units	500 market rate rental units
Hotel	225 rooms
Office	1,411,920 sq. ft. (over next decade)
Industrial/Flex	15,000,000 sq. ft. (over next decade)

At first glance, these figures indicate that the Riverfront District could absorb the majority of the market-based development program identified for Downtown Allentown within the 4-5 story development scale and pattern envisioned for the Riverfront. However, it is not the intent for the Riverfront District to compete with, or draw away, uses that could flourish in the Allentown Central Business District. First and foremost, new uses that are appropriate for the downtown must be directed to the Arena District which is underway in the Central Business District. Given that the both the Arena District and the Riverfront District share the Neighborhood Improvement Zone (NIZ) designation, any development that occurs in either district is mutually beneficial to the overall Neighborhood Improvement Zone and the Allentown Community. The Riverfront offers opportunities for both large and small scale redevelopment that may otherwise be difficult or costly to assemble and develop in the Downtown core. It also offers opportunities for uses which need rail access, regional roadway access or an address on a dramatic amenity like the Lehigh River and Dam.



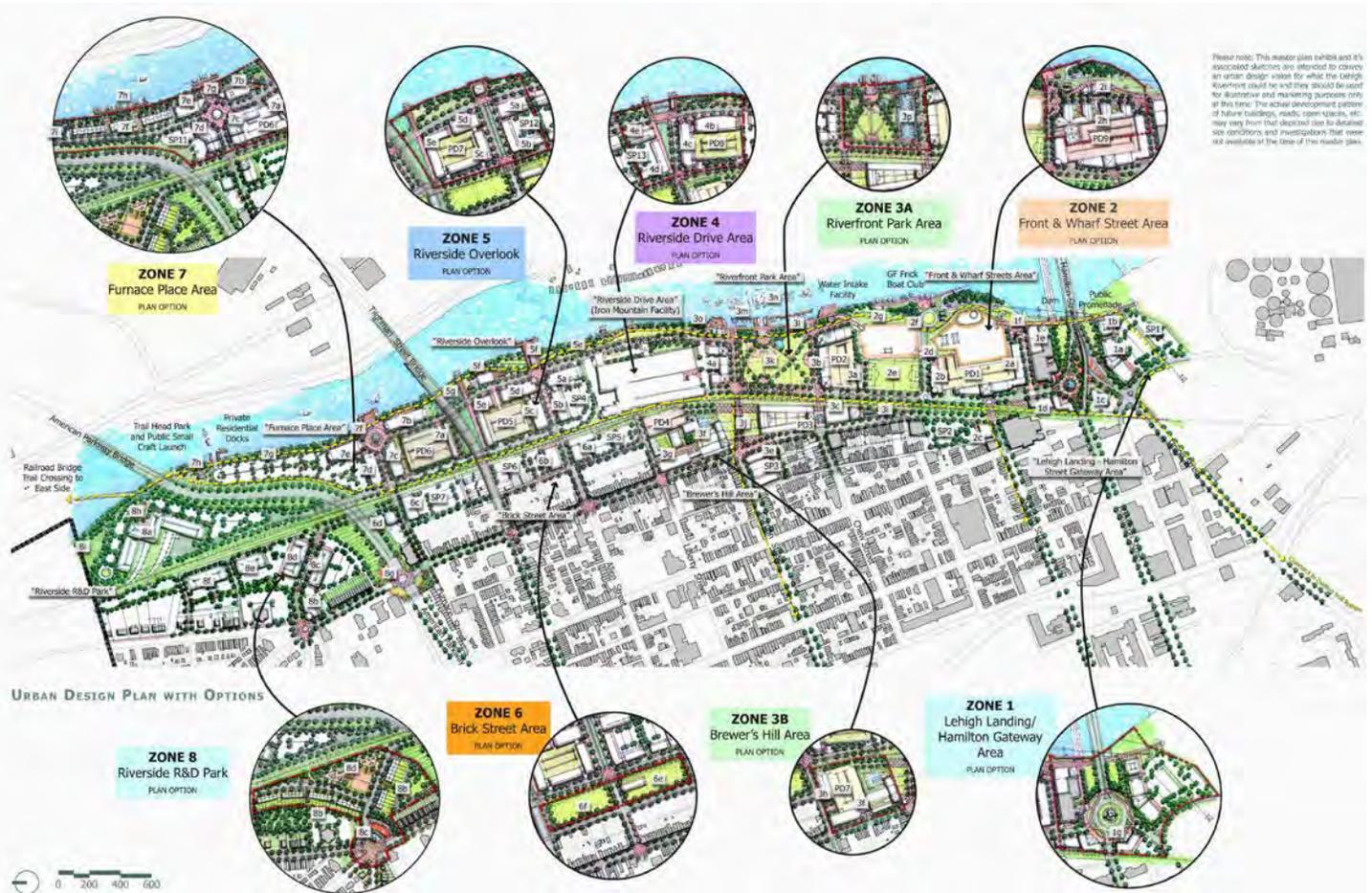
Planned arena and office development in the Central Business District at 7th and Hamilton Streets.



THE BASE MASTER PLAN AND OPTIONS

A common theme and directive from stakeholders during the Master Plan process was “to make the Lehigh Riverfront Master Plan diverse in use, character and offerings, so that it will address and serve the needs of as many user groups as possible”. The 120-acre area was perceived by stakeholders to be too large and too varied for any one solution to occupy the entire area. In response, the resulting Riverfront District Plan is envisioned to be a compilation of eight smaller zones that each contribute to the overall Riverfront experience in their own unique way.

The focus of the Lehigh Riverfront Master Plan is to create a critical mass of activity in each of these recommended Thematic Riverfront Zones to make them sustainable for the long-term. To be economically sustainable, master plans must be flexible enough to adapt to market conditions and development trends that will likely occur over the next ten years as the District Plan is implemented. The Lehigh Riverfront Plan was prepared with this flexibility in mind throughout the planning process. The final Master Plan is comprised of a Base Master Plan (centered plan below) joining each of the eight Riverfront zones into one cohesive plan, supported by a series of eight development plan options (circled plans), one for each zone. The options were prepared to document either another mix of uses, another physical layout, or a second phased development approach that were also viable within the Base Master Plan framework that had received majority consensus.



The Lehigh Riverfront Master Plan with options in the eight Riverfront theme zones

Zone 1 refers to the “Lehigh Landing - Hamilton Street Gateway” area that includes the properties immediately surrounding the north and south sides of the Hamilton St. corridor at the Riverfront.

The north side, Lehigh Landing, is envisioned to be a mixed-use expansion on the America on Wheels Museum attraction offering retail, restaurant and family-entertainment uses that frame a new and exciting gateway for the Riverfront District to the north. The south side is envisioned for a riverfront office/research and development use that would serve as the signature gateway for the future Union Street Employment Corridor to the south. The area is programmed for over 140,000 square feet of non-residential development comprised of 60,000 square feet of Office/Technology/R&D Space, 35,000 sq. ft. in an America on Wheels Museum expansion for Exhibit Space, Children’s Museum and Riverside Retail/Commercial, 30,000 sq. ft. of mixed-use retail and 16,500 sq. ft. of restaurant/commercial space. An alternative development plan for this area suggests that a larger two-lane roundabout be constructed to replace the current ramps and intersections at Hamilton and Front Street, and Hamilton



Current Lehigh Landing/ Hamilton St. area



ZONE 1: “Lehigh Landing/Hamilton Gateway” Vision & Base Plan program elements

at Union Street. This would create a grander entry to the Riverfront, while also allowing full traffic and pedestrian flow from Union Street to the new Wharf Street. Both the Base Master Plan and the Optional Development Plan for this Zone are further detailed in Section 2.2.7.1.

Zone 2 is referred to as the “Front Street & New Wharf Street” area that focuses on the lands between the America on Wheels Museum and the Bucky Boyle Park baseball fields to the north. This area is envisioned to be a vibrant mixed-use retail, restaurant and entertainment corridor with mixed-use office space or residential apartments above, surrounding a “south-side” public/private parking structure for the walking/biking district. The area is programmed for over 150,000 square feet of retail, entertainment and commercial



Front St. corridor and RJ Corman Railway



ZONE 2: “Wharf Street & Front Street” Vision and Base Plan program elements

space to be focused along the new Wharf Street and Linden Street frontage and served by the parking structure and a reconfigured surface parking lot. An optional plan for this area suggests that, with future relocation of the PPL Generators and consolidation of the

switching station, a substantial commercial-residential mixed use development could be constructed overlooking the picturesque Lehigh River Dam and Delaware & Lehigh Canal and Locks beyond. Both the Base Master Plan and the Optional Development Plan for this Zone are further detailed in Section 2.2.7.2 with a summary of the key elements envisioned for Lehigh Landing, Hamilton Street Gateway, and the new Front/Wharf Street areas illustrated below.



“Zone 1: Lehigh Landing Gateway” and “Zone 2: New Wharf Street/Front Street” Master Plan elements

Zone 3 encompasses both the “Brewer’s Hill and Riverfront Park” areas which include the Neuweiler Brewery, Ribbon Works Factory and American Atelier Furniture Factory areas and the Bucky Boyle Riverside Park area respectively.

Brewer’s Hill will be unique in that it is envisioned to be a mix of small retailers, restaurants, arts related businesses, offices and residential apartments incorporated within the existing industrial buildings identified to be saved and rehabilitated. The American Atelier building is seen as a mix of commercial and clean industry/technology uses in an effort to keep clean, light industry and manufacturing uses within the Riverfront. The area is recommended for over 350,000 square feet of non-residential development and adaptive re-use of historic structures with another 108,000 square feet of residential development translating to approximately 108-132 dwelling units. An optional development plan was also explored for the



The historic Neuweiler Brewery Co. complex



ZONE 3: “Riverfront Park & Brewer’s Hill” Vision & Base Plan program elements

Neuweiler Brewery complex that suggests removing 2-3 smaller buildings from the site to facilitate a modern expansion and use of the primary brewery buildings with a larger centralized parking structure to serve the Neuweiler Brewery redevelopment, as well as the surrounding Ribbon Works and

American Atelier development sites. Both the Base Master Plan and the Optional Development Plan for this Zone are further detailed in Section 2.2.7.3 and the Site Specific Reuse Study for the Former Neuweiler Brewery Site, by Cornerstone Consulting Engineers and Architectural, Inc., is also available for review at the City’s Bureau of Planning and Zoning offices.

Zone 4 is referred to as the **“New Riverside Drive”** area which is limited to the current Iron Mountain Storage Site between Bucky Boyle Park and the old Lehigh Structural Steel site to the north. It’s titled such in that the area’s primary role in the shorter-term Master Plan is to provide opportunities for both new street connectivity, “Riverside Drive”, and greenway trail connectivity along the Riverfront.

As redevelopment activity in the District grows, this area is envisioned to eventually become a waterside and park side destination with ground floor retail and restaurant uses supported by corporate offices and some residential on the upper levels overlooking the river. The area is initially recommended for over 80,000 square feet of retail, commercial and office development while the primary Iron Mountain Storage Facility remains in place. The optional plan shows the potential for over 155,000 sq. ft. of additional commercial/office space and 108,000 sq. ft. of residential space estimated at 108- 126 new riverside residential dwellings if the Iron Mountain Storage facility were to eventually relocate to a non-riverfront site.



Current Iron Mountain Storage at Pump Place



ZONE 4: “Riverside Drive” Area Vision and Base Plan program elements

Both the Base Master Plan and the Optional Development Plan for this Zone are further detailed in Section 2.2.7.4 with a summary of the key elements envisioned for the Riverfront Park, Brewers’ Hill and Riverside Drive areas illustrated below.



“ZONE 3: Riverfront Park & Brewer’s Hill” and “Zone 4: Riverside Drive” Master Plan elements

Zone 5 has been called the “**Riverside Overlook**”

area, referring to the site’s great views up and down the Lehigh River. It encompasses the southern portion of the Lehigh Structural Steel site between the Iron Mountain Storage facilities and the Tilghman Street Bridge and is envisioned to be a prime site for riverside restaurant and retail uses with corporate offices on the upper levels overlooking the river and some residential offerings looking north to the Tilghman Street Bridge. The area is programmed for over 285,000 square feet of mixed-use retail, restaurant, commercial and corporate office development, and an additional 80,000 square feet of residential space translating to 80 to 94 new dwelling units overlooking the river and the Tilghman Bridge. It would be served by a 600 car parking structure and 100 space surface parking lot. An optional development plan for the Riverside Overlook suggests that the site could also be developed “in-the-round” with a similar building program which addresses the Downtown neighborhoods to the west and the Riverfront to the east.



Previous Lehigh Structural Steel south site



ZONE 5: “Riverside Overlook” Vision and Base Plan program elements

Both the Base Master Plan and the Optional Development Plan for this Zone are further detailed in Section 2.2.7.5 with a summary of the key elements envisioned for the Riverside Overlook and Furnace Place areas illustrated below.



“Zone 5 Riverside Overlook” and “Zone 7: Furnace Place” Vision elements

Zone 6 refers to the “**Brick Street Live-Work Enclave**”

which is confined to the Brick Street corridor between Liberty and Furnace Streets and, like the American Atelier Building, it is envisioned to be a mix of smaller, clean, light industrial, technology and manufacturing uses providing employment opportunities for the surrounding residents. The existing rowhome residential blocks would remain and be encouraged to enhance their appearance through façade grants. The area is programmed for over 80,000 square feet of clean industry employment/light manufacturing uses served by three surface parking areas providing over 380 parking spaces. The optional concept for this area shows the potential for over 2.2 acres of open space and a possible 30,000 square foot community building re-use of the Sussman Building rather than the employment uses suggested in the Base Master Plan. The



Brick Street corridor at the Tilghman Bridge



ZONE 6: “Brick Street Corridor” Vision and Base Plan program elements

The optional concept for this area shows the potential for over 2.2 acres of open space and a possible 30,000 square foot community building re-use of the Sussman Building rather than the employment uses suggested in the Base Master Plan. The Sussman Building could also be considered for a portion of the ground floor being devoted to a local railway heritage museum whereby visiting and historic trains could be displayed on rail sidings within the public park. This would aid in celebrating the industrial and rail heritage of the Lehigh Riverfront. Both the Base Master Plan and the Optional Development Plan for this Zone are detailed in Section 2.2.7.6.

Zone 7 is called “**Furnace Place**”, referring to its location at the terminus of Furnace Street and includes the northern portion of the Lehigh Structural Steel site between the Tilghman Street Bridge and the proposed American Parkway Bridge. The area is programmed for over 280,000 square feet of retail, restaurant, commercial and corporate office space



Previous Lehigh Structural Steel north site



ZONE 7: “Furnace Place” Vision and Base Plan program elements

and 80,000 square feet of premium upper level residential space accommodating 80-94 riverside apartments, lofts or condominiums. It would be served by a 650 space parking structure to the south and 380 space surface parking lot to the north. The optional concept for

this area suggests that the new Riverside Drive should be extended north to the planned trailhead park at the base of the American Parkway Bridge. This approach results in less mixed-use development space, 220,000 square feet, and fewer multi-family residential dwellings, 52-60 units; however, it offers the opportunity to develop 22-44 riverside townhomes to help animate the north end of the Riverfront. Both the Base Master Plan and the Optional Development Plan for this Zone are further detailed in Section 2.2.7.7.

Zone 8: The “Riverside R&D Park” area includes all the vacant and underutilized industrial sites north of the proposed American Parkway Bridge. This area is envisioned to continue as a working riverfront, as it offers the greatest opportunity for maintaining a substantial portion of the Riverfront for skilled employment and jobs for Allentown residents. The eastern portion of the R&D Park is serviceable by the RJ Corman Railway and both sides of the park would be serviced by the new American Parkway and Bridge Street access planned for completion in 2013. The area is programmed to accommodate over 195,000 square feet of clean, light industrial, technology and manufacturing uses with a small element of retail at the corner of Front and Bridge Streets. It would be served by over 535 surface parking spaces provided on-site. Should the west side of the zone be slower to develop for employment, an optional development plan for the Bridge Street corridor suggests that a small townhome community could be developed as an



Previous industrial site & old railway bridge

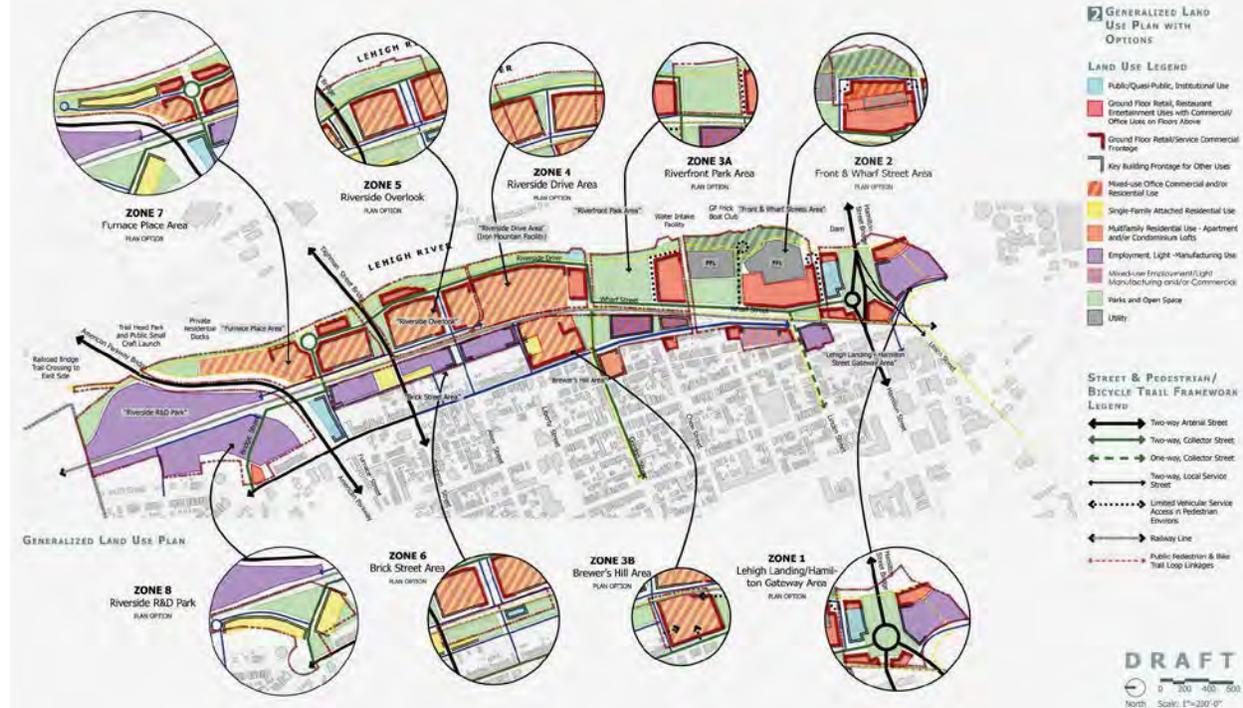
extension of the 6th Ward Neighborhood on the Bridge Street hillside. The residential enclave would be developed around a new, north side community park overlooking the R&D park and the Lehigh River beyond. Both the Base Master Plan and the Optional Development Plan for this Zone are further detailed in Section 2.2.7.8.



ZONE 8: “Riverside R&D Park” Vision and Base Plan Program Elements

GENERALIZED LAND USE/DEVELOPMENT STANDARDS PLAN

Based on the results of previous tasks and a review of the current zoning ordinance for properties within the Master Plan area, the best way to effectively and efficiently achieve the vision illustrated in the Master Plan would be to create a new zoning district to cover all properties in the Master Plan area. Using only one zoning district will improve predictability and uniformity of development within the area, and allow for a more developer-friendly atmosphere. One district will also be much easier for City staff to become familiar with and enforce consistently. This district, called the Riverfront Redevelopment Traditional Neighborhood Development District for the purposes of this study, would ideally be presented as a form-based code with a strong focus on regulating land uses as well as development form and character. It is recommended that the new District be written and adopted as a Traditional Neighborhood Development District to allow the City an opportunity to enforce more specific development standards and design guidelines if necessary.



Recommended Generalized Land Use and Development Standards Framework Plan for Consideration

The aforementioned new zoning district would draw primary elements from the current RRO district and incorporate a bit heavier focus on permitted land uses than is typical in a form based style code. The code will utilize the Riverfront Land Use Plan as the “regulating plan” for the district and will be largely organized by the street framework already highlighted in the Land Use Plan. Each street type will be the foundation of a unique and appropriate character that will be realized through a description of the land uses, building forms, and public/private space requirements associated with each street cross section. These and other land use, zoning and development standards recommendations are further described in Sections 2.2.8 and 2.2.9.

TRAIL INITIATIVES

The Lehigh Riverfront Master Plan achieves regional connections, broader city-wide trail connections and creates a neighborhood/riverfront specific set of trail loop routes. The proposed trail alignments allow for the Lehigh Riverfront to act as the hub for multiple regional connections in all directions, consistent with the trail network advocated in both the City’s Parks and Recreation Master Plan and Comprehensive Trails Connectivity Master Plan. The Lehigh Riverfront Master Plan’s overall trails approach includes:

1. Creating a loop trail network within the Riverfront planning area (Lehigh River West Side) and providing maximum connectivity to adjacent neighborhoods. The loop trail would be comprised of a riverside trail/promenade along the Lehigh River from below Hamilton Street to the abandoned railway bridge and a rail-trail along RJ Corman’s easternmost rail bed from Union Street to the proposed American Parkway. The rail trail would follow the base of American parkway to join with the Riverside Trail a small trailhead with limited parking for visitors to the Riverfront area. Each side of the loop trail would be tied back to the neighborhoods and employment areas through planned

bike/pedestrian improvements along Hamilton Street, Union Street, Front Street, Ridge Avenue, Tilghman Street and Gordon Street.



Planned Trails & Walkway Linkages Map for the Lehigh Riverfront District and 1st and 6th Ward Neighborhoods

2. Linking the East and West sides of the Lehigh Riverfront with a loop trail connecting the both sides of the river, both north and south, as well as to the regional Delaware and Lehigh Canal Tow Path Trail. This would be accomplished with the proposed multi-use trail initiatives recommended for the Tilghman Street Bridge, the Hamilton Street Bridge and the abandoned railway bridge in the City of Allentown’s Comprehensive Trails Plan.
3. Providing key connections to city and regional trails and greenways making the Riverfront a hub of regional trails.
4. Expanding water-based access points along the Riverfront to serve a broad range of river craft. Although there is a boathouse for the Lehigh University Rowing Team within the study area, there is no formal water trail access points located on the west side of the river. The Riverfront Master Plan provides several public river access points, to serve varying purposes and needs. In the Riverfront Park Area, a public marina would be created to provide docking facilities for boats launched into the river at other locations. The Lehigh University Boathouse and dock would be relocated to an area slightly north of its existing facility, providing a private/public boating activity in this core area within the Riverfront. The Riverside Overlook is primarily a commercial oriented area for a signature restaurant to be located on the river and a small amount public docking could be created to support the commercial activity. A third public landing is proposed as part of the signature riverfront node in the Furnace Place Area, which could allow for limited public boat docking. Much of this area would be focused on private boating activities more than likely serving the adjacent residential development. A small craft launch is proposed at the trailhead located on the southern side of the American Parkway as it crosses the river.



Kayaking along working riverfront – Chicago, IL

These and other trail recommendations are further described in Section 2.3.1.

PARKS, RECREATION AND PUBLIC SPACES INITIATIVES

The Riverfront Master Plan is consistent with the City’s Vision for Parks and Recreation as defined in its 2006 Parks and Recreation Master Plan, which emphasizes a neighborhood, based system of parks and recreation opportunities, with the ability for each neighborhood to easily connect to the entire parks system. The Vision focuses on the role parks play in the City’s vitality by providing attractive and safe environments for people to live, work, do business and play; all critical aspects of attracting private economic development investment in the City as a whole and specifically within the Riverfront area. The Lehigh Riverfront Master Plan’s overall parks approach includes:

1. Promoting the creation of a continuous linear greenway of parks, trail and public spaces along as much of Lehigh River frontage as possible.
2. Creating nodal parks and recreational opportunities that focus on integrating adjacent economic development with the river through appropriately scaled spaces to support activities and events that spur further economic development.
3. Developing parks and public spaces that create a variation of experiences along the Riverfront and promote individual identities of the sub-development areas, i.e. Lehigh Landing, Riverside Overlook, Brewer’s Hill, etc.
4. Limiting the amount of large fixed-use facilities such as use-specific playfields and instead establish multi-purpose open lawns for active and passive recreation utilization; further creating a setting for events and diverse economic development activities.
5. Utilizing iconic park spaces for “place making” to support long-term economic development activities, including integrating public and green spaces into infrastructure including traffic calming devices, streetscaping and land-banking for future uses.
6. Providing pocket and smaller-scaled parks and public spaces into the design of infill development, especially residential and mixed-use.
7. Integrating natural processes and green technologies into the design of parks and public spaces to achieve improved urban stormwater management and passive treatment of run-off to enhance water quality and habitat conditions within the in Lehigh River and its watershed.

These and other park and civic design recommendations are further described in Section 2.3.2.

PARKING INITIATIVES

While it is important to balance the need to accommodate all parking on-site within the Lehigh Riverfront Master Plan, it is equally important to preserve valuable land for the greatest use (typically not parking). As such, reductions in the parking requirements, when appropriate, will yield greater density, more revenue, and a higher tax basis for the City. Conversely, overbuilding the parking facilities will result in partially vacant parking facilities, wasted land and resources, and little if any additional tax basis for the City. The Lehigh Riverfront Master Plan’s overall parking management approach includes:

1. Recommended changes to the current zoning and code requirements for parking in the Riverfront Redevelopment District, including: Lowering multi-family dwelling parking ratios, reducing commercial parking requirements, creating better defined parking requirements for dining uses, increasing shared parking resource distances and increasing the maximum shared parking reduction to encourage a healthier mix of land uses.

2. Recommended changes to the current parking geometrics and dimensions, including: recommended removal of Permitted Compact Spaces due to misparked vehicles, removal of Surface Lot Landscape Requirements and Surface Lot Tree Requirements due to an overlapping 10% green space requirement.
3. Recommended Parking Facility Design Guidelines for the Riverfront district.



Planned Riverfront District consolidated parking resources location map

4. Recommendations for cost effective parking management strategies:
 - a. Use of future development sites for overflow parking in the interim and land banking strategic parcels for future public or public/private parking structure locations.
 - b. Consolidation of parking resources/assets to promote pedestrian activity. We recommend a four-node approach with anchor parking facilities located on the north and south end of the corridor and two other central parking facilities equidistant from the anchors. We strongly recommend encouraging developers to consider the consolidation as it not only benefits the entire Riverfront Development but will also result in lower overall infrastructure costs.
5. Recommended shared parking strategies to allow multiple users generated from different land uses, to share the same parking space in the same day or week, thus reducing excessive parking construction and underutilization. It is now possible to reach or exceed a 30 percent reduction in parking by selecting a well-balanced mix of land uses.
6. Recommended payment in lieu of parking (PILOP) initiatives as a way of allowing new development to be built without the need to provide all or some of the required parking on-site. A PILOP program allows a developer or other entity to pay into a parking or municipal fund in lieu of some or all of the parking for their proposed land use. The benefits of the program include a reduction in over building, encouraging shared parking, saving valuable land for other uses, and creating a fund from which to build parking in the future.
7. Recommendations for treating parking as a catalyst for revitalization and creating people places through: 1] enhanced lighting, safety and security, 2] providing clear wayfinding and signage, 3] car sharing and bicycle sharing programs, 4] establishing quality walking linkages, and 5] considering comfortable walking distances from parking facilities.
8. Order of Magnitude Cost Estimates for each of the parking facilities shown on the Lehigh Riverfront Master Plan and optional development plans.

These and other parking recommendations are further described in Section 2.4 herein.

TRANSPORTATION INITIATIVES

Redevelopment of the Lehigh Riverfront can only be facilitated if key transportation, transit and infrastructure systems are implemented to meet the increased traffic and service needs that will come

with the shift from lower density industrial uses to moderate density mixed-use suggested in the Master plan. The land uses and development patterns recommended for the Riverfront District will require the incremental construction of gateway intersection and street improvements to serve development as it is phased into the Riverfront District.

Riverfront Gateways

The major vehicular gateways to and from the area will remain at Tilghman Street and Hamilton Street with a third gateway from the north yet to be constructed with the American Parkway Bridge. At the southern entry into the Lehigh Riverfront area there are two new transportation alternatives for the configuration of Hamilton and Front Streets in the Master Plan that would improve access to the Riverfront District from the South. Under the first Base Master Plan a mini-roundabout would replace the jug handle configuration that exists today but Union Street would still intersect with Hamilton at the Bridge with no access to Front Street. The second, optional development plan recommends a larger, two-lane roundabout that would replace the Union, Hamilton, Front Street intersection, and requiring the demolition of the existing overpass ramps that merge Union and Hamilton Street traffic onto the bridge. Further detailed analysis for this type of roundabout is recommended as an early phase implementation initiative as it enhances the accessibility from the south both for vehicles and pedestrians and creates a great new civic scaled entrance into the Lehigh Riverfront.

Northern access to the Riverfront will be from both Tilghman Street and American Parkway onto Front Street where a number of extended east-west cross streets will provide access to the river depending on the final destination. To accommodate the increased traffic on Front Street, the Tilghman and Front intersection would need some signal system and lane designation changes, but no additional lanes. As designed the new American Parkway and Front Street intersection would operate at an acceptable level of service; however, a northbound receiving lane would be required on Front Street between American Parkway and Bridge Street to accommodate the increased traffic flow to the Riverfront. This approach would create two northbound lanes on Front between American Parkway and the farthest northern



The Tilghman Bridge is a key crossing for all travel modes



Hamilton and Wharf Streets gateway entry/ intersection improvements Option 1: Smaller, three-leg roundabout



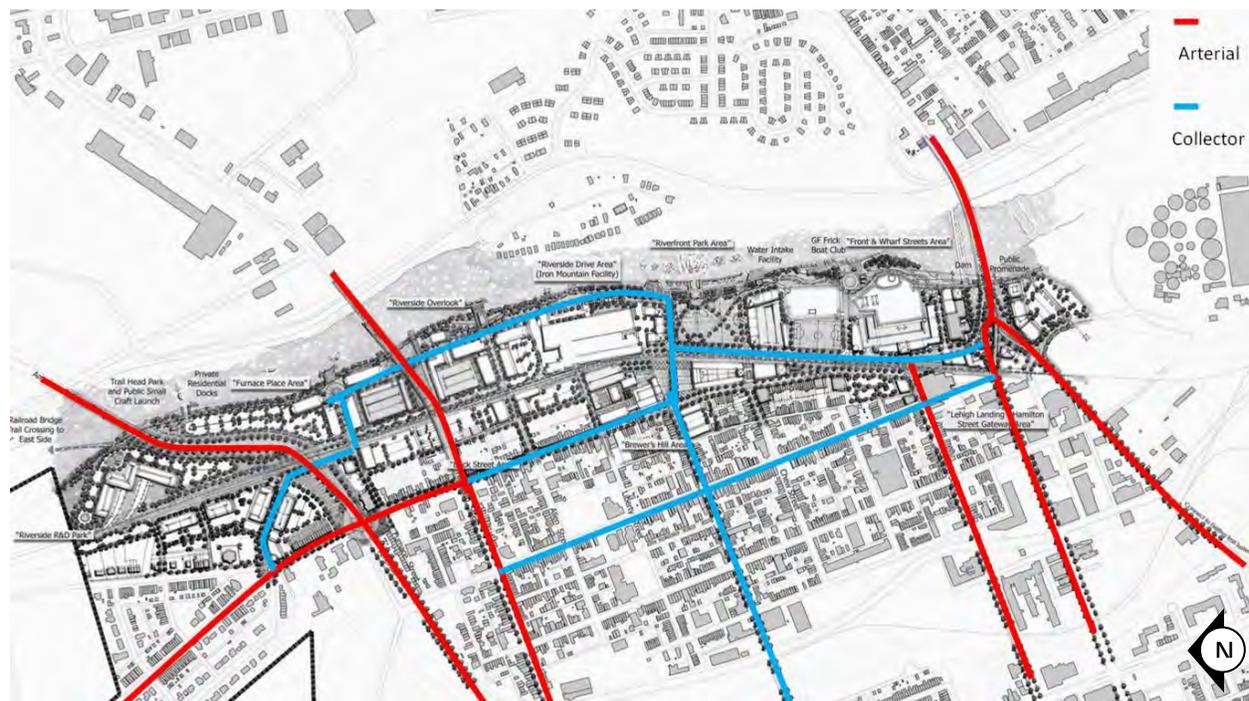
Hamilton and Wharf Streets entry improvements Option 2: Larger, four-leg roundabout with full service

entrance into the Riverfront. This can be accommodated within the existing Right-of-Way where there is currently 32 feet between the east and west curbs that can accommodate three 10-foot lanes, allowing the sidewalks on either side to essentially remain as they are today. All other minor signalized access points into the Riverfront will also operate at an acceptable level of service with only minor adjustment in signal timing being required to accommodate new traffic from the Riverfront.

The offset intersection of Pump Place, Front Street and Gordon Street is an important mid-way access into the Lehigh Riverfront due to its central location. Pump Place is so close to the Neuweiler Brewery wall that there is no opportunity for a sidewalk on its north side and exiting traffic is blind to pedestrians using Front Street's eastern sidewalk. Planned riverfront development will generate a significant increase in both pedestrian and vehicular traffic, requiring the recommended redesign and realignment of Gordon Street and Pump Place intersection to improve pedestrian traffic and sight lines for motorists exiting onto Front Street.

Street Extensions, Realignments and New Streets

In Allentown all streets are classified as either **arterial streets** that provide for regional travel from one area of the city to another, **collector streets** that collect traffic from **local streets** and distribute it to the arterials. Today Tilghman, Hamilton, Union, Linden Streets and Front Street north of Tilghman Street are all classified as arterials. American Parkway, when it is built, will also be an arterial street. Front Street and Gordon Street are currently classified as collectors and the remaining streets in the Riverfront are all local streets.



Proposed Riverfront District Street Hierarchy and Classifications Map

With planned Riverfront redevelopment only a few street classifications would have to be adjusted such as Front Street south of Gordon would become a local street and within the new development Wharf Street, Riverside Drive, Bridge Street and Pump Place would be collector streets and all remaining streets would be local streets. The new street classifications are illustrated in the Master Plan above

with local streets illustrated on the background map only. The Master Plan's detailed transportation and traffic improvement recommendations also include:

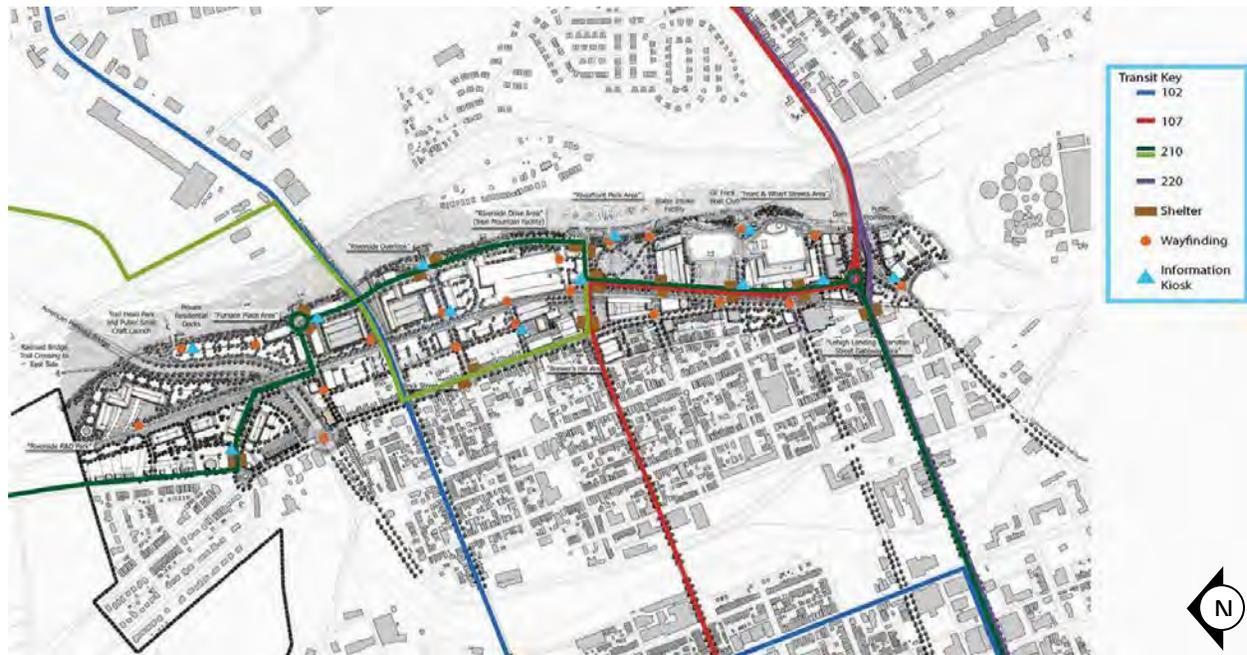
- The Hamilton Street and Front Street intersection would receive both functional and aesthetic improvements to make it a more legible, safe and visually pleasing gateway to the Riverfront District. Initial recommendations include a small roundabout to accommodate movements from Hamilton Street and the new two-way Wharf Street discussed below.
- The realignment of the southern portion of Front Street to the west of the RJ Corman railway with a new terminus intersection at Linden Street. This is envisioned as a two-way, two-lane street with parallel parking on one side between Chew Street and Linden Street.
- A new Wharf Street is recommended to parallel the east side of the RJ Corman Railway between Hamilton Street and Furnace Street. This is envisioned to be a two-way, two-lane street with parallel parking between Gordon Street and Hamilton Street and a two-way, two-lane street with no on-street parking between Gordon Street and Furnace Street.
- Gordon Street/Pump Place would be reconfigured as a two-way street with parallel parking on one side between Front Street and the Lehigh River.
- A new entry drive and drop-off to Lehigh Landing on the north side of the America on Wheels Museum. It is envisioned to be a two-way, two-lane lane or alleyway with no on-street parking
- A new entry drive to the Frick Boat Club is recommended to be a two-way, two-lane lane or alleyway with no on-street parking.
- A new entry drive/pedestrian promenade to the City Water Intake Facility is recommended to be a two-way, two-lane lane or alleyway with parallel parking on the development side.
- A future Liberty Street extension to the new Wharf Street and Riverside Drive is recommended to be a two-way, two-lane street with parallel parking on both sides to serve future redevelopment of the Iron Mountain Storage Company site.
- Allen Street is recommended for extension across the RJ Corman Railway to the new Wharf Street and the new Riverside Drive. It is envisioned to be a two-way, two-lane boulevard with parallel parking on both sides.
- Furnace Street is also recommended for extension to the new Wharf Street and the new Riverside Drive where it would terminate in a roundabout or an equal configuration.
- Various intersection improvements are recommended along Front Street at the American Parkway, the new Bridge Street access, Tilghman Street, and Gordon Street.
- The new Bridge Street access drive from the new American Parkway Bridge/Front Street to Furnace Street is recommended to be a two-way, two-lane street with parallel parking along both sides.

The RJ Corman Railroad operates an industrial siding that serves some remaining industries within the Riverfront area and extends several miles to the north of the site. This study has assumed that the railroad will continue to operate for the foreseeable future. The Lehigh Riverfront plan does not change the overall number of crossings, but all crossings would become public street crossings with appropriate grade crossing protection. The existing skew crossing on Front Street would be eliminated thus significantly improving overall safety. These transportation and traffic items are further described in both Section 2.2.7 and Section 2.5 herein as well as Appendix D.

TRANSIT INITIATIVES

Good public transit is one of the important elements necessary to creating a thriving and lively mixed use neighborhood with vibrant sidewalks and outdoor spaces, where reliance on the automobile is

diminished and alternative transportation is used for many local and some regional trips. In an effort to provide better access to transit service in the Lehigh Riverfront area, two of the existing bus routes, #107 and #210, are recommended for realignment to pass through and serve the new Riverfront District utilizing Wharf Street, Pump Place and Riverside Drive. Making these relatively minor alignment changes will not significantly impact LANTA's overall operation but will provide significantly improved access to transit stops along the Riverfront.



Recommended Transit Service Routes and Amenities Map

Transit ridership can also be improved in the Ward 1 and Ward 6 Neighborhoods with the Riverfront District if the needs and comfort of the passenger are considered from trip end to trip end. Every transit rider is a pedestrian before and after boarding the vehicle, so the enhanced public realm initiatives in the Master Plan are critical to attracting additional transit riders. The public realm includes:

- The waiting environment where shelters with seating should be provided at all transit stops within the Riverfront district and nearby neighborhoods.
- Each bus stop must also be prominently signed and display complete route and timetable information as well as a route map that shows potential transfer opportunities.
- Electronic signs, informing passengers in real time when the next bus will arrive, have proven to be very popular with the public and should be given serious consideration in future transit implementation

These transit items are further described in Section 2.6 herein as well as Appendix D.

ENVIRONMENTAL, UTILITY AND INFRASTRUCTURE INITIATIVES

Throughout the Master Plan process it became clear that the environmental, stormwater and marine systems of the Lehigh Riverfront needed to be carefully managed as assets. The Riverfront area possesses many unique environmental, utility and infrastructure elements that should be treated as assets and leveraged for Riverfront redevelopment through the following recommendations.

The City has a water intake facility located in the Lehigh River, south of the Bucky Boyle Park Pavilion, which supplies potable water through an existing thirty-six inch main that must be avoided with any potential redevelopment of the Bucky Boyle Park ball fields, due to cost and possible interruption of water supply. This should not be an issue, given the large areas of redevelopment potential on the Riverfront. The two existing wells located beneath the former Neuweiler Brewery may be a potential supplemental source of potable water, with offsite treatment, to enhance the City’s water supply.



Lehigh River City Water Intake Facility

The existing eight-inch main in North Front Street will serve as the backbone to the water utility needs in the Riverfront area with new eight inch loop lines recommended to be constructed from this trunk with appropriately sized laterals for the proposed redevelopment. The few existing waterlines in the Riverfront area are recommended to be increased in size to eight-inch lines. Water pressure in the new system should be optimal given the riverfronts relatively low location compared with the rest of the city’s water system. The Riverfront has historically been an industrial area that had a high water demand, which only helps position the District for increased usage with mixed-use redevelopment.



Conceptual Utility Plan for Base Master Plan

Fortunately, the Riverfront area also has adequate sanitary sewer capacity to serve the recommended Master Plan redevelopment needs. As the existing Coplay Whitehall Sewer Authority interceptor line along the RJ Corman Railway cannot be utilized to service the Riverfront area due to service area limitations, generally speaking, Riverfront area sewage flows should be directed toward the existing trunk system located in North Front Street to minimize disturbance to current users and disruption to traffic flow. Properties located closest to the Lehigh River should have back fed sewer laterals, located to the rear of properties, as a more cost effective solution to down slope sewage flow to the nearby City Wastewater Treatment Plant.

The Pennsylvania Power and Light facilities are cost prohibitive to relocate; however, PPL has agreed to research and consider future relocation of portions of the Riverfront facilities as upgrades become necessary. Current and future Public Utility Commission and Department of Environmental Protection regulations will also have to be negotiated to facilitate relocation of any PPL facilities. In the meantime, the Master Plan approach to the PPL area is to employ screening and buffering with buildings and recreation fields along Wharf Street and vegetative landscaping along the riverside trail.

A significant cost savings can be realized for new utility Installation in the Riverfront District by minimizing underground utilities, minimizing rail crossings, by placing utilities in adjacent trenches, and by providing for future growth with sufficient rights-of-way and forward thinking when sizing utility lines. A number of detailed methods are offered in Section 2.7.2 for reducing utility installation costs with planned redevelopments.

The current method of concentrating stormwater within the Riverfront area will need to be discontinued and new dispersal stormwater techniques will need to be installed with redevelopment. Stormwater retention and infiltration are not appropriate techniques in the Riverfront due to the historic land use and proximity to the River. Instead, low maintenance, vegetative swales and biofilters to naturally filter stormwater and provide improved habitat for aquatic and land animals that lead to a diverse and connected ecosystem where all thrive.

Permitting is also a significant cost associated with possible long lead times. It is recognized that Sewer planning modules, DBRC approval, PennDOT HOPs and Rail approvals will most likely be the critical path items and therefore should include pre-application meetings, sketch designs, multidisciplinary teams, and regular follow up with the appropriate agencies. The existing water intake should be protected to minimize potential impacts from a more intensive use of the site and river.

Given the Lehigh River's current moderate quality ranking on the Department of Environmental Protection classification system, only a general NPDES permit, rather than individual, will be required for riverfront redevelopment. A general permit can be obtained for an entire project site and modified as different phases of the development get implemented.

For any development in the Riverfront District, a Pennsylvania Natural Diversity Inventory search will need to be conducted to identify any possible sensitive plant and animal species impacts. Due to the heavy industrial use of the Riverfront lands, extensive mitigation efforts are not anticipated to facilitate redevelopment.

Given the Riverfront's location in Allentown and Lehigh County, an Erosion and Sedimentation Pollution Control Permit will need to be obtained from the County Conservation District.

Per DEP Chapter 93 the Lehigh River, from the dam upstream, is classified as both a Trout Stocking Fishery (TSF) and a route for Migratory Fishes (MF) requiring passage, maintenance and monitored propagation of stocked trout, anadromous and catadromous fishes and other fishes which move to or from flowing waters to complete their life cycle in other waters. Riverfront redevelopment activities and protection



Perimeter walking tour of PPL facilities



Riverfront aquatic species survey – Chicago, IL



Streambank vegetation at the Lehigh River Dam



Lehigh River fish ladder system at the Dam

measures will need to be timed and approved individually by the (Lehigh County Conservation District (LCCD) and Department of Environmental Protection (DEP).

Any changes to the Lehigh Riverbank edge and marine systems in the Master Plan will require a joint permit approval from both the Army Corp of Engineers (ACOE) and the Department of Environmental Protection; This permit will also encompass wetlands impacts, Pennsylvania Historic Museum Commission (PHMC) and the Pennsylvania Fish and Boat Commission (PFBC). Regulation of the waterway use falls under the PFBC thus they should be included in detailed redevelopment discussions along with the GF Frick Boat Club and Lehigh University Sculling team representatives.



Kimmet's Lock river access on the east bank

A Federal Emergency Management Agency (FEMA) approval will be necessary for any changes to the existing floodplain and floodway or alterations to the existing Lehigh River Dam. Previous dredging activities on this section of the River have been very short-term fixes, due to the silt deposition caused by the current dam design. The potential solution is to replace the dam with a new, bottom discharge dam which would involve a major initial capital investment with long-term benefits of minimizing siltation and harmful dredging.



Lower dock area at the Lehigh Boathouse

A FEMA Letter of map revision will also be required for portions of the Riverfront redevelopment or public realm enhancement that may be located within the Floodway Zone AE and Floodplain Zone D. This typically requires an 8 to 12 month lead time.

The PPL property had historically been an inlet. New inlets could be added as shown in the Master Plan options with certain design parameters:

- The inlet should be angled downstream to minimize siltation from upstream flow.
- Reefs should be installed to deflect river flow from the opening of the inlet. This countermeasure provides a more placid inlet and protects the inlet from seasonal variations.
- Stormwater collected upstream of the Riverfront could be strategically placed and utilized to assist in the flushing of sediment that may be deposited by the general river flow.
- Provide for easily removed features to account for annual seasonal freezing of the river and protect the investment in the inlet amenities.



Sample waterside boat inlet – Boston, MA

The magnitude of these recommended adjustments in the Riverfront District may initiate the immediate need to update the City's Act 537 Plan for Department of Environmental Protection (DEP) approval. The City's current Act 537 Plan is dated October 1, 1985. Since the plan is in the 20 to 40 year age category the Pennsylvania Department of Environmental Protection (PADEP) can request that the City update their plan. This scenario is unlikely but is possible due to the age of the Plan and the perceived magnitude of the recommended adjustments in the Riverfront District. Pre-application discussions with DEP are highly recommended to provide momentum and direction to the review process. It is highly

recommended that the study be started in the very near future as this process can take quite some time to be completed and approved. These and other environmental, stormwater, utility, and infrastructure recommendations are further described in Sections 2.7.2 and 2.7.3 herein.

IMPLEMENTATION – FROM MASTER PLAN TO REALITY

The Department of Community and Economic Development (CED) will guide the implementation for the Lehigh Riverfront Master Plan. Due to the size, complexity, and anticipated long-term redevelopment timeline for the Lehigh Riverfront, it is recommended that a special Implementation Team be established to implement a comprehensive vision and marketing effort while also helping to facilitate the coordinated efforts and investments of numerous public- and private-sector interests. A partnership of public- and private-sector stakeholders will allow for long-term stability and continuity of management, as well as create a focal point for information and decision making without placing a burden on existing City of Allentown staff.

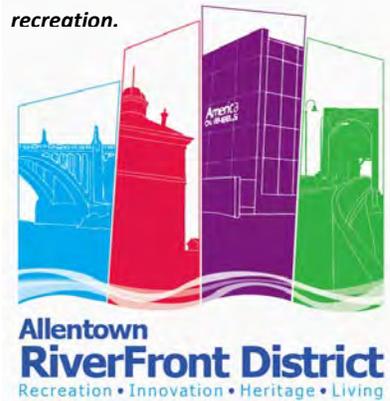
The intent of the Riverfront Implementation Team is to promote economic and community development through the administration, coordination, and oversight of select components of an implementation strategy for the Lehigh Riverfront Master Plan. Through a general advisory role for development/redevelopment projects and the establishment of diverse initiatives, including a branding and marketing strategy, business recruitment plan, permitting and approvals facilitation, and agency coordination, the Implementation Team will successfully enhance the quality of existing and future neighborhoods, encourage economic growth, and aid in the realization of the City’s vision for the Lehigh Riverfront. To this end, the Implementation Team will guide public and private investment, market and brand the Riverfront as an attractive location to live and work, organize and host special events and other programs aiming to enhance the quality of the Riverfront.

The Implementation Plan provides a series of action steps that help guide the redevelopment of the Lehigh Riverfront. Year one will focus on developing land use regulations to promote the type of development envisioned within the Master Plan. The first year will also focus on acquiring property and the right of ways needed to build roads and public space/amenities. Prioritizing projects in areas that will leverage private investment will be the key to successfully redeveloping the Riverfront. It will take a number of years to build the infrastructure and public amenities identified within the Master Plan. The City will need to continually update priorities and funding strategies based on the progress made each year.

Year two will continue to set the stage for redevelopment by focusing on creating an image/brand identity for the Riverfront, adopting a residential LERTA program to encourage residential development, and identifying areas for new industrial development.

Year three will begin the process to actively recruit new businesses to the Riverfront. Full build out of the Riverfront will take many, many years. The Implementation Plan sets the stage for investing time and money with public sector dollars in order to leverage the private sector dollars and investment.

One of many branding and logo concepts for the marketing the new Lehigh Riverfront: A center for heritage, innovation, living and recreation.



*Welcome to LEHIGH LANDING...
The new South Gateway to the Lehigh Riverfront District*



*The new Hamilton Street Gateway and
Wharf Street entry to the Lehigh Riverfront*

INTRODUCTION 1



*The expanded America on Wheels Museum and
Lehigh Landing family entertainment area.*

1.1 BACKGROUND & OVERVIEW

Cities continually evolve and reinvent themselves to stay fresh, inviting and vibrant for both its citizenry and visitors, and “riverfront cities” have an inherent competitive advantage in this regard if planned and implemented properly. The Lehigh Riverfront, Hamilton Street Corridor and the Ward 1/Ward 6 Neighborhoods are key components of Allentown’s next identifiable themed district for today and future generations, the Lehigh Riverfront District! The City’s current slogan, “Allentown: City without limits”, embraces this on-going Lehigh Riverfront planning process as a period of expanded thinking that will result in a new identity and opportunities for the Riverfront; transforming it into a national model for riverfront revitalization, redevelopment, accessibility restoration and sustainability.

The Lehigh Riverfront Master Planning process occurred at an opportune time to evaluate and sift the many overlapping public and private interests that have a stake along the Lehigh River. This a prime opportunity to integrate the best ideas of the many initiatives that are well underway or being considered, including: the current America on Wheels Museum master plan; LANTA improvements; the Lehigh Valley Rail Corridor; Parks and Recreation plans; the Comprehensive Trails Plan; Ward 1 & 6 Weed & Seed programs; private development proposals; proposed plans for the American Parkway and public ownership of Neuweiler Brewery, to name a few. The desired outcome is an achievable and flexible master plan for the Lehigh Riverfront which is built upon economic reality, a sound multi-modal transportation approach, a balance of private development and public realm improvements, a focus on neighborhood enhancement and stability; environmental and financial sustainability; and best practices in riverfront design and land use expectations that are tailored to Allentown’s situation.

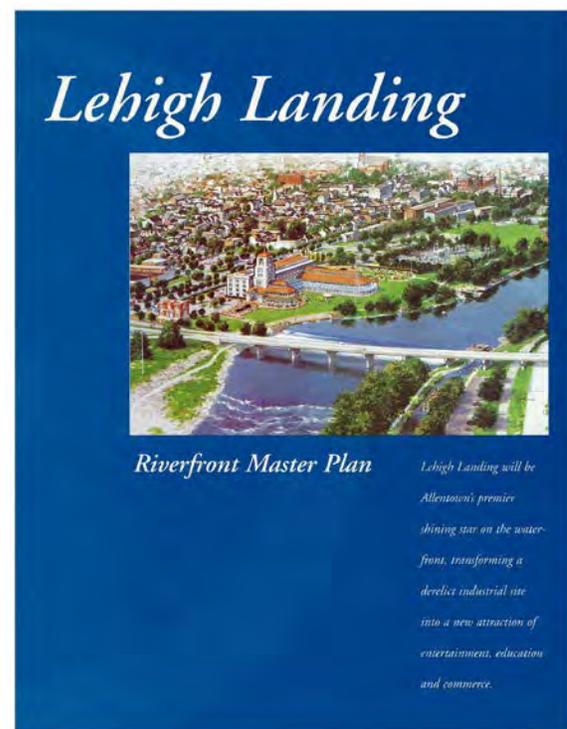
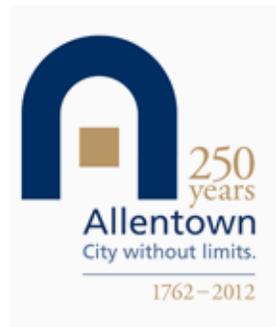


Exhibit 1-1: Since inception of the original Lehigh Landing Riverfront Plan a number of strategic City actions have occurred to facilitate development on the Riverfront. This new expanded Master Plan is a symbol of the City’s ongoing commitment to revitalize the Lehigh Riverfront.

1.1.1 WHAT MAKES THIS PLAN DIFFERENT?

This new Master Plan will position the City, the Allentown Economic Development Corporation (AEDC), the Allentown Commercial and Industrial Development Authority (ACIDA), the Allentown Redevelopment Authority (ARA) and riverfront property owners to continue to generate interest and momentum for redevelopment and enhancement as we emerge into the new economy. The Riverfront already has a jump start with the current success of the America on Wheels Museum as a pioneer development for the area and an anchor for the southern gateway to the Riverfront. The issue now is how to best build on that success and begin to create a critical mass of activity and draw to the area that

begins to finally flip the ratio of industrial and utility uses to open space and mixed-use in a stronger direction along the Riverfront. Strategic property acquisitions that the City, ACIDC and ARA have made around the Museum and Bucky Boyle Park will help pave the way for a cohesive early phase plan that will begin to establish a new identity for the Lehigh Riverfront. This Master Plan is different from past planning initiatives for Allentown and the Lehigh Riverfront in that:

- It was prepared with a focus on a market driven approach that informed the Master Plan;
- It considered funding and implementation from the start to frame the Master Plan;
- It can take advantage of new funding streams not previously made available for the Riverfront's redevelopment;
- The City/ Development Authority now has control of key sites to spark redevelopment, rather than waiting for property owner desires to sell and redevelop; i.e. the CALO Site, Lehigh Landing, Bucky Boyle, Park, Neuweiler Brewery, etc.
- There are now additional opportunities for public/private initiatives pending for the Lehigh Structural Steel site;
- The new Neighborhood Improvement Zone (NIZ) Legislation offers exciting incentives for redevelopment within both the Arena District and the Lehigh Riverfront District.
- Many sites outside of the NIZ still retain Keystone Opportunity Zone (KOZ) Site Certifications which also provide incentives for redevelopment in the Riverfront; and,
- The new American Parkway Bridge Crossing is planned to be completed by 2014, which will make the Riverfront more accessible and thus more marketable for redevelopment.

These are just a few of the current opportunities that are generating momentum which will push the Master Plan forward through implementation to realization over the next ten years!



The America on Wheels Museum is a successful attraction for the Riverfront

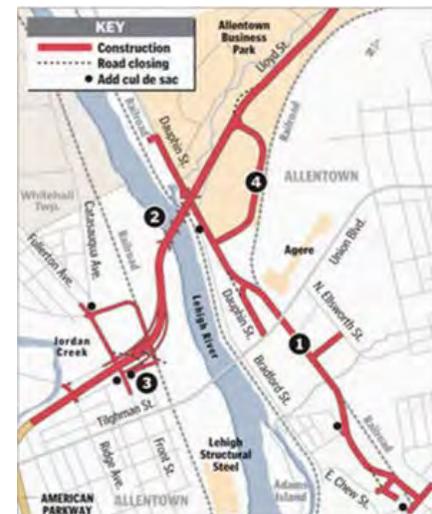


Exhibit 1-2: American Parkway Extension and Bridge Schematic

1.2 PURPOSE OF THE PLAN INITIATIVE

The overarching goal for this Master Plan is to, first and foremost, guide the Lehigh Riverfront's revitalization and redevelopment to reach its optimal potential as a balanced, live-work-tourism destination known for its neighborhood culture, niche commercial/ entertainment uses, strong urban streets and transit corridors, expanded employment opportunities, ample parks and open spaces, creative reuse of historic structures, celebrated civic heritage and a magnetic, interactive and sustainable riverfront environment. This is a time for a realistic, pragmatic, (yet visionary) and incrementally achievable plan that provides a road map for appropriate decision making and change over the next ten years. This Lehigh Riverfront Master Plan document and its appendices of consultant team supporting documents form the basis for reaching this goal and creating a consensus Lehigh Riverfront vision and implementation strategy.

1.3 THE STUDY AREA

The Lehigh Riverfront Master Plan study area is generally defined by the Lehigh River to the east, the Allentown City – Lehigh County line to the north, Front Street to the West and the Hamilton Street Bridge crossing to the south. One additional property to the west of Front Street, the former Ribbon Works Factory complex, is also included in the Master Plan area. The study area is approximately 120 acres in size, not including current public street right-of-ways and the primary north-south RJ Corman rail line right-of-way that serve the area. The specific study area boundary is outlined in blue on the Exhibit 1-1: Study Area Map illustrated below.

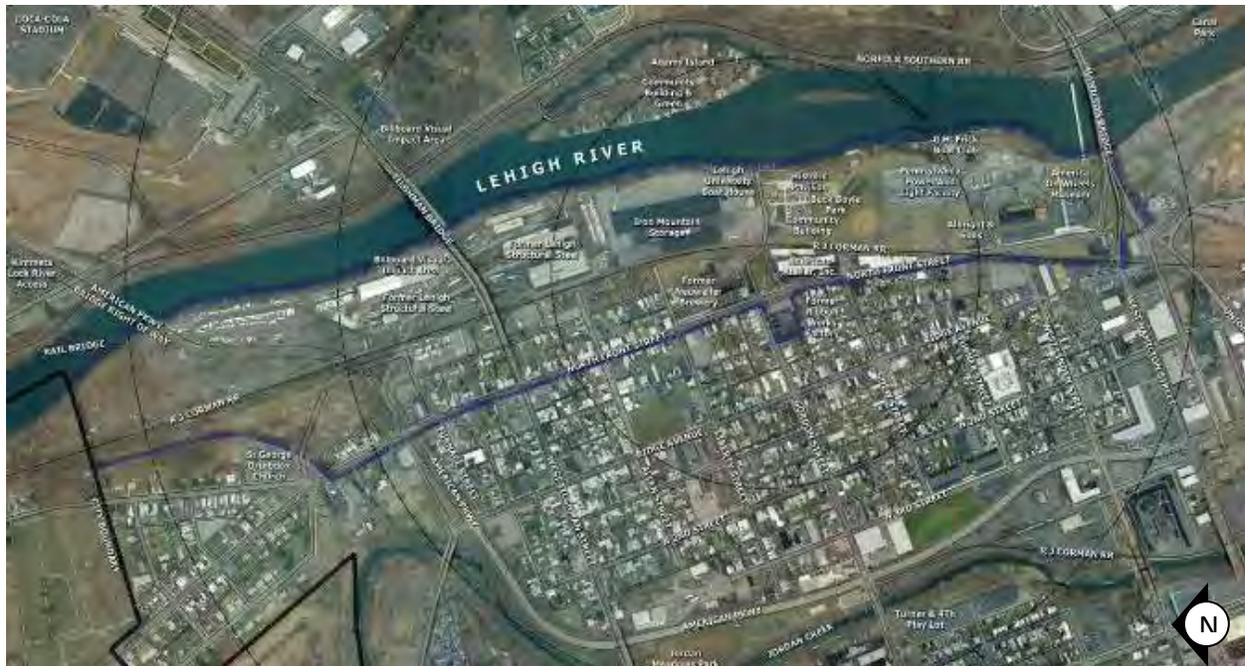


Exhibit 1-3: Study Area Aerial & Boundary (See full size exhibit in Appendix C)

The Lehigh Riverfront has been the subject of much study and anticipation for the past 15 years. Initially, those efforts focused on the southern portion of the study area, referred to as Lehigh Landing, but has since migrated northward to include several properties acquired by the Allentown Redevelopment Authority and a former structural steel facility that is currently being considered for redevelopment. While the Lehigh River offers an in-city amenity for both environmental and developmental purposes, the lack of suitable public access and its former industrial heritage have proven to be significant obstacles.

The Lehigh Landing area is directly adjacent to Hamilton Street consisting of about 26 acres, and is the site of the recently opened America on Wheels Transportation museum. Adjacent to the museum is a large, vacant former CALO Building site and three other sites that are owned by the Allentown Commercial and Industrial Development Authority. Lehigh Landing is so named as the area is designated as one of the "landings" associated the Delaware - Lehigh Canal National Heritage Corridor which runs along the east side of the Lehigh River.

North of the Lehigh Landing area is a large city park and recreation area, known as Bucky Boyle Park, that primarily services the adjoining neighborhood. In this area are also two large structures recently acquired by the Allentown Redevelopment Authority, one of which is an old brewery that has been vacant since the mid 1970's, and the other a multi-building former textile mill.

North of this area is the site of a former steel fabrication facility that is currently home to several smaller industrial concerns and has been proposed to be and office uses. A new zoning overlay district was created to facilitate this redevelopment, which has yet to proceed.

Farther north is the corridor for the proposed extension of the American Parkway, a four lane arterial designed to ease access to the City's downtown from Route 22 and the Lehigh Valley International Airport. This project includes a new bridge across the Lehigh River with construction expected to begin in 2013. The study area will be afforded access to the American Parkway north of Tilghman Street.

The adjacent neighborhood commonly referred to as the "1st and 6th Wards" has long been a focus of neighborhood revitalization efforts, most recently including its designation as both a federal and state "weed and seed" area. The neighborhood has historically been home to a lower income, multi-ethnic population that exists to this day. While the majority of this neighborhood is residential in character, its southern extent in the vicinity of Hamilton and Union Streets is a mix of commercial, wholesale and industrial uses.

Bisecting the entire study area is an active freight rail line that currently provides service to some of the industrial uses within the study area and potentially to businesses north of the study area and outside of the city limits.

1.3.1 THE INITIAL RIVERFRONT CHARACTER ZONES

For the initial photographic inventory and assessment, the 1.3 mile long Riverfront study area was divided into three (3) geographic character zones to better facilitate focused area plan development that is weighted to address riverfront, neighborhood or industrial/ commercial, rail corridor and other opportunities and issues that arise in each area. The resulting Lehigh Riverfront Master Plan then sought to unify, enhance and give equal attention to each of these geographic zones along the Riverfront.

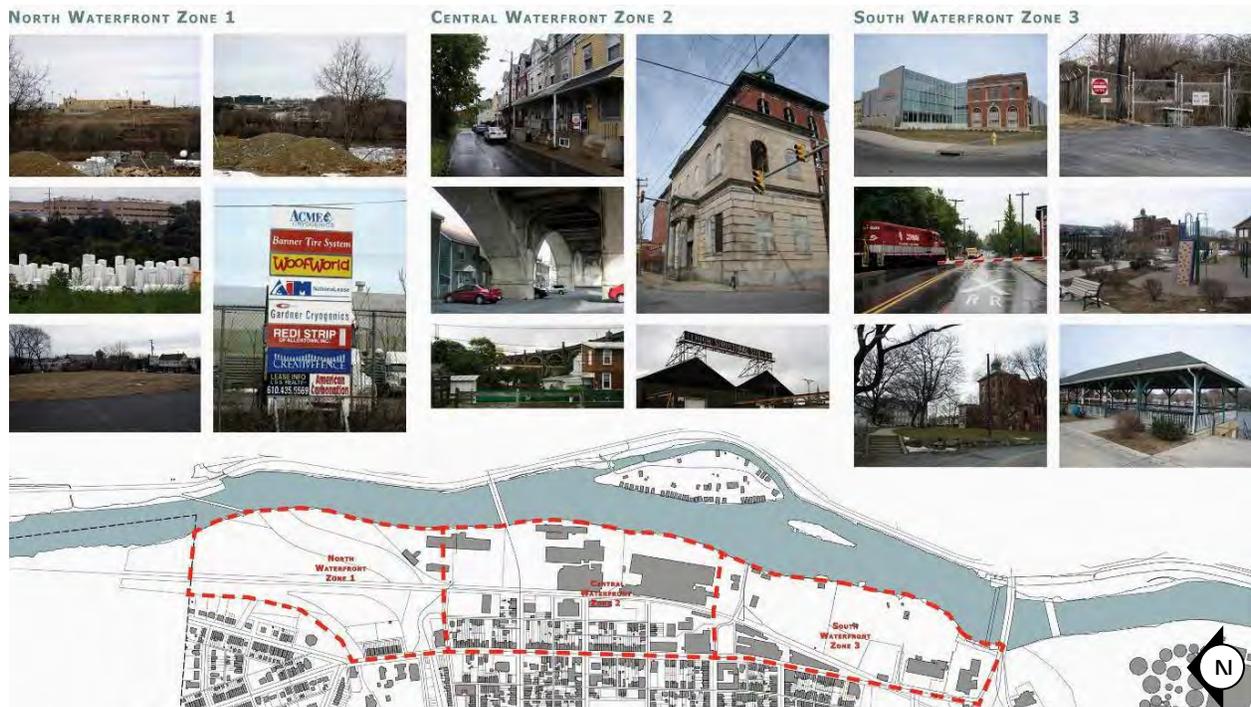


Exhibit 1-4: General Riverfront Character Zones Diagram

THE SOUTH RIVERFRONT

The **South Riverfront Zone** is generally defined by Front Street to the west, Hamilton Street to the south, the Lehigh River to the east and Bucky Boyle Park to the north. This area has been primarily known as Lehigh Landing over the past 10 years, anchored by the America on Wheels Museum. With the recent demolition of the CALO Building, this area offers the most open and closest approach to the Lehigh River with limited public river access offered at the Bucky Boyle Park pavilion area. Other notable building or open space uses in this area include:



- The Hamilton Street Bridge;
- The Lehigh River dam, lock and fish ladder;
- Canal Park (on the east bank)
- The America on Wheels Museum and parking;
- Pennsylvania Power and Light facilities;
- The Frick Boat Club (private river access);
- Bucky Boyle Park baseball, football/soccer fields and basketball courts;
- The R.J. Corman Railroad Group service spur;
- The old Albright & Son Co. building; and,
- Various Ward 1 neighborhood residences and businesses

THE CENTRAL RIVERFRONT

The **Central Riverfront Zone** is generally defined by Front Street to the west, Bucky Boyle Park to the south, the Lehigh River to the east and the Tilghman Street Bridge to the north. The area remains largely industrial in character and use, with the exception of the residential and school blocks along Front Street, Brick Street and under the Tilghman Bridge. Other notable building or open space uses in this area include:



- The Bucky Boyle Park Community Center;
- The Lehigh University Boat House;
- The old Neuweiler Brewery complex;
- A memorial park space to Mayor Samuel McHose in the upper Bucky Boyle Park;
- The old Ribbon Works Factory site;
- The Old American Atelier furniture factory site;
- The current Iron Mountain Storage facilities (Old Ingersoll Rand site);
- The southern portion of the old Lehigh Structural Steel buildings and cranes;
- A mechanical equipment salvage yard;
- The Tilghman Street Bridge;
- The R.J. Corman Railroad Group service spur continued; and,
- Various Ward 1 and Ward 6 neighborhood residences and businesses along Front Street and Brick Street

THE NORTH RIVERFRONT

The **North Riverfront Zone** is generally defined by Front Street to the west, the Tilghman Street Bridge to the south, the Lehigh River to the east and the City/County boundary line to the north. Like the Central Zone this area remains largely industrial in character and use, with multiple, smaller industries occupying the previous Lehigh Structural Steel site and buildings. The northern portion of the zone is

primarily dedicated to outdoor storage of industrial products and equipment. Other notable building or open space uses in this area include:

- The northern portion of the old Lehigh Structural Steel buildings and cranes;
- The Tilghman Street Bridge;
- The R.J. Corman Railroad Group service spur continued;
- The dedicated right-of-way for the proposed American Parkway Bridge
- The old Lehigh River railway bridge crossing over the to the Kimmets Lock Park area (on the east bank); and,



- Various Ward 6 neighborhood residences and businesses along Front Street, Brick Street and the Tilghman Bridge

These zones were continually referenced and debated for what they should become throughout the Master Plan process. Ultimately, through much stakeholder input, the three zones were expanded to eight smaller thematic zones with a focus on as much variety along the Riverfront as possible. The overall Master Plan and the thematic zones are detailed in Section 2.2.

1.3.2 THE LEHIGH RIVERFRONT...A TALE OF TWO RIVERS

The Lehigh River has historically been both a valued natural resource and economic generator for the Allentown community. These roles need not change with future riverfront revitalization and redevelopment; however, more focus needs to be placed on striking a careful balance between stewardship of the river environs and economic revitalization of this industrial district.

To better understand this dichotomy between nature and man's influences on the Lehigh River, a detailed visual assessment and photographic inventory of the Lehigh Riverfront study area was conducted during three one-day trips in the late winter, summer and the fall seasons in 2011. The team documented a detailed photographic inventory of both the designated study area as well as the surrounding Ward 1 and Ward 6 Neighborhood edges, the Overlook Park Neighborhood, Adams Island, Canal Park, Kimmets Lock and the areas along Hamilton Street and Union Street on the east side of the Lehigh River. This section is a summary of a much larger and more detailed site inventory and assessment document of existing conditions along the Riverfront, see Appendix C, which consists of:

- A detailed *Parcel and Land Use* analysis;
- An analysis of *Natural Influences & Trails* on the Riverfront;
- A *Topographic and Elevation Analysis* along the Riverfront;
- An analysis of *Man-Made Influences* on the Riverfront; and,
- A *Summary Assessment* of development and enhancement opportunities to be considered and explored; Assets to be protected and strengthened on the Riverfront; and, issues, challenges and/or constraints to be overcome on the Riverfront.
- Initial *Principles, Goals & Best Practices* for consideration on the Riverfront; and
- Potential *Framework & Themes* for Master Plan consideration.

There are a wide variety of existing physical conditions and use themes that contribute to the unique fabric of the Lehigh Riverfront and which were considered and respected in the Master Plan. These conditions played a key role in forming the physical framework that defined the Plan.

Natural Influences - Unlike other urban sectors of downtown Allentown, the Lehigh Riverfront is comprised of both natural and man made influences which provide the framework to guide future redevelopment. The natural elements and forces of the river environment must be respected, incorporated and enhanced in the Riverfront Master Plan. These elements include:

- The **existing vegetation masses** (green circles) primarily limited to the banks of the river and immediate undeveloped spaces.
- The **manicured (maintained) park spaces** (in medium green) and **natural open spaces** (in light green) that provide a softer appearance to the South Riverfront area.
- The limited **100 Year Floodplain** impact areas (dark blue) and more extensive **500 Year Floodplain** impact hazard zones (light blue).
- The primary **river flows** from north to south.
- The **existing and proposed pedestrian/bike trails** (red dashed lines) along the Riverfront and through the 1st and 6th Ward Neighborhoods to Jordan Creek and the MLK Trail to the South along Union Street.
- The locations for both **public/semi-public water access** (blue arrows) and **private water access** (yellow arrows).
- The locations of **quality views and vistas** (black view arrows), as well as **obstructed view sheds** (red view arrows) that could be potentially opened along the Riverfront.



Views from the Riverfront to the Neighborhood icons are also important to the Riverfront Plan.

Exhibit 1-6 below illustrates a mapping assessment these elements that were considered and incorporated into the workshop concepts and final Riverfront Master Plan.

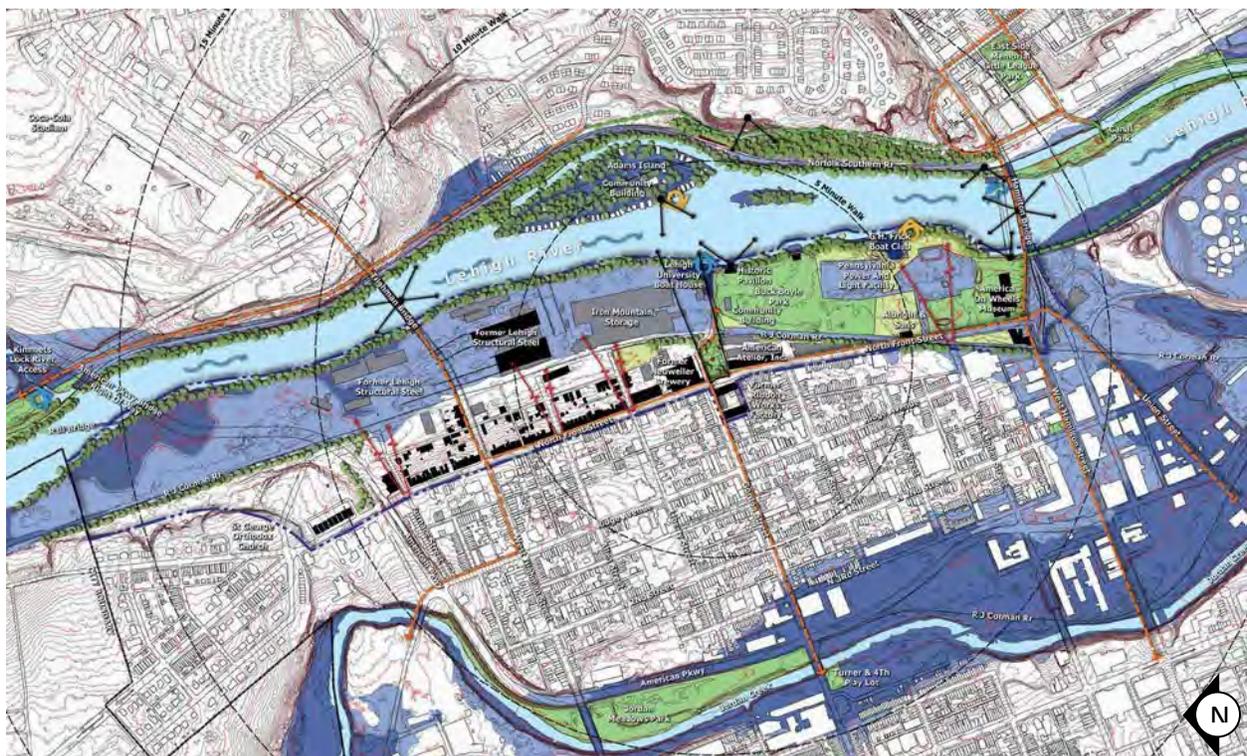


Exhibit 1-6: Site Analysis - Natural Environment Influences on the Lehigh (See Appendix C for full size exhibit and legend)

Topographic Influences - A detailed analysis of the topography along the Lehigh Riverfront revealed the subtle, yet important, landform changes that help to define the River's character zones. Exhibit 1-3 below generally illustrates the lowest areas of the Riverfront in darker green and the higher elevations in deep orange or red. Although the Riverfront District (outlined in blue) appears to be primarily flat, there is a difference of approximately forty feet (40') in elevation between the river's mean water level and the highest points along North Front Street. Water level within the area tends to be at elevation 250' with a 10 to 15 foot river bank before reaching a relatively flat shelf at elevation 265' that extends back to the RJ Corman Railway line. The railway generally marks the point at which a gentle slope begins to rise up to meet the Front Street elevations between Linden Street and the American Parkway. The elevation difference continues to a range of up to eighty feet (80') in portions of the 6th Ward Neighborhood, with the highest point being elevation 330' at the intersection of Ridge and Allen Streets. This difference in topography is further enhanced and celebrated in the Riverfront Master Plan by opening key view corridors from the neighborhoods to the Riverfront along extended east-west streets.

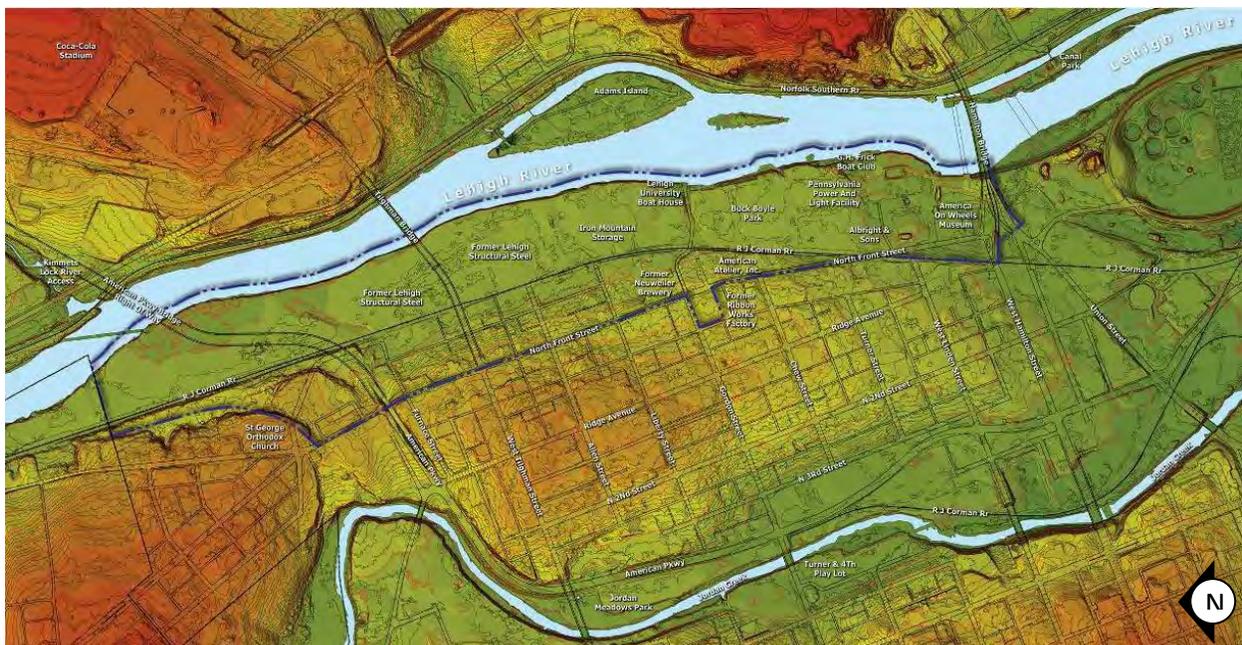


Exhibit 1-7: Site Analysis – Topographic and Elevation Analysis (See Appendix C for full size exhibit and legend)

A complete site analysis of the Lehigh Riverfront is comprised of both natural and man made influences. This section covers a summary assessment of the man made elements which contribute to the urban framework which will guide the pattern of future redevelopment. These elements include:

- The **existing land uses** – Institutional (blue), industrial (purple), parks/open space (pale green), residential (yellow), utilities (grey) and vacancies (tan).
- The **existing building fabric** – Key structures for retention and heritage structures for potential restoration and adaptive reuse within the Master Plan area are illustrated in black. Grey buildings within the Master Plan area considered for short-term or long-term relocation.
- The **formal park spaces and recreation fields** in the central portion of the Riverfront in Bucky Boyle Park.
- **Special points of interest** including from south to north; the Delaware & Lehigh Canal Park, the Lehigh Dam, The America on Wheels Museum, the A&B Meats Loading Dock Building, the Adams Island Community Building and Park, the Lehigh University Boat house and Bucky Boyle Park

Pavilion, The Neuweiler Brewery Complex, the Ribbon Works Factory, the Sussman Brothers Building, the Lehigh Structural Steel sheds and slide cranes, the Tilghman Bridge, and Kimmets lock Park

- The **existing street system** of arterial, collector, local roadways and alleyways.
- The three **primary intersections and gateways** leading to the Riverfront at Hamilton and Front Street, Tilghman and Front Streets and the American Parkway/Furnace/Bridge Street entry at Front Street, as well as two secondary intersections and gateways at Front and Linden Streets, and Gordon and Front Streets.
- The overhead utilities and infrastructure corridors leading to and from the Pennsylvania Power and Light Facilities, railway crossings, and river dams and locks.

Exhibit 1-8 below provides a mapping assessment of these elements that were considered and incorporated into the workshop concepts and final Riverfront Master Plan.



Exhibit 1-8: The Built Environment on the Lehigh – Man-Made Influences (See Appendix C for full size exhibit and legend)

A series of detailed, companion assessment documents, prepared by the EDSA Consultant Team, are also provided in the supporting Appendices for the Riverfront Master Plan, including: an *Economic and Market Assessment* prepared by Delta Development Group and located in *Appendix B*; a *Transportation and Transit Assessment* prepared by Gannett Fleming Inc. and located in *Appendix D*; a *Parks and Trails Assessment* prepared by Stromberg-Garrigan Associates, Inc. and located in *Appendix E*; a *Parking Assessment* prepared by Timothy Haahs Associates, Inc. and located in *Appendix D*; a *Utilities, Infrastructure and Environmental Conditions Assessment* memo prepared by SSM Group, Inc. and located in *Appendix F*; and a *Brownfields Conditions* briefing spreadsheet prepared by Jill Gaito and Delta Development Group in *Appendix G*.

The Lehigh River has historically been both a valued natural resource and economic generator for the Allentown community.



There are a wide variety of existing physical conditions and use themes that contribute to the unique fabric of the Lehigh Riverfront.

View from the Tilghman Bridge to the Hamilton Street Bridge - LEHIGH RIVER, ALLENTOWN, PA

A large group of people, including men, women, and children, are seated in a gymnasium for a public workshop. They are arranged in rows of folding chairs, facing towards the front of the room. The gymnasium has a polished wooden floor with orange and blue lines. In the background, there are large windows and a ladder leaning against the wall. Some people are holding papers or looking at displays. The overall atmosphere is one of a community meeting.

The citizens have a vision for what the riverfront can be... now is the time for action with the Neighborhood Improvement Zone in place.

The public process was an essential component for designing a stakeholder driven Lehigh Riverfront Master Plan

PUBLIC WORKSHOP – LEHIGH RIVERFRONT MASTER PLAN PROCESS, ALLENTOWN, PA

1.4 THE PUBLIC PROCESS & INPUT

The public process was an essential component for designing a stakeholder-driven Lehigh Riverfront Master Plan. The EDSA team worked hand-in-hand with the City of Allentown and its Task Force to engage the Riverfront's diverse stakeholders during the four phases of the plan. Through community forums, workshops, surveys and interviews, public input played a key role in the design process.



1.4.1 INTRODUCTION AND OVERVIEW OF THE PUBLIC PROCESS

The first phase of the public involvement effort included the dissemination of project information and gathering public input on issues of concern in the Riverfront area. During this phase, a project website (www.lehighwaterfront.com) and Facebook page were established.

A series of three community and steering committee meetings formed the heart of the public engagement process. During each meeting, individuals were given the opportunity to provide input and feedback and complete a comment form.



Meeting announcements and materials, a project overview and schedule, and FAQ were some of the many elements in the website.

1.4.1.1 TASK FORCE KICK-OFF SESSION AND COMMUNITY FORUM #1 (PLEASE SEE APPENDIX A-1 FOR COMPLETE MEETING REPORT)

Two introductory meetings were held on Thursday, September 22, 2011 at the America on Wheels Museum located at 5 North Front Street, Allentown, PA. Through a letter from City of Allentown Mayor, Ed Pawlowski, members of the Task Force were selected to represent a cross-section of constituencies interested and engaged in the Riverfront's redevelopment.

In regard to the Community Forum #1, a meeting flyer was developed and distributed through the City's network of community service groups. In addition, a press release was submitted to local media sources.

- Task Force Kick-off Session Purpose:** To introduce the EDSA Team and the Task Force Group members, discuss planning process, review the general schedule, review team observations



The project's Facebook page invited public participation and comment.

to date, document issues and opportunities, and begin to define riverfront expectations, goals and programming.

Attendance: 22 Task Force members attended

Discussion: During the group discussion, members of the Task Force express their concerns and hopes for the Riverfront development. Themes of the conversation ranged from a focus on leveraging the NIZ for business development, assuring adequate greenspace and recreation, maintaining community character to creating linkages to other initiatives.



- **Public Forum #1 Purpose:** To introduce Allentown's Ward 1 and Ward 6 Neighborhoods and the larger Allentown Community to the Lehigh Riverfront Master Plan study, the involved parties and the planning process. Also, to receive input on community visions for the Riverfront, building upon assets, opportunities, issues and challenges.

Attendance: 52 individuals signed in for the meeting.



Discussion: During the group discussion, the public's comments mimicked much of those heard from the Task Force with an even stronger emphasis on community connectivity surfacing.

1.4.1.2 TASK FORCE MEETING #2 AND COMMUNITY FORUMS #2 A&B (PLEASE SEE APPENDIX A-2 FOR MEETING REPORT)

During a three day period three meetings for the Lehigh Riverfront Master Plan were held:

- December 6, 2011: 6:30-8:30 PM, Community Forum #2A at the Sheridan Elementary School
- December 7, 2011: 1:30-3:30 PM Task Force & Resource Team Meeting #2 at Bucky Boyle Park Community Building
- December 8, 2011: 6:30-8:30 PM, Community Forum #2B at the Sheridan Elementary School

During that same time, 20 interviews of key stakeholders were conducted.

The Community Forum #2A and the Task Force & Resource Team meetings focused on envisioning what the Lehigh Riverfront should become. The Community Forum #2B showcased the results of the first two meetings by illustrating opportunities to implement the community's vision at the Riverfront.



Task Force sub-group members discuss neighborhood items

- **Task Force Meeting #2 Purpose:** To explore existing conditions, best practices and emerging scenarios for the Lehigh Riverfront.

Attendance: 30 Task Force members attended

Breakout Group Discussion: The members were divided into five discussion groups and in a charrette type format addressed these topics:

- #1: Ward 1/Ward 6 Neighborhood and Allentown Community Improvements
- #2: Riverfront Economic Development, Marketplace and Branding
- #3: Riverfront Land Use, urban Design, Parks and Recreation
- #4: Riverfront Infrastructure, Environment, Sustainability & Marine Use
- #5: Riverfront Transportation, Transit and Parking



Task Force members reporting on urban design & parks

- **Community Forum #2A Purpose:** To explore existing conditions, best practices and emerging scenarios for the Lehigh Riverfront.

Attendance: 27 individuals signed in for the meeting.

Breakout Group Discussion: Five breakout groups were formed and in a charrette type format, members were asked to discuss what the Lehigh Riverfront should become. By drawing on maps, individuals were able to indicate where and what type of development they envisioned.



Citizens discuss "What the Lehigh Riverfront should become"

- **Community Forum #2B Purpose:** To present the results from Community Forum #2A and Task Force and Resource Team meeting and provide emerging scenarios for the riverfront development.

Attendance: 40 individuals signed in for the meeting.

Discussion: After presenting a summary of the results from Community Forum #2A and a corresponding first brush of a development, an open comment period was held. During this time, attendees expressed what their likes and dislikes about the concepts presented.



Public presentation on Riverfront workshop scenarios

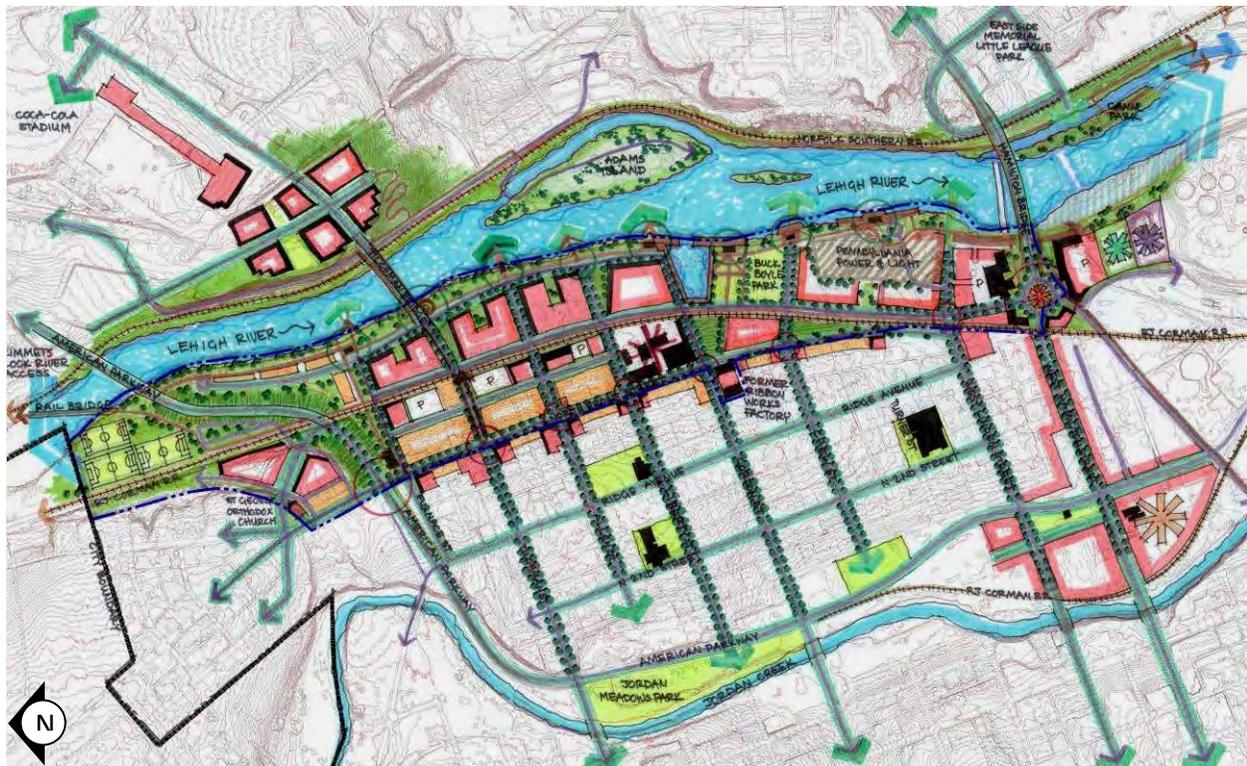


Exhibit 1-9: Initial Framework Concept Plan from the public workshop – “Riverside Drive and Greenway”

- Stakeholder Interviews’ Purpose:** To explore a variety of topics related to the riverfront development.

Number of Interviews: 20 individuals

Interview Discussion Guide: During the interviews the following questions framed the conversation:

1. Tell me a little about yourself and your primary roles in the Allentown community and the larger Lehigh Valley region. How long have you been in the region? What are you and/or your organization’s personal interests and/or potential roles in the Lehigh Riverfront Plan and its implementation?
2. What do you believe would be helpful for someone outside the region to know about Allentown and the Lehigh Riverfront? Please be as specific as possible.
3. What do you see as the critical issues and opportunities that must be considered while developing a plan for the Lehigh Riverfront?



Citizen workshop participants convey their Riverfront ideas

What solutions do you see? What obstacles?

4. What is your vision for the river's waterfront? What types of building uses and park amenities should we encourage along the Riverfront? What do you believe needs to be done first or would be a good place to kick-off the revitalization and redevelopment? Where would you invest public and private monies first and why?
5. Do you see what's happening with Bethlehem's and Easton's revitalization initiatives as a potential complement or competition with Allentown's riverfront initiative? What unique direction might we take that would further distinguish Allentown from its neighboring cities?



Public input during charrette week

1.4.1.3 TASK FORCE MEETING #3 AND COMMUNITY FORUMS #3 (PLEASE SEE APPENDIX A-3 FOR MEETING REPORT)

On April 4th and 5th 2012 a Community Forum and Task Force/City Resource Team meetings were held in order to present and seek feedback on the emerging Lehigh Riverfront Master Plan.

The Community Forum was held on April 4, 2012 from 6:30 – 8:30 PM at the Sheridan Elementary School, 541 North 2nd Street, Allentown, PA. This forum was in an open house format and began with a 45-minute summary presentation of the primary recommendations for the Riverfront area followed by an opportunity for questions, answers and comments. Participants were then invited to review and discuss the exhibits with EDSA Team members, City planning staff, City representatives and Task Force members with stations set up by topic areas.

The Joint Task Force and Resource Team Meeting was held on April 5, 2012 from 1:00 – 3:00 PM at the Bucky Boyle Community Building, 10 Pump Place (N. Front St.), Allentown, PA. In this session, the consultant team presented the preliminary Master Plan, development program and economic development/ implementation and phasing recommendations. The Task Force Members participated in a facilitated discussion about their “likes” and “dislikes” of the plan recommendations.

- **Community Forum #3 Purpose:** To present and seek feedback on the primary recommendation for the riverfront development.

Attendance: 120 individuals signed in for the meeting.

Discussion: A summary presentation of the plan's primary recommendations was followed by an open discussion and then an open house to review the design exhibits and speak with consulting team members.

- **Task Force Meeting #3 Purpose:** To present and seek feedback on the primary recommendation for the riverfront development.



Task Force topic sub-group reporting session

Attendance: 27 Task Force members attended

Discussion: The Task Force meeting occurred after the Community Forum which provided an opportunity to present the results of that forum for members' consideration. The meeting's discussion period consisted primarily of questions for clarification by the Task Force members.

1.4.2 GUIDING INPUT FROM THE ALLENTOWN COMMUNITY

1.4.2.1 SUMMARY OF EMERGING THEMES FROM THE PUBLIC FORUMS, TASK FORCE/ RESOURCE TEAM SESSIONS AND STAKEHOLDER INTERVIEWS

In addition to meeting discussions and charrette type design roundtables, comment forms were distributed at the first and third community forums. These comment forms, along with the Community Forums, Task Force Meetings and key stakeholder interviews resulted in a number of common themes. Highlights of those themes about the Riverfront include:

- A Diamond in the Rough
- The site is a diamond in the rough. There are exciting opportunities for better uses for the Riverfront.
- Allentown provides the only boat-accessible river frontage in the Lehigh Valley.
- The American Parkway Bridge will provide a good connection and keep traffic off local streets.
- The NIZ creates leverage.
- Focus on Allentown's already available workforce.
- Be creative in creating a tie between the City and its riverfront rather than creating the perception of two cities.

Leverage and Support Existing Plans in Flux and Motion

- The LSS plan for 1.1M sq. ft. is in flux; it originally focused on 560 condo units, 1,100 underground parking units with a small amount of office and retail. With the change in the economy and the NIZ opportunity, the potential mix is likely to change.
- Build the middle school's needs for an athletic field into the development.
- "I want to consolidate and relocate my business to the site..."
- Consider becoming another industrial development park, like an LVIP VII which is a south Bethlehem based industrial park with state and federal incentives.

Work with and Integrate Development into the Community

- The community is very supportive of the site plans – really valuing the public access to a river.
- Tie to the community, connect to neighborhoods; Engaging important stakeholder groups (environmental, neighborhood, etc.,) will engender support. Build on what AOW has already done with the local community. The more city residents that are incorporated into the



Allentown resident describes memories of Bucky Boyle Park and the River Days Festival.

- development, the more successful it will be. Make it a family-friendly place.
- Provide stores and restaurants that cater to the many cultures that reside in Allentown.
 - Involve the Hispanic neighborhoods and assure affordable or free opportunities are a part of the plan.
 - Link Canal Park to the development...its tow path connects to Steel Stacks and could be a great bike path linking the cities.
 - Create opportunities/incentives for homeownership and for absentee owners to sale aggregates of property to the city. The government needs to be involved in designing these incentives to improve degraded properties.
 - Require 20% of jobs to be people from the immediate neighborhoods and include a job investment board onsite.
 - Remove everything east of Front Street and do neighborhood retrofit and restoration for everything on the west of Front Street.
 - Focus on improving the lives of the residents of Allentown through education and training. Use the NIZ to finance economic development driven by science and engineering incubation. Focus on people working and living in the city as opposed to visitors who come in and leave.
 - Development needs to provide community accessibility and have a suburban feel.

Address Perception and Reality Related to Safety

- Creation of activities at the Riverfront would help stem crime.
- Do something with Neuweiler Brewery. It's a safety issue. Repurpose or tear it down.
- Address the crime element that is drug-driven.
- The city has seen a 12.5% reduction in major crime over the last year.
- Coordination with the law enforcement during development is critical to assure a safe environment and that capacity and resource needs are addressed.



Task Force members discuss transportation and transit

Development Could Include a Wide-Variety of Interests:

- Retail; Education, Art; Entertainment; Residential; Commercial; Manufacturing
- Focus on young professionals.
- Create a visually appealing, aesthetically pleasing, safe, family-friendly environment with open air cafes, art galleries, shops intermingled with the native foliage lining the river's edge
- Create opportunities for children...educational, hands-on like the Please Touch Museum in Philly. Focus on bringing families, children and grandparents to the Riverfront.
- Add other museums, galleries, restaurants. People are looking for fun activities to do.
- Mix recreational, commercial and residential development
- Provide parks with a safe environment for all ages to enjoy activities that stimulate a healthy lifestyle: lighted tennis and basketball courts; baseball/softball fields, playground apparatus; walking/jogging trails with exercise stations.
- Provide recreational activities: ice skating and roller skating rinks; bowling alley
- Provide a landscape boulevard along Hamilton and street access from various parts of the city (South Union to north)
- Include a variety of entertainment venues (i.e., music, outdoor rollerblade/ice rink).

- Keep some of the property available for industrial use. There is no other place nearby that is large enough for the current businesses.
- A strong residential component is needed to get areas off the ground.
- Create a glitz-downtown, a mini- Times Square with lights and that complements the arena.
- Start small scale projects that can serve the local community (i.e., any length of trail that can be funded through transportation funds).
- Don't rule out light industrial and flex space.
- Provide opportunities for businesses that demand freight rail.
- Get rid of unattractive property, opening things up with good access so that investors can see the potential.
- Include some residential development, assuring that amenities exist (entertainment, water-related access, restaurants and workplaces.)

Use the Water and Green Space:

- Provide access to the water including boating and watercraft access. Create riverfront activities; make stuff happen on the water, creating a lifestyle around the water.
- Revive Lehigh River Days with competitions and games, in order to combat the stigma that deters people from coming downtown.
- Create pedestrian and bike trails along the river. The D&L (East Side Trail) needs connected. Trails and parks can be started cheaply. It could become the closest park for those that live in east Allentown.
- Create river walks, river trails and boardwalks.
- Be sure to meter the river's use to promote safety – speed limits, no-wake zones and limit rental activity.
- River views are everything – this will maximize the people who come and property values at the site.
- Maintain or improve the quality of the river. Above all, don't damage it. Meet or exceed best practice environmental standards – LEED certification.
- Maintain a significant amount of open area – park and vegetative. Remove all invasive species and replace with native plantings. Develop a shoreline to produce or have more native aquatic plants. Include botanical gardens with native plants

Learn from and Leverage the Work of Others

- Sands Casino and Steel Stacks
- Create a “visitor experience” like San Antonio's Riverwalk
- Model after bigger cities (Pittsburgh, Philly, NY).
- Allentown could leverage the national corridor by capitalizing on that history. Utilize the PPL site through interpretive opportunities. Leverage regional and national industrial heritage (versus local).

1.4.2.2 FEEDBACK ON THE LIKES, DISLIKES & WHAT WAS NEEDED IN THE PLAN

LIKES:

<ul style="list-style-type: none"> ▪ Well balanced - Parking hidden. Good water access.
<ul style="list-style-type: none"> ▪ It's a move to make Allentown better.
<ul style="list-style-type: none"> ▪ Restaurants, retail, public space, bike path, and pretty much everything sounds great!
<ul style="list-style-type: none"> ▪ The pedestrian bike accessibility... The sustainability... The taking over of vacant, crime prone areas and making instead a user friendly space.
<ul style="list-style-type: none"> ▪ I think it's a great idea I am all for the change and look to my community. I have been in a neighborhood that has changed in a very similar way and had nothing but positive changes.
<ul style="list-style-type: none"> ▪ The mix of uses and the public access to the river.
<ul style="list-style-type: none"> ▪ Nicely laid-out.
<ul style="list-style-type: none"> ▪ Strong police presence and good parking, this will work ▪ It will change our area for the better. It will preserve beautiful architecture and create new beautiful buildings. The park will be used again.

DISLIKES:

<ul style="list-style-type: none"> ▪ Traffic
<ul style="list-style-type: none"> ▪ Concern about economy and getting business to survive in the area
<ul style="list-style-type: none"> ▪ That it will take so long
<ul style="list-style-type: none"> ▪ Nothing
<ul style="list-style-type: none"> ▪ The length of time it will take to complete
<ul style="list-style-type: none"> ▪ Too many other boats sharing the river could be a safety hazard
<ul style="list-style-type: none"> ▪ Access to the river
<ul style="list-style-type: none"> ▪ Don't have a clear vision for traffic - Especially for Front St. Tilghman St. Bridge needs work
<ul style="list-style-type: none"> ▪ My only concern is that development relies heavily on the NIZ and federal/state funded roadway improvements. The roadway improvements may take several years, so at what point does the benefit of the NIZ no longer make the ??? Marketable
<ul style="list-style-type: none"> ▪ It will create more traffic but it goes along with the plan.

WHAT IS MISSING?

<ul style="list-style-type: none"> ▪ Make connection to the Jordan Creek Green Way Trail @ Gordon Street
<ul style="list-style-type: none"> ▪ Keep it "warm" not every corporate feeling, words like romantic local, personal, beautiful, inviting, possibly include a supermarket? Public restrooms?
<ul style="list-style-type: none"> ▪ More user friendly bus service. City wide to bring people more easily into the Riverfront.
<ul style="list-style-type: none"> ▪ Funding? Timelines?
<ul style="list-style-type: none"> ▪ A concert area - a band shelter would be nice. We have great talent plus any name groups who would like to perform while they are in town.

As is evidenced by the plan, the public engagement process was instrumental in its shaping its vision and development.

SUPPORTING APPENDICES: COMMUNITY MEETING REPORTS

- A-1 Steering Committee and Community Forum #1
- A-2 Steering Committee and Community Forum #2 and Stakeholder Interviews
- A-3 Steering Committee and Community Forum #3

*Welcome to LEHIGH RIVERFRONT FESTIVAL PARK...
A new common ground for Allentown's citizens and visitors.*



*The new Chew Street Pedestrian Promenade
and Lehigh Riverfront Promenade*

MASTER PLAN INITIATIVES 2



The new Gordon Street extension through Brewer's Hill Park and on to Riverside Drive

2.1 MARKET ASSESSMENT AND ECONOMIC DEVELOPMENT PROGRAM SUMMARY

This section presents a summary of the market analysis that provides the groundwork for the revitalization plan for the Lehigh Riverfront. Charged with the task of determining what types of development could be supported within the Riverfront, Delta Development Group, Inc. (Delta) collected and analyzed data and discussed current trends with the Lehigh Valley Visitors Center and housing management companies. To supplement this data collection, Delta ran Huff Gravity Models, using advanced GIS models from ESRI's Business Analyst software, to determine a realistic capture rate of the region's consumers.



Although the basis of this analysis is built upon regional data and local information, Delta has made some assumptions that if the City continues to focus on revitalization it can impact and change the current trends with respect to population and employment, two key factors that will support future economic initiatives. In order to successfully continue on its path for renewal, Allentown must focus on marketing itself as a vibrant city, rich in history, culture, and recreational opportunities. It will be these attributes that will appeal to a regional population that is currently working in Allentown but not residing there.

Each of the City's current residential neighborhoods is known for specific attributes, and the West Side neighborhood is one of Allentown's most desirable areas. Housing values are higher, vacancies are lower, and the population in this neighborhood has continually grown. The neighborhood offers newer housing stock and newer commercial development. The Riverfront has the opportunity to replicate these offerings, by creating an urban, chic new residential neighborhood that offers loft-style apartments atop new commercial development. This neighborhood should be marketed to attract a younger population not intimidated by cultural changes and an active city life.

New development should include mixed-use nodes that are compact and walkable, and incorporate recreation-oriented businesses, cafes, shops, restaurants, boutique retail, housing, and new recreation and leisure amenities.

2.1.1 UNDERSTANDING THE POTENTIAL

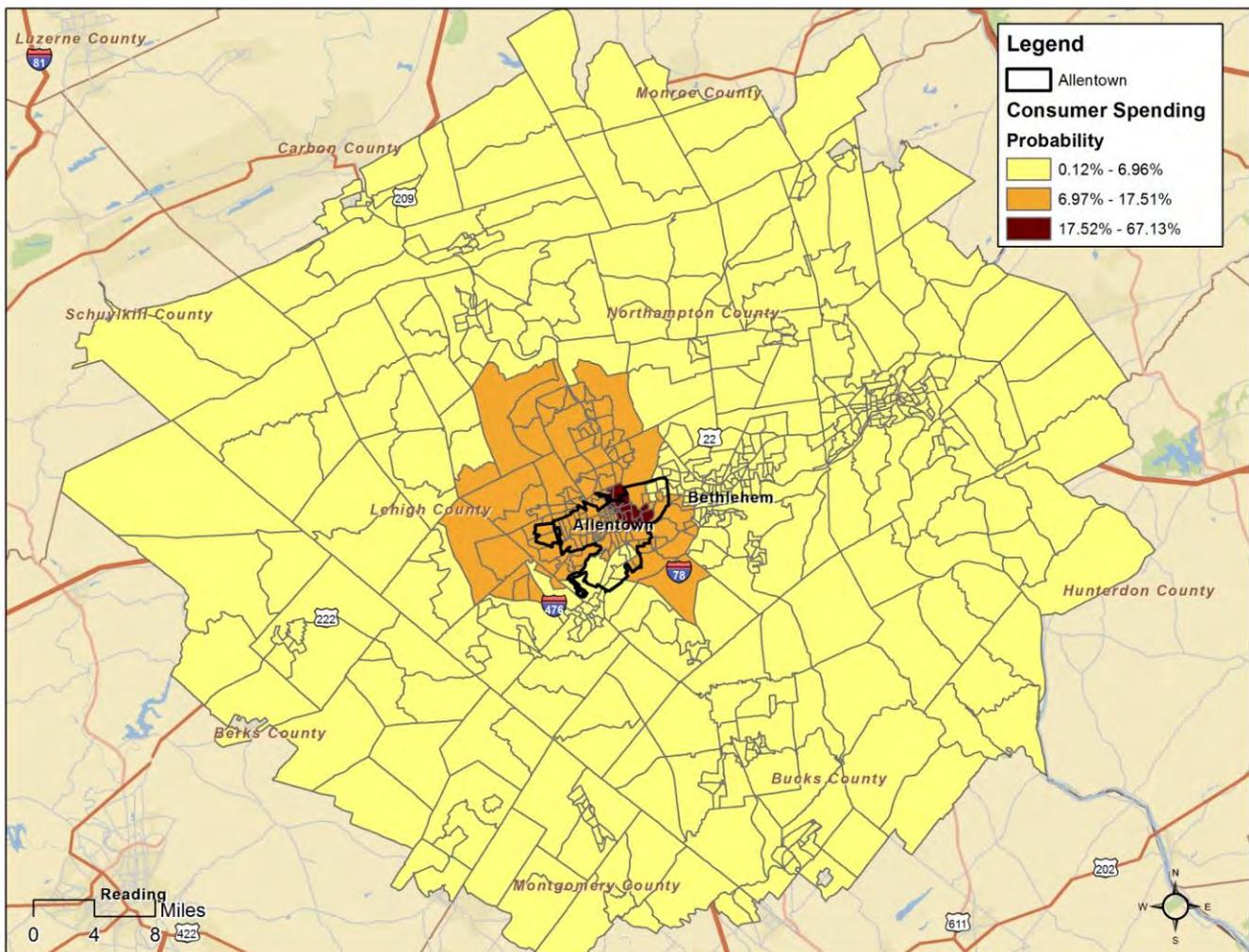
Residents in Allentown will represent the primary target market for new retail, restaurants, entertainment, and industry, which may develop as part of the effort to revitalize the Riverfront. However, their spending potential will not be sufficient to support new growth and development; Allentown will need to attract consumers who reside within the region, tourists, and employees of the City of Allentown.

2.1.1.1 PRIMARY TARGET MARKET – REGIONAL MARKET

According to the 2010 Census, over 822,159 people reside in the Lehigh Valley. These individuals are afforded a number of opportunities to shop, dine, and be entertained. To identify the Primary Market Area (PMA), Delta calibrated a Huff Gravity Model to determine what percentage of the residents would commute to the Riverfront for goods and services based upon the following:

- The distance consumers would have to travel to reach the site
- The attractiveness of the new development
- The regional competition

The results of the gravity model show that it is expected that the Riverfront could potentially capture approximately 41% of spending on retail, restaurants, and entertainment, or roughly \$56 million from residents within the PMA. Assuming that annual sales per square foot of a mixture of retail, restaurants, and entertainment averages \$400 per year, this level of spending could potentially support approximately 84,000 square feet of additional restaurant space, 42,000 square feet of additional retail space, and 14,000 square feet of additional entertainment space (assuming a 60%-30%-10% split among these sectors).



It is important to note that the 41% potential capture rate is based upon improvements that incorporate a mass of development providing new restaurants, retail, and entertainment. If the development is smaller in size, the capture rate would be reduced accordingly. In order to effectively create a destination and to increasingly draw consumers, the Riverfront needs to promote an attractive sense of place that invites people to think of the Riverfront as one of their choices for dining, shopping, and entertainment.

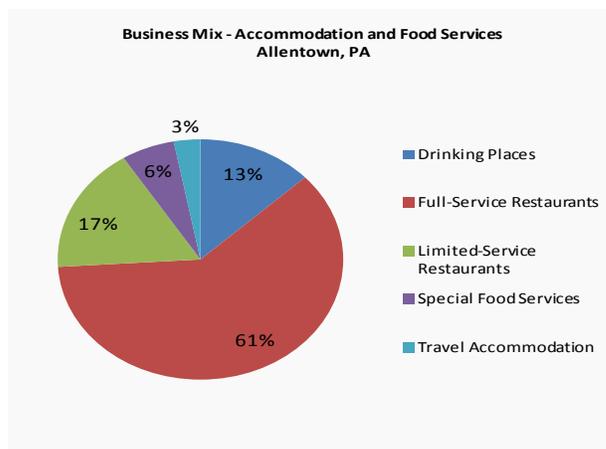
As the Riverfront begins to develop, and new housing, retail, restaurant, and recreational opportunities are provided, a new gravity model should be calibrated to determine the impact of the Riverfront in attracting consumers to the City of Allentown. As the Riverfront and the City of Allentown continue to add cultural, entertainment, and recreational opportunities, the City will have a greater appeal to the regional consumer.

2.1.1.2 SPENDING POTENTIAL

Consumers in the PMA spend a good portion of their disposable income on entertainment and recreation (fees/admissions), reading, food at home and away from home, alcoholic and nonalcoholic beverages, insurance, and smoking products. The PMA's spending potential index for pets is higher than the national average.

2.1.1.3 CURRENT BUSINESS MIX – PMA

ACCOMMODATION AND FOOD SERVICES



SOURCE: ESRI

While 61% of the businesses associated with the Accommodation and Food Services sector are full-service restaurants, 17% are limited-service restaurants. The PMA spends approximately \$249 million on food away from home. They spend another \$45 million on alcoholic beverages.

Not included in this business mix, but an important sector to keep in mind, is the Pet sector. The PMA's spending potential index for this sector is 112 (higher than the national index), and the household spending is approximately \$39 million. A pet boutique specialty store that includes a spa/grooming facility, specialty retail items, and overnight lodging should be

considered for the Riverfront; this would provide a unique experience not currently available in the marketplace. Other retail items to be considered within the Riverfront are ones that appeal to the recreational user; this could include bike rentals, canoe/raft rentals, etc.

2.1.1.4 IMPACT OF THE NEW ALLENTOWN ARENA & EVENTS CENTER

The new Allentown Arena and Events Center (Arena) can also play a role in attracting new consumers to the Riverfront and support the new offerings identified within this assessment. It is anticipated that over 400,000 people will participate in events that are scheduled within the new Arena. These events could be sporting events, concerts, family shows, and corporate/community events. If the Riverfront could attract 20% of the Arena's attendees to shop and dine, this would support 5,715 square feet in restaurant space, and 4,800 square feet in retail space.

2.1.1.5 VISITOR SPENDING



In 2009, Lehigh Valley attracted 3.9 million overnight visitors and 7.6 million daytime visitors. These visitors spent approximately \$1.5 billion. Of that \$1.5 billion, \$134 million was spent on lodging; \$403 million on food; \$254 million on recreation; and \$314 million on shopping. The Riverfront, if developed with a concentrated mix of restaurants, retail, and entertainment venues, will be able to attract tourists to the site. However, in order to effectively attract consumers, a “build it and they will come” marketing program will not work. The City, or other entity such as a business improvement district, will need to make a concerted effort in marketing the offerings of the Riverfront, as well as downtown Allentown, to this

targeted consumer. Developing visitor packages that include a hotel stay, restaurant discounts, shopping coupons, and museum tickets will not only assist in attracting visitors, but it will also assist in promoting what the City of Allentown has to offer. If the project is developed with the right mix, and the City aggressively markets the Riverfront/downtown Allentown, the site can capture \$9.6 million of the visitor spending.

2.1.1.6 ALLENTOWN EMPLOYEES

In 2009, there were 43,850 people employed in the City of Allentown; 9,859 of these employees live in the City of Allentown; and 33,991 commuted to Allentown on a daily basis, with their commutes ranging from 0 to 10 miles to over 50 miles per day. Allentown's employees represent a target market for the Riverfront's new restaurant, retail, and entertainment facilities; they also represent a target market for new housing to be developed in the Riverfront.



It is anticipated that the 43,850 employees will tend to eat out at least one day per month, and will shop at least one day per month. If the Riverfront should capture at least 10% of this spending, this will conservatively equate to annual spending of \$1,375,500 (dining) and \$825,300 (retail). This spending would support 3,930 square feet in restaurant space and 3,301 square feet in retail space.

Capturing downtown employees takes a concentrated effort to change their current pattern from driving out of the City to do their dining/shopping; however, downtown employees are a captive market. Offering employee discounts and planning special employee events can send the critical message that this sector is an important consumer to the City of Allentown.

The region's residents, visitors, and employees make up the targeted consumers for the Riverfront. Their spending habits and disposable income were used to determine what types of new development can be supported in the Riverfront. Again, the City of Allentown, or a newly created business improvement district, can drive this sector to the Riverfront, as well as other venues located within the City, by developing an effective marketing campaign that includes print material, special discounts, and events, all of which are meant to showcase the City and its urban appeal.

2.1.2 DEVELOPMENT ANALYSIS

2.1.2.1 RETAIL/RESTAURANT/ENTERTAINMENT ANALYSIS

Regional consumers with a 41% capture rate would support the following:

- 42,000 square feet in new retail space
- 84,000 square feet in new restaurant space
- 14,000 square feet in new entertainment space

Allentown Arena and Events Center visitor spending would support the following:

- 4,800 square feet in retail space
- 5,715 square feet in restaurant space

Visitor spending would support the following:

- 12,600 square feet in new retail space
- 11,571 square feet in new restaurant space

Downtown employees would support the following:

- 3,301 square feet in new retail space
- 3,930 square feet in new restaurant space



Based on Delta's assumptions, the City of Allentown can support 62,701 square feet in new retail space, 105,216 square feet in new restaurant space, and 14,000 square feet in new entertainment space. This development, however, must be constructed in a phased approach. Adding approximately 20,000 square feet of combined retail, restaurant, and entertainment space at a time would allow this space to be absorbed into the market before continuing to the next phase.

2.1.2.2 HOTEL ANALYSIS

The Lehigh Valley offers a total of 5,716 hotel rooms that vary by location, price point, age, and amenities. Of this number, 37% of the market share is located in Bethlehem. The majority of the rooms being offered have been added within the last five years. An additional 21% of the market share is located within three miles of the Riverfront. Most of these hotels have been in existence prior to 2005,

although some renovations or mergers have occurred recently. In 2010, the average occupancy rate of the hotels in the Lehigh Valley was 56.2%, which was slightly lower than the statewide average.

Allentown has a number of attractions that draw people to the City, and the proposed Arena will increase the number of these potential visitors who would be attracted to the Riverfront. Allentown has also emerged as a vibrant city for business and business-related travel. Allentown's top employers include Pennsylvania Power and Light, Sacred Heart Hospital, Good Shepherd Hospital, Lehigh Valley Hospital/Health Network, LSI Corporation and a number of college and higher education centers. The area also offers the Lehigh Valley International Airport, which provides more than 28 daily, nonstop departures.

Delta examined the number of rooms within the marketplace and the annual occupancy rate to determine what dollar amount people are spending annually on lodging in the region. Approximately \$134,622,000 of regional spending occurs on lodging. The following list profiles the project and competitor market share, based on spending potential. The market share was determined based on the historical average occupancy of 56.2% and an average daily rate of \$85.00 per room. It is assumed that the new hotel product would be more attractive in the market and therefore would maintain a higher occupancy and daily rate than the competition. A 70% occupancy rate and \$125.00 daily rate were assumed for these calculations.

- Competitive hotels presumably capture approximately 74% of the lodging expenditures
- 5,716 rooms at 56.2% occupancy at an average rate of \$85.00 per night
- A new Riverfront hotel could capture 5% of the lodging expenditures
- 225 rooms at 70% occupancy at an average rate of \$125.00 per night
- The remaining 21% of the market is seeking alternative lodging options such as inns, bed and breakfasts (B&Bs), and campgrounds

The estimated 225 additional rooms at the Riverfront are a conservative estimate based on the current visitor spending. The design of the hotel and marketing efforts of the Riverfront will impact the occupancy of the hotel.

2.1.2.3 HOUSING ANALYSIS

The analysis for the potential for new housing included a review of Allentown's neighborhoods, new rental products that have been recently introduced to the market, the commuter patterns for the City's employees, and an analysis of young residents living within 50 miles of the Riverfront. The housing units that are located in the City's West End and South Side neighborhoods had a higher percentage of units absorbed into the market from 2000 to 2010. Home values are also higher in these two neighborhoods. Both neighborhoods offer a newer housing product, and are anchored by commercial development, public institutions, and open space. The Riverfront should replicate these neighborhoods by offering a new and unique housing product; the Riverfront should also be anchored by interesting commercial development, which includes unique retail and restaurants, as well as a health and wellness center.



Within the past decade, three new luxury apartment buildings were added to the Allentown housing market. The units range from \$900.00 per month to \$1,150.00 per month. The buildings are in proximity to the site. All rental units in these buildings have been absorbed by the market, and the property managers currently have a waiting list. Demographics of the residents are young professionals.

Over 9,000 commuters are 29 years of age or younger; 25% of these commuters travel over 25 miles per day. According to the Brookings Institute, people in their twenties and thirties are highly mobile and prefer to live in cities that offer affordable housing, transportation and bicycle infrastructure, an arts culture, and other young people. The Riverfront can leverage the assets of the City in order to attract young commuters to new housing offered on the site. In order to be successful, the Riverfront housing should be unique and not replicate anything currently offered by the City. The Riverfront site alone will set this housing apart from other housing offered within the City. The Riverfront should offer views of the waterway, be accessible to bike paths, and offer various modes of transportation. The Riverfront is also within walking distance of the galleries and museums and many other amenities offered by the downtown and adjacent neighborhood (e.g., restaurants, dry cleaners, markets, etc.), which will also add to its appeal to those seeking an urban environment.

Although this analysis has identified young professionals as a target market for new housing in the Riverfront, this type of living will also appeal to empty nesters and those wishing to sell their home in exchange for the carefree lifestyle an apartment or condominium can provide. Young professionals are targeted first due to the fact that they are typically not intimidated by being the “first” in the rental housing development, they desire proximity to urban amenities, they are not intimidated by cultural differences, and they are a highly mobile sector of the housing market. Once the Riverfront’s housing is established, other demographic age groups will then be drawn to the site. According to ESRI Business Analyst, over 91,000 people residing within a 50-mile radius of the site are in their 20s and 30s, and 30% earn over \$100,000 per year.

This analysis recommends adding 500 new rental housing units to the Riverfront District. The development of housing should be a phased approach, where 60 to 80 units are added with commercial and retail development. The total of 500 units is an extremely conservative number; as these units are absorbed into the market, additional development should be considered.

2.1.2.4 OFFICE/INDUSTRIAL DEVELOPMENT ANALYSIS

Finance/Insurance, Professional/Scientific/Technical, and Transportation/Warehousing are the strongest industry sectors for the City of Allentown. Each of these sectors has experienced job growth during the recent economic downturn, and they also have higher location quotients than the other industry sectors in the City of Allentown. The Finance/Insurance and the Professional/Scientific/Technical sectors should play a key role in the Riverfront’s revitalization.

Based on previous job growth rates, Delta assumed the Finance/Insurance sector would add an additional 3,300 jobs over the next 10-year period; this growth would require 1,101,897 square feet in Class A office space. The Professional/Scientific/Technical sector would add



931 jobs during the next 10-year period; this would require 310,023 square feet in office/lab/flex space. The Transportation/Warehousing sector could add an additional 5,047 jobs in the next 10-year period; this job growth would support 15 million square feet in industrial/flex space. This use should not be included within the Riverfront but should be considered on the periphery of the City of Allentown.

Introducing Class A office space with the proposed retail, restaurants, and entertainment will add additional consumers to the market place; those employed within these buildings may also prefer to live within the housing units proposed for the Riverfront.

2.1.3 THE IMPACT OF NEIGHBORHOOD IMPROVEMENT ZONE (NIZ) ON REDEVELOPMENT

In order for the redevelopment plan to be successful, private investment must be attracted to the Riverfront. In many instances, developers are hesitant to be the first to invest in an area that requires substantial improvements.

The NIZ will be a key financing tool that can leverage private investment dollars into the Riverfront and into downtown Allentown. In order to position the Riverfront for success, and to provide a unique sense of place, a number of public improvements will be required. These improvements are typically not included in a developer’s pro forma due to the high cost of construction and little return on investment. The City will need to take the lead role in developing the site. This analysis should become the foundation for seeking developers and issuing related Requests for Proposals (RFPs) for new development.

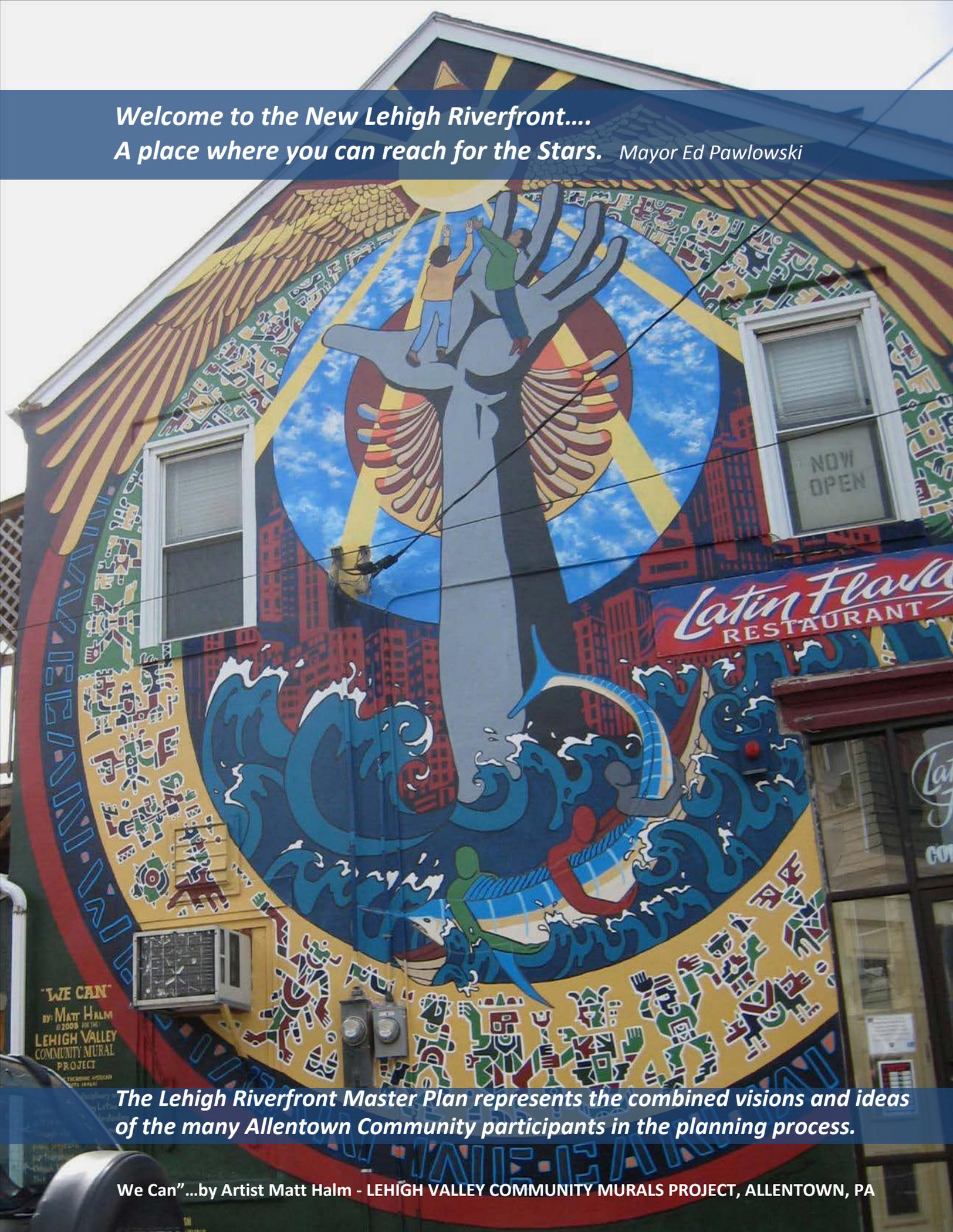
The NIZ can play a key role in the potential redevelopment of these key Riverfront sites:

1. Lehigh Structural Steel properties
2. Neuweiler Brewery properties
3. Iron Mountain Storage Co. sites
4. American Atelier Company sites
5. Bucky Boyle Park sites
6. Pennsylvania Power & Light sites
7. Lehigh Landing /AOW sites



The Lehigh River Neighborhood Improvement Zone properties in green.

*Welcome to the New Lehigh Riverfront....
A place where you can reach for the Stars. Mayor Ed Pawlowski*



The Lehigh Riverfront Master Plan represents the combined visions and ideas of the many Allentown Community participants in the planning process.

We Can" ...by Artist Matt Halm - LEHIGH VALLEY COMMUNITY MURALS PROJECT, ALLENTOWN, PA

2.2 THE RIVERFRONT MASTER PLAN

The Lehigh Riverfront Master Plan process came at an opportune time to evaluate and sift the many overlapping public and private interests that have a current interest along the Lehigh River. The resulting Master Plan integrates the best ideas from the many initiatives that were being considered at the plan's inception, including: the America on Wheels master plan, LANTA improvements; the Lehigh Valley Rail Corridor; Parks and Recreation plans; the Comprehensive Trails Plan; Ward 1 & 6 Weed & Seed programs, private development proposals, arena development in the downtown core, proposed plans for the American Parkway; and public ownership of Neuweiler Brewery Complex, to name a few. With this new master plan in hand, the City, the Allentown Economic Development Corporation (AEDC), the Allentown Commercial and Industrial development Authority (ACIDA), the Allentown Redevelopment Authority (ARA) and current Riverfront property owners will continue to generate interest and momentum for redevelopment and enhancement as Allentown emerges into a new economy.

The Riverfront already has a jump start with the current tourism success of the America on Wheels Museum as a pioneer development and an anchor for the southern gateway to the Riverfront. The opportunity now is how to best build upon that success and move forward to create a critical mass of activity and draw to the area that begins to flip the ratio of industrial and utility uses along the Riverfront to a more viable mix of uses and public realm amenities that will advance the Riverfront District as a new destination for Allentown. Strategic property acquisitions made by the City, ACIDC and ARA around the Museum and Bucky Boyle Park, coupled with early public/private redevelopment of the Lehigh Structural Steel Site will help pave the way for a cohesive early phase action plan that will begin to establish a new identity for the Lehigh Riverfront.

2.2.1 ACHIEVING EXCELLENCE ON THE LEHIGH RIVERFRONT

After the initial inventory and assessment of riverfront conditions was documented, the next step in the riverfront planning process was to develop a framework of principles, goals and best practices that guided the general layout and design of the Master Plan. Four key **overarching elements** formed the basis of the Master Plan framework;

- a) A focus on the **market economics & potential redevelopment program** for the Riverfront and the larger Downtown Allentown area. – Water-Oriented Uses, Fiscal Prudence, Optimal Uses
- b) A focus on the **public realm and visitor domain** – Streets, Parks, Plazas, Greenways, Trails, Waterside spaces and landings.
- c) A focus on the **natural environment systems** on both land and water - River systems, flood hazards, environmental regulations and enhancement, sustainability, habitat creation.
- d) A focus on the **social aspects and quality of life offerings** that Riverfront redevelopment could bring to the nearby 1st and 6th Ward Neighborhoods and the greater Allentown and Lehigh Valley Community, including; Public access, park & river programming, riverfront activities (River Day's Festival), new community facilities and public institutions.

2.2.2 PRINCIPLES, GOALS & BEST PRACTICES

Outlined below is a reference list of the applicable guiding principles, goals and related best practices that were incorporated within the Lehigh Riverfront Master Plan. A complete list that provides further detail on the goals and best Practices can be found in Appendix C.

PRINCIPLE 1: ENVIRONMENT, OPEN SPACE AND PARKS

The Lehigh Riverfront's natural environment is enhanced and protected to provide a series of interconnected open spaces to improve storm water management, conserve natural resources and to act as park amenities for the Allentown community.

Supporting Master Plan Goals:

1. To create an interconnected open space system comprised of public parks and open spaces, natural areas and other environmental amenities.
2. To preserve and protect existing natural amenities that includes the Delaware and Lehigh National Heritage Corridor, the stream banks of the Lehigh River, the islands of the Lehigh River, Kimmets Lock Park, Canal Park & trails.
3. To maintain and enhance existing park facilities and maximize their use to satisfy local needs.
4. To protect, restore and connect existing stream valleys, resource protection areas, and other environmentally sensitive areas.

Supporting Best Practices:

- a. The Master Plan respects natural resource & environmental asset boundaries.
- b. The Master Plan encourages environmental improvements.
- c. The Master Plan creates an interconnected open space system.
- d. The Master Plan will enhance the Riverfront experience when implemented.

PRINCIPLE 2: ENVIRONMENTAL SUSTAINABILITY FOR THE RIVERFRONT

The Lehigh Riverfront District will be a riverfront community that builds wisely, connects with the natural environment, improves water quality, has clean air, and conserves energy and resources.

Supporting Master Plan Goals:

1. To minimize the ecological impact of development to the greatest extent practical.
2. To maintain, enhance and connect the existing tree canopy when possible.
3. To restore and improve the quality of streams and waterways.
4. To continue efforts to improve air quality in the area.

Supporting Best Practices:

- a. The Master Plan encourages green infrastructure & sustainable design.

PRINCIPLE 3: ECONOMIC SUSTAINABILITY FOR THE RIVERFRONT

The Lehigh Riverfront District will be a viable, functional riverfront master plan that enhances the sense of community within the Ward1 & Ward 6 Neighborhoods and Eastern Allentown.

Supporting Master Plan Goals:

1. To encourage the presence of economically and socially sustainable developments within the Riverfront.
2. To utilize an appropriate mix of land uses to augment the vibrancy of the area.
3. To create an attractive destination for the local community to live, work, learn, and play.
4. To create a strategy that defines the image of the Lehigh Riverfront while providing the flexibility in the plan to adjust to unforeseen economic conditions.

Supporting Best Practices:

- a. The Master Plan helps the City to organize for action.
- b. The Master Plan seeks to ensure fiscal responsibility and sustainability.

PRINCIPLE 4: COMMUNITY DESIGN & RIVERFRONT PLACE MAKING

The Lehigh Riverfront District will be a riverfront community with vibrant areas to live, work, learn and recreate that promote walkability, pedestrian-friendly environments, human scale and that meets the neighboring community's needs.

Supporting Master Plan Goals:

1. To encourage the creation of a mixed-use riverfront village, this will reduce dependence on the automobile and allow for increased pedestrian and bicycle circulation in the area, supported by transit along its perimeter streets.
2. To create a community with a balance of land uses and open spaces that complements the surrounding neighborhoods.
3. To establish a new identity for the Riverfront that creates an attractive east end gateway into the community and City of Allentown.
4. To reinforce the visual and pedestrian connectivity between living areas, commercial areas, attractions and recreation areas.

Supporting Best Practices:

- a. The Master Plan creates riverfront development patterns that evoke a sense of community.
- b. The Master Plan reinforces distinct riverfront character areas.

PRINCIPLE 5: PUBLIC FACILITIES FOR THE RIVERFRONT

The Lehigh Riverfront District will be a riverfront community that provides adequate, well-designed and well-located public facilities that meet the needs of current and future residents.

Supporting Master Plan Goals:

1. To provide public facilities at levels that meet adequacy standards.
2. To provide public facilities in locations which serve and promote a more livable community.
3. To co-locate city services and facilities when feasible.
4. To incorporate sustainable building practices into new and existing public facilities.

Supporting Best Practices:

- a. The Master Plan seeks to enhance community facilities on the Riverfront

PRINCIPLE 6: LAND USE BALANCE ALONG THE RIVERFRONT

The Lehigh Riverfront District will be a riverfront community that will evolve into a balanced mix of retail, hospitality, service commercial, clean industry, office, multi-family (rental & ownership), and single-family attached uses through sensitive and phased redevelopment of key sites along the Lehigh River.

Supporting Master Plan Goals:

1. To determine the best mix of land uses, densities and design features to create a unique sense of place.
2. To develop a hierarchy of commercial areas serving local resident, visitor/tourist, regional and through-traffic needs.
3. To reinforce the employment areas by promoting green industries and spin-off office support areas.
4. To establish a better connected mixed-use pattern for previously developed, neighborhoods surrounding the existing commercial businesses.
5. To establish a land use hierarchy that reflects the Lehigh Riverfront's neighborhood, community, citywide, and/or regional roles in the Lehigh Valley.

Supporting Best Practices:

- a. The Master Plan focuses on a flexible mix of uses for the Riverfront that can adapt to a changing marketplace
- b. The Master Plan promotes appropriate clean-up and re-use of contaminated riverfront sites

PRINCIPLE 7: HOUSING TYPE OFFERINGS FOR THE RIVERFRONT

The Lehigh Riverfront District will be a riverfront community that includes new housing types for a wide range of potential resident groups.

Supporting Master Plan Goals:

1. To create a living environment on the Riverfront that encourages residents to live in close proximity to future employment opportunities in the District.
2. To promote/strongly encourage socially responsible redevelopment that addresses conservation and preservation of existing residences and households in the Riverfront study area.
3. To enhance the quality and expand the range of housing types within the Lehigh Riverfront; i.e. lofts, apartments, condominiums, etc.
4. To include and distribute an appropriate percentage of affordable housing within the residential program of the Riverfront so that it aligns with the City's Comprehensive Plan.

Supporting Best Practices:

- a. The Master Plan suggests a blend of market rate rental and home ownership housing opportunities on the Riverfront.
- b. The Master Plan works to blend future residential development with the existing neighborhood through a complementary pattern and scale of buildings defining new community open spaces.

PRINCIPLE 8: TRANSPORTATION NETWORK FOR THE RIVERFRONT

The Lehigh Riverfront District will expand the community street system that emphasizes connectivity

for local vehicle and pedestrian traffic while maintaining mobility for pass-through traffic and supporting enhanced transit service.

Supporting Master Plan Goals:

1. To encourage the use of non-motorized modes of transportation, such as walking or bicycling, for traveling between compatible land uses, and remove barriers to walking or bicycling.
2. To create a hierarchy of streets that separates low-speed local traffic from higher-speed pass-through traffic.
3. To distribute vehicular traffic to prevent major intersections from becoming overburdened.
4. To provide increased visibility and accessibility for riverfront retail, office and residential development.
5. To create smaller and slower roads to improve safety, walkability and sense of place.

Supporting Best Practices:

- a. The Master Plan creates an interconnected street network and supporting parking system for the Riverfront.
- b. The Master Plan creates a hierarchy of streets and blocks that reach to the Riverfront.
- c. The Master Plan develops a livable riverfront community with complete streets.
- d. The Master Plan applies community-friendly transportation methods within the Riverfront.

PRINCIPLE 9: TRANSIT SYSTEM FOR THE RIVERFRONT

The Lehigh Riverfront District will be served by a transit system that meets the objectives of the City's and Region's Transit Master Plan: to be Reliable, Convenient, Integrated with Land Uses, Saves Travel Time, and Enjoyable.

Supporting Master Plan Goals:

- a. To reduce dependency on automobiles, especially single-occupant vehicles.
- b. To improve connections to regional employment, retail and housing destinations.
- c. To reduce traffic congestion along arterial roadways and collector streets within the study area.

PRINCIPLE 10: SOCIAL - QUALITY OF LIFE ALONG THE RIVERFRONT

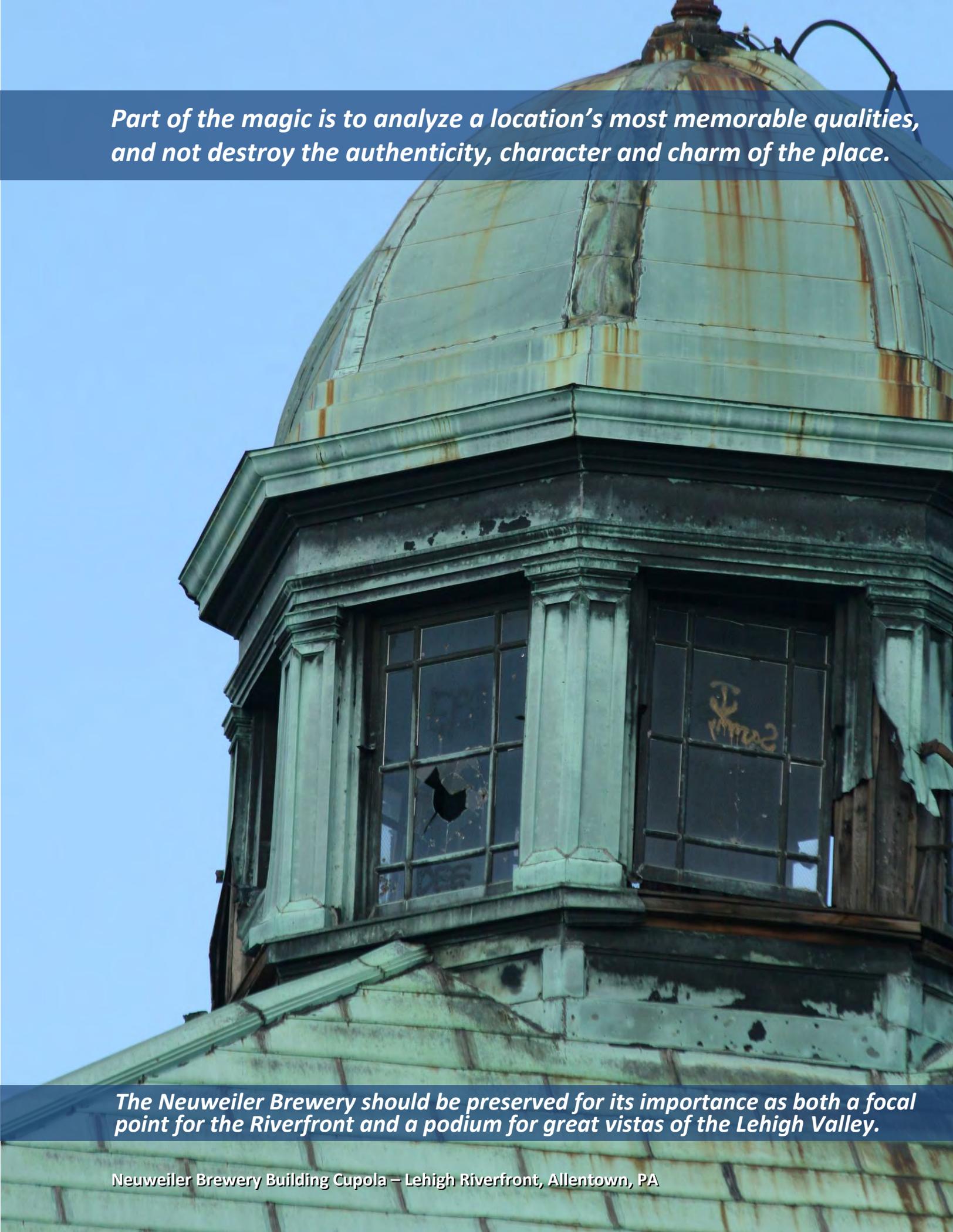
The Lehigh Riverfront District will promote a diverse, engaged riverfront community with multiple opportunities to participate in community life.

Supporting Master Plan Goals:

1. To provide diverse and inclusive housing opportunities;
2. To promote civic life; and,
3. To maintain and where possible improve the ease of access to City facilities by neighborhood residents.

Supporting Best Practices:

- a. The Master Plan promotes social sustainability within the Riverfront.
- b. The Master Plan promotes walkability and a sense of community on the Riverfront.
- c. The Master Plan provides opportunities for showcasing arts and culture in public spaces on the Riverfront.



Part of the magic is to analyze a location's most memorable qualities, and not destroy the authenticity, character and charm of the place.

The Neuweiler Brewery should be preserved for its importance as both a focal point for the Riverfront and a podium for great vistas of the Lehigh Valley.

Neuweiler Brewery Building Cupola – Lehigh Riverfront, Allentown, PA

2.2.3 WORKING WITH EXISTING RIVERFRONT ELEMENTS

This Master Plan vision for the Lehigh Riverfront seeks to blend the best of existing conditions with new redevelopment initiatives while respecting the heritage of the area, retaining current resident and business offerings, and encouraging sustainable improvements for the natural resource and park environs along the Lehigh River. Throughout the stakeholder input process a number of places and items were identified in and around the Riverfront area which have been successfully incorporated within the Master Plan and listed below.



Exhibit 2-1: Location Map of Existing Places and Elements Retained in the Master Plan

1. **All existing residences** along Front Street, Brick Street, Tilghman Street, Liberty Street, Allen Street and Furnace Street have been retained within the Master Plan (see specific study areas highlighted in yellow below) with the intent of encouraging residential façade and building improvements through neighborhood revitalization matching grants.
2. All **existing Front Street restaurants, markets and businesses** along Front Street have been retained within the Master Plan with the intent of encouraging residential façade and building improvements through commercial revitalization matching grants.
3. The **Olson Industries** site on Linden Street has been retained as an active employment use in the Master Plan; however, the Olson’s parking site to the north and neighboring vacant lot to



the north were considered (not required) for surface parking improvements and some future building expansion on the north side of Linden Street.

4. All of the existing **Neuweiler Buildings** have been included and recommended for adaptive re-use in the Base Master Plan.
5. The following additional **heritage structures** have been recommended for retention and adaptive re-use; the tall Ribbon Works Factory Buildings, the A&B Meats Loading Dock Building, the American Atelier brick building. The Albright Metals building has been recommended for nearby relocation and adaptive re-use within the Riverfront to facilitate the alignment of a new Wharf Street along the Riverfront.
6. The **Pennsylvania Power and Light Facilities** (substation, switching station and generators with fuel cell) have been retained in their current location in the Master Plan; however, an optional plan has been explored for removal and consolidation of the generators, fuel cell and switching station to facilitate additional, future riverside redevelopment after the Riverfront District has well established momentum.
7. The **G.F. Frick Boat Club** has been retained in its current location with the suggestion for new improved vehicular access and permission for a riverside trail to traverse the PPL leased property.
8. The **Lehigh River Dam** has been retained to continue to permit recreational watercraft along the Riverfront.
9. The **old Railway Bridge** has been retained for use as a bike/pedestrian crossing at the north end of the Riverfront.
10. The proposed alignments of **the new American Parkway extension, bridge and new Bridge Street** access have been included in the north end (left) of the plan as currently designed.
11. The **Hamilton Street Bridge** and **Tilghman Street Bridge** have been retained and recommended for lane alignment adjustments to permit bike/pedestrian routes across the river and looping options along the river.
12. The **America on Wheels Museum** has been retained and recommended for expansion to facilitate additional exhibit space, children's museum area and riverside commercial offerings.
13. The **west side rails of the RJ Corman Railway** have been retained for continued short-term servicing of LSS site businesses and rail service opportunities for long-term redevelopment along the railway corridor. The east side rail track has been recommended for removal and R.O.W. re-use for a new rail-trail in both this Master Plan (see Section 2.3 herein) and the Citywide Trails Master Plan.



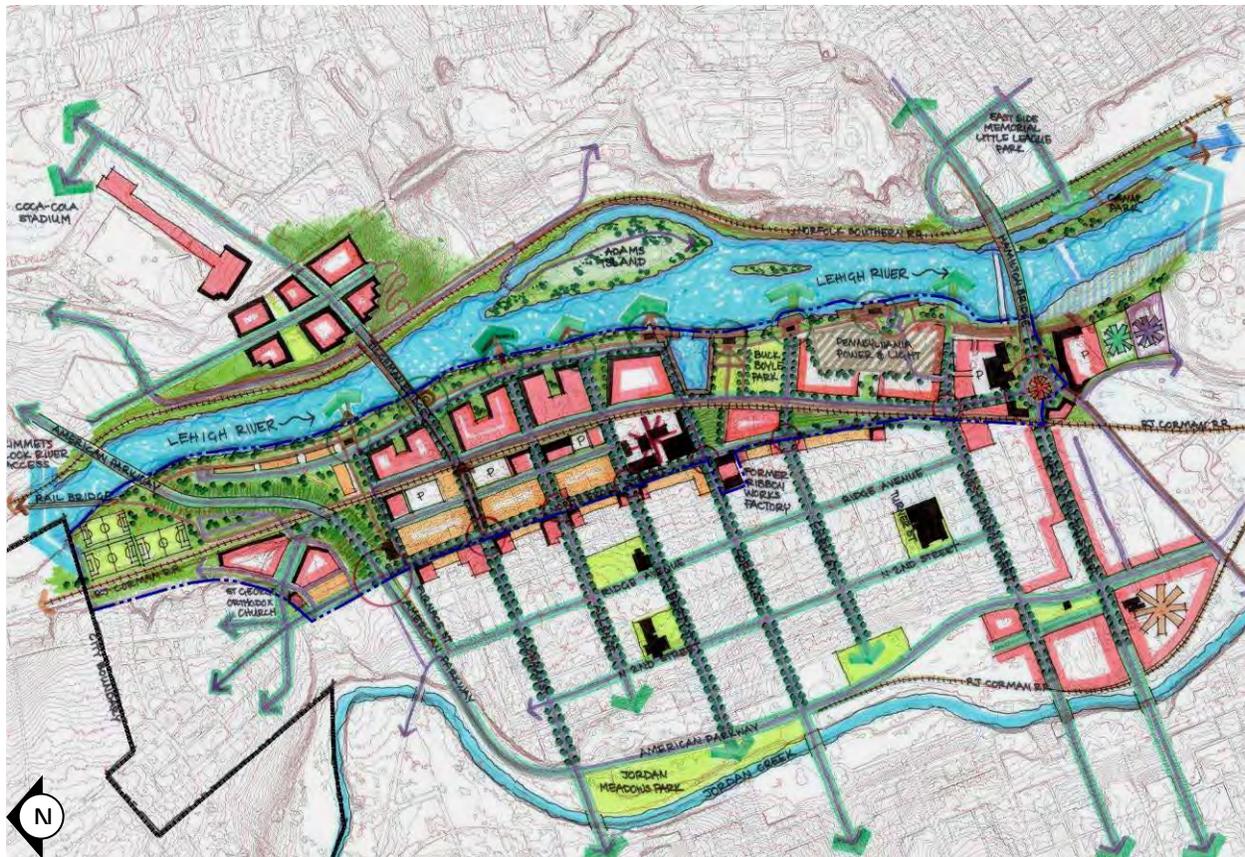
14. The **Bucky Boyle Park pavilion, spray deck and playground area** have been retained as a key focal point for the new Riverfront Festival Park.
15. The **Iron Mountain Storage Facility** has been accommodated in the Master Plan with new short-term street, greenway trail and development opportunities recommended on the south and east sides of the complex. An optional plan has also been prepared to show the potential for future redevelopment when the time is right for the current property owners.
16. A large portion of the **naturalized river bank** has been recommended for retention and enhancement with reforestation, bio-filtration areas and stream bank restoration.
17. The **City Water Intake Facility** and its associated utilities have been retained within the Riverfront Park area.
18. The **proposed City Waste to Energy Plant site**, adjacent to the Kiel Island Waste Water Treatment Plant, has been respected in the Master Plan.
19. The **Lehigh Structural Steel Plant Signage** and the old **A&B Meats Building Signage** are recommended for reuse on the proposed buildings and public spaces along the Riverfront. Portions of the steel plant slide-cranes are also recommended for reuse at the public landings along the Riverfront.



2.2.4 RIVERFRONT FORM GIVING FRAMEWORK AND AREAS OF FOCUS

When looked at collectively, the initial inventories, assessments, principles, goals and best practices presented in this Master Plan and its supporting appendices begin to form the basic framework elements that define the physical structure of the Lehigh Riverfront Plan. The next step in the planning process involved mapping these framework elements to begin a dialogue around the trade-offs of retaining or relocating existing elements along the Lehigh River, while making way for new public realm enhancements, public facilities and private development that will help to animate and stimulate Allentown's new Riverfront District.

The next step in the Master Plan process involved applying the suggested principles, goals and best practices outlined in this document to the existing Riverfront framework. To accomplish this one must begin to take a more abstract view of the Riverfront and "blur" the parcel lines to see beyond the existing site limitations in favor of a clearer picture of what the Lehigh's true opportunities are with a few strategic decisions, negotiations and public /private initiatives in key locations. This was the approach taken for the Riverfront Stakeholder forums and Task Force sessions. The exhibit on the following page illustrates a series of framework considerations for the Riverfront that emerged from the Riverfront Stakeholder Charrette, held in Allentown on December 6th-8th, and incorporated within either the final Base Master Plan or the Development Options prepared for each of the eight Riverfront zones.



Preliminary Riverfront Framework Concept prepared during the December 6th-8th Charette Week in Allentown

Framework Ideas for the Riverfront:

1. The potential extension of Gordon, Liberty, Allen, and Furnace streets over the RJ Corman railway to the River connected by a new north-south street(s) to provide greater site access for the Riverfront District.
2. The potential for riverfront gateway/entry way public realm improvements at Hamilton Street, Gordon Street, Allen Street and American Parkway/Bridge Street/Furnace Street.
3. The potential for a north-south multi-use trail along the river's west bank edge, with the possibility of going around or between the Pennsylvania Power and Light Facilities and the Frick Boat Club facilities.
4. The potential for improved bike/pedestrian trail linkages over the Hamilton Street Bridge, Tilghman Street Bridge and the old railway trestle bridge.
5. The potential for a north-south multi-use trail along the east side tracks of the RJ Corman Railway.
6. The possible creation of a publicly accessible, linear greenway along the entire west bank of the Lehigh River with additional overlook and park opportunities at the termini of the neighborhood linkage streets listed above.
7. The expansion of Bucky Boyle Park to a full Riverfront Festival Park that would accommodate citywide events like the River Days Festival that was hosted on the Riverfront at one time.
8. The retention and adaptive reuse of the Neuweiler Brewery, the Ribbon Works Factory, the American Atelier Building and the A&B Meats Building.
9. The retention, conservation and infill of existing rowhome residential/commercial blocks along Front Street and Brick Street.

10. The extension of public realm pedestrian walkways, bikeways and improved lighting into the Ward 1 and Ward 6 Neighborhoods, primarily along the east-west linking streets.
11. The potential for additional river access points for personal watercraft on the west bank of the River.
12. The potential for a future walkway/bikeway trail loop system on the east and west banks connected by new facilities on the Hamilton Street Bridge, the Tilghman Street Bridge and the refurbished railway bridge crossing.

In aggregate, these ideas shaped the framework for where private development activities and public realm improvements were to be focused along the Riverfront to best leverage positive change. This diagram stands as a community document for “What the Lehigh Riverfront could become for Allentown and the Lehigh Valley Region!”

2.2.4.1 GUIDING RIVERFRONT USE THEMES

Given the Riverfront’s complex nature, varied past and mix of physical conditions, there were a number of overlapping themes that emerged during the Master Plan process to make the Lehigh Riverfront a truly unique place offering a variety of memorable experiences for past employees of the heritage businesses, current residents of and visitors to Allentown, and future generations yet to discover the Riverfront. Each of the following themes was integrated, in whole or part, into each of the eight Riverfront District Zones that make up the master Plan.

1. **The Working Riverfront** – Establishing new commercial, hospitality, clean industry, public services, etc.
2. **The Living Riverfront** – Considering existing residents, rowhomes, new townhomes, apartments, industrial lofts, condominiums; Live, Work, Play, Learn
3. **The Playful Riverfront** - Encouraging play and recreation for all age groups by providing appropriate amenities and facilities.
4. **The Learning Riverfront** - Sponsoring environmental education, outdoor spaces for local school use, or an expanded Lehigh University presence.
5. **The Healthy Riverfront** – Creating walkable and bikable environments, fitness facilities, healthy eateries and businesses, overall community wellness,
6. **The Accessible Riverfront** – Considering public safety and security; heritage, industry, living, and innovation.
7. **The Green and Sustainable Riverfront** – Considering LEED development standards, low impact development and ecological benefits to the community.

2.2.5 THE LEHIGH RIVERFRONT VISION

A common theme and directive from stakeholders during the Master Plan process was “to make the Lehigh Riverfront Master Plan diverse in use, character and offerings, so that it will address and serve the needs of as many user groups as possible”. The 120-acre area was perceived by stakeholders to be too large and too varied for any one solution to occupy the entire area. In response, the resulting Riverfront District Plan is envisioned to be a composition of eight smaller zones that each contribute to the overall riverfront experience in their own unique way.

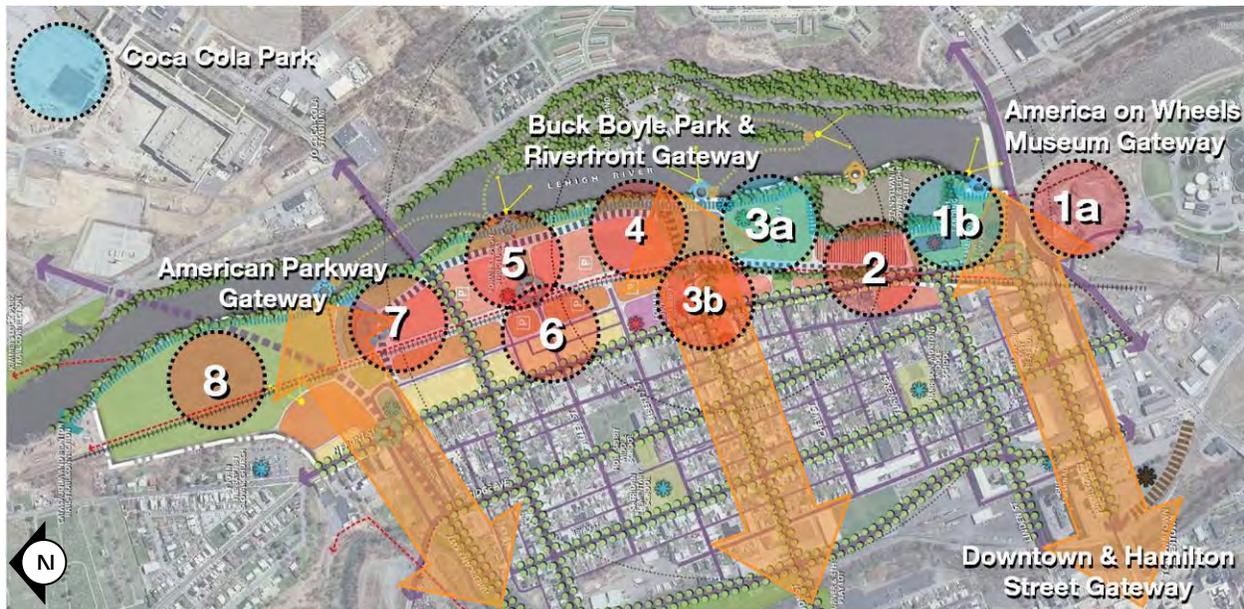


Exhibit 2-2: Location Map for the Eight Thematic Riverfront Zones Along the Lehigh

- **Zone 1** refers to the “**Lehigh Landing - Hamilton Street Gateway**” area that includes the properties immediately surrounding the north and south sides of the Hamilton St. corridor at the Riverfront.
- **Zone 2** is referred to as the “**Front Street & New Wharf Street**” area that focuses on the lands between the America on Wheels Museum and the Bucky Boyle park baseball fields to the north.
- **Zone 3** includes both the “**Brewer’s Hill and Riverfront Park**” areas which include the Neuweiler Brewery, Ribbon Works Factory and American Atelier Furniture Factory areas, and the Bucky Boyle Riverside Park area respectively.
- **Zone 4** is referred to as the “**New Riverside Drive**” area which is limited to the current Iron Mountain Storage Site between Bucky Boyle Park and the old Lehigh Structural Steel site to the north.
- **Zone 5** has been called the “**Riverside Overlook**” area, referring to the site’s great views up and down the Lehigh River from the southern portion of the Lehigh Structural Steel site between the Iron Mountain Storage facilities and the Tilghman Street Bridge.
- **Zone 6** refers to the “**Brick Street Live-Work Enclave**” which is confined to the Brick Street corridor between Liberty and Furnace Streets.
- **Zone 7** is called “**Furnace Place**” referring to its location at the terminus of Furnace Street includes the northern portion of the Lehigh Structural Steel Site between the Tilghman Street bridge and proposed American Parkway Bridge.
- **Zone 8:** The “**Riverside R&D Park**” area includes all the industrial sites north of the proposed American Parkway Bridge crossing.

Each of these Riverfront Zones is discussed in detail in *Section 2.2.7*.

PLANNING FOR FLEXIBILITY

The focus of the Lehigh Riverfront Master Plan, illustrated on the following pages, is to recommend and create a critical mass of activity within each of these recommended thematic Riverfront Zones to make them sustainable for the long-term. To be economically sustainable, master plans must be flexible enough to adapt to changing market conditions and development trends that will likely occur over the

next 10 years as a district’s plan is implemented. The Lehigh Riverfront Plan was prepared with this flexibility in mind throughout the planning process. The final Master Plan is comprised of a Base Master Plan (centered plan on the following pages) joining each of the eight Riverfront zones into one cohesive plan, supported by a series of eight development plan options (surrounding circled plans), one for each zone. The options were prepared to document an alternative mix of uses, a physical layout alternative, or a future phased development approach that could be accommodated within the framework of the Base Master Plan.

This approach provides the guidance needed on the primary public realm framework of streets, open spaces, parks, development blocks, walkways, and transit ways, while allowing for flexibility in the final **mix of uses** that can be developed within each block. This approach also guarantees that both the public and private sector interests can be met as the Master Plan is implemented.

OPEN SPACE NETWORK

Each of the Riverfront Zones also have either a park, plaza or specialty street serving as a focal point for the redevelopment of the area, which are linked together with both a proposed Riverside Greenway Trail and RJ Corman Rail-Trail systems. This system of trails, parks/plazas and open space recreation areas are described are further detailed within each of the Riverfront Zone descriptions to follow as well as *Section 2.3: Linking Parks, Open Space and Trail System Initiatives*.



“Riverfront Memories” painting by local Allentown Artist depicting past community recreation on the Lehigh River. A picture of what many residents would like to see the River and Riverfront Park become again!

ROADWAY NETWORK

The Riverfront zones are also linked though a much expanded street network that provides both north-south movement through the Riverfront and east west linkages from the Ward 1/Ward 6 Neighborhoods to the Riverfront, where neither existed before. The general roadway network proposed, which consists of two lane roads with on street parking and sidewalks on a small grid, should accommodate the traffic generated by the development. Because there are a number of access points, traffic will be disbursed to a number of surrounding roadways without seriously overloading any one of them. Motorists will have choices of routes and will pick the least congested one. Traffic will move slowly and may be delayed at some intersections but not to a level that will detract from the development or overload existing streets. It is expected that, in an urban setting, some level of delay is acceptable. The transportation system recommendations are further detailed within each Riverfront Zone description to follow, as well as *Section 2.5: Transportation and Traffic Improvements*.

TRANSIT NETWORK

The transit system recommendations are further described in *Section 2.6: Transit System Improvements*.

PARKING

The parking recommendations are further detailed within each Riverfront Zone description to follow, as well as *Section 2.4: Parking Design and Management*.

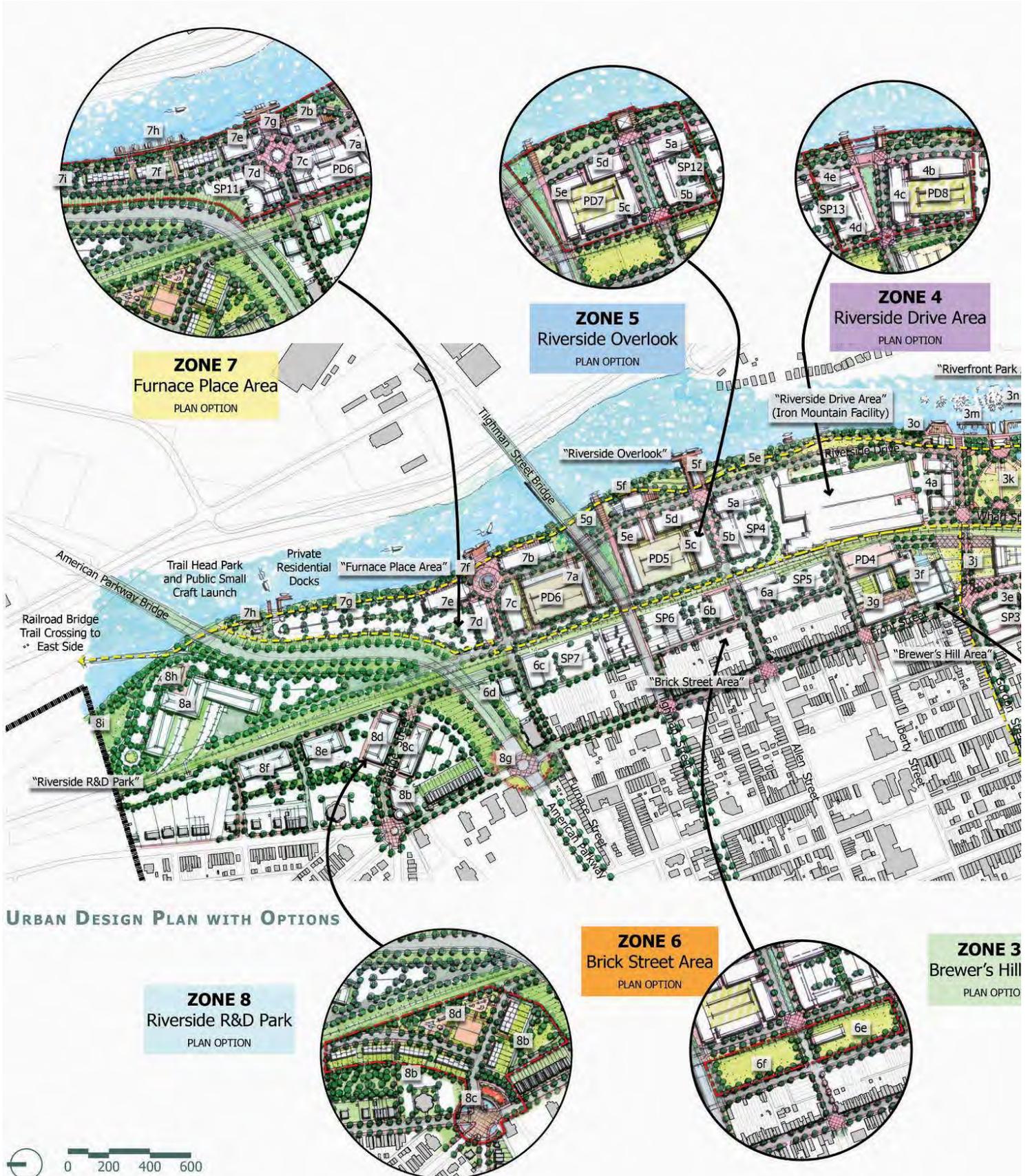
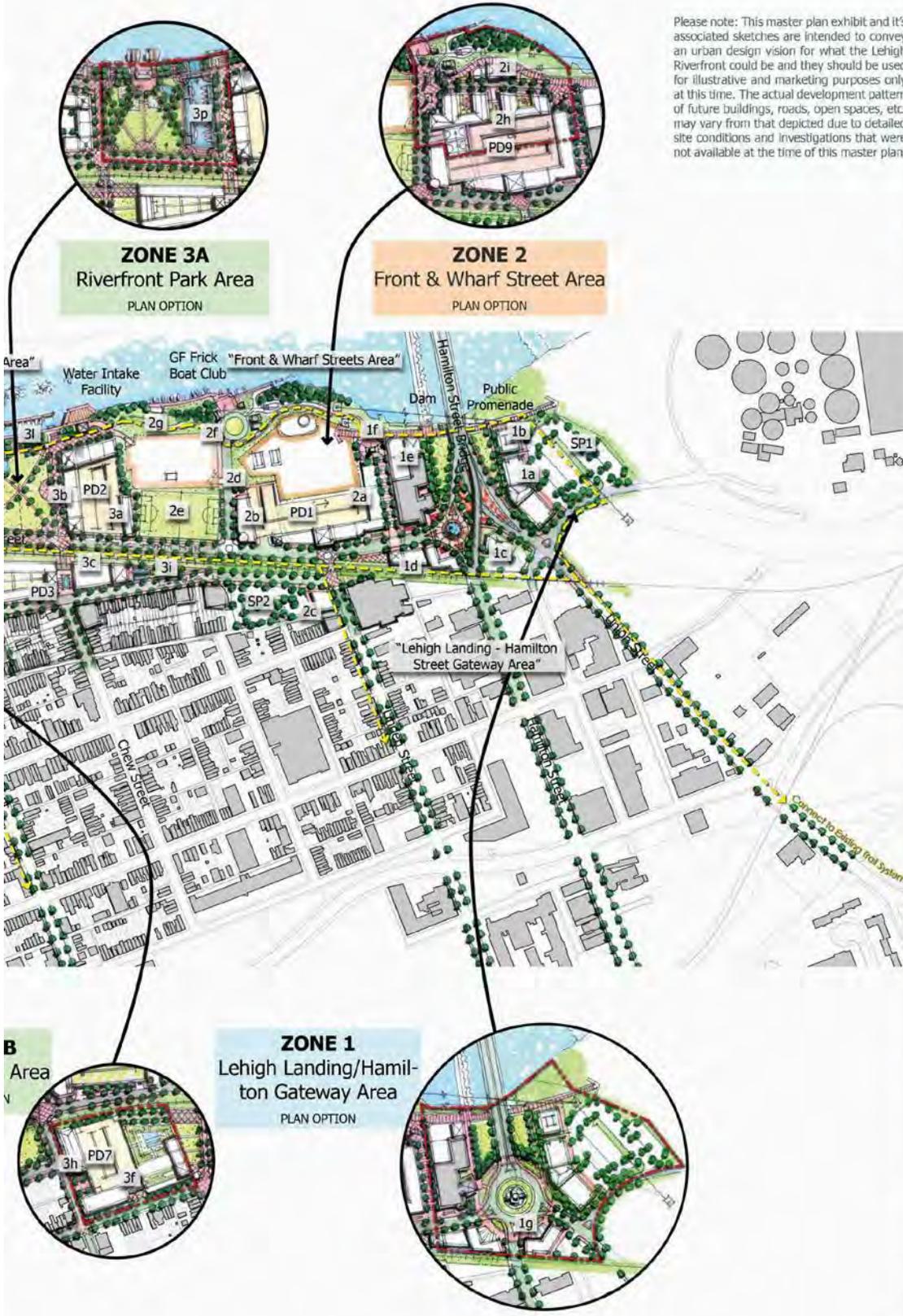


Exhibit 2-3: Overall Lehigh Riverfront Base Master Plan with Optional Development Plans

Please note: This master plan exhibit and its associated sketches are intended to convey an urban design vision for what the Lehigh Riverfront could be and they should be used for illustrative and marketing purposes only at this time. The actual development pattern of future buildings, roads, open spaces, etc. may vary from that depicted due to detailed site conditions and investigations that were not available at the time of this master plan.



Zone 1	Lehigh Landing/Hamilton Street Gateway Area
1a	Office / Technology Space
1b	Riverside Restaurant
1c	Gateway Restaurant/Commercial
1d	Loading Dock Building Restoration / Retail / Mixed-Use (In-use and Expansion)
1e	American On Wheels Museum Expansion (Retail/Commercial/Children's Museum)
1f	American On Wheels Pedestrian Mall/Access Drive, Arrival Court and Riverfront Promenade/Overlook
1g	Riverside Entry at Hamilton, Front and Wharf Streets
SP1	Surface Parking - ~210 Spaces
Zone 1	Optional Plan Elements
1h	Full Size Hamilton and Wharf Street Roundabout Construction
Zone 2	Front Street & Wharf Street Area
2a	Retail, Entertainment / Commercial Uses Wrapping Parking Deck
2b	Retail, Entertainment / Commercial Uses Wrapping Parking Deck
2c	Linden Street Plaza, Entertainment/Commercial Uses
2d	Recreated Outdoor Basketball Courts (New)
2e	Mixed-use Soccer/Football Field for Parks & Recreation Use and Middle School Use
2f	New Entry Drive and Gateway to GF Frick Boat Club
2g	Riverside Multi-use Trail and Linear Greenway Park Improvements
PD1	Parking Structure - 3 levels @ ±190 spaces per level
SP2	Linden Street Surface Parking Lot - 105 Spaces
Zone 2	Optional Plan Elements
2h	Mixed-use Riverside Development 2 Stories Retail/Commercial/Office with 2 Stories Residential Apartments/Condo Loft Above
2i	Riverside Park Public Pavilion and Promenade/Trail Overlook
PD3	Parking Structure Expansion w/ Possible Switching Station Building Below - 2 levels @ 190 spaces per level
Zone 3	Brewers Hill and Riverfront Park
3a	Parks & Recreation Support Facility Building (Equipment Storage)
3b	Retail, Entertainment/Commercial Uses Wrapping PPI, Substation
3c	Atelier Site Redevelopment - Commercial/Office/Technology Use
3d	Atelier Building Re-use and Expansion
3e	Ribbon Works Lofts - (Apartmental)
3f	Brewer's Alley - New/Reuse Building Re-use of All Existing Buildings
3g	Brewer's Alley - New/Reuse Building Re-use of All Existing Buildings
3i	Front Street & Wharf Street Gateway Park and Fountain Feature
3j	Brewers Hill Park and Mayor McKeown Memorial Plaza
3k	Expanded Buck Boyle Riverfront Festival Park & Promenades (Spray Park/Playground, Festival Grounds)
3l	Upper and Lower Riverfront Promenades-Multi-use Trails, Reforestation, Steps, Etc.
3m	Riverside Marina & Historic Canal Boat Docking Facility
3n	Riverside Floating Frontend Display
3o	New Expanded Lehigh University Boathouse and Sailing Dock
PD2	Parking Structure - 3 levels @ 175 spaces per level
PD3	Lower Level Parking Under Atelier Development
PD4	New/Reuse Brewery Parking Structure - 3 to 4 levels @ ±100 Spaces per level
SP3	Impromptu Surface Parking
Zone 3	Optional Plan Elements
3p	Commercial/Mixed-use Building
3q	Brewer's Alley - New/Reuse Building Re-use and Expansion (2-3 structures removed)
3r	Inland Wharf Inlet
PD7	New/Reuse Brewery Parking Structure - 3 levels @ ±145 spaces per level
Zone 4	Riverside Drive (from Mountain Storage)
4a	Goodin Street & Riverside Dr. Retail/ Commercial/ Office
4b	Riverside Multi-use Trail and Linear Greenway Park Improvements
4c	Riverside Rehabilitation and Habitat Creation
4d	New Riverside Drive and Streetscape Construction
4e	New Gas, Water, Storm Sewer and Sanitary Sewer Lines
Zone 4	Optional Plan Elements
4b	Riverside Drive Commercial/Office Development
4c	Liberty Street Loft Apartments (South side of Street)
4d	Liberty Street Loft Apartments (North side of Street)
4e	Riverside Drive Commercial/Office Development
PD6	Parking Structure - 3 levels / 200 Spaces per level
SP13	Surface Parking - ~85 Spaces
Zone 5	"Riverside Overlook" (Allen Street & Riverside Drive)
5a	Riverside Drive Retail/ Commercial/ Office
5b	South Side Allen Street Retail/ Commercial/ Office
5c	North Side Allen Street Retail/ Commercial/ Office
5d	Riverside Drive Retail/ Commercial/ Office
5e	Tilgman/Riverside Loft Apartments
5f	Riverside Restaurant/Commercial
PD5	Allen Street Parking Structure (North Side) - 4 levels @ ±140 spaces per level
SP4	Allen Street Surface Parking (South Side) - ±165 spaces
Zone 5	Optional Plan Development Elements
5a	Riverside Drive Retail/ Commercial/ Office
5b	South Side Allen Street Retail/ Commercial/ Office
5c	North Side Allen Street Retail/ Commercial/ Office
5d	Riverside Drive Retail/ Commercial/ Office
5e	Tilgman/Riverside Loft Apartments
5f	Riverside Restaurant/Commercial
PD5	Allen Street Parking Structure (North Side) - 4 levels @ ±152 spaces per level
SP12	Allen Street Surface Parking (South Side) - ±100 spaces
Zone 6	"Brick Street Area"
6a	Employment / Clean Industry/ Manufacturing Uses - Susman Excs. Building Re-use
6b	Employment / Clean Industry/ Manufacturing Uses
6c	Employment / Clean Industry/ Manufacturing Uses
6d	Employment / Clean Industry/ Manufacturing Uses
SP5	Surface Parking Lot ±125 Spaces
SP6	Surface Parking Lot ±115 Spaces
SP7	Surface Parking Lot ±140 Spaces
Zone 6	Optional Plan Development Elements
6e	Community Park/Open Space / Re-use of Susman Building for Railway Museum Building
6f	Community Park/Open Space / Railway Museum Display Yard
Zone 7	"Furnace Place" (Furnace Street & Riverside Drive)
7a	Tilgman/Riverside Loft Apartments
7b	Riverside Drive Retail/ Commercial/ Corporate Office
7c	Furnace Street Retail/ Commercial/ Corporate Office
7d	Furnace Street (North Side) Retail/ Commercial/ Corporate Office
7e	Furnace Street Retail/ Commercial/ Corporate Office
7f	Riverside Restaurant/Commercial
7g	Riverside Town Homes
7h	Riverside Drive/Furnace Street Roundabout and Public Landing
7i	Riverside Multi-use Trail and Linear Greenway Park Improvements
7j	Riverside Trail Head Park & Small Boat Launch
PD6	Furnace Street Parking Structure (South Side) - 3 levels @ ±164 spaces per level
SP8	Surface Parking Lot - ±360 Spaces
Zone 7	Optional Plan Elements
7a	Tilgman/Riverside Loft Apartments
7b	Riverside Restaurant/Commercial
7c	Furnace Street Retail/ Commercial/ Corporate Office (South Side of Furnace Street)
7d	Furnace Street Retail/ Commercial/ Corporate Office (North Side of Furnace Street)
7e	Riverside Restaurant/Commercial
7f	Riverside Town Homes
7g	Riverside Drive/Furnace Street Roundabout and Public Landing
7h	Riverside Multi-use Trail and Linear Greenway Park Improvements
7i	Riverside Trail Head Park & Small Boat Launch
PD6	Furnace Street Parking Structure (South Side) - 3 levels @ 160 spaces per level
SP11	Surface Parking Lot - ±75 Spaces
Zone 8	Foundry Park Area (North of the American Parkway Bridge)
8a	Corporate Manufacturing Campus (With truck and rail service)
8b	Front Street Retail / Restaurant
8c	Employment / Clean Industry/ Manufacturing Uses
8d	Employment / Clean Industry/ Manufacturing Uses
8e	Employment / Clean Industry/ Manufacturing Uses
8f	Employment / Clean Industry/ Manufacturing Uses
8g	American Parkway and Front Street Gateway Enhancements
8h	Riverside Arrival Court
8i	North End Riverside Park and Trail
SP9	Shared Surface Parking for Manufacturing Site and North End Park Use
SP10	Employment/Clean Industry Use Surface Parking Lots - ±78 Spaces
Zone 8	Optional Plan Elements
8b	Residential Townhome Development
8c	Front Street Gateway Entry Park
8d	Community Recreation Park - Children's Playgrounds and Court Sports with Passive Park Spaces

Welcome to Hamilton St. Gateway and Lehigh Landing...a fresh look and expanded offerings surrounding the America On Wheels Museum.



Establishing a new and powerful image for the entryway to the Riverfront will be key to creating a memorable first impression for District visitors.

Comparable Waterfront City Gateway District – ANNAPOLIS TOWNE CENTRE, ANNAPOLIS, MD

ZONE 1: LEHIGH LANDING & THE HAMILTON STREET GATEWAY

Location & Existing Condition: The first Riverfront zone, the Lehigh Landing - Hamilton Street Gateway Area, focuses on the Riverfront redevelopment potential for the north and south side properties along the Hamilton Street corridor, between the Lehigh River and the RJ Corman Railway. As the name implies, this is the primary entry to both the Front Street corridor and the Riverfront from the Downtown and the east side of Allentown. The area is centered upon a very complex and heavily travelled intersection joining Hamilton Street, Front Street, and Union Street with the Hamilton Street Bridge crossing. The America on Wheels transportation museum anchors the Lehigh Landing development in the northeast corner of this intersection, with the vacant A&B Meats Loading Dock building to the northwest and smaller underutilized commercial and auto service uses located to the west and south with the City’s Kline Island Water Treatment Facility located further to the south.



Zones 1 & 2: “Lehigh Landing Gateway” and “New Wharf Street” existing conditions

The existing left-turn entry experience from Hamilton Street to the America on Wheels Museum, Lehigh Landing and the Riverfront is understated and further compromised by the grade separated ramps providing free flow to a large volume of traffic to and from Hamilton and Union Streets and the Hamilton Street Bridge. This free traffic- flow comes at the expense of no direct access between Front Street and Union Street or between Front Street and the Hamilton Street Bridge. In order to provide one entry point in and out of the Riverfront area with access to and from all street directions these ramps would need to be demolished, further discussed in the Optional Plan for this zone below.



Exhibit 2-4: ZONE 1: “Lehigh Landing/Hamilton Gateway” Vision and Base Plan program elements

Thematic Approach Planning Intent: This area is envisioned to be the primary gateway to the Riverfront and the America on Wheels Museum from the south. The focus is on creating new transportation improvements for the vehicular, pedestrian and bikeway entry into the Riverfront that creates the setting and momentum for continued Lehigh Landing and south side development. Institutional, commercial and entertainment uses are envisioned for the north side to reinforce the America on

Wheels Museum and complete the pending mixed-use redevelopment vision for the A&B Meats Loading Dock Building. Market conditions for Allentown indicate there is a strong need for light manufacturing, flex/office and technology space. Given the south side juxtaposition next to the City's Water Treatment Plant and planned Waste to Energy Plant, this area could be the focus of a City Alternative Energy Initiative, where proposed uses could include a Green Energy Complex used for research and development, education, green technology, solar panels, water turbines – energy research and production. The site could also accommodate a medical office building, administration offices, research and development uses, or space for one of the area's higher education institutions, to serve as another strong anchor for the southern end of the Riverfront.



Exhibit 2-5: Zones 1 & 2: "Lehigh Landing Gateway" and "New Wharf Street" Master Plan elements

DETAILED MASTER PLAN RECOMMENDATIONS

Transportation: The new vision for the Lehigh Landing Hamilton Street Gateway area begins with a new small-scale roundabout replacing the current left-turn, "jug handle" intersection at Hamilton and Front Streets. This would be coupled with a new two-way street, named Wharf Street, replacing the current one-way segment of Front Street and continuing along the east side of the RJ Corman Railway to the north. This design would dramatically improve the access and entry experience to the Riverfront; however, the modifications will not allow direct access into the Riverfront from Union Street or out to the Hamilton Street Bridge eastbound lanes. This is further described in the Transportation Section 2.5.

There are also some additional modifications that can be made outside of the Riverfront District, along the Hamilton Street corridor, to improve access in and out of the Riverfront area, including:

- Improving signage on Union Street at 2nd Street to inform people to turn left for access to the Riverfront development area. When the Riverfront District becomes a destination this will require signalization at Union and 2nd Streets.
- Providing similar signage at 2nd and Hamilton Streets for traffic to turn right to access the Riverfront.

Creating a signalized intersection instead of the roundabout does not appear to have any additional advantages. This would be a large and pedestrian-unfriendly intersection with many turning lanes on approaches. Two left turn lanes would be required from the bridge to Union Street to accommodate

the movement on the free-flowing grade separated ramp today. The distance between the bridge and the intersection is too short to readily accommodate two left turn lanes. Thus this is not a recommended solution. The only problem such an intersection would solve is it would provide complete access in and out in all directions.

Development Summary: The Master Plan illustration and supporting development program table below, shows the opportunity for over 140,000 sq. ft. of redevelopment to be accommodated within this zone. A two-story, $\pm 35,000$ sq. ft. addition is shown for the northeast corner side of the America on Wheels Museum to accommodate future museum exhibit expansion, ground floor retail/commercial/restaurant space overlooking the Lehigh River Dam and a Children’s Museum, or equal attraction, to expand the already impressive 30,000 visitor per year draw to the Museum. To the west, a north side expansion to the vacant A&B Meats Building is suggested to accommodate over 30,000 sq. ft. of mixed-use space with ground floor retail and restaurant spaces spilling out onto the roundabout and Wharf Street in new outdoor dining, park and plaza areas. The upper floors of the three-story building would be marketed for additional restaurant and office/commercial uses. Parking for both the Museum expansion and the A&B Meats Loading Dock development would be provided in a proposed shared use public/private parking structure on the CALO Building site, discussed in the next Riverfront Zone.



Between Hamilton and Union Streets there is small triangular site that shows potential for 7500 sq. ft. of one-story commercial space, if the existing billboard and building can be removed. This site has even greater potential, if the optional plan with larger roundabout is implemented, due to enhanced site access and visibility and possible site expansion. The area south of Hamilton Street was not intended to be included in the Riverfront Plan; however, this area also showed marketable opportunities for a one-story, 9,000 sq. ft. riverside restaurant and over 60,000 sq. ft. of either light industrial flex office space or professional office/technology space overlooking the south. This south side development and its suggested surface parking can be accommodated without impacting the planned City Waste to Energy Plant to the immediate south, assuming the PPL Utility R.O.W. can be leased for some parking.



Proposed Waste to Energy plant location along the south riverfront

Public Realm Improvements: Both Hamilton Street and the New Wharf Street would receive streetscape improvements with their realignments, including: specialty paving, crosswalks, trees, furnishings, lighting and wayfinding signage to create a positive first impression for visitors to the Museum and other riverfront destinations. A new promenade-alleyway is recommended along the north side of the America on Wheel Museum to provide pedestrian, bike access to an expanded and improved riverside trail/promenade. The alleyway and riverside arrival court terminus is also intended for vehicular service/drop-off access to riverside

commercial and restaurant establishments. This connection would only be open to vehicles during restricted lunch and dinner hours.



Existing Hamilton St. Gateway

New Roundabout Concept

Pedestrian Promenade to the River Trail

The current Union Street/MLK Multi-use pedestrian/bike trail would be connected with a future RJ Corman Rail –Trail where it intersects with Union Street and also connected with the proposed Riverside Trail and promenade through the PPL utility easement on the south side of Hamilton Street. A detailed program listing with public realm and parking cost estimates for the Base Master Plan is provided below.

ZONE 1: "LEHIGH LANDING / HAMILTON ST. GATEWAY" AREA BASE MASTER PLAN		Order of Magnitude Cost W/ Contingencies	Building Footprint	Stories/ Levels	Total S.F	Dwelling Units	Parking Spaces Required	Parking Spaces Provided
Base Master Plan Illustrated Development Program								
1a	Office / Technology Space	N/A	15,000	4	60,000	-	180	Shared P
1b	Riverside Restaurant	N/A	9,000	1	9,000	-	45	Shared P
1c	Gateway Restaurant/Commercial	N/A	7,500	1	7,500	-	38	30 on-site
1d	Loading Dock Building Restaurant / Retail / Mixed-Use Re-use and Expansion	N/A	10,000	3	30,000	-	90	Shared P
1e	America On Wheels Museum Expansion Retail/Commercial/ Children's Museum	N/A	17,500	2	35,000	-	105	Shared P
Base Master Plan Public Realm Improvements								
1f	America On Wheels Pedestrian Mall/Access Drive, Arrival Court and Riverfront Promenade/Overlook with Underground Utilities	\$ 993,142						
1g	Roundabout Entry at Hamilton, Front and Wharf Streets	\$ 1,307,692						
*	Riverside Promenade/Trail (from PPL under Hamilton Street Bridge to Union Street)	\$ 195,000						
*	RJ Corman Rail-Trail (from Union Street to Linden Street)	\$ 936,000						
*	Underground Utilities	\$ 61,425						
*	Erosion & Sediment Control Measures	\$ 19,500						
*	Riverfront District Banner/Blazer Identity System	\$ 65,000						
*	Riverfront District Wayfinding Directional Signage System	\$ 260,000						
Total Base Master Plan Public Realm Improvement Costs		\$ 3,837,759						
Base Master Plan Parking Improvements								
SP1	Surface Parking - +210 Spaces	\$ 1,092,000						210

Table 2-1a: Lehigh Landing/Hamilton Street Gateway Master Plan development program and estimated public realm & parking costs

ZONE 1 OPTIONAL DEVELOPMENT PLAN

Optional Plan Recommendations: When the proposed American Parkway Bridge crossing is completed in 2013 -2014, this will provide a third option for crossing the river and will alleviate some of the traffic using the Tilghman Bridge today as well as potentially some of the traffic using Hamilton Street Bridge. This could reduce traffic from the Hamilton Street Bridge to Union and Hamilton Streets in the future, by providing an alternative route for some of this traffic. With this in mind, an optional plan for the Hamilton Street Gateway was prepared to illustrate how the Hamilton Street Bridge could be linked with the new Wharf Street, Union Street and Hamilton Street, while also providing for cross linkages between these streets that don't exist today. The primary reasons for retaining this option in the Master Plan is 1] the improved access to the Lehigh Riverfront from the southern end of the development area and 2] a much improved, grand City gateway experience that can benefit all surrounding areas with enhanced amenities, visibility and accessibility.



Exhibit 2-6: ZONE 1: “Lehigh Landing/Hamilton Gateway” Plan Option program elements (Listed in red)

This option specifically includes a new roundabout in place of the current ramps that accommodate free left turns at the base of the Hamilton Street Bridge. This or a signalized intersection are the ONLY alternatives that could provide direct access in and out of the development to and from all directions. The roundabout would need to be a large one because of the heavy traffic volumes. Such a roundabout could be physically accommodated between the base of the existing bridge and the surrounding buildings and railroad tracks. The roundabout would need to be at least a two lane, maybe a three lane roundabout. On the positive side the roundabout would provide an attractive gateway into the Lehigh River Development and would allow people to access the development directly from Union Street, as well as allowing those leaving the development direct access to the bridge (which they do not have today). However, the roundabout would need to accommodate some heavy turn movements that are carried by the free flowing ramps today. While the traffic could be accommodated taking out the ramps would certainly not improve this flow.

A detailed program listing with public realm and parking cost estimates for the Optional Development Plan is provided below.

ZONE 1: OPTIONAL PLAN ILLUSTRATED DEVELOPMENT PROGRAM							
Optional Plan Public Realm Improvements							
1h	Full Size Hamilton and Wharf Street Roundabout Construction	\$	2,837,097				

Table 2-1b: Lehigh Landing/Hamilton Street Gateway Optional Plan development program and estimated public realm & parking costs

Welcome to Wharf Street...a family-oriented entertainment destination building on the America on Wheels Museum success.



Once you get people to the riverfront and you make it visually rich, memorable and entertaining...people will want to come back!

Comparable Riverfront Entertainment District – SEATTLE, WA

ZONE 2: THE NEW WHARF STREET AND FRONT STREET CORRIDOR VISION

Location & Existing Conditions

Riverfront Zone 2, the “**Front Street & New Wharf Street Area**”, is best known today as the area along the Front Street corridor between the America on Wheels Museum and Chew Street. The Zone extends to the Lehigh River to include the southern portion of Bucky Boyle Park, the former CALO Building site and the Pennsylvania Power and Light (PPL) Facility, including the leased lands of the GF Frick Boat Club on the Lehigh River. The west side of the area is limited to Olson Technologies Building and its associated parking lot to the north with residential rowhomes lining the street further to the north. The long-standing PPL Facilities (substation, switching station and generators) and its leased lands to GF Frick Boat Club occupy roughly 50% of the available land and all of the River’s edge in this Zone. Relocation of the PPL facilities has been discussed for many years; however, during the planning process it was determined that it was not economically or environmentally feasible to relocate the facility under current or foreseeable future conditions. It may be viable to relocate portions of the PPL facility in the future as Riverfront investment, returns and values increase in future years. An optional plan illustrating this potential is included in this section below.

The street system in this area is limited to: 1] Front Street, which is one-way north-bound between Hamilton and Linden Streets, 2] Linden street, which is one-way west-bound from front Street, and 3] a small riverfront access drive, (old) Wharf Street leading to the PPL facilities and terminating at the GF Boat Club gates. Front Street and Linden Street are further complicated by angled, at-grade RJ Corman railway crossings that periodically stop traffic for short periods of time. This awkward juxtaposition of tracks with limited street access impacts the current development potential of both east and west sites along Front Street.

Thematic Approach Planning Intent

Building upon and strengthening the America on Wheels Museum tourist destination and the recommendations suggested in the first Lehigh Landing Zone, the redevelopment theme for this area is focused on creating a commercial and family entertainment district that provides both daytime and evening retail, restaurant and entertainment activities. The success of this zone will be greatly improved by reconfiguring the Riverfront street network and pulling visitors directly into the new riverside areas, while also calming the traffic congestion on Front Street for the neighborhoods. Current market conditions indicate there is an initial potential for a large themed, family-style destination restaurant of +15,000 sq. ft. such as a Quaker Steak and Lube eatery to complement the theme of the America on Wheels Museum (Note: This concept may also be located in the initial phase of the expanded A&B Loading Dock building). The market assessment also indicated the potential for family –oriented retail, art studios (Pottery, Artist Workshops, etc) in this zone.

DETAILED MASTER PLAN RECOMMENDATIONS

Transportation Improvements – The primary transportation recommendation for this zone involves the relocation of existing Front Street to the west side of the RJ Corman Railway and terminated at Linden Street. This is coupled with a new, two-way riverfront collector street, named Wharf Street, on the east side of the RJ Corman Railway joining with and making existing Front Street two-way between Linden and Hamilton Streets and re-designating it as Wharf Street. This new two-way Wharf Street will allow

access to the museum and other development around it from the north. These two street realignments will result in the removal of the Front Street at-grade railway crossing, with the intent that this railway crossing can be reestablished further to the north where needed at Allen Street or Liberty Street. With the relocation of Front Street, the access drive to PPL and the GF Frick Boat Club is also recommended for relocation, realignment and reconstruction as an improved access drive and roundabout terminus between the recommended retail development and the new multi-use soccer field to the north.



Exhibit 2-7: ZONE 2: “Wharf Street & Front Street” Vision and Base Plan program elements

Development Summary - The recommended Master Plan illustrated above and supporting development program table below, shows the opportunity for over 150,000 sq. ft. of retail, entertainment and commercial uses located within three-story, mixed-use buildings wrapping a three-level parking structure providing +570 parking spaces for the Wharf Street and Lehigh Landing zones. The intent is for the ground floors to be animated with retail, restaurant and entertainment uses that spill out onto the sidewalks and alleyscape with outdoor dining and festivities, while the upper floors are marketed for service commercial, office or expanded second story restaurant ad pub uses. A detailed program listing with public realm and parking cost estimates for the Base Master Plan is provided below.

ZONE 2: "FRONT STREET & WHARF STREET" AREA BASE MASTER PLAN		Order of Magnitude Cost W/ Contingencies	Building Footprint	Stories/ Levels	Total S.F	Dwelling Units	Parking Spaces Required	Parking Spaces Provided
Base Master Plan Illustrated Development Program								
2a	Retail, Entertainment / Commercial Uses Wrapping Parking Deck	n/a	35,000	3	105,000	-	315	Shared P
2b	Retail, Entertainment / Commercial Uses Wrapping Parking Deck	n/a	12,000	3	36,000	-	108	Shared P
2c	Linden Street Retail, Entertainment/Commercial Uses	n/a	5,000	2	10,000	-	40	Shared P
Base Master Plan Public Realm Improvements								
2d	Relocated Outdoor Basketball Courts (Two)	\$ 114,400						
2e	Multi-use Soccer/Football Field (for Parks & Recreation Use and Middle School Use)	\$ 667,313						
2f	New Entry Drive and Gateway to GF Frick Boat Club	\$ 164,632						
2g	Riverside Multi-use Trail and Linear Greenway Park Improvements	\$ 1,169,870						
*	Riverside Reforestation and Habitat Creation	\$ 122,850						
*	RJ Corman Rail-Trail (from Linden Street to Chew Street)	\$ 139,425						
*	New Wharf Street & Streetscape Construction with Underground Utilities (East of RJ Corman Railway)	\$ 964,387						
*	Front Street Relocation and Intersection with Linden Street	\$ 394,896						
*	Front Street Streetscape Improvements	\$ 120,406						
Total Base Master Plan Public Realm Improvement Costs		\$ 3,858,179						
Base Master Plan Parking Improvements								
PD1	Parking Structure - 3 levels @ ±190 spaces per level	\$ 17,238,000		3				570
SP2	Linden Street Surface Parking Lot - 105 Spaces	\$ 709,800						105

Table 2-2a: Front Street & Wharf Street Areas Master Plan development program and estimated public realm & parking costs

Public Realm Improvements – Realigned sections of Front Street, Linden Street and the New Wharf Street would receive streetscape improvements, including: specialty paving, crosswalks, trees, furnishings, lighting and wayfinding signage to continue the streetscape that was initiated in the Hamilton Street Gateway Zone. The Master Plan recommends that an extension to the Riverside Trail/Promenade be negotiated with PPL and GF Frick Boat Club and laid out in the field to appropriately meander the 10’ wide multi-use trail through the utility easement, power poles existing vegetation, and topographic bluff that exists between PPL and GF Frick. This initiative will also require the construction of security fencing for the east side of the PPL facilities and the west side of the GF Frick Boat Club facilities to alleviate security and liability concerns for the trail. The RJ Corman Rail-Trail can also be extended through this Zone without interruption from Linden to Chew Street with the removal of the rail crossing. The final public realm improvements for this area involve the relocation of the existing Bucky Boyle Park basketball courts to another undetermined specific location with the Riverfront Park Zone to the north to accommodate the implementation of a new lighted, multi-use soccer/football field, named Power Park, to the west of the PPL Substation. This field is intended for shared use between the City Parks and Recreation Department and the Harrison Middle School athletic teams.



PPL “Power Park” multi-use soccer/football field

Wharf & Front Street enhancements



Day/evening restaurants & entertainment

Alleyscape promenade

AOW Children’s Museum & plaza addition

ZONE 2 POTENTIAL FUTURE PPL SITE DEVELOPMENT OPTION PLAN

Optional Plan Recommendations: As mentioned earlier, the PPL Facilities occupy prime riverfront development land that looks over the over the Hamilton Street Dam and is very visible from the Hamilton Street Bridge. Discussions during the Master Plan process revealed that relocating the entire PPL facility or just the northern Substation portions would be cost prohibitive for viable redevelopment at this time; however, future relocation or consolidation of the small generator, fuel storage and switching station facilities may be feasible with increased development activity and eventual regulatory mitigation. To test and document the initial redevelopment potential of this south end PPL area, an optional development plan was prepared below.



Exhibit 2-8: ZONE 2: “Wharf Street & Front Street” Optional Plan program elements (Listed in red)

The optional development plan shows the opportunity for a riverside street connection between the Lehigh Landing alleyscape and the GF Frick Boat Club access drive previously recommended. This would create a looped access drive to serve expanded mixed-use riverside development, initially envisioned as two-stories of retail/commercial/office and two stories residential apartment/condo loft above. To accommodate the on-site parking required by the added development, the parking structure would be expanded to the east with two-levels of parking providing ±380 additional shared use parking spaces atop a possible new consolidated PPL Switching Facility below. The expanded riverside development could overlook an expanded, wider public promenade, overlook park and park pavilion carefully located within the PPL power line easement. Both the PPL Substation and the GF Frick Boat club would be retained within this plan option as illustrated below. A detailed program listing with public realm and parking cost estimates for the optional plan is provided below.

ZONE 2: OPTIONAL PLAN ILLUSTRATED DEVELOPMENT PROGRAM		Order of Magnitude Cost W/ Contingencies	Building Footprint	Stories/ Levels	Total S.F	Dwelling Units	Parking Spaces Required	Parking Spaces Provided
2h	Mixed-use Riverside Development 2 Stories Retail/Commercial/Office with 2 Stories Residential Apartment/Condo Loft Above	n/a	50,000	4	150 - 200,000	80 - 100	420-450	Shared P
Optional Plan Public Realm Improvements								
2i	Riverside Park Public Pavilion and Promenade/Trail Overlook	\$ 803,182						
Total Optional Plan Public Realm Improvement Costs		\$ 803,182						
Optional Plan Parking Improvements								
PD9	Parking Structure Expansion w/ Possible Switching Station Building Below- 2 levels @ 190 spaces per level	\$ 12,350,000		2				380

Table 2-2b: Front Street & Wharf Street Areas Master Plan development program and estimated public realm & parking costs

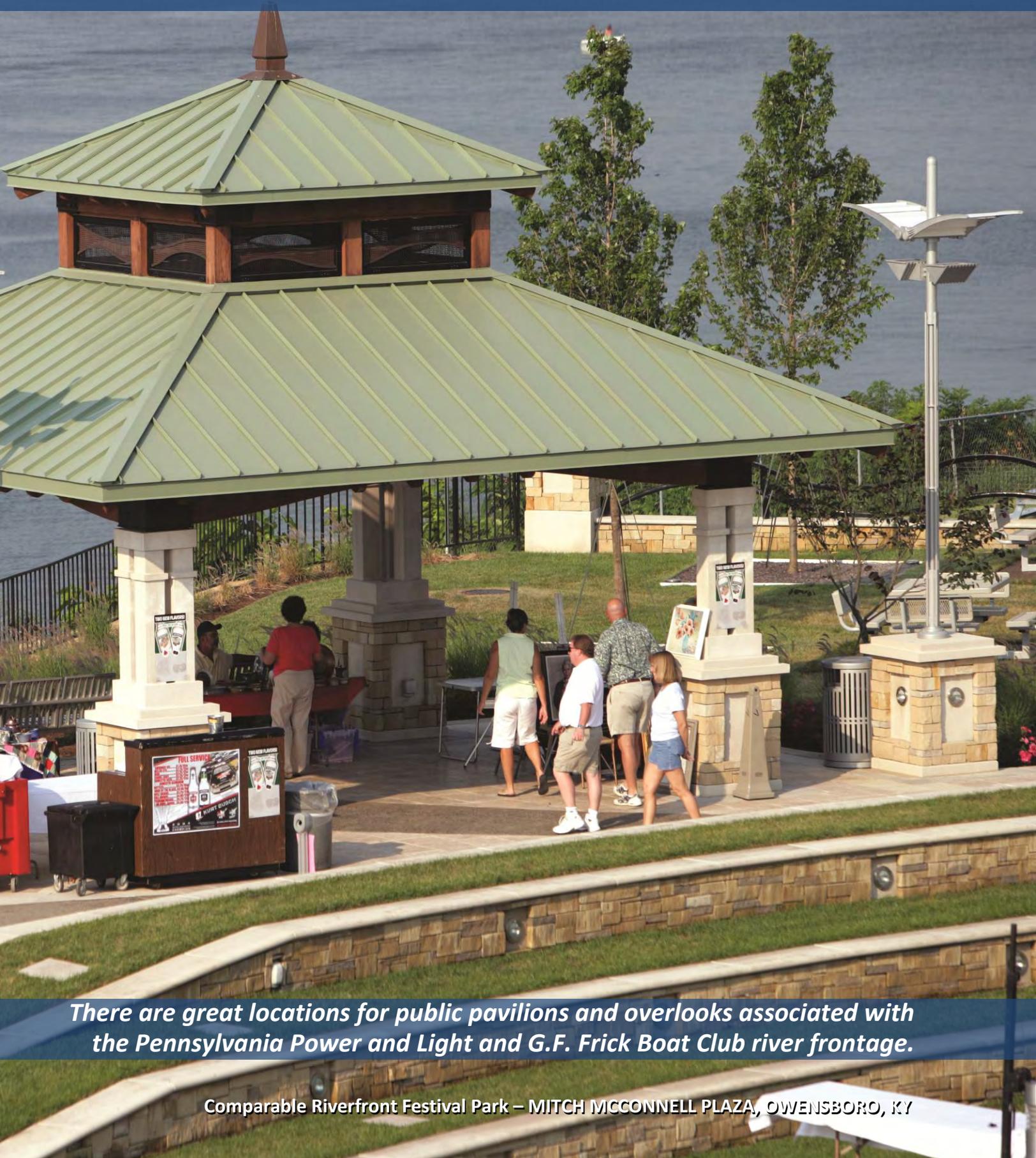


Mixed-Use commercial, office & residential

Existing Riverfront trail

Promenade & public pavilion vision

A primary goal of the Plan is to provide open, casual and passive public access to the River at several unique waterside locations.



There are great locations for public pavilions and overlooks associated with the Pennsylvania Power and Light and G.F. Frick Boat Club river frontage.

Comparable Riverfront Festival Park – MITCH MCCONNELL PLAZA, OWENSBORO, KY

Welcome to Riverside Festival Park and Brewers' Hill...the focal point for community events and waterside activity on the Lehigh.



Riverfronts are often the result of leftover spaces, but here we have the opportunity to designate the open space ahead of redevelopment.

Comparable Riverfront Festival Park – MITCH MCCONNELL PLAZA, OWENSBORO, KY

ZONE 3: BUCKY BOYLE RIVERFRONT PARK & BREWERS' HILL

Location & Existing Conditions: Riverfront Zone 3 is comprised of Bucky Boyle Riverfront Park and Brewer's Hill, two key areas central to the Riverfront's revitalization and redevelopment, and treasured by the local community. The area includes: 1] the entire upper and lower Bucky Boyle Park sites, 2] the Neuweiler Brewery block bounded by Pump Place, Front and Liberty Streets; 3] the old Ribbon Works Factory site on the southwest corner of Front and Gordon Streets, and 4] The American Atelier Furniture Company site bounded by Bucky Boyle Park, Front Street and the RJ Corman Railway.

Bucky Boyle Park is a public park owned and managed by the City of Allentown offering both passive and active recreation for the nearby Ward 1 and Ward 6 Neighborhoods and riverside access for the larger Allentown



Mayor Samuel Mc Hose Memorial and Buck Boyle Spray Deck in the upper and lower Bucky Boyle Park areas respectively.

community. The upper portion of Bucky Boyle Park is separated from the lower portion by both the RJ Corman Railway and a fifteen-foot change in elevation and slope. The upper portion has been dedicated to a small memorial plaza to Allentown's first Mayor Samuel Mc Hose, accompanied by older walkways and benches. The focal point of the lower, riverside portion of the park is an historic pavilion overlooking the river with a relatively new spray park and playground radiating from the pavilion plaza area. Bucky Boyle Community Building anchors the north end of the park with approximately 50 spaces of parking provided. The largest portion of the park is dedicated to two baseball/softball fields which have overlapping outfield areas to make a third football/soccer field, as well as two basketball courts. A combination of paved and gravel paths also provides a small, informal, self-contained walking-trail system for area residents. A very small portion of the northeast corner of the park is dedicated to the Lehigh University Boathouse and culling dock water access at the end of Pump Place. This is the only water access provided on the west side of the Lehigh River, but it is not open for public use. On the west side of the park there is an underutilized triangular piece of land (an old rail spur right-of-way) held by the owners of the Iron Mountain Storage complex.



Exhibit 2-9: Existing Bucky Boyle Park area and facilities layout

Although Bucky Boyle Park is somewhat removed from the community by limited vehicular/pedestrian access, a drop in topography, the RJ Corman Railway and a wall of industrial buildings, it is quite well maintained and well used by area residents, employees and youth league sports. Many of the park

improvements within the red boundary line on the existing conditions map were funded by a UPAR grant, now managed by the National Park Service. The UPAR program was intended to fund dedicated open space improvements that would remain in perpetuity. This limitation will require future coordination with the National Park Service to implement most of the recommendations suggested for the Bucky Boyle Park area below.

The Neuweiler Brewery complex operated from the late 1800's until its closure in the late 1960's. All the original buildings remain standing with the exception of the previously demolished Neuweiler smokestack. The current buildings are illustrated to the right and their historic uses include:

Building A: The Office	Building G: The Wash house
Building B: The Brew house	Building H: Ale Stock House
Building C: The Machine House	Building I: Pump House
Building D: The Boiler House	Building J: Bottling House
Building E: Filter Room	Building K: Storage
Building F: Stock House	



The Neuweiler Brewery Complex Building Key

The building complex is entirely vacant and in various stages of decline due to long-deferred maintenance, casting a shadow of blight over the 1st and 6th Ward Neighborhoods for the past 40 years. Realizing the historic importance of this complex, the blighted condition and the public's passion for saving and reusing the buildings, the City of Allentown commissioned a parallel Site Reuse Study for the Neuweiler Brewery site during the Lehigh Riverfront Master Plan process. The Neuweiler Site Reuse Study was lead by Cornerstone Consulting Engineers & Architectural Inc. of Allentown with support from both KSK Architects Planners Historians, Inc. and Urban Partners of Philadelphia, PA. This parallel, site specific study is available from the City of Allentown Bureau of Planning and Zoning for further reference on existing site conditions and recommendations for adaptive reuse.

The American Atelier Factory complex also operated for a number of years on its relatively narrow triangular site; however, its current operation had been significantly scaled back and its closure was pending and the time of this Master Plan. The factory is composed of a primary, three-story brick structure along Front Street, between Chew and Gordon Streets, backed by a number of metal, block and wood structure building additions. American Atelier extends to occupy both the southwest and southeast corners of Front and Chew Streets with concrete block buildings that are currently vacant, underutilized and a blighting influence to Front Street residents.



The American Atelier factory buildings

The third, long-standing factory complex is the Ribbon Works, comprised of two, vacant six-story brick structures, lining Front and Gordon Streets, and connected by a series of one-story, vacant structures along Gordon Street. Like the American Atelier Factory, the Ribbon Works is also under private ownership, but actively fore sale on the real estate market.



The Ribbon Works factory buildings

All three Brewer's Hill area sites have good access from Front, Gordon, Chew and Liberty Streets, with the American Atelier and Neuweiler Brewery sites also having additional rail access opportunities that can be explored for redevelopment. However access along the east side of these sites and along Bucky Boyle Park is quite limited to existing Pump Place and some informal gravel drives meant for accessing PPL, the City's Water Intake Facility and the sports fields only, but sometimes becoming a "cut-through" for localized access through the Riverfront.

Thematic Approach - Planning Intent: This central portion of the Riverfront is envisioned to become Allentown's signature urban Riverfront Festival Park on the Lehigh River surrounded by both preserved historic buildings and new state-of-the-art mixed-use buildings offering a mix of exciting new retail, restaurant, entertainment uses spilling onto the proposed parks, promenades and streets, with upper floor corporate offices and residences offering commanding views overlooking the larger Lehigh Valley.

DETAILED MASTER PLAN RECOMMENDATIONS

Transportation Improvements: The transportation recommendations focus on extending the street grid and accessibility to the Riverfront parcels via Gordon Street, the new Wharf Street and Liberty Street in the future. The intersection at Front and Gordon streets is an offset intersection today with a heavy left turn from northbound Front Street to westbound Gordon Street. This situation should be eased under the recommended Master Plan for the Zone which extends the new Wharf Street parallel to the RJ Corman Railway tracks with Front Street only accessed via a jog at Linden Street in Zone 2, discussed previously. Most of the traffic would be anticipated to use the new Wharf Street, which could be designed with a turn lane if necessary, since there is inadequate space to add a left-turn lane today at Front and Gordon Streets.



Exhibit 2-10: ZONE 3: "Riverfront Park & Brewer's Hill" Vision and Base Plan program elements

The Master Plan also proposes to remove Pump Place and extend Gordon Street in a two-way, angular alignment roughly located between the current Front Street intersection and the existing low point in Pump Place at the Lehigh University Boathouse. New access to both the Neuweiler and American Atelier redevelopment would be provided from Gordon Street by a parallel north-south access on the west side of the RJ Corman Railway. Gordon Street would terminate and turn at the river to become the New Riverside Drive along the east side of Iron Mountain Storage, discussed in the next Zone 4. A new promenade access is suggested for the south side of the Riverfront Park (in alignment with Chew Street) to facilitate service truck access to the City Water Intake Facility and the PPL substation as well as

pedestrian and bike access to the riverside trail system. An open view corridor and access way are recommended at the end of Chew Street on the American Atelier site to facilitate direct pedestrian and bike movement to the Riverfront and Wharf Street below. This area is unfortunately too steep to formally extend Chew Street to join with the new Wharf Street; however, it is an important connection to be created.

Development Summary: The recommended Master Plan illustrated above and supporting development program table below, shows the opportunity for over 84,000 sq. ft of retail, entertainment and commercial uses located within three-story, mixed-use buildings wrapping a three-level parking structure providing over 525 parking spaces on the south side of the Riverfront Festival Park. This area would be developed in a similar manner to Southside Works in Pittsburgh, Pennsylvania (lifestyle center development) with $\pm 28,000$ sq. ft of river-oriented/themed ground floor retail, restaurant and entertainment space and $\pm 56,000$ sq. ft. of upper floor space for office-commercial or residential apartment-condominium development. An additional 14,000 sq. ft. of Park & Recreation building space is suggested for the south side of the parking structure to service the soccer-football field with storage, restrooms and possible seasonal concessions. Public space should be programmed to provide amenities to the Allentown community as well as those residing within the Riverfront.

The recommended Riverfront Base Master Plan and program table also show the opportunity for over 360,000 sq. ft of adaptive re-use and new development space within the Neuweiler Brewery, Ribbon Works and American Atelier buildings and sites. The Re-use Plan for the Neuweiler site suggests the retention and re-use of all the buildings offering 113,000 sq. ft. of retail, restaurant, commercial service and arts-oriented uses on the ground floors along Liberty, front and Gordon Streets, and the upper floor spaces marketed for a mix of corporate office and residential apartments within the separate Neuweiler buildings.

The Neuweiler Office Building should be used for a keynote anchor restaurant or brew pub with its unique style, size, scale and location at Front and Gordon Streets. The top floor of the towering Brew House Building B could be retained for a restaurant use and rooftop dining experience offering tremendous 360 degree views up and down the Lehigh Valley and to Downtown Allentown. Parking needs for the Neuweiler site could be accommodated with on-site surface parking, parking on the ground floors beneath some of the existing brewery buildings and a small three-level parking structure in the northeast corner of the site with the potential to provide over 300 parking spaces. Three further detailed development scenarios for recommended uses within the existing Neuweiler Buildings, and possible additions or new buildings on site, are presented within the detailed **Neuweiler Reuse Study** prepared by Cornerstone Consulting Engineers and Architectural, Inc. Note: Please see the City of Allentown Bureau for Planning and Zoning for a copy of the Neuweiler Brewery Site Reuse Study.

The historic design and layout of the Ribbon Works buildings suggests that they would best renovated for up to 60 apartments or condominiums overlooking the Riverfront park and Lehigh River. The buildings are slightly elevated with a partially exposed English basement that is not conducive to ground floor commercial use due to ADA accessibility issues. The two taller buildings should be retained for redevelopment, with the lower one-story buildings removed to facilitate internal, on-site surface



Zone 3: Existing Bucky Boyle Park and Brewer's Hill conditions

parking, with additional parking provided on-street and possibly in the Neuweiler garage, discussed earlier.

The most prominent use in the Neuweiler Building and the Ribbon Works buildings would be residential. This would help anchor the Riverfront with young professionals that add 24/7 street life. It would take advantage of the view of the Lehigh River, Bucky Boyle Park, trail access and greenways. It is also within walking distance to the cultural amenities of downtown Allentown and the Ward 1 and Ward 6 Neighborhoods.



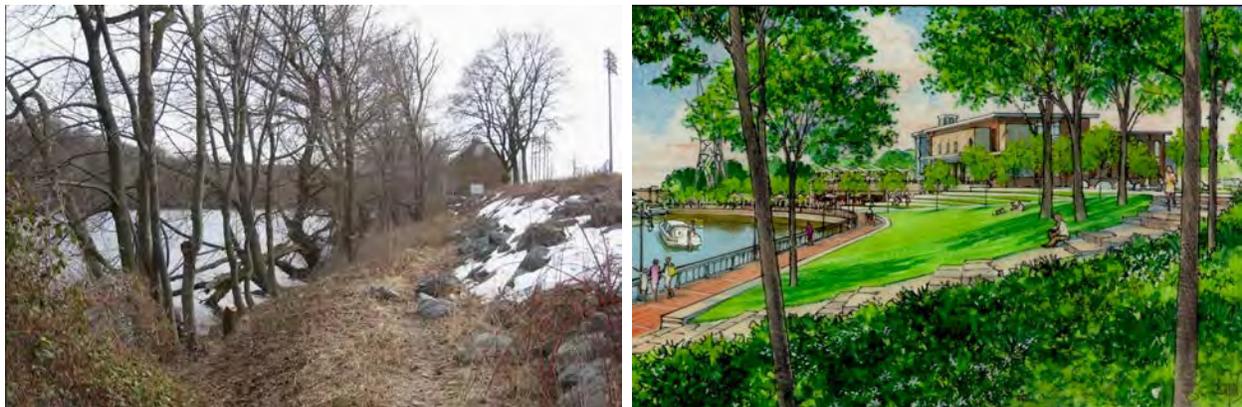
Exhibit 2-11: “ZONE 3 Riverfront Festival Park and Brewer’s Hill” Master Plan elements

Only one building in the American Atelier site, the Front street brick building north of Chew Street, is recommended for preservation and adaptive re-use. The Master Plan recommends that all other buildings on the American Atelier site should be raised to facilitate better flexible redevelopment of this otherwise awkwardly shaped parcel for over 150,000 sq. ft. of commercial, office and technology uses. The Master Plan illustrates a second, three-story sister building to the American Atelier building along the RJ Corman Railway to the east and a restaurant-commercial building constructed to the north enclosing either an indoor or outdoor courtyard for use by the building’s tenants. Parking for the facility would be partially provided below the new buildings constructed on-site in addition to on-street parking and reserved off-site parking spaces in the nearby parking structures. A second new building is recommended south of Chew Street for commercial, office and employment uses with parking below and also shared on-street and in surrounding structures. This building location could also become a new Community Center to replace the Bucky Boyle Community Building when the Festival Park expansion is implemented. A terraced pedestrian courtyard entry should be implemented at the end of Chew Street permitting new pedestrian access from the Neighborhood to the Riverfront, while also serving as a courtyard entry to the north and south towers of the proposed Atelier site redevelopment.

Public Realm Improvements – The premier focal point of both the Riverfront Park and Brewer’s Hill Zone and the entire Lehigh Riverfront would be a new, expanded **Riverfront Festival Park** on the lower Bucky Boyle park site. The new park would be first redefined by the realigned and extended sections of Gordon Street to the North, Wharf Street to the west and the Water Intake Facility service promenade to the south. Realigned and extended sections of Front Street, Gordon Street and the New Wharf Street would receive streetscape improvements, including: specialty paving, crosswalks, trees, furnishings, lighting

and wayfinding signage to continue the streetscape that was initiated in the Hamilton Street Gateway, Lehigh landing and Wharf and Front Street Zones.

The historic pavilion should remain and be embellished to become a more noteworthy piece of architecture as the sketch below conveys, with the lower level reopened and refurbished to serve as a seasonal location for harbormaster offices, boat rental, concessions, satellite tour boat concessions for the D&L Canal, and satellite offices for the Fish and Boat Commission Warden for patrolling this recreational boating section of the Lehigh River. The lower section of the pavilion would be equipped with modern flood proofing methods to minimize damage during time of peak river flow. With pavilion improvements a new upper and lower level riverwalk promenade should be constructed to extend the multi-use riverside trail on the upper level while providing lower-level access to a riverside docking facility for transient boat docking, boat rental and canal tour boat docking. This is envisioned as a floating dock facility that can be stored during the cold weather months. A lighted, floating fountain display in the river is also suggested to serve as a focal point from all vantage points, drawing visitors to the Riverfront.



Upper and Lower Riverfront Festival Park and Riverside Promenade Vision

The relatively new playground and spray deck are retained as a focal point for the Riverfront Festival Park; however, the Bucky Boyle Community Building and surface parking lot are recommended for removal and relocation to the perimeter of the park in the proposed buildings and parking resources. Opportunities for the Community Building have been discussed for the American Atelier site, the Neuweiler site or the new development site between Riverfront Park and the Power Park Soccer Field. The existing sports fields would be removed to provide space for both riverside development and expansion of the park grounds to accommodate large scale festivals and performances like the “River Days” festival.



River Days flexible festival grounds Canal boat heritage tours docking area Brewer’s Hill Neuweiler mixed-use re-use



Vision for terraced Brewer’s Hill Park

Vision for Neuweiler, Ribbon Works & American Atelier building re-use

To the west of the park, the RJ Corman Multi-use Rail-Trail would continue to be extended through Zone 3 to the north and the upper Bucky Boyle Park area would be reconstructed with the Gordon street extension to become a terraced Brewer’s Hill Park. The terraced park would allow ground floor uses to spill out onto the park from both the Neuweiler and American Atelier buildings. The top level of the terraced Brewer’s Hill Park would terminate at Front and Gordon Streets with a new, highly visible, memorial plaza to Mayor Samuel Mc Hose. Any one of these elements alone will not have a large impact on the area; however, the sum of these public realm initiatives would have a dramatic and profound effect on attracting new visitors and redevelopment to the Riverfront. Summary costs for these public realm improvements and parking resources described above are listed in the table below.

ZONE 3: "BREWER'S HILL" & "RIVERFRONT PARK" AREA BASE MASTER PLAN		Order of Magnitude Cost W/ Contingencies	Building Footprint	Stories/ Levels	Total S.F	Dwelling Units	Parking Spaces Required	Parking Spaces Provided
Base Master Plan Illustrated Development Program								
3a	Parks & Recreation Support Facility Building (Equipment Storage	n/a	7,000	2	14,000	-		On-Street
3b	Retail, Entertainment/Commercial Uses Wrapping PPL Substation	n/a	28,000	3	84,000	-	252	Shared P
3c	Atelier Site Redevelopment - Commercial/Office/Technology Use	n/a	17,000	3	51,000	-	153	Shared P
3d	Atelier Building Re-use and Expansion	n/a	50,000	3	150,000	-	450	Shared P
3e	Ribbon Works Lofts - (Apartments)	n/a	16,000	3	48,000	48-60	72 - 90	On-Site
3f	Brewer’s Alley - Neuweiler Building Re-use of All Existing Buildings	n/a	100,000	varies	100,000	60 - 72	250 - 278	Shared P
3g	Brewer’s Alley - Neuweiler Bottling Building Re-use	n/a	13,000	1	13,000	-	65	Shared P
Base Master Plan Public Realm Improvements								
3i	Front Street & Wharf Street Gateway Park and Fountain Feature	\$ 507,257						
3j	Brewers Hill Park and Mayor McHose Memorial Plaza	\$ 1,077,714						
3k	Expanded Buck Boyle Riverfront Festival Park & Promenades (Spray Park/Playground, Festival Grounds)	\$ 1,766,265						
3l	Upper and Lower Riverfront Promenades/Multi-use Trails, Reforestation, Steps, Etc.	\$ 378,050						
3m	Riverside Marina & Historic Canal Boat Docking Facility	\$ 80,405						
3n	Riverside Floating Fountain Display	\$ 390,000						
3o	New Lehigh University Sculling Dock and Riverside Drive/Gordon St. Transit Amenities	\$ 436,800						
*	RJ Corman Rail-Trail (from Chew Street to Pump Place/Gordon Street)	\$ 69,713						
*	New Wharf Street & Streetscape Construction with Underground Utilities (from Chew Street to Pump Place/Gordon Street)	\$ 885,235						
*	Pump Place/Gordon Street & Streetscape Relocation and Reconstruction with Underground Utilities	\$ 1,056,907						
Total Base Master Plan Public Realm Improvement Costs		\$ 6,648,346						
Base Master Plan Parking Improvements								
PD2	Parking Structure - 3 levels @ 175 spaces per level	\$ 12,285,000		3				525
PD3	Lower Level Parking Under Atelier Development	n/a		1				180
PD4	Neuweiler Brewery Parking Structure - 3 to 4 levels @ +100 Spaces per level	\$ 9,360,000		3 to 4				300 to 400
SP3	Ribbon Works Surface Parking	\$ 421,200		1				72

Table 2-3a: Brewer’s Hill & Riverfront Park Master Plan Development Program with Estimated Public Realm & Parking Costs

ZONE 3 SITE DEVELOPMENT OPTION PLAN

Optional Plan Recommendations: The Riverfront Park (Bucky Boyle Park) area was the focus of much attention and many ideas throughout the public Master Plan process. One idea emerged to celebrate and interpret the Riverfront’s historical role as an industrial port and stop along the Delaware and Lehigh Canal. The optional plan below shows the opportunity for creating a small, calm water inlet and wharf area along the southern edge of the expanded Riverfront Festival Park. This inlet is intended to recall the days when



Lehigh industrial wharf and inlet area circa 1901

a large inland wharf area extended from the Riverfront Park area through the Pennsylvania Power and Light site and down to the current Lehigh Landing area, illustrated in the historical map above. The inlet could offer safe harbor for additional family-oriented water activities, such as paddle boating, model boat racing, etc., that can’t be offered on the Lehigh’s “lake like” but flowing conditions or it could offer additional inland transient boating, boat rental and canal boat tour docking opportunities.



Exhibit 2-12: ZONE 3 “Riverfront Park & Brewer’s Hill” Optional Plan program elements (Listed in red)

A second option for the Neuweiler Brewery site’s re-use and expansion has also been documented in the map above. This Master Plan concept involves the selective removal of three Neuweiler buildings hidden on the back, east side of the complex. Buildings G (the Wash House), H (the Stock Ale House) and K (the Storage Building) are suggested for demolition consideration to better facilitate the renovation and re-use of the remaining keynote buildings that line Gordon, Front and Liberty Streets, as described earlier in the Base Master Plan. Removal of these buildings will allow a much larger, parking structure resource to be centrally located in the Neuweiler block to serve new uses in the Neuweiler Buildings and redevelopment of the nearby American Atelier, Ribbon Works and Iron Mountain Storage sites. The new, three-level parking structure could be accessed from different levels to address the site’s topography and accommodates 435 or more spaces serving the Neuweiler redevelopment first and providing reserved spaces for the surrounding redevelopment sites that have limited opportunities for on-site parking.



Vision for Neuweiler re-use and expansion

Vision for festival park and wharf inlet setting

The larger, on-site parking structure could also facilitate and serve a substantial new expansion in the southeast corner of the Neuweiler Brewery site. This expansion space is envisioned to be a one to two-story flexible-use open floor space for events, a performance venue, business conferencing space or a public use, such as a new community center to replace the Bucky Boyle Community Center. The space would be covered by an accessible green roof park - sculpture garden overlooking the Riverfront Festival Park and the Lehigh River to the southeast and open to building tenants and patrons to the retail, restaurants and arts venues within. A second three-story commercial mixed-use frontage building is also suggested along the north side of the parking structure along the Liberty Street corridor. A detailed program listing with public realm and parking cost estimates for the optional plan is provided below.

ZONE 3: OPTIONAL PLAN ILLUSTRATED DEVELOPMENT PROGRAM		Order of Magnitude Cost W/ Contingencies	Building Footprint	Stories/ Levels	Total S.F	Dwelling Units	Parking Spaces Required	Parking Spaces Provided
3h	Commercial/Mixed-use Building	n/a	12,000	3	36,000	-	108	Shared P
3f	Brewer's Alley - Neuweiler Building Re-use and Expansion (2-3 structures removed)	n/a	TBD	TBD	TBD	TBD	TBD	TBD
Optional Plan Public Realm Improvements								
3p	Inland Wharf Inlet	\$ 2,639,675						
3p	Chew Street Promenade and Wharf Street Improvements	\$ 779,123						
Total Optional Plan Public Realm Improvement Costs		\$ 3,418,799						
Optional Plan Parking Improvements								
PD7	Neuweiler Brewery Parking Structure - 3 levels @ +145 spaces per level	\$ 13,650,000		3 to 4				435 - 580

Table 2-3b: Brewer's Hill & Riverfront Park Optional Plan development program & estimated public realm & parking costs



Comparable riverside park setting to that envisioned for the Lehigh Riverfront Park – Yorktown Riverfront, Yorktown, VA

Welcome to the new Riverside Drive...a new address street for commerce and living along the Lehigh Riverfront.

GRANVILLE
ISLAND

Canada



GRANVILLE ISLAND

Witness a rich and vibrant experience. Experience the heart of Vancouver's program.

FEBRUARY
FEVRIER 2010

The public process was an essential component for designing a stakeholder driven Lehigh Riverfront Master Plan

Comparable Development Surrounding A Focal Bridge – GRANVILLE ISLAND, VANCOUVER, BC

ZONE 4: RIVERSIDE DRIVE AND IRON MOUNTAIN STORAGE

Location & Existing Conditions: The new Riverside Drive area, Zone 4, is a relatively small riverfront area focused primarily on the lands surrounding the Iron Mountain Storage facilities. The area is defined by the Lehigh River to the East, Pump Place to the south, the RJ Corman Railway to the west and the Lehigh Structural Steel site to the north. The Iron Mountain storage site retains many of its industrial site elements from when it was a very active Ingersoll Rand production plant. While the primary, contiguous buildings are fully occupied with storage at this time, the old Ingersoll Rand office building on Pump Place is vacant and boarded. Most, if not all, of the surface parking and truck service lots remain vacant with most of the current minimal truck and vehicle parking provided easily in the smaller truck service bays. A small area along the Lehigh River, north of Pump Place, is also dedicated for secured scull storage for the Lehigh University Boathouse. Pump Place provides access to Iron Mountain Storage, Bucky Boyle Park and the Lehigh University Boathouse as it gradually descends to and terminates at the Lehigh River edge.

Thematic Approach Planning Intent: Given the conditions described above, the Master Plan vision for this area focuses on retaining the light manufacturing use on the north-central portion of the site for the short-term as the property owners and Iron Mountain Storage Company both have plans to remain on site for the foreseeable future. With most of the Iron Mountain Storage Facilities held in place, there remains an opportunity to implement some short-term transportation improvements and public realm enhancements that can benefit the larger Riverfront and Allentown Community while also providing some commercial/mixed-use redevelopment opportunities for the Ingersoll office site with little to no impacts to the existing Iron Mountain storage operations.

The longer-term vision for this area recommends eventual relocation of the Iron Mountain Storage Facilities and subsequent phased, commercial office / mixed-use redevelopment of the industrial site. This vision is illustrated in the optional development plan discussed in detail below.

DETAILED MASTER PLAN RECOMMENDATIONS

Transportation Improvements: Access within this portion of the Riverfront is very limited. The underutilized east side asphalt lots of the Iron Mountain Storage site offer a great opportunity to initiate the southern segment of a new north-south Riverside Drive linking Gordon street extended with Furnace Street extended to the north. The drive could be located along the eastern edge of the Iron Mountain parking lots and still provide ample depth for loading dock servicing and parking on the northeast corner of the building.

Development Summary: As introduced above, the intent of the Master Plan is to retain the Iron Mountain Storage facilities and maintain access and operations for the facility while exploring opportunities for transportation, public realm and modest development opportunities on the site's east and south side frontages. With Iron Mountain storage remaining in place, two initial redevelopment opportunities can be realized in the Riverside drive area, First, the existing office building can be demolished and a new three to four-story, ±80,000 sq. ft. commercial building with retail on the ground floor and office above can be developed at the corner of Gordon Street extended and the new Riverside drive. This development would help to screen the existing Iron Mountain Facility while also offering tenants, and patrons, prime views of the Lehigh River and the improved Riverfront Park. The second opportunity is to retain and relocate the existing Lehigh University Boathouse or construct a new larger boathouse and dedicated sculling dock facility at the approximate location of the existing scull storage

site, north of Pump Place. These opportunities are illustrated in the Base Master Plan and detailed in the development program and cost estimate table below.



Exhibit 2-13: ZONE 4 “Riverside Drive Area (Iron Mountain Storage)” Vision and Base Plan Program Elements

Public Realm Improvements: The new Riverside Drive alignment discussed above would receive streetscape improvements, including: specialty paving, crosswalks, trees, furnishings, lighting and wayfinding signage. The Master Plan also recommends that the riverside multi-use trail continue to be extended and linear greenway park improvements implemented with the construction of Riverside Drive. Together these initiatives will dramatically transform the Riverfront along the Iron Mountain Storage site. Initial costs for these public realm improvements are listed in the table below.

ZONE 4 "RIVERSIDE DRIVE" AREA BASE MASTER PLAN (Iron Mountain Storage)		Order of Magnitude Cost W/ Contingencies	Building Footprint	Stories/ Levels	Total S.F.	Dwelling Units	Parking Spaces Required	Parking Spaces Provided
Base Master Plan Illustrated Development Program								
4a	Gordon Street & Riverside Dr. Retail/ Commercial/ Office	n/a	21,000	4	84,000	-	252	Shared P
Base Master Plan Public Realm Improvements								
*	Riverside Multi-use Trail and Linear Greenway Park Improvements	\$ 512,850						
*	Riverside Reforestation and Habitat Creation	\$ 122,850						
*	New Riverside Drive and Streetscape Construction	\$ 485,823						
*	Zone 4 Existing Intersection Improvements	\$ 273,000						
*	Zone 4 Underground Utilities	\$ 354,900						
*	Zone 4 Erosion and Sediment Control Measures	\$ 58,500						
Total Base Master Plan Public Realm Improvement Costs		\$ 1,807,923						

Table 2-4a: Riverside Drive (Iron Mountain Storage) Area Master Plan program and estimated public realm & parking costs

ZONE 4 SITE DEVELOPMENT OPTION PLAN

Optional Plan Recommendations: Like the other Riverfront Zones, an optional development plan is provided for the Riverside Drive - Iron Mountain Storage site with the sole purpose of helping convey its future development opportunity in the event the owner decides to redevelop the property. With the removal of the Iron Mountain Storage Buildings, the new Wharf Street and streetscape amenities can be extended from Gordon Street to Allen Street and Liberty Street can be extended to link with Riverside Drive and the riverside greenway. Like the Base Master Plan above, Riverside Drive and the Riverside trail-greenway are continued along the east side of the Iron Mountain site. The RJ Corman Rail-Trail is also extended from Gordon to Allen Street. The Liberty Street corridor is splayed to provide broader views of the River from the side street while also framing an opportunity for a bio-park to intercept, slow and filter stormwater before it is released to the river at the public fishing piers.



Exhibit 2-14: ZONE 4 “Riverside Drive Area (Iron Mountain Storage)” Optional Plan program elements (Listed in red)



Vision for Gordon St. retail/commercial/office development Vision for riverside office & residential around the bio-park

This combination of new streets and open space amenities provides the framework for over 260,000 sq. ft. of additional riverfront development, beyond the Gordon Street commercial building described in the Base Master Plan. Over 150,000 sq. ft. of ground floor commercial and upper floor office development in four-story buildings is suggested for the Riverside Drive frontage. The Liberty Street corridor and Bio-park is lined with 100 to 125 apartments or condominiums (108,000 sq. ft.) with centralized surface parking (+85 spaces) in the northern block and three-levels of structured parking (+600 spaces) in the southern block. A detailed summary of this suggested development program and preliminary public realm and parking costs are listed in the table below.

ZONE 4: OPTIONAL PLAN ILLUSTRATED DEVELOPMENT PROGRAM		Order of Magnitude Cost W/ Contingencies	Building Footprint	Stories/ Levels	Total S.F.	Dwelling Units	Parking Spaces Required	Parking Spaces Provided
4b	Riverside Drive Commercial/Office Development	n/a	25,000	4	100,000	-	300	Shared P
4c	Liberty Street Loft Apartments (South side of Street)	n/a	10,500	4	42,000	42 - 48	63 - 72	Shared P
4d	Liberty Street Loft Apartments (North side of street)	n/a	16,500	4	66,000	66 - 78	99 - 117	Shared P
4e	Riverside Drive Commercial/Office Development	n/a	14,000	4	56,000	-	168	Shared P
Optional Plan Public Realm Improvements								
*	Riverside Multi-use Trail and Linear Greenway Park Improvements	\$ 772,850						
*	Riverside Reforestation and Habitat Creation	\$ 122,850						
*	RJ Corman Rail-Trail (from Pump Place/Gordon Street to West of Liberty Street)	\$ 115,830						
*	New Riverside Drive and Streetscape Construction	\$ 568,048						
*	Liberty Street Extension and Streetscape Improvements	\$ 278,659						
*	Liberty Street Bio-Park	\$ 834,925						
*	New Wharf Street & Streetscape Construction (from Pump Place/Gordon Street to West of Liberty Street)	\$ 470,036						
*	New Front Street	\$ 199,607						
*	Zone 4 Underground Utilities	\$ 354,900						
*	Zone 4 Sediment & Erosion Control Measures	\$ 58,500						
Total Optional Plan Public Realm Improvement Costs		\$ 3,776,205						
Optional Plan Parking Improvements								
P08	Parking Structure - 3 levels / 200 Spaces per level	\$ 12,480,000		3				600
SP13	Surface Parking - +85 Spaces	\$ 497,900		1				85

Table 2-4b: Riverside Drive (Iron Mountain Storage) Area Optional Plan Program & Estimated Public Realm & Parking Costs

Welcome to the Riverside Overlook...a new address for corporate offices, riverside living and expanded public park access to the River.



The Riverside Overlook area offers a tremendous opportunity to open a large portion of a previously hidden Lehigh Riverfront to the Allentown Community.

Comparable Waterside Mixed Use Development – BRISTOL AT SOUTH LAKE UNION PARK, SEATTLE, WA

ZONE 5: RIVERSIDE OVERLOOK (LEHIGH STRUCTURAL STEEL SOUTH)

Location & Existing Conditions: The Riverside Overlook, Zone 5, area encompasses the southern end of the old Lehigh Structural Steel site defined by the Lehigh riverbank to the east, existing Iron Mountain Storage to the south, the RJ Corman Railway to the West and the Tilghman Street Bridge to the north. This zone holds an important position on the Riverfront where the River bows out slightly to offer broader picturesque views of the Tilghman Bridge, east side bluffs and the Adams Island Community. The site is dotted with 5-6 large industrial warehouses and shed structures, which used to house the Lehigh Structural Steel Fabrication areas. Each of the buildings area also accompanied by industrial slide cranes designed to maneuver large steel fabrications, such as track structures for theme rides.

Today, many of the buildings are occupied with smaller light and heavy industrial tenant companies with vacancies occurring in a couple of the buildings along the river, which are now prime sites for early Riverfront redevelopment. The site access is limited to two access points; a north end entry from Furnace Street and a west side entry from Sycamore Street over the RJ Corman Railway tracks. Allen Street terminates on the west side of the railway and the parking area access under the Tilghman Bridge also terminates at the railway. Most of the site is paved in compacted aggregate and/or asphalt nearly to the toe of the River's west bank slope. The site lies entirely within the Neighborhood Improvement Zone (NIZ)

Thematic Approach Planning Intent: The Riverside Overlook area lies entirely within the Neighborhood Improvement Zone (NIZ) making it a great candidate for ground level commercial and corporate office development to best benefit the NIZ and return dollars to the Riverfront and Arena Districts. Market conditions indicate that the area should be either programmed for additional "lifestyle center" type development containing ground floor retail, entertainment and restaurants with outdoor café spaces, with upper floor residential condominiums/apartments programmed within side street buildings, and a riverside hotel and corporate office development positioned to overlook the river. This would be a mid-sized hotel to accommodate smaller corporate groups, meetings rooms, data ports – tailored towards business travel and upper floor corporate office space. Initial phase estimates could include:

- Restaurant +30,000 sq. ft.
- Entertainment +7,000 sq. ft.
- Residential condos +240 units
- Mid-size Hotel +125,000 sq. ft.
- Corporate office Space +50,000 sq. ft.

River views and vistas would be optimized by focusing slightly lower scale development within the Riverfront's first tier development sites, between Riverside Drive and the riverbank, with moderate sized development fronting on the west side of Riverside Drive, and opportunities for taller towers located at street corners and along side streets to offer greater views up and down river.

DETAILED MASTER PLAN RECOMMENDATIONS

Transportation Improvements: Much improved access to the Riverside Overlook is recommended through construction of both a new Riverside Drive between Gordon and Furnace Streets, and the new Wharf Street paralleling the railway between Allen Street and Furnace Street. Wharf Street is also recommended for future extension to Gordon Street when, and if, the Iron Mountain Storage site is fully

redeveloped. Allen Street is also recommended to be extended across the RJ Corman Railway to Riverside drive as industrial tenants are gradually relocated and additional LSS buildings can be demolished, opening new view and access corridors to the Lehigh River. Each of these street initiatives would include streetscape improvements, including: specialty paving, crosswalks, trees, furnishings, lighting and wayfinding signage to continue a consistent streetscape theme for the Riverfront District.

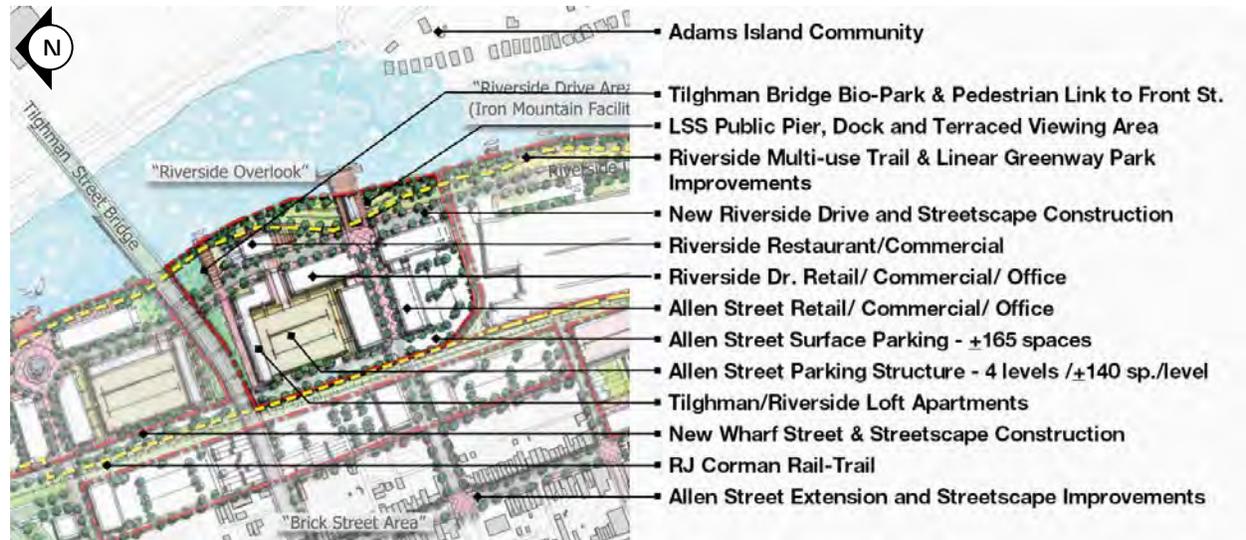


Exhibit 2-15: ZONE 5 “Riverside Overlook” Vision and Base Plan program elements

Development Summary: The recommended Master Plan illustrated above and supporting development program table below shows the opportunity for over 365,000 sq. ft. of development within the Riverside Overlook Zone. First, a unique two-story, 15,000 sq. ft retail, restaurant and commercial building is recommended within the Riverfront greenway, offering a unique waterside “tavern on the green” dining experience in one or more clustered restaurants overlooking the River, the Tilghman Bridge and the new LSS themed public dock. To the west, Riverside Drive and Allen Street are framed by four to five-story commercial–office buildings with ground floor retail, restaurant and walk-in service commercial uses and Class-A corporate office space planned for the floors above. A mid-sized hotel of 100-125 rooms could also be considered for either corner of Allen Street and Riverside Drive. At the north end of the site, four-story riverside loft apartments, or condominium buildings, are recommended as an extension of the existing Tilghman Street rowhome residential area, overlooking the Tilghman Bridge Greenway bio-park and promenade linking up to Front Street. Although commercial and employment uses bring the best benefits to the Neighborhood Improvement Zone, it’s important to also mix in at least 20-25% residential use in the Riverfront to maintain a balance of day and evening activity in the district.

Parking for the Riverfront Overlook would be provided on site with a +165 space surface parking lot to the south and a four-level, +580 spaces, parking structure located in the northern block. Both parking resources could be accessed from Wharf Street and Riverside Drive to distribute peak use as evenly as possible. Service access under or around the base of the Tilghman Street Bridge is not envisioned to maintain a clean



greenway link on the south side of the Bridge from Front Street and Brick Street to the Lehigh River.



Exhibit 2-16: Zones 5 & 7 – Riverside Overlook and Furnace Place Vision elements



Industrial style office/residential building Riverside multi-use trail and greenway Riverside dining & promenade at bridge

Public Realm Improvements: This Zone could greatly benefit from substantial public realm improvements recommended for the area. To the east, a continued extension of the riverside multi-use trail and greenway is suggested from the Iron Mountain Storage site to the Tilghman Bridge and beyond. The greenway is punctuated by a new public wharf, transient boat dock and multi-use open air pavilion serving as the terminus to the new Allen Street extension and retail streetscape. The public wharf and surrounding terraced bank to the river is intended to be an organized viewing area for local sculling races and other river events to be held on the river. The Lehigh River greenway also joins with the Tilghman Bridge Bio-Park, a stormwater facility intended to capture, slow and filter run-off from the Tilghman Street Bridge and neighboring LSS sites before it is eventually released at the rivers edge. A public promenade borders the Bio-Park along the south side of the Tilghman Street (north side of the residential) linking Front Street to a second public fishing pier at the river. The west side of the zone is also recommended for a continued extension of the RJ Corman multi-use rail-trail which will help to improve the appearance of the railway corridor with associated streetscape improvements along Wharf Street. The table below lists general costs for these public realm improvements as well as the parking improvements mentioned above.

ZONE 5: "RIVERSIDE OVERLOOK" AREA BASE MASTER PLAN (Allen St. & Riverside Dr.		Order of Magnitude Cost W/ Contingencies	Building Footprint	Stories/ Levels	Total S.F	Dwelling Units	Parking Spaces Required	Parking Spaces Provided
Base Master Plan Illustrated Development Program								
5a	Riverside Drive Retail/ Commercial/ Office	n/a	18,000	4	72,000	-	216	Shared P
5b	South Side Allen Street Retail/ Commercial/ Office	n/a	16,000	4	64,000	-	192	Shared P
5c	North Side Allen Street Retail/ Commercial/ Office	n/a	16,000	4	64,000	-	192	Shared P
5d	Riverside Drive Retail/ Commercial/ Office	n/a	18,000	4	72,000	-	216	Shared P
5e	Tilghman/Riverside Loft Apartments	n/a	20,000	4	80,000	80 - 94	120	Shared P
5f	Riverside Restaurant/Commercial	n/a	7,500	2	15,000	-	75	
Base Master Plan Public Realm Improvements								
*	Riverside Multi-use Trail and Linear Greenway Park Improvements	\$ 549,900						
*	Riverside Reforestation and Habitat Creation	\$ 102,375						
*	RJ Corman Rail-Trail (from West of Liberty Street to Tilghman Bridge)	\$ 115,830						
*	New Riverside Drive and Streetscape Construction	\$ 248,875						
*	Allen Street Extension and Streetscape Improvements	\$ 642,142						
*	New Wharf Street & Streetscape Construction (from West of Liberty Street to Tilghman Bridge)	\$ 228,483						
*	Tilghman Street Signal and Intersection Improvements	\$ 301,080						
*	Tilghman Bridge Bio-Park & Pedestrian Link with Front Street	\$ 682,683						
*	Zone 5 Underground Utilities	\$ 382,200						
*	Zone 5 Sediment & Erosion Control Measures	\$ 63,375						
Total Base Master Plan Public Realm Improvement Costs		\$ 3,316,942						
Base Master Plan Parking Improvements								
PD5	Allen Street Parking Structure (North Side) - 4 levels / ±140 spaces per level	\$ 13,000,000		3				560
SP4	Allen Street Surface Parking (South Side) - ±165 spaces	\$ 858,000		3				165

Table 2-5a: Riverside Overlook (Lehigh Structural Steel South) Master Plan program & estimated public realm & parking costs

ZONE 5 SITE DEVELOPMENT OPTION PLAN

Optional Plan Recommendations: A second, well received development option for the Riverfront Overlook Zone was prepared to illustrate how this site could be potentially “developed in the round” whereby roughly 300,000 sq. ft. of ground floor retail and upper floor office, in four to five-story buildings, would again front onto Riverside Drive and Allen Street. Approximately 80 to 100 residential apartments or condominiums (84,000 sq. ft.) would wrap the Tilghman Bridge and Wharf Street sides of the blocks with centralized surface parking (±100 spaces) on the south block and 4-levels of structured parking (±600 spaces) on the north block. Given the overall increase in development that can be accommodated within the blocks, no development is recommended within the riverside greenway. Instead, buildings are held to the west side of a curved Riverside Drive with unobstructed views across the Lehigh Riverfront park, trail and public wharf.



Vision for the Lehigh River Greenway and riverfront commercial



Alternate vision for greenway park and trail system

Vision for loft apartments with commercial below



Exhibit 2-17: ZONE 5 “Riverside Overlook” Optional Plan program elements (Listed in red)

This option is intended to work with the optional plan for the Brick Street corridor that shows an opportunity for a two-acre community park to be developed on the west side of the Riverside Overlook Zone. With the relatively intermittent use of RJ Corman Railway and this new park improvement, the west side of the development could support marketable apartment uses. The City should also work with RJ Corman to develop a “Quiet Zone” in the Riverfront District to make hospitality and residential uses more attractive and viable in either the recommended Master Plan or the optional plans. The detailed site development program for this option is listed in the table below with general costs for the public realm and parking improvements.

ZONE 5: OPTIONAL PLAN ILLUSTRATED DEVELOPMENT PROGRAM		Order of Magnitude Cost W/ Contingencies	Building Footprint	Stories/ Levels	Total S.F	Dwelling Units	Parking Spaces Required	Parking Spaces Provided
5a	Riverside Drive Retail/ Commercial/ Office	n/a	20,000	4	80,000	-	240	Shared P
5b	South Side Allen Street Retail/ Commercial/ Office	n/a	22,000	4	88,000	-	264	Shared P
5c	North Side Allen Street Retail/ Commercial/ Office	n/a	25,000	4	48,000	-	144	Shared P
5d	Riverside Drive Retail/ Commercial/ Office	n/a	20,000	4	80,000	-	240	Shared P
5e	Tilghman/Riverside Loft Apartments	n/a	21,000	4	84,000	80-96	120-144	Shared P
Optional Plan Public Realm Improvements								
*	Riverside Multi-use Trail and Linear Greenway Park Improvements	\$ 848,900						
*	Riverside Reforestation and Habitat Creation	\$ 102,375						
*	RJ Corman Rail-Trail (from West of Liberty Street to Tilghman Bridge)	\$ 115,830						
*	New Riverside Drive and Streetscape Construction	\$ 216,575						
*	Allen Street Extension and Streetscape Improvements	\$ 1,019,363						
*	New Wharf Street & Streetscape Construction (from West of Liberty Street to Tilghman Bridge)	\$ 664,165						
*	Tilghman Street Signal and Intersection Improvements	\$ 301,080						
*	Tilghman Bridge Bio-Park & Pedestrian Link with Front Street	\$ 246,221						
*	Zone 5 Underground Utilities	\$ 382,200						
*	Zone 5 Sediment & Erosion Control Measures	\$ 63,375						
Total Optional Plan Public Realm Improvement Costs		\$ 3,960,084						
Optional Plan Parking Improvements								
PD5	Allen Street Parking Structure (North Side) - 4 levels @ ±152 spaces per level	\$ 14,170,000		4				604
SP12	Allen Street Surface Parking (South Side) - ±100 spaces	\$ 520,000						100

Table 2-5b: Riverside Overlook (LSS South) Optional Plan program and estimated public realm & parking costs

Welcome to the Brick Street enclave...a working neighborhood and gateway to the Lehigh Riverfront via Allen and Furnace Streets.

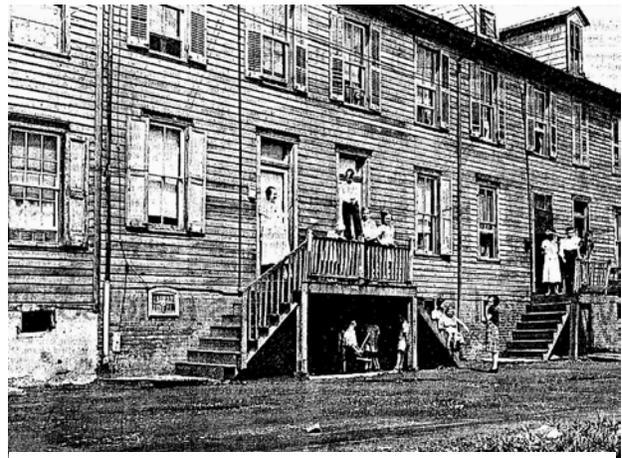


The fabric of the Lehigh Riverfront is the result of industry and its working neighborhoods forming around water and rail in Allentown.

Comparable Riverfront Live Work Neighborhood – MUD ISLAND, MEMPHIS, TN

ZONE 6: THE BRICK STREET LIVE/WORK ENCLAVE

Location & Existing Conditions: The Brick Street Live-Work Enclave is a relatively small inland Riverfront zone located west of the RJ Corman Railway, extending to Furnace Street to the north and including existing Brick Street rowhome residences to the west and Liberty Street rowhome residences to the south. In addition to the surrounding neighborhood residences and businesses, the Brick Street corridor is occupied by industrial uses Replacement Parts, Inc. to the south and the Lehigh Dairy to the north. A third vacant industrial warehouse is centrally located on along Brick Street beneath the Tilghman Street Bridge, with a small grouping of rowhome residences also located beneath the bridge to the north and south. The current two-way street and sidewalk systems are very narrow along Liberty, Sycamore and Allen Streets, with Brick Street being the narrowest with no room for two cars to pass with current parallel parking. Given the tight street conditions, some neighborhood residents have a shared parking agreement with the Lehigh Dairy to use their off-street parking lots along the corridor.



Historic image of the Brick Street rowhomes provided by a current resident during the public input process.

Thematic Approach Planning Intent: As the name implies the implementation approach for this area is to focus on retaining and revitalizing all existing owner occupied and rental homes in the Brick Street area, while also introducing new or rehabilitated buildings for light manufacturing, flex/office space, which would bring new employment opportunities to Ward 1/Ward 6 residents. Market conditions indicate that there is a need for 20,000 – 30,000 sq. ft. light manufacturing building spaces with the ability to offer 4,000 to 6,000 business condominium units for smaller businesses. This location also provides the added advantage of potential rail siding access from the RJ Corman short line railway.



Exhibit 2-18: ZONE 6 “Brick Street Corridor” Vision and Base Plan program elements



Existing Brick St. homes and widened streetscape vision. Vision for Brick Street one and two-story industrial flex space

DETAILED MASTER PLAN RECOMMENDATIONS

The recommended Master Plan illustrated above and supporting development program table below, shows the opportunity for 80,000 – 100,000 sq. ft. of industrial flex space located in three to four new 1 to 2-story buildings located along Allen and Furnace Streets, the two primary address streets leading to the Riverfront. Contemporary two-story structures with clean industry uses on the ground floor and supporting office space above are strongly encouraged to optimize the use of the building frontage and properly frame the street corridors leading to the Riverfront. It’s important to note that the existing Sussman Building (Replacement Parts) is recommended for a Historic Building Demolition Overlay and adaptive reuse for industrial flex space use. Adequate parking for these facilities can be accommodated in centralized surface parking lots, listed in the table below and additional on-street neighborhood parking can be provided along widened sections of Brick Street with associated streetscape enhancements, coordinated with the new block development in the area.

ZONE 6: "BRICK STREET CORRIDOR" BASE MASTER PLAN		Order of Magnitude Cost W/ Contingencies	Building Footprint	Stories/ Levels	Total S.F	Dwelling Units	Parking Spaces Required	Parking Spaces Provided
Base Master Plan Illustrated Development Program								
6a	Employment / Clean Industry/ Manufacturing Uses - Sussman Bros. Building Re-use	n/a	10,000	3	30,000	-	90	On-site
6b	Employment / Clean Industry/ Manufacturing Uses	n/a	20,000	1	20,000	-	60	On-site
6c	Employment / Clean Industry/ Manufacturing Uses	n/a	20,000	1	20,000	-	60	On-site
6d	Employment / Clean Industry/ Manufacturing Uses	n/a	10,000	1	10,000	-	30	On-site
Base Master Plan Public Realm Improvements								
*	Brick Street Widening and Streetscape Improvements with Underground Utilities	\$ 526,065						
Total Base Master Plan Public Realm Improvement Costs		\$ 526,065						
Base Master Plan Parking Improvements								
SP5	Surface Parking Lot ±125 Spaces	\$ 650,000						125
SP6	Surface Parking Lot ±115 Spaces	\$ 598,000						115
SP7	Surface Parking Lot ±140 Spaces	\$ 728,000						140

Table 2-6a: Brick Street Corridor Area Master Plan Program and Estimated Public Realm & Parking Costs

ZONE 6 SITE DEVELOPMENT OPTION PLAN

Optional Plan Recommendations: Allen Street and Liberty Street are envisioned as very important street corridors linking the Ward 6 Neighborhood and Front Street Businesses to the Riverfront and future Lehigh Structural Steel redevelopment. Existing property and street conditions along these and the Brick Street corridor present a neglected appearance and negative first impression of the area that can only be corrected through both public realm improvements and strategic redevelopment.



Vision for optional Sussman Building rail re-use

Potential location for smaller active recreation parks



Exhibit 2-19: ZONE 6 “Brick Street Corridor” Optional Plan Program Elements (Listed in red)

As discussed earlier, the southern portion of the Lehigh Structural Steel site has great potential for substantial new riverside redevelopment when accessed from Furnace Street, Allen Street and Liberty Street, in the future. The site could also be developed with new neighborhood oriented development facing the new Wharf Street, RJ Corman Rail-Trail and Brick Street corridor. The current industrial uses between Brick Street, the railway, Liberty Street and Tilghman Bridge would be relocated and replaced with a two-acre community park, punctuated by a creative re-use of the Sussman Building for either a satellite Railway Museum (for the Pennsylvania Railway Museum in Strasburg) or a City Community Center to replace the Bucky Boyle Park Community Building recommended for future removal in Zone 3. The community park could potentially accommodate playground spaces and sports courts for Ward 6 residents, while also serving as outdoor display yard or excursion train queuing area for the local railway museum. These optional plan recommendations are illustrated in the plan above and supporting table below.



Comparable vision for optional Sussman Building railway museum & park

ZONE 6: OPTIONAL PLAN ILLUSTRATED DEVELOPMENT PROGRAM		Order of Magnitude Cost W/ Contingencies	Building Footprint	Stories/ Levels	Total S.F	Dwelling Units	Parking Spaces Required	Parking Spaces Provided
Optional Plan Public Realm Improvements								
6e	Community Park/Open Space / Re-use of Sussman Building for Railway Museum Building	\$ 264,446	1.1 Acres					
6f	Community Park/Open Space / Railway Museum Display Yard	\$ 323,616	1.1 Acres					
*	Brick Street Widening and Streetscape Improvements with Underground Utilities	\$ 423,800						
Total Optional Plan Public Realm Improvement Costs		\$ 1,011,862						

Table 2-6b: Brick Street Corridor Area Optional Plan Program & Estimated Public Realm & Parking Costs



Welcome to Furnace Place... a corporate campus for Class A office, hotel conferencing and loft-style living overlooking the Lehigh River.

The Lehigh Riverfront offers a tremendous setting and address for new businesses to Allentown and the Lehigh Valley.

Comparable Riverfront Corporate Office District – THE WHARF DISTRICT, MORGANTOWN, WV

ZONE 7: FURNACE PLACE (LEHIGH STRUCTURAL STEEL NORTH)

Location & Existing Conditions

The Furnace Place, Riverfront Zone 7, area encompasses the north side of the old Lehigh Structural Steel site defined by the Lehigh riverbank to the east, the proposed American Parkway Bridge approach to the North, the RJ Corman Railway to the West and the Tilghman Street Bridge to the South. Like the Hamilton Street Gateway Zone, this zone holds an important position as the north gateway to the Riverfront from Front Street and American Parkway via Furnace Street and the planned Bridge Street access to the north. Both routes will ultimately lead visitors to the Riverfront at Furnace Place. Like Zone 5, the site is also dotted with existing industrial warehouse and shed structures, which used to house the Lehigh Structural Steel Fabrication areas. These buildings continue to be occupied by a variety of individual industrial and non-industrial uses with both short and mid-term lease agreements.

The site access is currently limited to a north end entry from Furnace Street and a southern entry from Sycamore Street over the RJ Corman Railway tracks. Most of the site is paved in compacted aggregate and/or asphalt nearly to the toe of the River's west bank slope. Spur rail access is provided from a northern approach from the RJ Corman Short-line Railway.

Thematic Approach & Planning Intent: Like the Riverside Overlook Zone, the Furnace Place area also lies entirely within the Neighborhood Improvement Zone (NIZ) making it a great candidate for ground level commercial and corporate office development to benefit the NIZ and return dollars to the Riverfront and Arena Districts. Market conditions indicate that the area should be either programmed for a major corporate campus or a technology center campus type development that capitalizes on Allentown's growing technology industry sector. The development should not mirror the typical corporate office development located in the Saucon Valley or existing Lehigh Valley office/industrial parks. It should include small ground floor cafés and restaurants with outdoor dining spaces to service the tenants of the Center, with additional retail, entertainment and possibly hotel/hospitality uses positioned to overlook the river. This would be a mid-sized hotel to accommodate smaller corporate groups, meetings rooms, data ports – tailored towards business travel and upper floor corporate office space. Initial development estimates could include:

- Restaurant +30,000 sq. ft.
- Retail and commercial services +35,000 sq. ft.
- Entertainment +7,500 sq. ft.
- Residential apartments or condos +100 units
- Mid-size Hotel +125,000 sq. ft.
- Corporate Campus or Technology Center space 210,000 sq. ft.

DETAILED MASTER PLAN RECOMMENDATIONS

Transportation Improvements: Much improved access to Furnace Place is recommended through the extension of both the new Riverside Drive between Gordon Street and Furnace Street, and the new Wharf Street paralleling the railway between Allen Street and Furnace Street. Furnace Street is also recommended to be extended across the RJ Corman Railway to a



Vision for the Furnace Place auto terminus

roundabout intersection with Riverside Drive as industrial tenants are gradually relocated and additional LSS buildings can be redeveloped, opening new view and access corridors to the Lehigh River. Each of these street initiatives would include streetscape improvements, including: specialty paving, crosswalks, trees, furnishings, lighting and wayfinding signage to continue a consistent streetscape theme for the Riverfront District.



Exhibit 2-20: ZONE 7 "Furnace Place" Vision and Base Plan program elements



Existing Lehigh Structural Steel site and vision for future parking structures

Development Summary: The recommended Master Plan illustrated above and supporting development program table below shows the opportunity for over 360,000 sq. ft. of development within the Furnace Place Zone. Two, four-story, mixed-use retail, restaurant and corporate office buildings (82,000 sq. ft. and 72,000 sq. ft.), are recommended on the Riverfront greenway, offering additional waterside shopping and dining experiences in a series of clustered shops and restaurants overlooking the River, the Tilghman Bridge and the new Furnace Place themed public landing. To the west, Riverside Drive and Furnace Street are framed by two, four-story commercial-office buildings (64,000 sq. ft. each) with ground floor retail, restaurant and walk-in service commercial uses and Class-A corporate office space or a corporate technology center on the floors above. A mid-sized hotel of 100-125 rooms could also be considered for any of these four buildings surrounding the Furnace Place roundabout. Along the south end of the site, four-story riverside loft apartments, or condominium buildings, are recommended along Riverside Drive and overlooking the Tilghman Bridge Greenway bio-park and promenade. Although

commercial and employment uses bring the best benefits to the Neighborhood Improvement Zone, it’s important to also mix in at least 20-25% residential use in the Riverfront to maintain a balance of day and evening activity in this north end Zone.

Parking for Furnace Place would be provided on site with a ±380 space surface parking lot to the north and a four-level, ±650 space Furnace Place Parking Structure located in the southwestern block. Both parking resources could be accessed from Wharf Street, Furnace Street and Riverside Drive to distribute peak use as evenly as possible. Service access under or around the base of the Tilghman Street Bridge is not envisioned or recommended in an effort to maintain a future, consistent greenway link along the north side of the bridge from Brick Street to the Lehigh River.



Vision for corporate office with retail below

ZONE 7 "FURNACE PLACE" AREA BASE MASTER PLAN (Furnace Street & Riverside Dr		Order of Magnitude Cost W/ Contingencies	Building Footprint	Stories/ Levels	Total S.F.	Dwelling Units	Parking Spaces Required	Parking Spaces Provided
Base Master Plan Illustrated Development Program								
7a	Tilghman/Riverside Loft Apartments	n/a	20,000	4	80,000	80 - 94	120	Shared P
7b	Riverside Drive Retail/ Commercial/ Corporate Office	n/a	20,500	4	82,000	-	246	Shared P
7c	Furnace Street (South Side) Retail/ Commercial/ Corporate Office	n/a	16,000	4	64,000	-	192	Shared P
7d	Furnace Street (North Side) Retail/ Commercial/ Corporate Office	n/a	16,000	1	64,000	-	192	Shared P
7e	Furnace Street Retail/ Commercial/ Corporate Office	n/a	18,000	4	72,000	-	216	Shared P
Base Master Plan Public Realm Improvements								
7f	Riverside Drive/Furnace Street Roundabout and Public Landing	\$ 655,006						
7g	Riverside Multi-use Trail and Linear Greenway Park Improvements	\$ 997,750						
7h	Riverside Trail Head Park & Small Boat Launch	\$ 422,370						
*	Riverside Reforestation and Habitat Creation	\$ 259,350						
*	RJ Corman Rail-Trail (from Tilghman Bridge to Along American Parkway South Side Slope Base)	\$ 266,175						
*	New Riverside Drive and Streetscape Construction	\$ 166,254						
*	Furnace Street Extension and Streetscape Improvements	\$ 258,908						
*	New Wharf Street & Streetscape Construction (from Tilghman Bridge to Furnace Street)	\$ 320,310						
*	New Railroad Crossing	\$ 234,000						
*	Zone 7 Underground Utilities	\$ 300,300						
*	Zone 7 Sediment and Erosion Control Measures	\$ 78,000						
Total Base Master Plan Public Realm Improvement Costs		\$ 3,958,423						
Base Master Plan Parking Improvements								
PD6	Furnace Street Parking Structure (South Side) - 3 levels @ ±164 spaces per level	\$ 15,340,000		4				656
SP8	Surface Parking Lot - ±380 Spaces	\$ 1,950,000						380

Table 2-7a: Furnace Place (LSS North) Area Master Plan program and estimated public realm & parking costs

Public Realm Improvements: This Zone could greatly benefit from substantial public realm improvements recommended for the area. To the east, a continued extension of the riverside multi-use trail and greenway is suggested from the Tilghman Bridge Bio-Park to the planned riverside underpass beneath the proposed American Parkway Bridge. The greenway is again punctuated by a second public landing, transient boat dock and multi-use plaza serving as the terminus of the new Furnace Street

extension and retail streetscape. The Lehigh River greenway again joins with the Tilghman Bridge Bio-Park; a stormwater facility described earlier and shared with Zone 5 the Riverside Overlook. The greenway also extends to the north leading to a riverside trail head park and small personal watercraft launch just south of the planned American Parkway Bridge Crossing. Here visitors could come and park their car and begin either a bike trail or water trail tour loop of the Riverfront and City beyond.

The west side of the zone is also recommended for a continued extension of the RJ Corman multi-use rail-trail which will help to improve the appearance of the railway corridor with associated streetscape improvements along Wharf Street. The table above lists general costs for these public realm improvements as well as the parking improvements mentioned above.



Vision for corporate campus and riverside restaurants

ZONE 7 SITE DEVELOPMENT OPTION PLAN

Optional Plan Recommendations: The optional concept plan for Furnace Place emerged from a question of what could happen if Riverside Drive were to continue North of Furnace Street, terminating at the recommended riverside trailhead park. The roundabout at Riverside Drive and Furnace Street would be adjusted to accommodate three street legs plus a drop-off at the Riverfront plaza area. This action requires the reconfiguration of the buildings surrounding the roundabout resulting in a reduction of Riverside Drive and Tilghman Bridge apartments down to 54,000 sq. ft or 54-60 units and an overall reduction of retail, commercial and corporate office space down to 220,000 sq. ft. . Parking would also decrease from over 1000 spaces to just over 600 spaces without increasing the parking structure levels provided. Over 180 additional parking spaces could be added for each level added to the proposed parking structure.



Vision for riverside townhomes, boat slips and a trail head cove area

Although this adjustment reduces development around Furnace Street, it would help facilitate optimal development of the Riverfront to the north by allowing public street access to either twenty-two (22) additional waterside townhome villas or forty-four (44) stacked waterside townhomes along the Lehigh River. A floating dock, accessed from the multi-use trail, would provide smaller recreational boating slips for townhome residents. The addition of these homes and boating activity would provide greater visibility and activity along the north riverside trail, making it safer for patrons in this more remote location.



Exhibit 2-21: ZONE 7 “Furnace Place” Optional Plan program elements (Listed in red)

ZONE 7: OPTIONAL PLAN ILLUSTRATED DEVELOPMENT PROGRAM		Order of Magnitude Cost W/ Contingencies	Building Footprint	Stories/ Levels	Total S.F	Dwelling Units	Parking Spaces Required	Parking Spaces Provided
7a	Tilghman/Riverside Loft Apartments	n/a	18,000	4	54,000	54 - 60	108	Shared P
7b	Riverside Restaurant/Commercial	n/a	10,000	2	20,000	-	100	Shared P
7c	Furnace Street Retail/ Commercial/ Corporate Office (South Side of Furnace Street)	n/a	30,000	4	90,000	-	270	Shared P
7d	Furnace Street Retail/ Commercial/ Corporate Office (North Side of Furnace Street)	n/a	22,500	4	90,000	-	270	Shared P
7e	Riverside Restaurant/Commercial	n/a	20,000	2	20,000	-	45	Shared P
7f	Riverside Town Homes	n/a		2 to 4		22 - 44	44 - 88	32 - 64
Optional Plan Public Realm Improvements								
7g	Riverside Drive/Furnace Street Roundabout and Public Landing	\$ 760,218						
7h	Riverside Multi-use Trail and Linear Greenway Park Improvements	\$ 796,900						
7i	Riverside Drive Extension, Trail Head Park & Small Boat Launch	\$ 826,093						
*	Riverside Reforestation and Habitat Creation	\$ 232,050						
*	RJ Corman Rail-Trail (from Tilghman Bridge to Along American Parkway South Side Slope Base)	\$ 266,175						
*	New Riverside Drive and Streetscape Construction	\$ 170,625						
*	Furnace Street Extension and Streetscape Improvements	\$ 320,754						
*	New Wharf Street & Streetscape Construction (from Tilghman Bridge to Furnace Street)	\$ 320,310						
*	New Railroad Crossing	\$ 234,000						
*	Zone 7 Underground Utilities	\$ 273,000						
*	Zone 7 Sediment and Erosion Control Measures	\$ 78,000						
Total Optional Plan Public Realm Improvement Costs		\$ 4,278,125						
Optional Plan Parking Improvements								
PD6	Furnace Street Parking Structure (South Side) - 3 levels @ 180 spaces per level	\$ 12,610,000		3				540
SP11	Surface Parking Lot - ±75 Spaces	\$ 442,000						75

Table 2-7b: Furnace Place (Lehigh Structural Steel North) Area Optional Plan program & estimated public realm and parking costs

Welcome to the Riverside R&D Park...an employment center in clean industry, advanced technology and innovative manufacturing.



Understanding the fabric of the Lehigh Riverfront...Industry and its working neighborhoods grew up around water and rail in Allentown.

Comparable Waterfront R&D District - PUGET SOUND, SEATTLE, WA

ZONE 8: THE RIVERSIDE R&D PARK

Location & Existing Conditions: The Riverside R&D Park area, Riverfront Zone 8, encompasses a group of vacant and underutilized industrial parcels north of the proposed American Parkway Bridge crossing right-of-way and defined by Front Street to the west, the City line to the north and the Lehigh River to the east. The proposed bridge crossing's at-grade, fill approach on the west side of the river will create a new topographic barrier that will isolate these northern parcels from the rest of the Riverfront. Primary access to this area will follow Front Street to either the existing Furnace Street or a future "Bridge Street" access planned with the American Parkway crossing. The new Bridge Street will provide much needed direct, secondary access to Furnace Street, while also opening a long-standing private landfill area and parts storage yards on the west side of the RJ Corman Railway to productive redevelopment for the Allentown community. To maintain vehicular and trail access to the north end riverside parcels a new access drive is also planned from Furnace Street along the east side of the railway with the American Parkway construction above. This will be a 30' wide street right-of-way designed for two-way access and egress from the primary (largest) Riverside R&D Park site.

Thematic Approach & Planning Intent: Allentown has a limited supply of suitable sites for light industrial manufacturing uses that are afforded both good truck access and potential rail service access and the Riverfront has historically been a large portion of Allentown's rail accessible industrial lands. A key goal of the Master Plan is to identify and dedicate appropriate portions of the Riverfront for new clean industry light manufacturing uses that may be afforded good truck access from the American Parkway and Hamilton Street corridors and potential rail service access from the RJ Corman Line. The Riverside R&D Park area was identified as the highest priority area for future light manufacturing use given its relatively large, flat and flexible site east of the railway tracks, with a moderate site encroachment from the 100-year floodplain that could be preserved and creatively used for open space around the Railway Bridge. This site could also be accessed via rail given it is at the same elevation, unlike the other Riverside Park area parcels along the new Bridge Street Corridor that will be on a new slope and the parcels on the west side of the railway tracks that are on a slight plateau between the railway below and the Front Street residential "bluff" to the west. Like the Brick Street corridor, market conditions indicate that there is a need for that there is a need for 20,000 – 30,000 sq. ft. light manufacturing building spaces with the ability to offer condominium units for smaller businesses. These west side Riverside R&D Park sites can accommodate this scale of industrial use. The market also suggests a demand for parcels like the east side site that can accommodate one or more larger, clustered light manufacturing uses. The primary constraint to the east side site use is the limited two-way access under the American Parkway that will service the site.

DETAILED MASTER PLAN RECOMMENDATIONS

The recommended Master Plan illustrated above and supporting development program table below, shows the potential for a ±100,000 sq. ft. corporate light manufacturing /R&D campus along the Riverfront located in either one, two or three new 1 to 2-story buildings overlooking the Lehigh River with rail and truck service oriented to the rear (west) of the buildings. Vehicular access would be provided by the proposed access drive under American Parkway on the east side of the railway. Pedestrian and bikeway access would also be provided via the proposed riverside trail under the American Parkway, leading to a new pedestrian/bikeway river crossing on the refurbished railway bridge as well as a North End Riverside Park for resident and employee use. The Riverside Trail and Railway Bridge Crossing are further discussed in the Trails Section 2.3 of this report.



Exhibit 2-22: ZONE 8 "Riverside R&D Park" Vision and Base Plan program elements

The west side of the Riverside R&D Park Zone is recommended for a cluster of neighborhood serving retail/commercial and employment uses along Bridge Street and the railway that would be good neighbor uses for the existing residences and religious institutions along Front Street. The retail and employment uses would be small to moderate sized, one to two-story buildings lining both Bridge Street and a second potential access street paralleling the RJ Corman Railway. Parking and service for these uses could be provided behind and to the side of the buildings to allow Bridge Street to be a pleasant streetscape linkage for pedestrians and cyclists from the neighborhoods to Furnace Street, the Rail-Trail and the Riverside Trail beyond.

ZONE 8: "RIVERSIDE R&D PARK" AREA BASE MASTER PLAN (North of American Pkwy)		Order of Magnitude Cost W/ Contingencies	Building Footprint	Stories/ Levels	Total S.F	Dwelling Units	Parking Spaces Required	Parking Spaces Provided
Base Master Plan Illustrated Development Program								
8a	Corporate Manufacturing Campus (With truck and rail service)	n/a	100,000	1 to 2	100,000	-	240 - 300	On-site
8b	Front Street Retail / Restaurant	n/a	8,000	1	8,000	-	40	On-site
8c	Employment / Clean Industry/ Manufacturing Uses	n/a	20,000	1	20,000	-	60	On-site
8d	Employment / Clean Industry/ Manufacturing Uses	n/a	25,000	1	25,000	-	75	On-site
8e	Employment / Clean Industry/ Manufacturing Uses	n/a	18,000	1	18,000	-	54	On-site
8f	Employment / Clean Industry/ Manufacturing Uses	n/a	25,000	1	25,000	#NAME?	75	On-site
Base Master Plan Public Realm Improvements								
8g	American Parkway and Front Street Gateway Enhancements	\$ 1,053,883						
8h	Riverside Arrival Court	n/a						
8i	North End Riverside Park and Trail	\$ 460,138						
*	Riverside Reforestation and Habitat Creation	\$ 81,900						
*	Rail-Trail Bridge Crossing Deck	\$ 46,800						
*	New Wharf Street & Streetscape Construction (from Furnace Street to Riverside R&D Park Manufacturing Area)	\$ 497,975						
Total Base Master Plan Public Realm Improvement Costs		\$ 2,140,696						
Base Master Plan Parking Improvements								
SP9	Shared Surface Parking for Manufacturing Site and North End Park Use	\$ 1,300,000						260
SP10	Employment/clean Industry Use Surface Parking Lots - ±276 Spaces	\$ 1,430,000						276

Table 2-8a: Riverside R&D Park Area Master Plan Program and Estimated Public Realm & Parking Costs



Vision for railway bridge reuse for pedestrian bike trail river crossing

Multi-story R&D buildings with offices above

ZONE 8: SITE DEVELOPMENT OPTION PLAN

Optional Plan Recommendations: This portion of the Riverfront was the focus of much discussion and debate as the City’s current Park and Recreation Master Plan had previously suggested the eastern portion of this area could be used for additional multi-use recreation fields. This program was also tested through the planning process, but was ultimately determined to be less viable and necessary in this valued Riverfront area and better implemented in an alternate location within the City, yet to be determined.



Exhibit 2-23: ZONE 8 “Riverside R&D Park” Optional Plan program elements (Listed in red)

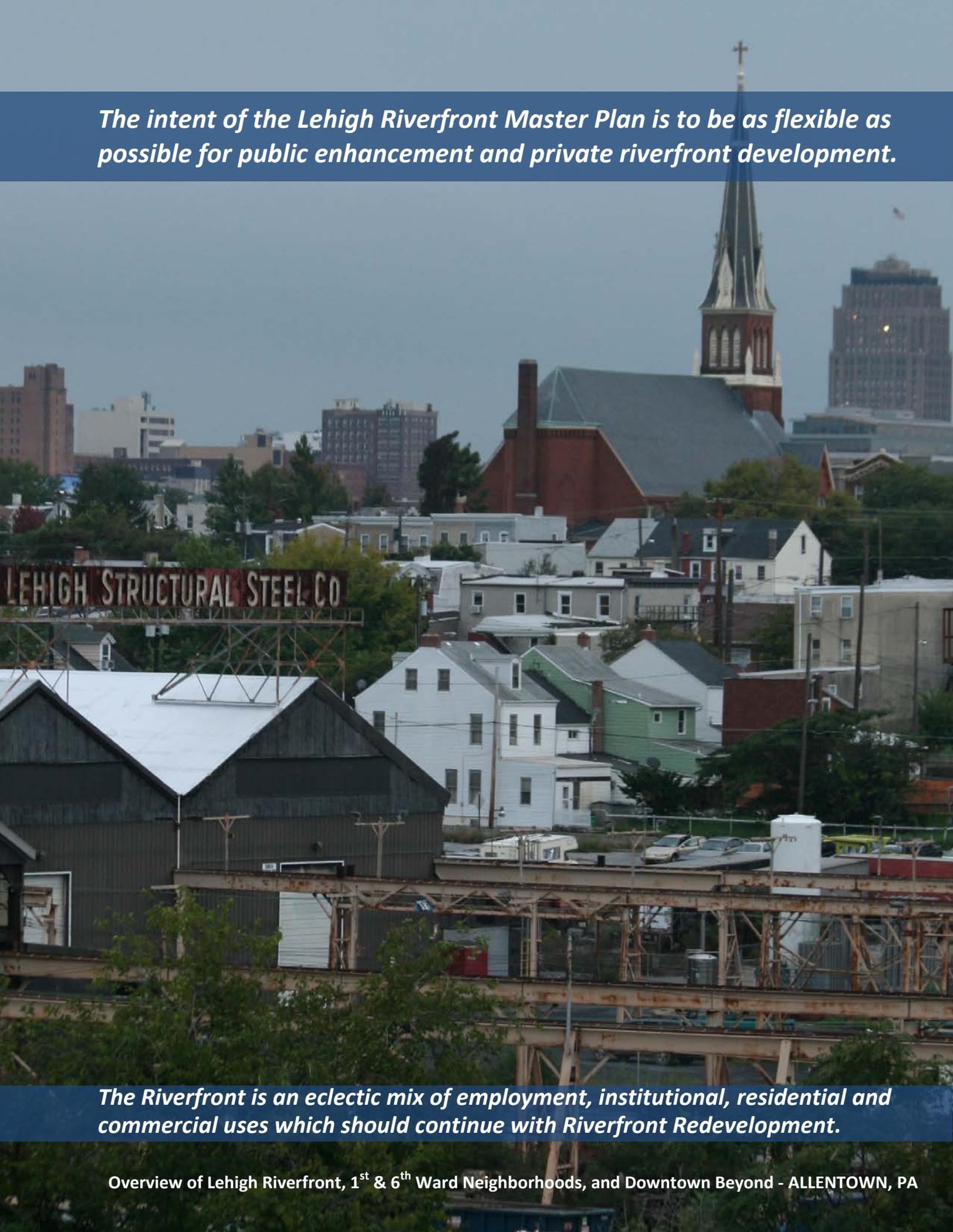
In response to neighborhood public input, a second recommended plan option was prepared for the western portion of the Riverside R&D Park Zone in case the resulting land, after the construction of American Parkway and Bridge, is more viable for residential use due to topography, visibility and accessibility. The optional plan and supporting table show the potential for a small, single-family attached (townhome) infill residential community to be developed along the southwest side of Bridge Street and along a second new street along the base of the residential bluff and paralleling the RJ Corman Railway. The focal point of the community and the new Bridge Street entry would be a North-end Community Park offering children’s playgrounds and sports courts in an area that is currently underserved, according to nearby neighborhood residents.



Vision for Optional Bridge Street Residential Community and North End Community Park

ZONE 8: OPTIONAL PLAN ILLUSTRATED DEVELOPMENT PROGRAM		Order of Magnitude Cost W/ Contingencies	Building Footprint	Stories/ Levels	Total S.F	Dwelling Units	Parking Spaces Required	Parking Spaces Provided
8b	Residential Townhome Development	n/a				34-68	68-136	68-136
Optional Plan Public Realm Improvements								
8c	Front Street Gateway Entry Park, Street and Streetscape Improvements	\$ 1,533,978						
8d	Community Recreation Park - Children's Playgrounds and Court Sports with Passive Park Space	\$ 416,290						
Total Optional Plan Public Realm Improvement Costs		\$ 1,950,268						

Table 2-8b: Riverside R&D Park Area Optional Plan Program & Estimated Public Realm & Parking Costs

An aerial photograph of the Lehigh Riverfront in Allentown, Pennsylvania. The foreground shows industrial structures, including a large dark building with a white roof and a prominent sign that reads "LEHIGH STRUCTURAL STEEL CO". Behind this, a dense residential neighborhood is visible, featuring a mix of white and green houses. In the background, a large brick church with a tall, dark steeple topped with a cross stands out. Further back, a modern high-rise building is visible against a clear sky. The overall scene illustrates a diverse urban landscape.

The intent of the Lehigh Riverfront Master Plan is to be as flexible as possible for public enhancement and private riverfront development.

The Riverfront is an eclectic mix of employment, institutional, residential and commercial uses which should continue with Riverfront Redevelopment.

Overview of Lehigh Riverfront, 1st & 6th Ward Neighborhoods, and Downtown Beyond - ALLENTOWN, PA

2.2.8 RECOMMENDED GENERALIZED LAND USE PLAN

2.2.8.1 EXISTING LAND USE SUMMARY

The Lehigh Riverfront area is currently composed of ten (10) land use types which range from small single-family residences to large scale industrial sites. The land uses include:

- The **Institutional/Religious/Quasi-Public uses** (*in light blue*) include the America On Wheels Museum and parking, the former CALO Pet Food building site (demolished) and the St. Mary's Ukrainian Parish Center;
- The **Residential uses** (*in yellow*) include existing single-family and two-family dwellings found along the Front Street, Brick Street, Liberty Street, Allen Street and Sycamore Street;
- The **Commercial uses** (*in pink*) are limited to one corner business at Front Street and Allen Street;
- The **Commercial Mixed-Use Residential uses** (*in red*) include three (3) storefront businesses on the east side of Front Street between Tilghman and Liberty Street. These are composed of ground floor businesses with either home owner or rental units on the upper floor(s);
- The **Public Parks and Recreational Spaces** (*in green*) are limited to the upper, Mayor McHose Memorial Park and lower portions of Bucky Boyle Park and it's associated passive and active recreation amenities and facilities;
- The **Industrial/Warehouse uses** (*in purple*) occupy the largest percentage of the Riverfront and are primarily composed of the Iron Mountain Storage sites, the Lehigh Structural Steel sites, the former Neuweiler Brewery sites, the former Ribbon Works Factory sites, and a variety of sites between Brick Street and the RJ Corman rail line;
- The **Public Utility uses** (*in gray*) are confined to the southern portion of the Riverfront where the Pennsylvania Power and Light facilities are located;
- There are a number of parcels which are listed as **vacant or underutilized areas** (*in tan*);
- The rivers edge along the dam is defined as **State Government use** related to maintaining access control in the area immediately surrounding the dam; and,
- The dedicated **American Parkway Extension and Bridge Crossing Right-of-way** makes up the balance of the land use at the northern end of the Lehigh Riverfront study area. The layout, design and required lands have been designated for this roadway initiative which will begin construction in 2012.

A summary of the land use acreages and relative percentage contributions to the study area are listed in the table below for reference. Over 60% of the Riverfront lands are defined as industrial-warehouse space or vacant space which can be better utilized along the City's riverfront. Public parks and recreation comprises only 7% of the Riverfront land, a relatively low proportion when the proximity to the Ward 1 and Ward 6 Neighborhoods is considered. This Master Plan will be looking to provide a better, sustainable balance between living, working, learning and playing environments on the Riverfront. Land use will be revisited through two scenarios to be developed during the Master Plan process.

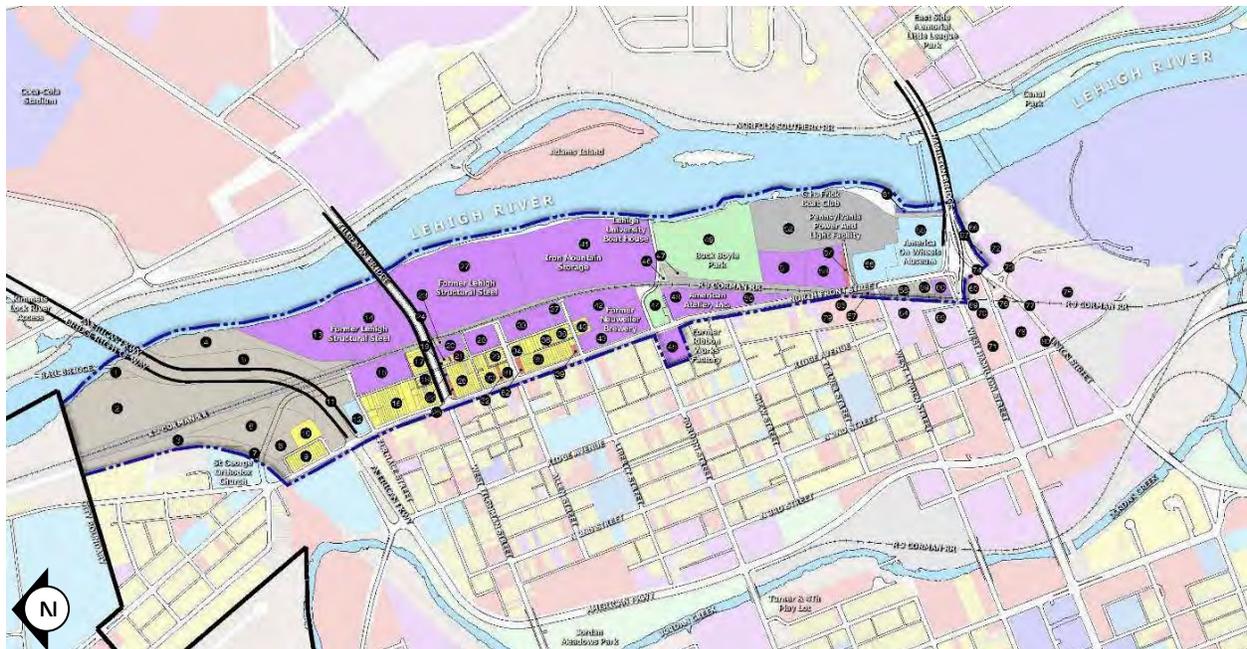


Exhibit 2-24: Parcel Attributes & Land Use (See full size exhibit in Appendix C)

CURRENT LAND USE MIX		
Land Area (Acres)	% of Study Area	Land Use
5.34	4.4%	Institutional, Religious, Quasi Public
9.04	7.5%	Residential (<i>Single Family + Two Family Dwellings</i>)
0.27	0.2%	Commercial
0.19	0.2%	Commercial Mixed-Use Residential
8.65	7.2%	Public Parks & Recreation
51.23	42.6%	Industrial Warehouse
10.99	9.1%	Public Utility
25.16	20.9%	Vacant
0.58	0.5%	State Government
8.94	7.4%	American Parkway Right-of-Way
120.39	100.0%	Study Area Redevelopment Land Area Total

Table 2-9: Existing Land Use Mix Summary

2.2.8.2 LAND USE FLEXIBILITY & ENCOURAGING MIXED-USE DEVELOPMENT

As mentioned previously, the intent of the Lehigh Riverfront Master Plan or subsequent Riverfront Zoning District is to be as flexible as possible for public enhancements and private development along the Riverfront, while still providing adequate structure and requirements to ensure a high quality riverfront experience and an equally high quality development environment. Current underlying zoning districts in the Riverfront District are very prescriptive with regard to permitted and non-permitted land uses in the applicable business, industrial and residential districts. Current zoning encourages segregated, horizontal land uses rather than mixed use, with the exception of the area within the existing Riverfront Redevelopment Overlay District. The RRO district offers a good starting point for the

types of uses that would be desired in the majority of the proposed new Riverfront Redevelopment Zoning District. The only exception is that light industrial/manufacturing uses and R&D employment uses are also desired in four to five key locations along the Riverfront. With this in mind, the following general land use categories for the Riverfront were defined in each of the eight Riverfront zones for both the Base Master Plan as well as the Plan Options.

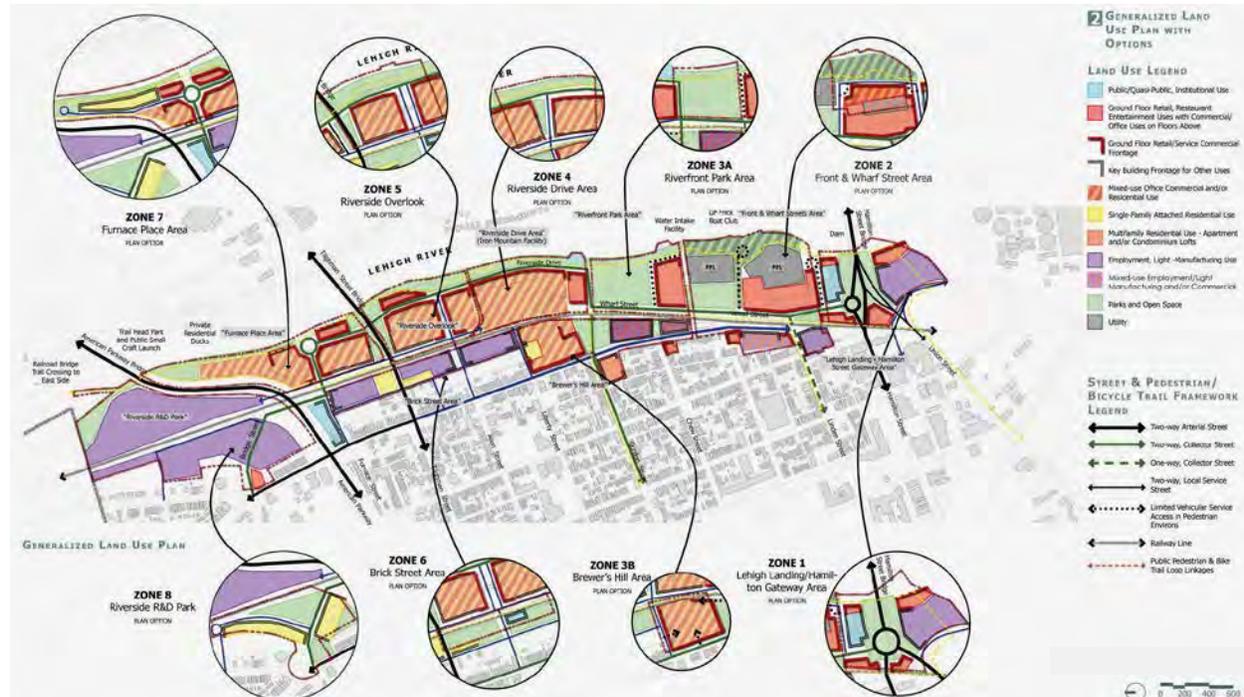


Exhibit 2-25: Recommended Generalized Land Use Plan

General Land Use Categories:

- Public/Quasi Public and Institutional uses** are listed for; 1] the America on Wheels Museum, 2] the new or existing Lehigh University Boathouse, and 3] the Social Hall/Community Center at Front and Furnace Streets and the optional Brick Street Community Center (Russo's Building re-use) plan. The Bucky Boyle Park Community Center has been recommended for removal to facilitate an expanded festival park, but is envisioned to be a new use incorporated within the surrounding mixed-use development opportunities.
- Ground Floor Retail, Restaurant and Entertainment uses with Commercial Office uses on the Floors Above** are recommended for; 1] the Lehigh Landing riverfront areas, 2] the Hamilton Street Gateway frontage, 3] the new Wharf Street frontage, 4] selected Front Street buildings, 5] the Bucky Boyle Park designated development areas, 6] the southern portion of the Iron Mountain Storage site, and 7] the Lehigh Structural Steel riverfront sites north and south of the Tilghman Bridge.
- Mixed-use Office, Commercial, and/or Residential uses** are recommended for; 1] the Neuweiler Brewery Complex, 2] portions of the Iron Mountain Storage site, 3] portions of the north and south side Lehigh Structural Steel sites, and 4] the optional future development plan for the PPL Generator and Switching Station site on the river.
- Single-Family Attached Residential uses** are listed for; 1] the existing rowhome areas on Liberty Street and Brick Street, and recommended for; 2] the optional residential areas on the south side of American Parkway and the north side Bridge Street areas.

- **Multi-family residential use – Apartment and/or Condominium Lofts** are recommended for; 1] the Ribbon Works Buildings.
- **Employment and Light-Manufacturing uses** are listed for 1] the Olson Valve Company, and recommended for; 2] the South side of Hamilton Street gateway, 3] the Brick Street area, 4] the areas north of the American Parkway.
- **Mixed-use Employment/Light Manufacturing and/or Commercial uses** are recommended for; 1] the Olson Valve Company parking lot site and 2] the American Atelier site.
- **Parks and Open Space Uses** are listed for; 1] the Bucky Boyle Riverfront Park, 2] the Gough-King Memorial Garden and Hamilton Street Gateway, 3] the proposed multi-use soccer field, 4] the GF Frick Boat club area, 5] the Lehigh Riverfront Greenway, 6] the Tilghman Bridge Greenway and 7] the optional Brick Street Community Park and Bridge Street Community Park areas.
- **Utility Uses** are listed for; 1] the Pennsylvania Power and Light substation, switching station, back-up generators and fuel storage area.

The ground floor areas of buildings are the most important with regard to controlling appropriate uses that will encourage street life and animation throughout the day and evening in the Riverfront District. The upper floors are important, but it is the ground floor frontage that will reinforce the key address streets of the Riverfront District. Dormant daytime uses or uses that don't rely on easy access and walk-in traffic should be limited to the upper floors or secondary street frontages in the District.



Sample mixed-use development character envisioned for Allen Street and Liberty Street corridors to the Lehigh River as well as residential development character envisioned for the areas around the Tilghman Bridge Greenway.

BUILDING ORIENTATION AND STREET WALL FRONTAGE

To best illustrate and guide where the key locations for retail, restaurant and commercial uses should be directed in the new Riverfront Redevelopment Zoning District, we have included the following two “Street Wall Frontage” categories in the Generalized Land Use Plan:

- **Ground Floor Retail/Service Commercial Frontage** is recommended for; 1] all river frontage buildings, and 2] all development along Wharf Street, Gordon Street, Riverside Drive, Allen Street and Furnace Street, as well as 3] the future extension of Liberty Street.
- **Key Building Frontage for Other uses** is also recommended for; 1] Union Street, 2] Wharf Street, 3] Front Street, 4] Liberty Street, 5] Allen Street, 6] Furnace Street, and 7] Bridge Street.

These mapping designations indicate the most important locations for establishing a consistent and continuous building street wall along the newly established framework of public and private right-of-ways and public open spaces.

2.2.9.1 CURRENT LEHIGH RIVERFRONT ZONING CONDITIONS

The Lehigh Riverfront area is currently comprised of six (6) base zoning district conditions, with the Riverfront Redevelopment Overlay (RRO) and Traditional Neighborhood Development Overlay Districts (TNDO) also covering substantial parcels. The Riverfront Master Plan area zoning includes sections of:

- **Urban Commercial (B-5)** with prescribed and applicable Traditional Neighborhood Development Overlay (TNDO) requirements;
- **Limited Industrial (I-2)**, (Instances of the TNDO overlay do not apply in this district);
- **General Industrial (I-3)**, (Instances of the TNDO overlay do not apply in this district);
- **General Industrial (I-3)** with applicable optional Riverfront Redevelopment Overlay (RRO);
- **Medium Density Residential (R-M)**, no TNDO overlay present;
- **Medium-High Density Residential (R-MH)** with prescribed and applicable Traditional Neighborhood Development Overlay (TNDO) requirements; and,
- **Park (P)**, (Instances of the TNDO overlay also do not apply in this district).

While the TNDO geographically covers a number of Limited Industrial (I-2), General Industrial (I-3), and Park (P) zoning designations, its controls apply to the Urban Commercial (B-5) and Medium-High Density residential (R-MH) zoned areas of the Riverfront. If the zoning is left as it currently exists, the Lehigh Riverfront Master Plan area would be subject to a combination of seven (7) different sets of development standards, guidelines and interpretations to implement the plan vision presented herein. This can lead to a somewhat unpredictable and sometimes incompatible response between zoning districts if the City doesn't simplify the set of rules for a more consistent and predictable riverfront development setting.

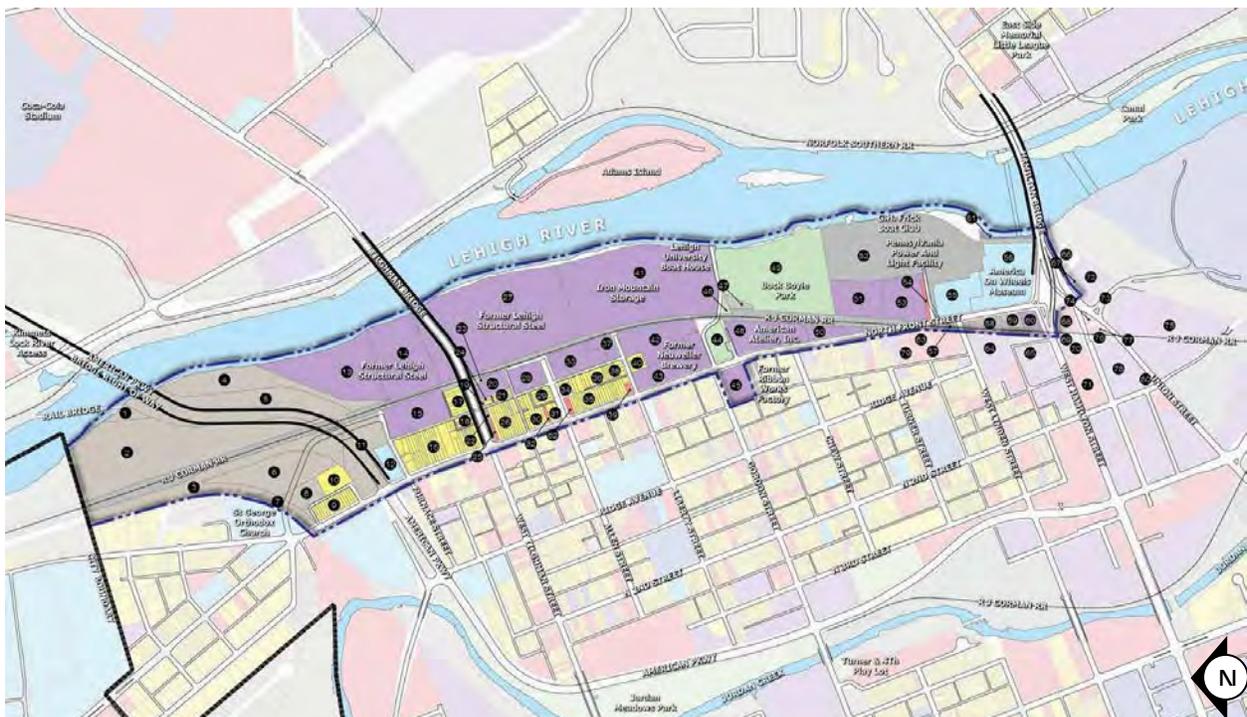


Exhibit 2-27: Existing Lehigh Riverfront Generalized Land Use Plan

Our review of these current regulations and their parcel designation locations have lead us to conclude and recommend that the Lehigh Riverfront Master Plan area be designated within one new, all encompassing base Riverfront Redevelopment District (RRD), not an overlay district, with form-based regulations and supporting guidelines for the district that would continue to be authorized by Article VII –A (Traditional Neighborhood development) of the Pennsylvania Municipalities Planning Code, P.L. 805, No. 247 as re-enacted and amended. The possible exception to this new zoning district would include the employment areas north of the new American Parkway Bridge. The Lehigh Riverfront Master Plan would set the vision to be followed as well as an official regulating plan for the area. It may not follow the structure of a true Form-Based Code, in that the City may still want to regulate the placement of uses within the district (not typically done in an F-BC). Form-based development standards would be set and prescribed within the RR District; however, design guidelines would be voluntary, referenced as in other districts and discussed during site plan resolution.

2.2.9.2 THE PROPOSED MASTER PLAN

The Master Plan illustrated below highlights the major land uses that are envisioned for the Riverfront. Many of these redevelopment ideas include mixed-use buildings and highly integrated land uses with public access to the Riverfront being a paramount goal.

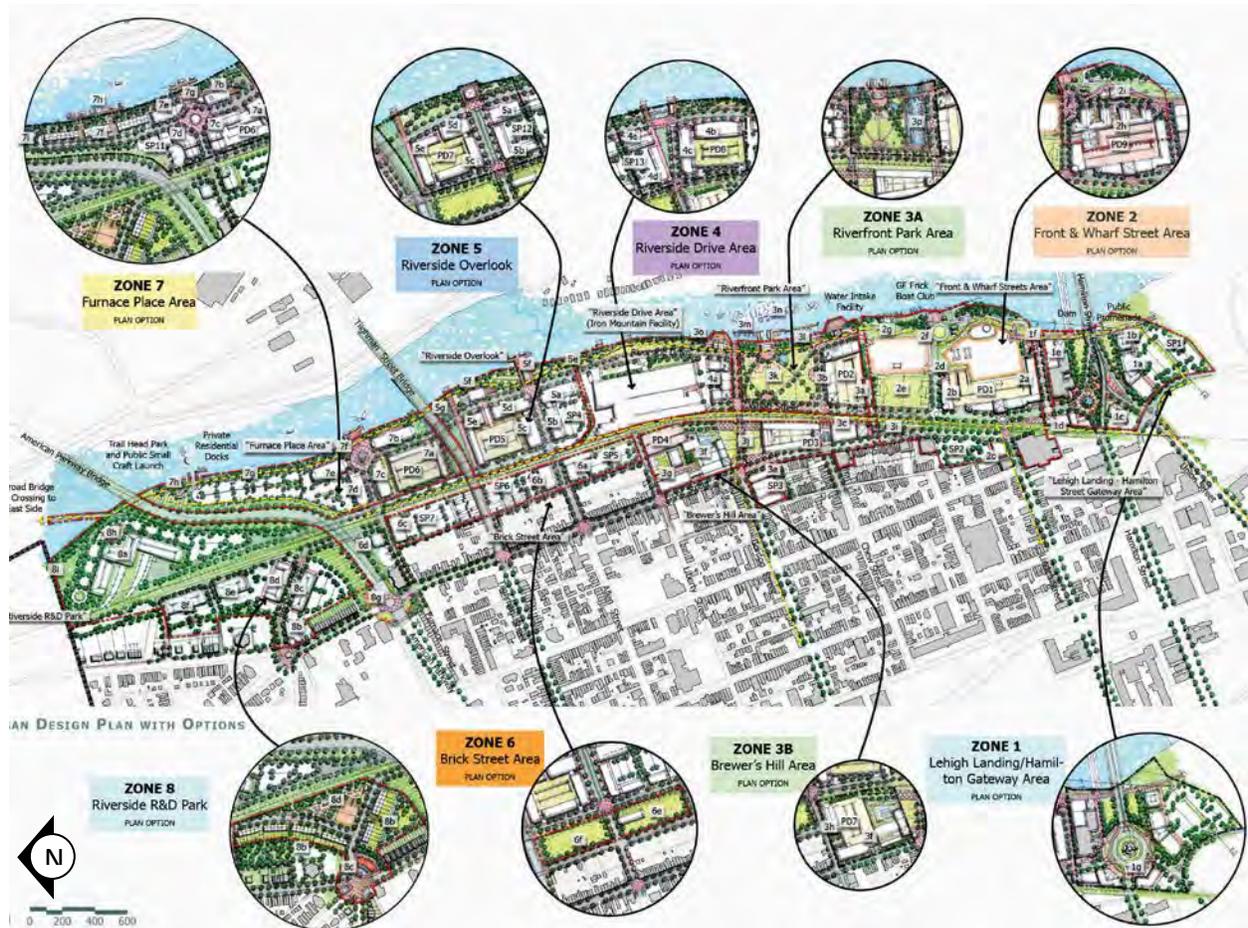


Exhibit 2-28: The Lehigh Riverfront Master Plan with Options in the Eight Riverfront Theme Zones

A comparison of the current zoning districts to those proposed in the Master Plan revealed that many of the suggested land uses are not permitted under the current zoning districts. In addition to the standard zoning districts, the Riverfront area is part of a Riverfront Redevelopment Overlay (RRO), which provides additional permitted uses and restrictions that encourage redevelopment of the Riverfront. Much of the Master Plan could be realized under the RRO; however, the emphasis on mixed-use buildings, pedestrian-friendly development, and public access to the Riverfront, which is paramount in the Master Plan, is not clear in the RRO. As such, many of the proposed land uses could be placed along the Riverfront using the RRO as the guiding local regulation, yet the orientation and form of these new buildings and the provision of greenspace and pedestrian amenities may not be realized as intended in the Master Plan.

2.2.9.3 ZONING RECOMMENDATIONS

In an effort to redevelop the Riverfront with results as closely related to the final Master Plan as possible, the consultant team recommends alterations to the City’s zoning code for the Riverfront area. As there are many ways to proceed with zoning changes, the consultant team has outlined a variety of options for your review as shown below:

Recommendation	Strength	Challenge
Update the Riverfront Redevelopment Overlay (RRO)	<ul style="list-style-type: none"> ▪ Maintains current code format that City staff and developers are used to 	<ul style="list-style-type: none"> ▪ May compromise other initial goals of the overlay ▪ Simple adjustments to the RRO will not be drastic enough to result in the wholesale changes required to produce the vision in the Master Plan
Create a NEW Riverfront Overlay District	<ul style="list-style-type: none"> ▪ A new overlay can be designed to encourage tenets that are important to the Master Plan, such as mixed-use buildings, pedestrian-friendly streetscapes, and public space/access along the Riverfront ▪ The new overlay could complement the current overlay ▪ The result of a new overlay may more closely represent the intentions of the Master Plan, more than the RRO could, even if the RRO was slightly altered 	<ul style="list-style-type: none"> ▪ Adding another overlay may create regulatory loopholes and conflicting standards that are cumbersome and confusing to use (developers) and enforce (City staff)
Adopt (Voluntary) Design Guidelines for the Riverfront Area	<ul style="list-style-type: none"> ▪ Encourages consistent design appropriate for the vision of the area presented in the Master Plan ▪ Ensures that each individual development complements neighboring developments to create a cohesive “feel” along the 	<ul style="list-style-type: none"> ▪ Voluntary nature of the guidelines makes them difficult to consistently enforce ▪ Voluntary guidelines may not result in the intended vision or may produce pockets of

Recommendation	Strength	Challenge
	<p>Riverfront</p> <ul style="list-style-type: none"> Reiterates the design elements that are important to the City and the “feel” that the City desires for the new Riverfront Provides an incentive for developers and a negotiation tool for City officials/staff 	<p>development that are characteristically different from their neighbors</p>
<p>Create a Form-Based Code for the Riverfront Area</p>	<ul style="list-style-type: none"> Provides predictable and consistent expectations across entire Riverfront area Easy to understand, use, and enforce Code can be crafted to result in development that would closely align with the vision presented in the Master Plan 	<ul style="list-style-type: none"> Requires training for City staff to thoroughly understand the code principles and its enforcement Requires considerable community outreach and consensus

2.2.9.4 FORM BASED CODES

After analyzing each of the zoning code change options presented above, the consultant team recommends pursuing a Form-Based Code for the Riverfront area. Design of the code will most likely require an expert consulting team and ample interaction and collaboration with the City’s planning and zoning staff and local stakeholders. However, this due diligence will result in an easy-to-understand and easy-to-implement set of regulations for the Riverfront that are business friendly and will allow the City to realize the goals of the Master Plan. A broad overview of Form-Based Codes and their implementation in Pennsylvania is provided below.

What are Form-Based Codes?

Form-Based Codes (FBCs) are permitted by the Pennsylvania Municipalities Planning Code and can be implemented for an entire community or a portion of a municipality. FBCs typically result in multimodal communities with high-quality public space and access to public amenities by focusing on the physical form that development takes rather than the use within a structure. The code certainly ensures that nearby uses are compatible and noxious uses are creatively integrated into appropriate environments aside other transitional uses. These codes address the relationship between the built environment and both private and public



spaces to create an organized, yet diverse, landscape that supports traditional neighborhood goals of multimodal transportation, mixed uses, and the integration of public amenities.

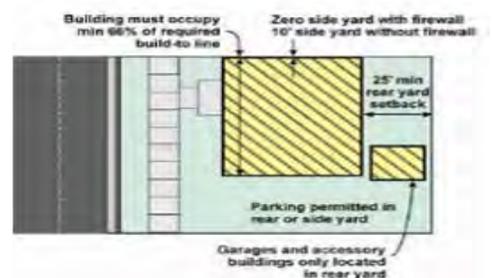
What is included in a Form-Based Code?

An FBC consists of both words and graphics. Much like a typical zoning code that is based on a map with supporting text and definitions, an FBC includes a Regulating Plan (map) as well as supportive text and graphics. The primary elements of an FBC are as follows:

- Regulating Plan — A plan/map of the coded area illustrating where different building form standards apply.
- Public Space Standards — Specifications for public realm elements such as sidewalks, travel cartways, streetscaping, parking accommodations, etc.
- Building Form Standards — Restrictions on the configuration, features, and functions of buildings/structures in the built environment.
- Administration — A clear application and review process, including any approval forms or references.
- Definitions — A glossary of technical terms used throughout the ordinance to ensure a common understanding.

More detailed information about FBCs is available through the following websites and publications:

- Form-Based Codes Institute: www.formbasedcodes.org.
- Form-Based Codes: A Guide for Planners, Urban Designers, Municipalities, and Developers, Daniel Parolek, Karen Parolek, and Paul Crawford (2008).
- Form-Based Codes Factsheet:
- www.lgc.org/freepub/docs/community_design/fact_sheets/form_based_codes.pdf.



2.2.9.5 RECOMMENDED DEVELOPMENT STANDARDS

Based on the results of previous tasks and a review of the current zoning ordinance for properties within the Master Plan area, the best way to effectively and efficiently achieve the vision illustrated in the Master Plan would be to create a new zoning district to cover all properties in the Master Plan area. Using only one zoning district will improve predictability and uniformity of development within the area, and allow for a more developer-friendly atmosphere. One district will also be much easier for City staff to become familiar with and enforce consistently. This district, called the Riverfront Redevelopment Traditional Neighborhood Development District for the purposes of this study, would ideally be presented as a form-based code with a strong focus on regulating land uses as well as development form and character. It is recommended that the new District be written and adopted as a Traditional Neighborhood Development District to allow the City an opportunity to enforce more specific development standards and design guidelines if necessary.

The aforementioned new zoning district would draw primary elements from the current RRO district and incorporate a bit heavier focus on permitted land uses than is typical in a form based style code. The code will utilize the Riverfront Land Use Plan as the “regulating plan” for the district and will be largely organized by the street framework already highlighted in the Land Use Plan. Each street type will be the foundation of a unique and appropriate character that will be realized through a description of the land uses, building forms, and public/private space requirements associated with each street cross section.

ESTABLISHING A REGULATING (FRAMEWORK) PLAN

Given the Lehigh Riverfront’s many years of industrial use and change, there is very little existing infrastructure remaining to guide the Riverfront District’s framework for new development and uses. The current zoning pattern is primarily defined by irregular parcel boundaries, the river, the railway and a handful of existing stub streets right-of-ways. If future development were left to current zoning boundaries and a variety of zoning districts and regulations, the Riverfront would likely develop in a very piecemeal manner with little consistency, and limited connectivity or continuity.

The first step in establishing the new Lehigh Riverfront Redevelopment District would be to prepare a Form-Based Regulating Plan which gets its structure from the form-giving framework elements of this Lehigh Riverfront Master Plan: streets, railways, blocks, existing buildings to be retained, historic structures, designated parks, open spaces, other existing physical features, etc. Much like the other urban areas of Allentown

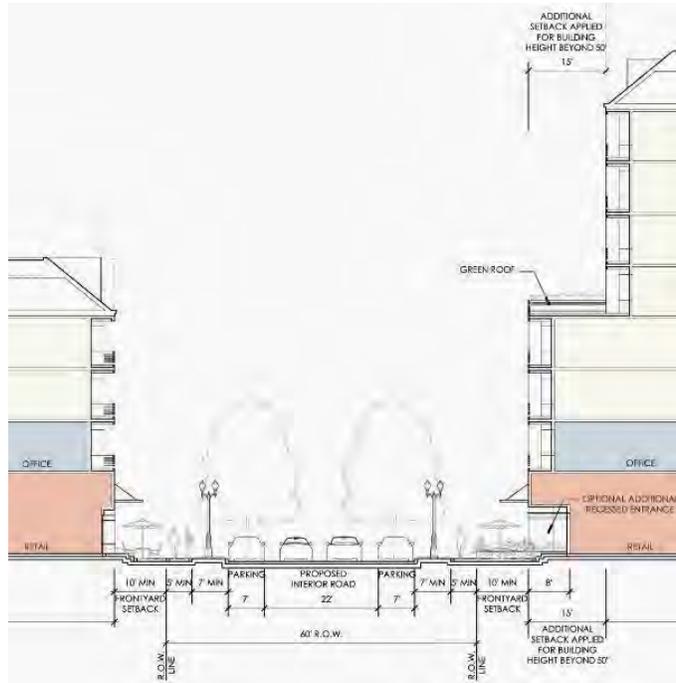
ESTABLISHING A STREET, TRAIL AND RAILWAY FRAMEWORK

To facilitate the highest and best development of the Riverfront, both transportation (movement of people and goods) and land use had to be considered in tandem in the Riverfront Master Plan. Without an expanded street, trail, walkway, bikeway and railway spur network to provide improved access, development would be limited to a series of isolated, possibly introverted developments that would continue to “wall-off” the Lehigh River from the public. Establishing an agreed-to, network of general street, walkway/bikeway, trail and railway right-of-way locations will provide a mix of both north-south and east-west “public realm” access corridors between the neighborhoods and the Riverfront, while also setting a predictable framework of mutually acceptable development blocks for the public and private sectors. The current right-of-way framework for the proposed Lehigh Riverfront Redevelopment Zoning District includes:

- **Two-way Arterial Streets:** Hamilton Street, Tilghman Street, American Parkway and Portions of Front Street.
- **Two-way Collector Streets:** Bridge Street, Furnace Street, Gordon Street, and South Wharf Street
- **One Way Collector Streets:** Linden Street
- **Two Way Local Service Streets:** North Wharf Street, Allen Street, Liberty Street, Brick Street and Front street between American Parkway and Linden Street
- **Limited Vehicular Service Access in Pedestrian Environs:** Lehigh Landing Riverfront Promenade, G.F. Frick Boat Club access, and the Riverfront Park Promenade/Water Intake Facility access.
- **Public Pedestrian and Bike Loop Linkages:** The Lehigh West Side Riverside Trail and the West Side (RJ Corman) Rail Trail
- **Railway Lines:** The RJ Corman Short Line Railway and possible future spurs serving designated light industrial/R&D areas of the Zone 8: Riverside R&D Park

Each of these public right-of-way types would be further defined in writing and illustrated with typical right-of-way graphic sections like this illustrated to the right. Exhibit 2-29 and Table 2-10, on the pages that follow, list preliminary recommendations for right-of-way, walkway and bikeway metrics for each mapped public realm corridor in the Riverfront Master Plan. These metrics should be further explored and defined during detailed development of the proposed Lehigh Riverfront Redevelopment District zoning code requirements.

The resulting street and block plan can become the basis of the Riverfront Redevelopment District plan with setbacks, heights, possibly uses, etc. keyed to individual street segments or blocks. Many regulating plans become much prescribed in their layout. This is not the intent of the Lehigh Riverfront Master Plan or subsequent Riverfront Zoning District. The purpose is to convey a viable, yet flexible vision of Riverfront development and public realm enhancement that can be adapted to ever evolving City desires, market conditions and developer development program changes that drive, and may alter slightly, the ultimate built form of the Riverfront from what is portrayed in this report.

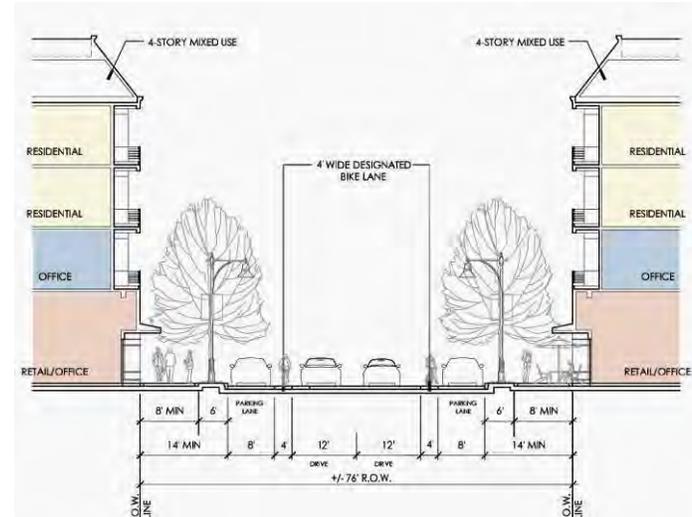


PUBLIC RIGHT-OF-WAYS AND SETBACKS

Many of the public right-of-ways referenced above have been previously defined based on existing conditions for the railway and the existing/proposed arterial roadways; however, any new streets that were proposed in the Riverfront Master Plan have been assigned suggested metrics in Table XX which follows. Given that there is a limited quantity of Lehigh Riverfront land for mixed-use redevelopment in Allentown, we suggest adopting the smallest feasible right-of-ways, that still provide for adequate public realm movement and use, in order to preserve as much riverfront land for private development and public (or private) open space as possible.

With the linear right-of-way corridors established, variable setback ranges can also be established to create opportunities for

above have been previously defined based on existing



Sample form-based section graphics that would be used to convey the Lehigh Riverfront Redevelopment Zoning District requirements.

building undulations, architectural fenestration, walkway widening for entries and outdoor dining. The public realm walkways dimensions for the Riverfront are recommended to be in the range of 12' to 15' wide with overall right-of-ways that range from a minimum of 60' wide for local streets to a maximum of 76' for collector streets (only if turn lane/median is needed). Given the narrow, yet traditional, scale of the right-of ways and the moderate heights of buildings anticipated, we have recommended setback ranges of 0' to 10' for local streets and 0-15' for collector streets to allow for an adequate range of flexibility for architectural and landscape architectural site design. The only use that would be separated from these requirements is parking structure uses, Parking structures with a use on the ground floor would adhere to the aforementioned requirements; however, parking structures without ground floor use should be setback between 5' and 10' to allow for landscape screening. Ultimately it is the private property setbacks in the Riverfront which will help to provide design variety and flexibility in the Riverfront.

DEDICATED OPEN SPACE FRAMEWORK - PARKS, PLAZAS, PROMENADES, AND GREENWAYS

The public realm zoning framework is not complete without a discussion of dedicated parks, plazas and greenways along the Riverfront. These too, round-out the agreed-to development block framework that will accommodate new, organized riverfront redevelopment. Existing active and passive park areas, like the upper and lower portions of Bucky Boyle Riverfront Park, should be reshaped and platted to accommodate new planned streets, Water Intake Facility access promenades and new riverfront redevelopment sites, while also accommodating new planned park uses, such as the multi-use soccer fields and River Days festival Grounds.

The other primary open space dedications in the regulating plan would be the Lehigh River Greenway, recommended to be an average of 30' wide from top of riverbank with a required riverfront setback range of 0' to 20' for private outdoor use, and the Tilghman bridge greenway beneath the bridge, linking the Front Street and Brick Street areas with the Riverfront. This is also recommended to be an average of 30' wide on each side of the bridge base, with a setback range of 0' to 20' for private outdoor use, if desired.

BUILDING HEIGHTS AND SCALE

The Lehigh Riverfront will get its new physical form from a combination of both the “horizontal” zoning elements mentioned thus far, as well as the vertical elements of height and scale. The Riverfront Master Plan approaches building height and scale from a required “minimum” number of stories, rather than a maximum measured height limit perspective. Measured height limits can result in a very flat, unarticulated roofscape and skyline as development pushes to meet this artificial standard. Different uses often have different story heights between floors making building heights difficult to predict and define at the master plan level; i.e. Ground floor retail/commercial can be 14'-18', upper floor office can require 11-12' between floors and residential can require 9-10' between floors, or higher if done in loft styles. Depending on the combination of uses this can result in the gain, or likely loss, of a story of development in the District. For these reasons, a list of recommended development height ranges can be found in Table 2-10 on pages 204-204.

New buildings must be carefully located, scaled and designed to avoid walling off the River to the adjacent neighborhood and uphill sites.



Both the public realm and private parcels must be regulated with flexible design standards that allow for innovative design that meets City goals.

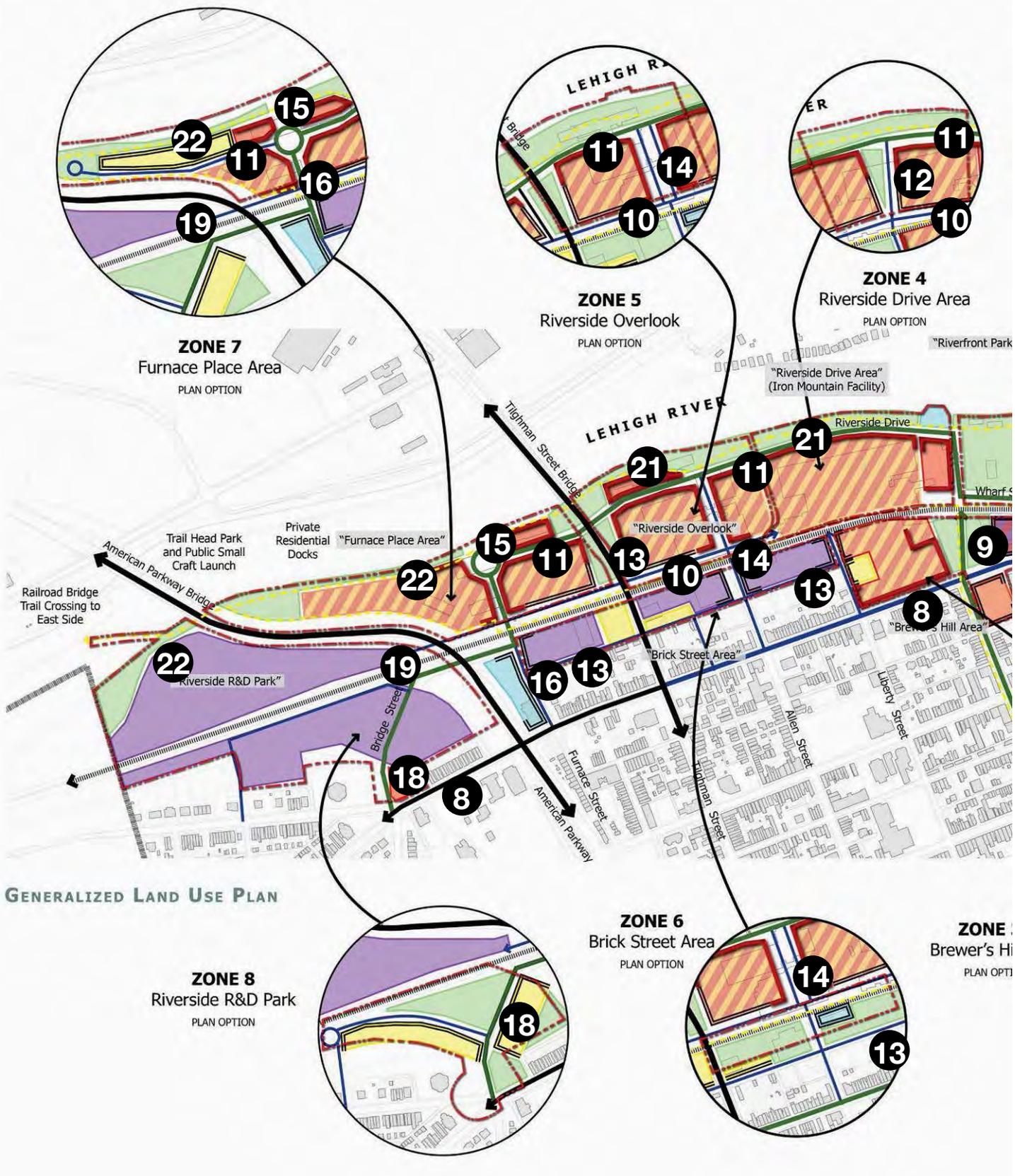


Exhibit 2-29: Preliminary Regulating Plan Using the Generalized Land Use Plan

2 GENERALIZED LAND USE PLAN WITH OPTIONS

LAND USE LEGEND

- Public/Quasi-Public, Institutional Use
- Ground Floor Retail, Restaurant Entertainment Uses with Commercial/Office Uses on Floors Above
- Ground Floor Retail/Service Commercial Frontage
- Key Building Frontage for Other Uses
- Mixed-use Office Commercial and/or Residential Use
- Single-Family Attached Residential Use
- Multifamily Residential Use - Apartment and/or Condominium Lofts
- Employment, Light -Manufacturing Use
- Mixed-use Employment/Light Manufacturing and/or Commercial
- Parks and Open Space
- Utility
- #** Street /Block Frontage Identifier (See Zoning Recommendations Chart on next page.)

STREET & PEDESTRIAN/ BICYCLE TRAIL FRAMEWORK LEGEND

- Two-way Arterial Street
- Two-way, Collector Street
- One-way, Collector Street
- Two-way, Local Service Street
- Limited Vehicular Service Access in Pedestrian Environs
- Railway Line
- Public Pedestrian & Bike Trail Loop Linkages

Please note: This master plan exhibit and its associated sketches are intended to convey an urban design vision for what the Lehigh Riverfront could be and they should be used for illustrative and marketing purposes only at this time. The actual development pattern of future buildings, roads, open spaces, etc. may vary from that depicted due to detailed site conditions and investigations that were not available at the time of this master plan.

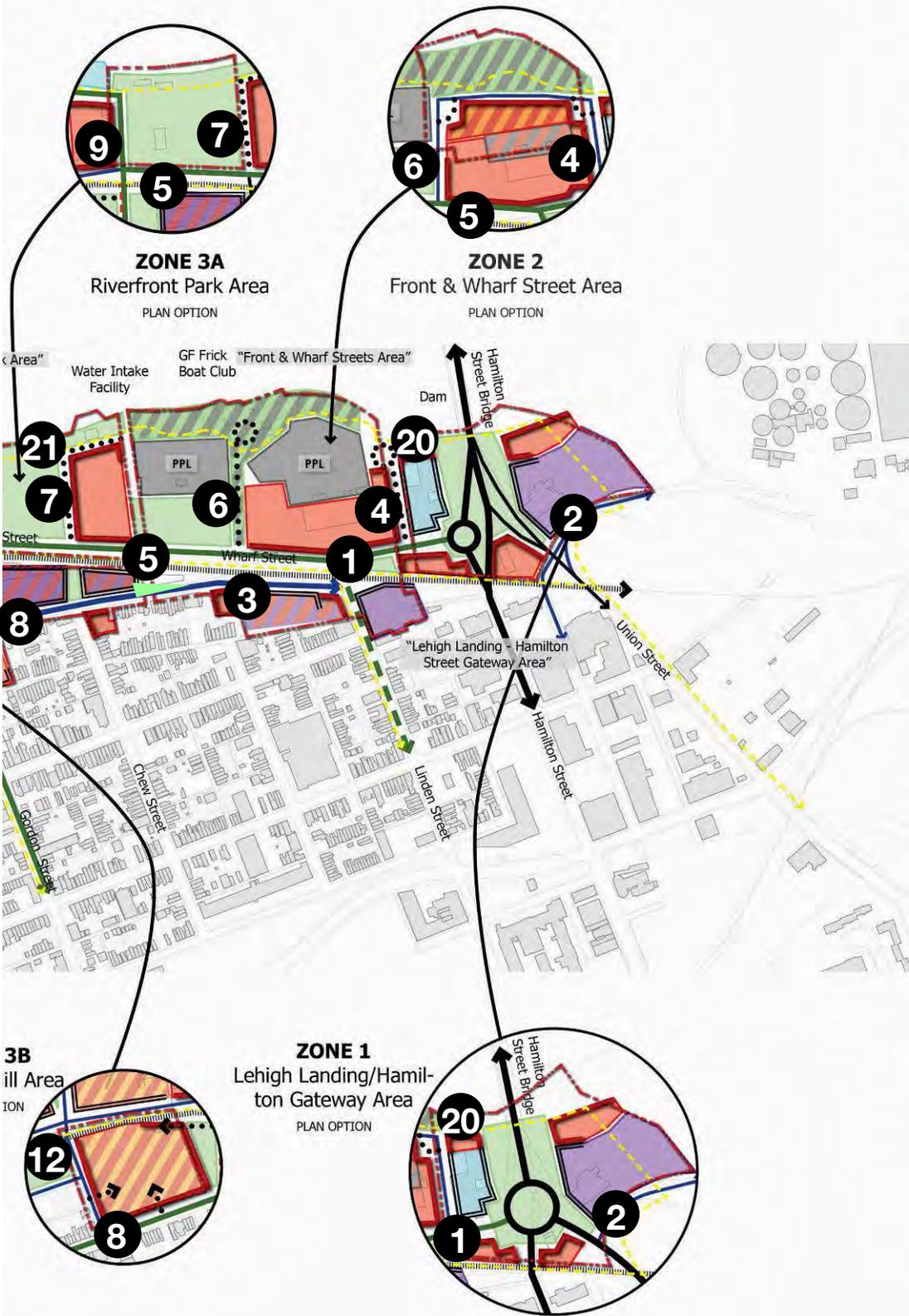
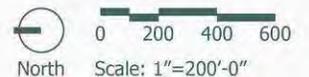


Table 2-10: Recommended Development Standards for Consideration

Street Frontage & Development Standards Table (see Generalized Land Use Map for reference)								
ID #	Street Name & Block Frontage	Street Type	Travel Lanes	Parallel Parking	Median/ Turn Lane	Bike Lanes	Side Walkways	Total R.O.W.
1	Wharf & Hamilton Streets Roundabout	Collector	4 lanes @11'-0"	NA	±72'-0" w/ 5' shoulder	2 lanes @ 6'-0"	2 @ 15'-0" w/ tree pit	±150'-0"
2	Realigned Access Street	Local	2 lanes @11'-0"	2 @ 7'-0"	- NA -	2 lanes @ 6'-0"	2 @ 12' to 15' w/ tree pit	±66'-0" (60' min.)
3	New Front Street Extension	Local	2 lanes @11'-0"	2 @ 7'-0"	- NA -	Shared Lanes	2 @ 12' to 15' w/ tree pit	±66'-0" (60' min.)
4	Lehigh Landing Promenade Access	Alley	2 lanes @11'-0"	- NA -	- NA -	- NA -	2 @ 15'-0" w/ tree pit	±52'-0"
5	New Wharf Street (South of Gordon)	Collector	2 lanes @11'-0"	2 @ 7'-0"	- NA -	Parallel Rail Trail	1 @ 15'-0" (+Rail Trail)	±66'-0" (60' min.)
6	GF Frick Boat Club Access	Alley	2 lanes @11'-0"	- NA -	- NA -	- NA -	2 @ 10' w/ 5' tree lawn	±42'-0"
7	Riverfront Park Promenade Access	Alley	2 lanes @11'-0"	- NA -	- NA -	- NA -	2 @ 15'-0" w/ tree lawn/pit	±52'-0"
8	Existing Front Street	Local	2 lanes @ 11'-0"	2 @ 7'-0"	- NA -	- NA -	2 @ 12' to 15' w/ tree pit	±66'-0" (60' min.)
9	Gordon Street Extended	Collector	2 lanes @ 11'-0"	2 @ 7'-0"	- NA -	2 lanes @ 6'-0"	2 @ 15'-0" w/ tree pit	±78'-0"
10	New Wharf Street (North of Gordon)	Local	2 lanes @11'-0"	1 @ 7'-0" (east side)	- NA -	Parallel Rail Trail	1 @ 12' to 15' (+Rail Trail)	±59'-0" (56' min.)
11	Riverside Drive	Collector	2 lanes @ 11'-0"	2 @ 7'-0"	- NA -	River Trail	2 @ 15'-0" w/ tree pit	±78'-0"
12	Liberty Street Extended (Future)	Local	2 lanes @11'-0"	2 @ 7'-0"	- NA -	Shared Lanes	2 @ 12' to 15' w/ tree pit	±66'-0" (60' min.)
13	Widen Brick St. (Where feasible)	Local	2 lanes @11'-0"	2 @ 7'-0"	- NA -	Shared Lanes	2 @ 12' to 15' w/ tree pit	±66'-0" (60' min.)
14	Allen Street Extended	Local	2 lanes @11'-0"	2 @ 7'-0"	10'-0" (Optional)	Shared Lanes	2 @ 15'-0" w/ tree pit	±66'-0" or ±76'-0"
15	Tilghman Bridge	Arterial	- NA -	- NA -	- NA -	- NA -	- NA -	Existing
16	Furnace Street Extension	Collector	2 lanes @11'-0"	2 @ 7'-0"	- NA -	2 lanes @ 6'-0"	2 @ 15'-0" w/ tree pit	±78'-0"
17	Furnace Place Roundabout	Collector	4 lanes @11'-0"	NA	±72'-0" w/ 5' shoulder	2 lanes @ 6'-0"	2 @ 15'-0" w/ tree pit	±150'-0"
18	Bridge Street	Collector	2 lanes @ 11'-0"	2 @ 7'-0"	- NA -	2 lanes @ 6'-0"	2 @ 15'-0" w/ tree pit	±78'-0"
19	New Wharf Street (North of Gordon)	Local	2 lanes @11'-0"	1 @ 7'-0" (east side)	- NA -	Parallel Rail Trail	1 @ 15'-0" (+Rail Trail)	±59'-0" (56' min.)
20	South Riverfront Frontage (Below PPL)	Trail & Promenade	- NA -	- NA -	- NA -	10' Min. trail or 20' Min. Promenade where indicated.		20' Min. Average
21	Central Riverfront Frontage (PPL to Allen St.)	Trail & Promenade	- NA -	- NA -	- NA -	10' Min. trail or 20' Min. Promenade where indicated.		30' Min. Average
22	North Riverfront Frontage (North of Allen St.)	Trail & Promenade	- NA -	- NA -	- NA -	10' Min. trail or 20' Min. Promenade where indicated.		30' Min. Average

Street Frontage & Development Standards Table Cont'd <i>(see Generalized Land Use Map for reference)</i>							
Building Setback	Building Height (Stories)	Ground Floor Retail, Service Commercial, or Entertainment **	Ground Floor Employment, R&D, or Clean Industry **	Upper Floor Office or Service Commercial	Upper Floor Multifamily Residential	Ground Floor Institutional Use	Parking Structure Use***
0'-15'	2 - 4	P	P	P	N	P	N
0'-10'	2 - 4	P	P	P	N	N	P
0'	2 - 4	P	P	P	N	P	P
0'-10'	2-4	P	N	P	N	P	P
0'-15'	3 - 4	P	N	P	N	P	P
0'	3 - 4	P	N	P	N	N	P
0'	3 - 4	P	N	P	N	P	P
0'-10'	3 - 4	P	P	P	P	P	N
0'-15'	3 - 4	P	N	P	N	P	N
0'- 10'	3 - 5	P	P	P	N	N	P
0'- 15'	3 - 5	P	N	P	P	P	P
0'- 10'	3 - 5	P	N	P	P	P	P
0'- 10'	3 - 5	P	P	P	N	N	N
0'- 10'	3 - 5	P	P	P	P	P	P
30' min.	3 - 5	P	N	P	P	N	P
0'-15'	3 - 5	P	N	P	P	P	P
0'-15'	3 - 5	P	N	P	P	N	P
0'-15'	1 - 2	P	P	P	N	P	N
0'- 10'	3 - 5	P	P	P	N	N	P
0' – 20'	3 - 4	P	N	P	P	N	N
0' – 20'	2 - 4	P	N	P	N	N	N
0' – 20'	3 - 5	N	P	P	N	N	N

CONSIDER GREEN BUILDING PRINCIPLES & LEED BUILDING INCENTIVES

New development in the Riverfront District should help to set a new precedent in the City, whereby new developments are encouraged to build “smarter and greener” for long-term sustainability of the buildings, riverfront setting and the City. Implementing green building and site design standards has proven to be a real estate marketing advantage in many cities across the United States. The U.S. Green Building Council’s Leadership in Energy and Environmental Design (LEED) certification process has been shown to add economic value on a number of documented developments throughout the United States, along with its environmental benefits. At a minimum, these green building standards should be required for all City-owned facilities in the new Riverfront Zoning District. Pilot LEED Certification programs could occur with many of the public realm, transportation and public facilities initiatives outlined in the Riverfront Master Plan.

Potential Guideline Incentives Fostering Environmental Sensitivity and Stewardship



Density/Height bonuses may be permitted by the City with the successful incorporation of green roof design on roof terraces and parking structures.



Multi-level green roof terraces can be incorporated with parking decks, residential & office uses.



Turf based green roof design with skylights to allow natural light to lower levels



Green roofscapes can be incorporated on parking structures as park spaces for surrounding building tenants.



Plaza with skylights to allow natural light into lower building levels. Sun shades can also serve to reflect natural light into the open spaces within the building.



Bio-swale use in parking lots to filter pollutants from stormwater prior to entering storm sewer system.



Green street techniques to filter stormwater before entering storm sewer system.



Interpretive signage systems that educate the public on environmentally friendly green building methods.



Cantilevered sun shades on windows to take advantage of natural lighting while regulating passive solar heating.



Perimeter rain gardens capture building stormwater run-off and re-use for natural irrigation.



Rain gardens used to capture roof gutter run-off and increased on-site water absorption.

With local support from the public and private sectors, the LEED Certification process could be extended into the Riverfront District’s zoning process by assigning a Green Building Overlay District, whereby developments within the Riverfront District could be granted density bonuses at the discretion City

Planning Staff reviewers and the Planning Commission if the buildings achieve a “LEED Gold” rating or higher. For instance, a “multi-story development on the Riverfront may be limited to 3-4 stories in height, but with a LEED Gold designation an incentive bonus of two additional stories could be possibly granted. Illustrated below is a partial list of the exterior architectural and site design elements that can be incorporated into an environmentally-friendly riverfront development. The application of these requirements and incentive offerings would have to be further considered and defined during the formulation of the new Riverfront Redevelopment Zoning District requirements.

LOW IMPACT DEVELOPMENT/STORM WATER MANAGEMENT

All on-site stormwater should be captured, retained and filtered before being released to either the Lehigh River or conveyed to the City water treatment system. This can be accomplished through required on-site mitigation techniques including: “extensive” green roof systems, constructed rain gardens, pervious paving, designated off-site stormwater management areas, etc.

POTENTIAL USE OF THE HISTORIC BUILDINGS DEMOLITION CONTROL OVERLAY DISTRICT

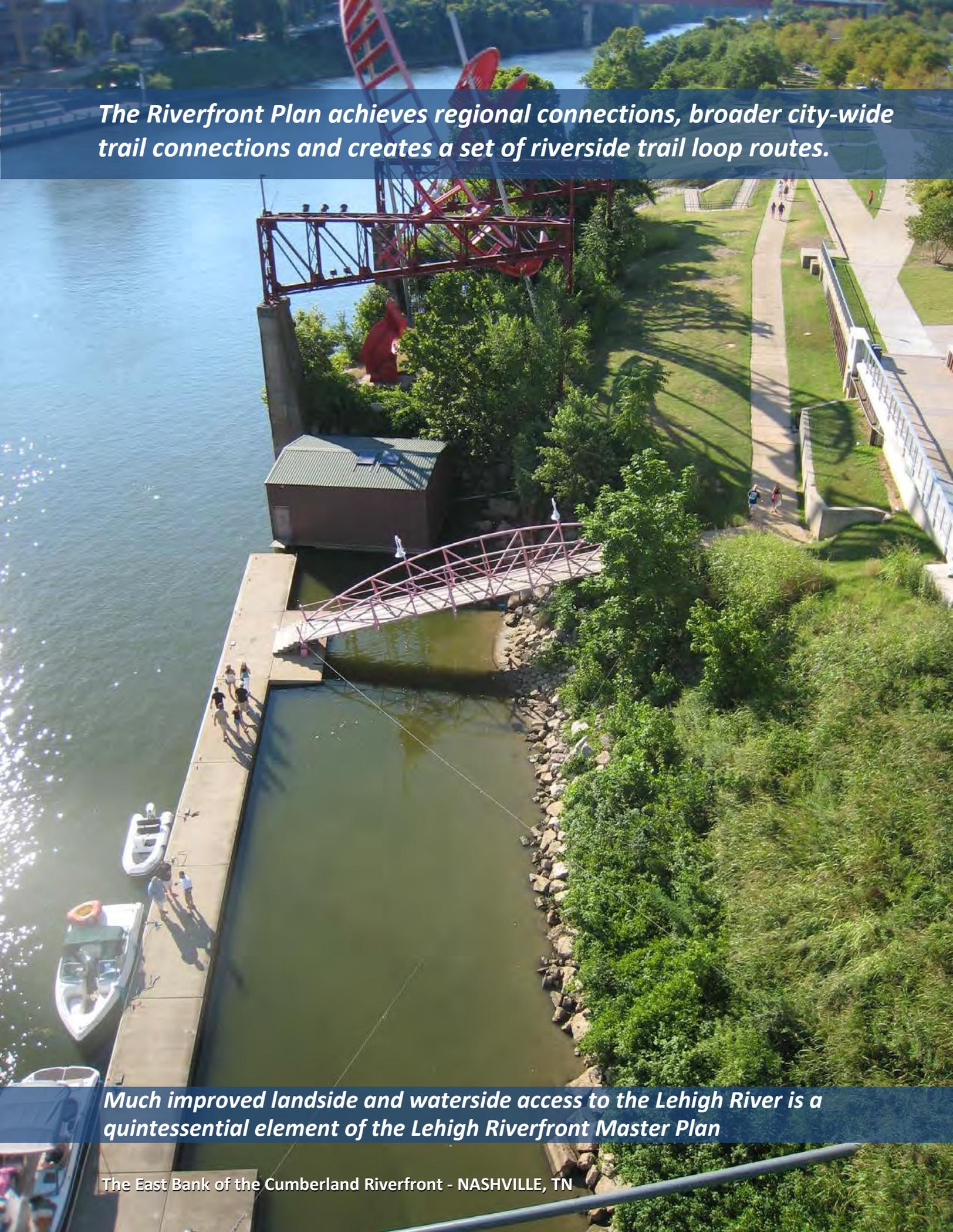
There are a number of older buildings within the Lehigh Riverfront that have potential for conservation or preservation and adaptive re-use; however, only the Neuweiler Brewery Complex has any type of protections against full or partial demolition with its National Historic Register Building designation. This designation does not offer full protections against demolition, simply in cases where federal funding is tied to the structures rehabilitation and preservation. For this, and the other buildings listed below, to be better protected against private demolition during redevelopment, the City should consider and evaluate expanding the existing Historic Buildings Demolition (HBD) Control Overlay District to include these buildings or sites.

- The Neuweiler Brewery Complex Buildings
- The American Atelier Primary (Brick) Building
- The Ribbon Works Primary Buildings
- The Riverfront Park Pavilion Structure
- At A&B Meats Loading Dock Building

In the case of a small building like Albright and Sons, the building should be protected from demolition, but consideration should be given to allowing the structure to be relocated for either community park use or private use to make way for a larger public need for the Riverfront, the new Wharf Street.

RESULTING PLAN RECOMMENDATIONS

This section has outlined the primary elements that should be considered and defined in the new Riverfront Redevelopment Zoning Districts. The following exhibit XX and supporting table XX provides the City with a general overview of the most significant development standards typically included in a form based code and traditionally accepted value ranges for those standards. This provides a basic understanding of the standards that should be included in the final code and an idea of the diverse character of each street cross section. However, based on our past experience, efforts to develop new zoning districts require significant research and public outreach that should be undertaken independent of this Master Plan to provide the necessary focus and attention required. Therefore, the included table aims to provide guidance and education related to form-based codes and acts as a primer to prepare for the necessary implementation activity of developing a new zoning district to govern the Master Plan area.

An aerial photograph of the Cumberland Riverfront in Nashville, Tennessee. The image shows a concrete dam structure with a walkway on top. A red metal structure, possibly a sculpture or part of a bridge, is visible on the dam. A paved walkway runs along the riverbank, with people walking. A boat launch area is visible with several white inflatable boats docked. The river is on the left, and a grassy area with trees is on the right.

The Riverfront Plan achieves regional connections, broader city-wide trail connections and creates a set of riverside trail loop routes.

Much improved landside and waterside access to the Lehigh River is a quintessential element of the Lehigh Riverfront Master Plan

The East Bank of the Cumberland Riverfront - NASHVILLE, TN

2.3 LINKING TRAILS, PARKS AND RECREATION AREAS

2.3.1 TRAIL CONNECTIVITY

The Lehigh Riverfront Master Plan area is located at the nexus of several existing and proposed trail corridors which in some cases extend for many miles beyond the City's limits. This strategic location makes the Riverfront well placed to serve as the hub for much of the regional trail network and represents a potential "driver" for both recreational and economic activities. In a few instances, only short "gap" trails need to be created to fully link the regional trails to the Riverfront and the Lehigh River corridor.

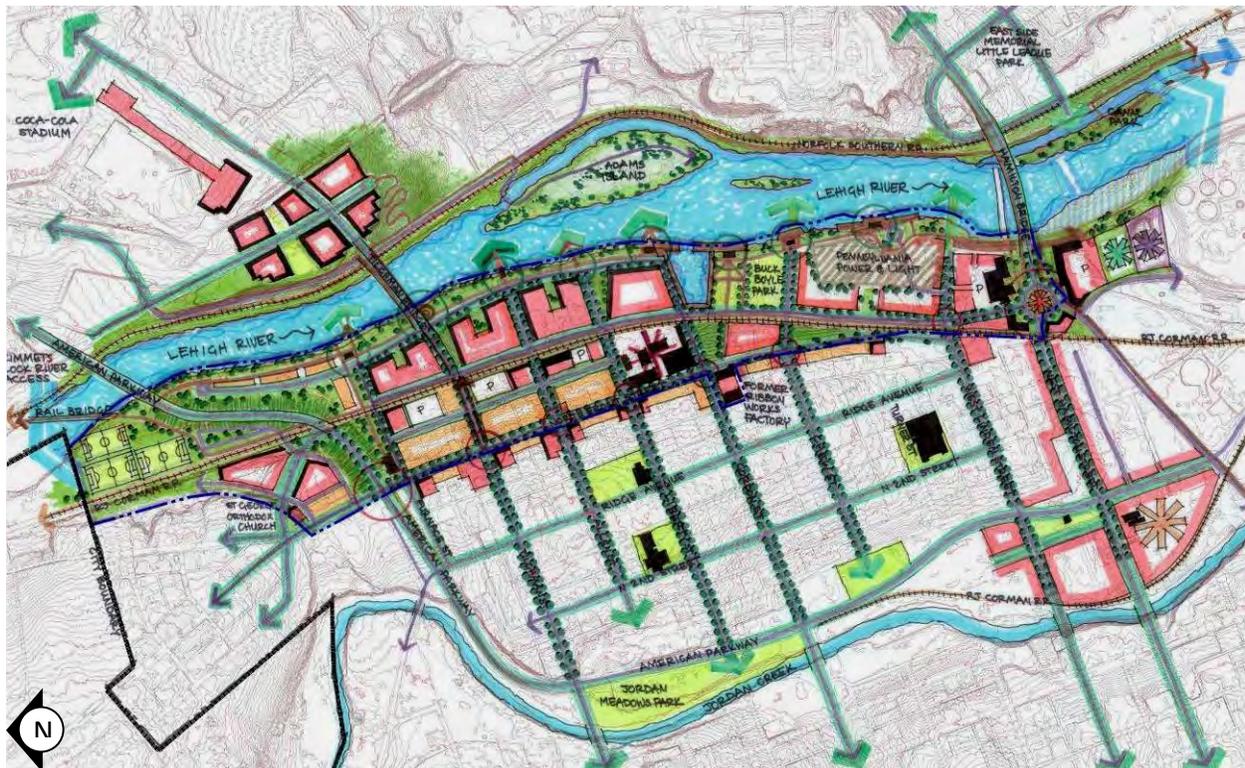


Exhibit 2-30: Vision Plan for Neighborhood and Downtown Linkages from and to the Lehigh Riverfront

2.3.1.1 MASTER PLAN CONTEXTUAL TRAILS NETWORK APPROACH

The Lehigh Riverfront Master Plan achieves regional connections, broader city-wide trail connections and creates a neighborhood/Riverfront specific set of trail loop routes. The proposed trail alignments allow for the Lehigh Riverfront to act as the hub for multiple regional connections in all directions, consistent with the trail network advocated in both the City's Parks and Recreation Master Plan and Comprehensive Trails Connectivity Master Plan.

The Master Plan's Overall Approach:

1. Create a loop trail network within the Riverfront planning area (Lehigh River West Side) and provide maximum connectivity to adjacent neighborhoods.
2. Link the East and West sides of the Lehigh Riverfront with a loop trail connecting the both sides of the river, both north and south, as well as the regional Delaware and Lehigh Canal Tow Path Trail.

3. Provide key connections to city and regional trails and greenways making the Riverfront a hub of regional trails.
4. Expand water-based access points along the Riverfront to serve a broad range of river craft.

2.3.1.2 LEHIGH RIVER – EAST SIDE

The benefits of creating a continuous trail along the Lehigh River have been identified for many years in numerous plans, ranging from the Delaware and Lehigh National Heritage Corridor Action Plan to the City’s Parks and Recreation and Comprehensive Trails Master Plans. In recent years, the City has been advancing efforts to create a complete trail network along the east side of the Lehigh River, connection the existing Canal Tow Path north to Kimmets Lock Park. Currently the tow path extends from Bethlehem along the canal to a point near the terminus of East Walnut Street. An on- and off-road trail connection from Hamilton Street to Overlook Park and then along Bradford Street, north towards Kimmets Lock Park has been designed and engineered. Although this trail is not directly adjacent to the east side of the river for most of its extent due to the presence of an active rail line and steep topography it does represent an important link between in the overall trail network on the east side of the Lehigh River.



Existing conditions along east bank with example of east side trail improvements envisioned below.



LEHIGH RIVER – TRAIL CROSSINGS

Creating safe and “ample” trail crossings of the Lehigh River are critical in connecting the two sides of the river trail systems as well as East Allentown with the rest of the City. Furthermore, a cohesive bicycle and pedestrian connection would in essence expand the reach of the Lehigh Riverfront by connecting it to the expansive park facilities located on the east side of the river, within Canal Park. The City’s Comprehensive Trails Plan advocates improving and retrofitting the existing vehicular spans to better serve multi-modal needs. In the case of the Tilghman Street Bridge, the plan recommends shifting the travel lanes within the cross section to create a 10’ wide multi-use trail on one of the sides of the span to accommodate bicyclists riding over the bridge. PennDOT is currently undertaking a rehabilitation effort for this bridge. The plan also proposes to widen (or cantilever) the existing 6’ wide sidewalk located on the north side of the span by utilizing PennDOT approved light-weight orthotropic decking to create a 10’ wide multi-use trail. The third key crossing improvement would consist of converting the abandoned rail bridge in the vicinity of the Kimmets Lock Park to a multi-use trail bridge allowing for a trail crossing at the river level, in the area of the current Lehigh Structural Steel site.



Existing Tilghman Street Bridge crossing

RECOMMENDATIONS FOR LEHIGH RIVER CROSSINGS & EAST SIDE CONNECTION

The Riverfront Plan proposes that the main bicycle pedestrian crossing of the Lehigh River occur via the abandoned railroad bridge north of the future alignment of the American Parkway bridge span over the river. This bridge is owned by the property owners of the Lehigh Structural Steel site and not by a railroad. The existing pedestrian and bicycle connections over the river, via the Tilghman and Hamilton Street Bridges will continue to be important, although the later, is less accommodating for bicycle traffic. As the proposed roadway improvements are designed and implemented at the west end of the Hamilton Street Bridge, i.e. roundabout options, care should be given to provide ample multi-use trail connections to the north side pedestrian walkway over the bridge. Today, bicycles must either share-the-roadway to legally ride over the bridge or dismount and walk their bicycles via the pedestrian walkway. The City's Comprehensive Trails Connectivity Master Plan show possible alternatives to widen pedestrian walkway to meet multi-use standards to allow bicyclist to ride in this location.



Vision for future railway bridge crossing – Portland, OR



With the pending completion of the East Side Trail, the link will be made to advance the completion of a loop system utilizing both sides of the Lehigh River, from Hamilton Street to the former railroad bridge at Kimmets Lock Park. The former railroad bridge provides an excellent bicycle and pedestrian trail crossing of the river since it is located at an elevation which is only slightly higher than the developable land on the west side of the river. The bridge's approach on the east side of the river is more problematic; however, since there is very little space between the bridge abutment and the active Norfolk Southern rail line. In order for safe trail access to be achieved an engineering study would be necessary to determine if a ramp connection could be made from the bridge, parallel to the river to the south, creating a trail connection which hugs the river's edge and then travels underneath the railroad via a bridge span which served the lock and is now part of the boat launch from the parking lot along North Dauphin Street.

2.3.1.3 LEHIGH RIVER – WEST SIDE

The Martin Luther King (MLK) Trail parallels Martin Luther King Boulevard and the Little Lehigh Creek and serves as a connector to the Lehigh Parkway Trail network to the west. The MLK Trail is proposed to be extended roughly along MLK Boulevard to N. Front Street at Hamilton Street. There are several alignments considered for this connection including an alignment along the perimeter of the Kline's Island Waste Water Treatment Plant (WWTP). A separate trail is proposed for the south side of the Little Lehigh Creek (through an undeveloped parcel often referred to as the Auburn Cross area) as part of an AEDC led railroad short-line re-activation project, in essence creating a rails-and-trails situation. These trails would connect the Lehigh Riverfront study area to a vast amount of the City's largest parks and

premiere active recreation facilities. All of these connections would ideally meet at the existing Lehigh Landing, north of Hamilton Street, ideally via a new trail passing underneath the Hamilton Street Bridge to avoid the complicated vehicular traffic pattern at the western approach to the bridge.

The City’s Comprehensive Trails Plan acknowledges the strong desire to create a trail and pedestrian promenade as was originally conceived for Lehigh Landing, along as much of the western side of the Lehigh River as possible. Creating such a facility is difficult due to the nature of the mix of land uses and private land ownership issue for parcels located directly on the river’s edge.

1ST + 6TH WARD PROJECT 10 AUBURN CROSS TRAILS to LEHIGH LANDING

RECOMMENDATION - This trail would connect the Auburn Cross Trails site (the city’s former incinerator site) to Lehigh Landing. Connecting these two areas is critical to the overall citywide trail network because both are hubs for trails that connect to different parts of the city. For example, in the completed trail network, one could access the trails in the South Side, Center City, and West End from Auburn Cross Trails; from Lehigh Landing, one could access trails in the East Side and 1st + 6th Wards. (Note: The image below is an example only; an alternate connection underneath the Hamilton Street bridge could include grading down the land on both sides of the bridge to allow for a benches walkway that would be closer to the bridge abutment and further from the river’s floodway).

1ST + 6TH WARD PROJECT 10 AUBURN CROSS TRAILS TO LEHIGH LANDING

LOCATOR MAP

A combination of on-street trail and rail-trail would be used to connect with Buaky Boyle Park and points north along the riverfront.

See photo visualization above of the trail passing under the Lehigh River Bridge

Use existing pathway under Hamilton St between W Union St and Front Street.

The existing unpaved riverfront trail could be redesigned into a paved multi-use trail

Bike/Ped streetscape improvements along W. Union Street would serve as the short term connection, before the trail is built.

Trail would cross under Basin Street connecting the Auburn Cross Trails site with the Lehigh River

See Design Toolbox for bicycle facilities at rail road crossings

For details on Auburn Cross Trails Park (Former Incinerator Site), Project 20

Legend:

- New Trails
- Bicycle and Pedestrian Streetscape Improvements
- New Side Paths
- Existing Paved Trail
- Existing Unpaved Trail
- Non-Active Rail Road
- Rail Road
- Cemetery
- Water
- Parks and Open Space
- Community Points of Interest

CHAPTER 3: CONCEPT PLAN 3-19

Top: A photo visualization of a trail connection underneath the Hamilton Street Bridge, along the Lehigh River (America On Wheels Museum building seen at far right). Above: Existing conditions.

Above: Examples of a highly successful riverfront trails: Austin at left, along the Colorado River, and in Washington DC, at right, along the Potomac River.

Exhibit 2-31: West Side Trails Master Plan for the Lehigh Riverfront Area (Courtesy of Stromberg-Garrigan Associates)

The existing R.J. Corman shortline railroad line that extends from Hamilton Street to the north, has the potential to be a rails-and-trails and was considered for a multi-use trail extending the length of the Riverfront, at least to the north to the future alignment of American Parkway.

Jordan Creek Park is currently the beginning segment of what is proposed to be a complete greenway and trail network along the Jordan Creek, to the Jordan Park, the Jordan Creek Parkway in Whitehall Township and eventually extending north to the Trexler Nature Preserve locate in North Whitehall and Lowhill Townships. The Wildlands Conservancy led an effort that resulted in a Greenway Plan for the Jordan Creek corridor. The City’s Comprehensive Trails Plan proposes streetscape enhancements and shared lane improvements along W. Gordon Street to create a direct bicycle and pedestrian connection between the Jordan Creek Greenway and the Lehigh River.

In addition to the proposed Gordon Street improvements, the plan also recommends bicycle and pedestrian improvements in the 1st and 6th Ward along the following roadway segments:

- Front Street from American Parkway to Hamilton Street
- Ridge Avenue from Bridge Avenue to Tilghman Street

- Tilghman Street from Ridge Avenue to the Tilghman Street Bridge
- Hamilton Street from 4th Street to Front Street
- W. Union Street from 3rd to Walnut Street



Exhibit 2-32: Proposed Pedestrian and Cyclist Public Realm Framework for the Riverfront District

RECOMMENDATIONS FOR THE LEHIGH RIVER – WEST SIDE

A key aspect of the proposed trail alignments on the west side of the river, within the Riverfront study area, is the creation of a loop system within the Riverfront area proper. A 10' wide minimum multi-use trail is proposed to be located on the roadbed of one of the former tracks alongside the currently active R.J. Corman shortline railroad that serves the Riverfront area. The proposed trail would be on the east (river) side of the active rail line and travel from Union Street north to the future American Parkway alignment. Starting at Union Street, the trail would connect to the proposed Martin Luther King Trail which roughly parallels the Little Lehigh Creek. From Union Street the trail would cross Hamilton Street at a mid-block location. Although this crossing can be achieved as a stand-alone project, it will require study with the existing and proposed traffic circulation patterns at the approach to the Hamilton Street Bridge and its intersection with Front Street to ensure that safety standards are met.

The trail from Hamilton Street would progress north, parallel with the shortline railroad. There are six proposed at-grade street crossings which require integrated design with existing or modified at-grade



Existing RJ Corman Railway along Front Street



Station Square – Pittsburgh, PA

railroad crossings. Due to the low frequency and speed of shortline service the trail right-of-way will not likely need to be fenced; however, this would require discussion with the shortline railroad as part of the acquisition of the right-of-way, either by fee simple purchase or long term easement.

The area north of American Parkway, referred to as the Riverside R&D Park Area, is targeted for new industrial redevelopment. As a result the proposed trail alignment would deviate from the shortline railroad and travel towards the river along the southern edge of the berm created to support American Parkway as it rises to cross the river. The proposed trail would cross under American Parkway, along the river's edge and then travel north, briefly, to cross the river via the former railroad bridge.

A riverfront trail and promenade is proposed along or near the river's edge. Starting from Union Street and the proposed Martin Luther King Trail connection, the proposed trail would travel through Hamilton Street Gateway Area, south of Hamilton Street. It would continue along the river, traveling underneath the Hamilton Street Bridge and through Lehigh Landing and the American on Wheels area, in the form of a promenade.

In the area of the GF Frick Boat Club and the water intake area, the proposed trail would travel in-land, along the boundary of the PPL Substation until it reaches the Riverfront Park Area, the area of the current Bucky Boyle Park. At this point a 10' wide multi-use trail would be integrated into the design of the various park and public spaces located within a setback from the river, paralleling a proposed Riverside Drive north to the point where the trail and the roadway would travel underneath the Tilghman Street Bridge. In this area refer to as the Furnace Place Area, the trail would continue along the Riverfront, until it met with the other main trail spine through the Riverfront, at the southern side of American Parkway and the across the river. This key nexus of riverfront trails is also proposed to be the location of a small trailhead with limited parking for visitors to the Riverfront area.

In terms of trail connections to the Jordan Creek Greenway, streetscaping and on-road facilities will be important along Gordon Street. The proposed reconfiguration of the Gordon Street entrance into the Riverfront area, from Front Street provides an excellent opportunity to create a multi-modal gateway to the Riverfront from the west. As this area is reconfigured, the needs of bicyclists and pedestrian should be considered into the streetscape and park designs.

Throughout the entire length of the Riverfront area, intersections should be evaluated to ensure that ample pedestrian and bicycle facilities are provided to maximize the accessibility of the Riverfront from the adjacent neighborhood streets, including the inclusion of prominent crosswalk striping and pedestrian signal heads at signalized intersection.



Sample vision for trail and promenade – Portland, OR



Sample greenway - Knoxville, TN

Bicycle racks should be considered as part of any palette of streetscape and park fixtures within the Riverfront area, as well as throughout the entire city.

2.3.1.4 WATER TRAILS

The Wildlands Conservancy led an effort to create a water trail along the Lehigh River. Key regional river access points serving the Allentown portion of the Lehigh River include Sand Island in Bethlehem and Canal Park and Kimmets Lock in Allentown and Catasauqua in the Borough of Catasauqua. Key portage points include points located 200' above and 100' below the Hamilton Street Dam in the Allentown. Although there is a boathouse for the Lehigh University Rowing Team within the study area, there is no formal water trail access points located on the west side of the river.



RECOMMENDATIONS FOR WATER TRAILS AND RIVER ACCESS

The Riverfront Master Plan provides several public river access points, to serve varying purposes and needs. In the Riverfront Park Area, a public marina would be created to provide docking facilities for boats launched into the river at other locations. The plan recommends that the Riverfront Park area be the central public gathering space within the Riverfront area, and the public marina would allow for boaters to congregate in this area, especially during major events and festivals.

The Lehigh University Boathouse and dock would be relocated to an area slightly north of its existing facility, providing a private/public boating activity in this core area within the Riverfront. An optional plan was prepared that shows how an inland wharf could be created on the southern portion of the Riverfront Park Area, to allow for small boats to be docked as well as provide for smaller craft, including paddle boats, in calming water and off the river proper.

The Riverside Overlook is primarily a commercial oriented area for a signature restaurant to be located on the river and a small amount public docking could be created to support the commercial activity as an important commercial anchor along the Riverfront.

A public landing is proposed as part of the signature Riverfront node in the Furnace Place Area, which could allow for limited public boat docking. Much of this area would be focused on private boating activities more than likely serving the adjacent residential development. A small craft launch is proposed at the trailhead located on the southern side of the American Parkway as it crosses the river.

2.3.2 PARKS, RECREATION AND PUBLIC SPACES

2.3.2.1 PARKS RECREATION AND PUBLIC SPACES APPROACH

The Riverfront Master Plan is consistent with the City's Vision for Parks and Recreation as defined in its 2006 Parks and Recreation Master Plan, which emphasizes a neighborhood, based system of parks and recreation opportunities, with the ability for each neighborhood to easily connect to the entire parks system. The Vision focuses on the role parks play in the City's vitality by providing attractive and safe

environments for people to live, work, do business and play; all critical aspects of attracting private economic development investment in the City as a whole and specifically within the Riverfront area.

The Master Plan's Overall Approach:

1. Promote the creation of a continuous linear greenway of parks, trail and public spaces along as much of Lehigh River frontage as possible.
2. Create nodal parks and recreational opportunities that focus on integrating adjacent economic development with the river through appropriately scaled spaces to support activities and events that spur further economic development.
3. Provide pocket and smaller-scaled parks and public spaces into the design of infill development, especially residential and mixed-use.
4. Develop parks and public spaces that create a variation of experiences along the Riverfront and promote individual identities of the sub-development areas, i.e. Lehigh Landing, Riverside Overlook, Brewer's Hill, etc.
5. Limit the amount of large fixed-use facilities such as use-specific playfields and instead establish multi-purpose open lawns for active and passive recreation utilization; further creating a setting for events and diverse economic development activities.
6. Utilize iconic park spaces for "place making" to support long-term economic development activities, including integrating public and green spaces into infrastructure including traffic calming devices, streetscaping and land-banking for future uses.
7. Integrating natural processes and green technologies into the design of parks and public spaces to achieve improved urban stormwater management and passive treatment of run-off to enhance water quality and habitat conditions within the in Lehigh River and its watershed.



Sample multi-use field envisioned for PPL Power Park



Flexible use space envisioned for Bucky Boyle Park

2.3.2.2 ATHLETIC PLAYING FIELDS

At the time of the preparation of the City's Parks and Recreation Master Plan, the need for regulation/competition quality soccer fields was rated as a high priority. After reviewing the entire park system a few opportunities to retrofit existing ballfields for soccer were identified. This included converting a 90' ballfield at Keck Park into a soccer field and as a result the City is currently constructing a multi-purpose field in Keck Park, however, these conversions only begin to fill the gap that exists for soccer facilities within the City. The Parks and



Sample multi-field soccer complex needed in Allentown

Recreation Master Plan also envisioned a need for a multi-field soccer complex with at least three fields. It was felt that having at least three fields would make the facility attractive for tournaments, lending itself to the City's Sports Fest model and even with the new multi-use fields be created within the parks system, the City still has a need for at least five more soccer fields. One area that was identified within the City for such a facility was the northern portion of the Lehigh Riverfront, north of the Tilghman Street Bridge. The concept was that that land that is currently underutilized could be converted into recreation fields with surround access improvements and public amenities as a way to transition the area from industrial to mixed-use, even with the possibility that some of the fields could be converted later into infill development as the market warranted. Through the Riverfront master planning process it was determined that one multi-use field within the Riverfront area was desirable and that the northern area's highest and best use was for employment generating industrial redevelopment.

The current ballfields located within Bucky Boyle Park are being considered for improvements. These fields are currently in poor condition. The Parks and Recreation Department has explored converting the existing ballfields into multi-use fields for soccer and also adding tennis courts in this area. Bucky Boyle Park received major renovation in 2005 including removing the old tank style pool and replacing it with a spray park along with our site improvements. The funding for this project included federal Urban Parks and Recreation Recovery (UPARR) funding. A stipulation of this funding includes the need to maintain the public aspects of the project for a minimum of twenty years. The City has begun communication with the National Park Service which manages the UPARR program to determine if and how modifications to the existing park can be performed in compliance with the UPARR program.



Sample multi-use field envisioned for PPL Power Park



Existing ballfields at Bucky Boyle Park



Existing spray deck to be retained at Bucky Boyle Park

RECOMMENDATIONS FOR ATHLETIC PLAYING FIELDS AND OPEN LAWN AREAS

Due to the economic potential of the Riverfront area, as well as specific aspects of the tax incentives, it was determined that playing fields were needed but should be carefully integrated into the overall civic design of the Riverfront area. The plan proposed that one regulation sized multi-purpose field be created adjacent to the PPL Substation. Although proposed as a competitive play level facility, the location of this field lends itself to serve as a flexible open space to support events held in the nearby Riverfront Park Area as well as by those generated by adjacent commercial development. Additional un-

programmed open lawn space could serve for less formal play and serve the immediate recreation needs of adjacent neighborhoods and new residents alike. The Option Plan shows how a few additional open lawn areas could be created on the west side of the shortline railroad tracks, between Liberty Street and the Tilghman Street Bridge.

2.3.2.3 CIVIC DESIGN

The Parks and Recreation Master Plan advocated the importance of high-quality “urban” public spaces be created within the core area of the Riverfront, specifically the portion between Hamilton and Tilghman Streets. It was thought that a well organized public space strategy could form the framework for both current activities as well to support the incremental growth of future development.

RECOMMENDATIONS FOR CIVIC SPACES

A major emphasis of the Riverfront Master Plan is the creation of quality urban public spaces. The plan provides for a great deal of variation of public parks and recreation opportunities while also providing for a significant amount of new infill development. Parks and public spaces are carefully integrated into the design of each Riverfront sub area/zone and are responsive to both the built-environment conditions as well as the natural aspects of their context.

With its location along a major regional natural resource, the Lehigh River, the Riverfront plan acknowledges the urban context and proposes to create urban style Riverfront promenades and public gathering spaces. It also responds to the need to improve the environmental health of riverine ecosystem by restoring habitats and improving the water quality of the river through the restoration of river edge habitats and the careful linking of inland public spaces and infrastructure to the river ecosystem to ensure that stormwater that ultimately flows to the river does so slowly to limited flooding and erosion and is pre-treated through rain gardens to remove potential pollutants. This important yet pragmatic need provides a secondary demand for public open spaces which are dispersed throughout the Riverfront area to address site specific concerns. These utilitarian activities can be integrated into the design of the public spaces to make them both attractive places and highly functional as urban infrastructure.



Tubman Garrett Park – Christina Riverwalk, Wilmington, DE



The proposed trails, parks and open spaces form the amenity framework for attracting development and visitors to the Riverfront.



Establishing continuous, publicly accessible riverside trails and overlooks along the entire River District is a key Plan implementation initiative.

Welcome to a new 'park once' approach to parking in the Riverfront District, where centralized and shared parking is the primary goal.



The Allentown Parking Authority will play a key role with the Private Sector in establishing strategic & efficient parking resources for the Riverfront District.

2.4 PARKING DESIGN, MANAGEMENT & RESOURCES

2.4.1 EXISTING PARKING CONDITIONS

2.4.1.1 EXISTING PARKING SUPPLY

Under the management and operation of the Allentown Parking Authority (The Authority), the City of Allentown has approximately 4,020 spaces in on- and off-street parking facilities. However, focusing on the Lehigh Riverfront study area, there are approximately 248 on-street spaces located on Front Street and along the side streets. In addition, there are 692 off-street parking spaces of which 572 are available to the public and 120 are restricted for private parking. Detailed lists of the on- and off-street parking facilities are shown below.

Table 2-11: Existing On-Street Parking Supply

Location	On-Street Parking Areas				Total On-Street
	North	South	East	West	
200 Block of Front Street			16	19	35
300 Block of Front Street			10	12	22
400 Block of Front Street			14	17	31
500 Block of Front Street			20	14	34
600 Block of Front Street			8	10	18
700 Block of Front Street			0	6	6
500 Block of Brick Street			0	18	18
600 Block of Brick Street			10	15	25
700 Block of Brick Street			10	15	25
00 Block of Liberty Street	10	11			21
00 Block of Allen Street	7	6			13
Total On-Street Parking Areas					248

Table 2-12: Existing Off-Street Parking Supply

Map #	Location		Off-Street Parking Areas		Total Off-Street
	Address	Type/Business	Public	Private	
1	00 Block of Front Street	America on Wheels	100		100
2	100 block of Front Street	Fenced in parking lot	35		35
3	200 block of Front Street	CALO Lot near PPL Fence	90		90
4	300 Block of Front Street	Fenced in parking lot	25		25
5	300 Block of Front Street	Buck Boyle Park	47		47
6	Liberty and Front Street	Polish American Citizen		50	50
7	400 Block of Brick Street	Open Surface Lot	20		20
8	Allen and Front Street	Sam's Market Lot		20	20
9	600 Block of Brick Street	Open Surface Lot	50		50
9	600 Block of Brick Street	Open Surface Lot	50		50
10	Tilghman and Front Street	Gas Station		15	15
11	Tilghman and Front Street	Elia's Produce Market		35	35
12	700 Block of Brick Street	Fenced in parking lot	30		30
13	700 Block of Brick Street	Fenced in parking lot	50		50
14	Furnace and Front Street	Elia's Market Private Lot	75		75
Total Off-Street Parking Areas			572	120	692

Source: Allentown Parking Authority 2011

Exhibit 2-32 below depicts the current location of on- and off-street parking areas. The numbers listed in the red boxes represent the Map # shown in the previous table for the off-street parking supply.

2.4.1.2 PARKING FIELD OBSERVATIONS

To best assess the area's current parking supply and demand as a baseline condition prior to Riverfront redevelopment, the Lehigh Riverfront team conducted detailed daytime and evening parking analysis, and gathered information from both City representatives and Task Force members. Given the limited number of current destinations points within the Riverfront, the consultant team focused on a few key points of public interest, including the following parking observations:

- **Bucky Boyle Park:** Due to recent improvements and the addition of baseball fields, spray park amenities, and scheduled events, the park experiences a high volume of visitors year round, particularly during the summer months. The park is one of the few access points to the river, and is heavily used by the local residents. The park has approximately 75 to 100 parking spaces, and according to the Parks and Recreation department, the parking lot is completely full during the peak summer months and overflow vehicles use nearby vacant lots. The parking lot is capable of supporting the needs of the park during non-summer months.
- **America on Wheels Museum (AOW):** AOW is one of the few riverfront area destinations open to the public. Opened in 2009, the AOW is experiencing steady a growth of visitors, and in 2010 hosted 30,200 visitors. The AOW has a separate parking area with 100 spaces in addition to the CALO building parking lot (map#3) when overflow parking is needed. The AOW is not currently experiencing any parking difficulties at this time.
- **Front Street Residential Area:** On Front Street titled Wards 1 and 6, there are single family residential housing. During our visit, we observed some vehicles parked along the street during the daytime hours with available parking spaces. However, during the evening hours, the on-street spaces were approximately 90 percent occupied as many residents had returned for the day and do not have private off-street parking areas (driveways, garages, or covered parking areas).



EXHIBIT 2-33: Map of the Existing On- and Off-Street Parking Areas within the Riverfront Area

2.4.1.3 PARKING RATES AND PERMIT ZONES

The authority offers long-term monthly rates, as well as hourly rates on their garage and surface lot facilities. The monthly rates vary from \$20 to \$65 per month depending on location and facility.

The parking meter rate is \$1.00 per hour and is enforced Monday through Saturday from 8:00 AM to 6:00 PM. The meters accept nickels, dimes and quarters.

Currently, the City has 6 parking zones for residential and long term visitor permits. Residential permits are limited to designated zones and allow vehicles to park at a metered space within their zone. The permit rate is currently \$25.00 for the first year and \$20.00 per year thereafter. Long term visitor permits are \$2.00 for a two week period not exceeding 30 days. The Lehigh Riverfront study area is not currently part of the permit zones.

2.4.2 PARKING MANAGEMENT PLAN RECOMMENDATIONS

2.4.2.1 ZONING AND CODE REQUIREMENTS

PARKING REQUIREMENTS FOR ALLENTOWN AND BENCHMARK CITIES

The Riverfront Planning Team collected data from other municipalities in Pennsylvania in order to compare the parking requirements among other cities of similar size against those in Allentown.

The following is specified in the current zoning ordinance:

- Mixed Use: Sum of the parking requirements for each of the individual uses computed separately according with the parking requirements stated above.
- Shared Parking: Permitted within 500 feet walking distance from the pedestrian entrance to the parking facility if the parking facility is available to all of the uses served by the parking during the life of those uses. The commission may reduce the amount of parking by up to 20 percent based on a traffic and parking study, the proposed land use mix, and access to public transit and/or shuttle services.
- Up to 25 percent of the off-street parking requirements may be met by counting new on-street spaces adjacent to the land use.

While it is important to balance the need to accommodate all parking on-site, it is equally important to preserve valuable land for the greatest use (typically not parking). As such, reductions in the parking requirements, when appropriate, will yield greater density, more revenue, and a higher tax basis for the City. Conversely, overbuilding the parking facilities will result in partially vacant parking facilities, wasted land and resources, and little if any additional tax basis for the City.

We recommend the following changes to the current parking requirements for the Riverfront Redevelopment District:

- Reduce the parking requirements for multi-family dwellings from 1.5 spaces per unit to 1.0 spaces per unit due to the proposed density, walkability, and to reflect the “Live-Work-Play” vision of the planned area.
- Reduce the parking requirements from 5.0 spaces per thousand square feet (ksf) of office to 4.0 to reflect the walkability and density of the planned area.
- Provide parking requirements based on per thousand square feet (ksf) for dining land uses. An average ratio of 25 sq. ft. per seat plus 1 employee per 10 seats is recommended.

- Increase the distance for shared parking resources from 500’ to 750’ in order to promote pedestrian activity and allow for maximization and consolidation of parking facilities within the planned area.
- Increase the maximum shared parking reduction from 20 percent up to 35 percent. This will encourage the development of an efficient and well balanced mixture of land uses to maximize shared parking opportunities.

The table below outlines the parking requirements, by land use, for Allentown and four other benchmark cities. In addition, we have summarized our recommended changes to the City of Allentown’s requirements as well as our rationale.

Land Use Type	Unit	Pittsburgh	Allentown	Erie	Reading	Scranton	Recommendation
		Pop. 305,704	118,032	101,786	88,082	76,089	
Residential							
Multi-Family Resident	DU	1.0	1.5	1.0	1.5	1.5	1.0 Reduced to reflect Live/Work/Play location
Lodging							
Hotel	Room	-	0.75+(1.0/seat conf; 0.5/emp)	1.0	1.0+(0.5/emp)	1.0+(0.8/emp)	no change
Retail							
General Retail	KSF	2.0	5.0	2.9	6.7	5.0	4.0 Reduced to reflect walkability and density
Service Retail	KSF	2.0	3.3+(0.5/emp)	2.9	6.7	5.0+(1.0/emp)	no change
Grocery <10ksf	KSF	2.0	5.0	2.9	10.0	5.0	no change
Office							
General	KSF	2.0	3.3	2.0	6.7	3.3	no change
Medical	KSF	2.5	5.0	2.0	(3.0/MD+1.0/emp)	(5.0/MD+1.0/emp)	no change
Bank/Financial	KSF	2.0	4.0	2.0	3.3	4.0+(1.0/emp)	no change
Dining							
Fast Food	Seat	-	0.25+(0.3/emp)	-	-	0.25+(0.5/emp)	no change
Fast Food	KSF	13.3	-	2.9	10	-	14.0 Added provision based on KSF (25 sq.ft./seat & 1 emp/10 seats)
Full-Service	Seat	-	0.25+(0.3/emp)	-	0.4	0.25+(1.0/emp)	no change
Full-Service	KSF	8.0	-	2.9	-	-	14.0 Added provision based on KSF (25 sq.ft./seat & 1 emp/10 seats)
Cultural and Entertainment							
Health Club or Spa	KSF	-	5.0+(0.5/emp)	5.0	10.0	4.0+(0.8/emp)	no change
Nightclub/Bar	Seat	-	10.0+(0.5/emp)	0.3	0.4	25.0+(1.0/emp)	no change
Theater	Seat	-	0.2+(0.5/emp)	0.3	0.3	0.25	no change
Museum	KSF	1.3	2.5+(0.5/emp)	2.0	5.0	3.3+(0.8/emp)	no change
Community Center	KSF	2.0	2.5+(0.5/emp)	2.0	5.0	3.3+(0.8/emp)	no change
Cultural Services	KSF	1.3	2.5+(0.5/emp)	2.0	5.0	3.3+(0.8/emp)	no change
Library	KSF	1.7	2.5+(0.5/emp)	2.0	5.0	3.3+(0.8/emp)	no change
Recreation/Ent.	KSF	2.0	5.0+(0.5/emp)	2.9	10.0	4.0+(0.8/emp)	no change
Recreation/Ent.	Seat	0.2	-	-	0.3	-	
Shared Parking							
Distance	Feet	-	500'	-	500'	400'	750' Increased distance to promote/encourage pedestrian activity
Maximum Reduction	%	25%-50%	20%	-	30%	not specified	35% Increased to encourage a balanced mixture of land uses

Table 2-13: Parking Requirements, by Land Use, for Allentown and Four Other Benchmark Cities

2.4.2.2 PARKING GEOMETRICS AND DIMENSIONS

The following table summarizes the existing requirements for parking facilities along with our recommended changes:

Criteria	Allentown	Recommendations
Stall Width	8.5'	no change
Stall Length	18'	no change
Stall Length - Parallel	22'	no change
Compact Spaces	20%	0% Eliminate due to number of misparked vehicles
RRO Setback Requirements - Residential	50'	no change
RRO Setback Requirements - Riverfront	25'	no change
RRO Setback Requirements - Other	0'	no change
RRO Height Restrictions	140'	no change
Surface Lot Landscape Requirements	10%	0% Eliminate due to overall requirement of 10% green space
Surface Lot Tree Requirements	1 Tree/10 Spaces	0 Eliminate due to overall requirement of 10% green space

Table 2-14: Current Parking Requirements and Recommendations For Change

2.4.2.3 PARKING FACILITY DESIGN GUIDELINES

We recommend the following guidelines with regard to the proposed Riverfront parking facilities:

- Limit the construction of structured parking facilities to sites that allow for an optimal parking efficiency. The minimum footprint of 125' x 225' will allow for 90 degree parking, two-way traffic, and end bay parking.
- Discourage the use of structured parking facilities on odd-shaped parcels or when an efficient design is not permitted. Surface parking, green space, or other uses would be a more effective use of the space.
- Given the architectural sensitivity of the development, “wrap” the parking facilities with other land uses to allow for architectural continuity within the Riverfront area.
- Create activity by considering grade level retail space in the parking structures that are facing the streets and other land uses.
- Automate all parking facilities to reduce/eliminate labor costs associated with cashiers and parking attendants.
- When possible, maintain the pedestrian scale of the development by limiting the height of the parking facilities.
- When possible, utilize the topography and variations in elevation to increase the height of the parking facilities and provide additional capacity.
- Ensure the functional design of all parking facilities allows for the natural flow of pedestrians to the Riverfront corridor.
- Ensure the parking facilities are easily accessed by vehicle and minimal areas of conflict exist.
- To further promote walkability, position parking facility ingress/egress in locations where pedestrian/vehicular conflicts will not occur. In addition, the placement of any elevators or stair towers should also allow for the separation of vehicular flow within a parking facility and pedestrian safety.
- The location of the parking facilities will also allow pedestrian flow to be directed perpendicular to the main corridor which will promote activity along the feeder streets.
- Implement sustainable design components within the parking facilities when feasible. Some recommendations include:
 - Bicycle Storage
 - Electric Vehicle Charging Stations
 - Integrated Transit Stops and Transfer Locations
 - Designated spaces for Carpool/Car Share programs
 - Efficient Lighting Design to Minimize Power Consumption and Light Pollution
 - Utilize Renewable Energy (i.e. solar)
 - Utilize a Rainwater Recycling System
 - Install Pervious Paving to Increase Filtration
 - Utilize Renewable/Recyclable Construction Materials

2.4.3 COST EFFECTIVE PARKING MANAGEMENT STRATEGIES

2.4.3.1 INTERIM PARKING STRATEGIES

Since the proposed development is expected to occur in phases, there is an opportunity to use future development sites as overflow surface parking areas in the interim. In addition, as development takes place, we recommend a periodic assessment of the parking conditions in order to determine the utilization of the existing parking assets. A low utilization may indicate an opportunity for additional

land uses to share those parking resources while a high utilization may indicate a pent-up demand and a need for additional parking to support the existing land uses.

We also recommend “land banking” strategically located parcels that can accommodate a structured parking facility in the future should the City decide to construct a public parking facility or implement a PILOP program.

2.4.3.2 CONSOLIDATION OF PARKING ASSETS

The Riverfront Area is linear in nature and in order to promote pedestrian activity (and discourage visitors from driving from one block to another) we recommend the consolidation of the parking assets. Specifically, by strategically placing the parking facilities along the linear corridor, nodes and hubs of activity are created. Due to the size of the area, we recommend a four-node approach with anchor parking facilities located on the north and south end of the corridor and two other central parking facilities equidistant from the anchors. We have identified several benefits from consolidating the parking assets:

- Greater parking efficiencies can be realized
- Higher parking utilization rates (by serving a larger number of land uses)
- Higher parking revenues
- Lower operational costs (due to economies of scale)
- Less signage (due to fewer parking facilities)
- Less access and revenue control equipment
- Ability to optimize the functional design (due to larger footprint)

We understand that some parcels may be developed independently and, as such, consolidated parking areas may not be feasible in all areas. However, we strongly recommend encouraging developers to consider the consolidation as it not only benefits the entire Riverfront Development but will also result in lower overall infrastructure costs.

Map showing a consolidated parking strategy with two large anchor parking facilities on the north and south and two smaller parking facilities within the linear development.



Exhibit 2-34: Planned Consolidated Parking Resources Location Map

2.4.3.3 SHARED PARKING STRATEGIES

Shared parking strategies allow multiple users generated from different land uses, to share the same parking space. For example, an office employee may utilize a parking space from 7am until 6pm then an apartment resident may utilize the same space from 6pm until 7am. In that scenario, there is a 50 percent reduction in parking given the total number of office employee vehicles was equal to the total

number of resident vehicles. While not all land uses provide this high of a reduction, it is possible to reach or exceed a 30 percent reduction by selecting a well-balanced mix of land uses.

The following table summarizes the peak usage times for various land uses.

	Weekday	Weekend
Daytime	General Office Medical Office Financial/Banking Fast-Food/Counter Service Restaurants Service Retail Health Club/Spa	General Retail Grocery Fast-Food/Counter Service Restaurants Museum Community Centers Cultural Centers Library Recreation/Entertainment Health Club/Spa
Evening	General Retail Full-Service Restaurants Community Center	General Retail Full-Service Restaurants Nightclub/Bar Theater Recreation/Entertainment
Overnight	Residential Lodging	Residential Lodging

Table 2-15: Peak Parking Usage Times for Land Uses

While efforts can be made to balance the mixture of land uses, it is equally important that certain users are not provided reserved or allocated parking spaces as that practice eliminates the ability for those users to share the parking resources, resulting in more parking needed.

2.4.3.4 PAYMENT IN LIEU OF PARKING (PILOP) INITIATIVES

For years, municipalities small and large have used payment in lieu of parking (PILOP) initiatives as a way of allowing new development to be built without the need to provide all or some of the required parking on-site. This concept has proved beneficial to both public and private interests and can be a valuable tool for driving new development or as a way to help revitalize and reinvigorate older areas.

PILOP is when a developer or other entity pays into a parking or municipal fund in lieu of some or all of the parking for their proposed land use. Most cities have set parking requirements for various land uses and in some cases developers would prefer to pay into a fund rather than creating new parking. The amount of fee is generally calculated based on the per space cost of constructing either on-street or structured parking. Depending on the location and type of parking, this fee can range from as little as \$500 in smaller towns with abundant and inexpensive land for surface parking to over \$20,000 in more dense areas where structured parking is required due to land costs and desired density.

The benefits of a PILOP program include a reduction in over building, encouraging shared parking, saving valuable land for other uses, and creating a fund from which to build parking in the future.

Many by-laws exist around the country with different ways to help finance the in-lieu costs developers must pay. It typically depends on the fiscal needs, liquidity and desires of each municipality. Some variations on methods to collect payment include:

- Lump sum payment
- Annual payment increments
- Combination of both
- Guaranteed monthly permit sales

Funds contributed to a PILOP fund can be used to acquire simple fee or other interest in land, and other real property for parking purposes; construct, maintain, operate, lease, manage, or otherwise provide off-street parking facilities for public use; provide public information to enhance parking utilization including publicity campaigns, graphics and signage, and other informational devices; coordinate plans for parking facility improvements and expansion with public transportation plans and operations in the vicinity, particularly the joint facilities that might be operated in connection with train station and any feeder services.

Due to the future redevelopment plans at the Riverfront Area, the cost/availability of land, and the cost to provide structured parking, we recommend that the PILOP fee should be near the higher end of the range listed above. The City may desire new projects and development and, in turn, may wish to entice developers by granting parking variances. We recommend that the City involve APA representatives in all variance requests and implement a mutually agreeable plan for allowing growth, while balancing the financial obligations of providing parking.

2.4.4 CREATING “PEOPLE PLACES”

2.4.4.1 PARKING AS A CATALYST FOR REVITALIZATION

As the City of Allentown embarks on implementation this exciting plan, it is important to consider in great detail the need to provide an active and vibrant destination for the local residents and visitors. It is also vital that the parking facilities blend attractively into the existing neighborhood. The parking facilities will provide the essential infrastructure to support the riverfront development and the surrounding neighborhood, providing convenient access for all users.

Vibrant “people places” are the first step to improving the appearance and attraction of an area. The mixed-use parking facilities will help to make this area a more vibrant riverfront community, bringing a more pedestrian scale and feeling to the street, while also helping to spark the interest in further development of the surrounding neighborhood.



2.4.4.2 LIGHTING, SAFETY AND SECURITY

Lighting plays an important role in user comfort, safety, and security. Specifically, well-lit parking areas are perceived as being safer for both pedestrians as well as vehicles, a deterrent for theft and other crime, and allow for maximum visibility of the parking facility. The two primary issues of lighting are intensity, or foot-candles, and uniformity. Typically, intensity is considered how “bright” a parking facility appears to the user and uniformity describes the distribution of light (i.e. do dark areas or corners exist within the facility).

In the past, minimum light levels were used in every facility without much question, yet today many owners are asking for higher lighting levels than “minimum.” These owners include not only those with a higher emphasis on user-friendliness, but also those who are concerned about security problems and would like to provide a sense of comfort to their users. The level-of-service (LOS) approach is a useful concept for selection of lighting levels. Recommended gradation of the basic lighting levels, average maintained horizontal illumination at the pavement, and uniformity ratios are presented in the following table.



Maintained Illumination (in footcandles) Horizontal Illuminance at Pavement	Level of Service			
	D	C	B	A
Covered Parking Areas	5	6 to 7	8 to 9	10
Roof and Surface Parking Areas	1	2	2.5	3
Uniformity Ratio (average:minimum)	4:1	4:1	3:1	3:1
Uniformity Ratio (maximum:minimum)	10:1	10:1	8:1	8:1

A minimum LOS B and a targeted LOS A is recommended for the Riverfront District area.

TimHaahs recommends a number of active and passive security features into the proposed parking facilities. The following are some of the most common safety strategies.

Active Measures

- Monitored Cameras
- Intercoms/Panic Buttons
- On-Foot Security Patrols
- Security Gates
- Blue Light System
- Public Safety Escort Services



Passive Measures

- Maximize Visibility and Openness
- Glass backed Stair/Elevator Towers
- Larger Clearance from Floor to Ceiling
- Increased Lighting Levels
- Minimize Placement of Interior Walls
- Access Controls

Security through Generating Activity

One of the most successful strategies for implementing a high level of safety in and around the parking structure is to locate the facility in an active environment, or integrate opportunities for increased activity within the structure. When parking is located in a secluded area, it creates an increased feeling of vulnerability. Integrating more active areas in and around the structure creates a more secure feeling for users, as well as reduces the opportunities for crime.

- Incorporating People Places
- Creating Hubs of Activity
- Pedestrian Friendly Environments
- Integration of Mixed-Use Features and Common Areas



2.4.4.3 WAYFINDING AND SIGNAGE

Wayfinding is the ability to understand where you are, find where you want to go, and then recollect the path of travel when departing.

Signage is a means of communication with the driver and/or pedestrian, especially one using a facility for the first time. To be effective, the signage for a parking system must be clear, concise, and simple. While the creative designer may desire an aesthetic statement, plain is far better than fancy, particularly for traffic direction.

With any changes to the parking system, we recommend signage and wayfinding that conveys the available parking areas for visitor/customer parking as to provide a user friendly environment. All visitor/customer spaces should be easy to identify to a first time visitor without confusion about who may or may not park in a space.

The signage system should include:



- Trailblazer signs – Located on streets leading to the Riverfront, these signs show where parking can be found.
- Site Signs – Located at the parking lot, these signs describe the type of parking available.
- Parking rate signs – These signs give hourly, daily, and monthly rates.
- Parking regulatory signs – Not part of the parking promotion sign system, these signs are related to the enforcement of the City's parking ordinance.

Some general rules for sign design and location are as follows:

- All signage should have a general organizing principle that is consistently evident in the system.
- Directional signage for both pedestrians and vehicles must be continuous (i.e. repeated at each point of choice) until the destination is reached.
- Signs should be placed in consistent and therefore predictable locations.
- A sign should be placed at every point where a driver or pedestrian must make a decision.

An important aspect of signage is the graphics. Effective signage programs combine aesthetics with information. Choice of color; typeface; character size; weight and spacing; and the use of uppercase and lowercase text all influence readability. The arrangement of text and symbols must be visually distinct. They must not contradict their basic meaning or intent, so as not to confuse the user. The background is equally important: backgrounds that are too small or too large for the type size can greatly detract from the effectiveness of the sign. A well designed and implemented wayfinding and signage system will not only make finding and using the parking more convenient, it can also enhance the image of the Riverfront district. If available, a Riverfront logo can be included on a standard parking and wayfinding sign to create a greater visual impact or image.



2.4.4.4 CAR SHARING AND BICYCLE SHARING

Another program that the developer may consider to enhance and mitigate parking needs for residents, businesses and commuters is the development of car sharing services such as Zip Car, which provides quick and easy access to a vehicle when needed. These services can be available to residents and businesses, mitigate parking and traffic impacts, and potentially reduce parking requirements for new developments where appropriate. We recommend the developer investigate the terms and conditions associated with car sharing services to further enhance parking management services.



Likewise, bike sharing programs may also encourage activity within and to the Riverfront area.

2.4.4.5 LINKAGES

Establishing quality linkages between the roadways, parking facilities, and destinations consists of three primary components:

1. Clear and Direct Signage
2. A seamless process with natural transitions for the motorist and pedestrian
3. Effective Design Elements including streetscapes, ingress, cleanliness, walkways, and egress.

2.4.4.6 WALKING DISTANCES

We performed an analysis of the walking distances within the proposed development to determine an appropriate spacing of parking facilities. Most adults walk an average speed of 2.5 to 3.5 miles per hour (~17 – 24 minute per mile). This equates to 220 to 310 feet per minute.

Using those calculations, we can calculate walking distances based on the time it takes to travel from point A to point B, or in this case the parking facility to the destination. While walking distances are important, it is also worth noting that a pedestrian discounts the distance walked in areas of high activity, sitting and gathering places, plazas and gardens, and shopping areas with window displays as they perceive it as being at or within a destination. This is the same concept used in a traditional mall where a shopper may walk a half or three quarters of a mile to get to the other end of the mall but never realize the distance as they are visiting multiple stores, window shopping, visiting the food court, etc. This supports the importance of quality linkages as a positive walking experience can create the perception of little if any walking to the destination.

On the following page, we have highlighted a map showing the 500' and 1,000' walking distances on the site plan. These represent a 2 to 3 minute walk and 4 to 6 minute walk, respectively.



Exhibit 2-35: 500': 2-3 Minute Walking Distances from Parking Resources



Exhibit 2-36: 1,000': 4-6 Minute Walking Distances from Parking Resources

2.4.5 SUMMARY OF RECOMMENDATIONS

- **Implement shared parking principles:** Maximize the use of parking spaces by combining different land uses to reduce the parking demand.
- **Encourage complimentary land uses:** Strategic planning to utilize land effectively to reduce travel and create connectivity to destinations.
- **Create quality linkages between the parking and destinations:** Integrate parking in the most effective location to connect destinations and promote pedestrian circulation.
- **Implement Smart pricing policies:** Implement effective parking management strategies to achieve revenue generation and to create fair, convenient and cost effective pricing policies.
- **Integration with existing and proposed mass/alternative transit:** Improve on existing mass transit operations and use alternative transit methods to connect and transport pedestrians to riverfront destinations utilizing existing parking spaces in the City.
- **Designate Employee parking areas:** Implement a policy allocating employee parking areas to free up convenient parking for customers.
- **Emphasize Safety and Lighting:** Design safe and comfortable parking facilities and implement security measures including lighting, passive security, and security equipment.
- **Install Signage and Wayfinding:** Implement clear and effective signage and wayfinding to create a safe and flowing pedestrian and vehicular circulation.

- **Minimize pedestrian/vehicular conflict:** Eliminate areas where the pedestrian and traffic flow conflicts by separating the users at the parking locations. Pedestrian linkages from the parking facilities should allow for a seamless experience from the vehicle to the destination with minimal conflict zones.
- **Capture and park vehicles outside of the “core”:** When possible, parking facilities should be located on the perimeter of the destination in order to deter traffic through the area. Ideally, motorists will arrive to a destination, locate a vacant parking area, and transition from a motorist to a pedestrian.
- **Inform all users utilizing websites, brochures, etc.:** Any and all methods to communicate parking information and updates to public and users will improve the user experience.

2.4.6 PARKING IMPROVEMENT COSTS

2.4.6.1 ORDER OF MAGNITUDE COST ESTIMATES

The following section includes the Order of Magnitude Cost Estimates for each of the parking facilities shown on the development plan. This does not reflect the costs associated with the consolidated parking strategy as recommended. The costs shown represent hard construction costs only.

Zone 1: Lehigh Landing and Hamilton Street Gateway Area

- South of Hamilton surface parking lot (SP1) - 210 surface parking spaces x \$4,000/space = \$840,000

Zone 2: The New Wharf Street and Front Street Area

- Parking structure (PD1) - 570 spaces x \$18,000/space = \$10.2 million (open parking structure, no mechanical ventilation or automatic sprinkler system)
- Linden Street surface lot (SP2) - 105 spaces x \$4,000/space = \$ 420,000
- Optional plan development of parking structure (PD9) with switching station below- 380 spaces x \$25,000/space= \$9.5M (does not include the switching station costs)

Zone 3: The Brewer’ Hill and Riverfront Park Area

- Riverfront parking Structure (PD2) - 525 spaces (3 level) x \$ 18,000/space = \$9.45 million
- Neuweiler Brewery parking structure (PD4) - 400 spaces (4 level) x \$ 18,000/space = \$7.2 million
- Ribbon Works surface parking (SP3) - 72 x \$4,500/space= \$324,000
- Optional plan- Neuweiler structure (PD7)- 580 spaces x \$ 18,000/space = \$10.5 million

Zone 4: The Riverside Drive Area

- Optional development plan
 - Parking Structure (PD8) - 600 spaces x \$16,000/space = \$9.6 million
 - Surface parking (SP13) - 85 spaces x \$4,500/space = \$383,000

Zone 5: The Riverside Overlook Area

- Allen Street parking structure (PD5) 560 spaces x \$18,000/space = \$10 million
- Allen Street surface parking (SP4) 165 spaces x \$4,000/space = \$660,000
- Optional development plan:
 - Parking structure (PD7) - 604 spaces x \$18,000/space = \$10.9 million
 - Surface lot (SP12) - 100 spaces x \$4,000/space = \$400,000

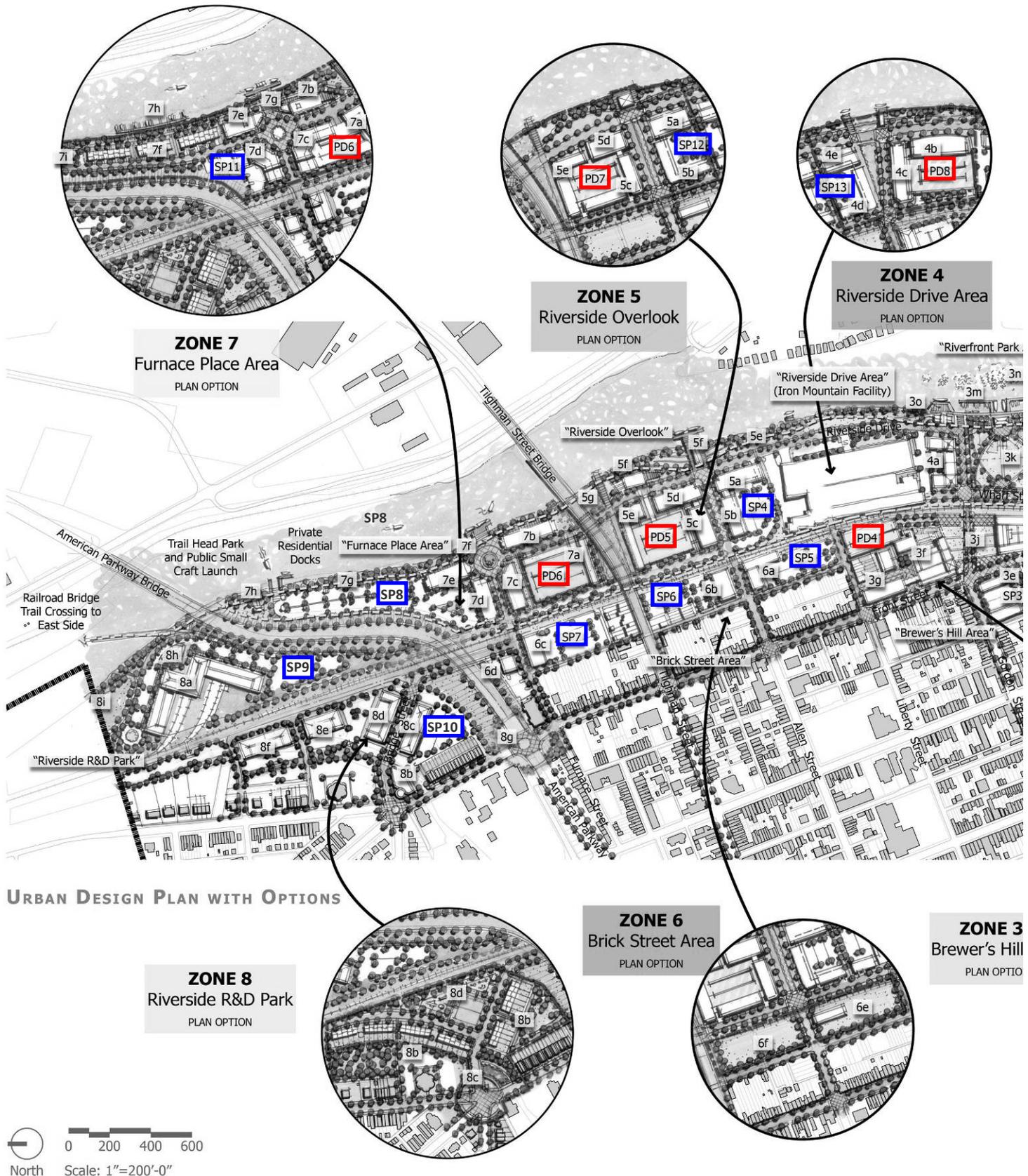


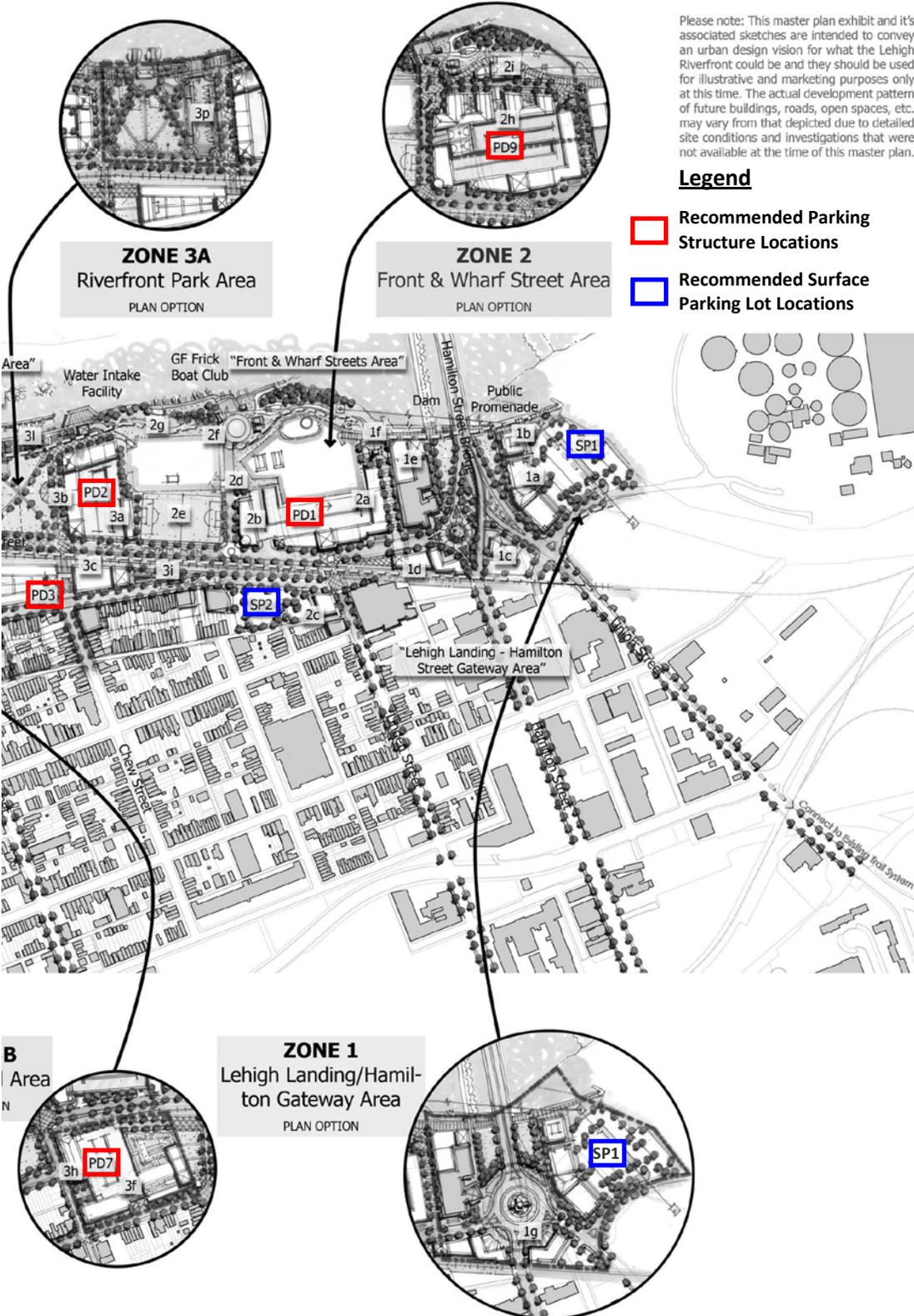
Exhibit 2-37: Lehigh Riverfront Master Plan Recommended Parking Location and Costs Reference Map

1 BASE MASTER PLAN WITH OPTIONS

Please note: This master plan exhibit and its associated sketches are intended to convey an urban design vision for what the Lehigh Riverfront could be and they should be used for illustrative and marketing purposes only at this time. The actual development pattern of future buildings, roads, open spaces, etc. may vary from that depicted due to detailed site conditions and investigations that were not available at the time of this master plan.

Legend

- Recommended Parking Structure Locations
- Recommended Surface Parking Lot Locations



Zone 1	Lehigh Landing/Hamilton Street Gateway Area
1a	Office / Technology Space
1b	Riverside Restaurant
1c	Gateway Restaurant/Commercial
1d	Loading Dock Building Restaurant / Retail / Mixed-Use Re-use and Expansion
1e	America On Wheels Museum Expansion Retail/Commercial/Children's Museum
1f	America On Wheels Pedestrian Mall/Access Drive, Arrival Court and Riverfront Promenade/Overlook
1g	Roundabout Entry Hamilton, Front and Wharf Streets
1h	Surface Parking - >210 Spaces
SP1	Surface Parking Lot - 100 Spaces
Zone 1 Optional Plan Elements	
1h	Full Size Hamilton and Wharf Street Roundabout Construction
Zone 2	Front Street & Wharf Street Area
2a	Retail, Entertainment / Commercial Uses Whopping Parking Deck
2b	Retail, Entertainment / Commercial Uses Whopping Parking Deck
2c	Linden Street Retail, Entertainment/Commercial Uses
2d	Relocated Outdoor Basketball Courts (Two)
2e	Multi-use Soccer/Football Field for Parks & Recreation Use and Middle School Use
2f	New Entry Drive and Gateway to GF Frick Boat Club
2g	Riverside Multi-use Trail and Linear Greenway Park Improvements
PD1	Parking Structure - 3 levels @ ±190 spaces per level
SP2	Linden Street Surface Parking Lot - 100 Spaces
Zone 2 Optional Plan Elements	
2h	Mixed-use Riverside Development 2 Stories Retail/Commercial/Office with 2 Stories Residential Apartment/Condo Loft Above
2i	Riverside Park Public Pavilion and Promenade/Trail Overlook
PD9	Parking Structure Expansion w/ Possible Switching Station Building Below- 2 levels @ 100 spaces per level
Zone 3	Brewers Hill and Riverfront Park
3a	Parks & Recreation Support Facility Building Equipment Storage
3b	Retail, Entertainment/Commercial Uses Whopping Parking Substation
3c	Atelier Site Redevelopment - Commercial/Office/Technology Use
3d	Atelier Building Re-use and Expansion
3e	Robson Works Lofts - Apartments
3f	Brewer's Alley - Newsevier Building Re-use of All Existing Buildings
3g	Brewer's Alley - Newsevier Bottling Building Re-use
3h	Front Street & Wharf Street Gateway Park and Urban Feature
3i	Brewers Hill Park and Major Millstone Memorial Plaza
3j	Expanded Back Bayle Riverfront Festival Park & Promenades (Spray Park/Playground, Festival Grounds)
3k	Upper and Lower Riverfront Promenades/Multi-use Trails, Reforestation, Street, Etc.
3m	Riverside Marina and Historic Canal Boat Docking Facility
3n	Riverside Floating Fountain Display
3o	New Expanded Lehigh University Boathouse and Sculling Dock
PD2	Parking Structure - 3 levels @ 175 spaces per level
PD3	Lower Level Parking Under Atelier Development
PD4	Newsevier Brewery Parking Structure - 3 to 4 levels @ ±100 spaces per level
SP3	Ridgmont's Surface Parking
Zone 3 Optional Plan Elements	
3h	Commercial/Mixed-use Building
3f	Brewer's Alley - Newsevier Building Re-use and Expansion (2-3 structures removed)
3i	Inland Wharf Inlet
PD7	Newsevier Brewery Parking Structure - 3 levels @ ±145 spaces per level
Zone 4	Riverside Drive (Iron Mountain Storage)
4a	Gordon Street & Riverside Dr. Retail/Commercial Office
4b	Riverside Multi-use Trail and Linear Greenway Park Improvements
4c	Riverside Reforestation and Habitat Creation
4d	New Riverside Drive and Streetscape Construction
4e	New Gas, Water, Storm Sewer and Sanitary Sewer Lines
Zone 4 Optional Plan Elements	
4b	Riverside Drive Commercial/Office Development
4c	Liberty Street Loft Apartments (South side of street)
4d	Liberty Street Loft Apartments (North side of street)
4e	Riverside Drive Commercial/Office Development
PD5	Parking Structure - 3 levels / 100 Spaces per level
SP13	Surface Parking - ±85 Spaces
Zone 5	"Riverside Overlook" (Allen Street & Riverside Drive)
5a	Riverside Drive Retail/Commercial Office
5b	South Side Allen Street Retail/ Commercial Office
5c	North Side Allen Street Retail/ Commercial Office
5d	Riverside Drive Retail/ Commercial Office
5e	Tilghman/Riverside Loft Apartments
5f	Riverside Restaurant/Commercial
PD6	Allen Street Parking Structure (North Side) - 4 levels / ±140 spaces per level
SP4	Allen Street Surface Parking (South Side) - ±185 spaces
Zone 5 Optional Plan Development Elements	
5a	Riverside Drive Retail/ Commercial Office
5b	South Side Allen Street Retail/ Commercial Office
5c	North Side Allen Street Retail/ Commercial Office
5d	Riverside Drive Retail/ Commercial Office
5e	Tilghman/Riverside Loft Apartments
PD6	Allen Street Parking Structure (North Side) - 4 levels @ ±152 spaces per level
SP12	Allen Street Surface Parking (South Side) - ±100 spaces
Zone 6	"Brick Street Area"
6a	Employment / Clean Industry/ Manufacturing Uses - Sussman Eros. Building Re-use
6b	Employment / Clean Industry/ Manufacturing Uses
6c	Employment / Clean Industry/ Manufacturing Uses
6d	Employment / Clean Industry/ Manufacturing Uses
6e	Surface Parking Lot ±120 Spaces
6f	Surface Parking Lot ±115 Spaces
6g	Surface Parking Lot ±140 Spaces
Zone 6 Optional Plan Development Elements	
6a	Community Park/Open Space / Re-use of Sussman Building for Railway Museum Building
6f	Community Park/Open Space / Railway Museum Display Yard
Zone 7	"Furnace Place" (Furnace Street & Riverside Drive)
7a	Tilghman/Riverside Loft Apartments
7b	Riverside Drive Retail/ Commercial/ Corporate Office
7c	Furnace Street (South Side) Retail/ Commercial/ Corporate Office
7d	Furnace Street (North Side) Retail/ Commercial/ Corporate Office
7e	Furnace Street Retail/ Commercial/ Corporate Office
7f	Riverside Drive/Furnace Street Roundabout and Public Landing
7g	Riverside Multi-use Trail and Linear Greenway Park Improvements
7h	Riverside Trail Head Park & Small Boat Launch
PD7	Furnace Street Parking Structure (South Side) - 3 levels @ ±164 spaces per level
SP5	Surface Parking Lot - ±200 Spaces
Zone 7 Optional Plan Elements	
7a	Tilghman/Riverside Loft Apartments
7b	Riverside Restaurant/Commercial
7c	Furnace Street Retail/ Commercial/ Corporate Office (South Side of Furnace Street)
7d	Furnace Street Retail/ Commercial/ Corporate Office (North Side of Furnace Street)
7e	Riverside Restaurant/Commercial
7f	Riverside Town Homes
7g	Riverside Drive/Furnace Street Roundabout and Public Landing
7h	Riverside Multi-use Trail and Linear Greenway Park Improvements
PD8	Furnace Street Parking Structure (South Side) - 3 levels @ 180 spaces per level
SP11	Surface Parking Lot - ±75 Spaces
Zone 8	Foundry Park Area (North of the American Parkway Bridge)
8a	Corporate Manufacturing Campus (With truck and rail service)
8b	Front Street Retail / Restaurant
8c	Employment / Clean Industry/ Manufacturing Uses
8d	Employment / Clean Industry/ Manufacturing Uses
8e	Employment / Clean Industry/ Manufacturing Uses
8f	Employment / Clean Industry/ Manufacturing Uses
8g	American Parkway and Front Street Gateway Enhancements
8h	Riverside Arrival Court
8i	North End Riverside Park and Trail
SP9	Shared Surface Parking for Manufacturing Site and North End Park Use
SP10	Employment/Clean Industry Use Surface Parking Lots - ±276 Spaces
Zone 8 Optional Plan Elements	
8b	Residential Townhome Development
8c	Front Street Gateway Entry Park
8d	Community Recreation Park - Children's Playgrounds and Court Sports with Passive Park Space

Zone 6: The Brick Street Live-Work Enclave

- SP5 surface parking lot - 125 spaces x \$4,000/space = \$500,000
- SP6 surface parking lot - 115 spaces x \$4,000/space = \$460,000
- SP7 surface parking lot - 140 spaces x \$4,000/space = \$560,000

Zone 7: The Furnace Place Area

- Furnace Street parking structure (PD6) - 656 spaces x \$18,000/space = \$11.8 million
- Surface parking lot (SP8) - 380 spaces x \$4,000/space = \$1.5 million
- Optional development plan:
 - Parking Structure (PD6) - 540 spaces x \$18,000/space = \$9.7 million
 - Surface parking lot (SP11) - 75 spaces x \$4,500/space = \$340,000

Zone 8: The Riverside R&D Park Area

- SP9 surface parking lot- 260 spaces x \$4,000/space = \$1 million
- SP10 surface lot- 276 spaces x \$4,000/space = \$1.1 million

QUALIFICATIONS/ASSUMPTIONS TO THE ORDER OF MAGNITUDE COSTS:

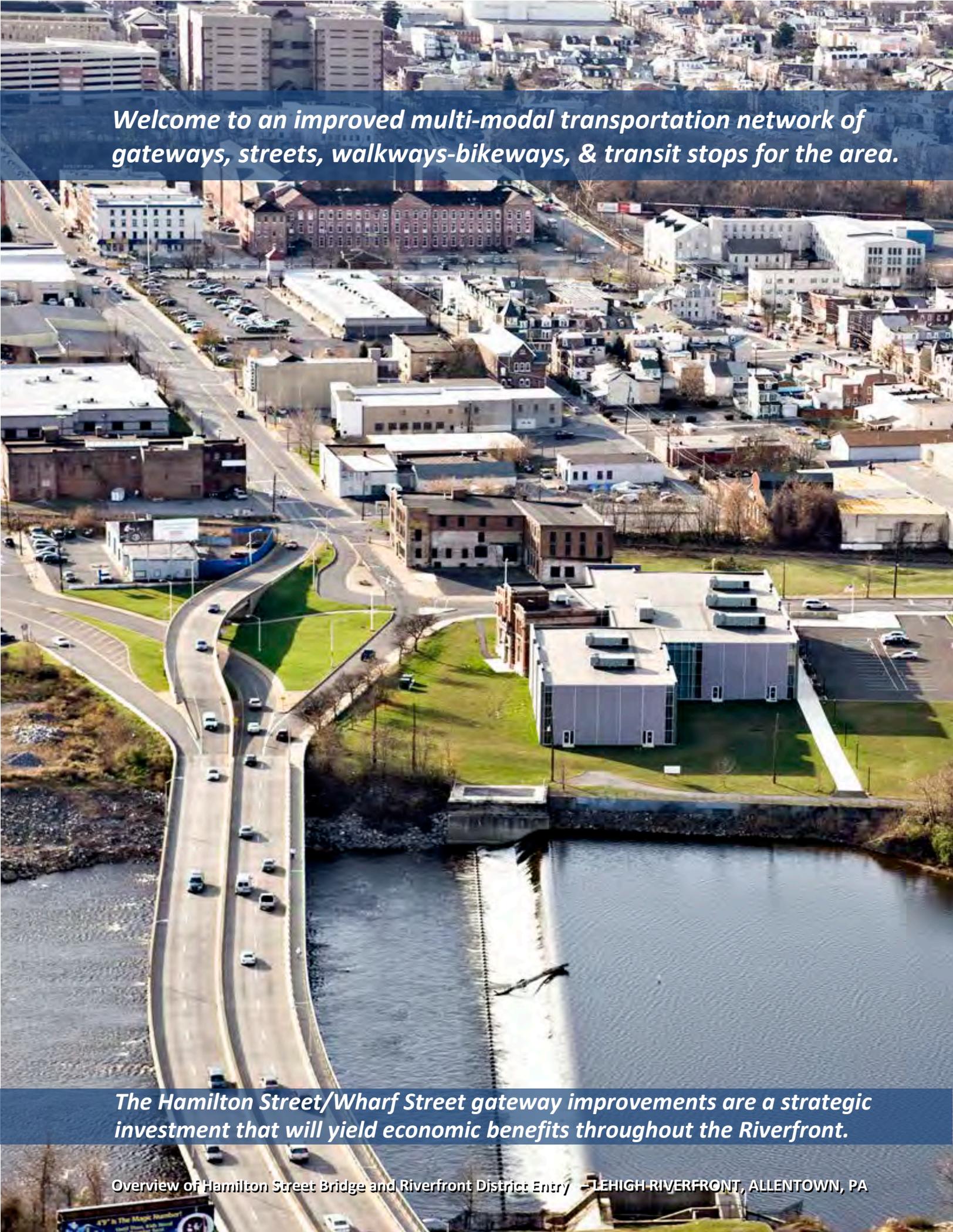
- For all of the parking structures noted above we are assuming that the efficiency is projected to be approximately 325- 330 SF/space. The efficiency is directly related to the overall costs.
- It is assumed that all proposed structures be above grade, not requiring enhanced durability design, exterior retaining walls or creating an enclosed structure per code.
- It is our understanding and approach that the parking structures will be “open” per code not requiring mechanical ventilation or automatic sprinkler system.
- It is assumed that a precast structural system will be utilized in all cases which is the most economical approach based on market conditions.
- It is assumed that the façade will have an architectural appearance similar to the adjacent building structures. We envision that the utilization of reveals and variation of sandblasts will articulate the façade. If brick is utilized then it shall be strategically placed at lower levels and at pedestrian points of egress.
- It is assumed that passive security measures be integrated such as maximizing openness, glass back elevators, lighting, etc.
- All structures incorporate sustainable design strategies with the exception of photovoltaic arrays on the tops of the structures. We highly recommend this strategy, but at this time it is not included in the pricing.
- It is assumed that the structures have one main stair/elevator tower and secondary stair for means of egress. For the structures adjacent to other uses there may be access on the supported levels into the adjacent building.
- The surface lot pricing includes the installation of new on grade parking lots with sub-base, asphalt overlay, striping, drainage, landscaping and lighting.



Welcome
to the
FIRST WARD



WEED & SEED

An aerial photograph showing a city street intersection. A multi-lane road curves from the top left towards the bottom center, crossing a river. A dam is visible in the river. The surrounding area is densely packed with buildings of various sizes and colors, including brick and concrete structures. The sky is clear and blue.

Welcome to an improved multi-modal transportation network of gateways, streets, walkways-bikeways, & transit stops for the area.

The Hamilton Street/Wharf Street gateway improvements are a strategic investment that will yield economic benefits throughout the Riverfront.

Overview of Hamilton Street Bridge and Riverfront District Entry — LEHIGH RIVERFRONT, ALLENTOWN, PA

2.5 TRANSPORTATION & TRAFFIC IMPROVEMENTS

2.5.1 EXISTING RIVERFRONT ACCESS AND CIRCULATION

The Master Plan will create a regional destination in Allentown as well as a new neighborhood that will provide better access to the Riverfront from surrounding residential neighborhoods. These neighborhoods were historically cut off from the river by large-scale industrial development that provided local jobs, but interrupted the grid of streets. While the jobs no longer exist, remnant industrial infrastructure and the rail line that serve it still act as a barrier between residents and the Riverfront. Currently most of the Riverfront is inaccessible. The grid of streets that serves the local neighborhood is disrupted at Front Street and Pump Place, which intersects with Front Street at Gordon Street, provides the only public access to the water.

2.5.1.1 REGIONAL ACCESS

The primary access to the Riverfront area today is provided by Hamilton Street and Tilghman Street both of which bridge across the Lehigh River, and by Front Street from both the North and South. Union Street, which is the primary access from the southwest, intersects with the Hamilton Street Bridge but does not provide direct access into the Riverfront area. A third bridge will start construction in 2012 that will extend American Parkway across the river and provide additional access from US 22 and the northeast.

2.5.1.2 ACCESS TO HISTORIC ALLENTOWN

There are five roads that cross Jordan Creek and provide access into the historic Allentown downtown – Tilghman, Gordon, Linden, Hamilton and Union Streets. While Tilghman, Hamilton and Union Streets continue across the Lehigh River, Gordon and Linden Streets terminate at Front Street. Linden Street is one way westbound.

2.5.1.3 EXISTING TRAFFIC CONDITIONS

An analysis of signalized intersections along Front Street indicated that all intersections perform at an acceptable level of service today with the exception of Front and Tilghman Streets. During morning and evening peak periods the overall level of service at this intersection is LOS E which is regarded as an unacceptable condition. In addition the southbound Front Street approach fails (LOS F) in both peak periods, and the eastbound Tilghman Street approach fails (LOS F) in the morning peak period. However, when it is constructed American Parkway will alleviate this condition since it will accommodate some of the traffic using the Tilghman Street Bridge today.

2.5.2 FUTURE RIVERFRONT TRAFFIC

There are two components to consider when determining the traffic impact of new development. Historically traffic has increased on an annual basis due to people's increased mobility even when no new development takes place. Thus this increase in 'background' traffic has to be considered along with the traffic generated by new development. Future traffic conditions have been calculated for 2021, ten years from the initiation of this study, which is standard practice for analyzing traffic impacts.

2.5.2.1 BACKGROUND TRAFFIC

The Pennsylvania Department of Transportation periodically conducts studies and publishes county-by-county growth rates in traffic that are applied to existing traffic when determining the traffic impact of future development. These growth rates take into account peoples' increased mobility and other miscellaneous new development occurring within the region that also generates new traffic. Extended out over a ten year period this background traffic often, as in the case of the Lehigh Riverfront Plan, generates a greater increase in trips than the development being considered.

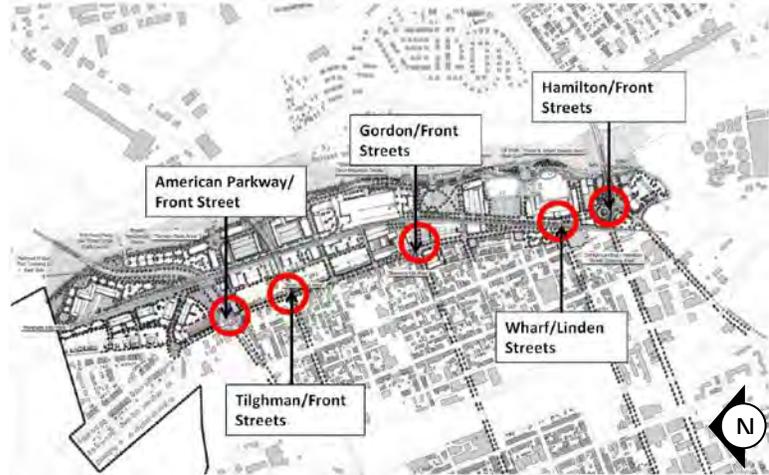


Exhibit 2-38: Major Intersections Serving the Lehigh Riverfront Area

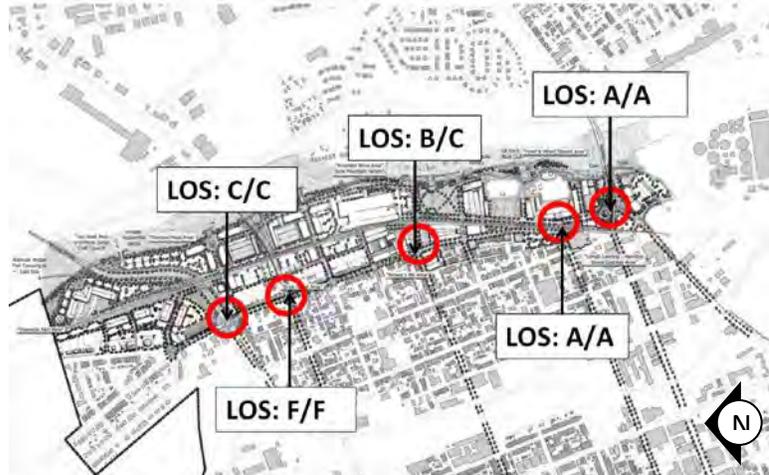


Exhibit 2-39: Existing 2021 Intersection Level of Service without Development

2.5.2.2 TRAFFIC GENERATED BY MASTER PLAN DEVELOPMENT

The Institute of Traffic Engineers (ITE) periodically published a Trip Generation Manual that provides the number of trips, on a daily basis, generated by different types of land use. These trips include all trips made including commuting trips, dropping kids at daycare, local errands, shopping, going out to eat, etc. Using this reference the total number of daily trips was generated for the Master Plan development proposal. The result is a total

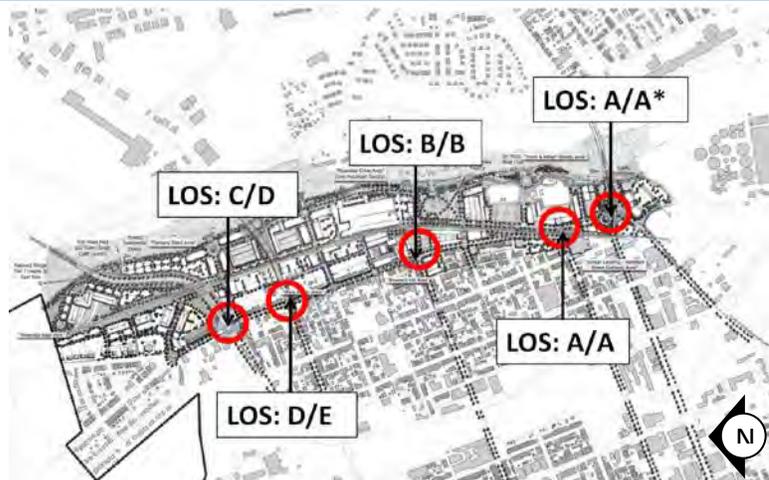


Exhibit 2-40: 2021 Intersection Level of Service with Master Plan Redevelopment

number of trips irrespective of mode – pedestrian, transit or vehicular. However, in a mixed use development of the type being recommended for the Lehigh Riverfront many of these trips are either eliminated entirely or taken by walking, biking or bus. The ITE Trip Generation methodology is based on free standing single-use suburban development in which virtually all trips are assumed to be vehicular trips, the ITE Manual addresses this issue in two ways, first by allowing reduction for ‘internal capture’, meaning those trips that will take place within the development, and secondly by allowing a modal split where transit service is available as an alternative to driving. The overall trips generated were reduced by factors within the ranges recommended by ITE to calculate a total number of vehicular trips created by the development.

2.5.3 FUTURE RIVERFRONT ACCESS AND CIRCULATION

The proposed development generally extends the existing street grid to the Lehigh River and provides additional north-south access parallel to the river on the proposed Wharf Street and Riverside Drive.

2.5.3.1 GATEWAYS

The major gateways providing access to and from the region will remain as they are today at Tilghman Street and Hamilton Street with the addition of a new gateway from the yet to be constructed American Parkway Bridge.

At the southern entry into the Lehigh Riverfront area there are two alternatives under consideration for the configuration of Hamilton and Front Streets, both of which would improve the sense of place at the southern entry into the development. Under the first scenario a mini-roundabout would replace the jug handle configuration that exists today but Union Street would still intersect with Hamilton at the Bridge with no access to Front Street. The mini-roundabout would make a better entry into the site for both pedestrians and vehicular traffic from Hamilton Street. However, access from Union Street would remain awkward, requiring a left turn from Union onto 2nd Street and over to Hamilton for access into the Lehigh Riverfront. New wayfinding signage at 2nd Street would at least allow people to take such a turn before finding they had overshot the development onto the Hamilton Street bridge. This, however, is a long detour for pedestrians. Though not many pedestrians are likely to be using Union Street unless additional development takes place along it in the future, access for pedestrians from Union Street to the Lehigh Riverfront will remain problematic with this alternative.

The second scenario recommends a larger roundabout that would entirely replace the Union, Hamilton, and Front Street intersection. This would require the demolition of the existing overpass ramps that merge Union and Hamilton Street traffic onto the bridge in a free-flow condition. A much larger roundabout would be required with two lanes around the circle in order to accommodate the number of left turn movements anticipated. Detailed analysis of this roundabout has not been carried out for this study as, to analyze this type of roundabout, would require more detailed engineering than has been undertaken to date. However, this roundabout would totally change the accessibility from the south both for vehicles and pedestrians and has the potential to create a great entrance into the Lehigh Riverfront.

On the northern end of the site access will be from both Tilghman Street and American Parkway onto Front Street. From Front Street traffic will have a number of choices for entry into the development and access to the river depending on the final destination. In order to accommodate the increased traffic due to the development some improvements will be required at both Tilghman and Front Streets, and

American Parkway and Front Streets. At Tilghman and Front the signal system would need to be replaced with a more sophisticated actuated system and some lane designations changed, but no additional lanes (for which there is no space without major impacts to surrounding properties) are required. The intersection will operate at an acceptable level of service (LOS C) for both the morning and evening peak periods. This improvement from the existing condition is possible because of the relief provided by the construction of American Parkway which provides an alternative route across the river. As designed the new American Parkway and Front Street intersection would operate at an acceptable level of service (LOS C). However, with the addition of traffic generated by the Lehigh Riverfront plan an additional improvement is required to maintain this level of service. A northbound receiving lane would be required on Front Street between American Parkway and Bridge Street to accommodate the increased traffic flow to the Riverfront. This approach would create two northbound lanes on Front between American Parkway and the farthest northern entrance into the Riverfront. This can be accommodated within the existing Right-of-Way where there is currently 32 feet between the east and west curbs that can accommodate three 10-foot lanes, allowing the sidewalks on either side to essentially remain as they are today. This would allow for free flow from the channelized westbound right turn lane on the bridge into the development via Front and Bridge Streets – Bridge Street being the major development entry route from the northern end of the proposed development.

All other minor signalized access points into the development area will also operate at an acceptable level of service, though signal timing plans may need to be updated to accommodate the traffic from the development.

Pump Place which intersects with Front Street at Gordon Street is an important mid-way access into the Lehigh Riverfront area especially for local residents. Today Gordon Street and Pump Place are slightly offset from one another and Pump Place is so close to the Neuweiler Brewery wall that there is no opportunity for a sidewalk on its north side. Traffic exiting Pump Place is blind to pedestrians on the eastern sidewalk along Front Street. While today there are few cars using Pump Place and few pedestrians at this intersection, the development will generate a significant increase in both pedestrian and vehicular traffic, making this current configuration unsafe. This intersection is intended to be redesigned so that adequate provisions are made for pedestrian traffic and sight lines are improved for motorists exiting onto Front Street.

2.5.3.2 THE CONCEPT OF COMPLETE STREETS

A major aim of the Lehigh Riverfront plan is to connect Allentown to its riverfront and create a new mixed use urban neighborhood with opportunities for outdoor activities and lively streets. The traffic generation is based on the assumption that many trips will take place within and through the development by pedestrians and bicyclists and that some trips outside the development will be made by transit. For these types of trips to materialize and the lively street character to exist the streets need to be designed with these alternative-mode trips in mind. ‘Complete Streets’ is the recently coined term for such streets which are similar to the existing streets in adjacent neighborhoods. Complete Streets

accommodate all modes: pedestrians, bicycles, transit vehicles as well as cars, trucks and emergency vehicles. They are designed so that traffic moves relatively slowly for the safety of other users and

Elements of Complete Streets:

- Continuous sidewalks
- Access to transit
- Curbside parking
- Streetscape amenities
- Active street frontages
- Bicycle facilities
- Safe street crossings
- Crosswalks
- Bump outs

typically accommodate on-street parking to separate pedestrians from moving vehicles. Sidewalks that comfortably accommodate the expected pedestrian traffic are essential and should be supplemented with outdoor seating areas. Cross walks are placed where pedestrian traffic is likely to cross the street and are made as short as possible by the use of sidewalks bump-outs. Bicycles can be accommodated in shared or exclusive lanes and transit stops have amenities such as shelters and benches to encourage transit use. Street trees and other landscaping are designed in to provide shade and reduce run off. All of the new streets planned within the development are intended to be complete streets. They will all function as two way streets with two travel lanes, bike lanes, on-street parking (where it can be accommodated) and generous sidewalks with enough space for trees and other amenities outside the active walkway. Secure bike racks and pedestrian scale lighting should also be provided.



Example of Complete Streets Envisioned for the Riverfront

2.5.3.3 STREET HIERARCHY

In Allentown, as elsewhere, all streets are classified according to a street classification system which includes: arterials, collectors and local streets. Arterials are streets that provide for regional travel from one area of the city to another, collector streets collect traffic from local streets and distribute it to the arterials. Today Tilghman, Hamilton, Union, Linden and Front Streets north of Tilghman Street are all classified as arterials. American Parkway, when it is built, will also be an arterial street. Front Street and Gordon Street are currently classified as collectors and the remaining immediate streets are all local streets.



Exhibit 2-41: Typical Local Street Diagram



Exhibit 2-42: Typical Collector Street Diagram

With the proposed development the existing street classifications would remain as they are today with the exception that Front Street south of Gordon would become a local street. Within the new development Wharf Street, Riverside Drive, Bridge Street and Pump Place would all be collector streets and the remaining streets would be local streets.

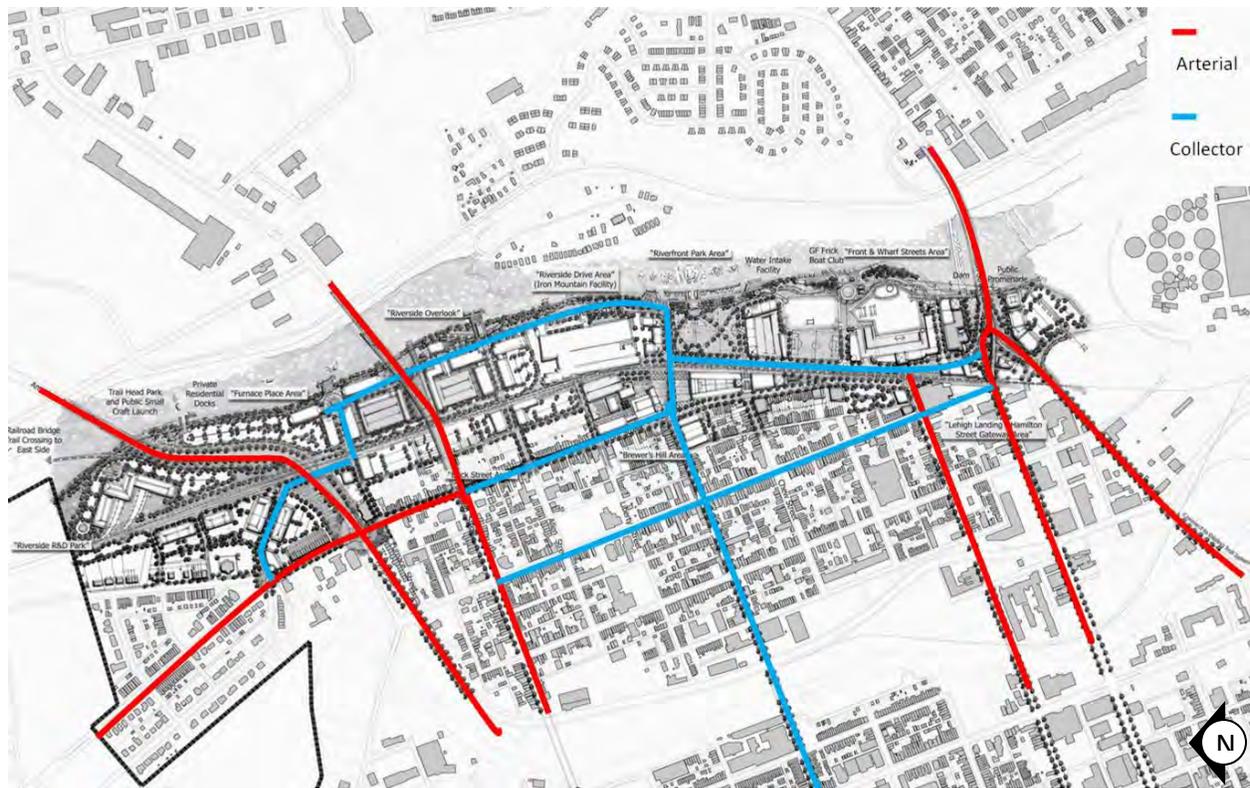


Exhibit 2-43: Proposed Street Hierarchy and Classifications

2.5.3.4 MAINTAINING THE INTEGRITY OF THE RAILROAD

The RJ Corman railroad operates an industrial siding that serves some remaining industries within the Riverfront area and extends several miles to the north of the site. This is a single track line operated at a slow speed with grade crossings at every through street. This study has assumed that the railroad will continue to operate for the foreseeable future. Currently there are four public street grade crossings within the study area at Hamilton, Linden, Front Streets and Pump Place, and two private crossings into the industrial parcels fronting on the river.

The Lehigh Riverfront plan does not change the overall number of crossings, but all crossings would become public street crossings with appropriate grade crossing protection. The existing skewed crossing on Front Street would be eliminated thus significantly improving overall safety.



The Riverfront Plan embraces the current RJ Corman Railway lines for potential service to future industry.



The plan suggests linking to a future East Bank trail between Canal Park and Kimmets Lock park to provide needed safe public access.



The railway on the East Bank of the Lehigh River continues to be the primary corridor for freight rail service in the area.

The Riverfront District has the potential to be well served by transit, with five LANta bus routes integrated into the Master Plan.

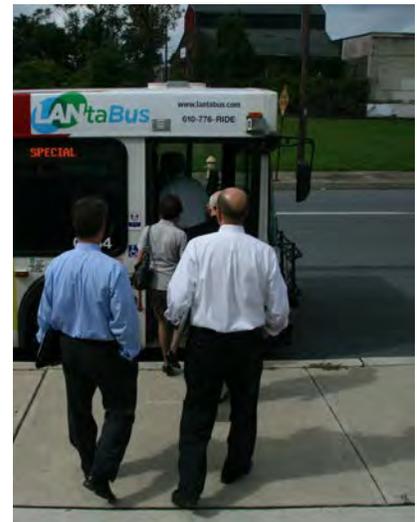


The Master Plan seeks to establish better transit service routes and suggests enhanced transit rider amenities for the neighborhoods and riverfront.

2.6 TRANSIT SYSTEM IMPROVEMENTS

2.6.1 EXISTING TRANSIT SERVICE

Existing local bus service for the Lehigh Valley is operated by LANTA, which operates 28 bus routes serving Allentown, Bethlehem and Easton as well as the surrounding suburban areas. Of these routes four currently operate in the vicinity of the proposed Lehigh Riverfront development. All of these four routes operate through the Allentown Transportation Center in downtown Allentown and serve many major destinations within the region including: downtown Bethlehem and Easton, Cedar Crest, the Lehigh Valley Mall, South Mall and the Lehigh Valley Airport as well as other medical and office/retail destinations. These routes use Gordon Street, Tilghman Street, Hamilton Street and Front Street, north of Gordon Street, and generally operate with 30 to 60 minute headways through the study area. Only certain routes offer service into the later evening hours and service is limited on weekends. There is no existing local bus service on Front Street between Gordon and Hamilton Streets. Door-to-door demand responsive service is offered to persons with disabilities, but this service must be ordered in advance.



In addition to Lana’s local buses, a private company, Trans-Bridge Lines, operates long distance coach service from the Allentown Bus Terminal on Hamilton Street through the study area to the Port Authority Bus Terminal in New York City. These routes also serve Newark and JFK Airports.

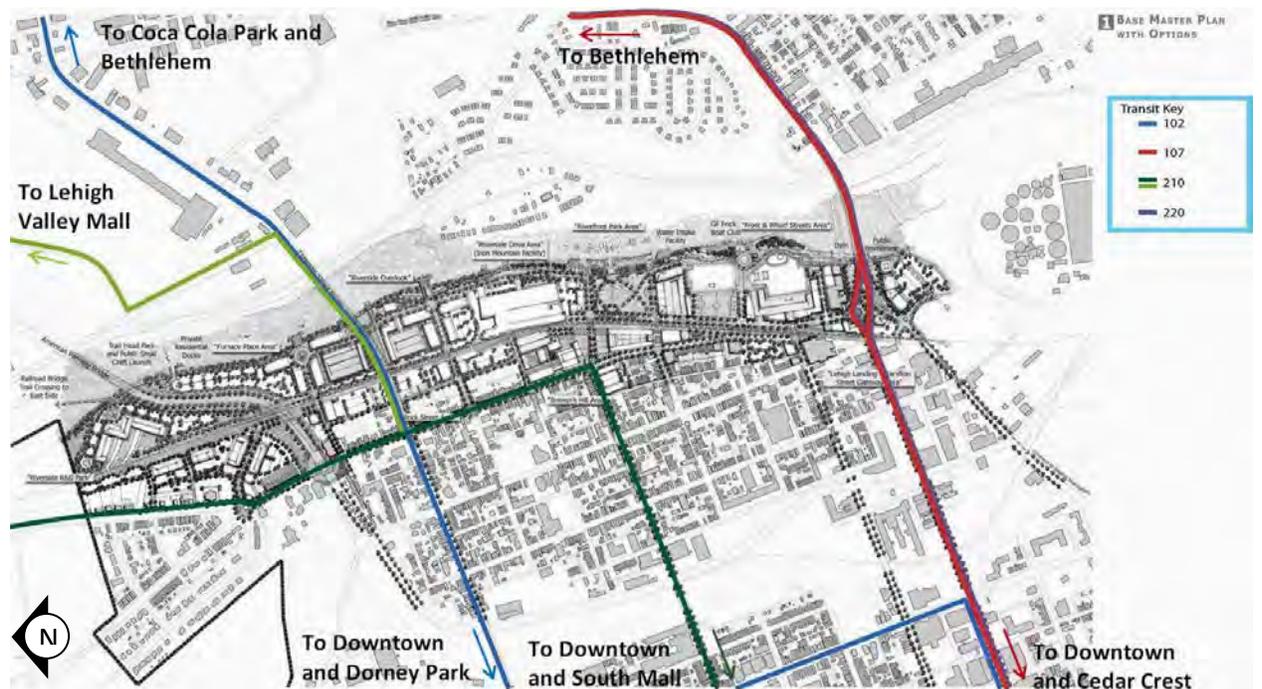


Exhibit 2-44: Existing Transit Service Map

2.6.2 PROPOSED TRANSIT SERVICE IMPROVEMENTS

Good public transit is one of the important elements necessary to creating a thriving and lively mixed use neighborhood with vibrant sidewalks and outdoor spaces, where reliance on the automobile is diminished and alternative transportation is used for many local and some regional trips. Without providing good transportation choices cars will emerge as the predominant means of mobility, clogging local streets and reducing the quality of environment for walkers and cyclists and other outdoor activities.

2.6.2.1 TRANSIT SERVICE

In order to provide better access to transit service in the Lehigh Riverfront area two of the existing bus routes will be realigned so they pass through the new development utilizing Wharf Street, Pump Place and Riverside Drive. Making these relatively minor alignment changes will not significantly impact LANTA’s overall operation but will provide significantly improved access to transit stops along the Riverfront. As the development takes place over time both frequency and evening/weekend service should be re-evaluated to increase service as demand warrants.



“The plan seeks to establish better transit service routes and suggests enhanced transit rider amenities for the neighborhoods and riverfront.”

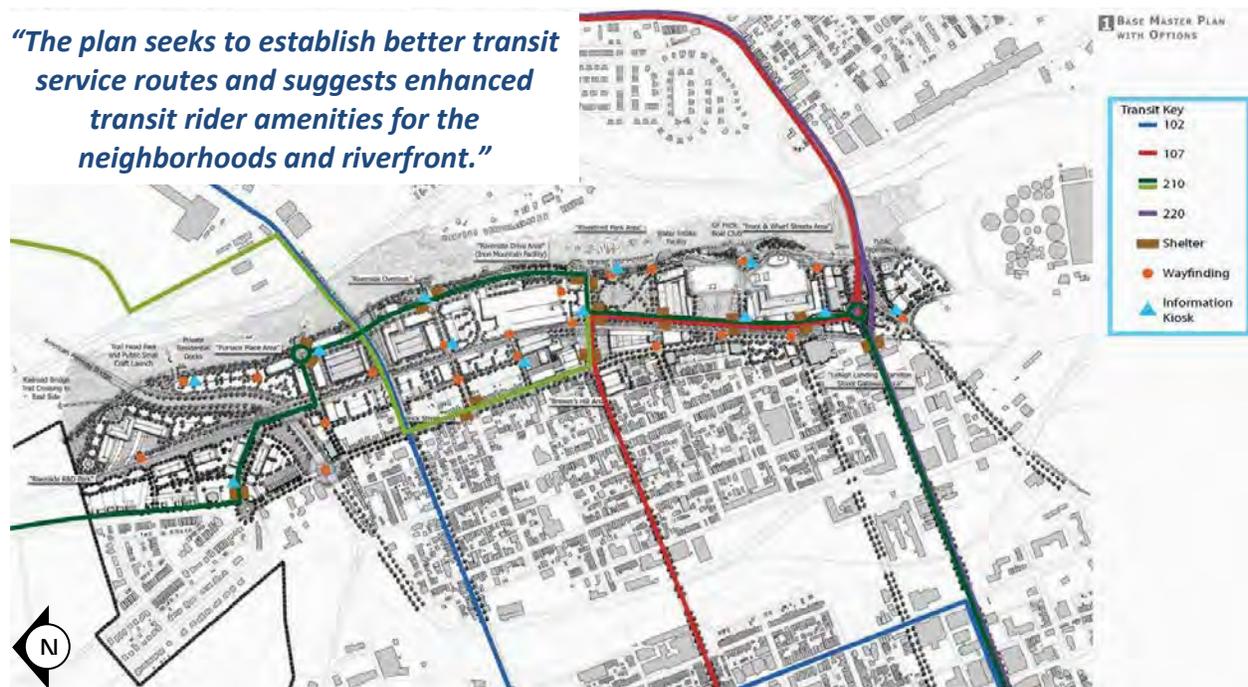


Exhibit 2-45: Recommended Transit Service Routes and Amenities Map

2.6.2.2 TRANSIT AMENITIES

Transit ridership relates not only to the service provided and the destinations served, though these are essential elements of any system. To encourage ridership the needs and comfort of the passenger must be considered from trip end to trip end, not just the portion of the trip that takes place on the bus.

Every transit rider is a pedestrian before and after boarding the vehicle, so the type of enhanced pedestrian environment envisaged as part of this plan is critical to attracting transit riders. The waiting environment is also important and shelters with seating should be provided at all transit stops within the development. In addition signage and information are also critical. Many people never try public transportation because they don't know whether there is a route that will serve them, how frequently it might run or where they might be able to board or alight from the bus. All bus stops will be prominently signed and will have complete route and timetable information displayed as well as a route map that shows potential transfer opportunities. Electronic signs, informing passengers in real time when the next bus will arrive, have proved very popular with the public and should be provided when LANTA institutes this system-wide. Wayfinding signage is also important to direct passengers to their desired destinations when they alight from a bus.



Enhanced Transit Rider Amenities: Great Pedestrian Environments, Attractive Bus Shelters & Information Kiosks

The combination of well designed streets, reasonable service frequency and coverage and appropriate amenities should ensure a number of visitors and residents will chose to use public transit to access the Lehigh Riverfront development.

The environmental, stormwater and marine systems located within and along the River District need to be carefully managed as assets.



Stormwater is a natural resource that needs to be managed to minimize our environmental impact and reduce energy needs in the Riverfront District.

Stormwater Bio-filtration Park - WATER POLLUTION CONTROL LABORATORY, PORTLAND, OR

2.7 ENVIRONMENTAL & INFRASTRUCTURE IMPROVEMENTS

2.7.1 ENVIRONMENTAL & INFRASTRUCTURE EXISTING CONDITIONS

In reviewing the existing environmental conditions along the Lehigh Riverfront a number of constraints and opportunities presented themselves:

- Accessibility to the river,
- The river edge conditions and treatments,
- Stormwater Best Management Practices, and
- Existing utilities.

The Dam located adjacent to the Hamilton Street Bridge creates a unique “lake like” effect for approximately one mile upstream. This condition does not exist at any other location along the Lehigh River. Historically, this section of the Lehigh was accessible to the general public. At the Riverfront public meetings a number of longtime Allentown residents expressed their fond memories of playing in the Lehigh River as a child. Their accounts included festivals, boating, and access to Kimmitt’s Lock, Adam’s Island and Eve’s Island. Many expressed a strong desire to reconnect with the Riverfront. Unfortunately, over the years access to the Lehigh River has been severely restricted, in location as well as to the public. Currently, private access can be obtained on the West Bank at the G. H. Frick Boat Club and at the Bucky Boyle Park for the Lehigh University rowing team only. Public access for personal watercraft is only permitted at Kimmitt’s Lock inlet on the East Bank of the Lehigh River. The majority of the Riverfront is inaccessible due to fencing, private property issues, vegetation and blockades. There is an opportunity for expanded riverfront marine access and landside support buildings for resident and transient boating patrons.



The Lehigh River edge has a variety of conditions and treatments along the Riverfront’s frontage. The Lehigh River’s edge has three distinctly different characteristics along the Riverfront; a formal hard edge, an informal hard edge and a soft naturalistic edge. The River’s edge will be discussed from the Hamilton Street Bridge north to just beyond the proposed American Parkway Bridge.

- Riverbank Segment 1 is downstream of the Hamilton Street Dam and is best described as an informal hard edge. Its features are characterized by a narrow rip-rap lined bank that is set significantly below the grade of the adjacent land. The floodway and 100 year floodplain is tight to the riverbank. The 500 year floodplain extends past the America on Wheels Museum and well beyond the limits of the study area as a result of the influence of the Jordan Creek. Public access to this area is obstructed by terrain. The access to this area could be opened up to the public. The Hamilton Street Dam is a unique feature and draw for visitors. The existing



railing along the rear of the America on Wheels Museum may need to be expanded along the dam’s structure to minimize the potential of an individual falling into the river.

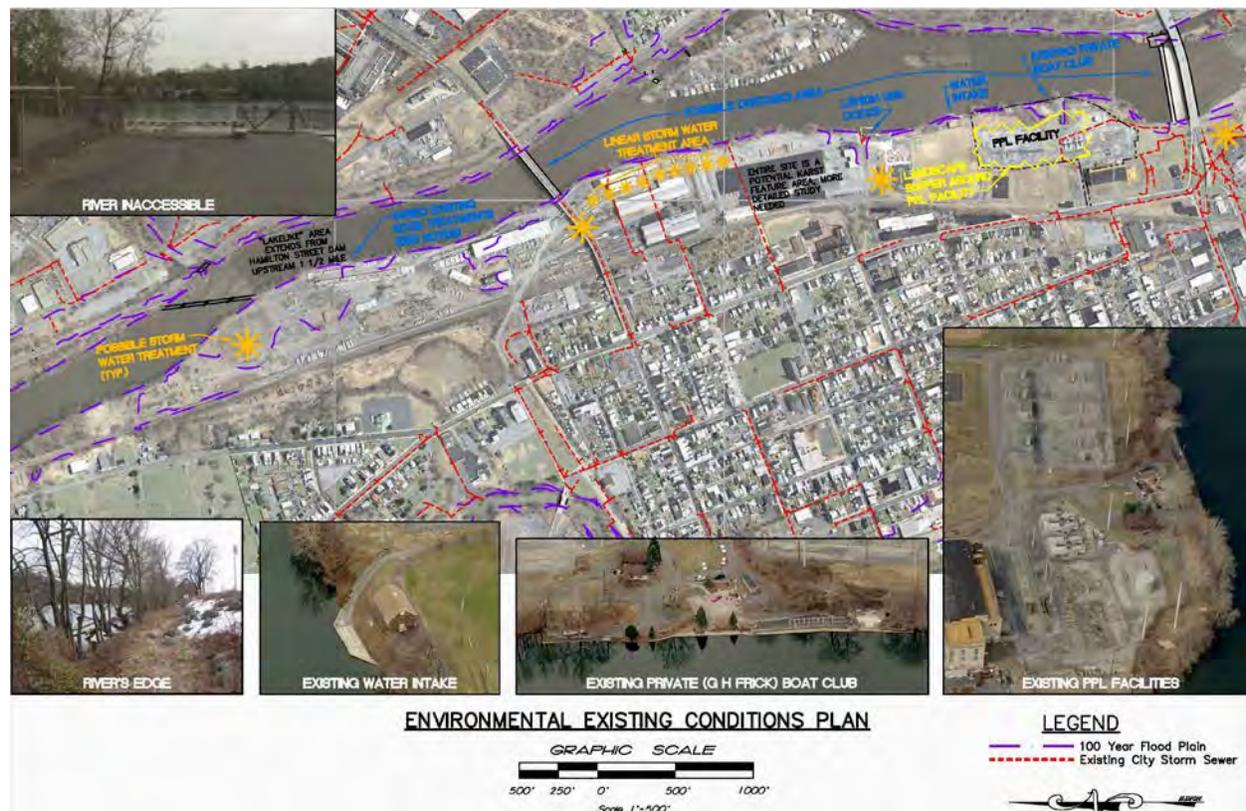


Exhibit 2-46: Existing Riverfront Edge Conditions

- Riverbank Segment 2 is located immediately upstream of the Hamilton Street Dam to the G.F. Frick Boat Club. It is best described as an informal hard edge. Its features are characterized by a narrow rip-rap lined bank that is set slightly below the grade of the adjacent land. The floodway is tight to the riverbank. The 100-year floodplain boundary generally corresponds to the top of the river bank, except for a few access points along the river, where the floodplain can extend to approximately 100 feet inland. The 500-year floodplain extends past the America on Wheels Museum and well beyond the limits of the study area as a result of the influence of the Jordan Creek. Public access to this area is obstructed by terrain. Access to this area could be opened up to the public.
- Riverbank Segment 3 is located behind the PPL property. It is best described as a soft naturalistic edge. Its features are characterized by narrow vegetation lined bank that is set slightly below the grade of the adjacent land. The floodway and 100-year floodplain are tight to the riverbank. The 500-year floodplain extends past North Front Street and just beyond the rail road tracks. Public access to this area is obstructed by PPL. The access to this area could be opened up to the public, but would be narrow, in the form of a walkway.
- Riverbank Segment 4 is located behind the PPL property and is utilized by Frick Boat Club. It is best described as a formal hard edge. Its features are characterized by a moderately wide developed portion of land utilized as a staging area and boat dock. It is set slightly below the grade of the



adjacent land. The floodway is tight to the riverbank. The 100-year floodplain extends inland approximately 200 feet. The 500-year floodplain extends to North Front Street. Approximately 100 years ago this area was an inlet. Public access is restricted by gates for the boat club. This area could be opened up to the public.

- Riverbank Segment 5 is located behind the PPL property and abuts Bucky Boyle Park. It is best described as a soft naturalistic edge. Its features are characteristics by narrow vegetation lined bank that is set slightly below the grade of the adjacent land. The floodway and 100-year floodplain are tight to the riverbank. The 500-year floodplain extends to the rail road tracks. Public access in limited by the vegetation. This area could be opened up to the public.
- Riverbank Segment 6 is located behind Bucky Boyle Park. It is best described as a formal hard edge. Its features are characterized by a dock than extends into the River. It is set nearly at grade with the adjacent land. This segment is located across from a small uninhabited island. The floodway and 100-year floodplain are tight to the riverbank. The 500-year floodplain extends to the rail road tracks. Public access is available over an unpaved access road.
- Riverbank Segment 7 – This segment is located behind Bucky Boyle Park. It is best described as a soft naturalistic edge. Its features are characteristics by narrow vegetation lined bank that is set slightly below the grade of the adjacent land. The floodway and 100-year floodplain are tight to the riverbank. The 500-year floodplain extends to the rail road tracks. Public access in limited by the vegetation. This area could be opened up to the public.
- Riverbank Segment 8 – This segment is located behind Bucky Boyle Park and ends at Pump Place Road. It is best described as a formal hard edge. Its features are characterized by a dock than extends into the River. It is set nearly at grade with the adjacent land. A public pavilion and the Lehigh University Rowing club building are located here. The floodway is tight to the riverbank. The 100-year floodplain extends approximately 300 feet inland, particularly along Pump Place Road. Public access was once available here. It is now restricted by fencing.
- Riverbank Segment 9 – This segment is located behind the old Lehigh Structural Steel industrial use properties. It is best described as a soft naturalistic edge. Its features are characteristics by narrow vegetation lined bank that is set below the grade of the adjacent land. The floodway and 100yr floodplain are tight to the riverbank. The 100-year floodplain does extend approximately 450 feet inland near Furnace Street. The 500-year floodplain extends to the railroad tracks. Public access in limited by the vegetation the adjacent industrial uses and the sharp grade change at the water’s edge. This area could be opened up for public viewing. Water access is limited by the sharp grade change.



Currently, the stormwater runoff from the Riverfront area and the upstream watershed is collected by the road network, introduced into an underground stormwater piping system and then discharged directly into the Lehigh River. There are a number of existing water quality structures (sumped inlets with snouts) in the America on Wheels Museum parking lots; however the majority of the Riverfront is deficient in stormwater rate, quality or quantity controls. Historically speaking, stormwater has generally been treated as a nuisance that must be conveyed as quickly as possible to the River. The

Riverfront area lands have been heavily used and are compacted to the point where infiltration is not possible without extensive and cost prohibitive measures. Due to the intensive historic land use and proximity to the Lehigh River, stormwater retention, rate and infiltration measures will most likely not be required by DEP. Water quality measures will be required. There are several methods available to accomplish this goal. The River’s edge could be enhanced with vegetation to provide a natural filter or riparian buffer. Water quality features such as rain gardens, on a variety of scales, could be installed at several locations:

- Around the bases of the Tilghman Street Bridge;
- North of the proposed American Parkway Bridge to build upon/complement the proposed new collection system to be placed along the north side of the American Parkway extension,
- In the area of Pump Place street and Bucky Boyle Park; and
- In the area immediately south of the Hamilton Street Bridge and north of the proposed Waste to Energy Plant.

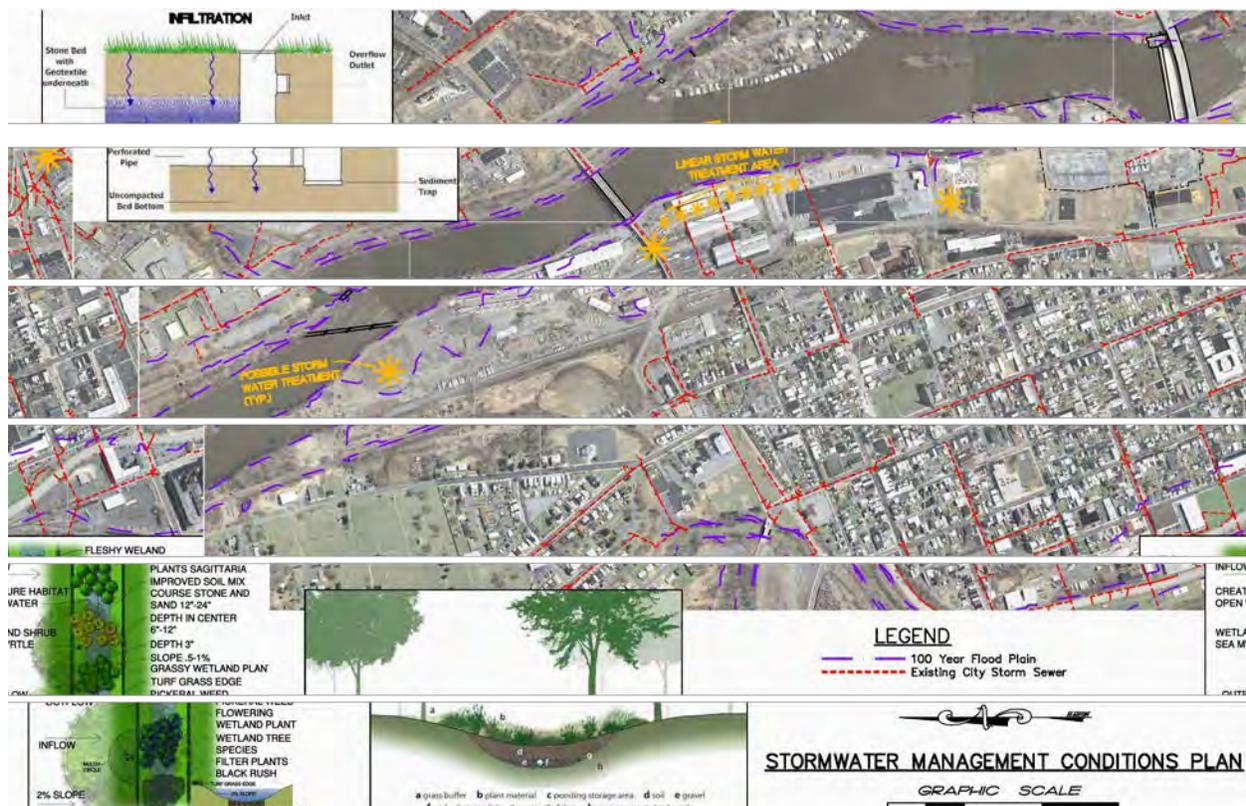


Exhibit 2-47: Conceptual Stormwater Management Improvement Plan

Stormwater design has come a long way and today we realize the stormwater is a natural resource that needs to be managed to minimize our environmental impact and reduce energy needs. A variety of modern Stormwater Best Management Practices could be utilized to meet water quality standards, particularly in areas where the Riverfront is not assessable. Additionally, opportunities for habitat creation within the river and along its edges should be explored. Wildlife habitat is limited along this section of the Lehigh River. Reversing the ratio of man-made hardscape to natural areas is crucial. This approach will benefit the aquatic habitat and maximize this resource.

The Riverfront area has been utilized by industry over the years and is still populated with a variety of businesses and therefore, adequate supplies of utilities are available. Additionally, the Riverfront is located within ½ mile of the Allentown wastewater treatment facility. The existing types of utilities

include: stormwater, sanitary sewer, potable water, electric, and fuel storage tanks associated with the PPL peak use back-up generators.

Stormwater – Is currently concentrated and needs to be dispersed to effectively provide quality enhancements. Rate and infiltration are not applicable to the study area because of the historic land use and proximity to the River. Design and install natural systems that will comply with NPDES regulations and treat water without the need for intense maintenance. Public access will need to be limited to visual. This utility is discussed in further detail in the Environmental Section.

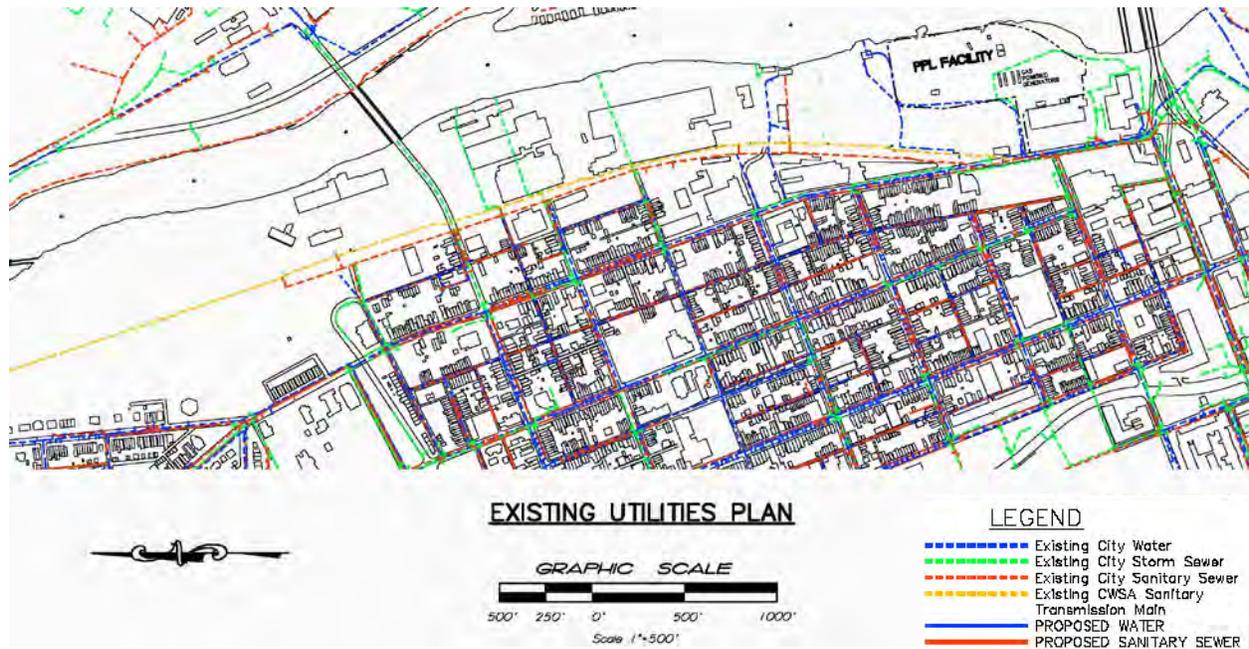


Exhibit 2-48: Existing Utility Conditions Plan

Sanitary Sewer – Currently the study area has adequate capacity to provide for the future needs within the study area. The existing Coply Whitehall Sewer Authority interceptor line runs adjacent and parallel to the railroad lines. This line cannot be moved without considerable expense. The Allentown Wastewater Treatment Plant is located approximately a half mile downstream of the Hamilton Street Bridge and has capacity to treat effluent from within the study area; however, impacts on the downstream trunk sewer system will need to be studied to address anticipated increases in flows. Elevation should not be a detrimental factor in the development of the study area.

Potable Water – Currently the City has a water intake located within the River, near the Boat Club area. The reuse of two existing freshwater wells located beneath the former Neuweiler Brewery site to enhance the City's water supply remains questionable and will require further in depth studies of water supply and quality. The existing public waterlines may also need to be enlarged and replaced due to the age of the materials. This may also spark the requirement for the Neuweiler Brewery complex to connect to the public water distribution system.



Electric – The existing PPL facilities located within the study area cannot be relocated without considerable time and expense. It is most likely that the study area will need to be developed in concert with the PPL facilities. These facilities provide a negative visual experience. Creative visual buffers and screens will minimize the impact. The proposed adjacent uses will need to be compatible with this type of land use.

Gas - UGI Corporation currently has existing natural gas pressure lines in the Riverfront area. Many of the lines in the area are cast iron and over 70 years old. It should be noted that there is no known evidence of corroded pipes in the Riverfront area. However, as they age cast iron pipes are subject to corrosion. The PUC has recommended that UGI improve monitoring of gas odorant levels throughout its distribution system; conduct continuing surveillance and protect or replace pipe when it has a leakage history, corrosion, evidence of unstable soil or is subject to vibrations from heavy vehicles such as trucks and buses; and launch a pipeline replacement program that will replace all cast-iron pipe within 10 years, and bare steel pipe within 13 years. UGI Corporation has spent \$295 million since 1995 to replace infrastructure and has accelerated cast-iron pipeline replacement with a goal of replacing all the old pipes within 20 years.

Working from south to north, there is an existing 12" low pressure natural gas line (hanging underneath) on the Hamilton Street Bridge. UGI is considering replacing this line with a new low pressure steel line within the bed of the Lehigh River Bed located immediately south of the Hamilton Street Bridge. The City should review any UGI plans, upon submission to the Pennsylvania Public Utility Commission, to determine if and how the crossing will impact the Riverfront area.

Within Front Street UGI has two existing natural gas lines, a 6" medium pressure and a 4" low pressure lines. UGI has stated that there is adequate capacity within these lines to service the Riverfront area.

Fuel Generators – The existing PPL fuel powered Combustion Turbine Generation (CTG) facility provides additional electricity during periods of high demand. It may be prudent to provide noise mitigation measures to minimize their impact. The possibility of limiting or restricting the time and length of the power generation should be explored.

2.7.2 ENVIRONMENT, STORMWATER & MARINE SYSTEM RECOMMENDATIONS

Throughout the course of the Riverfront planning process it became evident and was determined that the environmental, stormwater and marine systems located within and along the Riverfront needed to be managed as assets. The Riverfront area contains many unique characteristics that should be managed as a positive feature. The following recommendations are divided into three distinct areas: environmental, stormwater and marine systems.

The environmental systems associated with the Riverfront can be summarized as utilities and infrastructure. To best manage this system the following recommendations are suggested.

The on-site PPL facilities, including the fuel powered peak use Combustion Turbine Generation (CTG) facility, cannot be relocated due to the considerable financial cost. Based upon current conditions our recommendation is to employ screening and buffering with uses, density and vegetation. By placing buildings and ballfields adjacent you will in effect buffer more intensive public space uses. Vegetative landscaping is best suited along the river walkway.

A significant cost savings can be realized by minimizing underground utilities, minimizing rail crossings, by placing utilities in adjacent trenches, and by providing for future growth with sufficient rights-of-way and forward thinking when sizing lines. The following general methodologies can reduce utility costs.

- Use current available technology to the greatest extent possible.
- Explore underground crossings such as boring, jacking, directional drilling, or similar means.
- Host meetings with utility companies to discuss future project development.
- Provide utility companies with long-range schedules.
- Reduce conflict with Utilities Companies which occurs after Design is complete by involving utility companies in the detailed design phase.
- Use corridor protection techniques to reduce costs of future rights of way.
- A multi-disciplinary team, including Right of Way and Utilities, should review plans at key completion milestones during the final design process in order to timely assess and resolve any developing problems.
- Encourage frequent coordination and communication with the rail company to reduce delivery time, reduce costs, and improve quality in the utilities process.
- Cost effective advance planning is essential to utility companies since they must now compete under deregulation.
- Take the lead in developing and supporting utility coordinating committees.
- Provide back feeding laterals to minimize the need for utilities along Riverfront Drive.
- Sewer flows cannot be connected to the CWSA transmission main that runs parallel to the RJ Corman rail line.

Permitting is a significant cost associated with possible long lead times. It is recognized that Sewer planning modules, DBRC approval, PennDOT HOPs and Rail approvals will most likely be the critical path items and therefore should include pre-application meetings, sketch designs, multidisciplinary teams, and regular follow up with the appropriate agencies. The existing water intake should be protected to minimize potential impacts from a more intensive use of the site and river.

The stormwater management systems associated with this Plan will take on a variety of forms. The current method of concentrating stormwater needs to be reversed and stormwater should be dispersed to effectively provide quality enhancements. Rate and infiltration are not applicable to the study area because of the historic land use and proximity to the River. Design and install natural systems that treat water without the need for intense maintenance. Public access will need to be limited to visual. Vegetation is by far the most common, economical, easily maintained, and visually stimulating option. Appropriate vegetation can be placed along the river's edge, within parking areas, along walks and in most other softscape areas. Plants naturally filter stormwater and require minimal maintenance. Vegetation can also provide habitat for aquatic and land animals that lead to a diverse and connected ecosystem where all thrive. By selecting appropriate plant species sensual experiences can be enhanced. Different colors each season, smells and textures provide a rich experience. Vegetation along the river edge also can provide erosion resistance. These vegetative biofilters can be placed in many locations and be of almost any size with certain minimums that need to be respected. Fortunately, the Lehigh River is not a high quality or exceptional value waterway per DEP classifications. Therefore, a general, rather than an individual NPDES permit will be required for the site development. The general permit can be obtained for the entire project site and modified as the development components get implemented. A Pennsylvania Natural Diversity Inventory search will need to be conducted. This PNDI will identify any possible sensitive plant and animal species impacts. Due to the historic and current use of the lands it is not anticipated that extensive mitigation efforts would be needed. The Riverfront is located within Lehigh County and therefore, an erosion and sedimentation pollution control permit will need to be obtained from the County Conservation District. Per DEP Chapter 93 the Lehigh River (from

the dam upstream) is classified as TSF Trout Stocking—Maintenance of stocked trout from February 15 to July 31 and maintenance and propagation of fish species and additional flora and fauna which are indigenous to a warm water habitat. And MF Migratory Fishes—Passage, maintenance and propagation of anadromous and catadromous fishes and other fishes which move to or from flowing waters to complete their life cycle in other waters. No riparian buffer requirements are associated. Due to the trout stocking development activities may need to be timed as to not impact the trout. Measures can be enacted to significantly minimize this potential impact and must be individually approved by the Lehigh County Conservation District (LCCD) and the Department of Environmental Protection (DEP).

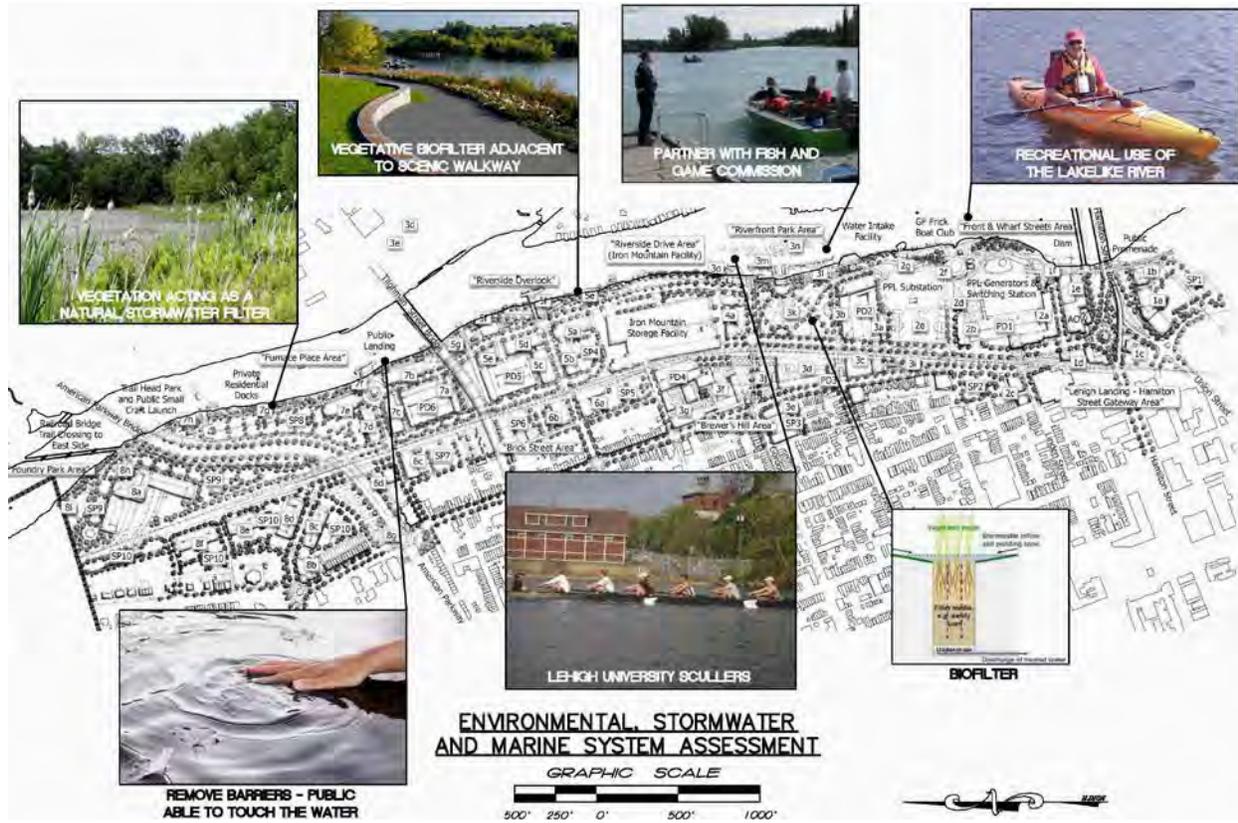


Exhibit 2-49: Environmental, Stormwater and Marine System Assessment

The marine systems associated with the Riverfront are regulated through a Joint Permit (ACOE & DEP), which also encompasses wetlands impacts, PHMC and Fish & Boat Commission. As the water’s edge is proposed to be impacted a Joint Permit will need to be applied for. Regulation of the waterway use falls under the auspices of the PA Fish and Boat Commission. Therefore, it is recommended that they be included in detailed development discussions. By including this agency early they can better oversee the use of the lake like river and help maintain a condition favorable to all. Additionally, the existing G H Frick Boat Club and the Lehigh University Sculling team should be included in the discussions so that the needs of all are incorporated while the public is introduced at a much greater presence.

A federal FEMA approval will be necessary for impacts to the floodplain, floodway and alterations to the existing dam. It should be noted that previous attempts to dredge this section of the River have been very short term fixes that did not last a year. A possible means to minimize the siltation caused by the dam is to replace it with a different type of dam. This new dam would need to provide a bottom discharge as opposed to the current top discharge point. A dam replacement would involve a major initial investment but would be a good long term means to minimize siltation. A FEMA Letter of map

revision will be required for portions of the Riverfront located within the Floodway Zone AE and Floodplain Zone D. This typically requires an 8 to 12 months lead time.

The PPL property had historically been an inlet. New inlets could be added with as shown in the options with certain design parameters:

- The inlet should be angled downstream to minimize siltation from upstream flow.
- Reefs should be installed to deflect river flow from the opening of the inlet. This countermeasure provides a more placid inlet and protects the inlet from seasonal variations.
- Stormwater collected upstream of the Riverfront could be strategically placed and utilized to assist in the flushing of sediment that may be deposited by the general river flow.
- Provide for easily removed features to account for annual seasonal freezing of the river and protect the investment in the inlet amenities.

Lehigh River Flood Protection Project (FPP) - The Francis E. Walter Reservoir, along with local flood protection projects at Allentown, and Bethlehem, were authorized in House Document No. 587, 79th Congress, 2nd Session for Lehigh River flood control protection.

Effective, safe and efficient operation of the Lehigh River FPP is vital to maximizing the project's performance and to minimizing potential damage during a high water event. Efficient operation, combined with monitoring and maintenance, ensures that the level of protection to your community is maintained. Addressing project needs through effective monitoring and operations planning will enhance flood protection benefits. Projects kept in a state of readiness will be able to perform properly, when needed, and provide flood protection well beyond the designed service life, an important priority for Allentown. Because of this grant, The City has obtained grants to help fulfill its responsibility to maintain the Lehigh River FPP.

The Lehigh River is impounded at three locations, Hamilton Street (dam height: 13 ft, Permit No. 39-9), Chain (20 ft, Permit No. 48-013), and Easton Dam (30 ft, Permit No. 48-12), within its lower reach at RM 17.0, 3.0, and 0.0, respectively. These dams create substantial pools extending, on average, 1.5 miles upstream dependent on river flow. Each of the three dams in this section has fish passage facilities. The Pa. Fish & Boat Commission was recently awarded funding from the American Rivers/NOAA Community Grant Program to complete a feasibility study that will assess ways to improve fish passage through the Lehigh River, including the potential for, and potential impacts of, removing the dams on the River. Wildlands Conservancy has been selected to administer this project for the Commission. The development of this study should be closely monitored. The potential loss of the Hamilton Street dam would significantly impact the proposed Riverfront District.

As part of the Lehigh River FPP, the City has the responsibility to continue to manage the plan and update the Department of Environmental Protection (DEP) and the Army Corp of Engineers (ACOE) of changes on an annual basis. The proposed waterway and water's edge improvements should be included in this annual report as the ACOE will need to approve of any proposed changes to the Flood Protection Project.

2.7.3 UTILITY & INFRASTRUCTURE RECOMMENDATIONS

New utility and infrastructure improvements are a key component to expediting and accommodating phased redevelopment along the Lehigh River. A detailed analysis of future utility needs for the

suggested Riverfront Plan program identified some key potable water and sanitary sewer system improvements to facilitate future phased Riverfront redevelopment.

Potable Water: The Allentown City Bureau of Water Resources provides water for the City of Allentown, most of Salisbury Township and portions of South Whitehall and Hanover Townships (Lehigh County). In addition, Whitehall Township Authority receives water during peak demand periods and there are emergency interconnections with the City of Bethlehem, Borough of Emmaus, and Borough of Northampton. The largest source of water for The City is surface water from the Lehigh River via a water intake facility located within the Lehigh River, at a location south of the Bucky Boyle Park Pavilion. Allentown City Bureau of Water Resources serves a population of approximately 140,000 and is permitted to withdraw 28 million gallons per day from the surface water intake. The raw water is piped through an existing 11,000-foot-long, thirty-six inch diameter main is then coagulated/flocculated, filtered and disinfected in a 40 MGD water treatment plant before distribution to the customers.

Any potential redevelopment of the Bucky Boyle Park ball fields and improvements within the Lehigh River must avoid impacting the existing City Water Intake Facility, located above Frick Boat Club/PPL property, and the existing thirty-six inch diameter main, due to cost, lengthy regulatory permitting and possible interruption of water supply to a significant customer base. This should not be an issue, given the large areas of redevelopment potential on the Riverfront.

The two water wells located beneath the former Neuweiler Brewery (401-451 North Front Street) may be a potential supplemental source, with offsite treatment at the existing 40MGD water treatment plant, to enhance the City's water supply. Formal testing is needed to determine the amount and quality of this potential supplemental water supply.

Existing water distribution lines within the Riverfront are old and need to be upgraded to meet new flow demands and pressures that will likely correspond to new road alignments and new building placements and phasing. The existing eight inch main in North Front Street will serve as the backbone to the water needs in the Riverfront area. It is recommended that eight inch loop lines be constructed from this trunk. Laterals will need to be sized for the intensity of the proposed uses. The existing two inch line that services the existing Bucky Boyle Park should be increased in diameter to eight inches to facilitate the proposed adjacent development. The Riverfront area is located at a low point in the city's water system and therefore, insufficient pressure should not be an issue. In fact pressure reducers may be warranted and a detailed analysis should be conducted at key intervals of the proposed Riverfront development. The existing 6 inch diameter lines that service the existing homes located on Brick Street should be increased in diameter to eight inches to accommodate the anticipated needs of the proposed development. It should be noted that the Riverfront has historically been an industrial area that had a moderate water demand. The existing system was adequate to meet those previous needs.

Sanitary Sewer: Fortunately, the Riverfront area also has adequate sanitary sewer collection system capacity to serve the recommended Master Plan redevelopment needs and is located in close proximity to the existing City Wastewater Treatment Plant. There are two methods to service the Riverfront area. The first and more traditional method is to install new sewer mains within the new proposed street system. The adjacent uses would then be serviced by laterals that would drain to the front of each use and into the sewer main located within the abutting street. An alternative and more cost effective method is to install sewer lines only in every other street. In essence some properties will utilize the typical front fed lateral while others will utilize a back fed lateral. Properties located closest to the Lehigh River should have back fed sewer laterals as a more cost effective solution to down slope sewage flow to the nearby City Wastewater Treatment Plant. The uses that front on streets without sewer

mains would be serviced by a sewer lateral that extends out the back of the use to a street with a sewer main. Generally speaking, Riverfront area sewage flows should be directed toward the existing trunk system located along North Front Street and along the RJ Corman RR (old Lehigh Valley RR main line) to minimize disturbance to current users and disruption to traffic flow. A detailed study will need to be performed to see what upgrade(s) will need to be provided on the downstream trunk sewer system.

There is an additional sewer line located within the Riverfront area, the Coplay Whitehall Sewer Authority (CWSA) interceptor line, that runs parallel and along the RJ Corman Railway. The CWSA main cannot be utilized by the Riverfront area as its capacity was designed to convey the upslope flows of the Coplay Whitehall Sewer Authority's service area only.

The City's current Act 537 Plan is dated October 1, 1985. Since the plan is in the 20 to 40 year age category the Pennsylvania Department of Environmental Protection (PADEP) can request that the City update their plan. This scenario is unlikely but is possible due to the age of the Plan and the perceived magnitude of the recommended adjustments in the Riverfront District. It is recommended that a conservative approach be taken and the City should contact PADEP to verify that a planning module would be all that is necessary. A Planning Module is technically an amendment to the Act 537 Plan, but does not require a detailed study. Generally it is adequate to verify that there is adequate capacity at the Sewage Treatment Plant. There is adequate capacity at the Plant and therefore this should not be an issue for the redevelopment of the Riverfront Area.

The City may wish to investigate the possibility of grant funds if the study area is increased to include significant sections of the First and Sixth Ward areas. It is anticipated that the Riverfront Master Plan will benefit the surrounding neighborhood in a positive way. Redevelopment, increased density and changes in use type can be expected. By looking at a larger more neighborhood centric approach a better planning document will result that will meet the needs of the overall community.



Exhibit 2-50: Conceptual Utility Plan for Base Master Plan



Manage Utilities as an Asset: Vegetation acting as a Natural Filter, Landscape Buffer/Screen of PPL Facility, Abundant Utilities for All, Provide Function with Beauty



Exhibit 2-51: Conceptual Utility Plan for Master Plan with Illustrated Plan Options

For all utilities a significant cost savings can be realized by minimizing underground utilities, minimizing rail crossings, by placing utilities in adjacent trenches, and by providing for future growth with sufficient rights-of-way and forward thinking when sizing lines. The following general methodologies can reduce utility costs:

- Use current available technology to the greatest extent possible;
- Explore underground crossings such as boring, jacking, directional drilling, or similar means;
- Host meetings with utility companies to discuss future Riverfront development;
- Provide utility companies with long-range schedules;
- Reduce conflict with Utilities Companies which occurs after Design is complete by involving utility companies in the detailed design phase;
- Use corridor protection techniques to reduce costs of future rights of way;
- A multi-disciplinary team, including Right of Way and Utilities, should review plans at key completion milestones during the final design process in order to timely access and resolve any developing problems;
- Encourage frequent coordination and communication with the rail company to reduce delivery time, reduce costs, and improve quality in the utilities process;
- Cost effective advance planning is essential to utility companies since they must now compete under deregulation;
- Take the lead in developing and supporting utility coordinating committees;
- Provide back feeding laterals to minimize the need for utilities along Riverfront Drive;
- Sewer flows cannot be connected to the CWSA transmission main that runs parallel to the RJ Corman rail line; and,
- Permitting is a significant cost associated with possible long lead times. It is recognized that Sewer planning modules, DBRC approval, PennDOT HOPs and Rail approvals will most likely be the critical path items and therefore should include pre-application meetings, sketch designs, multidisciplinary teams, and regular follow up with the appropriate agencies.

2.8 PUBLIC IMPROVEMENT COST SUMMARY

2.8.1 COST OPINION OVERVIEW

Two distinct cost opinions were developed for the Lehigh Riverfront Master Plan. The first cost opinion is for the Base Plan. The second cost opinion is for the variety of Options associated with the Base Plan.

The SSM Group, Inc. (SSM) first utilized each plan (Base and Options) dated April 2012 and developed unit quantities for bulk line items. For example the bulk line item Road (paved) is comprised of the individual components such as subgrade, subbase, binder pavement, wearing pavement, sealant and curb, to furnish and construct the roadway. It should be noted that although the plans were to scale they were hand drawn schematic representations and therefore there may be a slight differentiation from final quantities. The quantities do provide good budgetary numbers.

Unit prices were based upon recent (past 5 years) publicly bid projects located in the Lehigh Valley. **The project history includes new and rehabilitated streetscape, utility, beautification, trail, land development and roadway projects. Unit prices were indexed with the most current Engineering News Record Construction Cost Index.** This “industry standard” index was utilized because it includes fuel costs that are not considered in other typical industry standards. The following tables provide an overview of the cost opinions and the Master Plan map on pages 204-205 shows the general locations for each of the Riverfront zones and public realm elements estimated below.

TABLE 2-16: BASE MASTER PLAN PUBLIC REALM ELEMENTS (JUNE 2012)

ZONE 1: "LEHIGH LANDING / HAMILTON ST. GATEWAY" AREA BASE MASTER PLAN		Order of Magnitude Cost W/ Contingencies
Base Master Plan Public Realm Improvements		
1f	America On Wheels Pedestrian Mall/Access Drive, Arrival Court and Riverfront Promenade/Overlook with Underground Utilities	\$ 993,142
1g	Roundabout Entry at Hamilton, Front and Wharf Streets	\$ 1,307,692
*	Riverside Promenade/Trail (from PPL under Hamilton Street Bridge to Union Street)	\$ 195,000
*	RJ Corman Rail-Trail (from Union Street to Linden Street)	\$ 936,000
*	Underground Utilities	\$ 61,425
*	Erosion & Sediment Control Measures	\$ 19,500
*	Riverfront District Banner/Blazer Identity System	\$ 65,000
*	Riverfront District Wayfindng Directional Signage System	\$ 260,000
Total Base Master Plan Public Realm Improvement Costs		\$ 3,837,759
Base Master Plan Parking Improvements		
SP1	Surface Parking - ±210 Spaces	\$ 1,092,000
ZONE 2: "FRONT STREET & WHARF STREET" AREA BASE MASTER PLAN		Order of Magnitude Cost W/ Contingencies
Base Master Plan Public Realm Improvements		
2d	Relocated Outdoor Basketball Courts (Two)	\$ 114,400
2e	Multi-use Soccer/Football Field (for Parks & Recreation Use and Middle School Use)	\$ 667,313
2f	New Entry Drive and Gateway to GF Frick Boat Club	\$ 164,632
2g	Riverside Multi-use Trail and Linear Greenway Park Improvements	\$ 1,169,870
*	Riverside Reforestation and Habitat Creation	\$ 122,850
*	RJ Corman Rail-Trail (from Linden Street to Chew Street)	\$ 139,425
*	New Wharf Street & Streetscape Construction with Underground Utilities (East of RJ Corman Railway)	\$ 964,387
*	Front Street Relocation and Intersection with Linden Street	\$ 394,896
*	Front Street Streetscape Improvements	\$ 120,406
Total Base Master Plan Public Realm Improvement Costs		\$ 3,858,179
Base Master Plan Parking Improvements		
PD1	Parking Structure - 3 levels @ ±190 spaces per level	\$ 17,238,000
SP2	Linden Street Surface Parking Lot - 105 Spaces	\$ 709,800

ZONE 3: "BREWER'S HILL" & "RIVERFRONT PARK" AREA BASE MASTER PLAN		Order of Magnitude Cost W/ Contingencies
Base Master Plan Public Realm Improvements		
3i	Front Street & Wharf Street Gateway Park and Fountain Feature	\$ 507,257
3j	Brewers Hill Park and Mayor McHose Memorial Plaza	\$ 1,077,714
3k	Expanded Buck Boyle Riverfront Festival Park & Promenades (Spray Park/Playground, Festival Grounds)	\$ 1,766,265
3l	Upper and Lower Riverfront Promenades/Multi-use Trails, Reforestation, Steps, Etc.	\$ 378,050
3m	Riverside Marina & Historic Canal Boat Docking Facility	\$ 80,405
3n	Riverside Floating Fountain Display	\$ 390,000
3o	New Lehigh University Sculling Dock and Riverside Drive/Gordon St. Transit Amenities	\$ 436,800
*	RJ Corman Rail-Trail (from Chew Street to Pump Place/Gordon Street)	\$ 69,713
*	New Wharf Street & Streetscape Construction with Underground Utilities (from Chew Street to Pump Place/Gordon Street)	\$ 885,235
*	Pump Place/Gordon Street & Streetscape Relocation and Reconstruction with Underground Utilities	\$ 1,056,907
Total Base Master Plan Public Realm Improvement Costs		\$ 6,648,346
Base Master Plan Parking Improvements		
PD2	Parking Structure - 3 levels @ 175 spaces per level	\$ 12,285,000
PD3	Lower Level Parking Under Atelier Development	n/a
PD4	Neuweiler Brewery Parking Structure - 3 to 4 levels @ +100 Spaces per level	\$ 9,360,000
SP3	Ribbon Works Surface Parking	\$ 421,200
ZONE 4 "RIVERSIDE DRIVE" AREA BASE MASTER PLAN (Iron Mountain Storage)		Order of Magnitude Cost W/ Contingencies
Base Master Plan Public Realm Improvements		
*	Riverside Multi-use Trail and Linear Greenway Park Improvements	\$ 512,850
*	Riverside Reforestation and Habitat Creation	\$ 122,850
*	New Riverside Drive and Streetscape Construction	\$ 485,823
*	Zone 4 Existing Intersection Improvements	\$ 273,000
*	Zone 4 Underground Utilities	\$ 354,900
*	Zone 4 Erosion and Sediment Control Measures	\$ 58,500
Total Base Master Plan Public Realm Improvement Costs		\$ 1,807,923
ZONE 5: "RIVERSIDE OVERLOOK" AREA BASE MASTER PLAN (Allen St. & Riverside Dr.)		Order of Magnitude Cost W/ Contingencies
Base Master Plan Public Realm Improvements		
*	Riverside Multi-use Trail and Linear Greenway Park Improvements	\$ 549,900
*	Riverside Reforestation and Habitat Creation	\$ 102,375
*	RJ Corman Rail-Trail (from West of Liberty Street to Tilghman Bridge)	\$ 115,830
*	New Riverside Drive and Streetscape Construction	\$ 248,875
*	Allen Street Extension and Streetscape Improvements	\$ 642,142
*	New Wharf Street & Streetscape Construction (from West of Liberty Street to Tilghman Bridge)	\$ 228,483
*	Tilghman Street Signal and Intersection Improvements	\$ 301,080
*	Tilghman Bridge Bio-Park & Pedestrian Link with Front Street	\$ 682,683
*	Zone 5 Underground Utilities	\$ 382,200
*	Zone 5 Sediment & Erosion Control Measures	\$ 63,375
Total Base Master Plan Public Realm Improvement Costs		\$ 3,316,942
Base Master Plan Parking Improvements		
PD5	Allen Street Parking Structure (North Side) - 4 levels / ±140 spaces per level	\$ 13,000,000
SP4	Allen Street Surface Parking (South Side) - ±165 spaces	\$ 858,000

ZONE 6: "BRICK STREET CORRIDOR" BASE MASTER PLAN		Order of Magnitude Cost W/ Contingencies
Base Master Plan Illustrated Development Program		
6a	Employment / Clean Industry/ Manufacturing Uses - Sussman Bros. Building Re-use	n/a
6b	Employment / Clean Industry/ Manufacturing Uses	n/a
6c	Employment / Clean Industry/ Manufacturing Uses	n/a
6d	Employment / Clean Industry/ Manufacturing Uses	n/a
Base Master Plan Public Realm Improvements		
*	Brick Street Widening and Streetscape Improvements with Underground Utilities	\$ 526,065
Total Base Master Plan Public Realm Improvement Costs		\$ 526,065
Base Master Plan Parking Improvements		
SP5	Surface Parking Lot ±125 Spaces	\$ 650,000
SP6	Surface Parking Lot ±115 Spaces	\$ 598,000
SP7	Surface Parking Lot ±140 Spaces	\$ 728,000
ZONE 7 "FURNACE PLACE" AREA BASE MASTER PLAN (Furnace Street & Riverside Drive)		Order of Magnitude Cost W/ Contingencies
Base Master Plan Public Realm Improvements		
7f	Riverside Drive/Furnace Street Roundabout and Public Landing	\$ 655,006
7g	Riverside Multi-use Trail and Linear Greenway Park Improvements	\$ 997,750
7h	Riverside Trail Head Park & Small Boat Launch	\$ 422,370
*	Riverside Reforestation and Habitat Creation	\$ 259,350
*	RJ Corman Rail-Trail (from Tilghman Bridge to Along American Parkway South Side Slope Base)	\$ 266,175
*	New Riverside Drive and Streetscape Construction	\$ 166,254
*	Furnace Street Extension and Streetscape Improvements	\$ 258,908
*	New Wharf Street & Streetscape Construction (from Tilghman Bridge to Furnace Street)	\$ 320,310
*	New Railroad Crossing	\$ 234,000
*	Zone 7 Underground Utilities	\$ 300,300
*	Zone 7 Sediment and Erosion Control Measures	\$ 78,000
Total Base Master Plan Public Realm Improvement Costs		\$ 3,958,423
Base Master Plan Parking Improvements		
PD6	Furnace Street Parking Structure (South Side) - 3 levels @ ±164 spaces per level	\$ 15,340,000
SP8	Surface Parking Lot - ±380 Spaces	\$ 1,950,000
ZONE 8: "RIVERSIDE R&D PARK" AREA BASE MASTER PLAN (North of American Pkwy)		Order of Magnitude Cost W/ Contingencies
Base Master Plan Public Realm Improvements		
8g	American Parkway and Front Street Gateway Enhancements	\$ 1,053,883
8h	Riverside Arrival Court	n/a
8i	North End Riverside Park and Trail	\$ 460,138
*	Riverside Reforestation and Habitat Creation	\$ 81,900
*	Rail-Trail Bridge Crossing Deck	\$ 46,800
*	New Wharf Street & Streetscape Construction (from Furnace Street to Riverside R&D Park Manufacturing Area)	\$ 497,975
Total Base Master Plan Public Realm Improvement Costs		\$ 2,140,696
Base Master Plan Parking Improvements		
SP9	Shared Surface Parking for Manufacturing Site and North End Park Use	\$ 1,300,000
SP10	Employment/clean Industry Use Surface Parking Lots - ±276 Spaces	\$ 1,430,000

Table 2-17: Optional Plan Public Realm Elements (June 2012)

ZONE 1: OPTIONAL PLAN ILLUSTRATED DEVELOPMENT PROGRAM		
Optional Plan Public Realm Improvements		
1h	Full Size Hamilton and Wharf Street Roundabout Construction	\$ 2,837,097
ZONE 2: OPTIONAL PLAN ILLUSTRATED DEVELOPMENT PROGRAM		Order of Magnitude Cost W/ Contingencies
Optional Plan Public Realm Improvements		
2i	Riverside Park Public Pavilion and Promenade/Trail Overlook	\$ 803,182
		Total <i>Optional Plan</i> Public Realm Improvement Costs
		\$ 803,182
Optional Plan Parking Improvements		
PD9	Parking Structure Expansion w/ Possible Switching Station Building Below- 2 levels @ 190 spaces per level	\$ 12,350,000
ZONE 3: OPTIONAL PLAN ILLUSTRATED DEVELOPMENT PROGRAM		Order of Magnitude Cost W/ Contingencies
Optional Plan Public Realm Improvements		
3p	Inland Wharf Inlet	\$ 2,639,675
3p	Chew Street Promenade and Wharf Street Improvements	\$ 779,123
		Total <i>Optional Plan</i> Public Realm Improvement Costs
		\$ 3,418,799
Optional Plan Parking Improvements		
PD7	Neuweiler Brewery Parking Structure - 3 levels @ +145 spaces per level	\$ 13,650,000
ZONE 4: OPTIONAL PLAN ILLUSTRATED DEVELOPMENT PROGRAM		Order of Magnitude Cost W/ Contingencies
4b	Riverside Drive Commercial/Office Development	n/a
4c	Liberty Street Loft Apartments (South side of Street)	n/a
4d	Liberty Street Loft Apartments (North side of street)	n/a
4e	Riverside Drive Commercial/Office Development	n/a
Optional Plan Public Realm Improvements		
*	Riverside Multi-use Trail and Linear Greenway Park Improvements	\$ 772,850
*	Riverside Reforestation and Habitat Creation	\$ 122,850
*	RJ Corman Rail-Trail (from Pump Place/Gordon Street to West of Liberty Street)	\$ 115,830
*	New Riverside Drive and Streetscape Construction	\$ 568,048
*	Liberty Street Extension and Streetscape Improvements	\$ 278,659
*	Liberty Street Bio-Park	\$ 834,925
*	New Wharf Street & Streetscape Construction (from Pump Place/Gordon Street to West of Liberty Street)	\$ 470,036
*	New Front Street	\$ 199,607
*	Zone 4 Underground Utilities	\$ 354,900
*	Zone 4 Sediment & Erosion Control Measures	\$ 58,500
		Total <i>Optional Plan</i> Public Realm Improvement Costs
		\$ 3,776,205
Optional Plan Parking Improvements		
PD8	Parking Structure - 3 levels / 200 Spaces per level	\$ 12,480,000
SP13	Surface Parking - +85 Spaces	\$ 497,900

*Note: Contingencies for the Order of Magnitude cost estimate were set at 10% for soft costs and 20% for construction costs to allow for flexibility in future design material types and usage.

ZONE 5: OPTIONAL PLAN ILLUSTRATED DEVELOPMENT PROGRAM		Order of Magnitude Cost W/ Contingencies
Optional Plan Public Realm Improvements		
*	Riverside Multi-use Trail and Linear Greenway Park Improvements	\$ 848,900
*	Riverside Reforestation and Habitat Creation	\$ 102,375
*	RJ Corman Rail-Trail (from West of Liberty Street to Tilghman Bridge)	\$ 115,830
*	New Riverside Drive and Streetscape Construction	\$ 216,575
*	Allen Street Extension and Streetscape Improvements	\$ 1,019,363
*	New Wharf Street & Streetscape Construction (from West of Liberty Street to Tilghman Bridge)	\$ 664,165
*	Tilghman Street Signal and Intersection Improvements	\$ 301,080
*	Tilghman Bridge Bio-Park & Pedestrian Link with Front Street	\$ 246,221
*	Zone 5 Underground Utilities	\$ 382,200
*	Zone 5 Sediment & Erosion Control Measures	\$ 63,375
Total <i>Optional Plan</i> Public Realm Improvement Costs		\$ 3,960,084
Optional Plan Parking Improvements		
PD5	Allen Street Parking Structure (North Side) - 4 levels @ ±152 spaces per level	\$ 14,170,000
SP12	Allen Street Surface Parking (South Side) - ±100 spaces	\$ 520,000
ZONE 6: OPTIONAL PLAN ILLUSTRATED DEVELOPMENT PROGRAM		Order of Magnitude Cost W/ Contingencies
Optional Plan Public Realm Improvements		
6e	Community Park/Open Space / Re-use of Sussman Building for Railway Museum Building	\$ 264,446
6f	Community Park/Open Space / Railway Museum Display Yard	\$ 323,616
*	Brick Street Widening and Streetscape Improvements with Underground Utilities	\$ 423,800
Total <i>Optional Plan</i> Public Realm Improvement Costs		\$ 1,011,862
ZONE 7: OPTIONAL PLAN ILLUSTRATED DEVELOPMENT PROGRAM		Order of Magnitude Cost W/ Contingencies
Optional Plan Public Realm Improvements		
7g	Riverside Drive/Furnace Street Roundabout and Public Landing	\$ 760,218
7h	Riverside Multi-use Trail and Linear Greenway Park Improvements	\$ 796,900
7i	Riverside Drive Extension, Trail Head Park & Small Boat Launch	\$ 826,093
*	Riverside Reforestation and Habitat Creation	\$ 232,050
*	RJ Corman Rail-Trail (from Tilghman Bridge to Along American Parkway South Side Slope Base)	\$ 266,175
*	New Riverside Drive and Streetscape Construction	\$ 170,625
*	Furnace Street Extension and Streetscape Improvements	\$ 320,754
*	New Wharf Street & Streetscape Construction (from Tilghman Bridge to Furnace Street)	\$ 320,310
*	New Railroad Crossing	\$ 234,000
*	Zone 7 Underground Utilities	\$ 273,000
*	Zone 7 Sediment and Erosion Control Measures	\$ 78,000
Total <i>Optional Plan</i> Public Realm Improvement Costs		\$ 4,278,125
Optional Plan Parking Improvements		
PD6	Furnace Street Parking Structure (South Side) - 3 levels @ 180 spaces per level	\$ 12,610,000
SP11	Surface Parking Lot - ±75 Spaces	\$ 442,000
ZONE 8: OPTIONAL PLAN ILLUSTRATED DEVELOPMENT PROGRAM		Order of Magnitude Cost W/ Contingencies
8b	Residential Townhome Development	n/a
Optional Plan Public Realm Improvements		
8c	Front Street Gateway Entry Park, Street and Streetscape Improvements	\$ 1,533,978
8d	Community Recreation Park - Children's Playgrounds and Court Sports with Passive Park Space	\$ 416,290
Total <i>Optional Plan</i> Public Realm Improvement Costs		\$ 1,950,268

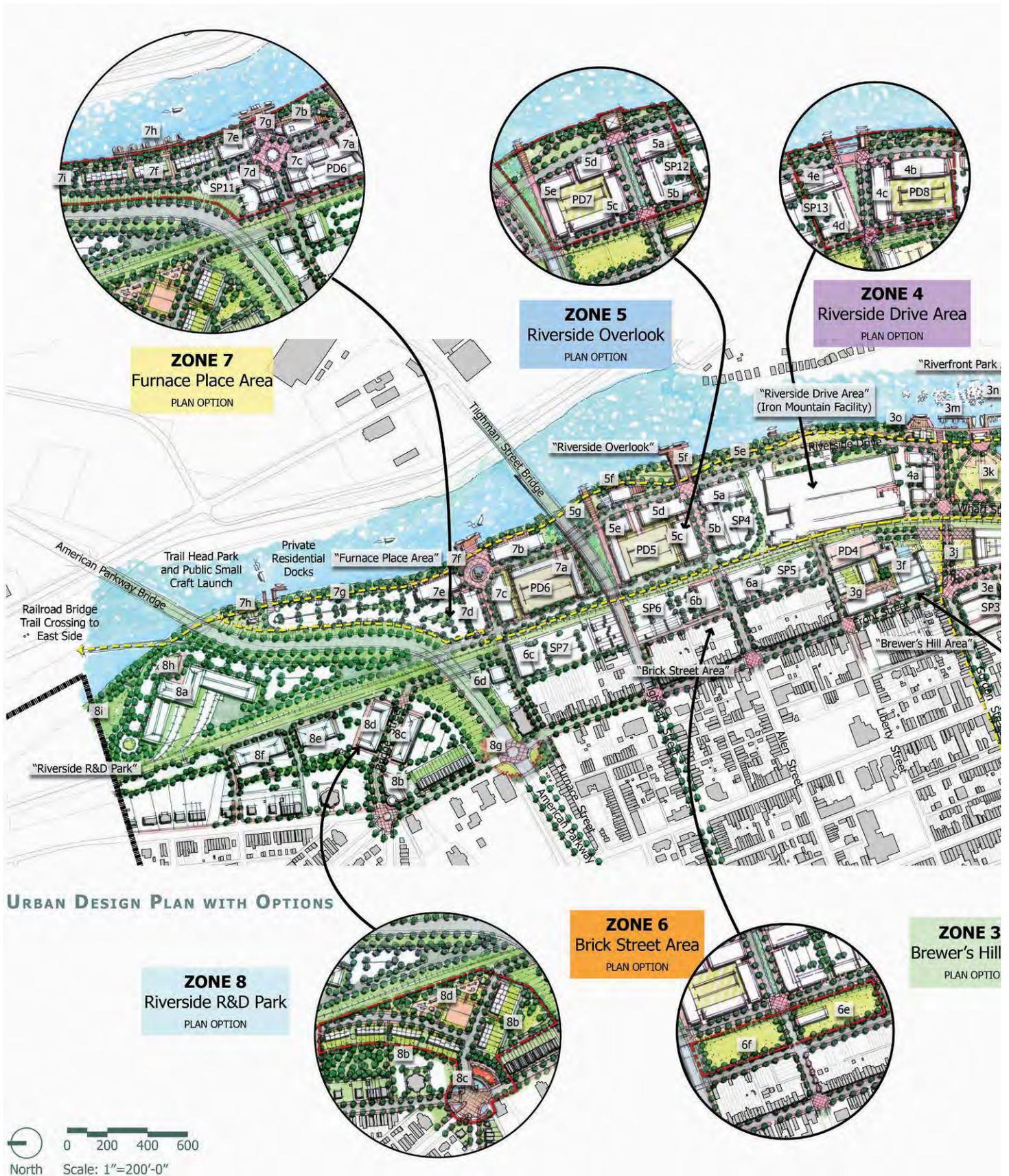
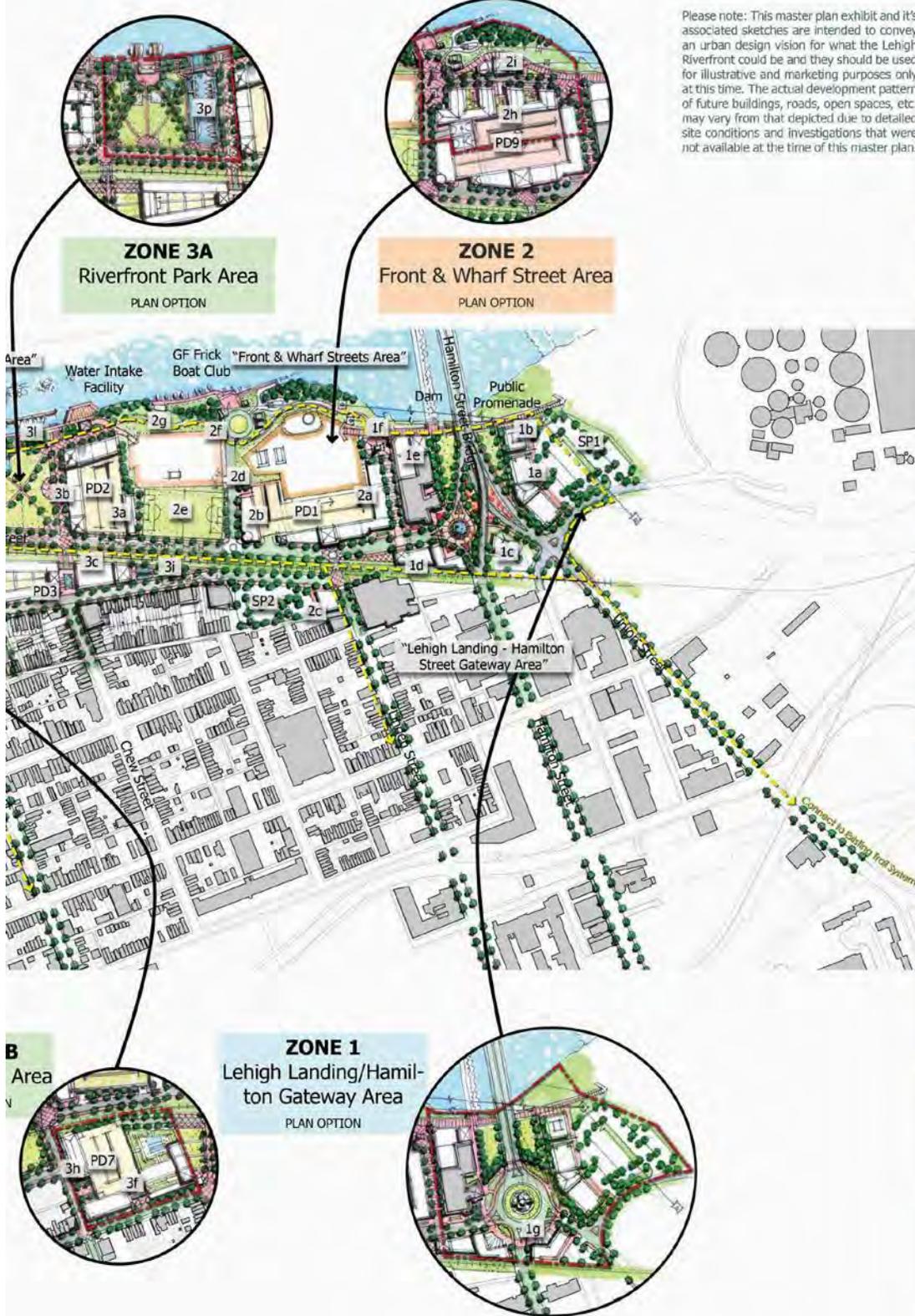


Exhibit 2-52: Lehigh Riverfront Recommended Public Realm Improvements and Costs Reference Map



Please note: This master plan exhibit and its associated sketches are intended to convey an urban design vision for what the Lehigh Riverfront could be and they should be used for illustrative and marketing purposes only at this time. The actual development pattern of future buildings, roads, open spaces, etc. may vary from that depicted due to detailed site conditions and investigations that were not available at the time of this master plan.

Zone 1	Lehigh Landing/Hamilton Street Gateway Area
1a	Office / Technology Space
1b	Riverside Restaurant/Commercial
1c	Gateway Restaurant/Commercial
1d	Loading Dock Building Restaurant / Retail / Mixed-Use Re-use and Expansion
1e	America On Wheels Museum Expansion Retail/Commercial/ Children's Museum
1f	America On Wheels Pedestrian Mall/Access Drive, Arrival Court and Riverfront Promenade/Overlook
1g	Roadabout Entry at Hamilton, Front and Wharf Streets
1h	Surface Parking - >210 Spaces
Zone 1 Optional Plan Elements	
1h	Full Size Hamilton and Wharf Street Roundabout Construction
Zone 2	Front Street & Wharf Street Area
2a	Retail, Entertainment / Commercial Uses Wrapping Parking Deck
2b	Retail, Entertainment / Commercial Uses Wrapping Parking Deck
2c	Linden Street Retail, Entertainment/Commercial Uses
2d	Relocated Outdoor Basketball Courts (Trail)
2e	Multi-use Soccer/Football Field for Parks and Recreation Use and Middle School Use
2f	New Entry Drive and Gateway to GF Frick Boat Club
2g	Riverside Multi-use Trail and Linear Greenway Park Improvements
PD1	Parking Structure - 3 levels @ +190 spaces per level
PD2	Linden Street Surface Parking Lot - 105 Spaces
Zone 2 Optional Plan Elements	
2h	Mixed-use Riverside Development 2 Stories Retail/Commercial/Office with 2 Stories Residential Apartments/Condo Loft Above
2i	Riverside Park Public Pavilion and Promenade/Trail Overlook
PD9	Parking Structure Expansion w/ Possible Switching Station Building Below - 2 levels @ 100 spaces per level
Zone 3	Brewers Hill and Riverfront Park
3a	Parks & Recreation Support Facility Building (Equipment Storage)
3b	Retail, Entertainment/Commercial Uses Wrapping PPL Substation
3c	Atelier Site Redevelopment - Commercial/Office/Technology Use
3d	Atelier Building Re-use and Expansion
3e	Ribbon Works Lofts - (Apartments)
3f	Brewer's Alley - Neuviller Building Re-use of All Existing Buildings
3g	Brewer's Alley - Neuviller Bottling Building Re-use
3h	Front Street & Wharf Street Gateway Park and Fountain Feature
3i	Brewers Hill Park and Mayor McClow Memorial Plaza
3j	Expanded Back Baye Riverfront Festival Park & Promenades (Spray Park/ Playground, Festival Grounds)
3k	Lipper and Lower Riverfront Promenades/Multi-use Trails, Reforestation, Steps, Etc.
3m	Riverside Marina and Historic Canal Boat Docking Facility
3n	Riverside Floating Fountain Display
3o	New Expanded Lehigh University Boathouse and Scooting Club
PD2	Parking Structure - 3 levels @ 175 spaces per level
PD3	Lower Level Parking Under Atelier Development
PD4	Neuviller Brewery Parking Structure - 3 to 4 levels @ +100 Spaces per level
SP2	Neuviller Brewery Surface Parking
Zone 3 Optional Plan Elements	
3h	Commercial/Mixed-use Building
3i	Brewer's Alley - Neuviller Building Re-use and Expansion (2-3 structures removed)
3j	Inland Wharf Inlet
PD7	Neuviller Brewery Parking Structure - 3 levels @ +145 spaces per level
Zone 4	Riverside Drive (from Mountain Bridge)
4a	London Street & Riverside Dr. Retail/Commercial/Office
4b	Riverside Multi-use Trail and Linear Greenway Park Improvements
4c	Riverside Reformation and Habitat Creation
4d	New Riverside Drive and Streetscape Construction
4e	North Side Water, Storm Sewer and Sanitary Sewer Lines
Zone 4 Optional Plan Elements	
4b	Riverside Drive Commercial/Office Development
4c	Liberty Street Loft Apartments (South side of Street)
4d	Liberty Street Loft Apartments (North side of street)
4e	Riverside Drive Commercial/Office Development
PD8	Parking Structure - 3 levels / 200 Spaces per level
SP13	Surface Parking - +85 Spaces
Zone 5	"Riverside Overlook" (Allen Street & Riverside Drive)
5a	Riverside Drive Retail/ Commercial/ Office
5b	South Side Allen Street Retail/ Commercial/ Office
5c	North Side Allen Street Retail/ Commercial/ Office
5d	Riverside Drive Retail/ Commercial/ Office
5e	Tilghman/Riverside Loft Apartments
5f	Riverside Restaurant/Commercial
PD5	Allen Street Parking Structure (North Side) - 4 levels @ +140 spaces per level
SP4	Allen Street Surface Parking (South Side) - +185 Spaces
Zone 5 Optional Plan Development Elements	
5a	Riverside Drive Retail/ Commercial/ Office
5b	South Side Allen Street Retail/ Commercial/ Office
5c	North Side Allen Street Retail/ Commercial/ Office
5d	Riverside Drive Retail/ Commercial/ Office
5e	Tilghman/Riverside Loft Apartments
5f	Allen Street Parking Structure (North Side) - 4 levels @ +155 spaces per level
SP12	Allen Street Surface Parking (South Side) - +100 Spaces
Zone 6	"Brick Street Area"
6a	Employment / Clean Industry/ Manufacturing Uses - Gasman Bros. Building Re-use
6b	Employment / Clean Industry/ Manufacturing Uses
6c	Employment / Clean Industry/ Manufacturing Uses
6d	Employment / Clean Industry/ Manufacturing Uses
6e	Surface Parking Lot - 120 Spaces
6f	Surface Parking Lot - 115 Spaces
6g	Surface Parking Lot - 115 Spaces
6h	Surface Parking Lot - 140 Spaces
Zone 6 Optional Plan Development Elements	
6e	Community Park/Open Space / Re-use of Sussman Building for Railway Museum Building
6f	Community Park/Open Space / Railway Museum Display Yard
Zone 7	"Furnace Place" (Furnace Street & Riverside Drive)
7a	Tilghman/Riverside Loft Apartments
7b	Riverside Restaurant/Commercial
7c	Furnace Street Retail/ Commercial/ Corporate Office (South Side of Furnace Street)
7d	Furnace Street Retail/ Commercial/ Corporate Office (North Side of Furnace Street)
7e	Furnace Street Retail/ Commercial/ Corporate Office
7f	Riverside Drive/Furnace Street Roundabout and Public Landing
7g	Riverside Multi-use Trail and Linear Greenway Park Improvements
7h	Riverside Trail Head Park & Small Boat Launch
PD6	Furnace Street Parking Structure (South Side) - 3 levels @ +164 spaces per level
SP8	Surface Parking Lot - +380 Spaces
Zone 7 Optional Plan Elements	
7a	Tilghman/Riverside Loft Apartments
7b	Riverside Restaurant/Commercial
7c	Furnace Street Retail/ Commercial/ Corporate Office (South Side of Furnace Street)
7d	Furnace Street Retail/ Commercial/ Corporate Office (North Side of Furnace Street)
7e	Furnace Street Retail/ Commercial/ Corporate Office
7f	Riverside Restaurant/Commercial
7g	Riverside Town Homes
7h	Riverside Drive/Furnace Street Roundabout and Public Landing
7i	Riverside Multi-use Trail and Linear Greenway Park Improvements
7j	Riverside Trail Head Park & Small Boat Launch
PD9	Furnace Street Parking Structure (South Side) - 3 levels @ 180 spaces per level
SP11	Surface Parking Lot - +75 Spaces
Zone 8	Foundry Park Area (North of the American Parkway Bridge)
8a	Corporate Manufacturing Campus (With truck and rail service)
8b	Front Street Retail / Restaurant
8c	Employment / Clean Industry/ Manufacturing Uses
8d	Employment / Clean Industry/ Manufacturing Uses
8e	Employment / Clean Industry/ Manufacturing Uses
8f	Employment / Clean Industry/ Manufacturing Uses
8g	Employment / Clean Industry/ Manufacturing Uses
8h	American Parkway and Front Street Gateway Enhancements
8i	Riverside Amal Court
8j	North End Riverside Park and Trail
SP9	Shared Surface Parking for Manufacturing Site and North End Park Use
SP10	Employment/Clean Industry Use Surface Parking Lots - +276 Spaces
Zone 8 Optional Plan Elements	
8d	Residential Townhome Development
8c	Front Street Gateway Entry Park
8d	Community Recreation Park - Children's Playgrounds and Court Sports with Passive Park Space

There are key past industrial sites along the Lehigh that will need further site evaluation to permit some suggested uses for the District.



PADEP requires cleanup to residential standards for the following types of end-uses: Residential, Educational Facilities and Recreational Facilities.

Old Lehigh Structural Steel Site South of Tilghman Bridge – ALLENTOWN, PA

2.9 BROWNFIELD REMEDIATION & REUSE RECOMMENDATIONS

2.9.1 GENERAL BROWNFIELD CONSIDERATIONS FOR THE LEHIGH RIVERFRONT

The Lehigh Riverfront extends along the west side of the Lehigh River from the northern city line south to the Hamilton Street Bridge. This area is immediately adjacent to the 1st and 6th Wards of the City of Allentown and is currently comprised of a mix of ongoing industrial uses, vacant and abandoned Brownfield properties, and some public space. One of the underlying concerns with redevelopment of this area is the environmental condition of each of the Riverfront’s parcels. Most of the sites of interest have had some level of site environmental characterization completed; however, most of the evaluations have compared site concentrations to non-residential cleanup standards only.

The Preferred Uses identified in this plan contain a wide variety of end-uses including commercial, residential, and recreational activities. PADEP requires cleanup to residential standards for the following types of end-uses: Residential – single and multifamily, Educational Facilities and Recreational Facilities.



The Neuweiler Brewery Site



Lehigh Structural Steel North Site



Lehigh Structural Steel South Site



Lehigh Landing America on Wheels Site



CALO Building Site (now demolished)



A&B Properties



Albright & Son Steel Co. Site



Brick Street Corridor Properties



North End Industrial Properties

Further evaluation of some properties will be necessary for those developments that include a planned end-use that is considered to be “residential” by DEP. The following tables outline the specific considerations for each of the Riverfront parcels with regard to the current environmental conditions and further evaluations or actions that may need to be taken during the redevelopment effort.

Table 2-18: Summary of Specific Brownfield Properties

Site Name	Site Overview	Documents Available	Summary of Findings
Neuweiler Brewery	<p>Site investigations have been completed and a remediation plan has been proposed. The proposed plan remediates the most immediate threats to human health and the environment. LVEDC has committed funding through EPA to complete the remedial work. Eventually, an Act 2 standard that supports intended end-use should be achieved. (i.e., residential versus non-residential)</p>	<p>Phase I ESA (July 2010) Cleanup Plan (September 2010)</p>	<p>The following steps were proposed in 2010 for cleanup of the former Neuweiler Brewery:</p> <ul style="list-style-type: none"> • Abatement of asbestos-containing thermal system insulation (TSI); • Removal and disposal of hazardous, non-hazardous, and universal waste; • Removal of coal and/or coal ash piles; • Securing the Site to prevent future accumulation of waste. <p>The estimated cost for this proposed cleanup was \$900K-\$950K (actual cost came in under this amount)</p>
Lehigh Structural Steel	<p>Environmental Studies identified 7 soils “Areas of Potential Environmental Concern”. Most of these 7 areas contained relatively low levels of contamination however only comparison to non-residential standards has been completed. Groundwater may also be impacted, but if the site is served by public water, a deed restriction limiting groundwater usage can be implemented.</p>	<p>Phase I ESA (April 2007) Phase II ESA (July 2007) Final Trip Report (May 2009)</p>	<p>Environmental Studies identified 7 soils “Areas of Potential Environmental Concern” or APECs. In addition, a site-wide groundwater investigation was conducted that concluded that the groundwater at the site may have been impacted by leaking underground storage tanks as gasoline-related VOCs, iron, and manganese were detected in monitoring wells at levels above EPA Screening Levels for Drinking Water, but below PADEP Non-Residential MSCs (except for Benzene which was above MSCs).</p>

Site Name	Site Overview	Documents Available	Summary of Findings
Lehigh Landing Project	<p>Lehigh Landing Riverfront Revitalization Project Site covers about nine acres includes five separate properties. A lot of demo and site cleanup work has already occurred and controls to eliminate exposure to contamination have been put in place at many of the properties including a non-use designation for groundwater and capping of contaminated soil. All of the work “to date” has focused on a non-residential end-use of the sites. Review of the controls will need to be done to determine protectiveness of the controls should a residential end-use (as defined by PADEP) be desired.</p>	<p>Baseline Remedial Investigation Report and Remedial Action Work plan (1997)- -cited, but not provided for this review.</p> <p>Post Remedial Care Plan (April 2008)</p>	<ul style="list-style-type: none"> ▪ A Consent Order & Agreement with PADEP allows for the terms for remediation and redevelopment of the Lehigh Landing Site as a Special Industrial Area. As an SIA, the cleanup liability at the Site is limited to the remediation of immediate, direct or imminent threats to public health or the environment which would prevent the Site from being occupied for its intended purpose. <p>According to this April 2008 report, Above ground storage tanks (ASTs) were properly cleaned and decommissioned and underground storage tanks (USTs) were cleaned and removed. Building floor drains were cleaned and sealed. Building sumps and vaults were cleaned and backfilled. Partial demolition of some and complete demolition of other abandoned and unusable buildings and structures at the Site were performed following abatement. Several Institutional and/or Engineering Controls are in place across the site in order to eliminate exposure pathways. However, no engineering controls were required on Kline, Hat Factory, or Albright properties.</p>

Site Name	Site Overview	Documents Available	Summary of Findings
CALO Building	This building is part of the Lehigh Landing Site	Site Remediation & Demo Plan <i>(March 2005)</i> Post Remedial Care Plan <i>(April 2008)</i> Cleanup Plan <i>(October 2008)</i> Demo Project Manual <i>(March 2010)</i>	The 2008 Cleanup Plan for the building outlined the following remedial activities: <ul style="list-style-type: none"> ▪ Abatement of asbestos-containing roofing materials. ▪ Removal and disposal of PCB-contaminated surfaces and materials, including concrete, roofing materials, and sediment. ▪ Removal and disposal of pigeon excreta, if necessary. ▪ Removal and disposal of lead-bearing sediment in floor drains. ▪ Removal and disposal of diesel and water currently flooding the basement. ▪ Abatement of loose lead-based paint, and lead-based paint that will be cut by flame or abrasive methods during demolition. ▪ Demolition of the remaining building, with building demolition materials used as fill to bring the basement up to grade.
A & B Properties	These properties are part of the Lehigh Landing Site	Site Remediation & Demo Plan <i>(March 2005)</i> Post Remedial Care Plan <i>(April 2008)</i>	See information under Lehigh Landing Sites.
Kline Building & Gas Station	These properties are part of the Lehigh Landing Site	Site Remediation & Demo Plan <i>(March 2005)</i>	See information under Lehigh Landing Sites.

Site Name	Site Overview	Documents Available	Summary of Findings
Albright Steel	This site is part of the Lehigh Landing Site	Site Remediation & Demo Plan (March 2005)	See information under Lehigh Landing Sites.
Hat Factory	This site is part of the Lehigh Landing Site	Site Remediation & Demo Plan (March 2005)	See information under Lehigh Landing Sites.
Other Materials Reviewed related to the Riverfront Master Plan			
Waterfront Master Plan – Low Impact Development		Tech Memo (May 2009-Stormwater Plan)	EPA selected The Waterfront in Allentown as a brownfields sustainability pilot. As part of this pilot, Tetra Tech EM Inc. (Tetra Tech), through a subcontract to SRA International, Inc., provided technical assistance to the Lehigh Valley Economic Development Corporation (LVEDC) and the site developer, Dunn Twigg Company LLC (Dunn Twigg), to integrate low impact development (LID) techniques and features for stormwater management into their site master plan. These LID stormwater management practices at the site will (1) help reduce or eliminate stormwater discharges and associated impacts from the development on the Lehigh River and (2) promote sustainable redevelopment opportunities elsewhere along the Lehigh River and in the City of Allentown.

Table 2-19: Summary of Environmental Considerations for the Implementation of the Riverfront Master Plan

Zone	Description (former site name)	Environmental Considerations
1	Lehigh Landing/Hamilton Street Gateway Area <i>(Former Lehigh Landing sites)</i>	Intended end-uses include primarily commercial and recreational. Recreational areas must either be remediated to meet residential Act 2 standards or be constructed in a manner that eliminates exposure pathways for recreational users.
2	Front Street/Wharf Street Area <i>(Former Lehigh Landing sites)</i>	Intended end-uses include primarily commercial and recreational. The considerations for Zone 1 are also valid in this zone. Optional plans include some residential end use. Site designs should be over-layed onto environmental concentration maps to assure proposed residential areas currently meet residential standards; could be remediated to meet residential standards; or can be constructed in a manner that eliminates exposure pathways for residential end users.
3	Brewers Hill/Riverfront Park <i>(Former Lehigh Landing sites & Neuweiler Brewery site)</i>	Intended end-uses include primarily commercial and recreational. . The considerations for Zone 1 are also valid in this zone. Optional plans include some residential end use. Site design considerations to attain residential standards as explained in Zone 2 are also valid in this zone.
4	Riverside Drive/Iron Mountain Storage <i>(Former Lehigh Landing sites & Neuweiler Brewery site)</i>	The considerations for Zone 3 are also valid in this zone.
5	Riverside Overlook (Allen Street & Riverside Drive) <i>(Former Lehigh Structural Steel property & Iron Mountain Storage)</i>	Intended end-uses include commercial, recreational and residential end uses. The considerations for Zone 1 and site design considerations to attain residential standards as explained in Zone 2 are also valid in this zone.

Zone	Description (former site name)	Environmental Considerations
6	Brick Street Area	<p>Intended end uses are primarily commercial and light industrial. Non-residential standards are acceptable for this area.</p> <p>Optional plans include recreational spaces. Considerations to accommodate recreational uses explained in Zone 1 are also valid in this zone.</p>
7	Furnace Place (Furnace Street & Riverside Drive) <i>(former Lehigh Structural Steel property)</i>	<p>Intended end-uses include commercial, recreational and residential end uses. The considerations for Zone 1 and site design considerations to attain residential standards as explained in Zone 2 are also valid in this zone.</p>
8	Riverside R&D Park Area (North of the American Parkway Bridge) <i>(former Lehigh Structural Steel property)</i>	<p>Intended end uses are primarily commercial and light industrial. Non-residential standards are acceptable for this area. Recreational spaces are also included in the primary plan. Considerations to accommodate recreational uses explained in Zone 1 are also valid in this zone.</p> <p>Optional plans include potential residential end uses. Considerations to attain residential standards as explained in Zone 2 are also valid in this zone.</p>

Welcome to RIVERSIDE OVERLOOK...

A new urban center for corporate innovation in the Lehigh Valley



*The new Riverside Drive and Allen Street promenade leading to LSS Pier...
a tribute to Allentown's industrial heritage.*

STRATEGIC ACTION PLAN 3



*The new Riverfront Mixed-use District overlooking
the Lehigh Riverfront Greenway & Trail*

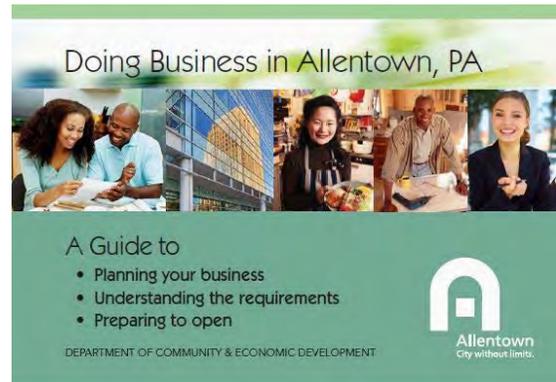
3.1 ORGANIZING FOR ACTION

3.1.1 THE ROLE OF THE CITY AND EXISTING DEPARTMENTS

DEPARTMENT OF COMMUNITY AND ECONOMIC DEVELOPMENT

The Department of Community and Economic Development (CED) plays a comprehensive role in the ongoing revitalization of Allentown. The CED offers assistance to small business, neighborhood groups, non-profits, faith-based organizations, large business and housing developers alike.

As it relates to the implementation of the Riverfront Master Plan, CED would be responsible for the following functions/initiatives:



NEIGHBORHOOD IMPROVEMENT ZONE (NIZ)

The NIZ consists of approximately 130 acres located in center city Allentown and along the western side of the Lehigh River. The NIZ was established for the purpose of revitalization and furthering development and redevelopment within the City. The NIZ Act provides that qualified state and local tax revenues may be used for payment of debt service on bonds or loans issued for the improvement and development of qualified improvements within the NIZ. Such improvements include an arena for professional sports and various other uses such as residential, office, commercial, exhibition, hospitality, conference and retail. A separate authority, the Allentown Neighborhood Improvement Zone Development Authority (ANIZDA) has been created to manage the NIZ program.

Qualified Tax Revenues from new businesses starting up or moving into the NIZ within property owned or controlled by the Applicant will be available to secure bonds of the Authority issued to finance projects for the Applicant.

No additional taxes will be required to build or operate a business within the special tax designation area. Instead, state and local taxes (other than real estate tax) a business would pay normally including employee state wage taxes will be placed into a special fund that is overseen by the state treasurer and made available to the ANIZDA to provide financing assistance to the developer as well as to fund related public improvements throughout the Riverfront area. These monies initially will be used by the City to pay off its loans or bonds floated to build the arena.

Financing Process:

The financing process includes three stages for review and approval by the ANIZDA. These stages include:

1. **Qualification Stage** - An initial non-binding confirmation of interest by the ANIZDA to an applicant. In this stage, the ANIZDA will determine if the project meets the preliminary criteria and requirements to receive NIZ financing.
2. **Application Stage** – A formal application for NIZ financing is prepared and submitted by the Applicant for a specific project or initial phase(s) of a multi-phased project.

3. **Closing and Funding Stage** - This stage includes a closing of financing for an approved application and fund transfers from the ANIZDA to the Applicant of qualified project costs.

Role in Implementation: Work with developers in order to achieve the vision of the Riverfront Master Plan. This should include pre-meetings with developers to provide information on the NIZ program, the benefits and requirements, followed by the qualification stage if the developer chooses to move forward with a project within the Lehigh Riverfront.

BUSINESS DEVELOPMENT

The City of Allentown provides a one-stop shop for resources and services to assist individuals with business start ups and expansions. One phone call connects the business/individual to the business development professionals experienced in planning and marketing, identifying locations with tax, loan and grant advantages; assisting new businesses with financing, and helping navigate through the process of zoning, licensing, inspections and permits. The Business Development Department will assist with project management, development assistance, location search, networking, marketing, funding and sponsorships.



Recent projects include the Allentown *Brew Works on the Green*, *Coca-Cola Stadium*, *PPL Plaza* and *Arts Park*.

Role in Implementation: The Business Development Office will play a key role in the implementation of the Lehigh Riverfront Master Plan. More specifically, the department should:

- Work to identify potential developers and business owners to locate in the Lehigh Riverfront
- Assist small business owners with accessing low-interest loans for start-up funds
- Develop and execute a branding and marketing campaign
- Develop a public relations campaign
- Assist developers and business owners in navigating through plan review, permitting and licensing

BUREAU OF PLANNING AND ZONING

The mission of the Bureau of Planning and Zoning is to provide direction for the future growth, development and redevelopment of the City. The Bureau's major areas of responsibility include Community and Economic Development Planning, Zoning Permitting and Enforcement, Land Development and Subdivision Plan Review, Historic Preservation (including the administration of the City's Historic District Ordinance), Neighborhood Planning and Coordination (including implementation of the Weed and Seed program).

Two key areas of the Bureau's activities include the preparation/implementation of the City's Comprehensive Plan and the management/enforcement of the City's Zoning Ordinance.

Role in Implementation: The Bureau of Planning and Zoning will be instrumental in moving forward all zoning changes required to promote redevelopment within the Lehigh Riverfront. This should include:

1. Adopting an official map that incorporates the public infrastructure and improvements from the Plan into an official document that preserves the rights of way for the improvements
2. Adopt Zoning change to allow for redevelopment envisioned within the Lehigh Riverfront master Plan

3. Adopt design guideline principles and development guidelines

BUILDING STANDARDS AND SAFETY

This department is responsible for issuing all permits on behalf of the City; this includes, but not limited to, building permits, electrical permits, plumbing and heating permits, residential rental unit licensing registration, etc.

Role in Implementation: Work with developers and businesses in securing proper permits for developing and building business within the Lehigh Riverfront as envisioned within the Master Plan.



PARKS AND RECREATION

The Parks and Recreation Department is instrumental in enhancing the quality of life for the City's residents by providing and maintaining amenities such as the aquatic facilities, recreational fields and facilities, municipal golf course, and the city-wide trail network all of which promotes outdoor recreation.

In 2011, the City was recognized by Kaboom! as one of America's top playful cities. This recognition is given to communities that demonstrate creative commitments to addressing the Play Deficit.

Most recently, the department was successful in securing \$625,000 from DCNR to improve the Jordan Creek Greenway and Stevens Community Park. The Parks and Recreation Department will play a key role in implementation of the Riverfront plan with respect to the trails, greenways, fields, and other public space amenities planned for the Riverfront.

Role in Implementation: The Parks and Recreation Department will play a key role in the implementation of the Master Plan. The Department will be responsible for ensuring the trails and recreational fields and facilities are funded, maintained and programmed for future use. Specific roles should include:

1. Work with the city's Public Works Department, Survey Crews and the Planning and Zoning Office to properly layout the trails and recreational areas to be included on the Official map on the City of Allentown
2. Identify funding opportunities when they are announced through DCNR or other state and federal agencies
3. Submit grant applications within specified time requirements of all grant programs
4. Schedule special events within the Riverfront and on the Lehigh River to encourage public use of the Riverfront area

PUBLIC WORKS

The Public Works Department consists of the following bureaus:

- Engineering
- Building Maintenance
- Water Resources
- Solid Waste/Recycling
- Streets
- Traffic Planning/Control
- Parks

The goals of the department are to provide safe drinking water for the public, manage refuse removal and recycling, provide roadways for the efficient and safe movement of individuals and cargo throughout the community, and to provide care and maintenance of City-owned structures.

Role in Implementation: The Public Works Department should work with the Bureau of Planning and the Parks and Recreation Department to survey and obtain all rights of ways for areas to be used for trails, recreational areas and rights-of-way for streets and public spaces.

3.1.2 NEW RIVERFRONT ORGANIZATION RECOMMENDATIONS

LEHIGH RIVERFRONT PLAN IMPLEMENTATION TEAM

Recommendation: Creation of a Lehigh Riverfront Plan Implementation Team (Implementation Team) to aid in coordinating and realizing the City of Allentown’s vision, expectations, and development goals for the Lehigh Riverfront. The Implementation Team will be made up of city and agency staff and will be responsible for pursuing and coordinating the many activities required to fully implement the Master Plan. The team should consult with and update their progress with City Council, the Planning Commission, the Neighborhood Improvement Zone Authority Board and Riverfront stakeholders as needed.

JUSTIFICATION

Due to the size, complexity, and anticipated long-term redevelopment timeline for the Lehigh Riverfront, it is recommended that a special Implementation Team be established to implement a comprehensive vision and marketing effort while also helping to facilitate the coordinated efforts and investments of numerous public- and private-sector interests. A partnership of public- and private-sector stakeholders will allow for long-term stability and continuity of management, as well as create a focal point for information and decision making without placing a burden on existing City of Allentown staff.

PURPOSE

The intent of the Riverfront Implementation Team is to promote economic and community development through the administration, coordination, and oversight of select components of an implementation strategy for the Lehigh Riverfront Master Plan. Through a general advisory role for development/redevelopment projects and the establishment of diverse initiatives, including a branding and marketing strategy, business recruitment plan, permitting and approvals facilitation, and agency coordination, the Implementation Team will successfully enhance the quality of existing and future neighborhoods, encourage economic growth, and aid in the realization of the City’s vision for the Lehigh Riverfront. To this end, the Implementation Team will guide public and private investment, market and

brand the Riverfront as an attractive location to live and work, organize and host special events, and manage area cleanup, security, and other programs aiming to enhance the quality of the Riverfront.

ESTABLISHMENT AND FUNDING

Initially, the Implementation Team will be appointed by the Office of the Mayor and/or City Council and funded through the City of Allentown or Neighborhood Improvement Zone (NIZ) funding. As the Lehigh Riverfront continues to develop, the City should work to create a special assessment district under the Neighborhood Improvement District (NID) Act (Act 2000, P.L. 949, No. 130). The boundaries would encompass the entire Lehigh Riverfront, and a weighted assessment would be used whereby commercial properties would pay a higher assessment rate than industrial properties located at the northern section of the Lehigh Riverfront. Residential properties could be exempt from the special assessment. Funding through an established NID will ensure the Lehigh Riverfront's branding, business recruitment, neighborhood improvement initiatives, and general economic development efforts are maintained to aid in the implementation of the Lehigh Riverfront Master Plan.

FUNCTIONS

Generally, the Implementation Team will provide comprehensive coordination, oversight, and administration of key components of the overall development strategy for the Riverfront including planning, marketing, business recruitment, and permitting and approval facilitation initiatives.

- Key Functions
 - Branding and marketing
 - Agency coordination
 - Permitting and approval facilitation
 - Central resource of information for developers and businesses
 - Coordinating and hosting of special Lehigh Riverfront events
 - Implementing and overseeing Lehigh Riverfront security and cleanup initiatives
 - Public and community outreach
 - Internal committees and task forces to respond to specific needs

3.2 IMPLEMENTING THE VISION

3.2.1 BRANDING AND MARKETING

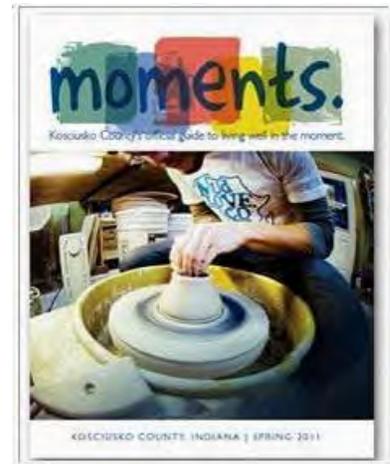
A key action step for now celebrating and advancing the Master Plan is to quickly implement a uniquely identifiable brand and supporting logo for the Riverfront that will bring attention to the existing and proposed Riverfront offerings for both the public and private sectors. The Lehigh Riverfront Master Plan envisions a new city neighborhood to be developed around its many assets, the most important of which is the Lehigh River (River). The River will provide a unique identity and create an appeal that will allow the Riverfront to stand apart from anything else which currently exists in the Region.

CREATING THE BRAND IDENTITY FIRST - The terms Brand and Logo are often used as interchangeable terms; however, this is not the case. The Riverfront logo is not its brand, as the brand is much more than the logo. The brand is the personality that defines the Riverfront, and the logo is the representation of the brand. The “brand identity” (Brand) for the Riverfront will include the name, logo and visual appearance; this will be used on all marketing materials for the Riverfront. The Brand will be a unique

identity that will differentiate the Riverfront from other competitive sites within the Lehigh Valley region.

The Brand should use a consistent color palette that complements the colors used in the logo and it should limit the number of fonts to those that are easy to read and work well for a variety of purposes (newsprint, magazine and billboards).

The Brand should use a theme when choosing art/illustrations and the art selected should fit the impression of the marketing piece (whimsical, serious, artistic, etc). The Brand should be consistent to ensure the identity will not be forgotten.



EXAMPLES OF COMMUNITY BRANDING (source: NorthStar Destination Strategies)



The initial branding concept that was prepared for the release of the Master Plan is “Welcome to the Lehigh Riverfront...Allentown’s New Centre for Heritage, Recreation, Living and Innovation.” It is intended to promote a new and improved District or Centre of discovery for businesses, employees, residents, students and visitors to Allentown. The Riverfront District will be a place to celebrate:

- The *diverse heritage* of past Riverfront industries and the nearby residential neighborhoods by drawing inspiration from the District’s noteworthy and recognizable industrial and/or neighborhood iconic element(s), such as:
 - Lehigh River features; dam, canal, inlets, etc.;
 - The America on Wheels Museum;
 - Bucky Boyle Park & pavilion;
 - The Lehigh’s roadway and railway bridges;
 - Heritage buildings; Neuweiler, LSS, Ribbon Works;
 - Industrial artifacts and signage;
 - The 1st & 6th Ward Neighborhood skyline; church steeples, etc.;
 - Lehigh Structural Steel signage; or,
 - The bridges crossing the river.
- The new *entertainment and destination* offerings for expanded tourism in the Riverfront, Downtown Allentown and the Lehigh Valley, as well as celebrating the success of the America on Wheels Transportation Museum as long-standing anchor and tenant of the Riverfront.
- The new and expanded land-side and water-based *recreational offerings* to be found along the Riverfront for walking, running, biking, boating, fishing, soccer, football and riverfront events.
- The new and unique types of *urban living and housing* that can be offered along the Riverfront.
- The new *business and industry innovation* that will be attracted to the Riverfront through NIZ, KOZ and other local incentives and programs outlined in the implementation plan.

CREATING THE LEHIGH RIVERFRONT LOGO TO SUPPORT THE BRAND MESSAGE - When developing the actual logo and marketing materials for the Riverfront, the following should be taken into consideration. The Riverfront logo should be representative of the message to be conveyed to the target audiences: developers, current/ future businesses, and current/future residents. Action phrases that invite people to come to the Riverfront should be incorporated into the logo and branding messages such as: “There’s

something for everyone on the Lehigh”, “Come explore the Lehigh Riverfront”, or “Rediscover the Lehigh Riverfront”, to name a few for consideration.

Keeping with the suggestions made previously, the graphic logo developed for the Lehigh Riverfront should remain simple. Selecting a simple name and the associated messages will also be an equally important decision to be made during the Riverfront implementation and marketing process. During the Master Plan process, Riverfront Stakeholders were asked to share their ideas for names for the riverfront which included: The Allentown Riverfront, The Lehigh Riverfront, The Lehigh River District, The Riverfront District, and Allentown’s RiverFront District.

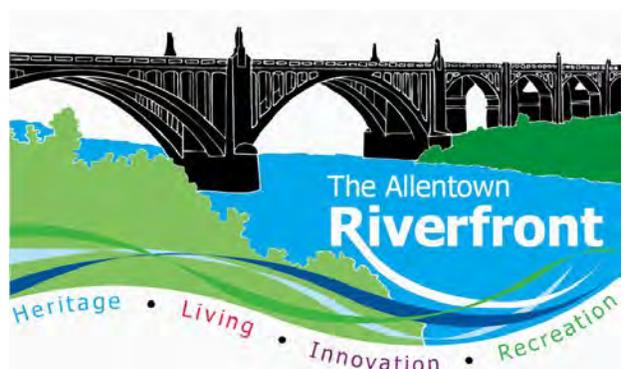
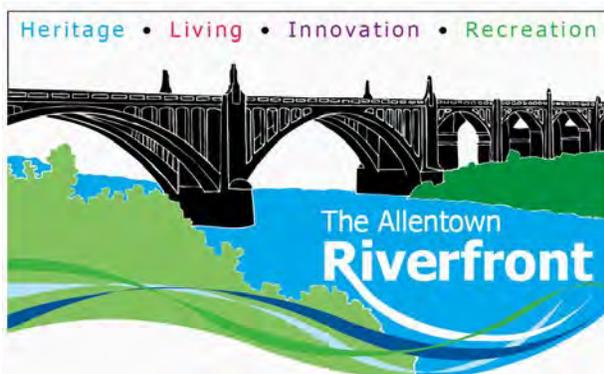
INITIAL RIVERFRONT IDENTITY CONCEPTS FOR CONSIDERATION - Many of the names and the messages above have been incorporated into a series of graphic design concepts for the Riverfront district. The illustrations below and on the facing page are presented here as initial concepts of the type and content of logo that should be considered for the Lehigh Riverfront. The following principles were followed in creating the initial logo concepts for consideration and should continue to be followed as the brand and logo continue to be developed in the next phase of detailed graphic design:

- People remember shapes and colors first;
- The logo must also look good in black and white;
- Scalability will be important. The use for the logo will not always have the same size and shaped space. The logo will need to be used in both horizontal and vertical formats, and it should look good no matter what the size (e.g. billboard vs. newsprint ad); and,
- Complicated and detailed logos will not translate well to promotional items and signage.

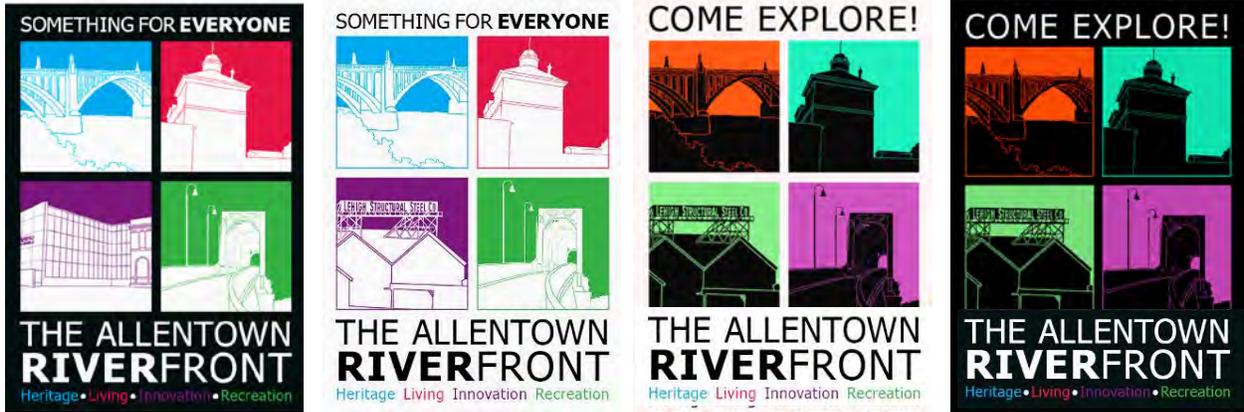
These graphic concepts are intended to help spark additional creative ideas from Allentown Implementation Team members as the final logo and branding approach are prepared in the early implementation phases. We hope that you find them an intriguing and inspiring reference for creating additional messages for Riverfront activities, projects and promotions.



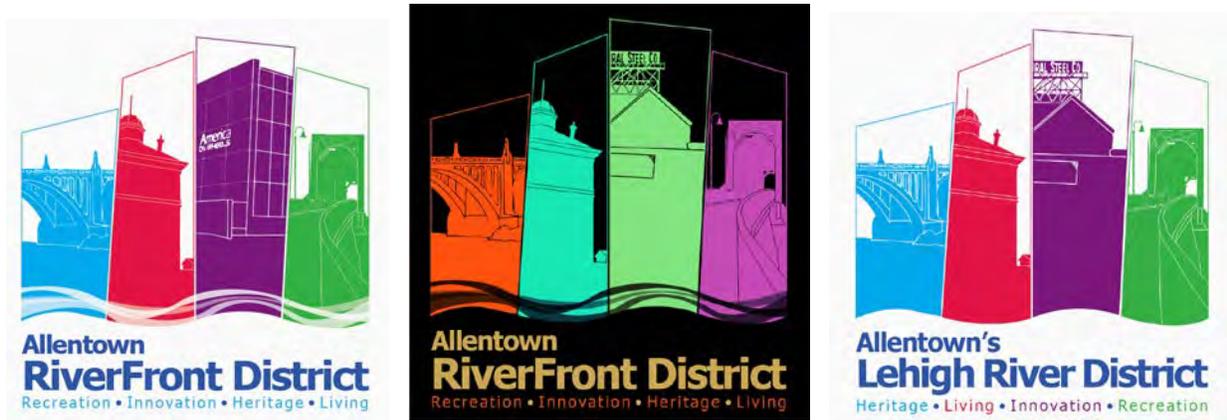
Logo Concept 1 (right) begins by using a well known picturesque focal point of the Riverfront, the Tilghman Bridge, in a new and abstract way to spark interest.



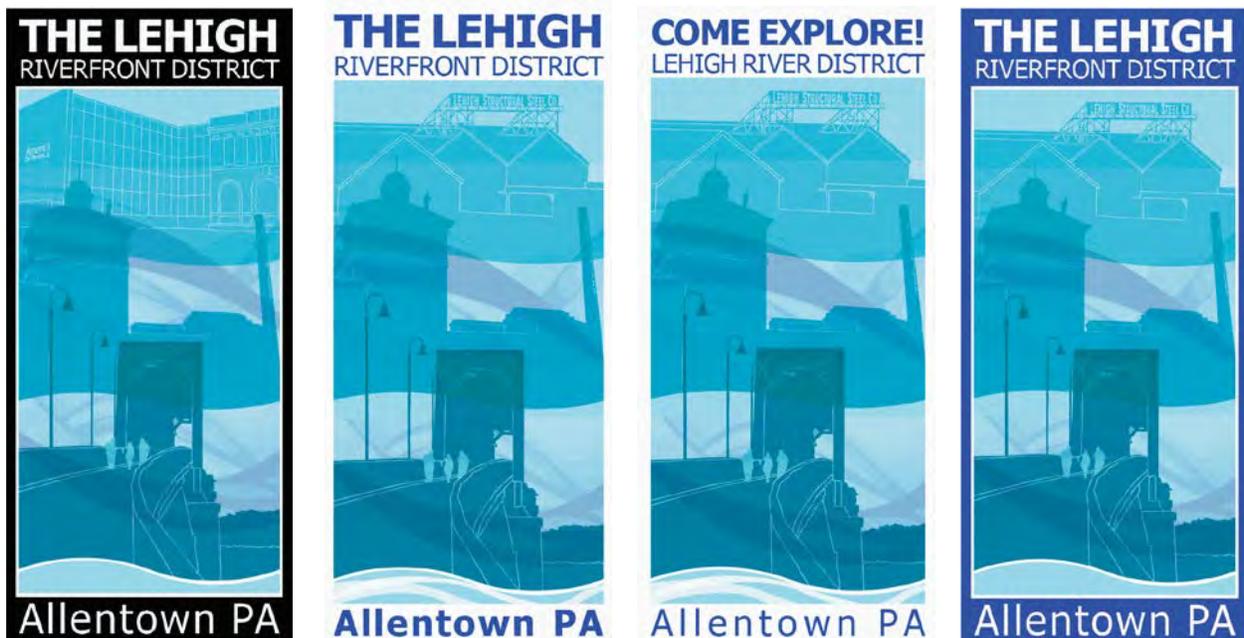
Logo Concept 2 above uses a well known picturesque focal point of the Riverfront, the Tilghman Bridge, in a new and abstract way to spark interest for the Lehigh Riverfront setting. The primary message of the Riverfront as a New Centre of Heritage, Recreation, Living and Innovation is conveyed in each of the concepts as well.



Logo Concept 3 above and Concept 4 below use a series of recognizable places from the Riverfront District Zones; the America on Wheels Museum, Lehigh Structural Steel Signage, the Neuweiler Brewery, and/or the future Railway Bridge trail crossing, with a branding message that invites locals and visitors, ‘Everyone’ to explore the Riverfront for its Heritage, Living, Innovation and Recreation environs.



Logo Concepts 4 above and 5 below use the same iconic architecture while also incorporating a symbolic river motif as an expression of the Lehigh River and its natural environs. The concepts below also illustrate how the logo can be used with a variety of messages.



3.2.2 IMPLEMENTATION GOALS, RECOMMENDATIONS, AND ACTION STEPS

The following are a series of implementation action steps that need to be taken to help guide the redevelopment of the Lehigh Riverfront. It is important to recognize that some of the actions steps can be, and should be implemented immediately, while others may take longer to implement. Section 3.2.3 provides timeframes to be used for implementing the vision of the Riverfront Master Plan.

Year one will focus on developing land use regulations that will promote the type of development envisioned within the Master Plan. The first year should also focus on acquiring property and the right of ways needed to build roads and public space/amenities. Prioritizing projects in areas that will leverage private investment will be the key to successfully redeveloping the Riverfront. It will take a number of years to build the infrastructure and public amenities identified within the Master Plan. The City will need to continually update priorities and funding strategies based on the progress made each year.

Year two will continue to set the stage for redevelopment by focusing on creating an image/brand identity for the Riverfront, adopting a residential LERTA program to encourage residential development, and identifying areas for new industrial development.

Year three will begin work to actively recruiting new business to the Riverfront. Based on progress made in the prior years, the work outlined in year three may need to be moved to years four and five. Again, the tasks given within this implementation plan are provided to encourage the private sector to invest within the Riverfront. The City will need to focus its effort on the Riverfront in an aggressive manner in order to create the momentum for change.

The Director of Community and Economic Development should oversee the implementation process. Without a “point person” to help guide the effort, elements of this plan will go unrealized, and the momentum gained through the planning process will be lost.

GOAL 1: IMPLEMENT A DESIRED LAND USE PROGRAM

Recommendation 1: Develop, implement, and administer land use regulations that promote context sensitive and compatible revitalization of the Riverfront

The Lehigh Riverfront Master Plan includes a variety of physical improvements meant to improve access and circulation throughout the Riverfront, and to enhance the quality of life for residents by improving the public realm. These improvements include a promenade, trails, road networks, roundabouts, parks, open space and recreational areas. In that it will take years to develop the Riverfront as envisioned within the Master Plan, the City should preserve these areas for future development of this critical infrastructure.

The Pennsylvania Municipal Planning Code grants power to municipalities to create an official map which may show appropriate elements of the comprehensive plan with regard to public lands and facilities. These may include:

- Existing and proposed streets, watercourses and public grounds
- Existing and proposed public parks, playgrounds and open space reservations
- Pedestrian ways and easements

- Flood control basins, floodways and flood plains, storm water management areas and drainage easements
- Support facilities, easements and other properties held by public bodies

STEP ONE: FORMALLY ACCEPT THE PLAN BY RESOLUTION

The City of Allentown should formally accept the Lehigh Riverfront Master Plan by resolution.

STEP TWO: CONDUCT SURVEYS AND PREPARE MAPS OF PROPOSED IMPROVEMENTS

Using the Lehigh Riverfront Master Plan as a guide, the City's engineering department, or appointed licensed surveyor, should conduct field surveys using a method sufficient to identify the location of property to be used for public use (e.g. streets, parks, storm water management, etc.). For future acquisition, the engineering department should work with the City's solicitor to develop easement agreements that include the boundary descriptions by metes and bounds.

STEP THREE: ADOPTION OF THE OFFICIAL MAP

The City should officially adopt the Official Map as previously defined. This process includes:

- Drafting an ordinance describing the proposed map
- Providing the map and ordinance to the Allentown Planning Commission for their review and comment
- Providing the map and ordinance to the Lehigh Valley Planning Commission and adjacent municipalities for their review and comment
- Hold a public hearing to obtain public comment on the proposed Official Map
- Within 60 days of adoption by the City of Allentown, submit a copy of the Official Map to the Lehigh County recorder of deeds for recording

STEP FOUR: ADOPT OFFICIAL ZONING CHANGES TO ENCOURAGE REDEVELOPMENT

Section 3.2.4 provides alternatives to be considered for amending the City's zoning code in order to encourage and permit the types of redevelopment envisioned within the Lehigh Riverfront Master Plan to occur. The City should also consider changes to the Lehigh Riverfront area, as well as the 1st and 6th Wards to ensure compatibility between the Riverfront and its surrounding neighborhoods.

The City should create a Zoning and Design Committee to assist in determining the appropriate zoning changes for the Lehigh Riverfront. The Committee should consist of members of the Allentown Planning Commission, Lehigh County Planning Commission, local architects and other design professionals.

STEP FIVE: DEVELOP AND ADOPT DESIGN GUIDELINE PRINCIPLES AND DEVELOPMENT GUIDELINES

Creating a sense of place and an environment that will set the Lehigh Riverfront apart from the region's competitive, suburban developments should be considered a high priority for City officials. The Zoning and Design Committee should:

- Develop design guideline principles
- Establish development guidelines
- Create development incentives to encourage quality development

GOAL 2: DEVELOP A TRANSPORTATION SYSTEM TO INCLUDE ACCESS ROADS AND STREETScape IMPROVEMENTS

Recommendation 2: Implement a comprehensive transportation system that balances the needs of vehicles, buses, and cyclists, while creating a safe and comfortable environment for pedestrians to stroll, shop, and explore

Providing access into the Lehigh Riverfront will play a key role in redeveloping the area as envisioned within the Master Plan. The Roundabout entry at Hamilton, Front and Wharf Streets will remove the entry barriers that currently exist for the Riverfront. This transportation improvement will greatly enhance the entrance and will attract additional traffic into the site. The New Wharf Street will also improve circulation through the Riverfront and will alleviate traffic conditions in the adjacent residential neighborhoods.

The steps identified below should be completed with steps outlined in Goal Four.

STEP ONE: PRIORITIZE FIRST PHASE TRANSPORTATION IMPROVEMENTS

As stated previously, the Lehigh Riverfront Master Plan has been divided into eight different zones which have public realm enhancements, new access roads and streetscape improvements. The City should initially concentrate on areas that will provide a greater impact and will encourage private investment.

Strategically targeting zones within the Riverfront that are being considered for development (zones 5 and 7) and are currently serving as anchors (zones 1 and 2) would create activity that will spur redevelopment within the remaining zones. Access and circulation through the site will be critical in attracting developers, business and industry, and residents. Projects to be considered include:

- New Riverside Drive and Streetscape Construction
- New Wharf Street & Streetscape Construction
- America on Wheels Pedestrian Mall/Access Drive
- Roundabout Entry at Hamilton/Front and Wharf Streets
- Front Street Relocation and Intersection with Linden Street
- New Entry Drive and Gateway to GF Frick Boat Club

STEP TWO: MEET WITH THE LEHIGH VALLEY PLANNING COMMISSION/TRANSPORTATION STUDY TO DISCUSS INCLUDING PROJECTS ON THE TRANSPORTATION IMPROVEMENT PROGRAM

Providing access into the site and creating ways for traffic to circulate within the site are key priorities redevelopment. The City of Allentown should meet with the Lehigh Valley Planning Commission/Transportation Study in order to have the priority projects added to the region's Transportation Improvement Program. This will enable the City to apply for transportation funding in the future.

STEP THREE: MEET WITH STATE AND FEDERAL OFFICIALS/AGENCIES TO DISCUSS PRIORITY PROJECTS

The City should schedule and meet with state and federal officials and agencies to discuss the priority transportation projects. This will permit the officials/agencies to gain first-hand knowledge of these

projects prior to the City applying for state and federal funds. The City should develop briefing booklets that highlight:

- The Lehigh Riverfront Master Plan planning process
- Priority projects – benefit and cost
- Goals and Objectives of the Lehigh Riverfront

STEP FOUR: APPLY FOR STATE AND FEDERAL FUNDING

Using the funding matrix provided within this report, the City of Allentown should continue to monitor state and federal agencies to determine the appropriate time to submit applications for funding. The City should develop a funding calendar that notes the programs and deadlines for submitting applications. The City should submit applications for funding, when appropriate.

GOAL 3: PROVIDE DESIRABLE PUBLIC SPACE AND AMENITIES WITHIN THE RIVERFRONT

Recommendation 3: Create a vibrant, desirable, walkable environment with landscaped, attractive streets, linked by active ground floor uses and strong pedestrian connections.

The Lehigh Riverfront Master Plan envisions a new neighborhood embodied with a mixture of uses that not only complement and enhance its surrounding neighborhoods of Ward 1 and Ward 6, but also create a welcoming environment for new commercial, industrial and residential development.

The Master Plan proposes a variety of public realm improvements which include a multi-use riverside trail and promenade with overlooks and piers, walking trails, public parks and outdoor recreation and athletic areas. These public amenities will greatly enhance the environment of the Lehigh Riverfront and will be the foundation for creating a unique environment that appeals to the potential consumer, employee and resident.

STEP ONE: PRIORITIZE FIRST PHASE PUBLIC IMPROVEMENTS

The Lehigh Riverfront Master Plan has been divided into eight different zones which have public realm enhancements, new access roads and streetscape improvements. The City should initially concentrate on areas that will provide a greater impact and will encourage private investment.

Dunn Twigg Company LLC has expressed their desire to move forward in redeveloping a portion of the LSS Site. Investing in *Riverside Overlook* (Zone 5) and *Furnace Place* (Zone 7) would assist the developer in attracting quality tenants and residents. Improvements would include:

- Riverside Multiuse Trail and Linear Greenway Park Improvements
- Riverside Reforestation and Habitat Creation
- Riverside Trail Head Park & Small Boat Launch

Lehigh Landing/Hamilton Street Gateway Area (Zone 1) and the *Front Street & Wharf Street Area* (Zone 2) also represent opportunities to jump start the revitalization effort within the Lehigh Riverfront. The America On Wheels Museum currently serves as an anchor to these zones. Enhancing the environment and providing additional public amenities will greatly enhance the experience and generate additional foot traffic to this key anchor. Improvement would include:

- Arrival court and Riverfront Promenade/Overlook

- Riverside Promenade/Trail
- Riverside Multiuse Trail and Linear Greenway Park Improvements
- Riverside Reforestation and Habitat Creation

Funding may not be immediately available to finance all of these improvements at one time; the City should prioritize based on developer and community interest.

STEP TWO: MEET WITH THE LEHIGH VALLEY PLANNING COMMISSION/TRANSPORTATION STUDY TO DISCUSS INCLUDING PROJECTS ON THE TRANSPORTATION IMPROVEMENT PROGRAM

Transportation enhancements such as the Riverfront Promenade and the Multi-use Trail not only enhance the quality of life, but provide additional travel choices which assist in reducing congestion and improving the overall air quality in the City of Allentown. The City of Allentown should meet with the Lehigh Valley Planning Commission/Transportation Study in order to have the priority projects added to the region's Transportation Improvement Program. This will enable the City to apply for transportation enhancement funding in the future.

STEP THREE: MEET WITH STATE AND FEDERAL OFFICIALS/AGENCIES TO DISCUSS PRIORITY PROJECTS

The City should schedule and meet with state and federal officials and agencies to discuss the priority enhancement projects. This will permit the officials/agencies to gain first-hand knowledge of these projects in prior to the City applying for state and federal funds. The City should develop briefing booklets that highlight:

- The Lehigh Riverfront Master Plan planning process
- Priority projects – benefit and cost
- Goals and Objectives of the Lehigh Riverfront

STEP FOUR: APPLY FOR STATE AND FEDERAL FUNDING

Using the funding matrix provided within this report, the City of Allentown should continue to monitor state and federal agencies to determine the appropriate time to submit applications for funding. The City should develop a funding calendar that notes the programs and deadlines for submitting applications. The City should submit applications for funding, when appropriate.

GOAL 4: CREATE A POSITIVE IDENTITY FOR THE RIVERFRONT

Recommendation 4: Create and promote a new brand for the Riverfront

Interviews with stakeholders and public comments provided at the community meetings give an opinion that the public is skeptical that the City is committed to moving forward with development efforts within the Riverfront. This included improving the public realm and creating an environment to encourage redevelopment.

STEP ONE: DEVELOP AND EXECUTE A BRANDING AND MARKETING CAMPAIGN FOR THE RIVERFRONT

The City should develop a Riverfront Marketing Committee that is charged with creating the tag line, logo and brand image. The marketing committee should include representatives from the Lehigh

Chamber, Lehigh Valley Economic Development Corporation, marketing firms and other professionals from Allentown that could provide in-kind professional services to this effort.

STEP TWO: DEVELOP A PUBLIC RELATIONS AND MARKETING PLAN

With the assistance of the Riverfront Marketing Committee, the City should develop a public relations and marketing plan to promote the Lehigh Riverfront. This Plan would include specific elements such as:

- Media to be used and budget (newsprint, magazines, billboards, brochures, television and radio)
- Target audiences and marketing pieces to be used (.e.g. developers, residents, new business targets, consumers)
- Press release format, consistent message to be used, and person designated to prepare and distribute press release

STEP THREE: PROGRAM SPECIAL EVENTS TO SHOWCASE THE RIVERFRONT

Special events are a method used by many communities to showcase their downtowns, riverfronts and commercial corridors. The City, with the assistance of the Riverfront Marketing Committee, should develop a special events calendar that draws the region to the Riverfront. This is a way to market the Riverfront and create excitement and enthusiasm. New businesses will appreciate the investment by the community into an area they may be considering for either a new business venture or expansion; the events will greatly enhance the quality of life for residents living within the Riverfront, as well as the community and region at large.

GOAL 5: SEEK AND WORK WITH DEVELOPERS FOR CITY-OWNED PROPERTY

Recommendation 5: Attract development firms and/or teams for properties owned by the City of Allentown/Allentown Commercial and Industrial Development Authority (ACIDA).

STEP ONE: CONTINUE TO ACQUIRE PROPERTY WITHIN THE RIVERFRONT AS IT BECOMES AVAILABLE

As properties become available within the boundaries of the Lehigh Riverfront, the City of Allentown and the Allentown Economic Development Corporation should consider whether the acquisition of these properties are necessary for right-of-way, public use or to advance the economic development goals of the Master Plan.

STEP TWO: CONTINUE TO HOLD DISCUSSIONS WITH PROPERTY OWNERS TO REDEVELOP/SELL PROPERTIES TO THE CITY AND/OR INTERESTED DEVELOPERS

The City will need to continue to actively engage property owners within the Lehigh Riverfront. This includes encouraging property owners to relocate out of the Riverfront for those uses not envisioned within the Riverfront Master Plan (scrap yards, recycling, heavy industrial, etc.). The City should identify sites within the City that are conducive for these uses, in order to offer relocation services.

Public-private development agreements - Many property owners may not be willing to sell, but may be willing to enter into public-private partnerships with the City. The City should be open to such agreements, and be willing to work on behalf of the private property owner(s) to attract developers to these sites.

STEP THREE: DEVELOP A REQUEST FOR QUALIFIED STATEMENTS OF INTEREST TO ATTRACT QUALITY DEVELOPERS FOR THOSE PROPERTIES OWNED BY THE CITY.

For properties currently owned by the City, and for properties where the City has entered into public-private partnership development agreements, the City should prepare and issue Request for Qualifications/Statements of Interest (RFQS). The RFQS should include, but not be limited to:

- Key information about the Lehigh Riverfront from the Master Plan document
- City's requirements for development on the particular site
- Financial incentives such as the NIZ or KOZ
- Method for responding
- Financial requirements

GOAL 6: ENCOURAGE RESIDENTIAL DEVELOPMENT WITHIN THE RIVERFRONT

Recommendation 6: Strategically target key areas for residential development

STEP ONE: IMPLEMENT A RESIDENTIAL LOCAL ECONOMIC TAX ASSISTANCE (LERTA) PROGRAM

Residential living within the Riverfront is a key component of the Master Plan. Although this use will not be able to take advantage of the NIZ, it will provide a much needed foundation for the Riverfront. The City will need to work with developers to market various sites for residential living. If residents are not choosing to live within the Riverfront, additional incentives may need to be developed.

A residential LERTA is a program that has worked in other communities to attract residents to new types of development. The LERTA program should be used for both owner-occupied and rental housing units. The LERTA program should provide up to ten years of tax abatement.

STEP TWO: WORK WITH DEVELOPERS AND/OR PROPERTY OWNERS OF HISTORIC BUILDINGS TO ACCESS HISTORIC AND NEW MARKET TAX CREDITS

The Neuweiler Brewery and the Ribbon Works Factory are two buildings that can be used to anchor the Riverfront in its beginning stages of development. The City of Allentown's Department of Community and Economic Development should work with developers of the buildings to access historic tax credits, as well as new market tax credits. These programs can assist with restoration of the buildings, while providing a funding source for the residential component.

STEP THREE: DEVELOP A MARKETING BROCHURE AND OTHER ADVERTISING PIECES TO PROMOTE THE RIVERFRONT AS A CHOICE FOR RESIDENTIAL LIVING

As residential projects begin to develop, the Allentown Business Development Office (BDO) should develop a marketing brochure to promote the Riverfront as the newest City neighborhood. The brochure should heavily market the features of the Riverfront such as:

- Walking distance to downtown's amenities
- Leisure and recreational opportunities within the Riverfront
- Proximity to culture, sports and other amenities
- Access to transportation corridors
- Other features that have been developed within the Riverfront.

GOAL 7: CREATE OPPORTUNITIES FOR NEW INDUSTRY

Recommendation 7: Utilize existing incentives, properties, and funding opportunities to attract new clean industry

The Lehigh Riverfront should not only become a City neighborhood where people can enjoy water-oriented activities, passive and active recreation, new retail and restaurants, it should also continue to serve as a base of employment for the neighborhood and the Lehigh Valley. The new industry to be recruited to the Riverfront should be hi-tech or light industry which develops and manufacture products that are very sophisticated involving scientific research and development. This type of industry will help build and protect a pristine environment, while creating good paying jobs for the community.

STEP ONE: MEET WITH SITE SELECTION CONSULTANTS TO IDENTIFY NEW INDUSTRY

Site selection consultants will assist the City in understanding where trends are emerging within specific industries, and will provide insight as to what businesses are looking for when it comes to location decisions. This information will allow the City to develop and implement a targeted strategy for industrial business recruitment. The City of Allentown/DCED and the AEDC should meet with site selection consultants to understand the types of industries that are expanding into the Northeast region, what types of financial incentives are typically offered, and specific site requirements.

Examples of site selection consultants include:

Name of Consultant	Contact Information	Services Provided
Herron Consulting	1101 Juniper Street, Suite 51 Atlanta, Georgia 30309 Telephone: 404.815.7613	Site Selection Tax/Non-Tax Incentives Labor Force Analysis Relocation Feasibility Analysis Site Suitability Analysis Offshore Strategy
Wadley Donovan Gutshall	981 US Highway 22 West, Suite 100 Bridgewater, NJ 08807 Telephone: 908-864-5580	Location Strategy Relocation Feasibility Location Selection Labor Market HR Mobility Consulting Logistic Services Incentives Site Selection
KLG Advisors	104 Fifth Avenue, 20th Floor New York, NY 10011 212.514.4600	Location Strategy Development and Assessment Location Selection Site Selection Investor Services

STEP TWO: DEVELOP A MARKETING BROCHURE TO TARGET CLEAN INDUSTRY

The City's Department of Community and Economic Development should work with the Marketing Committee to develop a brochure that is targeted towards new industry. The brochure should highlight the KOZ and other loan programs offered by the City and the Allentown Economic Development

Corporation. The brochure should provide information from the Lehigh Riverfront Master Plan, and should specifically market individual sites available for lease and/or sale.

The brochure should provide key information such as:

- Available workforce
- Proximity to major markets and consumers
- Access to transportation corridors, rail and major airport
- Available property and cost
- Financial incentives
- Infrastructure available at the site(s) and
- Proximity to suppliers

Because future businesses will also be interested in the quality of life offered for employee recruitment, the brochure should also provide information relative to crime statistics, quality of educational offerings (both higher education and primary/secondary education), access to healthcare, cost of housing, amenities (recreational, cultural, sports) and access to parks, hiking trails and other green space.

STEP THREE: ACTIVELY RECRUIT NEW INDUSTRY TO THE RIVERFRONT

Working with the City of Allentown, the Allentown Economic Development Corporation should actively recruit new industry to zones 6 and 8 of the Riverfront. Based on information obtained from the Site Selection Consultants, the AEDC should develop a matrix of targeted industries and develop a strategy for recruitment.

STEP FOUR: ENCOURAGE PROPERTY OWNERS TO DEVELOP THEIR PROPERTIES IN ACCORDANCE WITH THE MASTER PLAN

The City of Allentown and the Allentown Economic Development Corporation should continue to work with property owners to encourage them to sell, lease or develop their properties based on the vision of the Lehigh Riverfront Master Plan. Many property owners may not be willing to sell, but may be willing to enter into public-private partnerships with the City. The City should be open to such agreements, and be willing to work on behalf of the private property owner(s) to attract developers to these sites.

STEP FIVE: ASSIST NEW INDUSTRY WITH IMPROVEMENTS AND EXPANSIONS

The City of Allentown and the Allentown Economic Development Committee should continue to network with new industry in order to assist them in moving through their business life cycles. The City should be prepared to assist with challenges and financing needs to guide these industries through each stage of their business.

GOAL 8: DEVELOP A BUSINESS RECRUITMENT PLAN TO ASSIST DEVELOPERS AND PROPERTY OWNERS IN ACTIVELY RECRUITING RETAIL BUSINESSES TO THE RIVERFRONT

Recommendation 8: Develop and implement a business recruitment plan that specifies the types of business uses desired for the Riverfront.

The City's Department of Community and Economic Development (DCED) should take a lead role in retail business recruitment. This office will identify businesses and will provide initial mentoring for these newly created businesses within the Riverfront.

STEP ONE: USING THE MARKET ASSESSMENT, IDENTIFY A WISH LIST OF RETAIL BUSINESS TYPES FOR THE RIVERFRONT

The DCED and the AEDC should work together to identify a wish list based on business type and location for the Riverfront (e.g. light industrial businesses for Zones 6 and 8; water oriented retailers for zones adjacent to the Lehigh River). These should help guide the recruitment effort.

Tools such as *Plain Vanilla Shell* can be used to identify new retailers. This site will provide the retailers' requirements for demographics such as population, age and median income. Will also provide the retailers' preference for location (e.g. strip mall, free standing, downtowns, lifestyle centers and power centers).

Limit Certain Retail Types. The City should limit fast food restaurants, dollar stores and other bargain type retailers within the Riverfront. These types of retail/restaurants are typically the easiest to attract, but are not the best when the goal is to provide a development that is truly unique within the marketplace.

Limit retailers/restaurants that compete with existing businesses in the Riverfront and downtown Allentown. The Riverfront should not compete against existing businesses located in downtown Allentown or in the adjacent neighborhoods. New businesses should complement existing businesses within the City, this will add to the regional drawing power for the City.

Identify Unique Retail/Restaurant for the Riverfront. The City should work with developers to identify boutique, niche retailers that currently do not exist within the Lehigh Valley. A concerted effort to attract retailers that are water-oriented should be a high priority; this will create the uniqueness and set the Riverfront apart from other suburban development within the Lehigh Valley.

STEP TWO: DEVELOP A MARKETING BROCHURE FOR THE RIVERFRONT

The DCED should develop a marketing brochure for the Riverfront. This marketing brochure should include:

- Desired list of business types for the Riverfront
- Information from the Lehigh Riverfront Master Plan
- Amenities (current and proposed)
- Demographics
- Financial Incentives

STEP THREE: WORK WITH PROPERTY OWNERS AND DEVELOPERS TO ACTIVELY RECRUIT BUSINESSES FOR THE RIVERFRONT

The DCED must be strategic in its approach to attract new businesses for the Riverfront. Recruiting for the sake of bringing in new business, no matter what the type, should be strongly discouraged. Educate the developers and property owners on the importance of not duplicating the types of businesses found in downtown Allentown, and recruiting different types of businesses for the Riverfront. The key to the Riverfront's success will be creating a place that will attract developers, businesses, consumers and new residents. **This can only be accomplished if the Riverfront does not try to duplicate what already exists.** Time and effort must be devoted to strategically, and actively recruiting quality businesses to serve consumers within the City, Lehigh Valley and beyond.

GOAL 9: ENABLE THE RIVERFRONT'S SMALL AND EMERGING BUSINESSES TO SURVIVE AND THRIVE

Recommendation 9: Support small and emerging businesses by providing technical assistance, access to information, and funding opportunities

Although the success of the Riverfront will be dependent on the recruitment of new business and residents, it will be equally important to develop programs that:

- retain current businesses
- allow for business expansion
- assist small and emerging businesses.

The City's Business Development Office and Department of Community and Economic Development (DCED) should spearhead this effort. Committee members should include existing businesses from each sector (retail, commercial, service and industrial), members of the Allentown Economic Development Corporation, Lehigh Valley Economic Development Corporation and the Lehigh Valley Chamber.

STEP ONE: SOLICIT TRAINING AND TECHNICAL ASSISTANCE FROM THE LEHIGH UNIVERSITY SMALL BUSINESS DEVELOPMENT CENTER

The Lehigh University SBDC provides consulting services and educational programs to entrepreneurs wanting to start or grow a small business. Their consultants work one on one with entrepreneurs to help test a new business proposition, shape a business plan, or investigate funding issues. Addressing topics ranging from financing to issues to marketing tactics, SBDC programs serve to inform and assist entrepreneurs with the many tasks that business owners face. Their services include:



- First Step Program. This program is designed for individuals who are in the planning stages of starting a new business. Sessions are held in Northampton, Lehigh, Upper Bucks and Northern Montgomery counties. The content is a general overview of what it takes to start a business. The second phase of this program provides one-on-one counseling to assist with business planning, cash flows, financing, marketing, legal, accounting, etc.
- New and Existing Business Programs provide one-on-one counseling with SBDC consultants to obtain assistance on programs such as:
 - Business and Technology Development
 - Environmental Management Assistance Program
 - Financial Assistance
 - International Trade Development
 - Management Assistance Counseling
 - Lehigh Valley Financing
 - Seminars – Personal and Online for start-ups and existing businesses.

STEP TWO: DEVELOP NETWORKING OPPORTUNITIES FOR RIVERFRONT BUSINESSES

The DCED should develop a yearly calendar that includes both mixers and informational seminars. This provides an opportunity for networking and creates a venue to allow for the growth and retention of existing businesses.

The DCED should also identify mentors to be paired for new and emerging businesses to assist them through their first year of operations.

STEP THREE: PROMOTE ECONOMIC DEVELOPMENT PROGRAMS OFFERED BY THE CITY'S ECONOMIC PARTNERS

The City of Allentown, the Allentown Economic Development Corporation, County of Lehigh Economic Development Corporation, and the Lehigh Valley Economic Development Corporation all offer assistance to business and industry for various programs and life stage of the business.

The RBDC should develop an informational brochure to highlight the programs available to assist existing businesses, as well as the small and emerging business and industry.

GOAL 10: DEVELOP THE RIVERFRONT'S PARKING AND ACCESS MANAGEMENT

Recommendation 10: Create and implement a cost effective parking and access management program for the Riverfront though both on/off street parking options that support a vibrant mix of uses.

As commercial and residential development occurs, sufficient parking will be critical to support the new commercial and residential activity within the Riverfront. Shared parking and other parking management tools should be used to ensure that parking remains cost effective, but also meets the demand.

STEP ONE: INCLUDE PARKING REQUIREMENTS WITHIN ALL ZONING CHANGES

This report provides recommendations for parking, as the Lehigh Riverfront begins to develop. The City of Allentown and the Allentown Planning Commission should review all recommendations and amend language within the zoning ordinance as appropriate.

STEP TWO: WORK WITH PRIVATE DEVELOPERS AND PROPERTY OWNERS TO SECURE NECESSARY LAND FOR PARKING

As developers begin to purchase property for the uses proposed within the Lehigh Riverfront Master Plan, it may be necessary for the City to play a role in providing the parking necessary to support the private investment. Although the Master Plan should be used as a guide, the City should remain flexible when working with developers and their proposed projects. Adequate and affordable parking will be important for supporting the kinds of development envisioned within the Master Plan.

STEP THREE: IDENTIFY CREATIVE DEVELOPMENT OPPORTUNITES , PARTERSHIPS AND FUNDING SOURCES

Parking decks are expensive and will require higher parking fees in order to retire the long term debt used to finance their construction. The parking decks financed and constructed by the City should always incorporate retail and commercial uses. This development mix not only adds visual appeal to the parking decks, but also provides revenue to help subsidize and lower the parking rates.

The City should also work with LANTA to develop bus facilities within the City's parking decks. This would provide opportunities to seek federal funding to help with construction costs and ongoing maintenance costs.

The City should meet with state officials to identify possible state funding such as the Redevelopment Capital Assistance Program for future line items within the Capital Budget Bill.

3.2.3 PHASING: TIME FRAMES, LEAD PARTNERS, FUNDING & FINANCING OPPORTUNITIES

The NIZ will provide financial incentives to encourage new development within the Riverfront. The City of Allentown will need to take a lead role in building infrastructure necessary to provide access to the site, support proposed development, and provide amenities to attract new businesses and residents.

The following matrix takes the action steps from Section 3.2.2 and provides the time frames for implementation, lead partners, and funding that can be secured to build the critical infrastructure.

Table 3-1: IMPLEMENTATION MATRIX – TIME FRAMES AND LEAD PARTNERS

		Lead Organization	Partners	Implementation Schedule
GOAL 1: IMPLEMENT A DESIRED LAND USE PROGRAM				
Step 1	Adopt the Lehigh Riverfront Revitalization Plan by Resolution	City of Allentown		YEAR ONE: 1 – 3 months
Step 2	Adopt an official map that incorporates the public infrastructure and improvements from the Plan into an official document that preserves the rights of way (ROWs) for these improvements	City of Allentown	Allentown Planning Commission	YEAR ONE: 3 - 12 months
Step 3	Adopt zoning changes to allow for redevelopment envisioned within the Plan to occur (i.e., mixed-use overlays, Riverfront overlays, etc.)	City of Allentown	Allentown Planning Commission	YEAR ONE: 3 - 12 months
Step 4	Adopt design guideline principles and development guidelines	City of Allentown	Allentown Planning Commission	YEAR ONE: 3 – 12 months
GOAL 2: DEVELOP A TRANSPORTATION SYSTEM TO INCLUDE BOTH ROADS AND STREETScape IMPROVEMENTS				
Step 1	Begin and continue to secure necessary ROW(s) and properties for a transportation system within the Riverfront	City of Allentown	City of Allentown Public Works Department	YEAR ONE: Initiate purchase of property and/or dedication of right-of-way. Continue to acquire as funding is made available

Step 2	Prioritize projects	City of Allentown	Riverfront Implementation Team	YEAR ONE: Month 3
Step 3	Meet with the Lehigh Valley Planning Commission/Transportation Study to include projects on the Transportation Improvement Program	City of Allentown	City of Allentown Public Works Department/Bureau of Planning and Zoning	YEAR ONE: 7 months – 9 months
Step 4	Meet with state and federal officials to discuss Riverfront road and streetscape projects and discuss funding opportunities	City of Allentown	Department of Community and Economic Development	YEAR ONE: 1 - 6 months based on priorities; this task will be ongoing as infrastructure is constructed and priorities may change
Step 5	Begin to apply for state and federal funding	City of Allentown		YEAR ONE: 6 months (ongoing); this task will be ongoing until infrastructure is constructed.
GOAL 3: PROVIDE DESIRABLE PUBLIC SPACE AND FACILITIES WITHIN THE RIVERFRONT				
Step 1	Secure the necessary ROW(s) and properties for public parks, trails, and recreation areas	City of Allentown	Allentown Parks & Recreation Department	YEAR ONE: Initiate purchase of property. Continue to acquire as funding is made available
Step 2	Obtain necessary approvals (i.e., Fish and Boat Commission, Lehigh Conservation District), if required, for public water facilities to be located in or adjacent to the Lehigh River	City of Allentown	Allentown Parks & Recreation Department	YEAR ONE: Month 6 through Month 12

Step 3	Meet with the Lehigh Valley Planning Commission/Lehigh Valley Transportation Study to incorporate projects into the Transportation Improvement Program (i.e., promenade)	City of Allentown	Bureau of Planning and Zoning	YEAR ONE: Concurrently with roads/streetscapes)
Step 4	Meet with state and federal officials to discuss funding opportunities for Riverfront projects	City of Allentown	Department of Community and Economic Development	YEAR ONE: 1 - 6 months based on priorities; this task will be ongoing as facilities are constructed and priorities may change
Step 5	Develop a priority list and begin to apply for state and federal funding	City of Allentown	Department of Community and Economic Development	YEAR ONE: 6 months (ongoing); this task will be ongoing until facilities are constructed.
GOAL 4: CREATE A POSITIVE IDENTITY FOR THE RIVERFRONT				
Step 1	Develop and execute a branding and marketing campaign for the Riverfront	City of Allentown	Riverfront Marketing Committee	YEAR TWO Month 1 - 6
Step 2	Develop a Public Relations Campaign for the Riverfront	City of Allentown	Riverfront Marketing Committee	YEAR TWO Month 1 - 6
Step 3	Program special events to showcase the Riverfront	City of Allentown	Riverfront Marketing Committee	Immediate and ongoing as recreational properties are brought online
GOAL 5: SEEK AND WORK WITH DEVELOPERS FOR CITY-OWNED PROPERTY				
Step 1	Identify properties of opportunity that should be targeted for acquisition.	City of Allentown	City of Allentown Economic Development and AEDC	YEAR TWO Month 1 - ongoing

Step 2	Continue to hold discussions with property owners to redevelop/sell properties to the City and/or to interested developers	City of Allentown	City of Allentown Economic Development and AEDC	YEAR TWO Month 1 - ongoing
Step 3	Develop a Request for Qualified Statements of Interest to attract quality developers to redevelop properties owned by the City	City of Allentown	City of Allentown Economic Development and AEDC	YEAR TWO Ongoing as property is acquired
GOAL 6: ENCOURAGE RESIDENTIAL DEVELOPMENT WITHIN THE RIVERFRONT				
Step 1	Implement a residential Local Economic Revitalization Tax Assistance (LERTA) Program –	City of Allentown	City of Allentown, School District, and County	YEAR TWO Months 1 - 6
Step 2	Work with developers and/or property owners of historic buildings (Neuweiler Brewery, Ribbon Works, etc.) to access historic and new market tax credits	City of Allentown	Department of Community and Economic Development	YEAR TWO Months 1 - 6
Step 3	Develop a marketing brochure to promote the Riverfront as a choice for residential living	City of Allentown	Department of Community and Economic Development	YEAR TWO: Months 6 - 9
GOAL 7: CREATE OPPORTUNITIES FOR NEW INDUSTRY				
Step 1	Develop a marketing brochure for the Keystone Opportunity Zone (KOZ) and its benefits	City of Allentown	Department of Community and Economic Development	YEAR TWO: Month 1 - 3
Step 2	Identify clean industry for Zones 6 and 8	AEDC	AEDC	YEAR TWO: Month 4 - 6
Step 3	Identify properties of opportunity for new industry.	AEDC	AEDC	Immediate/ongoing
Step 4	Actively recruit new industry to Zones 6 and 8	AEDC	AEDC	YEAR TWO: Month 9
Step 5	Assist owners with improvements and expansions	AEDC	AEDC	ongoing

GOAL 8: DEVELOP A BUSINESS RECRUITMENT PLAN TO ASSIST DEVELOPERS AND PROPERTY OWNERS IN ACTIVELY RECRUITING BUSINESSES TO THE RIVERFRONT				
Step 1	Using the market assessment, identify a list of targeted business types for the Riverfront	City of Allentown	Department of Community and Economic Development	YEAR THREE 1 - 3 months
Step 2	Develop a marketing brochure for the Riverfront	City of Allentown	Department of Community and Economic Development	YEAR THREE 3-6 months
Step 3	Actively assist property owners with business recruitment	City of Allentown	Department of Community and Economic Development	YEAR THREE 1 month (ongoing)
GOAL 9: ENABLE THE RIVERFRONT'S SMALL AND EMERGING BUSINESSES TO SURVIVE AND THRIVE				
Step 1	Solicit training and technical assistance from the Lehigh University Small Business Development Center	City of Allentown	Department of Community and Economic Development	YEAR THREE 1 - 12 months (ongoing)
Step 2	Develop networking opportunities for Riverfront businesses.	City of Allentown	Department of Community and Economic Development	YEAR THREE 6 - 18 months
Step 3	Promote Economic Development Programs offered by the City's economic partners	City of Allentown	Department of Community and Economic Development	YEAR THREE 1 - 6 months (ongoing)
GOAL 10: DEVELOP RIVERFRONT'S PARKING AND ACCESS MANAGEMENT				
Step 1	Include parking requirements within all zoning changes	City of Allentown	Allentown Planning Commission	YEAR ONE Incorporate into zoning changes
Step 2	Work with private developers and property owners to secure necessary land for parking	City of Allentown	City of Allentown and Allentown Parking Authority	Immediate; ongoing
Step 3	Identify possible funding sources, if needed	City of Allentown	City of Allentown and Allentown Parking Authority	As needed

PUBLIC FUNDING

The following are sources of state and federal funding that should be targeted to pay for infrastructure and public improvement projects.

ACT 13 OF 2012 (AMENDING TITLE 58 – OIL AND GAS) - The Act Amending Title 58 (Oil and Gas) of the Pennsylvania Consolidated Statutes (Act 13 of 2012) will provide funds to the Commonwealth’s Counties, as well as various state agencies such as the Commonwealth Financing Authority. Under the Marcellus Legacy Program, Lehigh County will receive approximately \$300,000 for the planning, acquisition, development, rehabilitation and repair of greenways, recreational trails, open space, natural areas, community conservation and beautification projects, community and heritage parks and water resource management. The Commonwealth Financing Authority will receive approximately \$14,500,000 from fees collected in 2011. A portion of these funds can also be used for planning acquisition, development, rehabilitation and repair of greenways, recreational trails, open space, parks and beautification projects.

Funding Opportunity/Agency	Purpose	Maximum Amount of Funding	Eligible Applicants
Pennsylvania Infrastructure Bank (PIB)	Roadway improvements, bridge repairs & replacements, traffic signals & signage, traffic calming & pedestrian crossing improvements, Hometown Streets and Safe Routes to Schools programs	Low-interest loan. Interest rate is 1/2 of prime, currently at 1.625%.	Cities, townships, boroughs, counties, transportation authorities, economic development agencies, nonprofit organizations, and private corporations
Redevelopment Assistance Capital Program (RACP) Program has been restructured	Reimbursable funding for construction of economic development projects that generate substantial increase in economic activity or projects that have a significant cultural, historic, or civic significance.	Minimum of \$500,000 Maximum of \$5 million \$125 million available in 2013. Two rounds of funding (\$62.5 million each). Revised process includes: <ul style="list-style-type: none"> • SUBMISSION OF BUSINESS PLANS • PROJECTS ARE RANKED BY CRITERIA • PROJECTS ARE SELECTED. AWARD LETTERS PROVIDED BY OB • SUBMISSION OF FULL APPLICATIONS Deadlines for Business Plans: February 1, 2013 and July 26, 2013	Counties; municipalities; redevelopment authorities Project must be listed in a Capital Budget authorization bill.

<p>Governor’s Discretionary Economic Development Program</p>	<p>Funds come from the annual reserve from the state highway program funds. Funding is distributed at the discretion of the Governor and the Pennsylvania Secretary of Transportation for transportation improvements associated with statewide economic development opportunities</p>	<p>Process involves support from State Senator/Representative; Pennsylvania Secretary of Transportation. Projects must be tied directly to economic development and job creation.</p>	<p>City of Allentown</p>
<p>Department of Natural Conservation, Community Conservations Partnership Program (C2P2)</p>	<p>Rehabilitation of existing park and recreation facilities, particularly through the incorporation of green principles; trail projects that close gaps in major statewide greenways and regionally significant trails; implementation of Rivers Conservation Plans including enhancing water trails and improving public river access; planning to help park and recreation facilities become greener; land conservation for critical habitat, key connectors, expansion of existing park and recreation areas and the establishment of new community parks</p>	<p>Most projects require a 50% match, which can include a combination of Cash and/or Non-Cash values. Land Acquisition Projects- Require a Self-Contained Land Appraisal report by a State Certified General Real Estate Appraiser. Public Access and Use will also be required and must be defined.</p>	<p>County or Municipal Government Higher Educational Institution Other Educational Institution Non-profit with 501(c)3 IRS Status Non-profit with PA Bureau of Charitable Organizations Status</p>
<p>Industrial Sites Reuse Program (ISRP)</p>	<p>The ISRP offers grant and low-interest loan financing to perform environmental site assessment and remediation work at former industrial sites. Phase I, II, and III Environmental Assessments; remediation</p>	<p>Terms of up to 15 years are available for remediation projects. A 25% match is required for grant and loan projects. \$1 million maximum. Rolling application deadline. Award will not exceed 75% of total cost of environmental assessment, or 75% of remediation costs.</p>	<p>Local Government, Economic Development Agencies, Company</p>

FEDERAL FUNDING OPPORTUNITIES			
Community Development Block Grant (CDBG)	Economic development activities eligible under CDBG; acquisition of real property; rehabilitation of publicly owned real property; housing rehabilitation eligible under CDBG; construction, reconstruction, or installation of public facilities; related relocation, clearance, and site improvements; payment of interest; debt service reserves; public works & site improvements	Percentage of annual allocation from HUD.	Metropolitan cities and urban counties (i.e., CDBG entitlement recipients);
Community Development Block Grant (CDBG) Section 108 Program	Economic development activities eligible under CDBG; acquisition of real property; rehabilitation of publicly owned real property; housing rehabilitation eligible under CDBG; construction, reconstruction, or installation of public facilities; related relocation, clearance, and site improvements; payment of interest; debt service reserves; public works and site improvements	The next round of state entitlement Section 108 loans will be contingent upon the federal allocation of funding. \$3 - \$5 million	Metropolitan cities and urban counties (i.e., CDBG entitlement recipients); non-entitlement communities that are assisted in the submission of applications by states that administer the CDBG program; and non-entitlement communities eligible to receive CDBG funds under the HUD-administered Small Cities CDBG program.
Congestion Mitigation and Air Quality Funding (CMAQ) Every 2 years in odd years.	Bicycle and pedestrian facilities primarily for commuter use; congestion reduction and traffic flow improvements; traffic signal interconnection/synchronization projects; traffic signal installation		Cities, townships, boroughs, counties, transportation authorities, Transportation Management Associations, Metropolitan Planning Organizations, economic development agencies, and nonprofit organizations



“Thank you for your interest in the Lehigh Riverfront Plan... we welcome your participation in this next chapter of Allentown’s development.”

Please contact the City of Allentown Community & Economic Development Department if you are interested in playing a role in the Lehigh Riverfront!



THE LEHIGH RIVERFRONT MASTER PLAN

ALLENTOWN, PENNSYLVANIA



For More Information please contact:



THE CITY OF ALLENTOWN

Mr. Michael Hefele, AICP

Director of Planning and Zoning

435 Hamilton Street

Allentown, PA 18101

610.437.7611

Michael.Hefele@allentownpa.gov



EDSA, Inc.

Urban Design - Planning -

Landscape Architecture

Inner Harbor Center

400 East Pratt Street, Suite 902

Baltimore, Maryland 21202

443.539.3350