SOUTH BUFFALO BROWNFIELD OPPORTUNITY AREA

NOMINATION DOCUMENT

DRAFT

May 2009

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Project Description and Boundary

1.1 Lead Project Sponsors

The Office of Strategic Planning of the City of Buffalo was awarded a grant through the New York State Department of State (NYSDOS) and New York State Department of Environmental Conservation (NYSDEC) to initiate a Brownfield Opportunity Area (BOA) study. The purpose of the study was to assess the status and long term potential of the former steelfield lands and related adjacent areas to establish a long term vision and identify strategies for change. The City of Buffalo, acting as lead agency pursuant to the State Environmental Quality Review Act (SEQRA) and its implementing regulations (6 NYCRR Part 617), directed preparation of the South Buffalo BOA Nomination Document.

The Nomination Document, including a Master Plan for the BOA, was prepared in accordance with the guidelines established by NYSDOS and NYSDEC for the Nomination Study (Step 2) and Implementation Strategy (Step 3) phases of the BOA Program. Several representatives from community and public sector based organizations sat on the South Buffalo BOA Steering Committee and made significant contributions to the development of the Nomination Document. Their role is expanded upon in Section 2.

1.2 Project Overview and Description

The City of Buffalo is the second largest city in the State of New York and is the transportation hub of the Buffalo-Niagara Region. The City is located on the shores of the Niagara River, at the eastern end of Lake Erie, and has an area of 41 square miles. It is the fifth busiest trade city in the U.S. and at the center of North America's fifth largest market, with access to over 9 million consumers living within a 125-mile radius. A former industrial giant, the City is now the center of the Buffalo-Niagara region for law and administration, banking and business, technology and communications, media and creative services, health care and medical research, culture and heritage, sports and entertainment, restaurants and retailing.

Due to economic restructuring over the past several decades, Buffalo now finds itself in a state of transition. Its older factories, not easily adapted to the requirements of the new economy have been closing down for some time. The slow and permanent decline of large scale heavy manufacturing industries combined with an increasing substitution of technology for labor has resulted in a fewer number of high paying, career-path jobs. As a result, the City and Region have been losing industrial sector jobs and population for decades.

As older factories close down, they leave behind large empty tracts of land and underused buildings, such as the grain silos. Lower environmental standards during the first half of the 20th century have meant that many of these sites are contaminated and in need of significant rehabilitation before they can be reused. However, as they are often located in well serviced, prime locations – on waterfronts, and next to rail, highway and utility corridors – these brownfield areas provide significant prospects for redevelopment, economic centralization and a recapturing of the former strength of the core of the City. Just as their strategic position renders them valuable, so does the fact that development of these places takes pressure off of important environmental and agricultural areas, which are often compromised by continued suburban growth and decentralization of the City and Region.

Through the efforts of the Office of Strategic Planning, the City of Buffalo was awarded a significant grant through NYSDOS and NYSDEC to establish a BOA in South Buffalo and to begin the planning process necessary to address contamination in an area that had a mix of heavy industry, commercial and residential uses and formerly served heavy steel manufacturing industries. The South Buffalo BOA is within the southwest portion of the City of Buffalo, Erie County, in the western region of New York. It is located a few miles south of downtown, situated adjacent to the Buffalo River and the City's lakefront. It is the largest BOA to receive funding in the State of New York. Refer to Maps 1.1 and 1.2, which illustrate the location of the South Buffalo BOA in relation to the Region and the City.

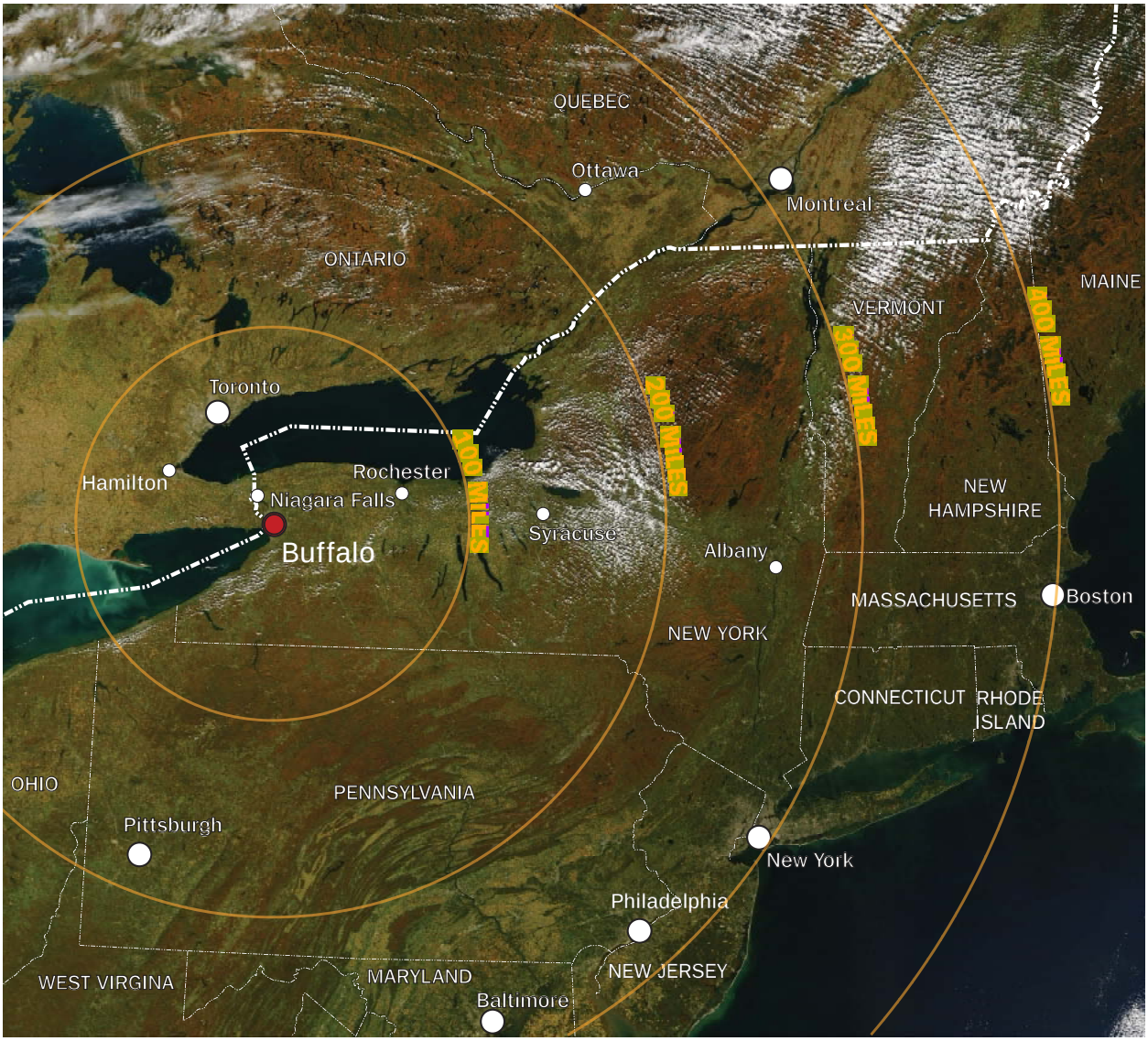
As defined by the United States Environmental Protection Agency (EPA), brownfields are abandoned, idled or underutilized industrial or commercial properties where expansion or redevelopment is complicated by real or perceived environmental contamination. Cleaning up and reinvesting in these properties takes development pressures off of undeveloped open land and improves and protects the environment. The BOA grant provides Buffalo with the resources to plan for the revitalization of several brownfield sites and vacant and underutilized properties. This enables the City to establish a vision for the redevelopment of these lands and to develop implementation strategies to begin the process necessary to return the sites to productive or beneficial uses.

The BOA program is comprised of three steps. The Pre-Nomination Study (Step 1) involved the selection of the area in need of cleanup and redevelopment, and included basic information about

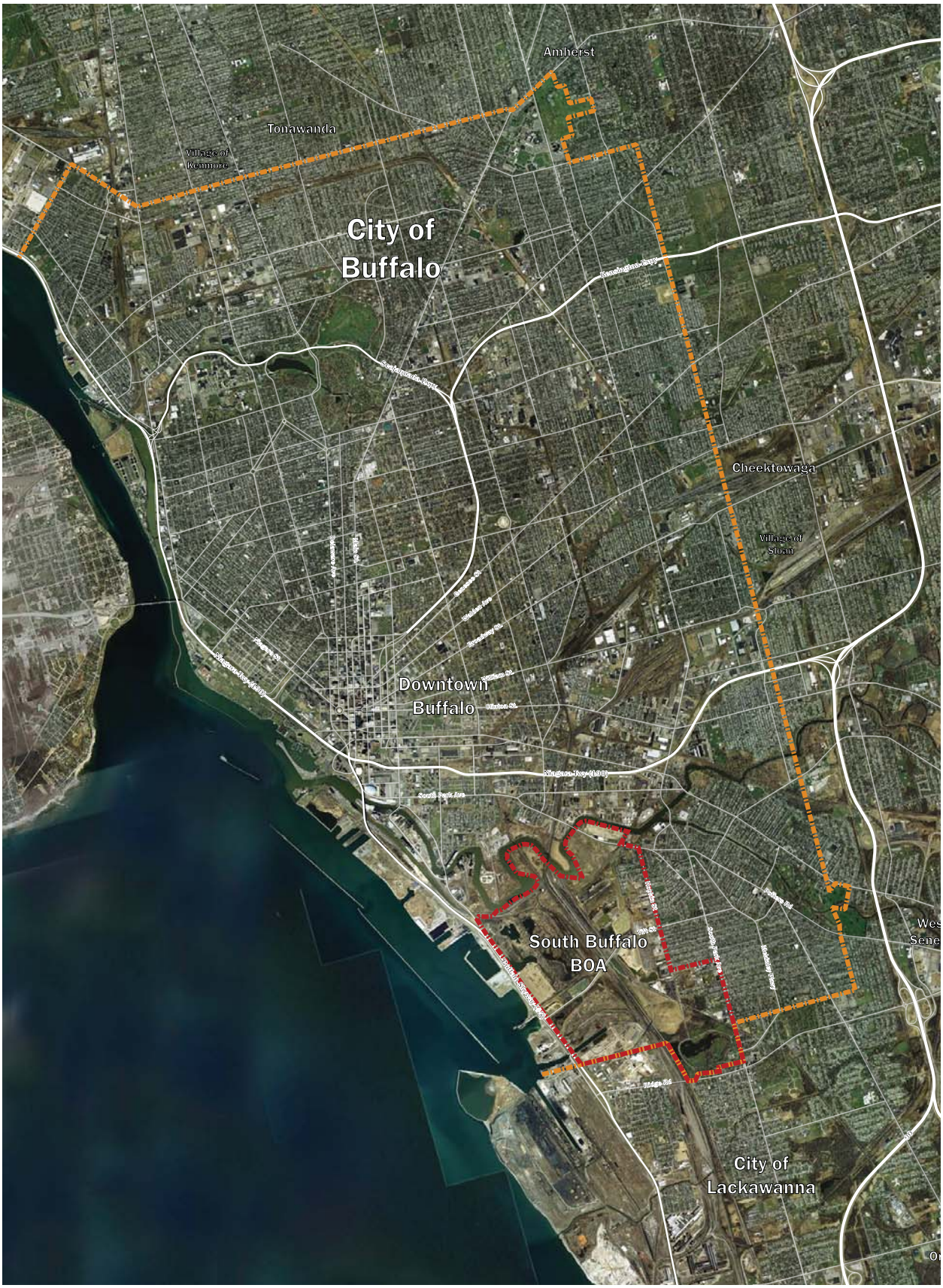
Abandoned silos on the River

the BOA and the brownfield sites contained within it. Additionally, a vision for redevelopment of the study area was developed through implementation of a community-based visioning process. The second step of the BOA program is the Nomination phase (Step 2). It involved a continuation of the data acquisition and public consultation process, as well as the completion of an in-depth analysis of the BOA, including a market and economic analysis, and the development of a Master Plan.

The third and final step of the BOA program is the Implementation Strategy (Step 3). The City of Buffalo intends to apply for enrollment into the third step of the BOA program upon acceptance of this Step 2 study. It will focus on strategic planning to achieve the successful redevelopment of the area and in particular the identified priority sites. Additional funding to conduct site assessments will be used to evaluate the environmental conditions of strategic brownfield sites and to determine the required



Map 1.1: Community Context (BOA within the region)



Map 1.2: Study Area Context (BOA within the City)

remedial effort, if any, to move those sites back into productive use. Successful completion of the BOA program will unlock valuable state and federal funding opportunities to support site remediation, including preference under the New York State Department of Environmental Conservation, Environmental Restoration and Environmental Protection Fund programs. It will also allow the City of Buffalo to build upon relationships with regional planning and development agencies and with state and local governmental agencies.

This document, the Nomination Document, is the product of Step 2, which ran from November 2007 until the Summer of 2009. With this document, the City of Buffalo has embarked on a journey to transform approximately 2,000 acres of brownfield lands, the South Buffalo BOA, which includes over 80 potentially contaminated parcels on 311 acres of land. Having received the largest Step 2 grant in the State under New York State's BOA Program, Buffalo is now poised to set the standard for excellence in brownfield redevelopment, emerging, through this program, as a leader in the field of brownfield redevelopment.

This is a critical initiative for the City. It reflects a long felt desire to reposition and unlock the potential of the South Buffalo Opportunity lands, and reconnect communities to the lakefront, riverfront and downtown. The BOA process has the potential to ignite and fuel the process of land remediation and redevelopment and bring new economic, social and cultural opportunities, strengthening Buffalo's position as the business and institutional center of the Buffalo-Niagara Region. The goal is to establish a vision for the future with broad based community, municipal and state support, solidly grounded in an understanding of: current and emerging challenges, initiatives and opportunities within the national and local contexts, the land base condition, the BOA's assets and constraints, and the near and long-term market potential. A number of specific factors have merited careful attention:

- The study area has a well-documented history of contamination and neglect. Tensions arising through environmental and health concerns and issues of land use compatibility need to be comprehensively addressed to balance community and employment goals while re-building confidence in remediation efforts and cutting edge technologies needed to repair and stabilize frayed neighborhood edges.

- The site is extensive and cannot be redeveloped all at one time. Some parts of the site are vastly underutilized or abandoned while others remain industrial or have been prepared for new business type uses. The development framework must integrate a phased approach, carefully exploring the range of economically viable uses which can bolster the city in the short term, and provide a logical platform or transition to higher value uses over the longer 25 year vision.

- The abundance of relatively cheap, 'shovel-ready' land at the urban fringe means that creative or incentive based implementation strategies will be needed to encourage front end development projects. Municipal efforts should be targeted to priority projects which have the potential to capture new market opportunities in key growth sectors and to build momentum and encourage private sector confidence over the long term.

- The site has a distinct location where the lakefront, riverfront, natural heritage areas, open spaces, wetlands and future parkland can be creatively stitched together to create a public realm network supporting a variety of active and passive recreational opportunities.

1.3 Community Vision and Goals and Objectives

As detailed in Section 2, and throughout the Nomination Document, the knowledge and insights of the community were integral to the analysis of the BOA and the development of the Master Plan. The Master Plan Principles, presented in Section 4.3, strongly reflect the perspectives and goals that were offered by the community during the study. Discussions were at times focused on the benefits and draw-backs of particular land uses, the role of specific streets or the potential development of certain land parcels. At other times, conversations were open ended, exploring themes that were relevant to the entire BOA, such as providing new housing opportunities, attracting higher paying jobs, seeking new recreational, natural and open space amenities and, generally, improving overall community quality of life. While it was supported that the BOA be an engine of growth within the region, it was also desired that the area contribute to community development by including a mix of land uses, improving mobility, fostering attractive neighborhoods with a strong sense of place and enhancing the natural environment. A snapshot of what was heard during the sessions with the community is presented below.

A selection of what we heard...

Introduce new waterfront recreational/retail opportunities (boating, water taxis) along the Buffalo River Use BOA as a national model for brownfields redevelopment – show that Buffalo can do it right Leverage natural resource assets to attract businesses and R&D Better integrate the entire BOA to the waterfront Improve connections throughout BOA Renew national image of Buffalo as a place of innovation in which to invest Leverage and build on the green economy Build on other initiatives in the BOA – UB, river clean-up Protect valuable wildlife habitat Improve public access to recreation across the BOA Jobs, jobs, jobs of all colors! Including Green! Promote industry that builds on existing transportation infrastructure Promote sustainable storm water management Create new walkable, complete neighborhoods Support growth of renewable energy/fuel industries Reinvigorate Tifft Street as a more inviting place Revitalize Olmsted vision for Buffalo Address elevated highway Promote a more dense urban form Need connection to the I-190 Ensure an appropriate transition between surrounding neighborhoods and BOA Invest in new linkages to the downtown Get rid of the junk yards Protect residential areas Address the needs of youth Support Hopkins as a destination street.

1.4 Brownfield Opportunity Area Boundary Description and Justification

The South Buffalo BOA is bounded by NYS Route 5 on the West, the Buffalo River on the north, Hopkins Street and South Park Avenue on the east and the City of Buffalo-City of Lackawanna municipal boundary on the south (Map 1.3). Lake Erie is located to the immediate west of the BOA, directly across Route 5. This boundary was identified for several reasons. The northern edge was adjacent to the Buffalo River, which created a natural border and which will be the focus of a subsequent BOA study. The western edge, adjacent to Route 5, was appropriate as the lakefront on the other side of Route 5 will be the subject of a subsequent BOA as well. The eastern boundary was generally defined by the edge of the South Buffalo residential community and was aligned with major streets. Finally, the southern edge was selected as it approximated the City of Buffalo's boundary with the City of Lackawanna. The vast majority of land included within the BOA would either benefit from redevelopment or from additional preservation measures.

The BOA represents the portion of the City having the largest geographic concentration of former heavy industries. Today, apart from the New Village Industrial Park and CSX Intermodal rail yard to the south and RiverWright renewable energy facilities to the northwest, the immediate development context is primarily low rise residential, including the Old First Ward to the north and the neighborhoods of South Buffalo to the east. Ownership in the BOA is roughly equal between the public and private sectors, approximately 783 acres and 770 acres respectively. The total noncontiguous City-owned land within the study area consists of approximately 530 acres, which includes City of Buffalo, the Buffalo Urban Renewal Agency and the Buffalo Economic Renaissance Corporation. The third largest ownership category includes the railroad properties, which account for approximately 258 acres. Several key properties with considerable redevelopment potential and/or representing a significant public interest include:

- Union Ship Canal/Lakeside Commerce Park; Steelfields (former LTV/Republic Steel);
- Tift Nature Preserve;
- Existing and former railroad corridors;
- Village Farms;
- Alltifft Landfill;
- Marilla Street Landfill;
- South Park; and,
- Surrounding mixed-use residential/commercial/industrial neighborhoods.

Map 1.3: The Brownfield Opportunity Area Boundary

A Steering Committee Workshop
Soliciting Feedback

2

Public Participation Plan and Techniques to Enlist Partners

2.1 Introduction

The South Buffalo BOA community participation plan and techniques to enlist partners was based upon a comprehensive approach to consultation that enabled input at a variety of levels and stages throughout the process. This laid a foundation and provided a solid framework for the dissemination of information and public feedback / direction throughout the development of the Nomination Document.

The consultation plan was organized around the project's Scope of Work to provide direct and timely inputs into the project deliverables. This helped to establish a relationship with the community which was fostered through numerous consultation events over the course of the project and multiple communication strategies. Events were timed and structured to address multiple audiences on a variety of topics. The program required a solid understanding of both the audience(s) and effective communication techniques to engage and enhance participation and is described as follows:

- Understanding our Audiences: anticipating the many groups and stakeholders who would be engaged throughout the project
- Communication Strategies: enhancing participation and gaining the support of the audiences throughout the Nomination process
- Community Participation Plan and Techniques to Enlist Partners: identifying events and opportunities for broad-based public participation

2.2 Understanding Audiences and Enlisting Partners

Through the course of the Nomination process we interacted with numerous audiences - sometimes separately and sometimes in mixed groups - each of which brought different interests and perspectives to the process. These audiences included:

- City Councilors: One of the most important audiences, City Councilors are representatives of general community interests, and, at the end of the day, of the Nomination Document. The active participation of local councilors was encouraged at various points throughout the process including as members of the steering committee, at local meetings and major public events. Members of city council remained actively involved throughout the project aligning BOA strategies with local initiatives and acting as points of contact for community members.

- Community Leaders: Consultation exercises are most successful when they involve key community leaders and visionaries. Such leaders come from various backgrounds and are usually well-known members of the community. They include major landowners and developers, major business leaders, large institutions, religious leaders, resident association leaders, and environmental and social activists. Working closely with these individuals and involving them in special sessions connected the project to community networks and elicited ideas that were built upon as the process moved ahead. A special key stakeholder visioning session that complemented a community visioning open house event and a series of key-stakeholder interviews informed the project team of a range of important local and regional issues and brought community leaders together to contribute ideas on the future of the BOA.

- General Public: The five open house events that occurred throughout the project were aimed at a broad public audience. They were structured as two-way conversations, allowing the team to educate the general public about specific issues facing the study area, but also allowing the general public to meaningfully provide input into the process. To keep the process both creative and focused, a range of approaches, such as small group exercises, work books and interactive display panels were used. To encourage broad public representation and feedback throughout the course of the project, citizen "bulletins" were distributed and a webpage on the City's website was used for the distribution of information and collection of feedback.

- Neighborhood Groups: Many citizens take part in the planning process as concerned neighbors or as part of a neighborhood group. As this project concerns redevelopment of the almost 2,000 acre BOA, communication strategies that encouraged people to think broader than their own neighborhood, especially during the visioning stage, were employed. To complement this approach, smaller focused discussions occurred with community groups when specific neighborhood interests needed to be discussed. Members of the consultant team also attended and participated in several community related events to experience firsthand topics of local concern.

- Community Activists: Community activists are often well organized, committed and engaged in planning debates, bringing innovative and critical ideas to the process. Like all participants, they were encouraged to think broadly within larger forums, such as the open house events where they were provided with an opportunity to share their ideas and exposed to a range of divergent perspectives.

2.3 Communication Strategies

- Landowners: Given the property implications of land-use decisions contemplated for the BOA study, landowners were considered a special audience within the Nomination process. It was important to maintain ongoing contact with landowners in order to understand their concerns and aspirations. Understanding the sensitivity of issues related to property rights, one-on-one interviews were used to discuss specific changes or impacts on their properties and ensure a measure of confidentially.

- Steering Committee: The Steering Committee was comprised of elected officials, residents and representatives from the several City and State departments, non-profit organizations, the University of Buffalo and local businesses. It was charged with the task of advising the project team, providing feedback at critical stages throughout the process and acting as key points of contact for the community. As an active partner in the BOA process, the Steering Committee was involved at each stage of work participating in focused workshops, steering committee meetings and public open houses. Their involvement helped to enlist local partners and support the detailed discussion of issues and directions that were elaborated throughout the process.

The consultation program employed numerous outreach methods to ensure robust public and private participation throughout the course of preparing the Nomination Document. In addition to a thorough understanding the audience, the design and production of easily accessible materials and the provision of multiple opportunities for feedback were all seen as integral to the delivery of a successful communication strategy. The South Buffalo BOA broad communication strategy included the following approaches:

Maintaining and Building Contact Lists

As detailed above, several audiences were engaged throughout the course of the Nomination process. In order to effectively communicate with each group, multiple contact lists were developed and updated with names, addresses, telephone numbers, and e-mail addresses. Contact lists included:

- Community Groups;
- Key Stakeholders and Special Interest Groups;
- Local, county, state, and federal agencies;
- City departments and boards;
- Elected officials;
- Non-governmental organizations;
- Steering committee members; and
- Private landowners.

Communication Tools

The successful communication of issues, ideas and concepts requires a comprehensive approach to communication involving a range of methods including both verbal and visual communication. Public engagement events typically provided a range of communication methods including the use of structured presentations, informal dialogue and most importantly, graphic communication. Diagrams and imagery enabled the community to understand some of the more abstract concepts including the challenges and opportunities facing

the BOA and some of the structuring features which guided decision making throughout the process. As ideas and concepts emerged, graphic mapping, precedent imagery and 3d modeling techniques were used to convey the potential of different land use and development scenarios. These were assessed for their effectiveness in communicating ideas throughout the process and adjusted as needed, which was crucial given the degree and frequency of consultation. This approach led to a wide range of communication tools which were used throughout the process which included:

- Interactive graphic display panels;
- Information panels;
- Precedent imagery;
- Graphic mapping;
- PowerPoint presentations;
- Interactive dialogue;
- Written descriptions and opportunities for feedback;
- Television and media interviews; and
- Website materials.

Project Website

The City of Buffalo constructed and hosted a South Buffalo BOA webpage. The webpage utilized customized software (Limehouse) and was directly linked to the City's website. Advertised at the Open House Events, through the Project Bulletins, on the City's website, and by word of mouth, the project website enhanced public outreach by providing an informal method of communication. Interested parties had several opportunities throughout the process to post comments and gain information about the process via on-line surveys and comment boxes, which were monitored by the City of Buffalo.

The project website was used as a vehicle for regular dissemination of BOA and project information, including:

- Project Bulletins;
- Public Open House materials;
- Documents; and,
- Images.

Project Bulletins/Newsletters

Posted to the web page and distributed throughout the South Buffalo community, well in advance of public events, the project bulletins provided an up-to-date summary of the BOA study progress, along with dates for future public events and key contact information.

A Public Open House
Interactive Panels

2.4 Consultation Events

The public participation plan was comprised of multiple event types, designed to seek strategic input from a variety of potential partners, including residents, businesses and community groups. A robust consultation program was emphasized to build momentum, generate ideas and formulate the vision and concept options. These events helped to cultivate support for the BOA objectives from government agencies, the private-sector, not-for-profit organizations and the general public.

Public Open House Events

Five public Open Houses, described in Table 2.1, were held throughout the planning process to solicit input from the audiences identified above. Each Public Open House was structured to reflect the stage of the planning process at which it was held. These events typically included a formal presentation of key material, as well as an informal opportunity for the general public to review display panels, engage with City staff and the consultant team and provide feedback on the direction of the study. Some Open Houses were structured as broad conversations while others were much more structured, designed to communicate specific ideas and receive direct feedback. Each was tailored to the stage of the process and the anticipated range of concerns to be addressed.

Steering Committee Meetings

The Buffalo BOA Steering Committee consisted of a cross section of representatives from across City departments and community groups. There were nine steering committee meetings, summarized in Table 2.2, each with a different focus, and each central to developing a comprehensive Nomination Document. The project team drew upon the Steering Committee's diverse expertise at critical junctures throughout the process to discuss key elements of the plan and to vet ideas and approaches prior to public Open House events.

Key Stakeholder & Small Group Sessions

These targeted consultations with key stakeholders and stakeholder groups were conducted early in the course of the project. These sessions were designed to:

- Inform community members about the study process, goals and time line;
- Review the unique geography, attributes, and opportunities within the study area;
- Discuss and record community member views on the South Buffalo BOA initiative, including policy and development concerns, issues and opportunities which were felt to be important to the community;
- Identify potential community improvement projects and initiatives which would benefit the community;
- Identify potential public, private sector, non-profit partners that are invested in bring part of the vision into reality; and,
- Outline next steps in the process, including additional opportunities for participation and consultation.

Municipal Stakeholder Sessions

As municipal stakeholders have an intimate working knowledge of the BOA study area, and its political, social and economic context, they are invaluable partners in the planning process. A municipal stakeholder session, held at the commencement of the study, familiarized municipal departments with the broad goals and anticipated outcomes of the South Buffalo BOA initiative. Participants identified issues, goals and aspirations for the study and its outcomes. This broadened the project team's access to local expertise and advice beyond that of the Steering Committee. In addition, the participation of broader community and State politicians enabled the representation of a wider constituency.

Open House Event	Purpose
Public Open House 1: BOA Kick-off **March 11, 2008**	• launched the South Buffalo BOA into the public domain; • informed the general public about the BOA program, the project's intent and scope, and to solicit initial public input in order to guide the development of the community's vision for the study area; and • explored project and community goals and objectives, and discuss opportunities and challenges.
Public Open House 2: Community Visioning Workshop **June 23, 2008**	• engaged participants in articulating a vision for the future - one that considers new possible land uses/ infrastructure requirements and reuse possibilities; • presented an analysis of the BOA, identifying specific market, environmental, land use, and urban design opportunities and challenges facing the area; • elicited a range of realistic community based land use and development scenarios, by working with participants in facilitated visioning exercises and breakout sessions; • concluded with a presentation of various visions for the area, noting similarities and differing responses; and • resulted in the development of a series of Principles representing the community vision for the BOA and allowing the consultant team to produce a range of land use development options which reflected these principles.
Public Open House 3: Options Workshop **December 3, 2008**	• unveiled the preliminary land use development options to the general public, based on the results of the community vision workshop; • summarized the analysis to date; and • solicited public input on alternative approaches to redevelopment and revitalization in the BOA, encouraging participants to offer key directions for redevelopment and reuse of the study area.
Public Open House 4: Draft Master Plan **February 25, 2009**	• launched the draft Master Plan into the public domain; • confirmed with the general public the recommended direction of the preliminary master plan and demonstrated the achievement of goals and objectives established through community visioning; and • provided an opportunity for participants to review and provide feedback on the preliminary master plan concept.
Public Open House 5: Master Plan and Remediation Strategy **April 23, 2009**	• presented the South Buffalo BOA Master Plan and Remediation Strategy to the general public; • structured as a more formal conclusion to the BOA study; and • provided an overview of the next steps in the BOA process.

Table 2.1: Open House Events

Steeting Committee Event	Purpose
Meeting 1 December 18, 2007	• introduced the intent, goals and objectives for the Buffalo BOA; • solicited feedback on the work plan, and discussed elements of the community participation plan and techniques to engage stakeholders; and • began to explore project goals and objectives, and discuss opportunities and constraints.
Meeting 2 February 11, 2008	• presented the preliminary description of the project boundary and work completed to date; • explored key elements of the draft analysis (environmental, market, regulatory, and urban structure); and • discussed the intent and structure of the first open house.
Meeting 3 March 6, 2008	• conducted a Strengths, Weaknesses, Opportunities and Threats analysis at a specially convened meeting; and • reviewed and discussed the BOA Study Area boundary.
Meeting 4 May 16, 2008	• presented and discussed the summary of the Phase II BOA findings with regards to the environment, land base, market trends, regulatory and urban structure and emerging directions.
Meeting 5 May 29, 2008	• presented the comprehensive summary of the completed BOA analysis, which contained the results and implications from various technical reports; • presented a draft framework and range of uses for the BOA; • facilitated small group sessions to evolve the framework; and • discussed the intent and structure of the second open house.
Meeting 6 November 6, 2008	• reviewed key findings and established directions; • presented three preliminary land use development options for feedback; • proposed an evaluation framework for the options and provide preliminary evaluation results; • sought guidance on the committee's preferences for how the BOA should evolve; and • discussed the intent and structure of the third open house
Meeting 7 December 11, 2008	• reviewed feedback from the recent Public Open House and Steering Committee meetings concerning the land use development options and the evaluation framework; and • worked towards a preferred option by identifying areas of consensus and areas requiring further exploration.
Meeting 8 January 21, 2009	• discussed the approach for the draft concept; • introduced the preliminary master plan concept and an overview of the remediation strategy; • worked through aspects of the draft concept that required further exploration, to achieve consensus; • established a clear direction for development of the Master Plan; and • discussed the intent and structure of the third open house.
Meeting 9 February 25, 2009	• presented the master plan and remediation strategy; and • solicited feedback and incorporated comments into the plan prior to public review at the Open House held later that day.

Table 2.2: Steering Committee Meetings

Key Stakeholder Visioning Session

Potential partners, such as those with development and/or community interests, or other entities having a role in shaping the future of the BOA area, participated in a visioning session early on in the study process. The session informed these important stakeholders and potential partners about key opportunities in the area, and engaged them to articulate a vision for the future and to better understand how they might participate in its implementation.

Spotlight Community Event

A joint City and State hosted summit, this day-long event highlighted the selection of the South Buffalo BOA as a Spotlight Community - a New York State program. The program is aimed at demonstrating how existing state programs can support and complement local efforts to redevelop brownfields and simultaneously achieve neighborhood revitalization and smart growth objectives. The event included a presentation on the BOA and Master Plan, a tour of the BOA study area and a panel discussing the advancement of key projects.

Looking north across the BOA from the Tifft Street Bridge

3
Analysis of the Proposed BOA

3.1 Introduction

Nomination Document

The Brownfield Opportunity Areas Program provides municipalities with financial assistance to complete area-wide planning approaches to brownfields redevelopment. Completion of the program leads to a New York State designation as a Brownfield Opportunity Area. The second step in the program is the Nomination, which provides an in-depth description and analysis of economic and market trends, existing conditions, opportunities, reuse potential and recommendations. This document, Analysis of the Proposed BOA, is the third section of the Nomination Document for the South Buffalo Brownfield Opportunity Area.

The South Buffalo BOA

The City of Buffalo is the second largest city in the State of New York[1] and the transportation hub of the Buffalo-Niagara Region.[2] The total area within City limits is 41 square miles. It is located on the eastern end of Lake Erie and also borders the Niagara River which flows northward, over Niagara Falls and into Lake Ontario. Buffalo is the fifth busiest trade city in the U.S. and at the center of North America's fifth largest market, with access to over 9 million consumers living within a 125-mile radius (Map 1.1). The City is also the center of the Buffalo-Niagara region for law and administration, banking and business, technology and communications,[3] media and creative services, health care and medical research,[4] culture and heritage,[5] sports and entertainment,[6] restaurants and retailing.

Located south of downtown, adjacent to Lake Erie and the Buffalo River, is the 1900 acre South Buffalo Brownfield Opportunity Area (BOA). The BOA represents a unique opportunity for the City of Buffalo to capitalize on many of these regional core strengths and mitigate its market challenges, capture current and projected regional growth industries, and leverage the BOA's natural assets, both economic and environmental, in order to transform the BOA from an underutilized industrial site into an engine of growth for the City and region.

A sustainable, long-term economic resurgence within the BOA cannot occur within a context of local and regional economic stagnation. Thus, it is critical to first evaluate the local and regional

economy to identify opportunities for growth within the BOA. In keeping with these ideals, the overall demographic and market trends in the nation, state, and region were examined and compared to those of the City of Buffalo, followed by a focus on the city's strengths, weaknesses, physical land base and emerging or sustainable industries. Ultimately a series of directions and strategies have begun to emerge for the BOA.

Within the region, there have been numerous redevelopment projects and plans for revitalization to initiate economic growth while improving the quality of life for local residents, particularly along the waterfront and in downtown Buffalo. The strategy for the BOA must acknowledge and respect these ongoing and planned efforts, in addition to the economic clusters that are emerging in other parts of the City and region. It is important to realize that the BOA can both benefit from emerging economic, academic, cultural and environmental sectors in the CBD and other parts of the region, and act as an engine of growth in complementary or new sectors. By using its unique site characteristics and assets to generate growth in new sectors, the BOA can play an important role in the economic resurgence of Buffalo and the diversification of its economic base.

Often the focus of development policy in industrial cities that have been losing population and not experiencing job growth, such as Buffalo, has been to search for one or a few economic solutions to solve the region's problems. The reliance on only one or a few companies, strategies, or initiatives to bring revitalization make a city vulnerable to changes in the economic climate and independent decisions of only a few businesses. Opportunities for long-term growth of multiple sectors are provided by the diversification of the labor force, the focus on several industries that have long term-growth potential, in the city, state, and country, and the incorporation of the inherent environmental, cultural and historic value of an area or city into its revitalization efforts. Ultimately this creates a residential and commercial community that is truly diverse and sustainable, with an emphasis on the environmental, economic and social attributes of the community.

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[1] New York City is the largest city in the State of New York.

[2] A robust multi-modal transportation system including major interstate highways (I-90, I-190 and I-290), an integrated bus and rail Metro system, the Peace Bridge crossing to Canada, and much more.

[3] A powerful technology and telecommunications infrastructure including the University at Buffalo "supercomputer" and a dense network of fiber-optic lines.

[4] World class medical research and clinical facilities in the Buffalo Niagara Medical Campus including the Roswell Park Cancer Institute, Hauptmann-Woodward Medical Research Institute, and the University of Buffalo's Center of Excellence in Bioinformatics.

[5] Important histories and related heritage sites including the Erie Canal Harbor and local Underground Railroad heritage sites; historically significant architecture including H.H. Richardson's Buffalo State Hospital complex, Frank Lloyd Wright's Darwin D. Martin House, Sullivan's Guaranty Building; and, The historic parks and parkways system designed by the noted landscape architect Frederick Law Olmsted.

[6] Major entertainment and sports venues including HSBC Arena, home of the Buffalo Sabres and site of major concerts; Dunn Tire Park, home of the Buffalo Bisons; and the Erie Community College Flickinger Aquatic Center, a magnet for amateur athletics competitions.

3.2 Community and Regional Setting

This section of the report provides a detailed analysis of the demographic changes and market trends that have taken place locally and regionally over the last several years, including: population and household growth, household characteristics (income and age), labor force and employment growth (by sector), and commercial and housing market data.

3.2.1 Demographic Context

Population

While both the Region and the City continue to lose their populations, this rate of decline is decreasing. The United States and New York State experienced population and household growth between 1990 and 2007, but the City of Buffalo and the Buffalo-Niagara Falls metropolitan statistical area (MSA) experienced significant population loss (Table 3.1). The City of Buffalo lost 11% of its population between 1990 and 2000 and a further 6% between 2000 and 2007. Households experienced similar rates of decline with a 10% loss between 1990 and 2000 and a 4% loss between 2000 and 2007. Overall, the Buffalo-Niagara MSA experienced a much lower population loss and a marginal household gain, although recent estimates (2000 to 2007) show a decline in the region's households. As a comparison, both the State of New York's and the United States' households grew in both time periods. These demographic growth trends in the City and MSA reflect overall demographic stagnation, as well as both the movement of people from the City into the suburbs and the changing demographic trend towards smaller household size.

In the 1950s, the City of Buffalo was the 15th largest city in the United States with just under 600,000 residents. The population has declined in every year since, particularly during the late 1970s and early 1980s, when the city lost nearly one-third of its population—much of its middle class—in only five years. The City of Buffalo, like many other historic manufacturing cities continues to lose population, but not at the rate it once experienced (Table 3.2). From the period of 1990 to 2000 the City lost 11 percent of its population—leaving approximately 293,000 residents, 123,000 households, and 67,000 families in the City.

The Buffalo-Niagara MSA also lags behind other regions with regard to immigration, with only 5% of the population that is foreign born as of 2006.[7] Regions with strong economic growth typically attract large immigrant populations because of the opportunities presented by strong economic growth. Immigrant populations, conversely, also add strength to the labor market by adding diversification to the labor force, and allowing for the import of specific skills.

Income

Average income, particularly in the City of Buffalo, is considerably lower than the State average and there are relatively few well paying jobs that offer career potential. The City significantly lags the MSA with regard to median annual household income: $27,600 in the City 2007 compared to $44,900 in the MSA. The MSA still lags the State of New York, which had a median annual household income of $50,300 in 2007. A majority of households have an annual income under $35,000 in the City of Buffalo (60% of all City households) with relatively few households having an income of $100,000 or over (6%) (Table 3.3). When compared to the MSA, where 40% of households have an income under $35,000 and 14% have an income of $100,000 or over, it is clear that the City is home to a much higher concentration of lower-income households, with relatively few affluent households. Put another way, in 2007 the City had 25% of the MSA's households, but had 38% of the MSA's households with an annual income under $35,000, and only 11% of the MSA's households with an annual income of $100,000 or over.

Area	Percent Change in Population		
	Census 1990-2000	Estimated 2000-2007	Projected 2007-2012
City of Buffalo	**-10.8%**	**-5.9%**	**-4.5%**
Buffalo MSA	-1.6%	-2.5%	-2.2%
State of New York	5.5%	2.0%	0.5%
United States	13.2%	6.5%	4.6%

Area	Percent Change in Households		
	Census 1990-2000	Estimated 2000-2007	Projected 2007-2012
City of Buffalo	**-10.1%**	**-4.3%**	**-3.9%**
Buffalo MSA	-1.5%	-0.4%	-1.4%
State of New York	6.3%	2.5%	0.7%
United States	14.7%	7.2%	4.9%

Table 3.1 - Population and House Change

Source: RCLCO; Claritas, Inc.

City	City Population (1990)	City Population (2000)	Percent Change 1990-2000	Rank Among Top 100 Most Populous Cities
Chicago, IL	2,783,726	2,896,016	0.04	71
Minneapolis, MN	368,383	382,618	0.039	73
Des Moines, IA	193,187	198,682	0.028	75
Akron, OH	223,019	217,074	-2.7%	85
Louisville, KY	269,063	256,231	-4.8%	87
Milwaukee, WI	628,088	596,974	-5.0%	88
Rochester, NY	231,636	219,773	-5.1%	89
Cleveland, OH	505,616	478,403	-5.4%	90
Toledo, OH	332,943	313,619	-5.8%	92
Detroit, MI	1,027,974	951,270	-7.5%	93
Cincinnati, OH	364,040	331,285	-9.0%	95
Pittsburgh, PA	369,879	334,563	-9.6%	96
Buffalo, NY	**328,123**	**292,648**	**-10.8%**	**98**
St. Louis, MO	396,685	348,189	-12.2%	100

Table 3.2 - Historic America Manufacturing Cities Continue to Lose Population

While it has long been assumed, a recent Federal Reserve study confirmed that as the U.S. continues to grow into a knowledge-based economy, human capital is truly the engine of economic growth. Therefore, "competition for future economic growth and vitality leaves states and large metropolitan areas vying to attract and retain the young, well-educated population within the U.S., commonly defined as 25-39 year olds with at least a bachelor's degree. These young professionals also exhibit certain general preferences, as they gravitate towards areas that have high job growth, high average pay, and an array of employment opportunities."[8] Besides the direct advantages of high-wage jobs, the clustering of young professionals in an economy provides spillover benefits of knowledge and innovation through networks among firms and workers."[9] Amenities offered by populous urban areas are also thought to attract young professionals. They often prefer to live in lively neighborhood areas that are in, or within a few miles of, the city center. Elmwood Village is an example of this type of neighborhood within Buffalo that has attracted a significant population of younger households.

Households

The City and Region have a relatively young population and high percentage of under 35 households but not the incomes jobs to support a large professional class. In 2007, an estimated 18% of the households in the Buffalo region were headed by an individual under 35, compared to 19% in the State and 21% in the U.S. The Buffalo region compares relatively well on this measure to other competitive regions, such as Detroit (19%), Cleveland (18%) and Pittsburgh (16%), but these regions are also struggling with much of the same socioeconomic issues that are affecting Buffalo.

The City does show a much greater concentration of younger households, with 26% of the households in the City under 35, which accounts for 36% of all such households in the region. However, 66% of the under 35 households in the City have an income of

[8] http://midwest.chicagofedblogs.org/archives/2008/02/the_young_and_r.html
[9] http://midwest.chicagofedblogs.org/archives/2008/02/the_young_and_r.html

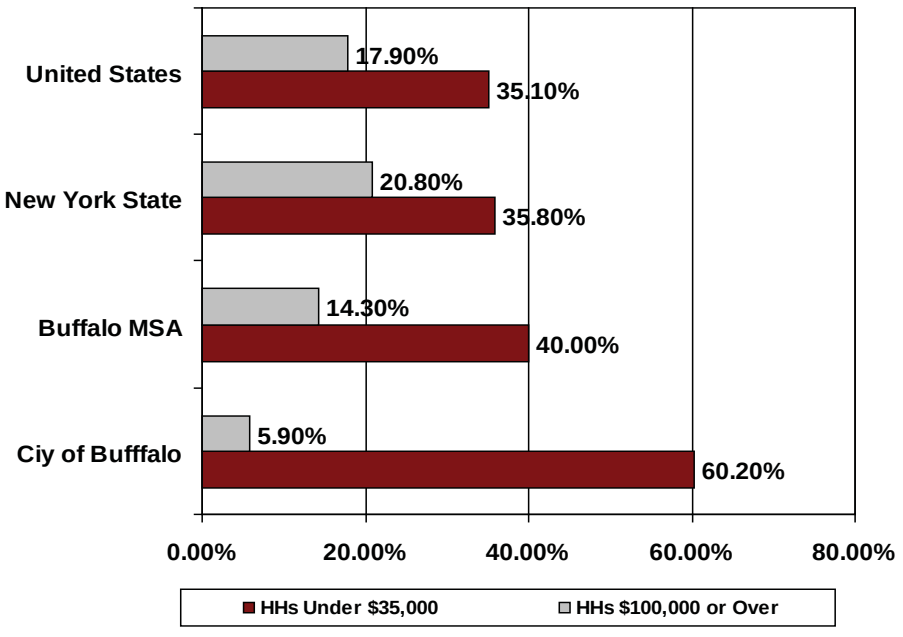


Table 3.3 : Household Income

Source: RCLCO; Claritas, Inc.

less than $35,000 annually; nearly 50% of the under 35 households in the rest of the MSA (excluding the City households) earn less than $35,000 each year.

While having a large number of younger households is potentially a strong asset for a city or region, as of today the demographic data in the City and region indicates that these younger households do not represent a sizable young professional class. The missing ingredient appears to be a concentration of high-paying jobs with strong career potential that traditionally attract and retain a young, educated professional workforce.

Education

Despite below average incomes and a declining population, rates of higher education are on par with or better than State and national figures. The Buffalo region has the demographic base to compete in some segments of the global, knowledge-based economy. Buffalo has a number of colleges, universities, and technical training programs that contributed to its ranking as 18th in the U.S. for workforce education.[10] At least 13 nearby universities enroll over 77,000 students, and the Buffalo region ranked 4th in the number of science and engineering degrees per capita graduated each year.[11] In 2006, 37% of the Buffalo MSA residents had at least an Associate's degree compared to 38% in New York State and 34% in the U.S.[12] The key is leveraging this existing, well-educated and well-trained workforce, while also generating and retaining younger graduates.

Key Findings

To sustain a young, educated and professional workforce, higher paying jobs that allow for growth should be fostered to cater to existing residents, to attract new professionals to the area and to capture and retain individuals from the region's many colleges and universities.

3.2.2 Market Context

Employment Trends

In the past decade, jobs in Buffalo have both declined in number and changed in composition. The loss of jobs is reversible, as Buffalo has added new jobs in growing sectors of the economy, such as the health and financial sectors. The trend away from manufacturing is indicative of a national restructuring, where jobs that rely upon a more limited skill set or training are moving to lower cost locations, either nationally or internationally.

The Buffalo-Niagara Falls MSA has experienced stagnant job growth since 1990, although there have been dips and gains in total employment during that period. From 1990 to 1993, the Buffalo region lost approximately 21,000 jobs, but from 1993 to 2000, the region gained back approximately 32,000 jobs – a net job gain during the 1990s of approximately 11,000 jobs. However, since 2000, job growth has once again declined, losing all of the jobs it had gained in the 1990s (Table 3.4). In 2005, the City's unemployment rate was 32% higher than that of the rest of New York State, 6.6% and 5.0% respectively.[13]

The regional economic picture is not characterized by outright decline, but more critically, by major shifts in the employment base. The manufacturing sector (including mining, construction, manufacturing, wholesale trade, transportation, and warehousing) in the Buffalo region lost almost a quarter of its employment base from 1990 to 2007, with the most pronounced decline in manufacturing (losing nearly 35% of jobs in that sector). The retail sector also lost significant employment during this period which is consistent with demographic stagnation. During

[10] The Metropolitan New Economy Index, 2001
[11] The Metropolitan New Economy Index, 2001
[12] 2003 American Community Survey, U.S. Census Bureau
[13] Buffalo-Niagara MSA Unemployment rates annual averages 2002: 6.8; 2003: 7.3; 2004: 7.3; and, 2005: 6.6

the same period the business sector (information, financial activities, and professional and business services) in the region increased by 25% and the Educational and Health sector grew by 17%.

New York State and the U.S. experienced similar trends with regard to losses in manufacturing jobs and growth in business, educational, and health services, although the losses in the manufacturing sector have been more pronounced in the Buffalo region, particularly recently. The key finding here is that Buffalo is experiencing part of what can be considered a national or global restructuring of the labor force and economy.

The shift in manufacturing employment, for example, reflects in part the movement of manufacturing jobs to lower cost locations, either out of the country, or in the case of Buffalo, to lower cost areas within the country (Table 3.5). However, the manufacturing employment base nationally and locally has also been weakened – and will continue to be threatened – by the integration of advanced technology, which creates efficiencies that require less human resources. The Buffalo region still plays a key role in the global, high-tech manufacturing economic base, but nearly always higher-tech manufacturing means less jobs when compared to more traditional manufacturing.

The Buffalo region has historically depended on industries that have experienced significant job losses and which will likely experience limited job growth in the near, mid, and long term future.

Industry Total Nonfarm	NYS % Change 2001 - 2007	USA % Change 2001- 2007	NYS % of 2001 Emp.	NYS % of 2007 Emp.	USA % of 2001 Emp	USA % of 2007 Emp.
Manufacturing Sector Total	**-8%**	**-1%**	**37%**	**35%**	**32%**	**30%**
Natural Resources, Mining and Const.	5%	12%	8%	0%	8%	8%
Manufacturing	-16%	-11%	15%	0%	14%	12%
Wholesale Trade	-3%	5%	6%	0%	5%	5%
Business Sector Total	**1%**	**6%**	**22%**	**23%**	**18%**	**18%**
Information	-15%	-12%	7%	0%	3%	3%
Financial Activities	15%	6%	1%	0%	7%	7%
Professional and Business Services	9%	11%	14%	0%	11%	11%
Retail Sector Total	**3%**	**6%**	**22%**	**22%**	**25%**	**25%**
Retail Trade	3%	2%	21%	0%	15%	14%
Leisure and Hospitality	4%	12%	1%	0%	11%	11%
Other Sectors Total	**6%**	**11%**	**19%**	**20%**	**25%**	**27%**
Other Services, Unclassified	5%	9%	17%	0%	11%	11%
Educational and Health Services	6%	13%	2%	0%	14%	15%
Total	**0%**	**6%**	**100%**	**100%**	**100%**	**100%**

Table 3.4 - Job Growth and Decline

Source: RCLCO; BLS

However, the region has also shown significant strength in several growth sectors (Table 3.6).

Scientific research and development services, including bioinformatics and physical sciences research, experienced strong growth both in New York State and the Buffalo region compared to the rest of the country. This demonstrates the Buffalo area's existing and growing competitive advantage within this economic niche, and the opportunity it presents to be an economic driver for the region in the future. Buffalo also experienced strong growth compared to the state and country in broadcasting, insurance carriers, collection agencies, and other professional and technical services, representing and potentially future growth industries.

Big Employment Losses, 2001-2007	Buffalo Job Loss	Buffalo	NYS	US
Fabricated metal product manufacturing	-1,444	-15%	-15%	-7%
Couriers and messengers	-472	-19%	-8%	-3%
Food manufacturing	-1,793	-23%	-8%	-5%
Telecommunications	-917	-23%	-31%	-25%
Miscellaneous manufacturing	-1,244	-26%	-20%	-9%
Nonmetallic mineral product manufacturing	-1,157	-35%	-22%	-6%
Electrical equipment and aplliance mfg.	-1,267	-38%	-28%	-22%
Transportation equipment manufacturing	-3,427	-38%	-18%	-9%
Warehouse and storage	-719	-41%	17%	23%
Petroleum and coal products maufacturing	-744	-67%	-25%	-7%

Table 3.5 - Regional Manufacturing Employment Losses

Source: RCLCO; BLS

Big Employment Gains, 2001-2007	Buffalo Job Gains	Buffalo	NYS	US
Accounting and bookkeeping services	417	15%	24%	2%
Scientific research and development services	761	20%	2%	13%
Educational Services	2,183	21%	13%	17%
Management of companies and enterprises	2,106	29%	9%	4%
Other professional and technical services	414	30%	8%	15%
Water transportation	131	35%	-2%	16%
Insurance carriers and related activities	3,366	39%	-1%	2%
Broadcasting, except Internet	326	40%	1%	-4%
Collection Agencies	2,164	81%	19%	10%

Table 3.6 - Regional Employment Gains

Source: RCLCO; BLS

Key Findings

Rather than relying on its traditional employment strengths, Buffalo should emphasize its emerging strengths, which are centered in employment sectors that are growing locally and nationally, particularly such sectors as scientific research and development services, education services, and insurance carriers or back-office functions, where growth in Buffalo is outpacing growth experienced throughout both New York State and the country. Encouraging a concentration of employment opportunities in these sectors on the South Buffalo BOA will create a distinct competitive advantage for the area, diversify its economic base and position the BOA as a significant economic driver for the region.

Housing Trends

Although new housing continues to be built throughout the Buffalo region, the City's total number of households has been in decline, creating a persistent oversupply of housing. It is anticipated that a portion of this oversupply will gradually be dealt with through city funded demolition. A chronically saturated housing market creates significant barriers to new housing construction. Recent housing that has been built generally lacks amenities and has been supported by subsidies and financing assistance. This approach is unsustainable, as subsidization of market housing is not a financially viable long term solution and, coupled with a declining population, could lead to additional vacancies elsewhere in the City. With little indication of a market reversal, there is no practical opportunity for new residential development in the BOA in the short and medium terms

Despite a broader context of household decline, the Buffalo region (the Buffalo-Niagara MSA) continues to add housing to its inventory – from 2000 to 2006, approximately 18,000 new housing units were permitted in the region, and according to a 2005 report by HUD, the housing inventory in the Buffalo-Niagara Falls MSA has increased by an average of nearly 1,600 units each year from 2000 to 2005. In the City, housing inventory has remained stagnant, despite significant rates of household decline that exceed the region rate, resulting in an increased number of vacant properties (Table 3.7).

Oversupply of housing inventory is a persistent and serious problem, regionally and within the City, as it depresses housing values and provides little market justification for new housing investment. In 2006, over 32,000 of the City of Buffalo's 143,000 housing units were vacant[14], with an overall vacancy rate of over 22%. The City of Buffalo's "5 in 5" plan to demolish 5,000 vacant housing units in five years will have a positive impact on neighborhoods plagued by vacancies, yet will not make a significant dent in the city's housing imbalance.

Even with this context of housing market dislocation, the City has experienced some investment in new housing projects, particularly a number of new construction multifamily projects and renovation projects that converted older buildings into apartments or lofts. These projects have generally been located in the prime areas for luxury multifamily housing – primarily the lakefront, downtown along Main Street, and in the Cobblestone district near the HSBC Arena. Infill, multifamily housing must be able to sell the consumer on the convenience and lifestyle associated with mature and amenitized urban environments, and these areas are among the handful of locations in the region that can realistically sell this to the market.

Even the most attractive areas within Buffalo's urban core do not yet offer the full range of urban amenities that truly drive urban housing demand, particularly among affluent move-down households

[14]American Community Survey, U.S. Census Bureau

	2000	2003	2006	2007	2008	2009	2010	2011
Buffalo City Housing Units*	145,574	143,107	143,373	143,462	143,551	143,639	143,728	143,817
"5 in 5 Plan" Implementation	0	0	0	1,000	1,000	1,000	1,000	1,000
Buffalo Vacant H.U.	**22,854**	**25,147**	**32,847**	**31,647**	**30,647**	**29,647**	**28,647**	**27,647**
Buffalo City Households**	122,720	117,960	110,726	110,726	110,726	110,726	110,726	110,726
Standard 5% Vacancy Rate	7,279	7,155	7,169	1,173	7,178	7,182	7,186	7,191
Total Oversupply	**15575**	**17992**	**25478**	**25563**	**25647**	**25732**	**25816**	**25901**

Table 3.7 - Household Vacancies

Source: RCLCO; US Census Bureau

* Projection of housing units based on 2003-2006 trends
** To be conservative, assumes no household growth or decline after 2006

and mature professionals. Further, the depth of market for households that are typically more pioneering is limited, particularly affluent young professionals. Given this limited depth of demand, today's achievable multifamily rents and prices do not justify new construction – or significant rehabilitation – in nearly all areas of the city. As a result, many of the urban, infill multifamily residential projects that are planned or have been recently completed require significant subsidies or gap financing. Sources for this funding typically include historic tax credits, new market tax credits, tax abatements and payment-in-lieu-of-taxes, and financing from the Community Preservation Corporation, in addition to other subsidies and assistance from the city or local economic development agencies.

Key Findings

Residential uses should be a longer term goal for the BOA. Residential uses are a necessary component of a healthy mixed use community and would be most appropriate for some of the BOA lands, particularly along the river and on the lakefront, as they are a much higher value land use than industrial uses. Specific lands should be preserved for residential uses and all lands should be strategically planned to ensure that the potential for residential uses is not compromised by poorly sited infrastructure or industrial development.

Commercial Trends[15]

The City of Buffalo has a relatively strong office market with the majority of Erie County's office space located in Buffalo, most of which is in the Central Business District. The City's industrial market is smaller, both in number of square feet and as a share of the regional market, than its office

[15]Data from C.B. Richard Ellis, Buffalo

market, though there may be potential for growth in higher tech manufacturing. A decrease in the number of manufacturing jobs, as noted in Table 4 above, is not necessarily indicative of a decrease in the need for manufacturing space, as automation decreases the number of employees required. As well, part of the decline may be attributable to a decrease in the supply of manufacturing space rather than a decrease in the demand for such space.

By the end of 2007, there was 21.85 million square feet of commercial space (defined here as office, flex, and industrial space) within the City of Buffalo – this represents 25% of all such space in Erie County. Approximately 13% of this space within the City was vacant as of the end of 2007, compared to a vacancy rate of 8.5% in the rest of Erie County. The City has enjoyed a net absorption of 1.2 million square feet since the beginning of 2004, a little less than one-third of the 4 million square feet absorbed in Erie County.

Office Market Trends

The City plays a very prominent role in the regional office market. Erie County has 18 million square feet of Class A & B office space, 53% of which is in the City (and 85% of the City office space is located in the central business district submarket). The office vacancy rate in the City at the end of 2007 was 9%, which was very similar to the office vacancy rate in the suburban submarkets. From 2004 to 2007, the City office market absorbed 1.5 million square feet of Class A & B space, the most of any submarket in the region. The second leading submarket in the region was the North submarket, which absorbed 735,000 square feet over the same period (Map 3.1).

The City's office market has been driven by recent additions to the downtown inventory, most notably the recent delivery of the 580,000 square foot Blue Cross Blue Shield of WNY headquarters buildings, as well as the delivery or repositioning

Map 3.1: Office Submarket

of several other large Class A & B buildings over the past several years. However, areas just outside of the CBD have also thrived in recent years, including the emergence of the Larkin District (catalyzed by the very successful redevelopment of the Larkin Building into office space) and the Cobblestone District, adjacent to the HSBC arena. These submarkets outside the CBD are generally positioned as high-end Class B locations, and have drawn a range of tenants – including law firms, health care providers, and financial services firms – many of whom would have typically considered occupying back office space locations in suburban locations.

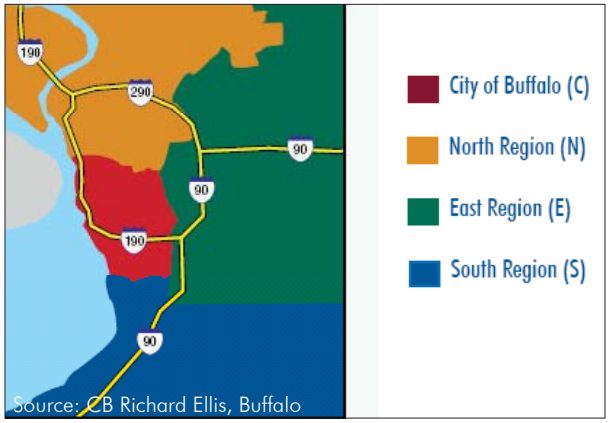
The City's strongest competition in the Class A & Class B office markets is the North submarket, which has 2 million square feet of Class A space and 2.6 million square feet of Class B space (this inventory in the North submarket represents 55% of all suburban office space). Office inventory in the North submarket is typically located in suburban, lower-density, single-use, surface-parked, business parks. The BOA relates, in many ways, to the suburban South submarket, which is not an established office market.

Office flex product, defined as commercial space that is primarily office in nature but also includes a quasi-office, light industrial, and/or retail back-office operation, is a common product type in the suburban markets, but is relatively unique within the City. There is 4.5 million square feet of office flex space in the suburban Erie County submarkets, the largest concentration (2.6 million square feet) being in the North submarket, while the City in its entirety only has 783,000 square feet of this type of space.

Suburban office locations have an ample supply of lower-density office inventory in office parks which offer ample parking and strong access to the labor force residing in these suburban areas. In these regards, the suburban locations represent significant competitive threats to the City's office market. The City, however, has a strong competitive advantage as a central location with greater access to the region's urban amenities – an advantage that can't be readily recreated in the suburbs. The future distribution of office space demand in the region will depend greatly on the ability of these two locations to leverage their own competitive advantages while mimicking, as much as possible, the competitive advantages of their key competitors.

Industrial Market Trends

As of the end of 2007, there was 63.5 million square feet of industrial (manufacturing, warehouse, and industrial flex) space in Erie County – more than double the office inventory (including Class A, B, and C space, as well as office flex space). Industrial market vacancy in the County stood at just under 10% in 2007, a consistent level of vacancy for the past several years, with a total net absorption of 1.3 million square feet since 2004. In 2007, the City had only 11.7 million square feet of industrial space, representing only 18.5% of the total space inventory in the County. Further, the City's vacancy rate at that time stood at 17.6%, with a total negative absorption of 224,600 square feet since 2004.



Map 3.2: Industrial Submarket

The weakness in the City's industrial market is a function primarily of the presence of a number of larger, older facilities that become functionally obsolete once vacated even after pre-1950, obsolete facilities are taken out of the market survey. For example, the 17.6% vacancy rate in 2007 was primarily the result of the vacant space at the American Axle plant, which by itself placed 1.2 million square feet onto the market. Without this large vacancy, the total industrial vacancy would have been 7.4%, but reabsorbing the American Axle facility will likely be very difficult given its age and functionality.

Still, in 2007, the City's 7.7 million square feet of manufacturing space represented 35% of the County's total manufacturing base (Map 3.2). It is likely that more persistent vacancies are on the horizon as older facilities continue to outlive their usefulness. Given the City's continued role as a center of manufacturing in the region, it is likely that moving forward the City can effectively compete for newer, modernized, high-tech manufacturing opportunities. It is important to note that the County has still absorbed a net of 1.3 million square feet of manufacturing space since 2004, despite continued declines in manufacturing employment. This is a strong reflection of the strength of the manufacturing economic base, but also the trend towards the

building of new manufacturing facilities that require a smaller labor force because of advances in technology and processes. Declining manufacturing employment should not necessarily be confused with less demand for new manufacturing facilities.

The warehouse market has been relatively healthy over the past several years, with, as of year-end 2007, 23 million square feet of space, a vacancy rate of 11%, and net absorption since 2004 of approximately 520,000 square feet. The pocket of weakness in the County continues to be the East submarket, with 16% of its 12 million square feet vacant at the end of 2007; the East submarket has the County's largest concentration of warehouse space, but has experienced a negative absorption of approximately 500,000 square feet since 2004, added to a significant increase in inventory due to a surge of speculative construction near the airport. As of the end of 2007, the City held a relatively small share of the County's warehouse inventory (3.6 million square feet, or 17%), but showed a very healthy vacancy rate (6%) and a strong rate of recent absorption (250,000 square feet of net absorption since 2004).

The industrial flex market is defined by buildings with a primary industrial focus, but with a secondary office and/or retail component. The City has a relatively small share of this market (in 2007, 463,000 square feet, or 2% of the County total). This is a potential growth sector in the City, as it looks to compete more effectively with its suburban neighbors; industrial flex space can be more flexible than pure industrial users with regard to its compatibility with adjacent land uses.

The strength of the industrial market depends greatly on the form of the land use, with a greater propensity towards multi-tenant space than land sales and/or owner-occupied build-to-suit deals. Anecdotally, significant demand for high-quality locations exists in the build-to-suit market, although large tracts of available land in the desirable submarkets (including the City) are relatively unique. This is an opportunity that the Lakeside Commerce Park within the BOA has capitalized upon in recent years.

Key Findings

Both office and industrial uses should be encouraged to have a role in a redeveloped BOA. The currently healthy office market can rely on the BOA's central location, with potential for both prime office and back office. The industrial market indicates that either high tech manufacturing space or industrial flex space would be possible on the BOA. One key consideration will be how to best locate these uses so that they do not impede the introduction of residential, higher value commercial or additional recreational uses in the long term.

3.2.3 City and Regional Challenges

Many of Buffalo's challenges to future economic resurgence lay in its prolonged period of decline as a manufacturing center. Economic decline creates many real and perceived challenges, including urban decay, inability to retain and attract a quality labor force, decaying and excessive infrastructure, high cost of doing business, excessive and complicated tax burden, and complicated bureaucratic structure. It is clear from these challenges that managing the high costs of infrastructure maintenance, energy and taxation through subsidies is not a self-sustaining economic model. The subsidies cannot be indefinite but without the subsidies many existing business will fail or relocate and potential new businesses will look more favorably upon other regions. Subsidies are, at best, an interim solution and must be strategically targeted at businesses and industries that promote those economic sectors identified for long-term economic growth in the City and region.

Urban Decay

Particularly for the City, the challenge of prolonged urban decay is a challenge for businesses looking to locate or expand in the region. Urban decay has a number of impacts, including the lack of attractive urban cores that can help draw and retain a young workforce and decaying infrastructure that adds directly to the costs of doing business. It also leads to the inability to sustain a rational tax policy, as decline forces tax rates up in an effort to maintain fiscal solvency.

Attracting and Retaining a Quality Workforce

The Buffalo region, in general, has been challenged to create an environment that can attract and retain the "best and brightest," particularly younger workers who are a key engine of a knowledge-based economy. A quality labor force is attracted to vibrant economies, where a variety of job opportunities exist. While there is a strong university presence in the region and Buffalo statistically has a well-educated workforce, the region still generally functions as an exporter of young, educated professionals, as this segment of the labor market looks elsewhere for long-term career opportunities.

It is well documented that younger, high-quality workers are generally attracted to regions with an ample number of vibrant, urban cores. These types of workers – coined by Richard Florida as the "creative class" – generally want to live, work, shop, eat, and recreate in exciting, 24-hour environments. Currently, Buffalo has few of these places that meet this requirement. While ongoing efforts to revitalize the downtown and waterfront are encouraging signs, as of today Buffalo is still challenged to convince the creative class that the region and City is an exciting, vibrant place to live.

In the classic paradox, the real and perceived inability to attract and retain quality employees forces many employers to look elsewhere. Growing firms, especially in the emerging, knowledge-based sectors of the economy, look first and foremost to locate in regions that have proven track records of attracting high-quality employees – especially younger (and cheaper) college graduates. Thus, the inability to attract and retain high-value workers is a disincentive to create jobs, which is then a disincentive for high-value workers to choose to live in a certain area. Breaking this vicious cycle is certainly not easy, but generally requires a clustering of an emerging economic niche which can create market momentum on both the workforce retention and job creation fronts.

Decaying and Excessive Infrastructure

The Buffalo region suffers from significant decay in its basic infrastructure, including utilities and roads. Significant infrastructure decay particularly plagues older regions – and central cities within these older regions – compared to newer regions and/or competitive suburban locations because of the age of the infrastructure and use over time. As just one anecdote, water costs in Buffalo are unusually high relative to national averages, despite the access to a large body of fresh water, because much of the water infrastructure is in disrepair (reportedly much of the system still consists of the wooden pipes) which results in significant water loss and inefficiency. The lack of a quality infrastructure can increase costs, create inefficiency in a wide variety of activities, and therefore deter investment from businesses.

With the continuing decline of both its residential and industrial bases, the city is also 'oversized', with an excess of infrastructure and developed land in relation to actual use and municipal tax return. Despite the reduced tax base due to population and business losses, the municipality continues to be responsible for maintaining and repairing the same amount of infrastructure once necessary for a much larger City.

High Cost of Doing Business

Despite aspects of the regional economy that generate low costs for businesses, overall the Buffalo-Niagara region ranked as the 57th most expensive region to do business in the nation,[16] with an index of 106 (100 is the national average). Despite the higher cost of doing business, labor and office rents are more affordable than the national average, with indices of 86 and 80, respectively. The specific costs that contributed to Buffalo's relatively high costs were taxes and energy, with indices of 113 and 207, respectively.

High Cost of Energy

The region struggles with high energy costs, and was ranked as having the 2nd highest energy costs in the survey (defined as commercial and industrial electricity costs in cents per kilowatt hour).[17] Large employers coming to, or expanding within, the region are often able to reach more favorable agreements with energy providers, particularly by providing access to cheaper hydroelectric power. However, access to these subsidy programs are limited and not wholly transparent, and even businesses that gain access to cheaper power have no guarantee how long that subsidy will continue.

Evidence strongly suggests that without energy subsidies (such as the Jobs for Power program, among others), the Buffalo region has an extremely difficult time competing with other places nationally, especially for businesses that use a significant amount of energy. Energy programs cannot be thought of as temporary subsidies, but instead as critical components to leveling the playing field relative to national competitors. Through stakeholder interviews, one local multinational firm confirmed that they had to decrease its operations in the City and believes that if the year-to-year power agreements were to disappear, they would have to relocate completely. These types of decisions are likely being debated in firms throughout the region.

Tax Burden

Population loss and a high concentration of poverty contribute to lower tax bases and greater demands for social services, undercutting a city's overall fiscal health. Perhaps even more important, such conditions undermine a city's ability to cultivate a skilled workforce and frustrate their efforts to grow and attract the firms so essential to building and sustaining a strong economy. Municipalities with lower property values or less commercial development have less tax capacity—a smaller pool of tax dollars with which to pay the bills for municipal services. And the bills are often higher, because these communities must pay for services not needed in newer or more affluent communities, like demolition of vacant buildings, repair of aging infrastructure, and support services for its senior population. In general the tax burden in the Buffalo region is excessive and complicated, creating significant additional costs and uncertainty for businesses looking to locate or expand in the region or City.

The tax burden can be mitigated with a number of available incentives and subsidies. For example, the City of Buffalo has a number of Empire Development Zones within its boundaries that provide financial benefits and incentives to companies located within the zone boundaries. These zones are beneficial for the city and create opportunities for the city to recapture jobs, households, and economic activity that it has lost to other regions and the surrounding suburbs. However, as with energy subsidies, these programs in most cases merely begin to level the playing field for the City relative to national and intra-regional competitors. In order to sustain any job growth created through these programs,

[16] UB Regional Institute, Cost of Doing Business
[17] UB Regional Institute, Cost of Doing Business

the subsidies must provide long-term relief. In reality, a more systemic solution to the tax burden challenge will be required for the region to gain long term competitive advantage. As well, they can fuel interjurisdictional competition (and therefore deter regional policy solution), and often do not strengthen local economies as the pubic costs per jobs are high and businesses often close or leave the area shortly after receiving them.

Fiscal Solvency and Complicated Bureaucracy

Beyond the cost burden, businesses also face a complicated tax structure, which makes it difficult to compare costs in the Buffalo region with other regions, as well as compare the tax burden in the City to other jurisdictions within the region. This complication is enhanced by political uncertainty, particularly regarding the fiscal solvency of the City. Similarly, businesses looking to move into Buffalo face a complicated economic development infrastructure. Local economic development agencies and organizations are critical players in any strategy of regional and local economic resurgence. However, the sheer number of organizations, their overlapping jurisdictions, and often competing goals or incentives complicates the process for businesses looking to locate in the City or surrounding suburbs.

Key Findings

The longer term solution for the BOA should be to capitalize on existing strengths and promote new economic directions that support regional economic drivers and diversify the economy. This will help to establish companies that do not rely on subsidies, will create good jobs and will attract and retain a quality workforce.

3.2.4 City and Regional Strengths and Opportunities

The region and the City have a number of positive attributes that can provide true foundations for economic resurgence. Buffalo has a large pool of underutilized labor and it possesses many of New York State's major medical, educational, and research institutions—all critical building blocks for Buffalo's future competitiveness. The South Buffalo BOA in particular has extensive infrastructure, including rail and port access, and given the increasing cost of fuel this infrastructure will become even more relevant. The best approaches to help the City of Buffalo become successful will require strategies for the future that may be radically different from those that worked in the past. Ultimately, Buffalo must capitalize on its current economic strengths and grow new economic capacity.

Low Cost of Living

The Buffalo region is a relatively affordable place to live, with its cost of living just below the national average. An affordable housing stock and lower-cost health care are key drivers of affordability, even though utility, grocery, and transportation costs are higher than the national averages. Cost of living indices are not the primary factor determining economic strength – in fact, many of the most vibrant regions in the nation are also the most costly – but they are a relevant indicator of competitiveness for regions, such as Buffalo, who must retain and attract investment dollars (and human resources) when cost of doing business and living is a particular concern. Metro areas with higher costs of living than the national average and significant economic stagnation (Detroit and Cleveland are 9% and 5% more expensive than the national average, respectively) face difficulty attracting households when compared to less expensive growth areas such as Charlotte and Chattanooga (both are approximately 5% cheaper than the national average).

Gateway to Canada

The Buffalo-Niagara Falls region sits at one of the primary borders between the U.S. and Canada, acting as a gateway for bi-national trade of goods, services, human capital resources, and research and development. Bi-national trade certainly creates strong demand for goods and services throughout the Buffalo region. The large population throughout the "Golden Horseshoe" provides access to both a large marketplace and a large labor force, which are major assets for businesses looking to expand or relocate.

Approximately $1.2 billion in trade crosses the US-Canadian border each day; a significant portion of this trade is goods that are part of a production chain. While there are 147 border crossing points between the U.S. and Canada, a large portion of this trade flows through only a small number of points. The Buffalo-Niagara area sees $57 billion worth of goods cross annually or $156 million each day. The current weakness of the dollar will continue to create strong incentives for cross-border production of goods and services. Access to the labor force and markets on the U.S. side of the border are an even greater, long-term incentive for bi-national trade.

The City of Buffalo has a central location within the Western New York region, allowing it to capture many of the benefits of this region's proximity to Canada. The central location is strengthened by the multiple points of access – particularly significant rail and water transport infrastructure – which will be increasingly important as fuel prices to increase trucking costs.

The border relationship between Canada and the United States also extends to tourism, where travelers and visitors flow daily across the border. In 2006, over 27 million passenger cars and 4.8 million non-commercial trucks used border crossings—benefiting the economies of both countries. In this same period, it is estimated that Canadians visiting the United States spent $10 billion, 80 percent of which supported dining, hotel stays, and gift purchases. However since 2001 homeland security concerns and measures have slowed border and bi-national economic exchange. For example, new layers of security and more complex rules and regulations have been attributed to the decline in annual crossings. Canadian tourism spending in the United States should have risen with the strong Canadian dollar, but total annual crossings in 2005 compared to 1995 show a 50 % decline.[18]

Tourism

Tourism is a potentially important economic generator with regard to generating jobs, sales revenues for businesses, and tax revenues for the city and state governments. State and city initiatives and organizations, including the Buffalo Niagara Cultural Tourism Initiative, the Buffalo Niagara Convention & Visitors Bureau 2002 Marketing Plan, and the Olmsted Crescent Marketing Plan, have had an important role in promoting tourism within Western New York. In August-September of 2007, 20% of the Buffalo-Niagara Falls MSA employment was in retail trade and leisure & hospitality.

A Waterfront City

The City of Buffalo's extensive waterfront, both lake and river front, represents a latent competitive strength. Buffalo's waterfront along its inner and outer harbor, and the Buffalo River, represents an opportunity to create significant cultural, entertainment, and recreational amenities, in addition to high-value residential and commercial development. Buffalo's waterfront need not be

[18] Metropolitan Policy Program at Brookings, The Vital Connection: Reclaiming Great Lakes Economic Leadership in the Bi-National US-Canadian Region, 2008

the classic tourism draw of Niagara Falls in order to have an important impact on the area's tourism economy. A revived waterfront will not only help Buffalo to capture a greater share of the current and future visitors to the Western New York region but also create the foundation and distinctive feature and therefore a focus for reinvestment.

An Urban Center

The competitive advantage of the City does not stop at the water's edge. Urban center cities have a unique positioning within regional economies. The value of an urban core, no matter how hidden by decades of decline, is a strong competitive amenity. Center cities have historical significance in addition to urban design that truly allows for mixed-use, vibrant neighborhoods – exactly the type of places that are increasingly desired among residents and employees, especially the workers in the knowledge economy. The genuine value of the urban core is also a competitive advantage that cannot be easily recreated in suburban locations. Through its Comprehensive Plan – Queen City in the 21st Century – the City plans to further rejuvenate and strengthen its downtown and achieve its social, environmental and economic goals for the City and Region by focusing investment in five areas:

- The Erie Canal Harbor and Waterfront District
- The Downtown Education and Public Safety Campus
- The Government Center and Business District
- The Theatre District
- The Buffalo-Niagara Medical Campus

Hard-Working, Educated, and Affordable Labor Force

Unlike many regions where the low cost of labor comes with a tradeoff of poor skills, the Buffalo region has established a reputation as having an affordable workforce that is educated and hard-working, making it a very attractive area for businesses looking to relocate or grow in the region. The quality of the labor force was known to be a significant draw for GEICO, when they decided to open operations in Amherst, and all reports suggest that their expectations were exceeded.

The quality of the workforce is due in part to the existing base of skilled labor force that is transitioning out of the manufacturing sector. Chemical manufacturing, for example, has a strong workforce base in this region with years of experience. Buffalo also has a strong base of colleges, universities, and technical training programs that contributed to its ranking as 18th in the U.S. for workforce education.[19] As stated earlier, 37% of the Buffalo MSA residents have at least an Associates' degree compared to 38% in New York State and 34% in the U.S.[20]

Part of a Research and Education Corridor

The University at Buffalo is the prime driver of research expenditures in the Buffalo region. In 2004, University at Buffalo research expenditures were approximately $259 million, which ranked it 54th out of the 222 universities that had research expenditures over $25 million (and had received some form of federal funding in the past decade). From 2000 to 2004, the research expenditures at the University at Buffalo had grown 8.4% per year.

Beyond the research at the University at Buffalo, there is significant research activity ongoing at a number of other Western & Central New York universities, including but not exclusive to: Rochester Institute of Technology, University of Rochester, Syracuse University, State University of New York College of Environmental Science and Forestry (SUNY-

[19] The Metropolitan New Economy Index, 2001
[20] 2003 American Community Survey, U.S. Census Bureau

ESF), Cornell University, University at Albany, and Rensselaer Polytechnic Institute. Among this group, an estimated $1.07 billion in research dollars were expended in 2004,[21] in addition to the expenditures at the University at Buffalo. The total expenditures for the entire Western and Central New York area was $1.33 billion. To put this in perspective, the four universities in the Raleigh-Durham area (University of North Carolina – Chapel Hill, Duke University, North Carolina State University, and Wake Forest University) had annual research expenditures of $1.36 billion in 2004. The impressive cluster of research activity in Western and Central New York does not even account for the significant research occurring within several universities in Toronto, Canada.

The potential to create a true academic cluster presents opportunities for future research collaboration, cross-university linkages, and eventually, a focus on applied research and technology transfer. Research clusters that can focus on translational research, which is the commercialization of research into market products, are engines of growth in the regional economy. Buffalo is faced with a unique opportunity to establish itself as the commercial center of this nascent research cluster.

Key Findings

Buffalo possess a unique set of characteristics and resources that can become vital competitive assets. These include an educated workforce, distinct physical features such as the waterfront on Lake Erie and the Buffalo River, access to a large bi-national market and regionally successful market sectors such as research and tourism.

3.3 Understanding the Land Base

The purpose of the land base analysis is to better understand the environmental conditions of the area, identify barriers and opportunities to redevelopment, clarify the regulatory framework governing the site, and identify assets and opportunities that can leverage further private and public investment in the BOA. Maps 3.4 to 3.25 are located at the end of section 3.2. See Appendix A for a more in-depth discussion of the Land Base Inventory and Analysis.

3.3.1 Location of Study Area

The South Buffalo BOA study area is approximately 1,900-acres, making it the largest BOA to receive funding in the State of New York. The BOA is located in the southwest portion of the City of Buffalo, Erie County, in the western region of New York. The South Buffalo BOA represents the portion of the City having the largest geographic concentration of former heavy industries. The BOA is bounded by NYS Route 5 to the west, Hopkins Street and South Park Avenue to the east, the Buffalo River to the north and the City of Buffalo-City of Lackawanna municipal boundary to the south. Lake Erie is located to the immediate west of the BOA, directly across NYS Route 5.

The BOA's surrounding neighborhoods include the Old First Ward to the north, the City of Lackawanna including the New Village Industrial Park and CSX Intermodal rail yard to the south, the NYS Route 5 corridor and Buffalo's Outer Harbor to the west, and the primarily residential neighborhoods of South Buffalo to the east.

[21] Does not include any expenditures from RIT, which did not appear on the list of universities which received federal funding, and thus total research expenditures were not available.

Key Findings

At over 1,900 acres the South Buffalo BOA represents a tremendous opportunity to renew the South Buffalo Community and the City of Buffalo. Located along two waterfronts and at the intersection of several international transportation corridors, the BOA is a valuable resource that managed strategically could transform into a regional economic and recreational center.

3.3.2 Land Use Pattern

The BOA and adjacent areas are categorized by a mix of land uses, including existing light and heavy industrial, rail yard, closed landfills, scrap yard, commercial, residential, natural heritage, and park and open space uses, in addition to vacant, abandoned (unoccupied) and /or underutilized sites that formerly served heavy steel manufacturing industries. Currently, the predominant land use within the BOA is vacant undeveloped lands. Table 3.8 summarizes the scale of each existing land use within the BOA.

As illustrated in Map 3.3 - Existing Land Use the BOA is bisected north to south by an active rail corridor. Uses to the west of the rail corridor include light industrial within Lakeside Commerce Park, and nature conservation uses within the Tifft Nature Preserve. This area also includes the George J. Hartman Playfields to the immediate south of the Tifft Nature Preserve and a new park adjacent to the Union Ship Canal within Lakeside Commerce Park. A closed landfill occupies approximately 52 acres within the 233-acre Tifft Nature Preserve.

Uses to the east of the rail corridor include the abandoned grain elevators on the Buffalo River, active light and heavy industrial and warehousing along the Tifft Street and Hopkins Street corridors, and vacant industrial lands. These areas offer significant opportunities for redevelopment. To the immediate west of South Park Avenue near Hopkins Street are a cluster of landfills, junkyards, and limited commercial uses. These areas are more challenging opportunities for redevelopment.

The Hickory Woods residential neighborhood and other limited residential areas along Hopkins Street from the western edge of the South Buffalo community. South Park and the Botanical Gardens anchor the BOA to the southeast. Both South Park and the Botanical Gardens form part of the Cazenovia Park-South Park System of Olmsted Park and Parkways, and are listed on the State and National Registers of Historic Places. Viable commercial and light industrial operations continue along South Park Avenue and some of the side streets in the southeast portion of the BOA.

Key Findings

The South Buffalo BOA land use pattern reveals both great opportunities and great challenges. The open space network - a rich collection of park space, waterfront and nature preserve, is a critical asset that should be strengthened and leveraged. Further, the over 600 acres of vacant and underutilized land, much of it in public ownership, demonstrates the scale of the opportunity to re-shape and re-brand the BOA area. Nonetheless, the land use pattern also reveals a pattern of lower value uses. Moving forward, the challenge is for the City of Buffalo to strategically make best use of the BOA's assets, determine what uses are acceptable in the BOA, and decide how and where new, potentially catalytic, uses should be sited.

3.3.3 Existing Land Use Controls

Land use in the BOA is governed by a layer of development controls, including regulatory land use restrictions, special review districts, urban design review frameworks, a heritage conservation framework, and City-wide policies and programs. Map 3.4 - Existing Zoning Districts illustrates the

Land Use	Acreage in BOA	Total Parcels
Residential	46 acres	410 parcels
Commercial	125 acres	69 parcels
Industrial	176 acre	40 parcels
Institutional	2 acres	2 parcels
Public Services/Utilities	34 acres	7 parcels
Parks & Open Spaces	393 acres	9 parcels
Rail Corridors	270 acres	55 parcels
Road ROW	92 acres	n.a.
Vacant Land -Publicly owned	349 acres	144 parcels
Vacant Land -Privately owned	271 acres	154 parcels
Closed Landfills	188 acres	15 parcels
Total	1946 acres	905 parcels

Table 3.8 South Buffalo Existing Land Use

layers of zoning controls in the BOA and surrounding area. Development controls in the BOA include:

Zoning

Zoning regulations in the City of Buffalo, in part, regulate the height and bulk of buildings, the portion of a lot area that may be occupied, the area of yards, courts and other open spaces, and the location of trades, industries and other buildings designed for specified uses. Of the approximately 1,946 acres of gross area of the BOA (including roads), the majority, approximately 1,666 acres, is zoned industrial, including M1 Light Industrial (124 acres), M2 General Industrial (299 acres), and M3 Heavy Industrial (1,243 acres).

In contrast, the east edge of the BOA includes a variety of zoning districts, reflecting the mixed-use nature of the area. The Hickory Woods/Abby Street area and the area clustered north of South Park and west of South Park Avenue (250 acres) are zoned R2 Two Family Districts. Of the 250 acres zoned R2, municipal parkland, South Park and Botanical Gardens represent 160 acres. A relatively small area to the northeast of South Park is zoned CM General Commercial District (22 acres). The area along South Park Avenue is zoned C2 Community Business District (8 acres).

Buffalo Coastal Special Review District

The Buffalo Coastal Special Review District was instituted to protect the lakefront and riverfront from inconsistent uses as well as uses that are unrelated to the coastal area. The district encompasses a majority of the BOA, and includes areas west of Hopkins Street, north of the City of Buffalo-City of Lackawanna municipal line, and south of the Buffalo River. Restricted use permits are required to establish or extend a use within the district.

Within the Buffalo Coastal Special Review District, the Buffalo River Open Space Corridor requires

new development along the river that is not water-dependent to be set back 100 feet from the shoreline. New development that is water-dependent is permitted within the 100-foot setback.

South Park Special Zoning District

The South Park Special Zoning District includes all properties fronting South Park Avenue originating at the intersection of South Park and Bailey Avenue to the north, and extending to the City of Buffalo-City of Lackawanna municipal line at the intersection of Dorrance Avenue to the south. Requirements of the South Park Special Zoning District apply to the portion of South Park Avenue located within the BOA. Per the restrictions of the special zoning district, select uses require a special use permit to locate in this zone.

Local Waterfront Revitalization Program

In 2005, the City of Buffalo completed a Draft LWRP, which was submitted to the New York State Department of State (NYSDOS) for review, comment and approval. The Draft LWRP was subsequently revised in January 2007 and is pending adoption by the City of Buffalo Common Council. The Local Waterfront Revitalization Area (LWRA) includes two sub-areas located in the BOA, as identified in Map 3.5 - Local Waterfront Revitalization Program Sub-Areas. Once approved, actions to be undertaken, funded or permitted within the LWRA - which includes the Tifft Nature Preserve, Buffalo Lakeside Commerce Park/Union Ship Canal and the area between the Buffalo River and abandoned railroad corridor on the Riverbend property - must be reviewed for consistency with the policies of the LWRP. Through the pending Waterfront Consistency Law, the City will have the legal mechanism to review direct and indirect actions within the defined LWRA.

The LWRP proposes several projects of interest within the BOA, including: a) the Buffalo River Greenway Program, a multi-purpose open space corridor and trail system connecting the Buffalo River's recreational, cultural and ecological assets; b) the Buffalo River Sediment Remediation Program, including funding for remediation and collaboration with the Army Corps of Engineers to dredge the Buffalo River; c) the Southtowns Connector; d) the expansion of the Tifft Nature Preserve, to include the former Lehigh Valley railroad property; and e) the Tifft Street Greenway, to connect the George J Hartman Playfields to Furhmann Boulevard.

Union Ship Canal Urban Renewal Plan

The Union Ship Canal Urban Renewal Plan was approved in October 2003. The Plan is the legal and administrative vehicle to implement the Union Ship Canal Master Plan (Buffalo Lakeside Commerce Park). The Urban Renewal Plan overrides existing M3 Heavy Industrial zoning and the Citywide Design and Site Plan requirements, and in their place, establishes zones for office, light industrial manufacturing, and open space/ recreation. Prohibited uses within the Buffalo Lakeside Commerce Park include residential, freight terminals, junkyards, recycling centers and heavy industry.

The Urban Renewal Plan contains a series of progressive design standards. These standards: a) call for mixed-use development of high design quality, site amenities, open space and environmentally sensitive area protection; b) encourage originality, flexibility and innovation in site planning and design; c) require that uses and design are compatible with the Urban Renewal Plan; d) require the promotion of the health, safety, and general welfare of the public; e) require the provision of transportation, water, sewer, parks and other public services; f) support the preservation and protection of significant natural features; and g) ensure that the New York State Coastal Zone Management goals and policies are appropriately considered as development occurs.

Citywide Design and Site Plan

The Citywide Design and Site Plan Code establishes urban design controls to review development that may have adverse effects on adjoining uses. The Code authorizes the City Planning Board to review and approve, approve with modifications, or disapprove, design and site plans, including proposed development or activities within the BOA. The Code governs elements such as parking, means of ingress and egress, pedestrian sensitivity, screening, signage, landscaping, architectural features, location and dimension of buildings, impact of development on adjacent properties, and environmental matters that affect the health, safety and general welfare of the community. Proposed projects within the Buffalo Lakeside Commerce Park are subject to the Union Ship Canal Urban Renewal Plan which overrides the provisions of the Citywide Design and Site Plan Code.

Preservation Standards

The City of Buffalo Preservation Standards establish controls designed to preserve City-designated landmarks, landmark sites and historic districts, to avoid the loss of historic or architecturally important properties, and to preserve the economic and architectural integrity of vacant and underutilized landmark properties through rehabilitation and adaptive reuse. The Standards authorize the Preservation Board, in part, to approve or disapprove certificates of no effect, certificates of appropriateness, or certificates of exception, for the erection, alteration, restoration, renovation, relocation, demolition or site improvement of any landmark, landmark site or of any building, structure, or site within an historic district when the exterior of such property would be affected. Within the BOA, South Park is the only designated City of Buffalo Landmark District and, therefore, any proposed construction or alteration activities within the park would be subject to the Preservation Standards and would require Preservation Board approval.

Key Findings

The City of Buffalo has an array of municipal regulations at its disposal that dictate the type, location and design quality of uses permitted in the BOA. Used strategically, these municipal mechanisms can bring coherence to the BOA, and ensure valuable long-term high-value opportunities are protected. The existing land use control framework cannot become a barrier to realizing the vision of the BOA that emerges through the Nomination process, but instead should be refined to reflect the strategic directions for this BOA work. For instance, the City should introduce and implement new tools such as Urban Design Guidelines to advance a consistent and quality design standard for new development in the BOA.

3.3.4 Economic Development Designations

Much of the BOA is supported by State and Federal economic development programs. Map 3.6 - Economic Development Designations illustrates areas within the BOA and its surrounding area identified as Empire Zone, Federal Renewal Community Area, and Environmental Zone.

New York State Empire Zone

The Empire Zone is a valuable tool and asset for attracting new economic opportunities. Businesses located within these zones can apply for state sales tax exemption, real property tax credits, and business credits for increasing employment in a designated area. The largest area within the BOA designated an Empire Zone is a portion of the Buffalo Lakeside Commerce Park. Other Empire Zone-designated areas within the BOA include the former Village Farms hydroponic tomato facility parcels north of South Park Avenue, parcels along Colgate Avenue, and the Sorrento Lactalis parcels along South Park Avenue.

Federal Renewal Community Area

The Federal Renewal Community Area designation encourages businesses to locate or expand operations while hiring residents from the renewal community. Census Tract 3, which includes most of the BOA study area north of Tifft Street, is included in the Buffalo-Lackawanna Renewal Community. The incentives to businesses located in this area include a wage credit for every employee hired from the renewal community area, accelerated depreciation, and a zero capital gains rate.

New York State Environmental Zone

As part of the Brownfield Cleanup Program, the Conrail/CSX "peninsula" area adjacent to the Buffalo River is designated an Environmental Zone (En-Zone) by the Empire State Development Corporation. Based on poverty rates by census tracts, the designation provides enhanced tax credits for remediation and redevelopment of this area.

Key Findings

Among the range of economic development designations available within the BOA, the Empire Zone is the most valuable. Lands in designated Empire Zones have the potential to attract higher industries and uses, providing long term stability and sustainability to the BOA and surrounding neighborhoods. Leveraged strategically, Empire Zones can be used to target uses that build momentum for the BOA brand, and help attract a critical mass of higher employment industries.

3.3.5 Brownfield, Abandoned and Vacant Sites

The majority of lands within the BOA are characterized as brownfield, abandoned or vacant. Properties available for immediate or future reuse or redevelopment are defined as meeting one or more of the following criteria, which are not mutually exclusive:

Underutilized: Underutilized properties have an active use and/or are occupied, but are not being utilized to their highest and best use, given their location, zoning, and size or percentage of developed area. Underutilized properties also include lands with viable structures or buildings not being utilized to their intended use or capacity.

Vacant: Vacant properties are identified through the City of Buffalo tax rolls and the New York State Office of Real Property Service's Property Classification Codes. Reported results were verified or refined through a windshield survey.

Unoccupied (Abandoned) Buildings: Unoccupied properties consist of unoccupied buildings where it appears the owners no longer intend to occupy the property. These properties may have recorded tax arrears or are in-rem tax foreclosure.

Brownfield: Brownfields consist of underutilized, vacant and unoccupied sites, and each brownfield site is further characterized as one of the following six categories:

1. Remediated/Remediation Ongoing. These include sites where investigation and remedial activities have been completed to the satisfaction of the NYSDEC and/or USEPA, or where remediation under the oversight of the above agencies is ongoing, or designed and approved but not commenced. These sites are considered ready for future redevelopment.
2. Known Contamination. These include sites that are not currently being investigated and/or remediated or that have residual contamination documented from past spills or remediation efforts.
3. Brownfields. These include sites that have: a) been subject to Phase I Environmental Site Assessments that identified the likely presence of contamination; b) undergone past remedial activities that addressed some but not all possible contamination; or c) a documented

past history of operations or proximity to sites having operations that may have utilized or disposed of hazardous materials.

4. No Known Contamination. These include sites that have been investigated and have been found to have no site contamination.
5. No Site Characterization. These include underutilized, vacant or unoccupied sites for which, based on available information, no site characterization has been identified.
6. Closed Landfill. These include several former dumps, or landfills that once operated within the BOA. These landfills have been closed and no longer accept solid waste and may require long-term operation and maintenance.

Map 3.7 - Brownfield Locations identifies the state of brownfields existing within the BOA including remediated areas, areas with known contamination, brownfields, areas of no known contamination, areas with no site characterization, and closed landfills.

From the Map, much of the publicly owned land within the BOA has been remediated and is ready for public or private investment and/or redevelopment. This includes the Riverbend Commerce Park (formerly Steelfields) and Village Farms sites, as well as vacant land within Buffalo Lakeside Commerce Park. A few publicly owned sites require additional site characterization and/or remediation. In contrast, much of the private land within the BOA contains active businesses, but remains underutilized. These lands are also for the most part brownfields (i.e., perceived or suspected contamination), have known contamination or have no site characterization. Nonetheless, before redevelopment can occur, these privately owned lands require further site characterization to better understand their environmental status.

The BOA includes four landfills that either contain waste from off-site sources or are containment cells storing contaminated waste from adjacent remediated lands. The landfills include: the Marilla Street Landfill, the Alltift Landfill, the Riverbend (Steelfields) containment cell, and the Tifft Nature Preserve 'mounds' Landfill. Unless significant permitting and engineering efforts are initiated, the landfills can accommodate new limited uses as long as they do not compromise the landfill cap. Examples include recreation, and small slab-on-grade (no basement) buildings that do not require significant excavation.

According to the NYSDEC, the Alltift Landfill is graded to accommodate a golf course. Removal of waste from the Alltift Landfill is likely cost prohibitive given the nature of the waste contained within. If economics permit, removal of waste from the parts of the Marilla Street Landfill is possible. The Riverbend (Steelfields) containment cell, which contains mostly demolition debris and solid waste, as well as the Tifft 'mounds' Landfill, are more flexible and better able to accommodate future redevelopment.

A compendium of site profiles detailing relevant brownfield, abandoned or vacant sites in the BOA is included in **Appendix B**. The individual site profiles include information on size, use, ownership, brownfield status and environmental history. For sites having significant structures on site, a detailed building profile is included in the site profile.

3.3.6 Strategic Brownfield Sites

To be determined following the community consultation and Master Planning process (Phase 3 and 4). Map 3.8 - Underutilized Site Locations details the BOA, identifying sites that are underutilized, vacant, unoccupied/abandoned and closed landfills.

Key Findings

Although the BOA is quite large and has a long history of industry and contamination, much is known about the state of brownfields in the BOA. The majority of publicly-owned land in the BOA has been remediated and is ready for redevelopment. These publicly-owned lands include some of the best opportunities in the BOA to attract high value, high employment uses over the long term. These strategic parcels include the remaining vacant portions of Lake Side Commerce Park, Riverbend Commerce Park (the former Steelfields), and the former, now capped landfills.

Much less is known about private underutilized brownfield lands, which either have known contamination or no site characterization. Through later stages of the BOA nomination process, the City of Buffalo will be able to draw resources to better understand the state of strategic sites, including private brownfield lands.

3.3.7 Land Ownership

Of the BOA's total 1,946-acres, public land holdings account for 954 acres (or 49.02% of the BOA), which is slightly less than private sector ownership of 992 acres (or 50.98% of the BOA). Of the private land holdings, railroad uses account for 261 acres (or 13.43% of the BOA). Map 3.9 - Land Ownership Patterns illustrates the pattern of public (City, County, State and Federal), and private land ownership in the BOA.

The majority of publicly owned land offers immediate opportunities for redevelopment or public investment. Two public sector entities - the City and BUDC – together control a total of 776 acres (or 39.89% of the BOA), which includes the majority of available vacant property in the BOA. Of the 267 acres BUDC owns, 182 acres is within Riverbend Commerce Park (the Steelfields property) and 107 acres is within Buffalo Lakeside Commerce Park, both of which are properties BUDC is actively marketing for redevelopment. Of the 509 acres controlled by the City of Buffalo, 233 acres make up the Tifft Nature Preserve and 148 acres make up South Park. Both the Tifft Nature Preserve and South Park are committed for public use as parks and open space. Public street right-of-ways, also committed to public use and not expected to be available for redevelopment, account for 103 acres (5%) of the BOA.

Privately owned lands, in particular along the Hopkins Street and Tifft Street corridors, are underutilized and weaken adjacent residential areas. These lands provide longer-term opportunities for higher uses.

Key Findings

Approximately half the BOA is in public ownership, including important open space assets as well as prime land for redevelopment. Together the City and BUDC control 40% of the BOA. As a result, the City has great ability to determine how the BOA will evolve.

Nonetheless, much of the publicly-owned land is disconnected and surrounded by low value uses. In order to leverage these lands to draw out their full value and catalyze high-value private sector investment, the City should invest in renewing the area's sense of place and brand, as well as the structure that ties the BOA together.

3.3.8 Parks and Open Space

The BOA benefits from an impressive park and open space system, which includes regional destinations such as the Tifft Nature Preserve, South Park, the riverfront and lakefront. Unfortunately, the BOA's park and open space network is fragmented and the individual potential of these important destinations are unrealized.

Map 3.10 - Parks and Open Spaces identifies areas municipally designated park and open space, totaling 444 acres. This area is comprised of: a) four public parks (South Park, the George J. Hartman Playfields, Okell Park and Boone Park); b) the Tifft Nature Preserve; and c) a future park/open space circulating Union Ship Canal in Lakeside Commerce Park.

In addition, the BOA includes significant riverfront frontage and adjacency to lakefront areas. Further, the BOA has a simple (but incomplete) network of pedestrian and bicycle routes - although their condition is poor and often dangerous to traverse. The pedestrian and bicycle system is further described in Section 3.2.11 Transportation Systems.

Key Findings

The park and open space network are the central assets that make the BOA a great place. Collectively these assets have the potential to ignite change, and increase the identity of the BOA as a place of nature, sustainability and economic resurgence. To realize this potential, investment in the public realm should be a priority and considered a catalytic investment.

3.3.9 Building Inventory

The compendium of site profiles in **Appendix B** includes a detailed building profile for each underutilized, vacant or unoccupied site that has a significant structure on site. The building profiles include data on age, area, and current or historic use, as available.

3.3.10 Historic and Archeological Resources

The BOA contains several historic assets that celebrate the area's industrial past, and highlight the area's park and open space system. Historic designations do not prohibit public improvement or private investment, but instead open access to State and Federal funding. As identified in Map 3.11 - Historic Resources and Archeologically Sensitive Areas historic resources listed or eligible for listing on the National and State Registers of Historic Places within the BOA include: South Park (including the Botanical Gardens and the 1927 golf shelter as contributing structures) which forms part of the Buffalo Olmsted Parks and Parkways Thematic Resources, the Concrete-Central Elevator on the Buffalo River, Cargill Superior Elevator on the Buffalo River, and the Union Ship Canal. Among the historic resources, the grain elevators provide a unique opportunity for potential reuse and/or to promote the industrial heritage of the area. South Park is also a designated City of Buffalo Landmark District.

Further, as demonstrated on Map 3.11 and according to the New York State database for Archeological Sensitivity, the majority of the BOA is included within an Archeologically Sensitive Area. The only area not identified archeologically sensitive stretches north-south along the western boundary of Okell Park and east of South Park Avenue. Areas identified archeologically sensitive do no prohibit future development, but nonetheless, these areas are subject to a measure of protection when State and Federal agencies fund, license or approve projects.

Key Findings

The BOA's industrial past combined with its Olmsted legacy is an asset that reinforces the area's distinctiveness. Celebrating South Buffalo's heritage enables the past to educate the future, as well as pass on a sense of pride and identity. Moving forward creative consideration should be given as to how to leverage historic assets to attract visitors to the BOA or to spur new industries through adaptive reuse.

3.3.11 Transportation Systems

The BOA lies at the intersection of an international transportation hub, with rail, navigable waterway and roadway infrastructure.

Rail

The BOA is divided by an active rail corridor, which provides both opportunities for rail access/service as well as physical constraints on redevelopment in the BOA. The BOA also includes unused rail corridors that could be used to expand rail service. Map 3.12 - Railroad Ownership identifies the ownership of the various railroad infrastructure traversing the BOA.

The BOA is currently served by two Class I railroads, one Class II (Regional) railroad, and two Class III (Short Line) railroads. In addition, two other Class I railroads as well as Amtrak have trackage rights in the BOA. The two Class I railroads operating in this area are CSX Transportation (CSX) and Norfolk Southern Railway Inc.

The Buffalo and Pittsburgh Railroad (BPRR), a subsidiary of the Genesee & Wyoming Company, is the only Regional/Class II railroad in the area. The BOA is also home to two Class III railroads (Short Line railroads): Buffalo Southern Railroad and South Buffalo Railway (SB).

CSX owns, operates and maintains two drawbridges over the Buffalo River. The western-most bridge links the BOA with a railroad junction in the vicinity of Exchange Street, Hamburg Street and Seneca Street. The eastern-most Buffalo Creek Railroad bridge links the BOA with CSX's Frontier Yard and Norfolk Southern's Bison Yard. This bridge serves as the primary railroad river crossing and is heavily traveled. Norfolk Southern, CN, Canadian Pacific, Buffalo and Pittsburgh and Amtrak have trackage rights to this bridge. However, CSX controls all traffic crossing the bridge. There is a companion lift bridge next to the CP draw bridge that has not been operational for many years and is locked in the open (upright) position. No known plans have been identified to rehabilitate or replace this bridge.

The BOA also includes several railroad yards including the Ohio Street Yard, operated by CSX, the Tifft Street Yard, operated by BS and NS, and the Buffalo Creek Yard, operated by BPRR.

Navigable Waterways

The Buffalo River shipping channel is a component of the Buffalo Harbor, which has direct access to the St. Lawrence Seaway from Lake Erie, as well as a network of railroads connecting North America. The U.S. Army Corps of Engineers is charged with maintaining the Buffalo River shipping channel. The Corps maintains the channel depth up to 23 feet. The channel depth is measured annually and dredged at 2 to 3 year intervals.

The U.S. Coast Guard monitors ship traffic within the Buffalo River. Arrangements for tugs are made through the Great Lakes Towing Co. dispatcher in Cleveland, Ohio. Tugs to 1,250 hp are available. City regulations necessitate vessels that require the opening of one or more bridges along the Buffalo River to have assistance from one or more tugs. According to the City of Buffalo, there were 166 bridge lifts in 2007 (which also corresponds to the number of shipping vessels that traversed the Buffalo River during the same period). In the previous four years, the number of shipping vessels on the River ranged from 212 vessels in 2003 to 370 in 2006 (when the Corps was conducting dredging activities).

Roadways

Map 3.13 - Roadway Network illustrates both the internal and external roadway network serving the BOA. The Map also lists existing Levels of Service (LOS) for major signalized intersections within the

BOA. All LOS are C or better for both the AM and PM peak hours, indicating reserve capacity.

From the Map, NYS Route 5, a major arterial commuter route, runs along the western boundary of the BOA. Fuhrman Boulevard and Ohio Street run parallel to NYS 5 and serve as one-way at-grade service roads. The New York State Department of Transportation (NYSDOT) is currently reconfiguring this complex of roadways into a combination arterial road / parallel waterfront access road system. Under this reconfiguration, Route 5 would follow its present alignment and grade, with Fuhrman Boulevard on the west side converted to a four lane, two-way waterfront access road and a portion of Ohio Street on the east side becoming an access roadway to the Tifft Nature Preserve.

Also, from the Map, Ridge Road, a principal arterial roadway for the City of Lackawanna, is a further major transportation link serving the BOA. Occupying approximately 1.6 miles of the southeast corner of the BOA, Ridge Road intersects with the I-90 Expressway of the New York State Thruway Authority (NYSTA) to form Interchange 55, approximately 0.4 miles to the east of the BOA. Interchange 55 is also the northern terminus of New York Route 219, a major north-south artery serving the Western New York Southtowns. The Ridge Road bridge spans the rail corridor bisecting the BOA. The bridge is currently under reconstruction. When complete, the bridge will maintain four lanes bordered by designated and signed bicycle lanes. The I-190 Expressway, situated approximately 0.5 miles north of the BOA, is the major roadway supporting the BOA.

Bicycle and Pedestrian Trails

Bicycle and trail facilities fall into three categories:
1. Multi-use trails for bicyclists and joggers
2. On-street signed bicycle routes
3. On-street, "share the roadway" bicycle designations

As identified in Map 3.14 - Bicycle and Multi-Use Trails the BOA has multi-use trails along Fuhrmann Boulevard and along Tifft Street from Fuhrman Boulevard east to the George J. Hartman Play Fields. From this point, an on-street signed bicycle route runs east to Hopkins Street. There is also a multi-use trail around the perimeter of South Park and a signed on-street bicycle route on McKinley Parkway about 0.5 miles east of the BOA. In other areas of the BOA – in particular along Hopkins Street, Ridge Road and Tifft Street east of Hopkins Street - bicyclists must "share the roadway". These trails are rated either 'suitable' or 'caution advised'.

In addition, the reconfiguration of the Route 5 roadway complex includes a new multi-use pedestrian trail following the reconfigured Ohio Street access to the Tifft Nature Preserve. From there, the trail continues north, crossing under Route 5 and joining the existing Fuhrman Boulevard multi-use trail on the west side of Route 5.

Key Findings

The physical and natural transportation infrastructure that enabled the South Buffalo BOA to thrive as an industrial center through the 1900s still remains. The opportunity moving forward is to rethink how this infrastructure can be adapted and re-used to the benefit of the BOA as a 'new economy' hub. With limited funds at its disposal, the City should ensure that investment in new infrastructure maximizes benefits to the neighboring community and City, including addressing challenges uncovered through the BOA Nomination process.

3.3.12 Infrastructure

Adequate public utilities for power, public water supply and sanitary sewer are generally available around the perimeter of the BOA study area and in

developed areas along Abby Street, Hopkins Street and South Park Avenue. However, for the majority of interior vacant lands within the BOA, new utility extensions will be required.

Public Water System

The BOA's existing PWS system was designed to handle the high demands of the area's former heavy industries. Existing system pressure in the area is generally maintained at 60 psi. Map 3.15 - Public Water System Facilities details the PWS serving the BOA.

Since demand in the BOA has been greatly reduced from historical peaks, the capacity of the existing PWS system is adequate, with few exceptions, to meet immediate future demand. For example, indications do show that the water line through the South Park area near the City of Lackawanna does not have abundant pressure or excess capacity.

According to the COBDPW Water Division planned or anticipated improvements to the public water system in the BOA include:

1. Interconnection with the Erie County Water Authority system on NYS Route 5 at the south City line near the Buffalo Lakeside Commerce Park (BLCP). This will result in enhanced pressure and supply to this distal end of the COB water system.
2. A new loop link from the end of the Ship Canal Parkway water main north to the Tifft Street 16-inch water main. This improvement will also result in enhanced service to the BLCP and north to adjacent underutilized heavy industrial land.
3. The NYSDOT Route 5 project includes approximately $1 million worth of water system improvements including the replacement/ relocation of the existing 16-inch water main. These improvements will result in enhanced water service and reliability in the BOA.

The BOA also has a private water network, built by a consortium of industries in the mid-1960s. The system provides direct lake water for industrial cooling, serving specific sites in the BOA, including Riverbend Commerce Park (the former Republic Steel site). Currently a company adjacent to the BOA named RiverWright has expressed interest to connect to the system to supply their proposed ethanol manufacturing process.

Buffalo River Improvement Corporation Water System (BRIC System)

The Buffalo River Improvement Corporation was a consortium of industries created in the mid-1960's to develop a source and distribution system to supply industrial cooling water to specific sites in and around the BOA study area. These sites included the former Republic Steel site located on the northerly edge of the BOA. Currently, it is believed that only one company is utilizing and maintaining the system (reputedly PVS Chemicals, Inc.). The BRIC system facilities consist of a raw water intake crib and conduit, a pumping station, an electrical substation, distribution pipelines, and an elevated 2 million gallon storage tank. The system is also equipped with a Zebra Muscle control system.

The BRIC system is non-potable water which is not suitable for consumption but continues to be used as a valuable supply for industrial cooling and makeup water supply. The BRIC system was reputedly designed with a capacity of 120 million gallons per day. Currently, the system is supplying only approximately 5-6 million gallons per day. Once the water is used for cooling it is discharged into the Buffalo River resulting in augmentation of the river base flow, particularly during the low flow summer months.

Municipal Sanitary Sewer System

Ensuring adequate sewer capacity in the BOA, in particular to the west, is an ongoing challenge. In particular, the BOA's Combined Sewer Overflows (CSOs) struggle during heavy wet weather events, resulting in direct sewage discharge into the Buffalo River.

Map 3.16 - Sanitary and Storm Sewer Facilities details the municipal sanitary sewer system serving the BOA. As detailed in the Map, existing sanitary sewers on the west side of the BOA are limited to a pump station and 6" force main from Tifft Nature Preserve to the Ohio Street sanitary sewer. There is minimal reserve capacity in the system. Extending gravity sewers to Tifft Street is limited by the depth of the station and minimum hydraulic gradients.

As shown in Map 3.17 - Sanitary and Storm Sewer Facilities Lakeside Commerce Park wastewater from Lakeside Commerce Park is conveyed to the Erie County Sewer District No.6 pipe per an inter-municipal agreement. The wastewater is treated at the District 6 Wastewater Treatment Facility on Lehigh Avenue. According to the BSA, there is a study underway to consider eliminating the ECSD #6 treatment plant and instead convey the wastewater to the City of Buffalo.

Map 3.18- Sanitary and Storm Sewer Facilities Abby Street Area and Map 3.19 - Sanitary and Storm Sewer Facilities South Park Area show that the easterly side of the BOA is relatively well served by both existing sanitary and storm sewers. The BSA system includes an extensive network of collector sewers, sub-trunks, interceptors, wet weather bypass chambers, and overflow sewers serving the industrial, commercial and residential zones around Abby Street, Hopkins Street and South Park Avenue. There are capacity problems during wet weather events that result in combined sewer overflows (CSOs) where sewage discharges directly into the Buffalo River during high volume rainfall events and other wet weather periods.

Two existing CSOs feeding into the Buffalo River (CSOs #28 and 29) are located at the northeast corner of the BOA at the end of Boone Street. These two CSO's are among the top ten CSOs in the City based on volume. To alleviate wet weather CSOs, a system of storm sewers were installed between Abby Street and Hopkins streets. The largest component of this storm sewer is a main trunk line along Boone and Germania Streets from the Buffalo River south to Altruria Street, then across Altruria east to South Park Avenue. The trunk serves as both a storm sewer and combined overflow sewer during wet weather events.

According to the BSA, sanitary sewer capacity and ultimate elimination of CSOs in the BOA is the subject of extensive ongoing study and planning. Already, approximately $500 million of necessary system-wide improvements have been identified, including:

1. Flow enhancement and additional conveyance capacity along Hopkins and Houston Streets.
2. Storm sewer separation along South Park Lake.
3. Pump station upgrade to handle additional wastewater flow from Lackawanna and the east side of the BOA.
4. Contract 1 storm outfall for City of Lackawanna.
5. New storm sewer and outfall under rail corridor.

However, no funding or timeline has been established for these proposed improvements.

While it is possible to reduce the impact of CSOs using wetlands treatment systems, such an approach requires stringent monitoring by regulatory agencies. Another option may be to attenuate CSOs

in the BOA is to construct an Overflow Retention Basin which would enable primary treatment to surcharged combined wastewater as well as retain many smaller rain related events for storage and discharge to the BSA treatment plant. ORF is a more conventional practice acceptable to regulatory agencies.

Storm Sewers and Drainage

Map 3.16 - Sanitary and Storm Sewer Facilities details storm water and drainage challenges in the BOA. Of note, the rail corridor is a critical barrier obstructing east-west drainage across the BOA. Current east-west drainage is enabled through culverts under the rail tracks. These culverts – which are owned by an array of rail companies - are in various states of disrepair.

Northwest. In the northwest quadrant of the BOA there is a complex of abandoned ship canals in the Tifft Nature Preserve which have been partially filled resulting in the creation of Lake Kirsty and several ponds. As indicated on Map 3.20 - FEMA Special Flood Hazard Areas much of this area is regulatory wetland and/or floodplain.

Northeast. Also described above, there are existing municipal storm sewers in the northeast quadrant of the BOA along Abby, Germania, and Hopkins Street. Storm sewer capacity in this quadrant is limited. New storm drainage facilities in the northeast quadrant area require BSA approval and SPDES permits for Stormwater Discharge from Construction Sites and/or Stormwater Discharge from Industrial Sites. These permits require the implementation of stormwater quality and quantity control practices.

Southwest. The southwest quadrant (south of Tifft Street) has existing storm sewers along NYS Route 5 and in the Buffalo Lakeside Commerce Park, and drain into the Inner Harbor. These facilities are owned and operated by the NYSDOT and the BSA, respectively. Significant new drainage improvements are included in the ongoing NYS Route 5 reconstruction project.

Since much of this quadrant is either vacant brownfield and/or underutilized land, new storm drainage facilities would be subject to NYSDOT and BSA approval as well as the SPDES permits for Stormwater Discharges from Construction Sites and/or Stormwater Discharges from Industrial Sites. These general permits require implementation of stormwater quality and quantity control practices.

Southeast. The predominant drainage feature in the southeast quadrant south of the B&O rail corridor is South Park Lake. South Park Lake drains west to the Norfolk Southern rail tracks, then north along the tracks where it combines with the pond at the Tifft Street overpass. From there stormwater is conveyed under the rail corridor by way of railroad culverts where it is eventually discharged north of Tifft Street into the former east canal which is now called Berm Pond and located in the Tifft Nature Preserve.

Public Power Facilities

The BOA is served with electrical power through National Grid. Currently, there are existing 115 and 34.5 kilovolt overhead distribution lines running

Key Findings

The redevelopment of the BOA will over-time necessitate new investment in infrastructure, in particular in the interior of the BOA. New investment in infrastructure is a significant opportunity to support the identity and brand of the BOA. The City should consider alternative solutions such as 'green technologies' to provide municipal energy, water, heat and waste disposal and stormwater services that are more efficient and cost effective over the long-term, helping to turn the BOA's competitive disadvantages into competitive advantages.

along the rail corridor. In residential and commercial areas, including along South Park Avenue, there are available 4160 volt overhead distribution lines.

3.2.13 Natural Resources and Environmental Features

Natural resources and environmental features within the South Buffalo BOA include the Buffalo River, the Tifft Nature Preserve, Union Ship Canal, South Park, significant fish and wildlife habitat, federal and state wetlands, and significant floodplain areas.

Topography

The BOA is located in the Erie-Ontario lake plain province which has minimal topographic relief, and generally slopes north and west towards the Buffalo River and Lake Erie. As shown on Map 3.21 - Topography the highest elevations are the man made landfill areas in the southwest corner of the Tifft Nature Preserve and in the Marilla Street landfill.

Soils

As detailed in Map 3.22 - Soils, the predominant soils in the BOA are classified as Urban Land (approximately 71%) on lowland plains, reflecting previous industrial land uses. These urban soils are typically found in areas dominated by nearly level to sloping urbanized areas and areas of well drained to poorly drained soils and disturbed soils. Generally, asphalt, concrete, buildings and other impervious structures cover 80% or more of Urban Land soil surface. According to the Soil Survey of Erie County, depth to bedrock is characterized for Urban Land soil types to be greater than 60 feet.

Past subsurface investigations conducted in the Buffalo Lakeside Commerce Park have indicated the presence of fill materials (i.e., construction and demolition debris) and peat which contribute to instability and increase building foundation construction costs. Given the lack of consistency in depth or materials that make the urban land soils within the BOA, future redevelopment will require careful subsurface investigation. Site-specific geotechnical studies based on current soil borings should be required by the City from each developer at the time a specific building design is proposed. Given the lack of consistency in depth or materials that make up urban land soils, redevelopment will require careful subsurface investigation.

Of the remaining non-Urban Land soils, most are found in Tifft Nature Preserve, South Park, the area in the vicinity of Okell Playground, and the northern part the Buffalo Lakeside Commerce Park where State freshwater and mapped NWI wetlands are located. In addition, soil types classified as Dumps (Dp) are located within the Tifft Nature Preserve, the Marilla Street Landfill, and the Alltift Landfill.

Bedrock and Surficial Geology

The bedrock underlying the BOA is composed of three formations roughly dividing the area into three segments north to south; Moorehouse Limestone in the Onondaga Formation, which is approximately 120 feet in depth; the Marcellus Formation, consisting of Oatka Creek Shale, which is approximately 30-55 feet in depth; and Levanna Shale and Stafford Limestone, approximately 60-90 feet in depth.

The surface geology of the BOA consists of one type: Lacustrine silt and clay. The area was a part of several glacial lakes during the last ice age and features lakebed deposits. These consist of generally laminated silt and clay and are generally calcareous.

Surface Waters and Tributaries

As shown on Map 3.23 – Surface Waters, the BOA contains numerous waterbodies including the Buffalo River to the north, the Union Ship Canal to the south and within the Buffalo Lakeside

Commerce Park, and small lakes and ponds within the Tifft Nature Preserve, South Park and areas along the rail corridor. Lake Erie is located immediately to the west of the BOA and NYS Route 5.

The NYSDEC establishes water use classification and water quality standards based on considerations for public health and water supplies, recreation, propagation and protection of fish and wildlife. According to the NYSDEC regulations, the Buffalo River is a Class C, Standards C watercourse suitable for fishing, fish propagation and survival, and for primary and secondary contact recreation, although other factors may limit the use for these purposes.

The Buffalo River is listed as a Great Lakes Areas of Concern (AOC) in the Great Lakes Water Quality Agreement between the United States and Canada. Great Lakes AOC's are designated geographic areas within the Great Lakes Basin that show severe environmental degradation. The Buffalo River Remedial Action Plan (RAP) was prepared in 1989 to identify the causes of impairment. The goal of the RAP is to delist the waterway from the AOC list. In October 2003, the U.S. EPA Great Lakes National Program Office selected Friends of the Buffalo and Niagara Rivers (now Buffalo-Niagara Riverkeeper) to coordinate the implementation of the Buffalo RAP. Buffalo Niagara Riverkeeper is coordinating all federal and state agency efforts for the assessment and remediation of contaminated sediments in the Buffalo River, including the revision of the 1989 RAP. An updated Remedial Strategy including a Remedial Investigation/ Feasibility Study (RI/FS) for river clean-up and source control is being developed by a technical advisory group and will be completed by the Fall of 2008. Remedial Design will follow completion of the RI/FS, and the Remedial Action, which is scheduled to be implemented between 2010 and 2012, will include contaminated sediment removal and natural resource enhancements including habitat restoration and improved recreational opportunities.

The Union Ship Canal is a man-made water body that formerly served inland industries clustered around the BOA railroad corridor. The area surrounding the Union Ship Canal is now part of the Buffalo Lakeside Commerce Park. According to the NYSDEC regulations, the Union Ship Canal is also classified as a Class C, Standards C watercourse.

South Park Lake, located within historic South Park, is a 21-acre man-made lake designed in the 1890's by Frederick Law Olmsted as the key water feature of the park. The lake is fed by surface water runoff and municipal water sources as well as an outfall from Cazenovia Creek, and provides habitat for fish and waterfowl. Efforts are underway to secure funding for the South Park Lake Aquatic Ecosystem Restoration Project, which will ultimately include dredging the lake to ensure it is returned to a self-regulating ecological system.

A large concentration of water bodies is located in Tifft Nature Preserve, including one lake and three ponds: Lake Kirsty, Beth Pond, Lisa Pond, and Berm Pond. Lisa Pond and Berm Pond are connected via wetlands and watercourses. Berm Pond also includes an outfall into Lake Kirsty.

Groundwater Resources

According to the USGS Map Potential Yields of Wells in Unconsolidated Aquifers in New York State – Niagara Sheet, the BOA is not located on an unconfined aquifer. According to NYSDEC and USEPA databases, the BOA is not located over a primary or sole source aquifer. The Generic Environmental Impact Statement prepared for the Union Ship Canal area indicates that groundwater depth ranges from 2.5 to 9.0 feet.

The BOA and City of Buffalo are served by public water and therefore exposures to contaminated groundwater via drinking water are not expected. Furthermore, there are no known users of groundwater for drinking or industrial purposes

in the BOA. Since the BOA formerly contained numerous industrial operations including Republic Steel and Hanna Furnace, groundwater has been impacted in some areas. However, a number sites contaminated by former industrial operations have been remediated, or remediation is ongoing or planned. Remediation of these sites has or will include source removal and remediation of grossly contaminated soils, and combined with a cover of clean soil and impervious materials, groundwater impacts will be mitigated and the potential for direct contact with groundwater will be minimized.

Floodplains

The City of Buffalo participates in the National Flood Insurance Program, utilizing Flood Insurance Rate Maps prepared by the Federal Emergency Management Agency (Map 3.20 - FEMA Special Hazard Areas). The Flood Insurance Rate Map for the BOA shows Special Flood Hazard Areas (or 100-year floodplains) associated with the Buffalo River and Lake Erie. Within the BOA, the Buffalo River Special Flood Hazard Area is limited in depth and generally confined to the area along the river bank, with the exception of the Conrail/CSX "peninsula" property in the north, of which a large portion of the 40 acres are located in a Special Flood Hazard Area.

The Tifft Nature Preserve is almost entirely within a Special Flood Hazard Area with the exception of the 'mounds' landfill area in the south east corner. The George J. Hartman Playfields are also entirely within the Special Flood Hazard Area. In addition, large portions of Buffalo Lakeside Commerce Park are within the Special Flood Hazard Area, including areas along Tifft Street, surrounding the Union Ship Canal, and between the Union Ship Canal and Tifft Street.

Development activities within the Special Flood Hazard Area are regulated by the City of Buffalo's Flood Damage Prevention Law (Article 31), which requires a Floodplain Development Permit. New development must be constructed at or above the mapped base flood elevation. However, the Special Flood Hazard Area is not a significant impediment to redevelopment.

Wetlands

Within the BOA, there are large areas that are designated either as a State freshwater wetlands or mapped on the National Wetlands Inventory (NWI) as indicated on Map 3.24 - Wetlands. State freshwater wetlands are located within and adjacent to Tifft Nature Preserve including the central area of the Preserve encompassing both Lisa Pond and Berm Pond and the areas to the immediate south and east; on the northern side of Buffalo Lakeside Commerce Park along Tifft Street; and in the linear areas that extend along the railroad corridor from Tifft Street to the northwest portion of South Park. NWI wetlands or waters include all of the lake/pond areas of Tifft Nature Preserve; portions of the Hydro-Air property and a small area to the immediate east; small areas adjacent to Alltift and Marilla Street Landfills; South Park Lake and areas to the immediate north; and portions of Buffalo Lakeside Commerce Park including the Union Ship Canal and a small area to the north. The Buffalo River and Lake Erie are also identified as NWI waters. Development within Federal wetlands requires delineation and permitting but is not prohibited. State freshwater wetlands and their 100-foot adjacent areas are regulated by the New York State Department of Environmental Conservation (NYSDEC). . Given the regulatory limitations, location,and ecological importance of these State freshwater wetlands , any proposed impacts to these wetlands and their adjacent area would require extensive review by the NYSDEC and would include associated permitting and mitigation. Therefore, it is unlikely that State freshwater wetland areas would be considered for redevelopment, but do not represent a significant impediment to the redevelopment of surrounding, unregulated areas.

Fish & Wildlife Habitats

Several areas within the BOA provide habitat for bird and mammal species including the Tifft Nature Preserve, the Buffalo River corridor and South Park Lake. Fishing opportunities exist on the Buffalo River and lakes/ponds within Tifft Nature Preserve. South Park and South Park Lake provide a refuge for migratory birds particularly geese, and the wooded wetlands to the north provide shelter for local species of mammals and birds.

The New York State Department of State, Division of Coastal Resources, with a recommendation from the NYSDEC, has designated the Tifft Nature Preserve as a Significant Coastal Fish and Wildlife Habitat (SCFWH). Proposed project's located in or near a SCFWH may be required to address the impacts of such project on the habitat through the consistency review process. Once a determination is made that a proposed project is subject to consistency review, the State's coastal policies apply, which are aimed at the protection of fish and wildlife resources of statewide significance.

The Buffalo Niagara Riverkeeper has undertaken and/or coordinated numerous fish and wildlife-related studies and projects within the BOA and adjacent areas along the Buffalo River. These studies have included an assessment of potential aquatic habitat restoration sites, a fish contaminant study, a herpetological survey, and a bird population survey. In addition, Riverkeeper, in cooperation with the City of Buffalo and the USEPA, has completed four Buffalo River habitat restoration projects including the Ohio Street Boat Launch, Smith Street, Bailey Avenue Peninsula and Seneca Bluffs. These projects included significant natural resource improvements such as replanting native vegetation, habitat enhancement, wetland reconstruction, and construction of public access facilities and interpretive elements.

While some vacant and underutilized properties provide natural habitat within the BOA, it is noted that past industrial uses have eliminated many indigenous plant species in these impacted areas. The non-indigenous vegetation has also minimized the habitat value to wildlife in these areas. Species that occupy the BOA must be tolerant of the highly disturbed nature of the landscape and human activity and require relatively small habitat areas. Within the areas of past industrial operations that have been or will be remediated, , wildlife habitat will not present a constraint to redevelopment. Areas, particularly along the Buffalo River corridor that will be restored as part of implementation of the Remedial Action Plan, will need to be identified to minimize potential impacts from proposed redevelopment on remediated lands within the BOA.

Threatened and Endangered Species

According to the United States Department of the Interior, Fish and Wildlife Service (USFWS), except for occasional transient individuals, no federally-listed or proposed endangered or threatened species, or candidate species under the USFWS jurisdiction are known to exist in Erie County.

Through consultation with the NYSDEC Division of Fish, Wildlife & Marine Resources, Natural Heritage Program, a report on rare species and ecological communities within the BOA project area indicated three threatened species in the vicinity of the BOA; Least Bittern, Pied-billed Grebe and Lake Sturgeon. The bird species are typically associated with pond and marsh habitats and would most likely be observed in Tifft Nature Preserve and along the Buffalo River. Any proposed projects in these sensitive areas would require careful evaluation of the potential impacts on these species.

The purpose of the Economic and Market Trends Analysis is to provide market-based recommendations on key economic drivers and future land uses within the South Buffalo BOA.

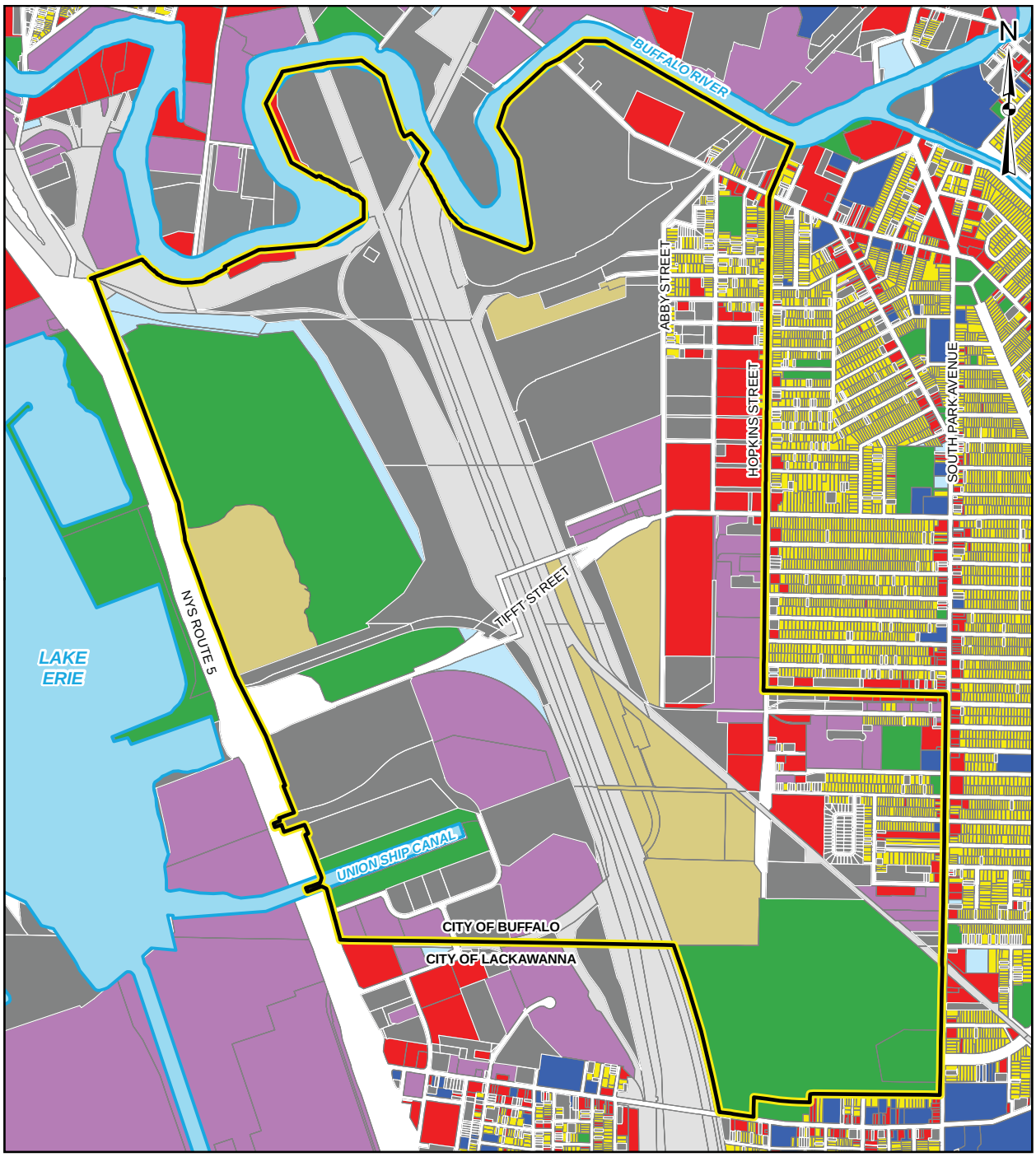
The analysis, in conjunction with the Inventory and Analysis, helps to determine the strategic sites that should be targeted for redevelopment, and set realistic assumptions with regard to timing of potential redevelopment and the evolution of land uses within the BOA.

In summary, the land uses planned for the BOA over time come with tradeoffs. In particular, near-term opportunities may be hard to pass up, but capturing these uses without planning for their eventual decline could limit future opportunities to capture higher value uses. The disparity between manufacturing uses and office space among key economic measures – particularly employees per acre and typical value per acre, is striking. The objective of the BOA plan should therefore be to set the stage for all potential higher value uses, with lower value uses as more interim steps that can easily evolve when market conditions ripen.

Key Findings

The natural resource and environmental features is a key foundation from which the South Buffalo BOA can enhance its identity and renew its brand. Its mixture of waterfront, wetlands, and fish and wildlife habitat within proximity to the downtown make the BOA an attractive place to live, work and visit. As a center of industry the BOA's natural environment was shaped to meet the needs of development. In renewing the BOA, the City of Buffalo has the opportunity to adopt an alternative paradigm, to instead respect the constraints of the natural environment and celebrate it as an economic, cultural and recreational resource.

Map 3.3: Existing Landuse in the BOA



Source: Erie County Tax Parcel Data & Tax Maps, Mar 2009 (Updated per field verification, 2008)

0 1,000 2,000 feet

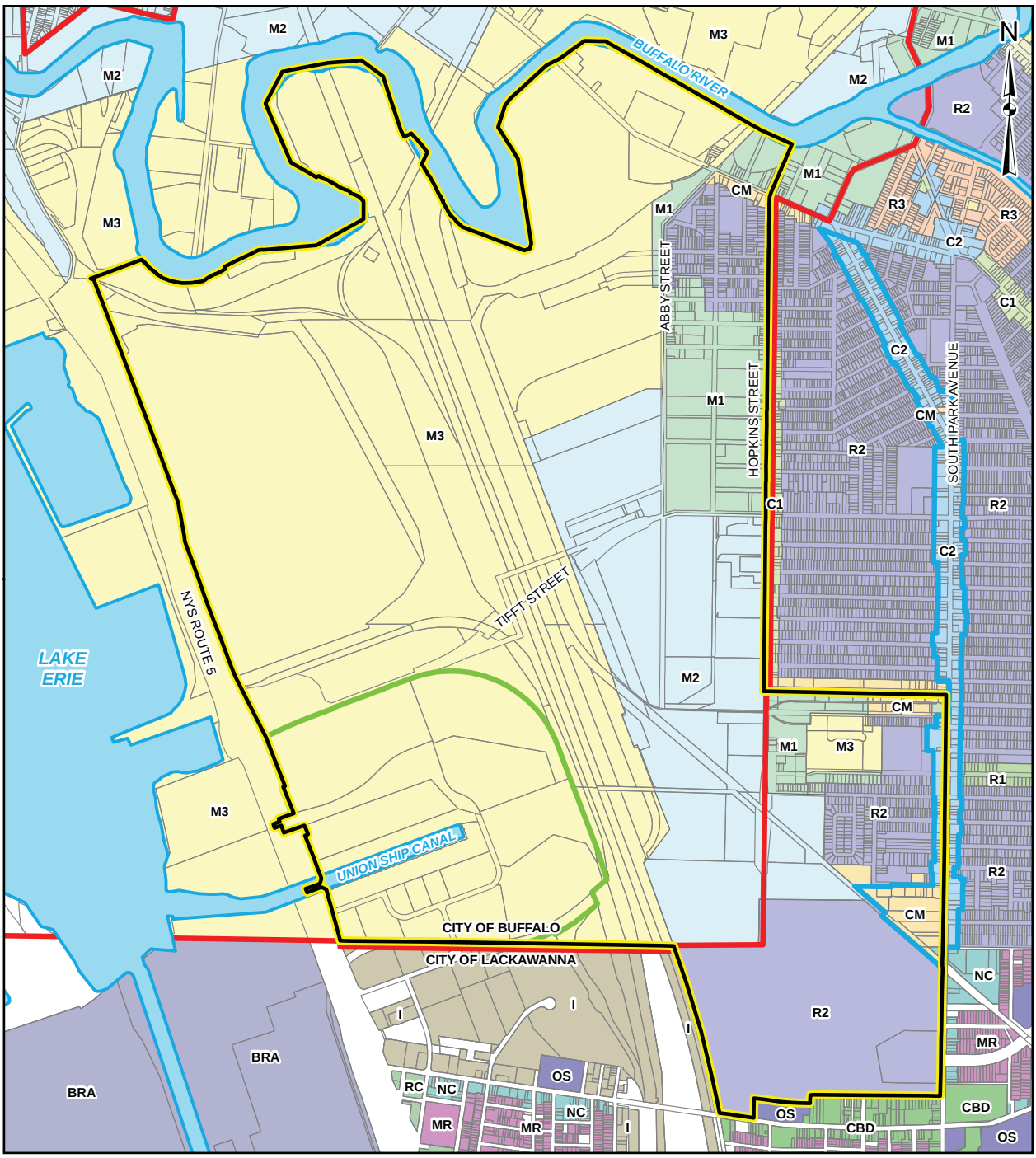
LEGEND

- PROJECT BOUNDARY
- PARCEL BOUNDARY
- SURFACE WATERS

LAND USE TYPES:

- ROADS/ RIGHT-OF-WAYS
- RAILROAD ROW
- RESIDENTIAL
- VACANT LAND
- COMMERCIAL
- INSTITUTIONAL
- INDUSTRIAL
- PUBLIC SERVICES / UTILITIES
- PARKS & OPEN SPACES
- CLOSED LANDFILLS

Map 3.4: Existing Zoning Districts



Source: City of Buffalo Zoning Data, Sep 2007; City of Lackawanna Zoning

LEGEND

- PROJECT BOUNDARY
- BUFFALO COASTAL SPECIAL REVIEW DISTRICT
- SOUTH PARK OVERLAY
- UNION SHIP CANAL URBAN RENEWAL PLAN
- SURFACE WATERS

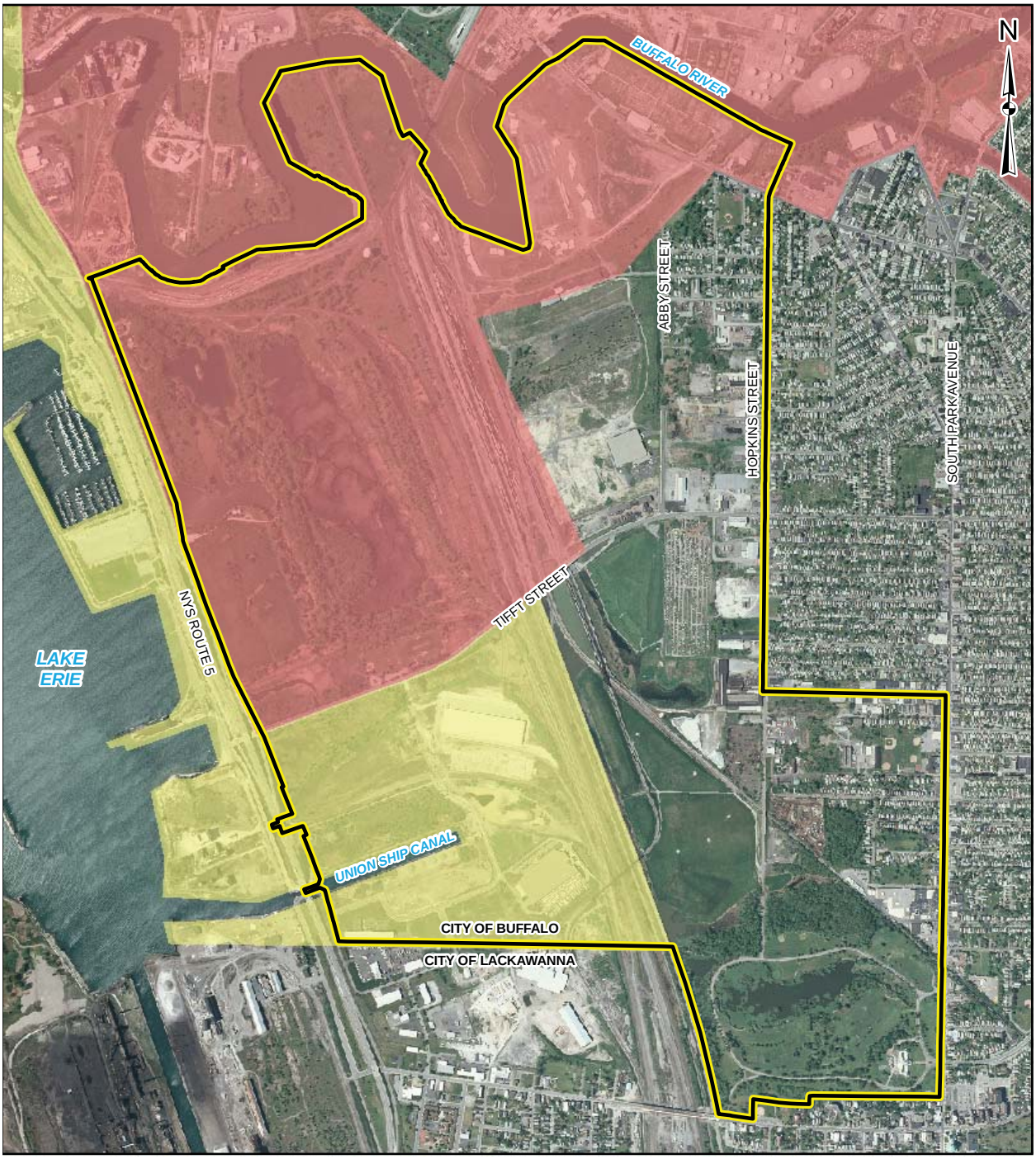
CITY OF LACKAWANNA ZONING:

- BRA - BETHLEHEM REDEVELOPMENT AREA
- CBD - CENTRAL BUSINESS DISTRICT
- I - INDUSTRIAL
- MCI - MIXED COMMERCIAL/ INDUSTRIAL
- MR - MIXED RESIDENTIAL
- NC - NEIGHBORHOOD COMMERCIAL
- OS - OPEN SPACE
- RC - REGIONAL COMMERCIAL
- SFR - SINGLE FAMILY RESIDENTIAL

CITY OF BUFFALO ZONING:

- C1 - NEIGHBORHOOD BUSINESS DISTRICT
- C2 - COMMUNITY BUSINESS DISTRICT
- CM - GENERAL COMMERCIAL DISTRICT
- M1 - LIGHT INDUSTRIAL DISTRICT
- M2 - GENERAL INDUSTRIAL DISTRICT
- M3 - HEAVY INDUSTRIAL DISTRICT
- R1 - ONE-FAMILY DISTRICT
- R2 - DWELLING DISTRICT
- R3 - DWELLING DISTRICT
- R4 - APARTMENT DISTRICT
- R5 - APARTMENT/ HOTEL DISTRICT
- SS - SENECA STREET

Map 3.5: Local Waterfront Revitilzation Districts



Source: City of Buffalo Draft LWRP, May 2005

LEGEND

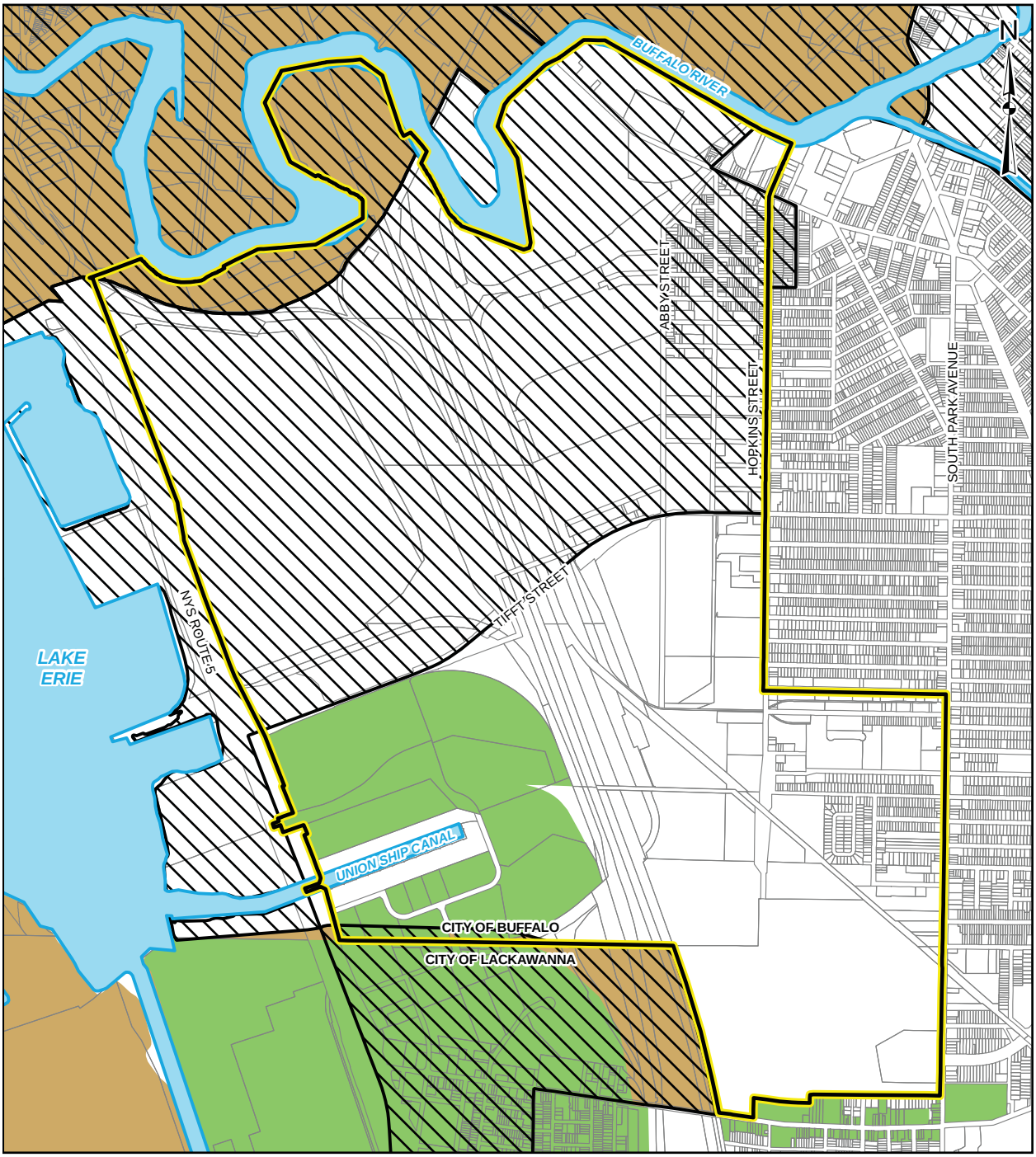
PROJECT BOUNDARY

LWRP BOUNDARY:

SUB-AREA 3

SUB-AREA 4

Map 3.6: Economic Development Designations

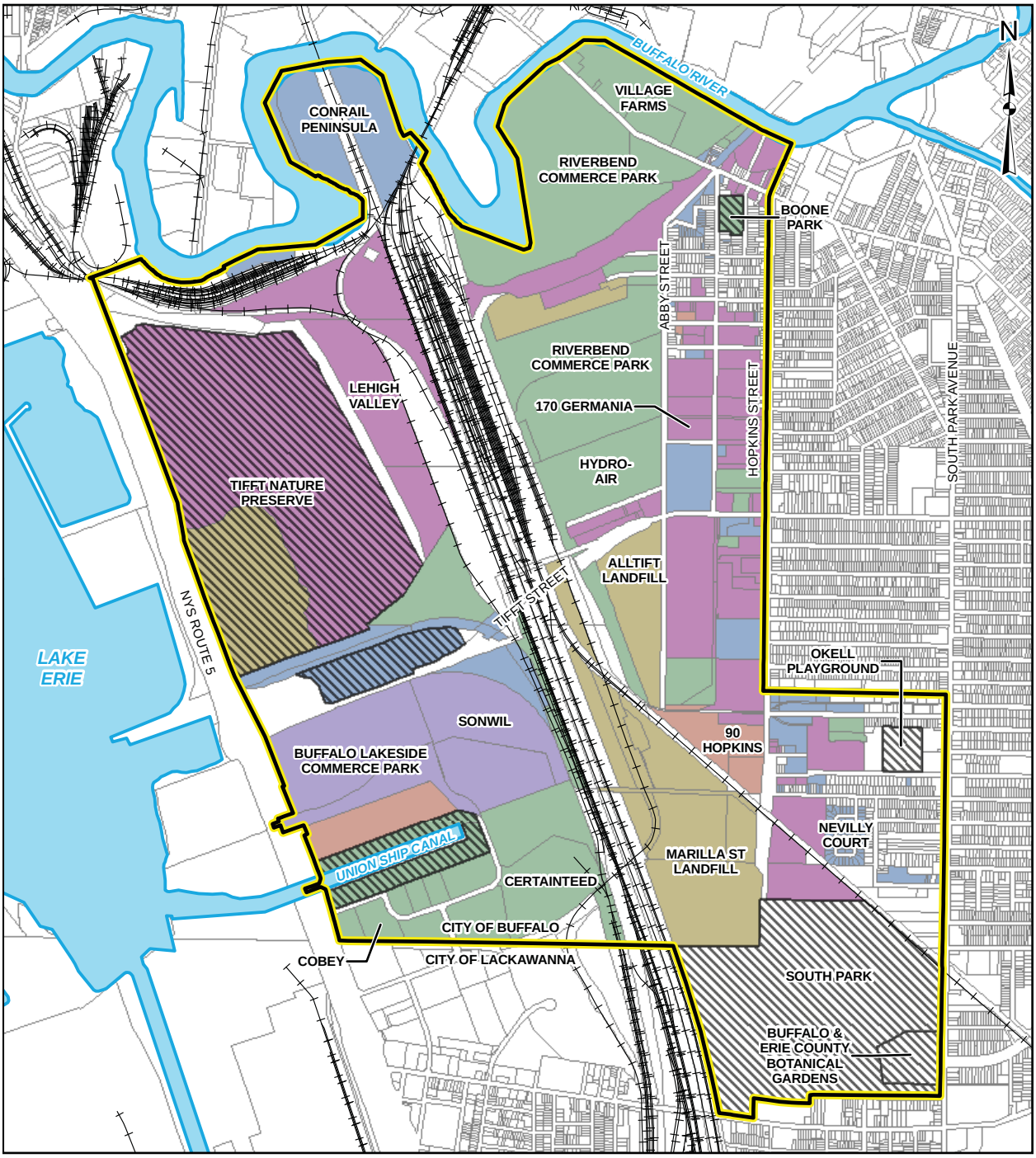


Source: Empire State Development Corporation (http://www.empire.state.ny.us/Brownfield_Redevelopment/Default.asp); Buffalo Economic Renaissance Corporation (http://www.berc.org)

LEGEND

- PROJECT BOUNDARY
- SURFACE WATERS
- FEDERAL RENEWAL COMMUNITY AREA
- ENVIRONMENTAL ZONE ELIGIBLE AREA
- EMPIRE ZONE

Map 3.7: Brownfield Locations



Source: Erie County Tax Parcel Data & Tax Maps, Mar 2009

0 1,000 2,000 feet

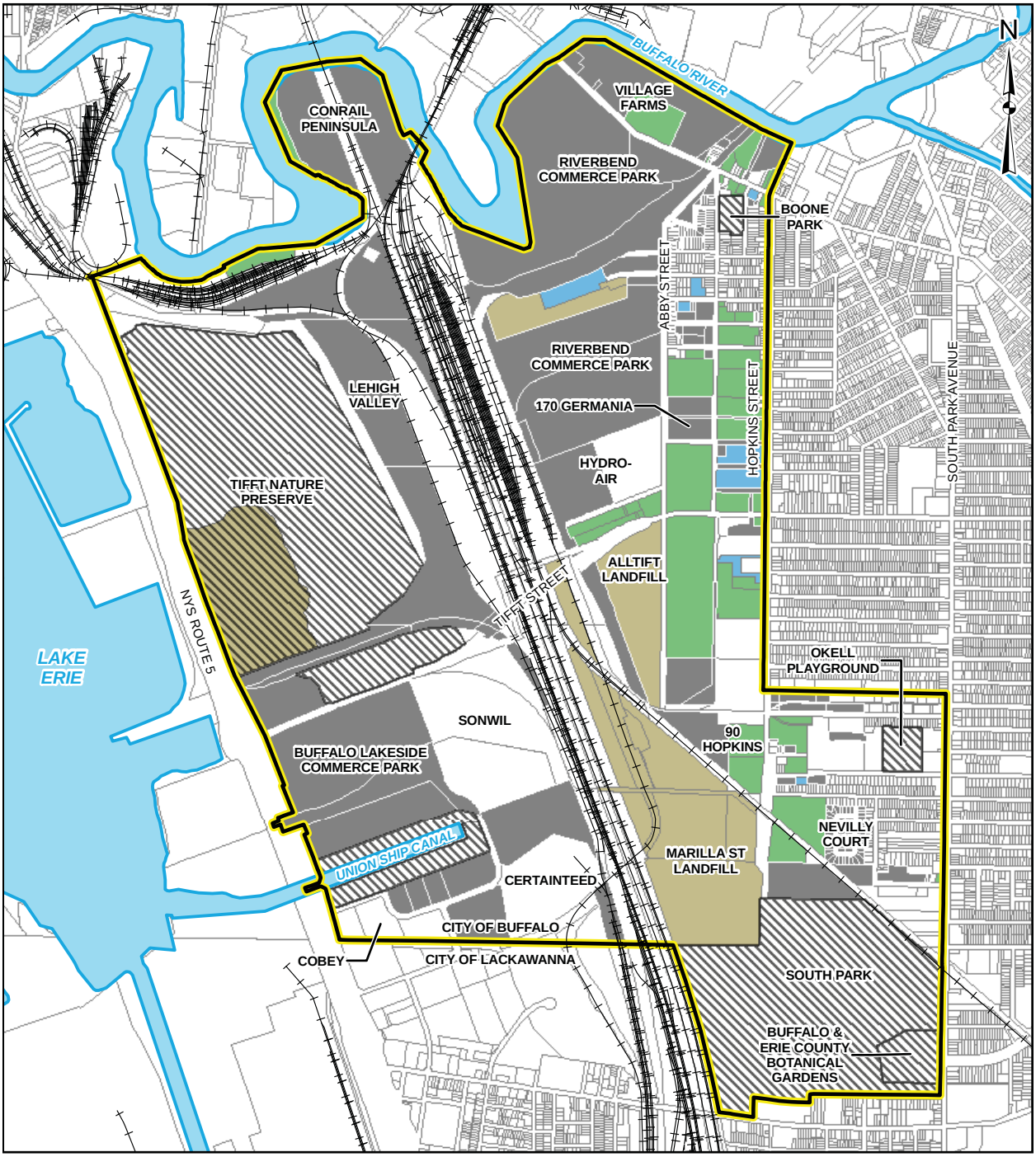
LEGEND

- RAILROAD
- PROJECT BOUNDARY
- SURFACE WATERS
- PARKS / OPEN SPACES
- PARCEL BOUNDARY

BROWNFIELD TYPE:

- REMEDIATED/ REMEDIATION-ON-GOING
- BROWNFIELD
- KNOWN CONTAMINATION
- NO KNOWN CONTAMINATION
- NO SITE CHARACTERIZATION
- CLOSED LANDFILL

Map 3.8: Underutilized Site Locations

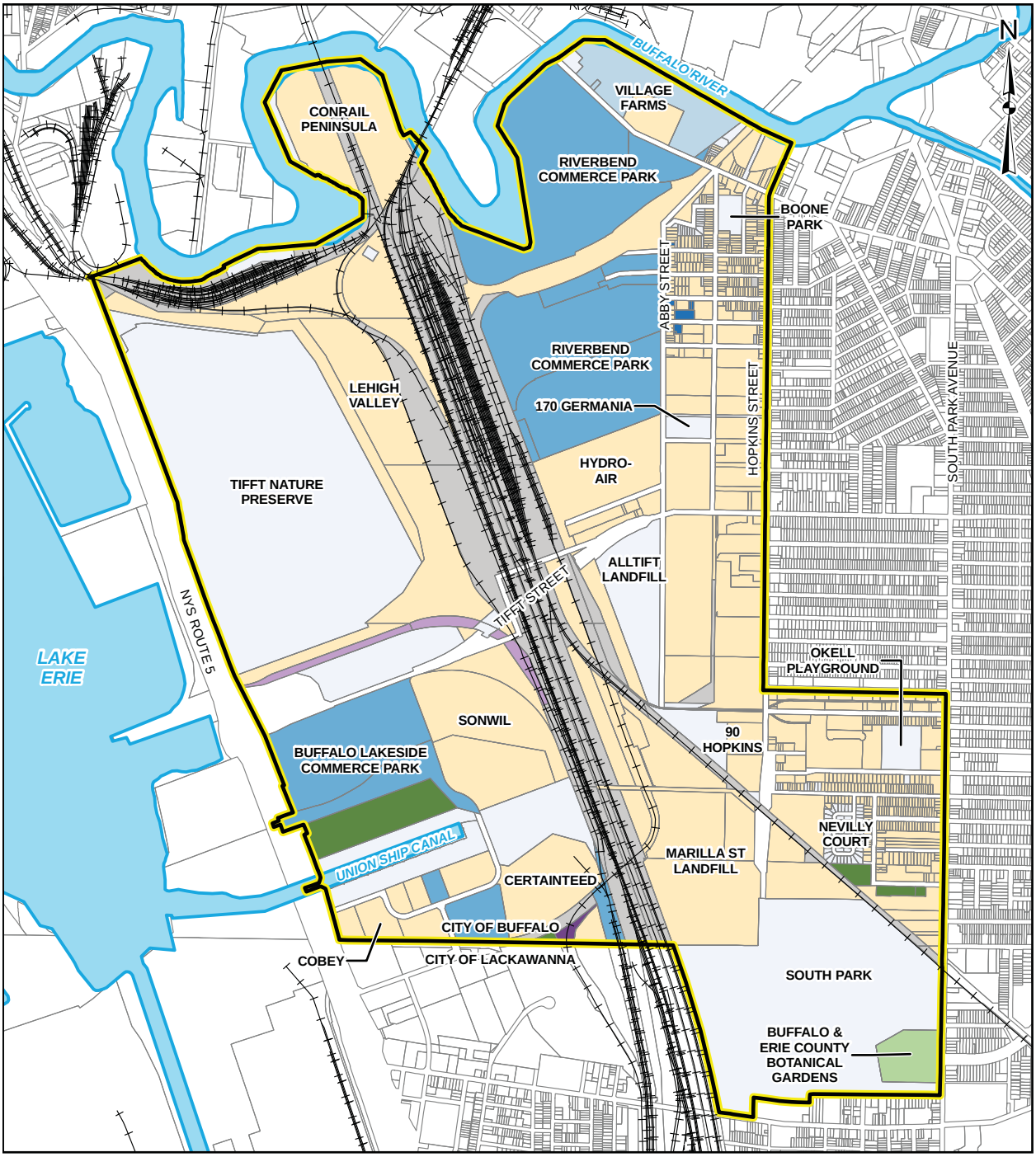


Source: Erie County Tax Parcel Data & Tax Maps, Mar 2009

LEGEND

- RAILROAD
- PROJECT BOUNDARY
- SURFACE WATERS
- PARCEL BOUNDARY
- PARKS / OPEN SPACES
- UNDERUTILIZED PROPERTIES
- VACANT LANDS
- UNOCCUPIED / ABANDONED BUILDINGS
- CLOSED LANDFILLS

Map 3.9: Land Ownership Patterns



Source: Erie County Tax Parcel Data & Tax Maps, Mar 2009

0 1,000 2,000 feet

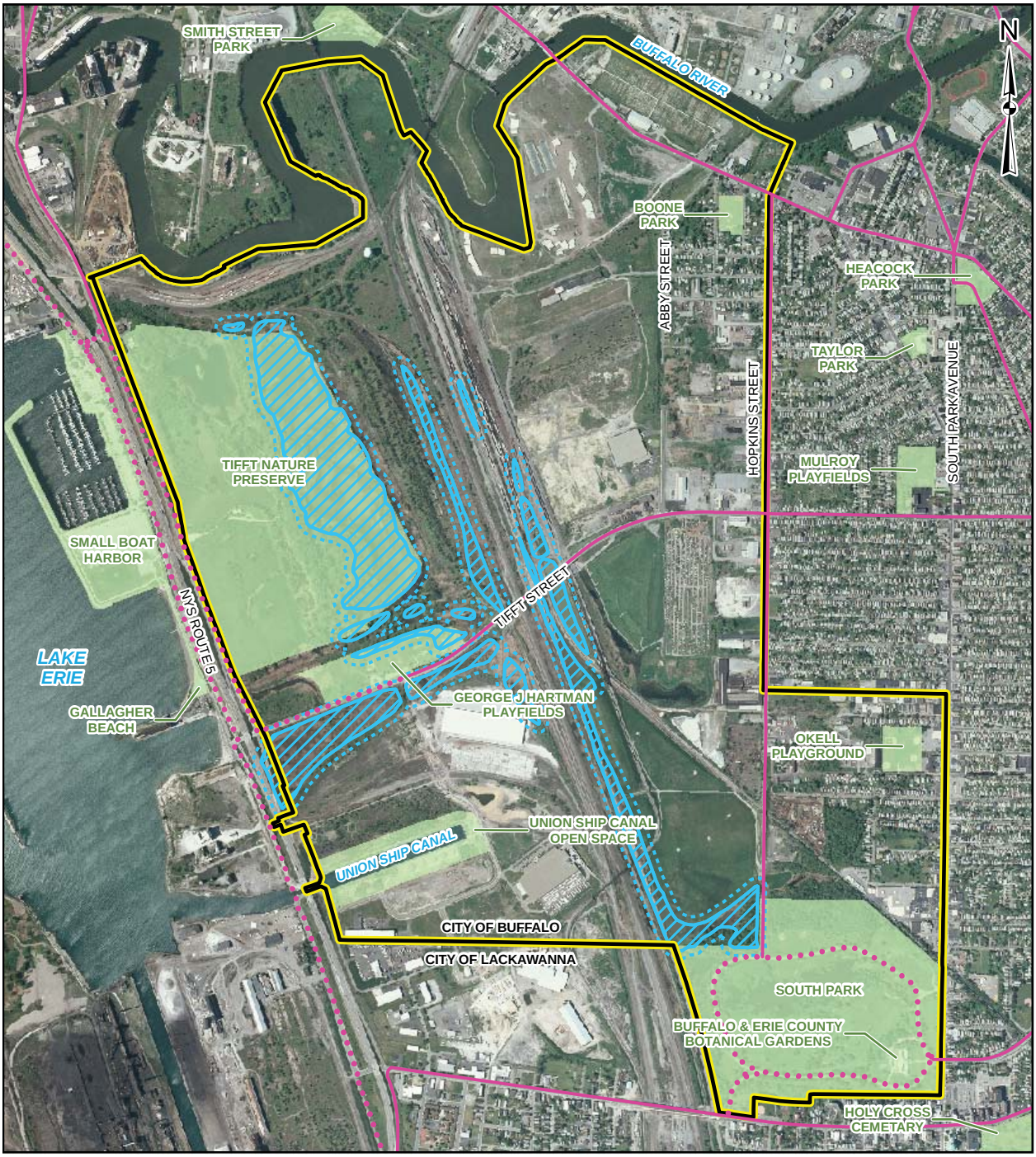
LEGEND

- RAILROAD
- PROJECT BOUNDARY
- SURFACE WATERS
- PARCEL BOUNDARY

LANDOWNERSHIP TYPE:

- RAILROAD ROW
- PUBLIC OWNERSHIP (CITY)
- PUBLIC OWNERSHIP (BERC)
- PUBLIC OWNERSHIP (BUDC)
- PUBLIC OWNERSHIP (BURA)
- PUBLIC OWNERSHIP (COUNTY)
- PUBLIC OWNERSHIP (ECIDA)
- PUBLIC OWNERSHIP (NFTA)
- PUBLIC OWNERSHIP (NYSDOT)
- PRIVATE OWNERSHIP

Map 3.10: Parks and Open Spaces



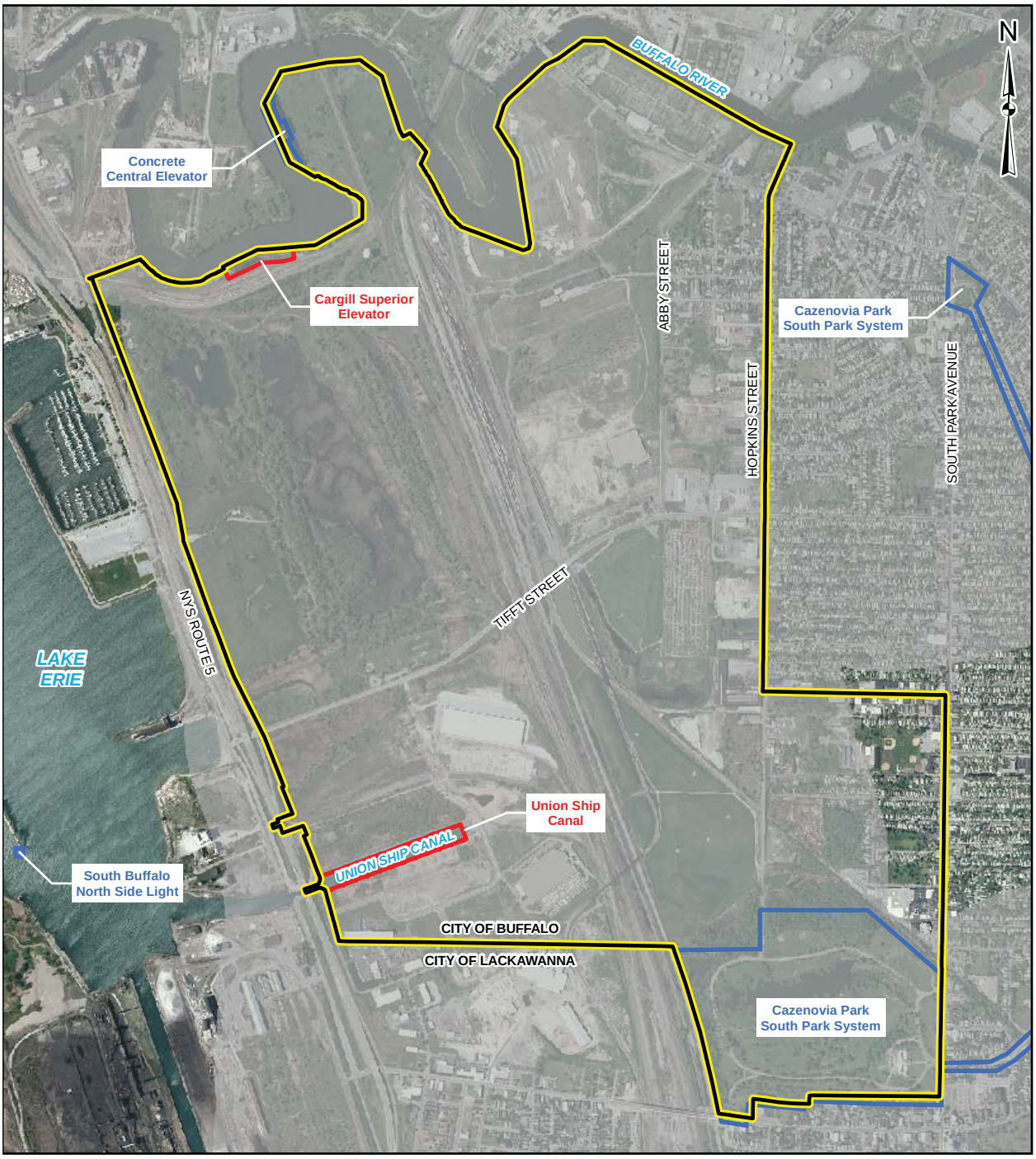
Source: NYSDEC Freshwater Wetlands, 2006; GBNRTC Bicycle Route Guide, 2006

0 1,000 2,000 feet

LEGEND

- MULTI-USE TRAIL
- ON-STREET BICYCLE NETWORK
- PROJECT BOUNDARY
- 100-FOOT STATE FRESHWATER WETLANDS BUFFER
- STATE FRESHWATER WETLANDS
- PARKS / OPEN SPACES

Map 3.11 : Historic Resources and Archeologically Sensitive Areas



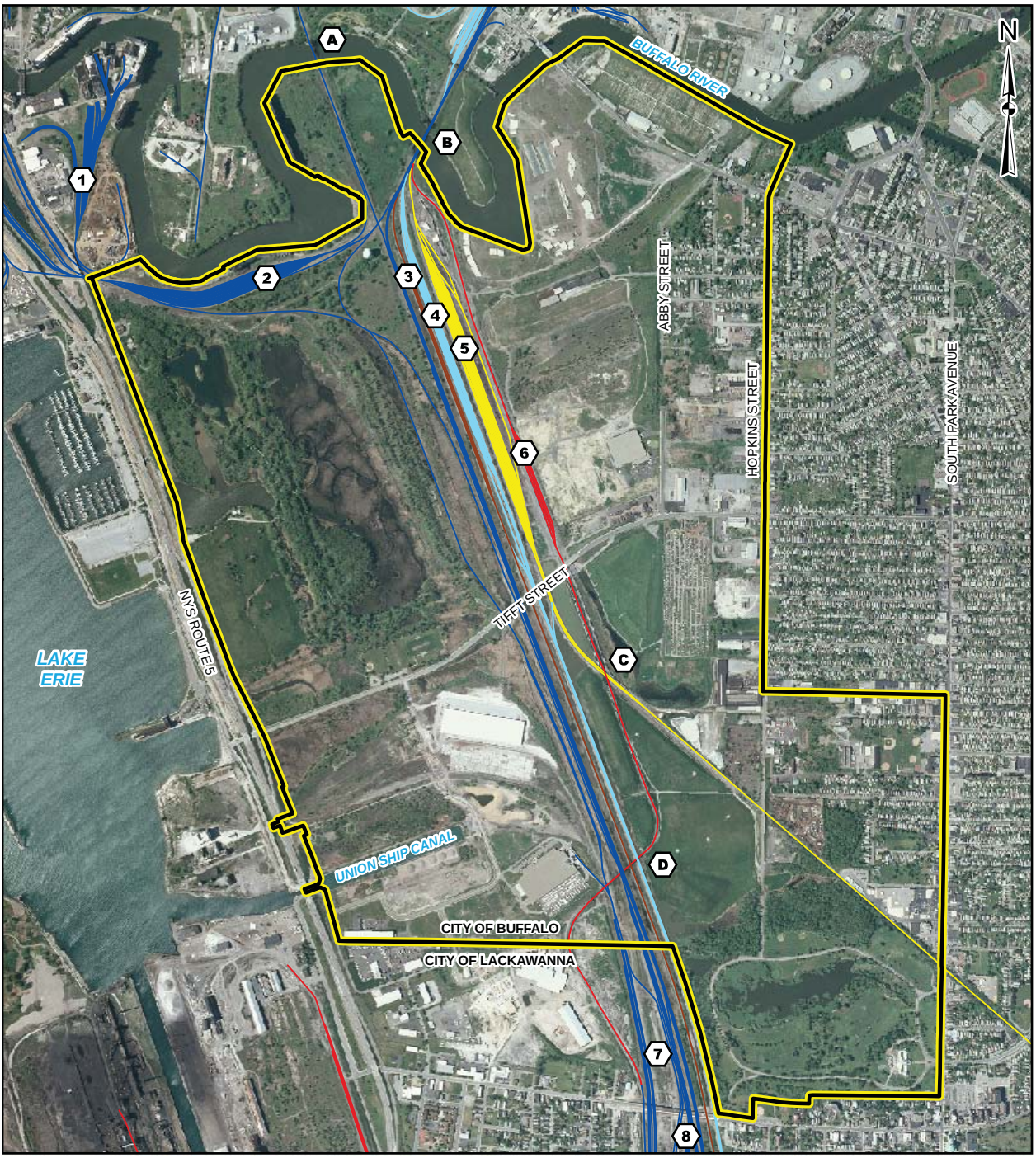
Source: Archeologically Sensitive Areas digitized from NYS Historic Preservation Office, 2008 (http://www.nysparks.state.ny.us/shpo/)

0 1,000 2,000 feet

LEGEND

- PROJECT BOUNDARY
- NATIONAL REGISTER SITE
- NATIONAL REGISTER ELIGIBLE SITE
- ARCHEOLOGICALLY SENSITIVE AREAS

Map 3.12: Railroad Ownership



Source: Buffalo Freight Terminal Project, P.I.N. 5935.12.101, D201938; Special Report: Buffalo Waterfront Rail Inventory, August 1983

0 1,000 2,000 feet

LEGEND

PROJECT BOUNDARY

YARDS:

1. BURROWS LOT SIDING
2. OHIO STREET YARD - CSX
3. TIFFT STREET YARD - BUFFALO SOUTHERN
4. TIFFT STREET YARD - NORFOLK SOUTHERN
5. BUFFALO CREEK YARD - BUFFALO AND PITTSBURGH
6. STATION C YARD - SOUTH BUFFALO
7. SENECA YARD - CSX TRANSPORTATION
8. SENECA YARD - CSX INTERNATIONAL

BRIDGES:

- A CSX DRAWBRIDGE OVER BUFFALO RIVER
- B CSX DRAWBRIDGE (CP DRAW) OVER BUFFALO RIVER
- C SOUTH BUFFALO OVER BUFFALO AND PITTSBURGH
- D SOUTH BUFFALO OVER VARIOUS RAILROADS

RAILROAD OWNERS:

- BUFFALO SOUTHERN RAILROAD, INC (ERIE COUNTY)
- BUFFALO AND PITTSBURGH
- CSX
- NORFOLK SOUTHERN RAILWAY, INC
- SOUTH BUFFALO RAILWAY

Map 3.13: Roadway Network

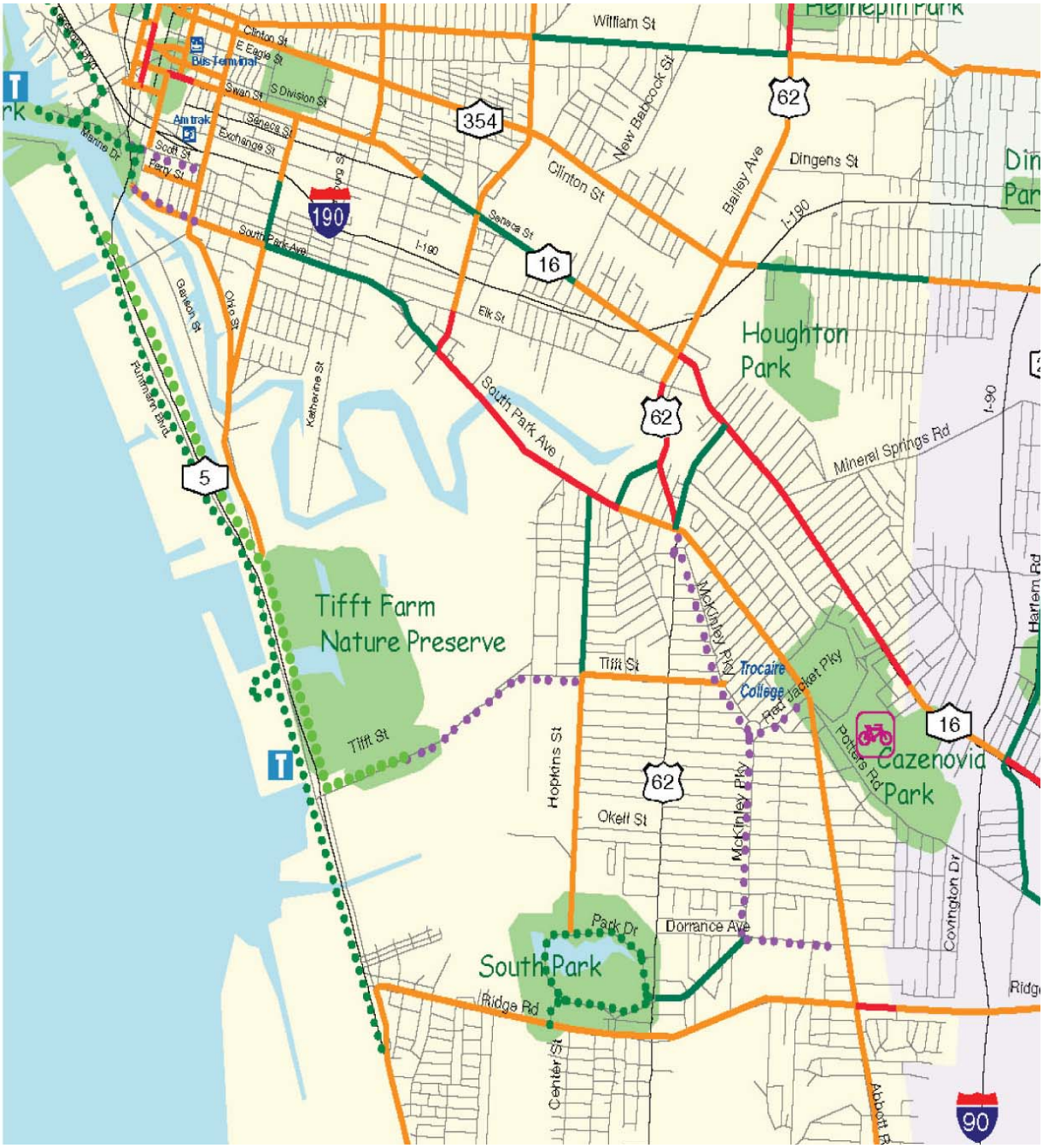
Source: City of Buffalo Zoning Data, Sept 2007

0 25,000 50,000 feet

LEGEND	
●	SIGNALIZED INTERSECTION
(X/X)	AM/PM LEVEL OF SERVICE (LOS)
═══	PRIMARY ACCESS ROUTES

NOTES:
1. * OHIO STREET AND FUHRMANN BLVD. MAPPING REFLECTS CONFIGURATION FOLLOWING CONSTRUCTION OF THE SOUTHTOWNS CONNECTOR PROJECT.
2. RAILROADS SHOWN TO OUTLINE THE RAILROAD CORRIDOR LIMITS AND CONNECTING SPURS.

Map 3.14: Bicycle and Multi-Use Trails



Source: City of Buffalo Zoning Data, Sept 2007

0 1 2 MILES

LEGEND

On-Street Bicycle Network

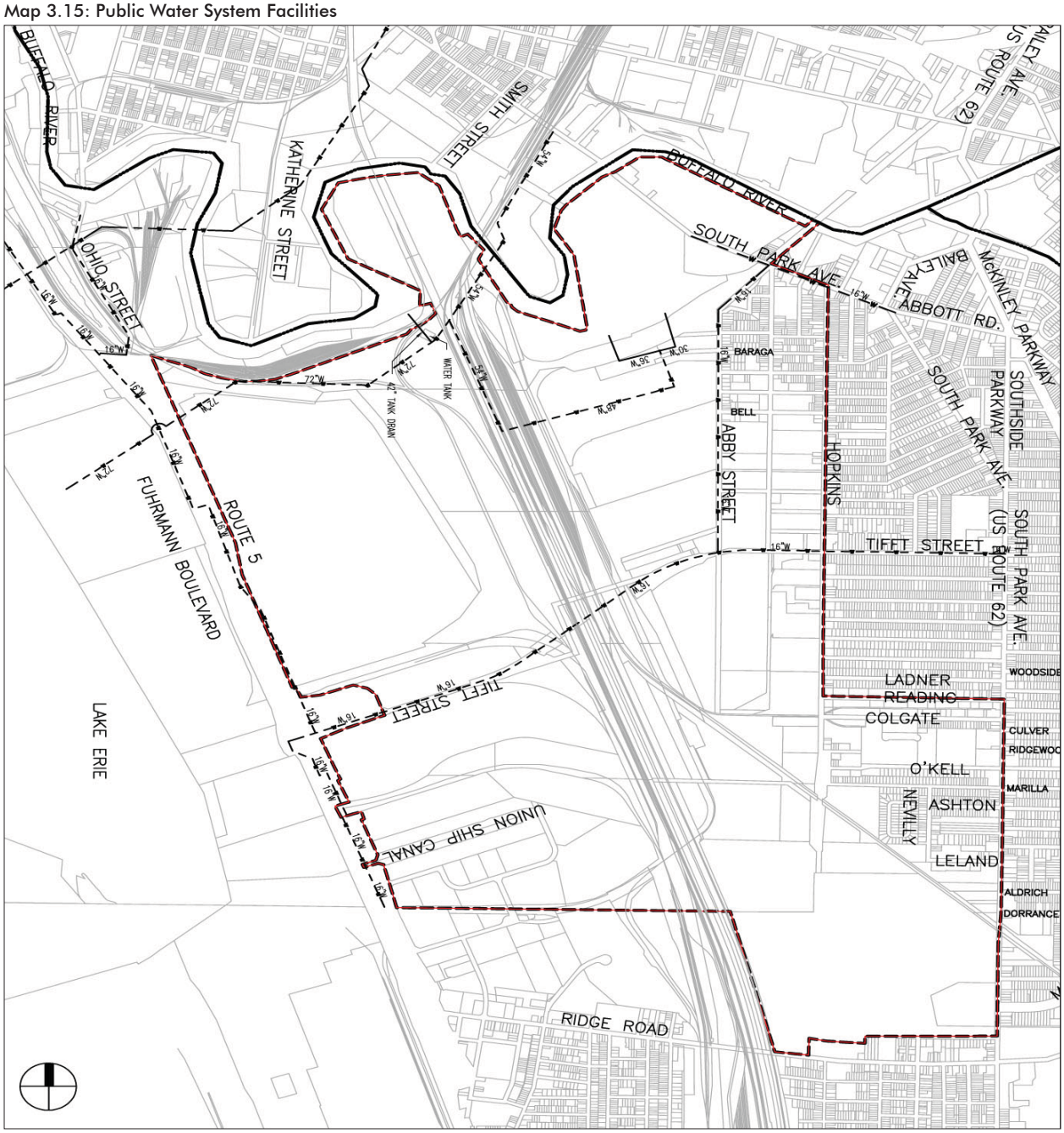
Bicycle Rating (2005 data)

- Suitable
- Caution Advised
- Extreme Caution/ Experienced Bicyclists
- Signed Bicycle Routes (not rated)

Multi-Use Trails

- Existing
- Construction pending or/ under construction
- NYS Bike Route 5
- Bicycle Shops, Repairs
- Parks
- Trailheads

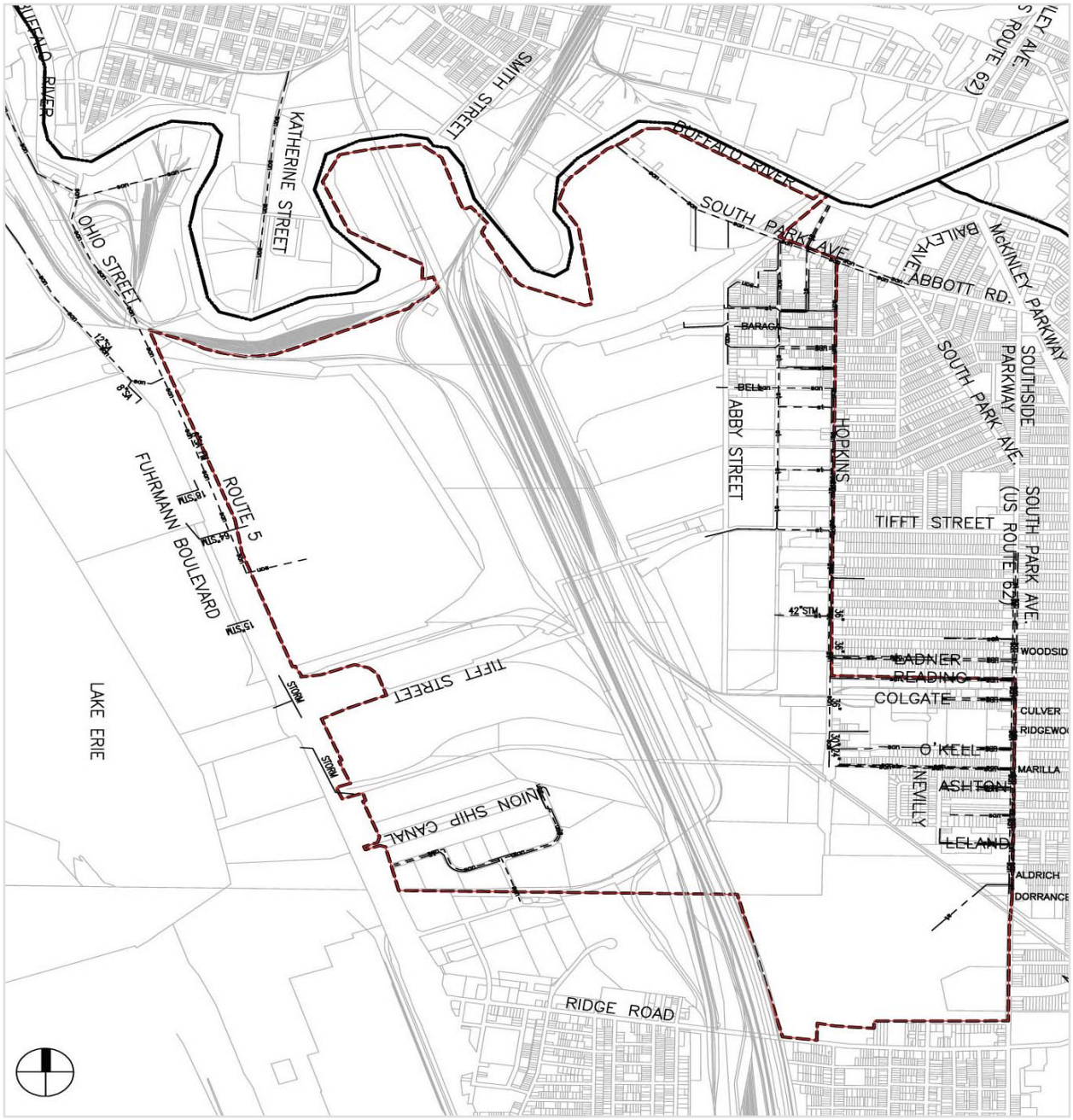
Map 3.15: Public Water System Facilities



Source: City of Buffalo Zoning Data, Sept 2007

0 1500 3000 feet

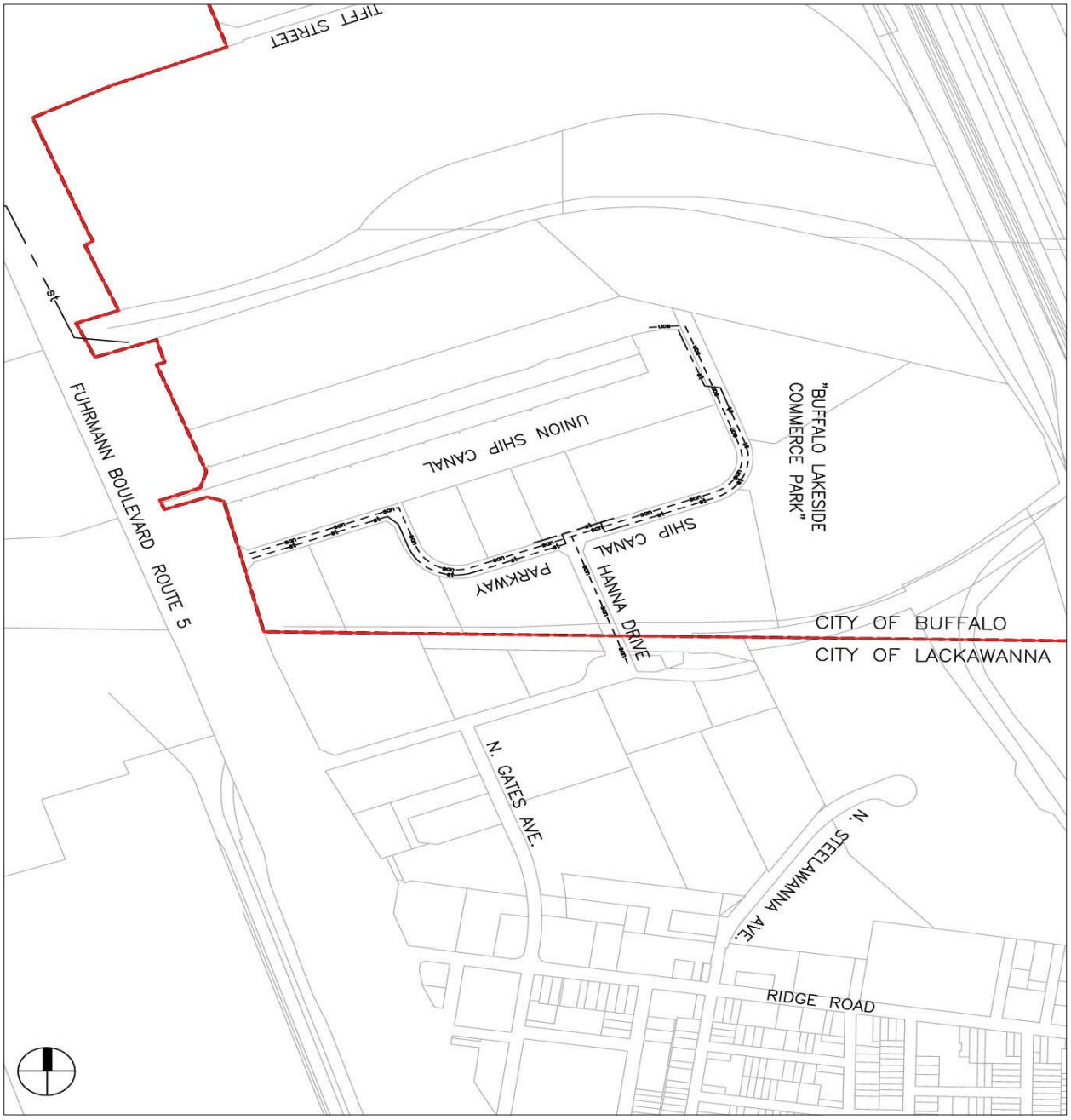
Map 3.16: Sanitary and Storm Sewer Facilities



Source: City of Buffalo Zoning Data, Sept 2007

0 1500 3000 feet

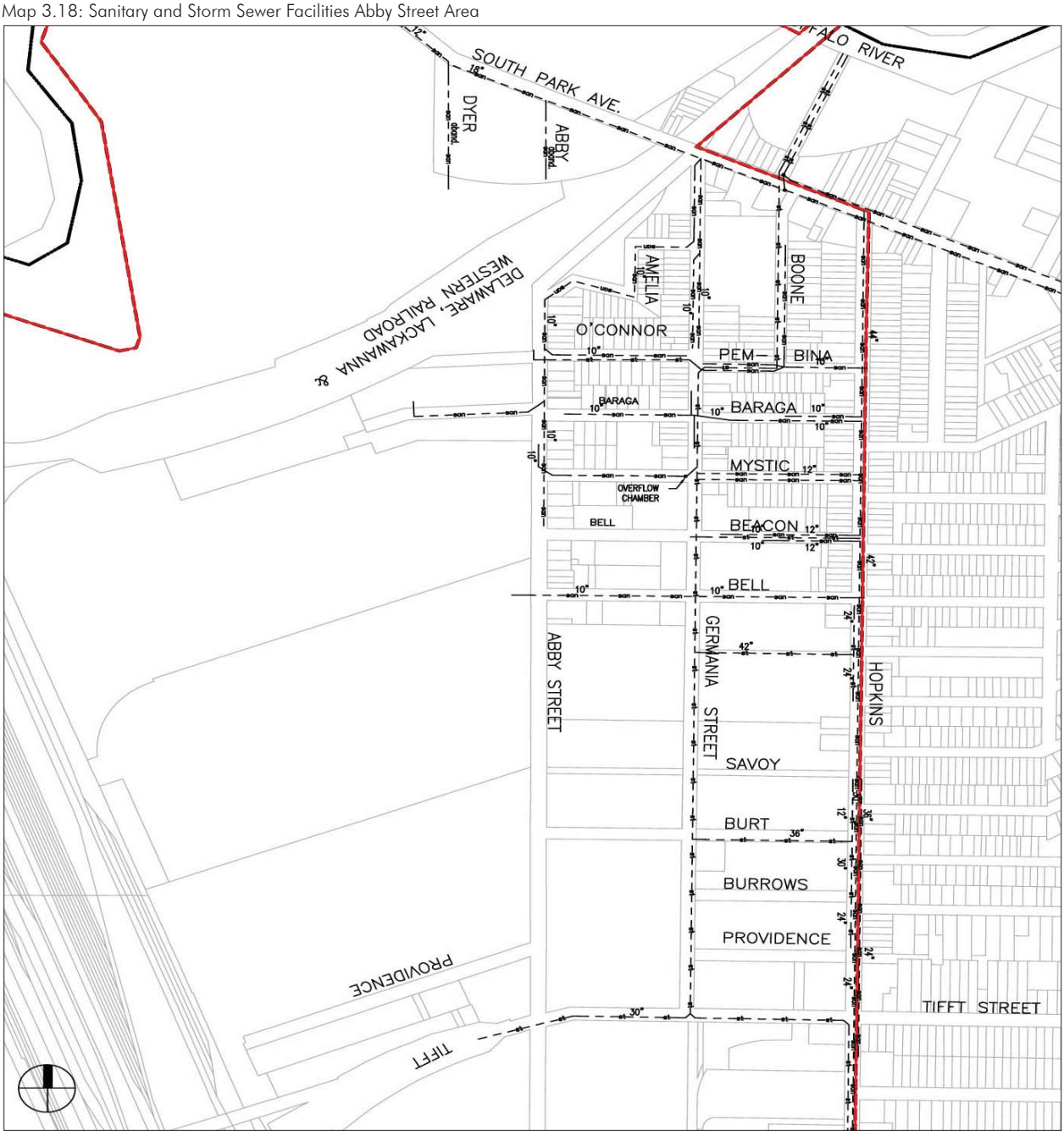
Map 3.17: Sanitary and Storm Sewer Facilities Lakeside Commerce Park



Source: City of Buffalo Zoning Data, Sept 2007

0 500 1000 feet

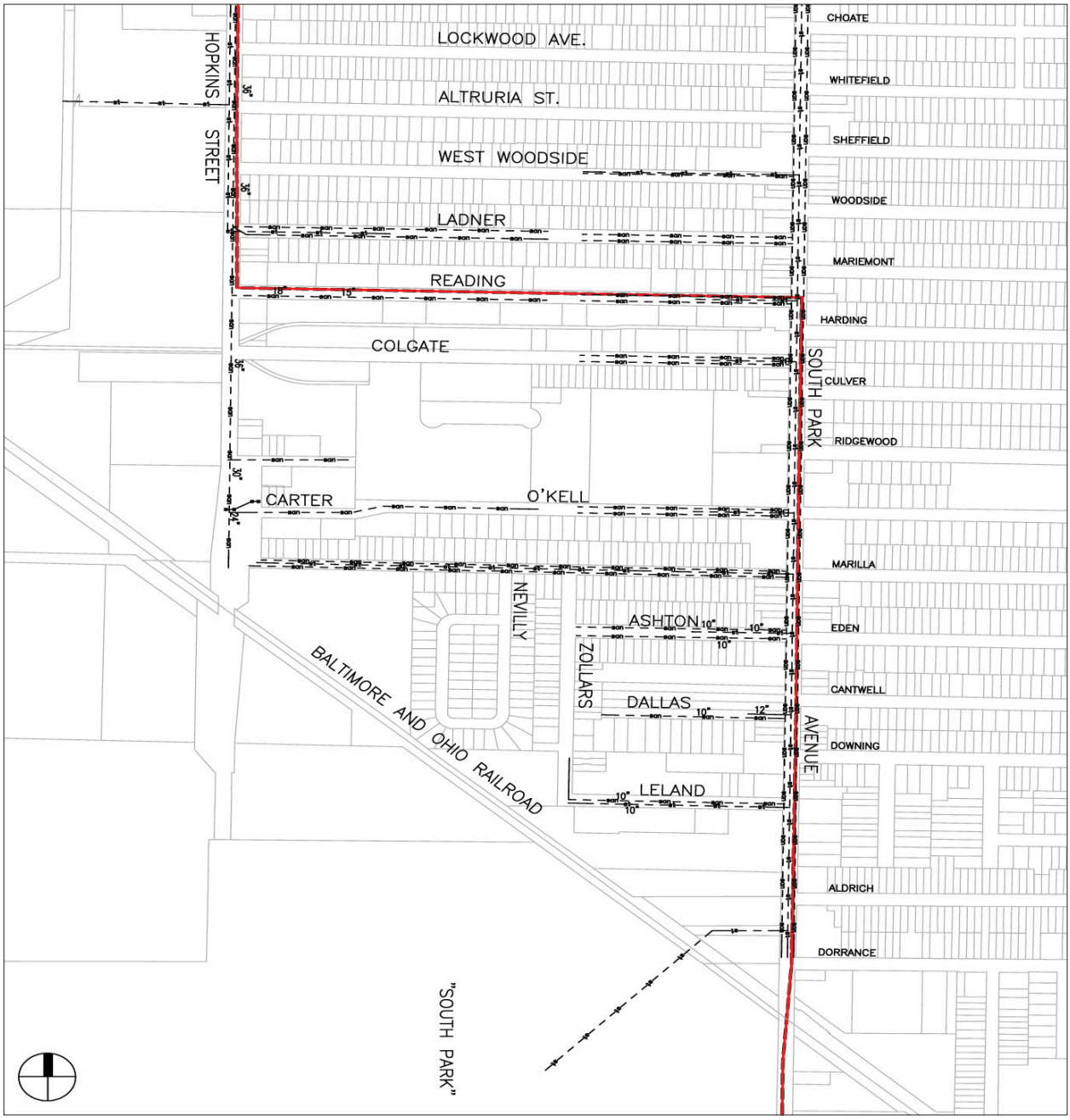
Map 3.18: Sanitary and Storm Sewer Facilities Abby Street Area



Source: City of Buffalo Zoning Data, Sept 2007

0 500 1000 feet

Map 3.19: Sanitary and Storm Sewer Facilities South Park Area



Source: City of Buffalo Zoning Data, Sept 2007

0 500 1000 feet

Map 3.20 : FEMA Special Flood Hazard Areas

Source: FEMA Q3 Data, 1996; Community Panel No. 360230 0010 C, Map Revised August 23, 1999

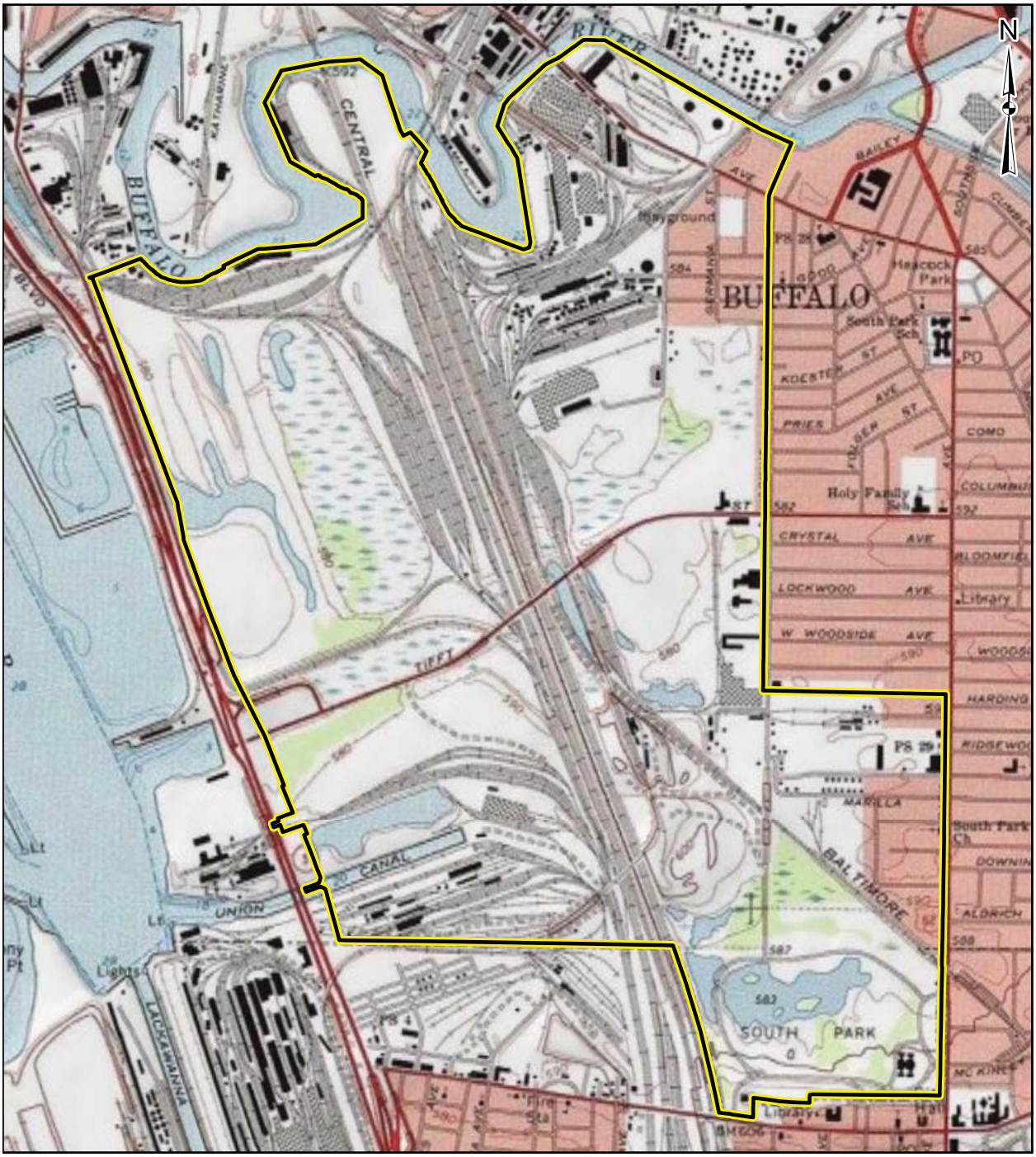
0 1,000 2,000 feet

LEGEND

PROJECT BOUNDARY

100-YEAR SPECIAL FLOOD HAZARD AREA

Map 3.21 : Topography



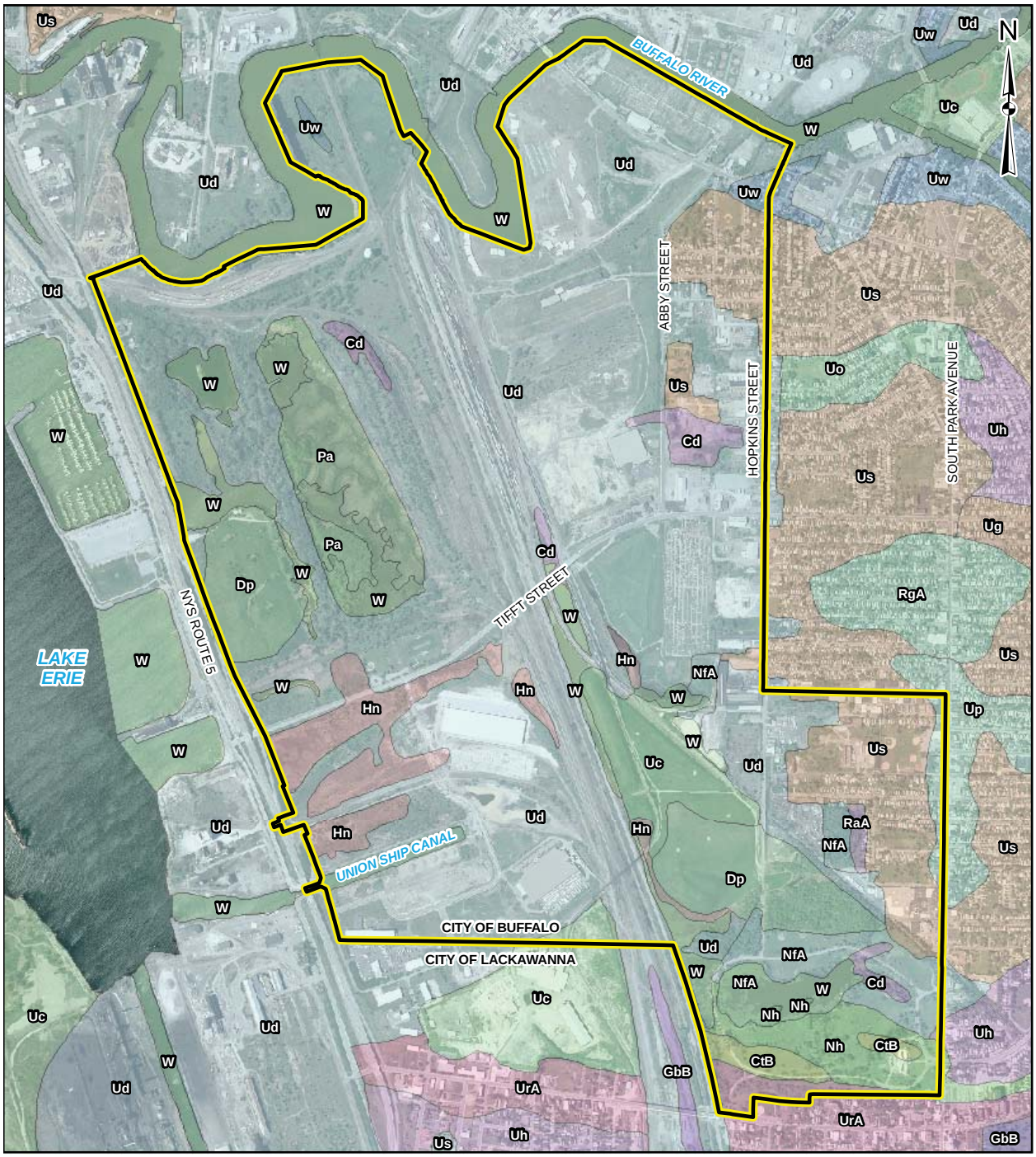
Source: 1:24,000-scale USGS Topographic Map, Buffalo SE

0 1,000 2,000 feet

LEGEND

PROJECT BOUNDARY

Map 3.22 : Soils



Source: Soil Survey of Erie County, 2007

0 1,000 2,000 feet

LEGEND

PROJECT BOUNDARY

SOIL TYPES:

- Cd - CANANDAIGUA MUCKY SILT LOAM
- CtB - COLLAMER SILT LOAM, TILL SUBSTRATUM
- Dp - DUMPS
- GbB - GALEN FINE SANDY LOAM, TILL SUBSTRATUM
- Hn - HAPLAQUOLLS, PONDED
- NfA - NIAGARA SILT LOAM
- Nh - NIAGARA SILT LOAM, TILL SUBSTRATUM
- Pa - PALMS MUCK
- RaA - RAYNHAM SILT LOAM
- RgA - RHINEBECK SILT LOAM
- Uc - UDORTHENTS, SMOOTHED
- Ud - URBAN LAND
- Ug - URBAN LAND/ CAYUGA COMPLEX
- Uh - URBAN LAND/ CHURCHVILLE COMPLEX
- Uo - URBAN LAND/ COSAD COMPLEX
- Up - URBAN LAND/ GALEN COMPLEX
- UrA - URBAN LAND/ LIMA COMPLEX
- Us - URBAN LAND/ NIAGARA COMPLEX
- Uw - URBAN LAND/ TEEL COMPLEX
- W - WATER

Map 3.23 : Surface Waters

Source: U.S. Department of Agriculture, Farm Services Agency, Aerial Photography Field Office, National Agriculture Imagery Program (NAIP), Erie County, 2008

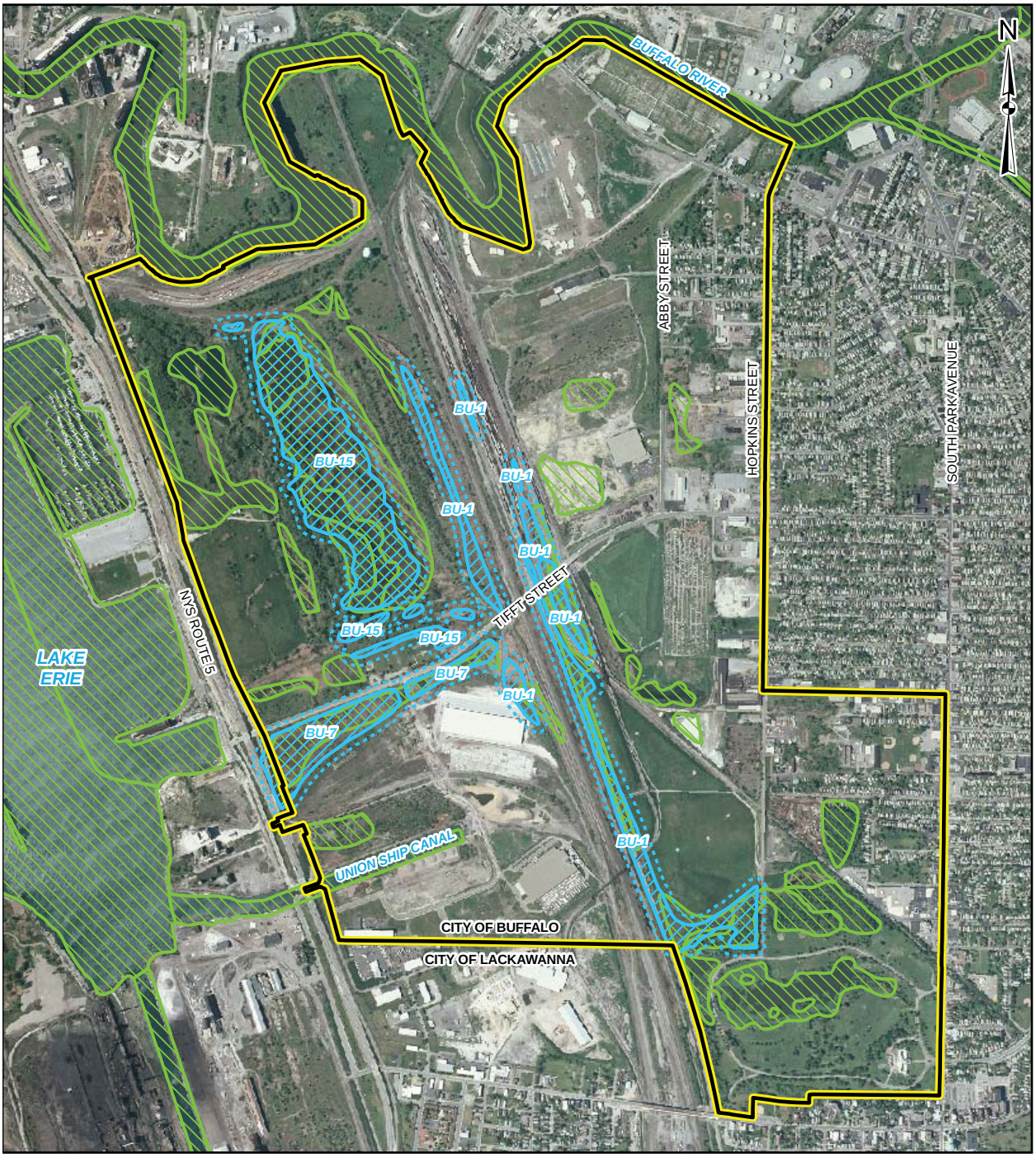
0 1,000 2,000 feet

LEGEND

PROJECT BOUNDARY

SURFACE WATERS

Map 3.24 : Wetlands



Source: NYSDEC Freshwater Wetlands, 2006; USF&WS National Wetland Inventory, 2007

0 1,000 2,000 feet

LEGEND

- PROJECT BOUNDARY
- 100-FOOT STATE FRESHWATER WETLANDS BUFFER
- STATE FRESHWATER WETLANDS
- NATIONAL WETLANDS INVENTORY

3.4 Economic and Market Trends Analysis

3.4.1 Traditional Redevelopment Strategy

The traditional redevelopment strategy for the BOA has been to use remediated sites in order to provide "shovel-ready dirt" that can be sold to build-to-suit users. The first parcels of land were sold at a price discount relative to suburban competitors, but recent deals have achieved market-rate pricing within the regional context, indicating that the BOA is a very competitive location for certain types of businesses. With that said, a variety of incentives, including benefits associated with an Empire Zone designation, are critical tools when marketing the BOA.

The primary objective of the current redevelopment strategy has been to reuse vacant land in order to create jobs and expand the tax base. In the broader sense, the objective has been to give the City an opportunity to more effectively compete with suburban locales. By developing the Lakeside Commerce Park (LCP) and also marketing several other non-LCP sites within the BOA, the City has been able to attract businesses that otherwise would likely have chosen suburban locations.

The weakness of the current redevelopment strategy is that it focuses on near-term opportunities, potentially to the detriment of long-term sustainable economic expansion in the BOA and in the City. In particular:

- The strategy's apparent focus on competing with suburban locations may expand the City's economic base, but does not address the core issue that a healthy City of Buffalo is not possible unless true economic expansion occurs throughout the region. Constant competition between jurisdictions for a share of a stagnant regional economy drains precious resources, and in most cases, does little to actually increase the regional economic base.
- LCP envisions a mix of uses, with the goal of providing a location that can serve a variety of business types, and therefore provide the City with flexibility when marketing the area. The danger is that in trying to be everything to everyone, LCP has limited the potential to establish a consistent, identifiable brand in the marketplace. To date, LCP has initially had a greater success attracting industrial users. Although a recent deal was announced that will bring a call center tenant into the project, the primarily industrial feel of LCP – and of the broader BOA – is a limiting factor when trying to market to office tenants. Often tenants are typically not interested in choosing locations where their neighbors are any type of industrial uses. Conversely, industrial tenants will likely choose to not locate in an area where neighboring tenants view their presence as a nuisance.
- On a broader level, redevelopment of the BOA should reflect a consensus on the types of uses that are appropriate within the City, and those that are best suited for suburban and exurban locales. Targeted land uses should be those that want and need to be in the City, not those that need to be convinced through temporary financial incentives. Generally, the greatest competitive advantages of center cities are their natural urban form, which encourages and allows for higher-density, higher-value land uses. Land use such as industrial space may add to the City's economic base in the near term, but relative to other land uses more commonly associated with urban markets, industrial uses generate lower land values, create relatively few jobs, and provide little support for complimentary land like neighborhood retail and restaurants. The near-term payout may come at a high cost if future higher-value opportunities are missed.

- The City has already put in a sizable amount of resources into land acquisition, remediation, and land planning and site work. The strategy of selling land to individual businesses fragments control, and may limit opportunities for the site to evolve into a high-value location.

Key Findings

To better maximize the City's investment to remediate lands in the BOA and support long-term economic growth and job creation the City should strive to better:
a. orient the BOA economic strategy towards capturing uses that reflect growing economic sectors instead of competing to attract stagnating industries;
b. build an identifiable brand that attracts uses appropriate to the BOA's location; and
c. protect the BOA's opportunity to evolve as a high-value location.

3.4.2 Regional Growth Industries

While the region and City faces many challenges, their strengths do have the capacity to spur on sustainable economic resurgence. To best capitalize on these strengths, strategic public investment and economic development initiatives should be focused on growth industries that have opportunities to be economic generators for the City and region. Focusing on these industries will help capitalize on the existing sectors of economic growth in the Buffalo region, further promote private sector investment in emerging sectors, and diversify the region's economy.

High-Tech Manufacturing

The story of the decades-long economic stagnation in the Buffalo region, and the City itself, often begins and ends with the precipitous decline of the manufacturing sector. However, the decline in the manufacturing job base is not entirely reflective of the loss of opportunity within the manufacturing economic base. Certainly, the traditional manufacturing sector is in decline locally and nationally, and it is not likely to experience a rebirth. However, the high-tech niche of the manufacturing sector does present an opportunity moving forward.

The "Development Profiles for High Technology Manufacturing Sites" article published by Empire State Development defines high technology manufacturing facilities as "those operations that incorporate computerized, automated, state-of-the-art equipment (e.g., process controls, computer-aided design, and advanced communications and information systems) into some or all of the manufacturing process."[22] Buffalo's skilled labor force and existing manufacturing base does allow for a continued transition from traditional manufacturing into higher-tech facilities.

While still an industrial land use, high-tech manufacturing typically offers a cleaner, more advanced technology facility with fewer negative environmental impacts than traditional manufacturing. The high-tech manufacturing niche also has a greater relationship to other aspects of the knowledge economy, as research and development are critical components of this modernized sector. Given this need for continual innovation, there is an opportunity to integrate the economic activity within high-tech manufacturing facilities with the research and development activities at the University at Buffalo and other local colleges, universities, and research institutions.

One critical caveat to future opportunities in the high-tech manufacturing sector is that advanced technology requires less manual labor, making it

[22] Development Profiles for High Technology Manufacturing Sites, Empire State Development

a significant economic generator but not a strong generator of employment compared to traditional manufacturing. CertainTeed, for example, recently located at the Lakeside Commerce Park and employs around 250 people in approximately 275,000 square feet of space. In future high-tech manufacturing facilities, this trend is expected to continue, with fewer workers generated per square foot of building (and dollar of economic activity). Nevertheless, higher-technology manufacturing often produces high wage paying jobs.

Basic and Applied Scientific Research

Employment in research and development services in the Buffalo-Niagara Falls MSA grew by 20% from 2001 to 2007 (a net increase of 761 jobs, with total employment in this sector of 4,590 in 2007), compared to only 2% in the state and 13% in the country.[23] The rate of employment growth in this sector relative to the rest of the state and country indicates that this is an emerging sector in the region.

Scientific research generally falls into two categories: basic research and applied research. Basic research is generally undertaken by public or institutional entities with a focus on scientific advancement. Applied research, often called translational research, is focused on the commercialization of this scientific advancement – the movement of ideas into the marketplace as saleable products.

Scientific research institutions and firms have a high propensity to cluster near each other because of the benefits of collaboration, partnerships, and networking. Universities and other research institutions typically provide fertile clusters of scientific research that fosters collaboration and advancement of the research. Universities are also critical cogs in the development of the human capital necessary to generate spin-off economic activity. However, the institutional, basic research does not, in and of itself, generate spin-off economic activity – it merely creates the environment where potentially marketable ideas are generated and advanced.

The formation of new firms requires the creation of applied research infrastructure. This includes clustering of economic activity that is related, but also distinct, from basic research. Applied research clustering is fundamentally different than basic research clustering, in that proximity is valued as it fosters informal collaboration and networking, particularly with regard to movement of labor, but privacy of proprietary knowledge is also highly valued. Private knowledge-based firms want to be close to basic research institutions and their private competitors, but not too close.

In the applied research sector, vertical collaboration is more critical between the knowledge firms and the wide variety of firms that can assist in bringing ideas to the marketplace – including patent and corporate law, accounting and business management, financial services (especially investment brokers and managers), etc. Beyond the economic spin-off associated with the commercialization of scientific research, these spin offs also generate significant economic activity.

Life sciences and bioinformatics is the most prominent scientific research cluster in the Buffalo region today. This cluster is driven by the institutions at the Buffalo Niagara Medical Campus (BNMC), which has over 8,000 employees and sees approximately one million visitors each year. The BNMC in downtown Buffalo contains several major member institutions that drive Buffalo's life sciences research and clinical activities. Roswell Park Cancer Institute, Buffalo General Hospital (Kaleida Health), the Hauptman-Woodward Medical Research Institute, and the New York State Center of Excellence in Bioinformatics &

[23] Bureau of Labor Statistics

Life Sciences (UB CAT) are the larger member institutions located at the BNMC downtown. The BNMC recently added over 400,000 square feet of state-of-the-art research space to be used by the Hauptman-Woodward Medical Research Institute Structural Biology Research Center, the New York State Center of Excellence in Bioinformatics and Life Sciences, the Roswell Park Cancer Institute Center for Genetics and Pharmacology, in addition to incubator space.

Other scientific research programs at the University at Buffalo relevant to the concept of regional clustering includes: the Rehabilitation Engineering Research Center on Technology Transfer (RERC); the Center for Computational Research (CCR); the Center for Integrated Waste Management; the Ecosystem Restoration through Interdisciplinary Exchange (ERIE) Program; the UB Center of Excellence on Human Capital, Technology Transfer, & Economic Growth and Development; the UB Center for Research and Education in Special Environments; the Strategic Partnership for Industrial Resurgence (SPIR), and the Center for Industrial Effectiveness. There is also a number of technical training and adult education programs offered in the area that further support Buffalo's life sciences and research economy, including the Millard Filmore College (part of UB's Division of Continuing and Professional Studies) certificate program for Regulatory Environment of Medical Devices and Implants.

While much of UB's research activity is basic research, the university has also moved towards creating a translational research infrastructure. The University at Buffalo Office of Science, Technology Transfer, and Economic Outreach (STOR), based in the North campus, provides incubator resources to new companies in the region. It promotes economic revitalization through technology transfer and economic outreach activities, and fosters partnerships between UB and the business community. Since 1988 the incubator has assisted more than 60 tenants and graduates, boasting a 75% survival rate among its graduating companies. The aggregate employment among those companies is 455 people, and annual revenues across the companies exceed $60 million. Of the 32 "graduated" companies listed on STOR's website, only two have moved outside the region. The majority of the companies, however, are located in Amherst or surrounding areas (primarily because the incubator itself is located at UB's Amherst campus).

UB's strong translational presence on its North campus is a natural outgrowth of that campus' position as the core campus within the UB system. However, the UB 2020 plan outlines goals for the university's growth, in particular the plans for expanding its presence at the downtown campus near the BNMC. The UB 2020 plan states that "[i] t is clear that an incubator operation in downtown Buffalo would enhance our ability to transfer research to commercialization."[24] UB's new focus on concentrating future growth downtown and the Center of Excellence's focus on incubator space and commercialization provide a strong opportunity for the City of Buffalo to capture future growth and new firm formations from the world-class basic research. The expectation is that this cluster of activity will "fuel the creation of life sciences-based companies."[25]

The inclusion of incubator space on the BNMC campus will allow nascent companies – as well as larger ones – to collaborate with basic researchers and share equipment which is often prohibitively expensive for a single entity to purchase. However, incubator space most closely linked with the BNMC institutions, and without the internal physical divisions of lab space and a stringent security protocol, will only go so far to creating true translational research, as researchers on the

[24] UB 2020 Plan
[25] UB 2020 Plan

verge of moving product to market will require a greater degree of privacy. BNMC has also recently purchased two buildings adjacent to its core campus that it plans to use for expansion, including the development of 110,000 square feet of incubator space designed specifically for researchers and nascent firms that are closer to transitioning from research to market.

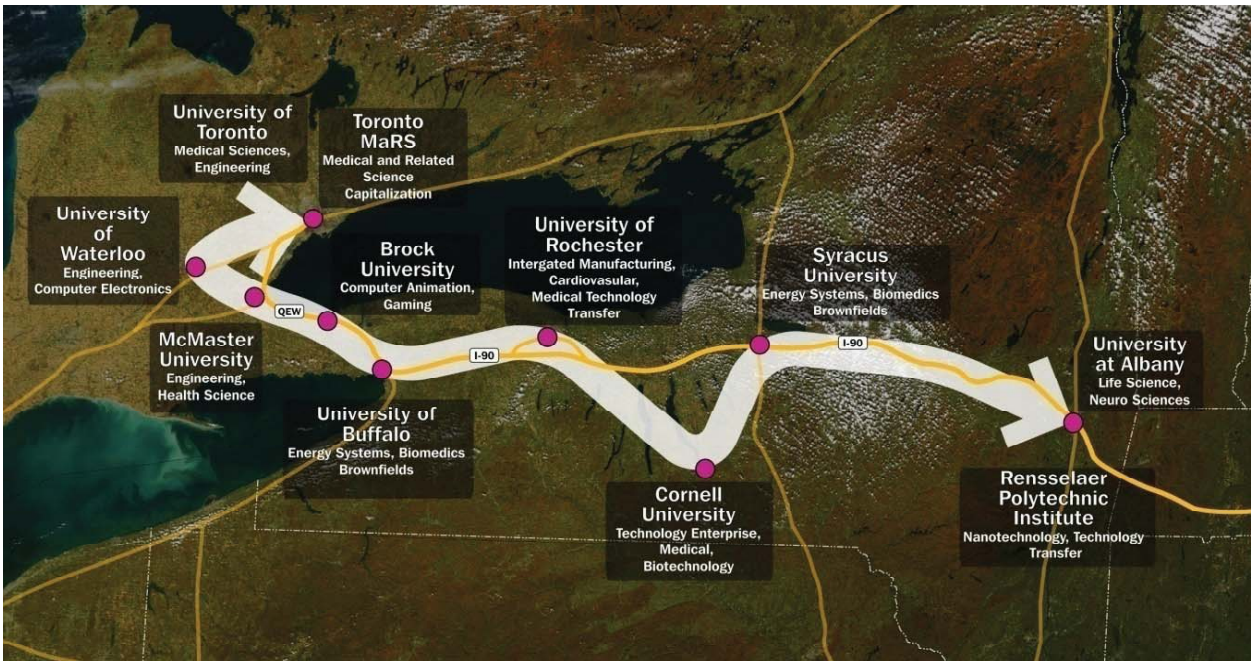
The efforts by the University at Buffalo and its various public and institutional partners will further the economic impact of basic research, but more critically, will promote significant spin-off impacts. These activities are at the heart of a strategy to embrace the knowledge economy, and create more significant private investment and job growth that moves beyond the traditional manufacturing base.

Super-Regional Research Linkages

The economic energy surrounding scientific research and commercialization need not be limited to the efforts by UB and its partners. Buffalo has the opportunity to anchor a broader, super-regional research cluster. These broader economic relationships, expanding beyond traditional regional boundaries, have proven to be critical to the emergence of vibrant technology corridors in other parts of the county, including the I-4 technology corridor stretching from Tampa-St. Petersburg to Daytona Beach in central Florida.

The "I-90 Research Corridor" (Map 3.25 – Super-Regional Research Corridor) would connect the various basic and applied research clusters from the Golden Horseshoe to Albany. A sample of some of the ongoing research efforts along this corridor include:

- The Rochester Institute of Technology has a center for integrated manufacturing studies and the Golisano Institute for Sustainability, which will soon house one of the world's first Ph.D. programs in sustainability, and will be the first to focus on issues related to sustainable production.



Map 3.25 : Super-Regional Research Corridor

- The University of Rochester developed the Aab Cardiovascular Research Institute, which houses over 100 scientists working in the areas of heart disease and human genetics. The University of Rochester also has an Office of Technology Transfer.

- The City of Rochester developed a "Greenprint," in partnership with the local universities, the State of New York, and the U.S. Green Building Council, outlining goals and practices for the city and region. This "Greenprint" for the city looks to create a "Sustainable Resource Center" for the city and region. The city is also hoping to develop a Hydrogen Village that will be a sustainable community. The city has already begun research on alternative energy sources, such as fuel cell, wind energy, ethanol/ biodiesel, and solar power.

- Syracuse University houses one of the New York State Centers of Excellence (CoE), with a focus on Environmental and Energy Systems. Syracuse University also has a Biomaterials Institute, a Center for Environmental Quality Systems (QES), the SUNY College of Environmental Science and Forestry (SUNY-ESF), and the new Sustainable Business Collaboration that focuses on an interdisciplinary approach to education and research on business and sustainability.

- SUNY-ESF houses the SUNY Center for Brownfield Studies that focuses on environmental management and the redevelopment of brownfields through academic programs, community support, and research and development. Syracuse's Green Team, formed in part by the Syracuse CoE is a main initiative of New York's Creative Core economic development initiative. The Green Team's focus is innovative, green technology that attracts sustainable industries, companies, and entrepreneurs to the region.

- Cornell University has a Center for Technology, Enterprise, and Commercialization that filed 141 patent applications in 2007 and generated over $32 million in revenues. Cornell University also has an Institute for Biotechnology and Life Science Technology, one of the New York State Centers for Advanced Technology (CAT) programs sponsored by New York State Foundation for Science, Technology, and Innovation. The center focuses on technology transfer, workforce training, economic development, entrepreneurial support, and research and development. It also provides shared research resources and services to the university community, other academic institutions, and commercial enterprises.

- The University at Albany has a Life Sciences Research Initiative and a Center for Neuroscience Research. Rensselaer Polytechnic Institute (RPI), also located in Albany, houses a center for nanotechnology research, and has developed the RPI Technology Park – a business park aimed at providing a location for private research firms.

There is also a strong opportunity for Buffalo to link to research activity in Canada. The Great Lakes Region of Canada accounts for 77% of the total research and development performed in Canada, both private and public. Undoubtedly, the next stage of bi-national trade will be an expansion of collaboration among research institutions. A sample of activities in Canada include:

- Toronto's "BioDiscovery Toronto" organization facilitates the process of commercialization of research by streamlining access to research and expertise and creating relationships among researchers, the biosciences industry, and capital sources. BioDiscovery Toronto functions similarly to the Buffalo Niagara Medical Campus, with member institutions including the

Ontario Institute for Cancer Research, Ryerson University, St. Michael's Hospital, Sunnybrook Health Sciences Centre, the University Health Network, and the University of Toronto. These organizations are located in Toronto's discovery district, a research park that is integrated into Toronto's downtown, similar to the BNMC in downtown Buffalo. This cluster of over 700 biomedical companies' employs over 80,000 people are located near other research, finance, and business support services.

- Toronto's MaRS Centre focuses on accelerating the commercialization of innovation. The center includes incubation facilities for new companies, research facilities for scientists, a cluster of professional service firms and investors, and technology transfer resources. The center is designed to maximize shared spaces and the impact of cluster development, fostering innovation and partnerships among researchers and private firms.

- BioDiscovery Toronto is part of a larger initiative throughout Ontario, the Regional Innovation Networks (RINS). RINS are multi-stakeholder regional development organizations focused on promoting innovation through partnerships among the private life sciences sector, institutions, and local governments, and providing commercialization services to small firms, researchers, entrepreneurs, and investors. Some of these commercialization services are provided through the Ontario Centres of Excellence and the MaRS Center.

The Buffalo region can effectively serve as the backbone of a super-regional research cluster, with a particular focus on commercialization. As the largest region among the U.S. research clusters discussed above, it is a logical choice as the center of a broad partnership. Buffalo also has the unique advantage of providing geographical and cultural access to the Canadian research economy.

Alternative Energy

Alternative energy has been pushed to the forefront of the national conscience over the past decade, and even more so recently as the price of oil continues to climb. Specifically, ethanol production has increased fivefold since the mid-1990s as both market forces and government agencies have demanded alternatives to fossil fuels. While ethanol is one of the few viable biofuels at this time, recent research has shown that sugarcane is the only "green fuel" that is not a net carbon emitter. In fact, the government-mandated Renewable Fuels Standard Schedule focuses more on Advanced and Cellulosic Biofuels as time progresses past 2010.

Thus, there is a dire need for additional research and development on future feedstocks for biofuel. In addition to biofuels, research continues to more efficiently harness wind and hydro power. The research will necessitate an intense research effort, with significant private market potential once alternative energy solutions are ready to be rolled out on a broader basis.

The Buffalo region is poised to play a key role in the development and commercialization of various alternative energies. In a telling example of the potential for transitioning from an old economy to a future economy, the presence of functioning grain elevators (including several in the BOA) makes Buffalo a highly competitive location for ethanol (and perhaps, other biofuels) production. The ability to store large amounts of grain allows ethanol manufacturers to limit transportation delays and buy grain at favorable pricing. The key will be transitioning grain storage into significant production, and eventually into advanced research on the next stages of biofuel production. Access to the Great Lakes is also a competitive advantage in the advancement of wind power technology, given wind conditions and the future potential for using the Great Lakes as wind farms.

Call Centers & Back Office Support Services

The Buffalo-Niagara Falls MSA gained over 2,000 jobs in collection agencies between 2001 and 2007, in addition to over 3,000 jobs at insurance carriers and related companies, and over 2,000 jobs in management of companies and enterprises. Each of these employment sectors grew at a much faster rate than the growth experienced in New York State or the U.S., indicating that Buffalo has developed a competitive advantage for call centers and back office support services.

This competitive advantage primarily is due to a relatively affordable but high quality workforce, especially compared to other regions. This location and the widely-publicized success of the GEICO facility in Amherst are a testament to the power of this employment trend. Such companies now see Buffalo as an ideal U.S location that can effectively compete with other locations nationally and abroad. Buffalo also provides access to the Canadian labor and business markets.

Over time, these lower-end service activities to the financial and insurance sectors will transform into higher-end clusters – certainly not rivaling the major financial centers in this country, but still acting as an alternative to many of the mid-level activities in these sectors.

Multimodal, Logistics, and Distribution Facilities

Many factors point to the Buffalo region as an ideal spot for a multimodal, logistics, or distribution facility. The amount of bi-national trade occurring near and through Buffalo, access to rail and deep water ports, and the movement away from overburdened ports of entry such as the Port of NY/NJ to ports with greater capacity (such as Halifax) are all key factors that position Buffalo as a future leader in this sector. As the only place with Class 1 rail service to New York, Boston, Montreal, Toronto, Detroit, Philadelphia, Pittsburgh, and Chicago, Buffalo has access to many of the largest markets in North America via a transportation method that is increasingly attractive relative to trucking.

The opportunities created by a vibrant logistics and distribution sector will likely take a variety of forms. At its largest, there is likely need for a large, multimodal logistics center serving national and continental markets; however, warehousing and logistical opportunities will also exist at a somewhat smaller scale, focused on regional and super-regional trade (including bi-national trade within the Golden Horseshoe). These opportunities will be particularly strong in central locations with good access.

Tourism

In 2005, the tourism industry in Erie County generated over $1.1 billion in direct visitor spending, including $176 million on lodging, $250 million on retail sales, and $390 million on food and beverages.[26] This tourism spending is an important part of the region's economy, in addition to creating over 20,000 jobs.[27]

Tourism is already a driving sector in the economy for generating employment in the retail and hospitality sectors. The industry also has spin-off benefits on the region, including creating 10,000 additional jobs for goods and service providers to the tourism industry.[28] Tourism also contributes significantly to the local tax base, generating over $61 million in local taxes and over $58 million in state taxes in 2005.[29]

The City of Buffalo has the opportunity to expand the impact of tourism within its borders, by re-

[26] Economic Impact Study of New York State's Travel and Tourism Industry, Tourism Economics
[27] Buffalo Niagara Convention & Visitor's Bureau
[28] Buffalo Niagara Convention & Visitor's Bureau
[29] Buffalo Niagara Convention & Visitor's Bureau

establishing itself as a destination within the County and the broader region – particularly better leveraging tourism to Niagara Falls, including the Canadian side. Efforts to revitalize downtown and parts of the waterfront are critical components to the strategy to better capture tourism dollars within the City. In particular, the focus on revitalizing the waterfront is not only indicative of its key role within the tourism sector regionally, but also reflective of the national trend of transforming waterfronts from clusters of industrial and manufacturing economies to economic drivers of vibrant, mixed-use villages. A sample of waterfront revitalization strategies and plans in Buffalo include:

- The redevelopment at Cotter Point, with a Museum of Historic Watercraft, Community Maritime Center, Buffalo State College waterfront campus, and the Great Lakes Research Center
- The Waterfront Village residential development offering new luxury condos and townhomes
- The promotion of mixed-use commercial, office, and retail uses along the waterfront to complement existing tourism uses
- Allowing mixed-use redevelopment on the Outer Harbor
- A mixed-use Inner Harbor/downtown development that includes over 200,000 square feet of retail including a new Bass Pro store, over 60,000 square feet of restaurant and entertainment space, over 15,000 square feet of office space, over 75,000 square feet of hotel space, and over 40,000 square feet of residential development

The implementation of these plans and future redevelopment along the waterfront has the opportunity to activate the waterfront and generate long term economic growth. It is particularly important for future waterfront development plans to balance the needs of existing companies and industries, while responding to the changing role of waterfronts in urban downtowns.

Certainly, more effort is required to ensure that these plans are effectively implemented, that once implemented they catalyze activity along other parts of the waterfront and inland locations, and that eventually Buffalo is a place that visitors to the broader region will want to visit. Tourism is an important economic driver for the region, but these plans to revitalize the waterfront and downtown areas also have the added benefit of providing support for important recreation and cultural amenities that increase quality of life for Buffalo residents.

Key Findings

The City has at its disposal a menu of economic strengths, many of which reflect the region's strong competitive advantage among several growing sectors of the American economy. These economic strengths include industries that produce higher paying jobs and higher employment density than manufacturing and other industries historic to the BOA. Industries of economic strength include basic and applied research, alternative energy, call centers and back office support services, and tourism. Focusing on these industries will guide the City to better diversify its economy, focus public investment, and build new partnerships within the region and super-region.

3.4.3 Growth Projections

Currently, the City of Buffalo and the MSA are facing a declining growth scenario. To understand the impact of decision making, the analysis below examines both a stagnant growth scenario and resurgent growth scenario. The analysis demonstrates what sectors among the City of Buffalo's current sectors best support economic

growth, and lead to higher employment, housing and commercial space demand.

City of Buffalo Growth Projections: Trend versus Integrated Regional Center Scenario

The Queen City in the 21st Century comprehensive plan for Buffalo presents a Trend Scenario for housing and population growth that continues the recent trend of decline for Buffalo's foreseeable future. Under this scenario, the City of Buffalo's population is to decline from 276,000 in 2007 to approximately 235,000 in 2025.[30] The Trend Scenario similarly projects population decline in the MSA from around 1.14 million in 2007 to approximately 910,000 in 2025, with the City of Buffalo's population becoming a greater share of the MSA's population over time. This projection does assume that the City will capture a slightly greater share of population in the region by 2025, although its potential impacts on the City appear limited.

Buffalo's comprehensive plan also presents an Integrated Regional Center Scenario that assumes that implementation of the plan will initiate population growth in the city around 2010, with growth to a population of over 305,000 in 2025. A long-term commitment to economic development in the region and concentration of resources and initiatives into key redevelopment areas and growth industries is necessary to foster this projected growth.

The City's comprehensive plan also projects future employment for the City. The Trend Scenario projects economic stagnation for the City's employment base – with a net loss of approximately 4,000 jobs from 2010 to 2025. The Integrated Regional Center Scenario, however, projects employment growth in the City over this same period – 13,700 new jobs, or an average annual growth rate of 0.8%. This is certainly not dynamic economic growth, but does represent an economic resurgence, especially when considering the growth would be occurring in the context of a continued transition from old to new economy industries.

BOA Analysis Growth Projections: Stagnant versus Resurgent Scenario

The future economic and demographic health of the City of Buffalo cannot be separated from that of the broader region. It is difficult to envision a scenario where the City thrives while the region around it languishes. Certainly, a goal of the City should be to effectively compete with its suburbs for economic opportunities, but this cannot be a win-lose proposition if economic success is to be sustained.

For comparison, the analysis assumes two scenarios for growth projection over the 2007 to 2025 period: Stagnant (0.02% annual growth rate) and Resurgent (1%), summarized in Table 3.9. Not surprisingly, the Stagnant Scenario results in very little net new employment growth in the Buffalo-Niagara Falls MSA (approximately 1,800 new jobs over the 18-year period), while the Resurgent Scenario results in 108,000 new jobs over the same period.

The Resurgent Scenario assumes an evolving regional economy. Specifically, the BOA analysis includes assumptions on the distribution of employment by sector in the regional economy, based upon historical employment trends by sector locally, statewide, and nationally, as well as the team's professional opinion as to the likely future economic base. The analysis reveals that:

- The Durable and Non-Durable Manufacturing sector is expected to continue to decline as a percent of total regional employment – from 11% in 2007 to 8% in 2025. This trend reflects

[30] Queen City in the 21st Century, Buffalo's Comprehensive Plan, 2004

not only a continuing decline in the overall manufacturing base, but also continuing the trend of fewer manufacturing jobs required due to increased use of technology. In the Stagnant Scenario, the decline in manufacturing jobs is projected at 7,000, versus 3,800 under the Resurgent Scenario.

- The Wholesale Trade and Transportation, Warehousing & Utilities sectors are expected to increase from approximately 7% of total regional employment in 2007 to 8 % in 2025. This increase assumes that the region is positioned as a center of bi-national and regional trade. In the Stagnant Scenario, these sectors

Sector	2007 Distribution	2007 Employment	Projected 2025 Distribution	.02% Annual Growth - Stagnant	1.0% Annual Growth - Resurgent	2007-2025 Change - Stagnant	2007-2025 Change - Resurgent
Natural Resources, Mining, and Const.	3.5%	19,387	3.0%	16,542	19,715	-2,846	328
Manufacturing: Durable Goods	6.7%	36,647	5.0%	27,570	32,859	-9,077	-3,788
Manufacturing: Non-Durable Goods	4.3%	23,509	3.0%	16,548	19,715	-6,967	-3,793
Wholesale Trade	4.3%	23,633	4.5%	24,813	29,573	1,180	5,940
Transportation, Warehousing, & Utilities	3.0%	16,551	3.5%	19,299	23,001	2,748	6,451
Information	1.6%	8,519	1.5%	8,271	9,858	-278	1,309
Financial Activities	6.6%	36,300	7.5%	41,355	49,288	5,055	12,989
Professional and Business Services	12.6%	69,253	15.0%	82,709	98,577	13,457	29,324
Retail Trade	11.3%	61,947	11.0%	60,653	72,290	-1,293	10,343
Leisure and Hospitality	8.6%	47,323	9.0%	49,626	59,146	2,303	11,824
Other Services	4.2%	23,023	4.5%	24,813	29,573	1,790	6,551
Educational and Health Services	16.0%	87,732	16.5%	90,980	109,435	3,248	20,703
Government	17.4%	95,709	16.0%	88,223	105,149	- 7,486	9,440
Totals	**100.0%**	**549,561**	**100.0%**	**551,395**	**657,180**	**1,364**	**107,619**

Table 3.9 - Employment Projections

are projected to add 4,000 jobs, compared to an addition of 12,400 jobs under the Resurgent Scenario.

- The Information, Financial Activities, and Professional and Business Services sectors are expected to increase from 21% of total regional employment in 2007 to 24% in 2025. This increase is driven by the continued emergence of scientific research and related activities, as well as continued growth in financial and insurance services (starting with call centers and eventually evolving, in some cases, into higher-value activities). In the Stagnant Scenario, these sectors are still projected to increase by 18,200 jobs, compared to an increase of 43,600 jobs under the Resurgent Scenario.

- The Educational and Health Services sector is expected to increase slightly as a percentage of total regional employment from 2007 to 2025 (from 16% to 16.5%). The region is already positioned as a regional – and in some cases national – leader in this sector, and will continue to be positioned as such; but significant growth in this sector will likely require an overall expansion of the regional economy. In the Stagnant Scenario, this sector is projected to increase by 3,250 jobs, compared to an increase of 20,700 jobs under the Resurgent Scenario.

- A number of sectors are more closely aligned with the overall economy, including Retail Trade, Leisure and Hospitality, Other Services, and Construction. Only Leisure and Hospitality has the potential to slightly increase its share of the regional employment base, if the region can better leverage the area's attractions (including a revitalized City of Buffalo, particularly its waterfront). In the Stagnant Scenario, these sectors are projected to experience stagnant job growth (46 jobs lost), compared to an increase of 29,000 jobs under the Resurgent Scenario.

- In distressed economies, the Government sector typically comprises an overly large percentage of total employment. Over time, in the Buffalo region, we do project that Government employment as a percentage of total employment will decline from 17.4% in 2007 to 16% in 2025. In the Stagnant Scenario, this sector is projected to lose 7,500 jobs, compared to an increase of 9,400 jobs under the Resurgent Scenario.

Job growth will generate net new household growth, typically in the range of 1.5 to 1.8 jobs per household. Under the Resurgent Scenario, this would result in a net household growth of between 60,000 and 70,000 households regionally. This influx of new households, many of whom will have higher-income jobs than is average in the region today, will have an impact on the regional housing market. Many of the projected jobs will be knowledge based, and therefore filled with Creative Class workers who are more likely to demand urban infill housing, which is positive for the urban cores and neighborhoods within the City.

The projected job growth in the Resurgent Scenario will also have a significant impact on the regional commercial market. Recent trends already show that office is an increasingly more prominent part of the regional commercial market. There is approximately twice as much existing industrial space as compared to office space, but when analyzing recent absorption data, this relationship has been reversed, with office absorption outpacing industrial absorption by double.

This recent trend in the commercial markets will continue in the future, as the most prominent employment growth sectors will primarily demand office space of various types. These sectors will also drive demand for a variety of flex spaces, including lab and R&D spaces. The warehouse commercial market will continue to be strong, especially since employment growth in this sector generates

significantly more square feet of warehouse space as compared to office space. The continued demand for new, modern facilities will drive development activity of manufacturing space, despite projected employment losses. This trend will also continue to create an ample supply of vacant and obsolete space.

The City has the potential to play a key role in a resurgent regional economy. However, in order to do so, the City must leverage its competitive strengths, and understand its competitive challenges and threats regionally. This is also true for the South Buffalo BOA, which must be appropriately placed in the regional and city competitive market context.

Key Findings

A comparison of the stagnant and resurgent growth scenario for the City of Buffalo reveals sectors that are likely to grow and the subsequent demand these sectors will generate within the local economy. The analysis demonstrates that to escape its trend of economic decline, the City will have to support the growth of its Information, Financial Activities, and Professional and Business Services sectors, Educational and Health sectors, Leisure and Hospitality sectors and Wholesale Trade and Transportation, Warehousing and Utilities sectors. The South Buffalo BOA represents a great opportunity to contribute to this effort, creating opportunities to grow new industries and diversify the City's economic base.

3.4.4 The BOA's Market Strengths & Challenges

The South Buffalo BOA was not, in recent times, within the favored path of growth in the Buffalo region, which extends out to the northeast of the city. Being located outside the favored path of growth typically indicates lower property values, limited real estate investment, and difficulty attracting businesses and households compared to more established areas of the region. The BOA today offers little of the urban character that is a latent competitive advantage in other parts of the City.

Today, the BOA and surrounding area is characterized by industrial uses and middle-income, single-family neighborhoods. Particularly, the presence of brownfields throughout the BOA represents a near-term market challenge that will initially limit the draw for higher value land uses, including housing, retail, entertainment, and mixed-use districts. While many of the area brownfields have been remediated, and will be remediated in the future, the market perception of the South Buffalo BOA and waterfront area as only an industrial area will be a difficult one to change.

This market perception and various other key characteristics of the BOA are market strengths when considering demand for new industrial space. The BOA offers industrial tenants a central regional location, with good access to the regional marketplace. The existing rail infrastructure, water access, and proximity to Route 5 and I-90 further the competitive strengths of the BOA for industrial users. Investment in the land plan at Lakeside Commerce Park provides another competitive strength, as it provides a more aesthetically pleasing environment to market to potential businesses.

The BOA's location along the Buffalo River and Lake Erie presents a unique competitive advantage for water-based industrial uses that depend on shipping, water transport, or the use of water in manufacturing processes. The BOA is also one of the only places in the region that offers a large, central location that is far enough away from residential uses to allow for industrial development. While this is a unique opportunity, most high technology industrial uses don't depend on water as heavily as traditional manufacturing uses in the past, limiting the long term economic growth potential of this type of strategy.

Much of the BOA has been designated an Empire Zone, which provides a variety of tax incentives to businesses. The Empire Zone designation allows the BOA to be more competitive with regional and national competitors. The presence of Empire Zone benefits is a strong competitive advantage, although recent trends suggest that suburban locations will also have increased access to these benefits (historically, Empire Zones were located almost wholly within the City).

However, the heavy rail infrastructure also presents a market challenge, as it does bisect the site and creates a significant physical presence which limits the redevelopment potential of some parts of the site. The size of the BOA does provide the opportunity to mitigate many of the negative factors of infrastructure barriers by allowing various types of land uses to cluster in appropriate parts of the BOA. Especially for certain types of businesses, the presence of large tracts of land in a central location is a key competitive advantage of the BOA.

Existing natural assets are important strengths for the site, including the Tifft Nature Preserve, the Olmsted Park and Buffalo and Erie County Botanical Gardens, the Lake Erie and Buffalo River waterfronts, the historical features of the grain elevators, and other cultural and tourism amenities along the waterfront and in the South Buffalo neighborhood. The potential to construct a golf course on remediated brownfield land may provide another strong amenity for the area. These strengths provide a strong branding opportunity, and potentially allow the BOA to capture some of the economic benefits of regional tourism growth in the future. There are plans for expansion to the Botanical Gardens to include an Orangerie, which as planned will hold public and private events and will enhance the area's tourism draw. There is an opportunity to leverage the Orangerie and add additional conference, tourism, or recreational space in the area.

Key Findings

To position the South Buffalo BOA within a favored path of growth, the City will have to coordinate decision-making and investment to renew the market perception of the BOA. Armed with a renewed brand and stronger sense of place, the BOA will be better positioned to leverage its competitive advantages – location along the Buffalo River and Lake Erie, proximity to the downtown, available large tracts of land, public land control, the presence of Empire Zones, and the area's many natural, recreational and tourism assets – to attract growing, higher employment industries..

3.4.5 Market Opportunities in the BOA

Based upon the analysis of regional economic trends and future opportunities, and the competitive positioning of the BOA within this regional context, a number of market opportunities have been identified within the BOA.

Industrial Park. High-tech manufacturing, distribution, and warehousing facilities are, and will continue to be, in strong demand in the BOA. These land uses are attracted to the BOA because of its central location in the region, Empire Zone designation, and access to rail, highway, and waterways. The success of attracting a variety of industrial tenants to the Lakeside Commerce Park (LCP), as well as other sites within the BOA, is proof of this area's competitive market positioning.

Industrial facilities are typically large-format one-story buildings with large surface parking lots or loading docks, located near infrastructure necessary for business operations, including rail lines and streets accessible to large trucks. Certainteed, for example, employs 250 people in a 275,000 square foot manufacturing facility, for a ratio of one employee for over 1,000 square feet. Warehousing and logistics facilities are typically even less labor intensive.

Industrial uses typically preclude higher-value commercial or residential development nearby, and the lower densities generate less employment and lower real estate values than higher density development. Even when significant attention is paid to landscaping and design features, such as is the case with LCP, office users are still often hesitant to locate in proximity to industrial users.

In order to provide an environment targeting industrial users, LCP should continue to operate as a distinct and branded industrial park. If possible, the plan for LCP should be redesigned to create additional industrial lots, and remove much of the planned office space – both because of the incompatibility of office uses with industrial uses, and because there is an opportunity to attract office tenants to a separate and distinct business park, as will be discussed below. It is likely that demand for industrial sites will soon overtake supply in the LCP, and future areas should be identified that can be developed as additional phases.

The current strategy at LCP and other parts of the BOA is to sell the sites. This is a competitive advantage, as regionally the supply of for-sale industrial land is relatively small, at least compared to the supply of multi-tenant space. However, the real danger is that the decision to sell land to individual owners will fragment key areas within the BOA, making it very difficult to enact and enforce design standards and limiting the potential of the BOA to evolve into a higher-value location. Alternatives to selling land parcel by parcel, such as land leases or partnerships with a master developer who can deliver multi-tenant or leased buildings, should be explored. We do expect that much of the industrial space constructed over the next several years will be a relatively interim use, with strong economic pressures in 10 to 15 years to reuse those sites with a higher-value land use. The industrial park model also faces future competitive threats, including the redevelopment of the Bethlehem Steel site just to the south in Lackawanna, and the various brownfield sites on the north side of the Buffalo River (as well as in other parts of the City).

Logistics and Multimodal Facilities. Warehousing and distribution facilities will be a key segment of the industrial demand. There is also a likely regional opportunity to deliver a larger, multimodal logistics facility. The excellent access offered to rail and deep water makes the BOA a potentially attractive location for this type of use. However, major logistics facilities are quite large (between 600 and 1,000 acres), generate relatively little direct employment, and can place significant stress on the local infrastructure (particularly roads). Thus, placing such a facility in the BOA would require using a significant percentage of the area, and would provide relatively little value back to the City. Our recommendation is that such a strategy is not appropriate, and would unnecessarily limit the process of value creation in the BOA.

Ethanol Production and Alternative Energy Research. The grain elevators in and near the BOA have tremendous value as ethanol production continues to climb nationally. One firm, RiverWright, has already purchased some of the grain elevators and plans to build an ethanol plant; the size of the grain elevators will allow RiverWright to store one-third of its annual grain consumption, while most competitive plants are only able to store seven days worth. That storage capacity should allow RiverWright to avoid grain price fluctuations and the costs and delays associated with grain shipments that may affect other competitors. Additionally, the existing plant, rail, and water infrastructure, ready markets for ethanol, and the recent extension of the federal Small Producer Tax Credit will help RiverWright compete effectively.

The strong near-term opportunity exists to expand upon RiverWright's plans and create a cluster of ethanol production. In the longer-term, the potential opportunity exists to leverage the competitive advantages associated with the grain elevators and infrastructure to move even beyond production, and

create an economic cluster focusing on research and development of other types of biofuels and alternative energies.

Business Park. A business park, in contrast to an industrial or commerce park, is defined here as primarily an office development. The initial opportunity in the BOA will take a typical suburban form: single use, one- to three-story buildings and surface parking. This product will compete directly with similar parks in suburban locations, but will offer businesses a closer-in, central location, as well as access to the Empire Zone and other benefits. It is critical that the physical form and marketing effort of the business park is separate and distinct from LCP.

A range of tenant types will likely demand space at a business park in the BOA, including back office management functions and call centers. The employment growth in finance, insurance, collection agencies, and management of companies and enterprises within the Buffalo-Niagara Falls MSA indicates a growing need for these back-office and call center office park facilities. This demand has been confirmed with conversations with various brokers and developers, who indicate that back office supply is low relative to demand. This is especially true of specialized call center space that is not typically offered in suburban business parks; the opportunity to deliver speculative, customized call center space is a potentially strong niche opportunity.

The initial business park opportunity is immediate, as much of this demand exists in the market now. A business park in the BOA should be between 75 and 125 acres, which at a 0.25 FAR would result 800,000 to 1.4 million square feet of office product.

R&D/Flex/Technology Parks. Research and technology parks focus on innovation and high-tech companies, and benefit from the desire of these firms to cluster near each other. Many of these users would also consider locating in a business or office park, but branding and targeted marketing of a research park as a special and distinct concept is a powerful tool. These parks typically can offer a range of building types, from pure office space to multifunctional buildings that combine office space with labs, storage, and sometimes light industrial space.

The 2007 Executive Summary of "Characteristics and Trends in North American Research Parks" by Battelle Technology Partnership Practice profiles a typical research park as 114 acres, having a little over 314,000 square feet of space, including typically 30,000 square feet in incubator space. The typical park employs 750 people, or one employee for every 420 square feet. Many of the research parks surveyed in the Battelle Technology Partnership Practice study were university research parks, but these characteristics are similar to what would be expected of research parks not directly affiliated with universities. R&D facilities can include up to 50% office/dry lab space and the rest of the space as wet lab, workshop, storage, and other support space. Studied examples of these types of parks show a wide range with regard to size, including Rensselaer Technology Park (450 acres) in Albany, New York, and Research Triangle Park (7,000 acres) in Durham, North Carolina.

Most of the existing research parks are built in a low-density, single-use suburban style. However, the current trend is to place these research centers back into urban environments, such as the Mission Bay project in San Francisco. The tenants of a research park are dependent on their human resources, so attracting and retaining the best and brightest is of paramount importance.

This land use type is particularly relevant for several key emerging economic sectors regionally, including alternative energy research, commercialization of life sciences research, and additional research and development facilities that spin-off from local universities. The attractiveness of the BOA location

for these types of tenants is not intuitive, especially since the perception (and often reality) is that such users would want to cluster much closer to the UB campus or BNMC, and that the current trend is moving these uses back into urban places.

Certainly, any opportunity at the BOA can and should not compete with current or planned efforts by UB or its partners to create a vibrant life sciences cluster downtown. However, there is a likely niche opportunity that can locate in the BOA which will support the activity around the BNMC campus. This niche is to provide lower-density, flex R&D space that can or won't locate downtown. The BOA can serve as a logical location for those nascent and established firms who need this type of space, want to be located in an emerging private R&D cluster, and also want access to various financial incentives. In this vein, there may be an opportunity to work with UB and the BNMC to set up incubator flex and production space, for firms that have progressed beyond research to production, but still are in need of lower cost space options.

A research park concept in the BOA is envisioned at a smaller scale than is typical, given the niche nature of this opportunity. We recommend a project in the size of 50 to 75 acres (550,000 to 800,000 square feet) be considered as a first phase, with future phase dependent on proven depth of demand. We expect this opportunity to evolve and strengthen over time, and likely will reach a critical market momentum that will allow for market deliver within the next 10 years.

Research and Education Cluster. A key part of the success of the research park concept will be the extent to which the BOA can establish a brand as a location with strong commitment to research and the knowledge economy. We do believe an opportunity exists for the City to work with the State, UB and other institutions along the I-90 Research Corridor (and potentially in Canada) to create a center dedicated to some aspect of scientific research on sustainability (life sciences, alternative energy, brownfield remediation). The natural location for this cluster would be the Tifft Nature Preserve, which could add an educational component to the cluster by providing a more full and complete museum experience on the site. While there are already educational opportunities at the Gardens and the Tifft Nature Preserve, additional funding could enhance such programs.

Waterfront District. Market opportunities for development along the waterfront in the BOA will be limited in the near and mid terms, given the significant number of waterfront projects already in the pipeline. However, over time, we expect that both the lake and river waterfronts will develop into higher-density, mixed-use cores. In the meantime, the plan should help the transition of the waterfront away from industrial uses into recreational uses.

Urban Office Core. Urban office cores provide higher density development than office parks, a greater mix of uses, and a truly urban environment. These areas also typically command higher real estate values because of their central locations and higher density development.

The BOA's proximity to Downtown Buffalo and the South Park neighborhood, and its potential for capturing employment in high-growth industries presents an opportunity for the BOA to evolve into an intown office core. This opportunity, however, is a long-term opportunity that will build off of the market momentum created by success of lower-density commercial concepts, as well as the continued progression of nearby, non-CBD intown office markets, such as the Larkin and Cobblestone districts just north of the site. These districts will continue to grow and capture additional demand in the future, developing into larger mixed-use cores, and eventually spinning off demand to nearby areas, including potentially the BOA.

As said, this concept, which represents a longer-term opportunity (likely 20+ years) is dependent not only on the success in creating positive market momentum in the BOA, both in terms of market performance of other commercial product types, but also the creation of a vibrant and exciting recreational foundation, which will make the area a desirable place to work.

Neighborhood Retail. Given the low employment and relatively isolated neighborhoods nearby, there is currently limited retail demand within the BOA, although there potentially exists an opportunity to deliver an upgraded grocery store and local-serving retail cluster in the area, given the relatively poor quality of the existing neighborhood retail stock. Still, significant new investment in retail will require market momentum throughout the BOA, as retail developers and retailers are unlikely to develop interest until the BOA shows real signs of significant redevelopment. Retail development almost always follows not leads.

Particularly as the BOA begins to attract businesses and their employees, we project that there will be strong support for a small concentration of local-serving retail and restaurants. The key will be attracting businesses that bring a higher density of employees than typical industrial uses. A typical employee generates demand for between 10 and 12 square feet of retail space, assuming a healthy range of retail offerings. If only smaller-scale retail is feasible, the support per employee drops to 6 to 8 square feet. Low-density employment created by firms such as CertainTeed and Cobey, where a job is only generated every 1,000 to 1,500 square feet of facility, do not demand significant retail offerings. Office or R&D uses, with an employee every 200 to 500 square feet, generate much more significant support.

In addition to concentrating around households and employment cores, retail also locates where the traffic is heaviest. As development occurs in and around the BOA, the intersection of Abby and Tifft Streets could serve as a potential node for retail and neighborhood services. Although this location doesn't have a strong existing traffic county, only 7,000 crossings daily, it will be able to capture additional retail demand generated by businesses in the BOA and increased visibility of the neighborhood.

Housing. The demand for housing is driven by the economic state of a region and local market, and generally is dependent on the creation of jobs. Today, the housing market in Buffalo is weak, as the area loses households and vacant housing is a persistent problem. When considering multifamily housing, the market depth is limited by very low barriers to entry to single-family homeownership. Current and future housing developments along the waterfront and in other areas of the city have shown that established urban areas can have some success attracting consumers, but even projects in good locations are still needing subsidies to make projects work.

We expect limited demand for new housing in the BOA in the near and mid terms. Over time, as the area evolves, housing as part of a mixed-use core(s) could be supported, especially along key waterfront sites.

Hospitality/Recreation/Education. Naturally beautiful and aesthetically pleasing assets can drive demand for hotels and conference/event space. Open space and parks offer such natural beauty and also increase visitors, thereby creating a potential need for event venues and/or hotel stays. Playfields and public fields provide the community and its citizens with places to gather. Educational facilities within parks and nature preserve help to fund improvements at such sites and also make the sites more interactive and interesting, thus drawing additional visitors.

There are four active parks within the South Buffalo BOA, including South Park, George J. Hartman Playfields, Okell Park, and Boone Park. One parcel in the Lakeside Commerce Park is designated for future park/open space. Additionally, the Tifft Nature Preserve is part of the BOA. Within South Park, the Botanical Gardens conservatory and grounds add more beauty. In all, these parks and open spaces total approximately 474 acres.

Several case studies demonstrate that unique recreational and cultural amenities, such as the Antique Boat Museum in the Thousand Islands, NY or the Tower Hill Botanical Gardens in Massachusetts, can be combined with meeting space to become a tourist and business destination. Similarly with the Beaver Hollow Conference Center in Java Center, NY, these attractions use their unique identity and amenities to become successful hospitality, education, recreation, and tourism centers.

The Buffalo and Erie County Botanical Gardens Society, operator and manager of the botanical grounds, is now developing a 10-year Master Plan that includes construction of an Orangerie. The Orangerie will draw users for private, public, and special events as well as banquets and special collections. Offering limited accommodations in the beautiful surroundings will increase the drawing power of the facility.

Hospitality and recreation uses within the BOA should capitalize on the area's existing strengths to create a unique identity, allowing it to capture some of the regional demand for meeting space and unique hospitality venues. There is an opportunity in the midterm to leverage the Orangerie and the BOA's other recreational amenities in order to deliver a boutique hotel product. The revenue collected from the hotel operations could help to fund improvements within the gardens and the surrounding areas.

Key Findings

The market analysis reveals an array of new use opportunities in the BOA. These new uses range from lower value, low employment density interim uses to higher value, high density employment long term uses. To ensure the BOA realizes its full potential, planning for the long term is essential. This includes guiding early decisions on what interim uses are appropriate for the BOA and where they should be located, as well as protecting land that has the capacity to yield highest returns over the long-term. Further, the City should engage in a long term strategy to build partnerships with the BOA community and other actors driving Buffalo's emerging economic sectors, including the Tifft Nature Preserve, the Buffalo Olmsted Parks Conservatory, and the University of Buffalo.

3.4.6 Redevelopment Strategy

A redevelopment plan should respect near-term wants and needs – in particular the desire to better compete for a share of regional economic activity and to utilize fallow brownfield sites in the City – but should not do so at the expense of long-term, sustainable economic growth. In summary, the Economic and Market Trends analysis reveals strategic guidelines that should be incorporated into the strategy for the BOA to ensure long-term opportunities are not lost.

Place the BOA in the broader context. The types of land uses that are envisioned for the BOA must fit into a broader economic strategy that focuses on long-term economic resurgence. This requires that the redevelopment plan understands and leverages the regional economic landscape and the competitive advantages of the BOA and City, and does not try to make the BOA into something it is not. It also requires that the effort to redevelop the BOA works in concert with broader economic strategies – the creation of an I-90 Research Corridor, the expansion of bi-national trade, waterfront revitalization, etc.

The BOA as an engine of growth. Rather than focusing on industries that have been declining in the region, or jobs that will likely be located in the BOA for only as long as incentives are available, the goal should be to catalyze economic activity that promotes sectors of growth in the City and region. This means thinking of the BOA not just as "shovel-ready dirt," but as an economic incubator for the City, where nascent growth sectors are nurtured.

Plan for evolution. Economically healthy, sustainable places are constantly evolving. Allowing for evolution within the BOA is especially critical, as long-term opportunities project to be of higher value than the prominent near-term opportunities. In order to allow for this natural evolution, interim uses must be planned to not prohibit other opportunities. It is critical that a disposition strategy of sites does not excessively fragment site control. Wherever possible, the City should consider alternatives to selling land – such as multi-tenant buildings, land leases, or strategic partnerships.

Segmenting is key. The plan for the BOA should incorporate all potential desirable opportunities. However, as is the case with LCP, accommodating a variety of uses in a single project is a challenge, and likely leads to market confusion. Instead, distinct opportunities should be provided in separate projects with unique physical characteristics and marketing approaches. Branding is a powerful tool. For example, branding a new development as a research park sends a much different message than an industrial park designation.

You get what you incent. Incentives are currently and will continue to be an important tool for attracting and retaining businesses in the City and the BOA. But incentives should be targeted towards industries that have the potential for long-term, sustainable growth. Incentives, when they only provide temporary fixes to structure economic dislocation, merely provide short-term benefits, but always fail in the long run. Incentives need not always be financial either – any program or process that eases the cost of doing business is important. For example, by offering "one-stop shopping," or a single point of contact for all of the local tax, incentive, zoning, and employment questions, it will help to entice firms into the area and limit barriers to entry in the local market.

Leverage the existing neighborhood and natural resources. The perception of the BOA is that it is primarily an industrial area. In reality it holds or abuts various resources that are the foundation for a more vibrant place. The various natural features – the lake and river waterfronts, the Olmsted Park, Tifft Nature Preserve – in the BOA are not fully leveraged today, but can and should be as the BOA evolves. The adjacent South Buffalo neighborhood is a potential driver of revitalization within the BOA, particularly as a consumer of potential retail, office, hospitality, housing, recreational and educational projects, but the plan needs to better integrate this neighborhood with the BOA.

Key Findings

It is important for the BOA strategy to balance near-term objectives with the broader goal of supporting long-term sustainable economic growth. To achieve this, the BOA strategy should: be grounded in the regional economic landscape and aligned to the competitive advantages of the BOA and City; catalyze economic activity that promotes sectors of growth in the City and region; ensure the BOA has the flexibility and opportunity to evolve over time; be strategic on where and what uses are situated in the BOA; encourage market clarity and the emergence of a common brand that attracts high value, high density employment; targets available incentives to attract industries that have the potential for long-term economic growth; and celebrate, strengthen and leverage the BOA's many assets to establish its identity as an urban community with special amenities that make it a great place to live, work and visit.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From Analysis to Master Plan

The site's existing conditions and setting, its complex land base, potential market trends and community concerns were fundamental to the shaping of the Master Plan. Throughout the extensive research, analysis and community engagement, several key elements emerged to have significant influence on the Master Plan. These were:

- The Market Analysis, and in particular an examination of projections for appropriate market sectors, potential uses and timing of development;

- Smart Growth Principles, which seek to strike a balance between development and quality of life to ensure that growth is not only financially but socially and environmentally responsible;

- The Master Plan Principles, which are high level statements that will guide economic, development and preservation decision-making for the BOA and which were shaped and adjusted throughout the process and instructed by both feedback and the analysis;

- Development of and feedback on a series of Land Use Development Options which illustrated potential long term development scenarios. The three options were reflective of the identified range of market potential and comments from members of the public and steering committee were instrumental in informing the Master Plan: and

- Steering Committee and Public Input, which was received throughout the process, on line, at informative meetings and public open houses.

4.1 Market Analysis

An extensive market analysis was performed to understand the site within its local, regional, national and bi-national contexts and to establish a theory for change based on a realistic understanding of the site's potential. Although the BOA's history is steeped in heavy industry, a series of market projections, produced as an outcome of the analysis, indicated that in order for the site to reach its full potential it should strive to move beyond these traditional uses and cater to a much broader range of activities over time.

The Master Plan seeks to diversify the land use mix by focusing on a range of realistic market sectors that can be captured by the Site and its potential within the region's economy. It reflects a comprehensive approach to city building that builds on area strengths and assets and incorporates a range of new uses to achieve a long term strategy for both social and economic growth. Based on the Market Projections (Table 4.1), the plan establishes a framework for phasing change, strategically positioning new uses to take advantage of the existing assets of the area and creating opportunities to strengthen the local community through economic growth, environmental enhancement and place-making.

4.2 Smart Growth

In November 2008 the South Buffalo BOA was designated a Brownfields Smart Growth Spotlight Community by Governor David A. Paterson. This designation links the BOA to the Governor's Smart Growth Cabinet, strengthens State support for the future implementation of the plan and establishes an additional funding source for important public sector initiatives. Smart Growth balances the need for economic development with the need to preserve and enhance the built and natural environment, providing a guiding theory for redevelopment of the BOA. If it evolves in accordance with the Master Plan, the BOA will be an exemplary model of Smart Growth development.

Smart Growth advocates long term planning over short term gain and incorporating a range of land uses throughout communities to strengthen transportation choices and place-making. Principles have been developed for the Master Plan which incorporate several Smart Growth concepts, particularly:

- Diversifying the employment base to support greater economic resiliency;
- Fostering distinctive communities to create a strong sense of place;
- Mixing land uses and increasing densities to support existing or future higher order transit service and to discourage sprawl and car dependence; and,
- Preserving open space and critical environmental areas to add ecological and economic value.

4.3 Principles

Ten Principles were developed to address the context, strengths and weaknesses of the BOA and to complement the tenets of Smart Growth. They were refined throughout the analysis and through visioning sessions with input from the steering committee, stakeholders and the general public. Collectively, these principles represent the City's and community's Vision for the BOA.Beginning as Emerging Directions, they became Established Directions, once approved and supported by the City, State, Steering Committee and general public, and became Master Plan Principles once the Master Plan was drafted. They include specific objectives, drawn from the key messages identified in Section 3 and provide a comprehensive foundation for the Master Plan, including land use, design, phasing and implementation directions. The Principles and objectives examine diverse aspects of the BOA,

Short Term Uses (0-5 years)	
Industrial/Commercial Park	• High-tech manufacturing, warehouse & distribution • Leverage brand at Lakeside Commerce Park, rail, road and water infrastructure as a location for green industries • Immediate opportunity, but likely first to transition in later phases to higher value uses through re-urbanization and improved market demand
Business Park	• Generally low-density back office with surface parking (performance criteria are often created to improve quality) • 75 to 125 acres
Recreation	• Athletic Center and Golf Course
Medium Term Uses (5-15 years)	
Technology Park/ R & D	• Generally low-density form, served by surface parking that may transition to structured parking • Initial development: 50 to 75 acres • Requires cooperation between City and research institutions
Hospitality/Recreation	• Conference/event space and boutique hotel • Leverage open space, parks, Tift Nature Preserve, waterfronts or plans for golf course
Long Term Uses (15-25+ years)	
Mixed Use Core	• Higher-value office uses, with appropriate mix of retail and residential uses
Neighborhood Retail	• Locate in high traffic nodes • Initial opportunity: 75,000 – 125,000 square feet with grocery anchor • Retail almost always follows, never leads
Initiatives with Flexible Timing	
Research, Cultural and Recreational Opportunities	• Sustainability Center • Brownfield Remediation research and education • Tifft Nature Preserve – expansion and recreational improvements • Riverfront Center • Expansion of Museum Presence

Table 4.1: Market Projections

such as the economic base and urban design, but also consider how these elements interact, for example, how improved open space and river access may increase land value and development potential. The ten Principles are:

1. Leverage Existing Assets: The natural, open space, transportation infrastructure and neighborhood assets of the BOA can act as catalysts for realizing desired change, strengthening the BOA's competitive advantage and attracting higher value uses to the area. In particular, public land holdings and remediated lands are important assets that, if leveraged strategically, can attract further public and private investment.

Objectives:

- Leverage regional and local competitive assets (such as access to a large bi-national market and an educated workforce) and BOA assets (open space, the waterfront and riverfront, and TIfft Nature preserve) to attract and retain growth industries and skilled workers
- Capitalize on the opportunity afforded by the BOA's large size and proximity to downtown
- Set the direction for the land use pattern and quality of place for the BOA through strategic development of vacant publicly owned lands
- Celebrate the BOA's historic assets as an authentic characteristic that will distinguish the site and attract visitors and new industries
- Leverage the existing transportation infrastructure to support new economic initiatives

2. Diversify the Economic Base: The BOA should actively cultivate a range of uses and use clusters that build upon emerging regional growth industries, can leverage existing assets and ultimately support long-term sustainable economic growth. These use clusters have the potential to draw out new synergies and catalyze further regeneration and create resiliency in times of economic recession.

Objectives:

- Orient the BOA economic strategy towards new directions that support regional economic drivers and reflect locally and nationally growing economic sectors instead of competing to attract stagnating industries
- Foster economic sectors that support diverse careers, including higher paying jobs
- Preserve lands designated empire zones to attract higher employment industries and uses
- Capitalize on environmental assets as the building blocks to differentiate the BOA as a sustainable community design and development opportunity and demonstration site

3. Enhance and Leverage the Natural Environment as a Key Asset: Fostering a clean and healthy natural environment should continue to be a priority within the BOA. A healthy functioning environment is important not only for enhancing the quality of life of area residents and employees but also for continuing to support the many diverse species and unique habitats of the BOA.

Objectives:

- Strengthen each component of the park and open space network, including restoring South Park to revive Olmsted's vision, establishing a new sustainability center connected with the Tifft Nature Preserve, and encouraging the riverfront and lakefront to evolve into an active armature of recreation and economic activity
- Plan development that contributes to conservation and renewal initiatives within the waterfront, nature preserves, and public parks in the BOA
- Add new natural heritage elements and systems to link disconnected open space areas and improve existing natural features such as the waterfront or Tifft nature preserve

4. Create a Strong Market Brand: A focus on the green economy, innovation, commercialization, place-making and city building would help to rebrand the BOA as a high-value area and transform negative perceptions of the area.

Objectives:

- Build an identifiable brand that attracts uses appropriate to the BOA's urban location
- Coordinate land use decision-making and investment to re-brand the BOA as a place of nature, sustainability and recreation
- Manage land use decision-making and phasing strategically when determining what uses are appropriate for the BOA, and deciding how and where these uses should be sited, balancing near term objectives with long term sustainable growth
- Upgrade existing and plan new infrastructure (energy, water, heat, waste disposal and stormwater services) with a high performance environmental standard to support the brand of the BOA

5. Prioritize Investment in the Public Realm: Strengthening the public realm promotes place making and provides a renewed and attractive physical setting needed to capture desired new investment. Strategic investments in the public realm should celebrate the heritage and unique qualities of the BOA, improve connections across and to the BOA, advance economic and tourism goals and improve the image of the area and access to the Riverfront.

Objectives:

- Invest in improved and new public spaces including parks, streets and community facilities to renew the BOA's sense of place
- Invest in new open space linkages and pedestrian and bicycle paths that traverse the BOA, connect the area's open space assets and link to the adjacent communities, including greenways between South Park, the Tifft Nature Preserve, the future Union Ship Canal park, the lakefront and the riverfront
- Develop an integrated public road network to provide access to isolated areas of the site

6. Promote High Quality Urban Design and Place Making: Success in the BOA will rely on its diversity of uses and the character of its intentionally created places, set within a high quality urban environment. The BOA should evolve as an urban destination, distinct from environments found in more suburban locations. Adopting a culture of high quality design will set high expectations for new investment in the BOA, prioritize the strengthening of the area's sense of place and help to achieve an urban character appropriate to the core City.

Objectives:

- Diversify the land uses located throughout the BOA to build a complete urban community
- Ensure that development in the BOA contributes to its redevelopment as an urban place
- Pursue design excellence for buildings, the landscape and the public realm

7. Foster Collaboration and Partnerships: BOA success will depend upon the collaboration and coordination of many people and agencies, including state and regional departments, the City, private sector investors and the local community.

Objectives:

- Actively build partnerships with public and private individuals, agencies and businesses within the BOA community and amongst regional and local growing sectors
- Demonstrate commitment to the BOA by working with public sector partners to lead its redevelopment
- Maintain an on-going collaboration and dialogue with the community
- Leverage the BOA nomination process to better understand the state of contamination of strategic sites

8. Provide Benefit to Neighboring Communities: The redevelopment of the BOA should significantly benefit surrounding communities through targeted renewal and streetscape initiatives. It should fill gaps in local services and housing, strengthen connections to the BOA, improve community amenities, and generate new training and employment opportunities that deliver greater prosperity.

Objectives:

- Ensure that the redevelopment of the BOA supports and respects the surrounding City, particularly areas that abut existing neighborhoods
- Allow for the range of jobs connected to the BOA's proposed diverse economy to be actively promoted to South Buffalo residents
- Invest in community assets that strengthen access and provide new facilities for residents

9. Plan for the Long Term: Short term activities should not preclude long-term goals. Decisions must consider long-term impacts to place-making and ensure the achievement of the vision. Interim uses must be carefully considered such that they do not preclude the BOA's transition to higher value uses or impact the potential of adjacent properties. Development must be compatible with the vision and incentives must be targeted accordingly.

Objectives:

- Put a framework in place that plans for the short term, the long term and incremental change between the two but flexibly allows for opportunities to be pursued as they arise
- Promote strategic land use decision-making by:
  - supporting both office and industrial uses, but site them in appropriate areas to ensure they do not impede longer term land use decisions
  - planning for a full range of uses in the longer term, including higher value uses such as residential

10. Establish a Range of Implementation Activities: Due to its size, the BOA will be developed over time. A range of targeted implementation activities, managed by the City and including on-going policy changes and partnerships with state and federal agencies, will be needed to achieve the Master Plan. Many of these actions will be identified in Step 3 of the BOA program.

Objectives:

- Identify actions, such as establishing performance criteria for development and conducting feasibility studies and master planning exercises, that will be tied to specific projects, ensuring that strategic initiatives are successfully implemented

4.4 Land Use Development Options

As an outcome of the background review and analysis phase, three Land Use Development Options ("Options") were created. The three options were based on the Master Plan Principles and reflective of the analysis presented in Section 3. Each demonstrated an achievable long-term redevelopment scenario over a 25 year planning horizon. The intent was to illustrate to the general public and stakeholders what the BOA could become assuming various degrees of economic and land use diversification. These were described as "Option 1 - Modest Diversification", representing an increase in the current diversity of uses, "Option 2 - High Diversification" representing a much greater diversity of uses and higher densities and "Option 3 -Greatest Diversification" which represented a substantial shift in land use and development patterns.

Taken together, the scenarios offered:

- a range of built form and density across the BOA;
- an alternative mix of commercial, residential, institutional, industrial and recreational uses;
- alternative street and block patterns based upon various degrees of diversification/ intensification;
- a mix of development parcels;
- varying degrees of environmental and open space enhancement; and,
- a series of mobility networks ranging from a highly connected street pattern with a range of mobility options to a less connected network with more traditional patterns of movement.

The three options helped to demonstrate the many tough choices to be made, including the challenge of balancing short-term needs and long-term opportunities. Refined with the help of the client and steering committee and assessed against the Master Plan Principles, the three scenarios were presented to members of the public for input and discussion. Following feedback, a preferred scenario - The Master Plan - was created. It represented a combination of approaches and elements drawn from the three scenarios rather than a strict selection of one of the Options. Highlights of the three Options are summarized below followed by a brief explanation of the evaluation that was conducted to compare the Options.

4.4.1 Option 1 - Modest Diversification

Option 1 (Map 4.1) builds on the current land use characteristic of the BOA and envisions a primarily traditional Industrial land use mix with an emphasis on "green" manufacturing. This option has the least diversity of land uses with a focus on Warehouse, Industrial and Business Parks and limited opportunities preserved for higher value land uses such as Signature Office, New Residential, and R&D. Many of these types of uses reflect recent investment on the site and could be realized in the near to medium term.

Riverfront

- A largely industrial riverfront with an expanded Alternative Energy campus and Deep Water Port;
- A Bird Sanctuary offers some opportunity for River habitat improvement; and
- A Mixed Use Core capitalizes on the South Park Avenue frontage, the river and proximity to the downtown.

Lakefront

- New Residential and Signatures Office nodes are located directly outside the BOA and linked by a lakefront open space and Fuhrmann Blvd.

Rail Corridor

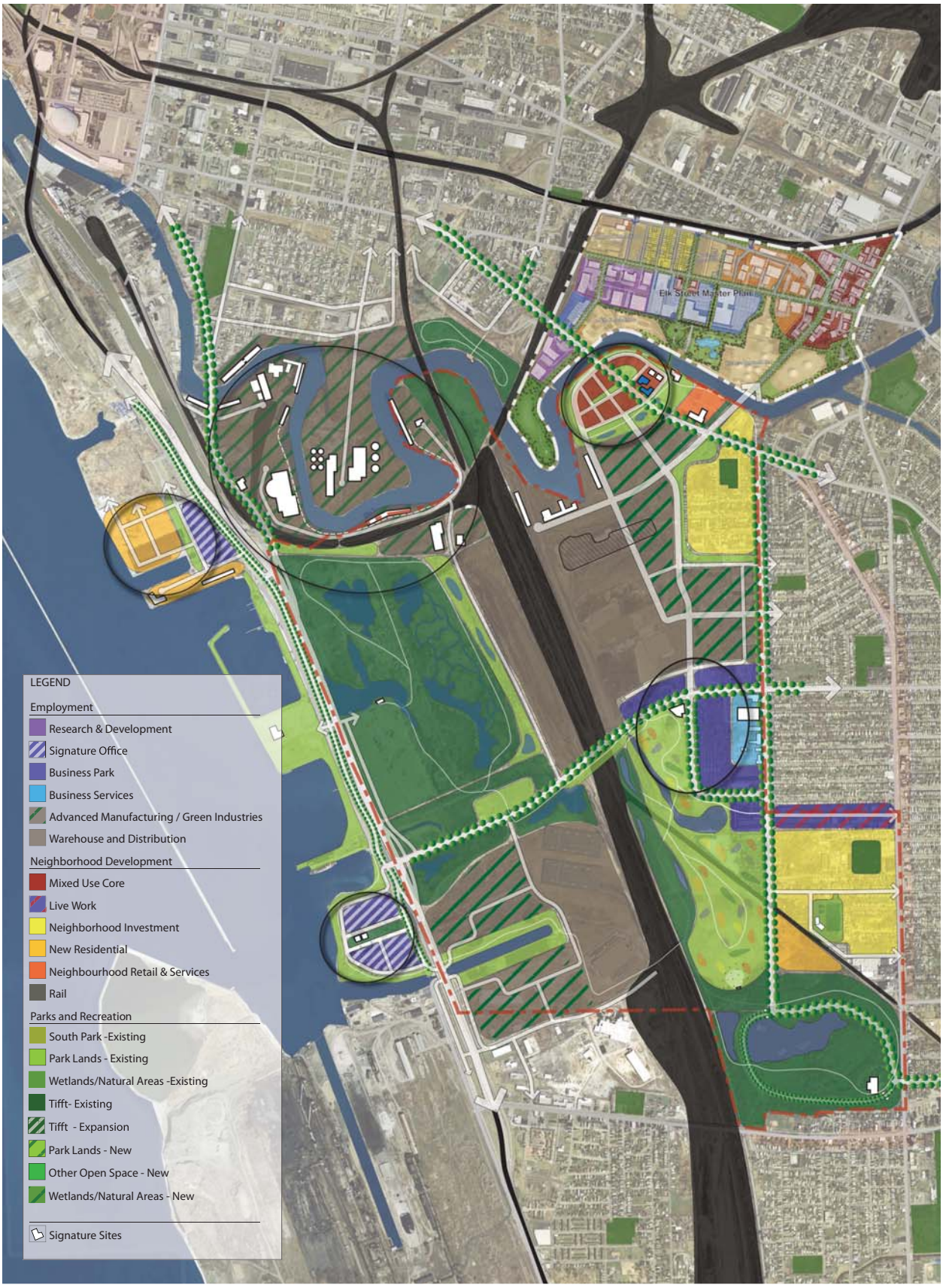
- Extensive land is reserved for Warehouse and Distribution which takes advantage of the BOA's proximity to the rail corridor and the Deep Water Port.

Hopkins Street Corridor

- Green Industries and a modestly scaled Business Park create some employment diversity for the neighboring community.

Infrastructure and Open Space

- Route 5 is maintained as planned with new east-west linkages and improved access to the lakefront from Fuhrmann Boulevard;
- An improved Tifft Street enhances this main vehicular and pedestrian connection to the lake;
- The proposed density is insufficient to support a strong transit link to the downtown; and
- The scenario presents the least amount of open space of the three scenarios however a small Tifft expansion and new grasslands destination open space, improves linkages and recreational opportunities for the BOA.



Map 4.1: Modest Diversificiation Option

4.4.2 Option 2 - High Diversification

Option 2 (Map 4.2) diversifies the land use mix. Of the three scenarios it places the greatest emphasis on Business Parks and Business Services which it supplements with significant investment in new parks and open spaces. The diversity of land uses in Option 2 allows for a range of employment, recreational and residential opportunities and creates significant potential for sustainable economic growth over time.

Riverfront

- A modest Alternative Energy campus and Deep Water Port maintains the industrial focus of the River;
- The Industrial function is balanced by an expanded Bird Sanctuary and other preservation and recreation initiatives on both sides of the River; and
- The Mixed Use Core is expanded to include an Athletic Center and Signature Office uses.

Lakefront

- A Mixed Use Core, New Residential, R&D and Signature Office nodes allow for a diverse lakefront experience, connected by an active waterfront park; and
- Some business service uses diversify the employment base at Lakeside Commerce Park.

Rail Corridor

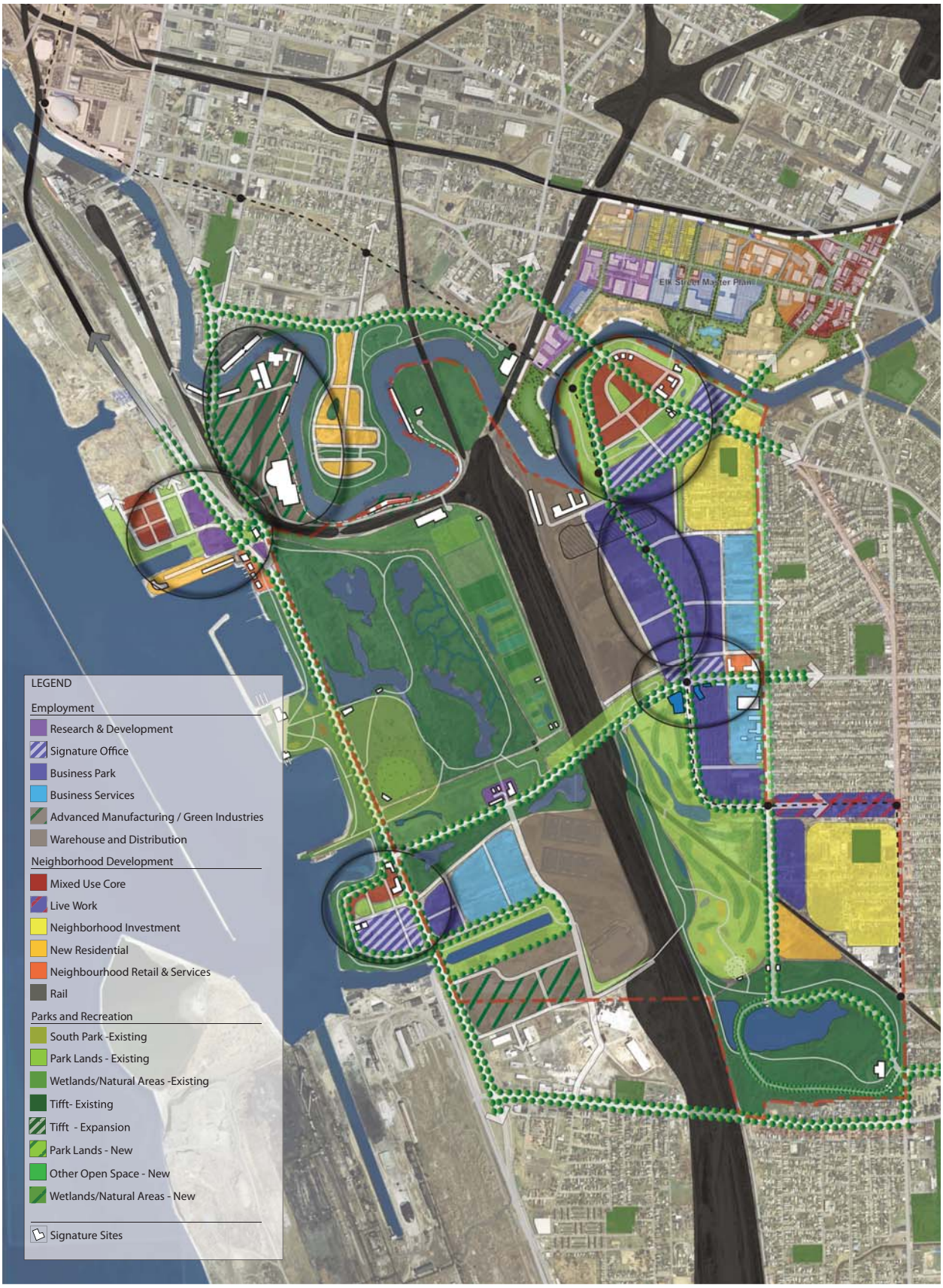
- Modest Warehouse and Distribution on the east side of the corridor takes advantage of the proximity to rail corridor and Deep Water Port; and
- On the west side of the corridor, a focus on natural areas, new open spaces and bio-remediation testing, shifts the emphasis away from traditional industry.

Hopkins Street Corridor

- A large Business Park including Hotel and Conference Center, Business Services and Retail helps to diversify the employment opportunities for the existing neighborhoods.

Infrastructure and Open Space

- Route 5 is reconfigured into an at-grade boulevard allowing for improved physical connections and greater land use synergies between the lakefront and the BOA;
- The potential density of Option 2 is likely sufficient to support a higher order transit connection to the downtown; and
- The enhancement of natural areas and recreation opportunities, including a significant expansion to the Tifft preserve, a 9-hole golf course and a network of waterfront parks creates a strong identity for the BOA.



Map 4.2: High Diversificiation Option

4.4.3 Option 3 - Greatest Diversification

OOption 3 (Map 4.3) proposes the most balanced mix of land uses for development, habitat restoration and recreation in order create the highest potential for sustainable economic growth over the long term. While significant land is reserved for a range of Industrial uses, a large Business Park, R& D campus as well as new Residential and Live-Work opportunities in a series of high value Mixed Use Cores, broaden the land use mix.

Riverfront

- No Deep Water Port is proposed;
- A modest Alternative Energy campus combined with a large Bird Sanctuary and preservation and recreation initiatives on both sides of the River shift the focus from industry to habitat restoration and recreation; and
- A Mixed Use Core and R&D Campus capture value of this riverfront.

Lakefront

- An active waterfront with employment, residential and recreational opportunities is fully integrated with a modest expansion of the Tifft Nature Preserve; and
- The focus for Lakeside Commerce Park shifts from traditional industry to Mixed Use Core, Live/Work and green industry.

Rail Corridor

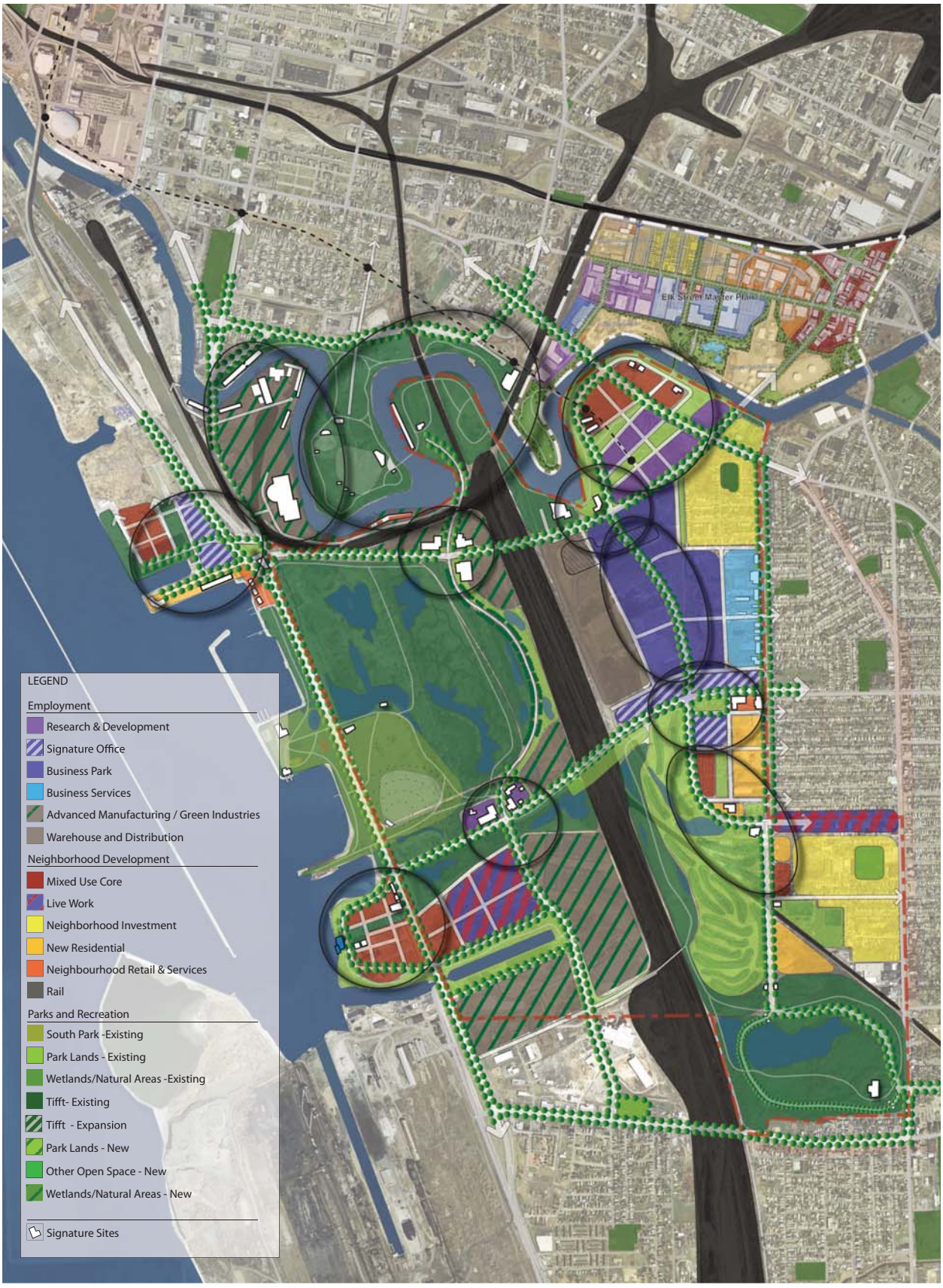
- Green industry and Warehouse and Distribution support the rail corridor but an expansion of the Tifft preserve balances the industrial emphasis; and
- A new land bridge is proposed to strengthen the Tifft Street connection across the rail corridor.

Hopkins Street Corridor

- A Large Business Park and Signature Office uses create higher paying employment opportunities.

Infrastructure and Open Space

- Route 5 is reconfigured into an at-grade boulevard allowing for improved physical connections and land use synergies between the lakefront and the BOA;
- A new east-west boulevard south of the riverfront, anchored by high value nodes at Riverbend and on the lakefront help to further integrate the BOA with the lake and enhance transportation linkages to the east;
- The potential density is sufficient to support a higher order transit connection to the downtown; and
- Significant investment in natural and recreational spaces is proposed including the greening of the riverfront, an expansion of Tifft and an 18 hole golf course.



Map 4.3: Greatest Diversificiation Option

4.4.4 Evaluation

The evaluation of the Land Use Development Options, presented to the both the Steering Committee and the public, consisted of both a qualitative and a quantitative analysis. The qualitative evaluation consisted of measuring the Options, in relative terms, against the Master Plan Principles, classifying as low, medium or high the extent to which the Option supported each Principle. The quantitative evaluation was a high-level assessment of how well the Option satisfied factors significant to the City, such as total new property tax gains, and number of residents and jobs. The main outcome of the evaluation was that Options 2 and 3 best satisfied the Principles and would yield the greatest tax revenue and highest number of new jobs and residents. This was primarily due to the fact that Options 2 and 3 were comprised of greater land use diversity, and anticipated higher value non-residential and residential uses. Both options had the potential for long term city and regional economic benefits, while maintaining and improving open space and natural assets throughout the BOA.

4.5 Steering Committee and Public Input

As detailed in the Community Participation Plan in Section 2, the Master Plan and the analysis that led to its creation were the focus of 9 Steering Committee Meetings and 5 Public Open Houses. The Land Use and Development Options, in particular, were the focus of several meetings. The consultant team extensively reviewed the Options and their evaluation with the City, State, Steering Committee, stakeholders and the community. The purpose of the consultation sessions was to facilitate a discussion about the directions for the Master Plan, rather than to specifically select one of the three Options. Many of the comments provided during these sessions indicated almost unanimous agreement on a number of directions including:

- Diversifying the economy with a range of employment types: green industries, warehousing/distribution, business parks and services, tourism/recreation and mixed uses;
- Branding the BOA as a focus for green industries, technologies and practices;
- Strengthening the existing community through improved street connectivity and mobility alternatives (transit, bikes, pedestrian paths), the provision of high paying employment opportunities and access to new and enhanced recreational opportunities across the BOA (such as on the Riverfront, Lakefront, landfills, South Park and Conrail lands);
- Seeking partnerships with educational institutions to create R & D, an incubator, brownfield remediation facilities and green industries; and
- Promoting place-making by emphasizing higher value uses in certain locations such as a Mixed Use Core with residential, retail, R & D and commercial uses on the Riverbend Peninsula and a commercial hub at the Hopkins/Tifft intersection.

Differing opinions were infrequent and generally limited to:

- The degree to which environmental preservation and economic development should be balanced; and
- The pursuit of some of the more ambitious ideas, specifically planning for a broad diversity of uses and a light rail transit link to downtown, where some participants supported the innovation of the vision while others were concerned these initiatives may not be achievable.

Overall, Options 2 and 3 were generally preferred and a Master Plan was developed which:

- Represented areas of consensus from members of the Public and Steering Committee and generally reflected the more ambitious approaches of Options 2 and 3;
- Resolved uncertainty concerning economic diversification by permitting a range of land uses which could be developed as the market permits;
- Integrated performance criteria as a requirement for development, thereby promoting higher quality built form and urban design than has traditionally been present in the BOA; and
- Planned for the protection and enhancement of the BOA's natural assets (the Riverfront, South Park, Conrail lands and the Tifft Nature preserve) but ensured that economic opportunities were not extensively hindered and able to benefit from a rehabilitated natural setting.

Aerial rendering of the potential build out of the Riverbend area

5

The South Buffalo BOA Master Plan

The South Buffalo BOA Master Plan represents the culmination of the extensive analysis and consultation that occurred between November 2007 and April 2009. It establishes a framework for the transformation of the BOA into a higher value employment area complemented by a mix of new uses, strengthened neighborhoods, significant new open spaces and natural area enhancements. The Master Plan Principles, described in Section 4.3, emphasize the significance of the BOA's assets and re-affirm the necessity of a long term view. These Principles provided direction and structure throughout the analysis and the development of the Master Plan.

As part of the on-going analysis, the three Land Use Development Options, described in Section 4.4, were developed and assessed with consideration of these Principles. Based on the feedback received from the client group, the steering committee and the public, and adherence to the Principles, the preferred characteristics of the Options were combined to establish the Master Plan. It refines the layout, open space enhancements, and physical, social and place making characteristics of the Options and presents the most logical land use, transportation and market solutions for the BOA.

The South Buffalo BOA Master Plan is organized as follows:

- Prevailing Themes: These describe the principal structuring elements of the Master Plan;
- Land Use: This identifies the location and range of land uses that are permitted within the BOA;
- Development Performance Criteria: These are guidelines and standards that set the parameters for appropriate form and character of development;
- Precinct Areas: These represent smaller areas within the BOA, each with a definable role and character;
- Phasing: This outlines the estimated phasing of development including the timing of completion of public sector initiatives;
- Economic, Environmental and Community Benefits: This provides a summary of the main benefits that will accrue to the City from redevelopment of the BOA as depicted in the Master Plan; and
- Key Recommendations: These are a series of recommendations that will serve as the basis for the Brownfield Opportunity Areas Program Implementation Strategy for the South Buffalo BOA.

5.1 Prevailing Themes

The Master Plan Principles informed the land use, transportation and market solutions for the BOA. The Master Plan has several prevailing themes, drawn from the Principles, which highlight the place-making and physical characteristics of the BOA. These structuring elements emphasize growing economic sectors, the natural environment, new communities and 'Main Street' corridors. The following section details the thinking behind core themes. Potential land uses focus on achieving greater long-term employment diversification and sustainability, with emphasis on green industry, business parks and R&D throughout the BOA, sectors which have significant growth potential and offer higher value employment opportunities as determined by the market analysis. A concentration of these uses has the potential to brand the BOA as the regional center for sustainable research and methods of production to support on-going competitiveness of 'leading edge' green industries.

The natural environment is preserved both for its intrinsic worth and for the value it creates as an attractive setting for development in adjacent areas of the BOA. Hundreds of acres of connected open spaces, both enhanced and new, will establish an identity for the BOA as a place for nature and recreation. The Buffalo River, one of the BOA's most significant assets, is positioned as a model for both development and preservation as industrial uses and a port facility are maintained along the River's edge while still permitting extensive rehabilitation of much of the riverfront.

The highest value areas and most complex land use patterns are designed as mixed use communities comprised of residential, commercial and retail uses adjacent to significant open space features. These communities are centered on re-designed 'Main Streets' that provide a vibrant corridor for new neighborhoods, civic, cultural and economic exchange, and improve access and movement to and throughout the BOA.

A series of maps, 5.1. to 5.3, illustrates the core underlying structure of the Master Plan, highlighting the land use, build out and open space potential of the BOA.

High Environmental Performance and Economic Resiliency

The BOA is at the center of Buffalo's Green Belt, an area stretching from Buffalo's downtown in the north to Lackawanna in the south. The area boasts a strong work force, beautiful scenery along Lake Erie, significant available development lands and progressive businesses. Initiatives underway in the Green Belt include: RiverWright's existing ethanol storage and production plant and proposed use of the historical grain elevators for biomass handling (Map 5.1); Honeywell's efforts to create a green alternative for automotive air conditioner fluid; and, renewable energy generation from eight state-of-the-art wind turbines on the Steelwinds site.

The BOA Master Plan builds on this activity and strengthens this emerging "green" cluster through initiatives such as a potential waste to energy facility, wind and solar power generation, advanced recycling and the creation of a Brownfield Center; a broadly defined, multi-purpose Center which could foster partnerships with educational institutions, support remediation research, provide skills and training for green industry jobs and act as a sustainability resource for the community. As cornerstones of the new BOA economy, these industries will integrate the BOA within and create synergies with the Green Belt. In addition, green development and maintenance standards for buildings, servicing, parking and landscaping are encouraged for all new developments.

The economic success of the BOA will depend upon redevelopment strategies that leverage near-term opportunities while positioning the BOA for more sustainable long-term growth. The BOA

possesses distinct assets and market opportunity that, if carefully managed, can create an identifiable brand for the BOA. These can be leveraged to transform perceptions, support place making initiatives and attract new employment and research activity. Gradually, as the BOA transitions from an underutilized industrial area into a competitive regional employment center, higher value uses will be developed. This long-term orientation of BOA renewal requires the City to direct incentives towards industries that have the potential for sustained growth, rather than towards industries that remain only as long as incentives are provided.

Emphasis on Employment

The land use strategy positions the BOA to capitalize on the economic strengths of the City and the Region. The strategy allows for a breadth of land uses that will support new jobs and higher salaries. In order for the BOA to be an engine of growth, the Master Plan anticipates that appropriate growth industries and priority initiatives, particularly within the new knowledge-based economy, green industries, R & D and business park uses, are targeted with public sector investment. Early successes will be strengthened by the ability to co-locate and strategically phase uses to achieve the greatest land use synergies and create an identifiable brand.

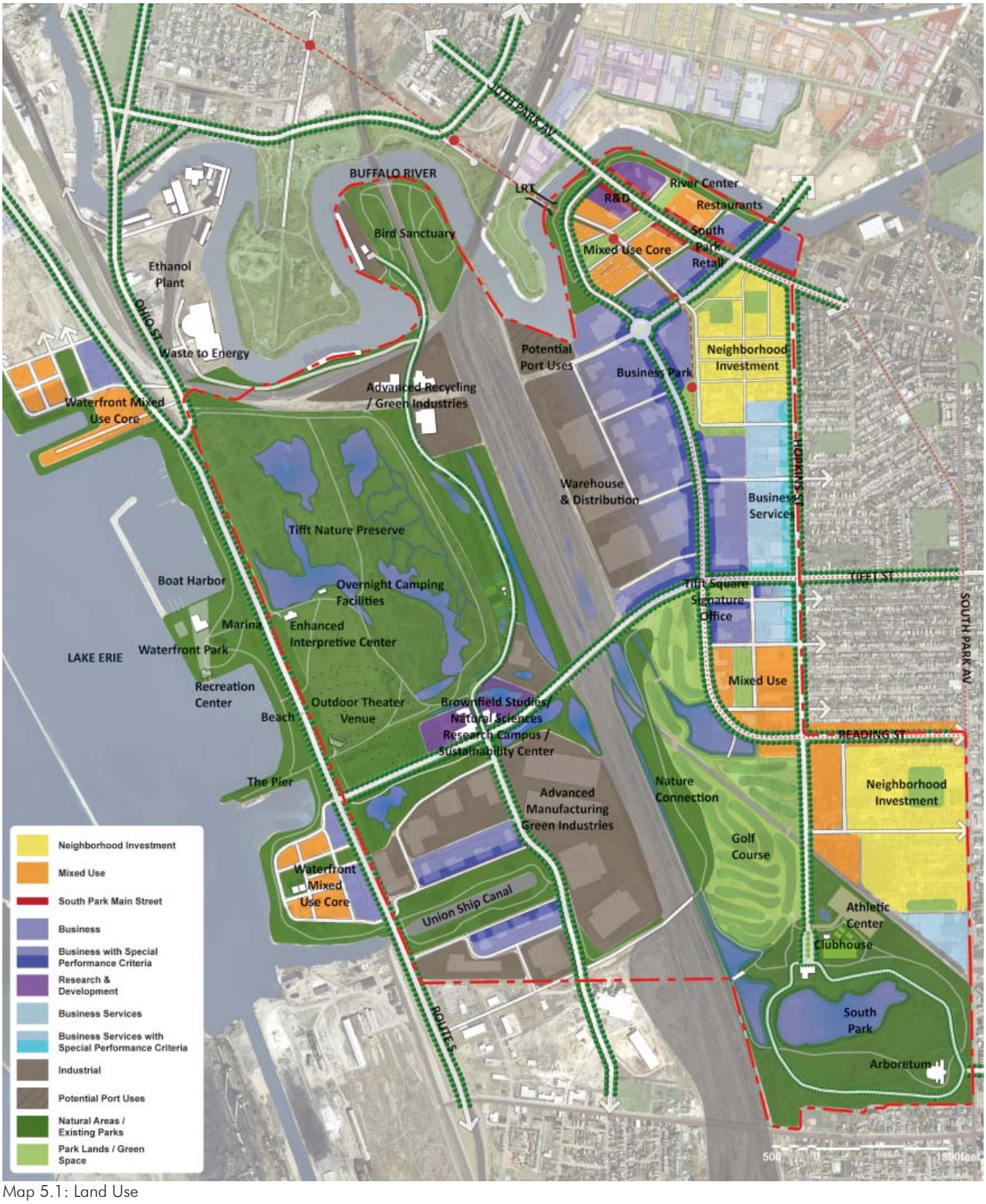
In response to market demand and the particular infrastructure resources of the site including rail, road and water access, approximately half of the employment land in the BOA is reserved for industrial uses, including green industries, advanced manufacturing, warehousing and distribution (Map 5.1). These uses are situated in Lakeside Commerce Park and Riverbend in close proximity to essential infrastructure including the rail corridor and port, but away from residential neighborhoods and lands with the potential for higher value uses such as the Riverbend Peninsula and Riverbend Drive.

The remaining employment areas are expected to be developed as high quality urban destinations and include new business parks, business service areas and R & D uses. While some employment uses, such as R & D, may take longer to develop than more traditional industries, they will help to diversify the employment base, offer significantly higher salary potential, and possess greater economic resiliency and diversity for the BOA's and the City's economy. Additionally R & D connecting to green industry initiatives, alternative energies and state of the art Brownfield remediation will create synergies with envisioned industrial areas and has the potential to establish Buffalo as a leader in the green technology industry.

Strong Places and Mixed Use Communities

The Master Plan prioritizes good urban design through the proposed development of performance criteria to foster a desirable sense of place, ease land use restrictions and establish a more compact form of development, attractive streets, an improved public realm and green linkages.

These features are most encouraged in the Riverbend Peninsula and in the mixed use community centered on the Hopkins Street/Reading Street intersection (Map 5.2). These communities take advantage of proximity to natural assets and each is served by a 'Main Street': Riverbend Peninsula is adjacent to the Buffalo River and centered on South Park Avenue; Hopkins/Reading is just north of South Park and east of the golf course and is focused on Hopkins Street. Riverbend Peninsula will be further reinforced as a high value area as it is planned to be served by a higher order transit link to downtown. Mixed use communities are also envisioned along the waterfront but are beyond the scope of the South Buffalo BOA and should be explored further in future BOAs planned for the lakefront and Outer Harbor.



Map 5.1: Land Use

Map 5.2: Demonstration of Build-Out Potential

Complete Streets along Hopkins Street, Tifft Street and Riverbend Drive

The current relationship between the BOA and adjacent neighborhoods is poor. The neighborhood is bordered by derelict lands and there is limited connectivity west into the BOA, with only Tifft Street leading to the lakefront. The BOA Master Plan seeks to strengthen this relationship by extending the neighborhoods west into the BOA and creating new and improved lakefront and River connections. Although additional crossings over the rail corridor are envisioned only in the long term, the Master Plan anticipates that the Tifft Street bridge will be improved early on to create a more generous, inviting and safe crossing of the rail infrastructure below for pedestrians and cyclists. Combined with streetscape improvements, Tifft Street becomes a welcoming route, enhancing access to the lakefront for bikes and pedestrians. Similar improvements to Reading Street allow for an additional east-west connection to the community (Map 5.2).

Over time, Hopkins Street will be strengthened with new low to mid rise business services type uses. Buildings will contain a mix of commercial and retail uses at grade with the potential for residential above. New infill development on Hopkins Street will be appropriately scaled to integrate with adjacent low rise neighborhoods, support the character of the neighborhoods and create a re-newed commercial 'Main Street' of shops and business services. Hopkins Street will also serve as a buffer between single family homes to the east and larger scaled employment areas to the west.

As the main north-south route linking South Park to the river through the heart of the BOA, a new street referred to as Riverbend Drive will act as an important new employment address for the BOA. A generous boulevarded street, capable of accommodating a range of users including commercial traffic, pedestrians and cyclists, the new street is intended to open lands for new development and direct truck and commuter traffic away from local streets. Over time Riverbend Drive will form part of an enhanced intercity grid network connecting the BOA north to I-190 and relieving pressure from Route 5.

As the principal crossroads of the BOA, the intersection at Riverbend Drive and Tifft Street has been positioned as an important hub of activity. Situated at one of the BOA's most visible junctures the area has been designed to create a high value setting for signature office, hotel and conference uses fronting onto a new urban square and golf course.

Enhanced and Integrated Network of Open Spaces

The BOA Master Plan expands existing open space assets to create a focus for new investment and support a range a range of active and passive recreational activities, including a rehabilitated riverfront and bird sanctuary, an enhanced Union Ship Canal park, new neighborhood parks and regional open spaces. The existing natural assets can be added to and improved creating new opportunities for active and passive recreation, including new open spaces on the Marilla and Alltift landfills, the expansion of the Tifft Nature Preseve on the vacant industrial land to the east and naturalization of the Conrail property as a species habitat area (Map 5.3). The system is anchored by a recreation and cultural hub in the southeast, comprised of Olmsted's South Park, a new athletic center, sports fields and golf course, providing a continuous linkage to the Tifft Nature Preserve and Conrail site. This system represents hundreds of acres of uninterrupted open space.

The scale of the BOA and the separation of these assets by distance and by the rail infrastructure that bisects the site, has led to a significant emphasis on

Map 5.3: Potential Open Space Network

improved open space and community connections. The gradual build out of the BOA is seen as an important opportunity to reconnect South Buffalo to both the waterfront and the River and create an interconnected system of parks, natural areas and waterside places. There are a number of strategies represented in the BOA Master Plan aimed at enhancing connectivity including:

- The installation of an enhanced pedestrian crossing on the Tifft Street bridge;
- The creation of an expanded network of pedestrian and cycle paths through public open spaces and adjacent to the lakefront and riverfront;
- Improved streetscapes, particularly Tifft Street and Hopkins Street;
- An expanded network of public streets, including Riverbend Drive east of the rail corridor and a north south road on the eastern edge of the expanded Tifft Nature Preserve;
- An expanded South Park amenity area connected north to an expanded Tifft Preserve;
- The creation of a continuous riverside park and open space network; and
- The creation of a series of smaller neighborhood open spaces linked by local streets and pathways.

Restoration and Development along the River

The Buffalo River is both a natural and industrial resource for the BOA. The Master Plan balances enhanced conservation and new recreation opportunities with a range of new economic prospects, providing benefit to individuals and businesses beyond the boundaries of the BOA. Although the River had long been the site of heavy industry and port-related uses, less intense activity today permit rehabilitation of much of the riverbank and adjacent landscape (Map 5.3).

The Master Plan anticipates renewal of the riverbank in the Riverbend Peninsula and on the Conrail site with a combination of naturalized spaces and passive landscape areas. These efforts will be supported by the establishment of a bird sanctuary on a portion of the Conrail property and by a minimum one hundred foot development setback from the River in Riverbend. Activity within this setback will be limited to biking and walking along riverfront trails, and a proposed Riverfront Center for boating and other publicly accessible water-related activities. The north side of the River also has potential for rehabilitation, and this opportunity should be explored in a separate Buffalo River BOA.

While the intent of the Master Plan is to create an accessible, rehabilitated, riverfront open space system, it recognizes that there are also sites for lower impact industrial activities (Map 5.1). In the medium term, while dredging is still required for flood control purposes, the Master Plan preserves for the creation of a shallow draft port. The RiverWright facility, a significant anchor for the Green Belt, will also continue activities on its site just north of the Tifft Nature Preserve and, if new uses can be found to reactivate the existing grain silos, may expand onto the western portion of the Conrail property.

Development criteria will ensure that these riverside activities do not interfere with the bird sanctuary and will allow for public riverfront access, where feasible. Additional green related industries, such as grain storage, advanced recycling and a waste to energy facility, may be considered on the industrial lands on the south bank of the River north of the Nature Preserve, or on the RiverWright lands but details will be resolved as the RiverWright expansion progresses.

5.2 Land Use

The South Buffalo BOA Master Plan is designed to achieve a broad mix of land uses, as illustrated on Map 5.1. The land use mix includes a range of employment types, significant naturalized areas, and additional housing in new and existing neighborhoods, supported by small commercial and retail businesses located in mixed use buildings, parks and recreational opportunities. The diversity of land uses is based on market data and intended to enable the BOA to evolve as a 'complete community' with a range of employment and housing typologies to achieve a stable and economically resilient community over time. Attracting new businesses, residents, and activities will create a vibrant and economically sustainable community with benefits extending far beyond the boundaries of the BOA.

Based on the Master Plan, it is estimated that up to 30,000 new jobs and 3,000 new residents could be located in the BOA. The approximate land area and number of jobs anticipated for each land use is listed in Table 5.1. Although similar areas of land are reserved for Business Park/Business Services uses (286 acres) and Industrial uses (317 acres), higher job densities for Business uses yield a significantly greater number of estimated jobs than for Industrial uses.

A description of each type of land use accompanied by a precedent image illustrating the type of development envisioned for each land use follows these figures, along with a comparison of the proposed land uses with existing land uses and zoning and a summary of the land uses anticipated on publicly controlled lands.

Land Use	Area (acres)	GFA (sq ft)	Estimated Jobs
R&D	33	500,000	700
Business Park	220	3,800,000	15,000
Business Services	66	2,100,000	8,600
Industrial	317	2,800,000	2,300
Rail	190	0	0
Mixed Use	102	4,400,000	4,200
Neighborhoods	138	N/A	N/A
Tifft & South Park	450	N/A	N/A
Natural Areas	212	N/A	N/A
Golf	133	N/A	N/A
Parks & Open Space	107	N/A	N/A
Total	**1,968**	**13,600,000**	**30,800**

Table 5.1: BOA Areas and Jobs by Land Use

5.2.1 Employment

Business Parks

These are envisioned adjacent to the canal in Lakeside Commerce Park and adjacent to a new north-south road, Riverbend Drive, east of the rail corridor.

Key Characteristics:

- Immediate market opportunity;
- Primarily back office, call centers and smaller scale advanced manufacturing with potential for a small retail component;
- One to three storeys in height;
- Typically a 10,000 to 30,000 square foot floor plate; and
- Supported by surface or structured parking with a parking ratio of one space per employee

Business Services

These are located primarily on the west side of Hopkins Street, north and south of Tifft Street and will integrate well with 'Main Street' businesses.

Key Characteristics:

- Single or multi-tenant buildings occupied by professional services such as architects and accountants and independent or branch businesses serving larger local employers and the adjacent community;
- Office and light industrial spaces;
- Two to three storeys in height;
- Typically a 5,000 to 10,000 square foot floor plate; and
- Supported by surface parking with a parking ratio of one space per employee

Industry

Industrial uses are concentrated in Lakeside Commerce Park, on either side of the rail corridor and north of the Tifft Nature from the existing RiverWright alternative energy facility to Concrete Central in the east. Industrial uses are comprised of either Warehouse and Distribution or Green Industry/ Advanced Manufacturing. To take advantage of the rail corridor, Warehouse and Distribution has been reserved for the land west of Riverbend Drive. The parcel just south of the existing dock wall on the Buffalo River is reserved for port related facilities or other water dependent uses.

Key Characteristics:

Warehouse and Distribution

- Located near infrastructure necessary for business operations, including rail lines, the Port and streets accessible for large trucks, with a focus on regional and super-regional trade;
- Large format single or two storey warehouses and trucking facilities;
- Typically a 100,000 to 200,000 square foot floor plate; and
- Supported by surface parking with a parking ratio of one space per employee

Green Industry/Advanced Manufacturing

- Generally located near infrastructure necessary for business operations, including rail lines and streets accessible to large trucks and near existing industrial uses, with a focus on local or regional manufacturing and energy production;
- May be interspersed within Business Parks depending on BOA needs and market demand;
- Large format single or two storey buildings with a small office component;
- Typically a 50,000 to 100,000 square foot floor plate; and
- Supported by surface parking with a parking ratio of one space per employee

Research and Development

Research and Development activities have been identified on two sites within the BOA: south of the Buffalo River on the Riverbend Peninsula and embedded within the Tifft Nature Preserve off of Tifft Street. To the north, the Riverbend Peninsula site provides a high quality setting beside the River, in proximity to the downtown and adjacent to a mix of uses. To the south, the Tifft preserve site creates an opportunity to embed a facility within a functioning research environment associated with the preserve and its functions.

Key Characteristics:

- Focused on innovation–led, companies which support the BOA brand;
- Includes a range of building types from pure office space to multifunctional buildings that combine office space with labs, storage, incubator space and occasionally light industrial space;
- Typically a 10,000 to 20,000 square foot floor plates; and
- Supported by surface or structured parking with a parking ratio of one space per employee

Commercial and Retail

These are concentrated in mixed use areas in the Riverbend Peninsula, on either side of Hopkins Street, south of Tifft Street and along Reading Street. Commercial and retail areas will emerge over time and cater to both the existing neighborhoods and new uses within the BOA.

Key Characteristics:

- Located either on the first or first and second floor of a four to five storey building or may be in a two storey stand alone building;
- Can be small scale enterprises located in vertical mixed use buildings with a residential component;
- Typically 2,000 to 5,000 square foot business within a 10,000 to 20,000 square foot floor plate building; and
- Supported by on street parking or shared structured or surface parking to the rear.
-

5.2.2 Residential

Mixed Use Communities

The majority of new residential units will be located in mixed use areas in the Riverbend Peninsula and south of Tifft Street on either side of Hopkins Street. The new communities have been sited to interface with and extend the existing South Buffalo neighborhoods and benefit from their proximity to unique natural and open space amenities.

Key Characteristics:

- Located primarily in multi-unit buildings up to five storeys, on the upper floors of four to five storey vertical mixed use buildings, or in stacked townhouse or freehold townhouse units;
- Multi-unit buildings are supported by below grade parking with a parking ratio of 1 space per unit; and
- Townhouses are typically supported by surface parking

Existing Neighborhoods

Located west of Hopkins Street south of the Riverbend Peninsula and east of Hopkins Street south of Reading Street, new residential uses within existing neighborhoods will be comprised of smaller scaled infill development.

Key Characteristics:

- Residential units primarily in single-detached homes or townhouses;
- Two to three storeys in height; and
- Supported by surface parking.

5.2.3 Naturalized Areas, Parks and Recreational Opportunities

Approximately 900 acres of land is reserved for open space and naturalized areas. These will support a range of active and passive uses and be linked by asystem of pathways and an extended and enhanced street network.

Natural Habitat Areas

- Comprised primarily of the lands associated with the Tifft Nature Preserve and its expansion, the Riverfront and the proposed site of the Bird Sanctuary on the Conrail Peninsula; and
- Primarily naturalized landscape capable of supporting the natural functions of the area and a range of wildlife.

Parks

- Key parks include the Riverfront system, Riverbend Peninsula Park, South Park and along the Union Ship Canal; and
- Located throughout the BOA as key points of focus for new employment and residential developments
- Large parks will be municipally owned

5.2.4 Infrastructure

Recreation

- A privately owned and managed golf course is proposed on the site of the former landfills; and,
- A publicly owned athletic facility and sports fields are proposed adjacent to South Park.

The remaining land on the site is comprised of the rail lands, the existing and new road network and the land reserved for future transit infrastructure.

Rail

- The main north-south rail corridor remains on the Site although smaller spur lines have been re-aligned to improve the configuration of development parcels.

Road

The proposed major new roads include:

- A north-south Riverbend Drive extending from the Riverbend Peninsula south to Reading Street;
- A north-south road on the eastern edge of the Tifft Nature Preserve; and
- A street north of the canal in Lakeside Commerce Park.

The proposed improved roads include:

- A reconfigured Fuhrmann Blvd, adjacent to Route 5. Though currently underway, these improvements allow for the longer term re-positioning of Route 5 into an urban boulevard, fully integrating the BOA with the lakefront;
- Hopkins Street streetscape enhancements;
- Ongoing Tifft Street streetscaping, with the potential for new pedestrian and cycling enhancements on the bridge over the rail corridor; and
- Reading Street streetscape enhancements.

Reserved lands:

- Land has been reserved for an east-west road south of the Buffalo River, which would provide an additional connection over the rail corridor and link the uses on the Riverbend Peninsula west to the Tifft Nature preserve and lakefront.

Transit

- The Master Plan proposes creating a rapid transit link from downtown to the Riverbend Peninsula. To support this link, land has been preserved in the Riverbend Peninsula to align and connect with a former rail corridor running west to the downtown. It is recommended that land outside the BOA, on the north side of the Buffalo River, be preserved for this future transit right-of-way.

5.2.5 Comparison to Existing Land Use and Zoning

As shown on Map 3.4, the Existing Land Use map, the majority of land west of the rail corridor is not developed and is a mix of parks and open space, closed landfills, utilities and vacant land. This is supplemented with some industrial uses in Lakeside Commerce Park and commercial uses in the grain elevators adjacent to the Buffalo River. Directly east of the rail corridor most land is also not actively used, comprised of vacant land and closed landfills, with a modest amount of industrial. Land is more actively used along the north south streets further east (Abby Street, Hopkins Street and South Park Avenue), with a greater variety of uses including residential, commercial, industrial, institutional and open space, interspersed with vacant land.

As shown on Map 3.5, Existing Zoning Districts, land west of the rail corridor is zoned exclusively heavy industrial. Land east of the rail corridor is primarily zoned light to heavy industrial. Commercial districts are located along South Park Avenue and Reading Street and small residential districts are located south of the Buffalo River and north of South Park. The key findings from the existing land use and zoning conditions are that there is limited diversity with respect to zoning in the BOA and that, although the land is predominantly zoned industrial, this does not correspond with the current land uses as most land is either vacant, a closed landfill or preserved as open space. The Land Use Plan in Map 5.1 illustrates the anticipated changes to the land use and zoning.

Generally, the changes in land use will occur on vacant land and closed landfills. Large parcels of vacant land west and directly east of the rail corridor are reserved for industrial uses, with smaller areas set aside for research and development and commercial uses adjacent to the Tifft Nature Preserve and the Union Ship Canal, respectively. The remaining vacant land will be reserved for mixed uses and research and development in the Riverbend Peninsula and for business and mixed uses elsewhere. The closed Marilla and Altift landfills are to be fully incorporated into an expanded South Park Recreation Area as a golf course and the Steelfields containment cell is to be removed to permit increased development in the Riverbend Employment area.

While the existing residential, commercial, industrial and open space areas will remain, smaller industrial parcels in areas in close proximity to residential uses will gradually be converted to business and mixed uses. Within residential areas it is expected that over time all non-conforming uses will be converted to residential.

The zoning should be revised to ensure that it corresponds with the actual and anticipated land uses. This means that much of the industrial zoning will be changed to recognize existing and proposed open spaces and enable the proposed mixed use, research and development and business areas, particularly in the Riverbend Peninsula and Riverbend Employment districts and along Abby and Hopkins Streets.

5.2.6 Use of Publicly Controlled Lands

Pursuant to Map 3.10, Land Ownership Patterns, almost 50% of the BOA is held in Public ownership. While the majority of this land is located in Riverbend (the Peninsula and Employment area), Lakeside Commerce Park and the Tifft Nature Preserve, there are also several smaller sites east of the rail corridor including South Park and the Alltifft landfill. Table 5.2 summarizes the strategy for publicly controlled lands.

Publicly Controlled Land	Strategy
Riverbend Peninsula	• Land to be sold and developed as a mixed use community
Port	• Land to remain public and used for port related activities
Riverbend Employment	• Land to be sold and developed with industrial and business uses
Alltifft Landfill	• Land to be sold and developed as a golf course
South Park	• Land to remain publicly owned • Land directly north to be purchased and developed with an athletic facility, golf club house and sports fields
Lakeside Commerce Park	• Land adjacent to Union Ship Canal to remain public and developed as a park • Remaining land to be sold and developed with industrial and business uses
Tifft Nature Preserve	• Land to remain public as Tifft Nature Preserve • Nature Preserve to be expanded to the east once adjacent lands are purchased
Remaining Parcels	• Remaining parcels, which are smaller and located east of the rail corridor, are to be sold and developed with mixed uses or business uses

Table 5.2: Use of Publicly Controlled Lands

5.3 Development Performance Criteria

Performance Criteria are recommended to control how the development of buildings, roads and open spaces throughout the BOA will occur. Different criteria should be developed for different areas, depending upon the desired character of the area. More stringent criteria should be implemented where quality design is integral to branding and place-making, such as in mixed use or higher value employment areas. Examples of performance criteria which should be considered for various land use categories within the BOA are presented in Table 5.3. More detailed Performance Criteria considerations are included as part of the Precinct Area summaries in Section 5.4.

Type of Criteria	Description
Land Use	• Permitted range of land uses • Restricted and prohibited land uses (non-conforming uses, outdoor storage and recycling, metal yards, big box stores, heavy industry, drive through restaurants) • Requirements for commercial uses and specific uses at grade in certain locations • Restrictions on retail and commercial gross floor area
Built Form	• Minimum and maximum density • Minimum and maximum building heights • Building massing, envelopes, orientation and setbacks • Green development guidelines
General Architectural Features	• Materials • Glazing • Lighting • Signage • Canopies
Parking and Loading	• Standards per land use • Where permitted (above and below grade structures, and on surface lots located behind or to the side of a building) • Where prohibited (in front of a building between the building façade and a public or private street) • Shared access encouraged • Green parking standards
Landscaping	• Location • Permitted and restricted vegetation • Green maintenance standards
Public Realm	• Streetscape • Parks • Private Open Spaces
Road Design	• Right-of-way • Function and performance for streets, laneways and private roads • Prohibited road closures • Permitted and prohibited street parking

Table 5.3: Performance Criteria

5.4 Precinct Areas

Due to the scale of the BOA, the study area can be understood as a number of distinct character areas, or precincts. While the BOA was examined holistically for the market projections, the land base analysis and development of the Principles, gradually, as the strategy for the BOA evolved, smaller areas emerged, each with distinct qualities, assets and potential. The BOA has therefore been divided into nine Precinct Areas (Map 5.4), each with a logical collection of land parcels and a unique development emphasis. This allows for a better response to the BOA's diverse characteristics and a manageable description of each area's role, land use and development character.

Although the Precincts are distinct they work together as a cohesive whole. Land uses are complementary which provides a vibrant overall land use mix but ensures compatibility between adjacent uses. Open spaces in one Precinct create value for development in neighboring Precincts. Natural assets are situated throughout the BOA but connected by public parks and improved streetscapes that allow for seamless transitions between formerly isolated areas.

The Precincts and their approximate areas are:

Precinct	**Approximate Area (Acres)**
Riverbend Peninsula	75
Riverbend Employment	290
Existing Neighborhoods	150
Hopkins North	55
Hopkins South	75
South Park Open Space System	350
Lakeside Commerce Park	275
Lehigh Valley/Tifft	450
Riverfront	60

The Precinct Areas are described below along with a range of permitted land uses, recommended Performance Criteria considerations and initiatives to be undertaken. Precedent images and an illustration of the Area's potential build-out over the long term, which depicts the location and configuration of buildings, park and open space enhancements and new roads and green connections, are also provided.

Map 5.4: Precinct Areas

5.4.1 Riverbend Peninsula

Riverbend Peninsula: Mixed Use Community	
Role and Potential A higher density, high value mixed use destination and commercial hub that functions as the center for a new community and new employment uses. The area will evolve as a distinct mixed use village with unique opportunities for waterfront access and recreation. The majority of land is publicly owned and has been remediated to an industrial or commercial standard (residential may be permitted without further remediation, with the exception of single family homes), providing excellent opportunities for redevelopment. The Village Farms site is privately owned and has not been assessed. It is an appropriate location for a Mixed Use Community, given its proximity to downtown and the possibility of a transit link. Its highly visible location adjacent to the Buffalo River means the area has potential for high value uses over the long term.	
Permitted Land Uses	• Vertical Mixed Use • Residential • Retail • Commercial • R&D • Open Space/Recreation
Performance Criteria Considerations	**South Park Avenue** • Mandatory retail or commercial uses at grade • Maximum building setback standards to encourage consistent street frontage • Range of criteria to create interesting and animated buildings with entrances on the street
	General • Greatest complexity of criteria to encourage high quality urban development • Minimum building heights and density • Maximum ground floor area • Mandatory setback • Mid-density residential parking below grade • Regulation of commercial GFA to avoid 'big box' development • High quality park land • Extensive open space programming • Specific design criteria for development adjacent to open spaces
Initiatives	**Priority** • Conduct geotechnical study as significant foundations for steel manufacturing remain below and can't be removed • Undertake Master Plan • Develop design guidelines and draft zoning and policy amendments • Naturalize Riverfront and establish greenway trail with bike path • Acquire Village Farms property • Design, engineer and construct Riverbend Drive extension • Develop and implement marketing strategy for R & D campus
	General • Preserve land for long term construction of higher order transit and station • Develop long term management and marketing strategy for Mixed Use community • Undertake assessment and installation of required utilities • Design and construct public parks and local roads


LRT
R&D
River Center
Restaurants
South
Park
Retail
Mixed Use Core
Potential
Port Uses
Neighborhood
Investment
Business Park
HOPKINS ST
Warehouse
& Distribution
Business
Services

5.4.2 Riverbend Employment

Riverbend Employment: Advanced Manufacturing and Business Employment Area	
Role and Potential A business and industrial area with opportunities for higher salary jobs, shorter term redevelopment and signature employment. Focused on a public open space at Tifft/Riverbend, development here has the potential to demonstrate early success and reinforces the business center and/or green 'brand' of the BOA. The majority of land is publicly owned and many properties have been remediated to an industrial or commercial standard. As market demand exists today for industrial and business uses, several sites can be developed in the short term. These uses would capitalize on the proximity of the rail corridor and Port, generating early tax revenue and new jobs, and often providing higher salaries than warehouse and manufacturing positions.	
Permitted Land Uses	• Business Services • Business Park • Industrial (Warehousing and Distribution; Advanced Manufacturing; Green Industry) • Port related industry
Performance Criteria Considerations	**Riverbend Drive and Tifft/Riverbend Intersection** • Stringent guidelines to create a high quality street with consistent building frontage • Minimum building heights (2 storeys) to create defined streets and spaces • Building setback and separation standards • Regulations on glazing and architectural features • Site plan guidelines to consolidate servicing and promote a walkable environment • Streetscape guidelines
	General • Rail related uses and large footprint buildings permitted only adjacent to the rail corridor • Outdoor storage restrictions to eliminate unsightly lots

Initiatives	**Priority**
	• Conduct geotechnical study
	• Undertake Master Plan
	• Develop design guidelines and draft zoning and policy amendments
	• Develop long term management and marketing strategy for employment uses
	• Design, engineer and construct local roads
	• Purchase Norfolk Southern property
	• Design, engineer and construct road between Riverbend Drive and I-190
	• Containment Cell:
	  • Conduct Remedial investigation Feasibility Study (RIFS) of containment cell
	  • Relocate Containment Cell
	• Riverbend Drive:
	  • Prepare an Environmental Impact Statement
	  • Design, engineer and construct Riverbend Drive
	  • Complete streetscaping with bike lanes
	• Tifft Street:
	  • Complete Tifft Street streetscaping and Tifft Street Bridge improvements (pedestrian sidewalks, bike path, scenic overlook and streetscaping)

	General • Preserve land for long term construction of higher order transit and station • Preserve land for long term development of east-west road south of the River and over the rail corridor • Undertake assessment, design, engineering and construction of sewers, water lines and other infrastructure and utilities

Precedent Images

5.4.3 Existing Neighborhoods

Existing Neighborhoods: Low-rise Residential Communities	
Role and Potential Primarily stable low rise residential communities with opportunities for appropriate infill, enhanced open spaces and improved connections that preserve the neighborhood's character. Although several incompatible uses and derelict properties impact the quality and character of these communities, careful redesignation and redevelopment of these properties will provide an opportunity to strengthen the neighborhoods and enhance the quality of life for BOA residents.	
Permitted Land Uses	• Residential (single family and semi-detached homes, townhouses) • Open Space/Recreation
Performance Criteria Considerations	• Infill guidelines to promote new development that fits within the neighborhood • Streetscaping standards • Use restrictions to strengthen the existing residential character of the areas
Initiatives	**General** Upper Hickory Woods: • Rezone commercial and industrial sites to residential • Undertake assessment, design, engineering and construction of required utilities • Design, engineering and construction of new neighborhood park • Enhance streetscaping throughout neighborhood • Develop land use regulations to restrict and control incompatible uses • Develop infill guidelines to guide new development and ensure compatibility Southern Neighborhood: • Develop land use regulations to restrict and control incompatible uses • Develop infill guidelines to guide new development and ensure compatibility • Conduct neighborhood stabilization and rehabilitation study • Enhance streetscaping throughout neighborhood

Precedent Images

5.4.4 Hopkins North

Hopkins North: Business Services Corridor	
Role and Potential A small scale business cluster that reinforces Hopkins Street as a 'Main Street' with mandatory commercial or retail uses at grade and the potential for residential or commercial uses above. Improvements to Hopkins Street will provide a focal point for services for both Riverbend and the adjacent neighborhood and, with adherence to design guidelines, will create an appropriate transition and buffer between the community and Riverbend employment area.	
Permitted Land Uses	• Business Services • Retail • Commercial • Residential (2nd storey) • Live/work
Performance Criteria Considerations	• Built form and frontage criteria to encourage buildings that orient themselves towards the street and enhance the character of Hopkins Street • Parking and site plan guidelines aimed at consolidating servicing and promoting a more consistent walkable structure • Minimum building heights (2 storeys) to create greater street definition • Mandatory retail or commercial uses at grade • Maximum setback standards to encourage buildings that consistently line the streets • Outdoor storage restrictions to eliminate unsightly lots
Initiatives	**Priority** • Enhance Hopkins Street streetscaping
	General • Develop design guidelines, re-designated to Business Services and draft zoning and policy amendments

Precedent Images

5.4.5 Hopkins South

Hopkins South: Mixed Use Community	
Role and Potential A mixed use precinct, centered on Riverbend Drive, Reading and Hopkins Streets which builds off the value of South Park and the golf course. This new community will allow for enhanced connections between the BOA and adjacent neighborhoods, would extend the western edge of the adjacent community into the BOA and would link the economic opportunities in the BOA to South Park Avenue.	
Permitted Land Uses	• Vertical Mixed Use • Residential • Commercial • Retail • Open Space/Recreation
Performance Criteria Considerations	• Built form criteria to encourage high quality urban development • Minimum building heights to create more defined streets and spaces • Specific design criteria for development adjacent to open spaces to encourage well defined and animated spaces • Maximum setback standards to encourage buildings that consistently line the streets • Building frontage standards to create interesting and animated buildings with entrances on the street
Initiatives	**Priority** • Acquire Skyway Auto Parts for new road alignment • Complete Hopkins Street streetscaping, create performance criteria and re-zone to mixed use
	General • Conduct geotechnical study • Acquire Ramco Alltift Site • Complete Reading Street streetscaping, create performance criteria and re-zone to mixed use • Develop design guidelines and draft zoning and policy amendments

Precedent Images

5.4.6 South Park Open Space System

South Park Open Space System: Recreational Hub	
Role and Potential An interconnected open space system with a range of social, cultural and recreational opportunities which will create a setting for higher value residential and commercial uses. The Landfill sites have limited development potential but can be repositioned as an open space resource. This would create a high value setting for a commercial hub at Riverbend/Tifft and Mixed Uses along Riverbend Drive. Locating a golf course on the Landfill sites enables the existing golf course in South Park to be removed, which complements the Olmsted vision, and improves non-vehicular north-south connections across the BOA. Potential funding strategies are being pursued to develop an athletic center, an important public amenity for the existing community. Utilizing the site directly north of South Park would complete a recreational hub in conjunction with the golf course and improvements to South Park. This is a critical location between the South Park community and the golf course as the site is currently a blight on the community.	
Permitted Land Uses	• Open Space/Recreation • Leisure and Entertainment • Green Infrastructure Installations (wind mills/solar panels)
Performance Criteria Considerations	• Built form criteria to encourage high quality urban development • Landscape standards to ensure compliance with existing landfill restrictions and promote environmentally sensitive redevelopment • Specific design criteria for development adjacent to wetlands and woodlots • Parking and site plan guidelines aimed at minimizing the impacts of surface parking on the adjacent parks and open spaces • Guidelines for green energy generation

Initiatives	**Priority**
	• Golf Course:
	  • Conduct a feasibility study for operation of golf course (land management/construction/ infrastructure)
	  • Seek partnership with Olmsted Parks Conservancy and private interests
	  • Encourage private sector to operate a golf course, individually or in partnership
	• Athletic Center, Library and Golf Clubhouse:
	  • Conduct a feasibility study for construction of an Athletic Center
	  • Seek partnership with Olmsted Parks Conservancy
	  • Athletic Center site land acquisition
	  • Design and construct the Athletic Center

	General • Acquire the Steelfields Ltd site • Acquire the Bob and Don's Junkyard site • Conduct geotechnical study • Undertake South park traffic management improvements


Mixed Use
READING ST
Nature Connection
Neighborhood Investment
Golf Course
Athletic Center
Clubhouse
South Park
Arboretum

5.4.7 Lakeside Commerce Park

Lakeside Commerce Park: Industrial and Business Employment Area	
Role and Potential A smart growth urban commerce park with higher value businesses sited adjacent to the canal capable of capitalizing on current market demand. Land is publicly owned and development would build on the recent investment and success that has occurred in the area. As market demand exists today for industrial and business uses, the area can be developed in the short term, generating early tax revenue and new jobs.	
Permitted Land Uses	• Industrial (Warehousing and Distribution; Advanced Manufacturing; Green Industry) • Business Park • Live/work
Performance Criteria Considerations	• Review the Design and Development Standards (building siting, design and massing and landscaping) in the Urban Renewal Plan and update where applicable • More stringent built form and design criteria along the canal aimed at creating a consistent high quality canal frontage with buildings that both face onto the canal and adjacent streets • Parking and site plan guidelines aimed at consolidating servicing and promoting a more consistent walkable structure • Outdoor storage restrictions to eliminate unsightly lots
Initiatives	**Priority** • Design, engineer and construct local roads a road on the north side of canal • Develop long term management and marketing strategy for employment uses
	General • Review the Design and Development Standards in the Urban Renewal Plan and update where applicable • Create more stringent built form and design criteria for properties adjacent to the canal

Precedent Images

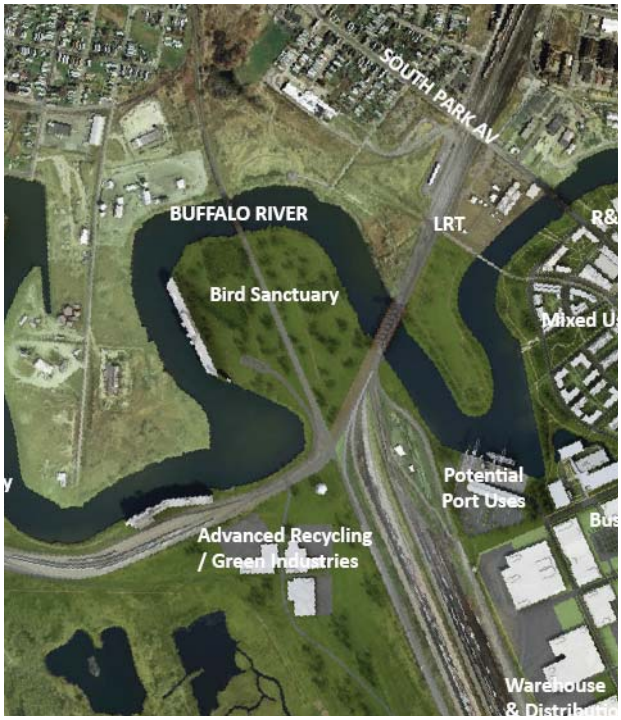
5.4.8 Tifft/Lehigh Valley

Tifft/Lehigh Valley: Nature Preserve and Research and Green Industry Hub	
Role and Potential A nature refuge dedicated to conservation, environmental education and passive recreation, supplemented by green industry and brownfield related R&D. that provides a green focus for the BOA. The potential to expand and diversify the Tifft Nature Preserve and create new sites for research activities and development of Brownfield Research Center, combined with the Tifft expansion, contribute to the branding of the BOA and the creation of an identity. The additional naturalized open space will contribute to protecting the hydrological value of the Tifft Nature Preserve.	
Permitted Land Uses	• Conservation/Recreation • Industry (Green Industry) • R&D • Institutional/Education
Performance Criteria Considerations	• Built form criteria to encourage high quality urban development • Landscape standards to promote environmentally sensitive development • Specific design criteria for development adjacent to wetlands and woodlots • Parking and site plan guidelines aimed at minimizing the impacts of surface parking on the adjacent parks and open spaces • Roadway infrastructure design criteria • Sustainable trail and boardwalk standards that meet preservation and conservation standards and control visitor impacts
Initiatives	**Priority** • Acquire all non-publicly owned properties • Create institutional partnerships for Center of Excellence (sustainability or Brownfield) • Design and construct the Brownfield and/or Sustainability Center
	General • Conduct feasibility study for the Area and an Environmental Master Plan Study for Tifft expansion, including a groundwater analysis and additional wetland buffers • Create a pedestrian and bike greenway adjacent to the Buffalo River • Relocate/reconfigure CSX rail line • Design, engineer and construct Rail Side Drive, a north-south road west of the rail corridor • Develop a management and marketing strategy to promote green industry on sites west of Tifft • Undertake assessment, design, engineering and construction of sewers, water lines and other infrastructure and utilities • Design and construct the Tifft Education Center • Preserve land for long term development of east-west road south of the River and over the rail corridor

Precedent Images

5.4.9 Riverfront

Riverfront: Nature Preserve and Green Industry Hub	
Role and Description A naturalized Conrail property overlooking the river that allows for habitat restoration and passive recreation, adjacent to sensitively sited industry that does not inhibit remediation of the Buffalo River. An expanded renewable energy campus will complement the Buffalo Green Belt, strengthen the Green Energy Corridor and further brand the BOA as a site for green industry.	
Permitted Land Uses	• Industrial (Green Industry) • Conservation/Recreation • Cultural
Performance Criteria Considerations	• Built form criteria to encourage high quality urban development • Open space enhancement standards on the Conrail Site, in industrial areas and along the riverfront edge • Specific design criteria for development adjacent to open spaces and the Riverfront • Landscape standards to promote environmentally sensitive development • Specific design criteria for development adjacent to wetlands and woodlots • Parking and site plan guidelines aimed at minimizing the impacts of surface parking on the adjacent parks and open spaces • Environmental performance criteria for use of Port/Dock area
Initiatives	**Priority** • Acquire the Conrail property
	General • Create a pedestrian and bike greenway adjacent to the Buffalo River • Develop the Conrail property into a Bird Sanctuary • Work with RiverWright to sensitively expand their alternative energy campus • Design, engineer and construct an extension to Rail Side Drive



Precedent Images

5.5 Phasing and Implementation

Redevelopment of the BOA will be implemented over the next several decades. The sequencing of public sector initiatives, whether an investment in infrastructure, enhancement of the public realm or construction of a building, that will help to encourage private sector development will be a complex and intensively managed process. The phasing strategy illustrates a 25+ year horizon with several big moves supplemented by many smaller actions. Initial phase initiatives are positioned based on need and market data findings. They will support the creation of the business park and warehouse and distribution precincts which have been identified as having existing market demand and can achieve significant early employment in the BOA area. Improvements, such as certain additional road infrastructure and park and open space improvements, that will enhance the physical setting and allow for higher value land uses, including research and development facilities and mixed use communities, are reserved for the medium to longer term.

The estimated timing of implementation of public sector initiatives is positioned within one of four phases, from current projects to long term proposals. These are supplemented by initiatives that have no phased timing and can occur as funding or sponsorship becomes realistic, or as need dictates.

Each initiative will be supported by a series of Implementation Activities. Implementation Activities, defined in Table 5.4, may be undertaken by the City or other agency and will vary depending upon the type of initiative. Maps 5.5 to 5.9 and accompanying charts in Tables 5.5 to 5.9, detail the BOA phasing, indicating timing of initiatives and related Implementation Activities.

Implementation Activities

Type of Activity	Description
Partnerships	Attract active or passive participation to make the BOA a success by working with individuals, agencies, businesses, landowners and residents to bring forward projects and initiatives. Partnerships may result in establishing joint venture projects, securing funding sources etc.
Scoping/Feasibility Studies	Determine the scope or dimension of a project including its funding, size, timing, execution and management
Management	Further BOA objectives through the on-going administration of City owned assets or projects, by the City or an agent, including the sale, lease, acquisition and preservation of land, project management and the marketing of these assets for economic, recreational and cultural purposes
Detailed Master Planning	Determine the design and development parameters of a project including funding, uses, building location, built form, infrastructure design, street layout and the public realm
Performance Criteria	Use performance criteria to guide development and character, rather than restrictive land use designations, including: • Built form guidelines: minimum height, minimum density, maximum footprint, maximum setbacks • Site development guidelines: parking location and configuration, landscape guidelines • Green development guidelines: site preparation, building efficiency, landscaping, servicing, parking etc. • Road design guidelines: streetscaping, minimum pedestrian right of way, maximum width, on-street parking • Parking guidelines: for streets, above and below grade structures, surface lots and on-site locations
Planning and Regulatory Changes	Revise the Comprehensive Plan, Zoning and other planning framework documents with regulatory controls, such as performance criteria and new land use permissions, to achieve the long term goals for the BOA
Installation	Implement initiatives and engineer and build infrastructure, such as roads, streetscaping and servicing, as part of an ongoing BOA capital works program, to support continued development

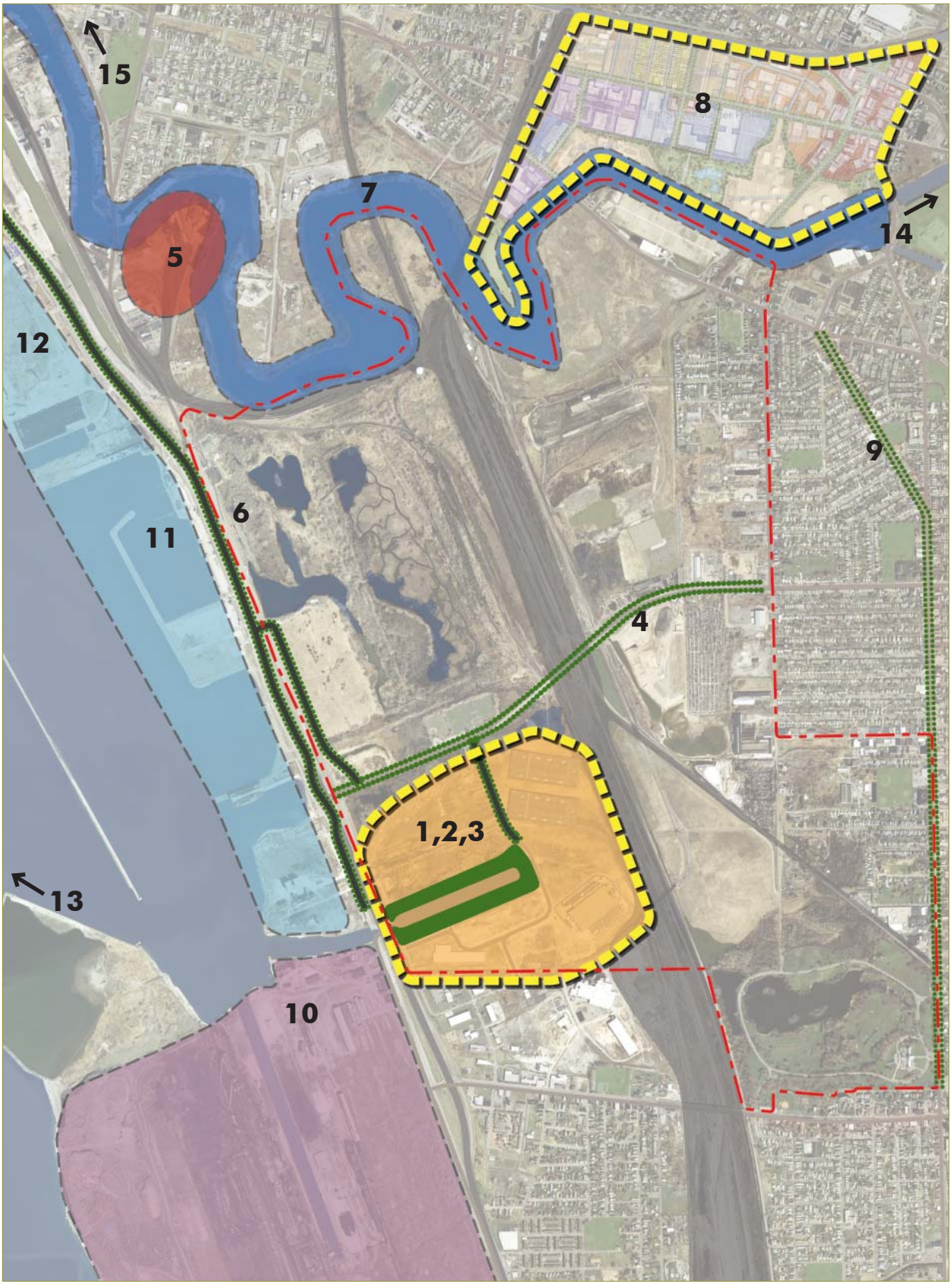
Table 5.4: Implementation Activities

Phase 0: Current and Approved Initiatives (Map 5.5 and Table 5.5)

While the public sector actions in Phases 1 to 3 are BOA focused, the list of current and approved initiatives highlights investments that are occurring both within and in the vicinity of the BOA; the majority of which are situated beyond the BOA boundary. Not all of the activities have commenced, but funding has been approved. Many of these, such as improvements to Fuhrmann Boulevard, represent significant public expenditures and will contribute to the BOA's successful transformation over time.

Initiatives	Implementation Activities						
	Partnerships	Scoping/ Feasibility Study	Management	Detailed Master Planning	Performance Criteria	Planning and Regulatory Changes	Installation
Within the BOA							
1. New Road Construction – Lakeside Commerce Park				x			x
2. Site Marketing – Lakeside Commerce Park	x		x				
3. Improve Canal Open Space – Lakeside Commerce Park				x			x
4. Tifft Street Streetscaping				x			x
Beyond BOA Boundary							
5. River Wright Ethanol Plant			x				
6. Fuhrmann Blvd							x
7. Buffalo River Feasibility Study		x					
8. Elk Street Open Space Development				x			x
9. South Park Streetscaping				x			x
10. Bethlehem Wind Farm			x				
11. Buffalo Boat harbor Project				x			x
12. Outer Harbor Greenbelt and Trail Project				x			x
13. Times Beach							x
14. Seneca Bluffs							x
15 Erie Canal Harbor Project							x

Table 5.5: Current and Approved Initiatives



Map 5.5: Current and Approved Initiatives

Phase 1: 0 - 5 years (Map 5.6 and Table 5.6)

Actions within this phase include public sector initiatives that will support private sector development identified as a short term or immediate market opportunity. Public investment is targeted towards completion of catalyst roads, such as Riverbend Drive and the road north of the canal in Lakeside Commerce Park, the purchase of strategic land parcels, including Village Farms in Riverbend Peninsula, and the establishment of performance criteria to regulate development in high profile areas. Community focused initiatives are also recommended in this phase, including Riverbank rehabilitation, Tifft Street bridge improvements and construction of a new community based Athletic Center. A program of rehabilitation for private homes will also be encouraged. Early private development will be employment focused, led by the initial build out of Riverbend Employment and the continued build out of Lakeside Commerce Park with Industrial and Business Park uses. Hopkins Street may also begin to redevelop with Business Park and Business Service uses, supported through streetscape enhancements.

Initiatives 5-15 Years	Implementation Activities						
	Partnerships	Scoping/Feasibility study	Management	Detailed Master Planning	Performance Criteria	Planning and Regulatory Changes	Installation
1. Riverbend Peninsula							
Masterplan, Performance Criteria and Re-designation					x	x	
Village Farms Acquisition/Partnership	x		x				
Geotechnical Study		x					
Riverfront Rehabilitation, Pedestrian Trail and Bike Path				x		x	x
Land Preservation for Higher Order Transit/Station			x				
Management and Marketing Strategy for R & D			x				
2. Riverbend Employment							
Riverbend Drive Tifft to I-190 EA and Construction		x		x			x
Masterplan, Performance Criteria and Re-designation					x	x	
Management and Marketing Strategy			x				
Local Roads				x			x
Environmental and Use Criteria for the Port					x	x	
Geotechnical Study		x					
Land Preservation for Higher Order Transit/Station			x				
Land preservation for East-West Road South of the River and Bridge Over Rail Corrdior			x				
Assessment and Construction of Required Utilities				x			x
Norfolk Southern Acquisition			x				
Tifft Street Bridge Improvements		x		x			x
3. Existing Neighborhoods							
Land Use and Infill Guidelines					x	x	
Commercial and Industrial Land Use Re-designation					x	x	
Abandoned Sites acquisitions			x				
Enhance Streetscaping throughout Neighborhood				x			x
Neighborhood Park				x	x		x
Neighborhood Stabilization and Rehabilitation Program			x				

Table 5.6: Phase 1 Initiatives

continued...

... continued

4. Hopkins North							
Hopkins Street Streetscape Improvements				x			x
Re-designation, Land Use and Performance Criteria					x	x	
5. Hopkins South							
Hopkins Street Streetscape Improvements				x			x
Hopkins and Reading Streets Re-designation, Land Use and Performance Criteria					x	x	
Geotechnical Study		x					
Ramco Alltift Site Land Acquisition	x		x				
Skyway Auto Parts Land Acquisition for New Road Alignment	x		x				
6. South Park Open Space System							
Athletic Center	x	x	x	x			x
Sale or Lease of Marilla Landfill	x		x				
Geotechnical Study		x					
Golf Course –Partnerships and Marketing Analysis	x	x					
Steelfields Ltd site Land Acquisition			x				
Bob and Don's Junkyard Site Land Acquisition			x				
7. Lakeside Commerce Park							
North Canal Road				x			x
Design and Development Standards Review						x	
Performance Criteria for Properties Adjacent to the Canal					x	x	
Geotechnical Study		x					
Management and Marketing Strategy			x				
8. Lehigh Valley/Tifft							
Lehigh Valley Land Acquisition	x	x	x				
Land preservation for East-West Road South of the River			x				
9. Riverfront							
Conrail Land Acquisition	x		x				
Greenway Trail with Bike Path				x		x	x
Beyond BOA Boundary							
Lakefront Re-designation, Land Use and Performance Criteria					x	x	
Ohio Street Streetscaping				x			x

Map 5.6: Phase 1

Phase 2: 5 - 15 years (Map 5.7 and Table 5.7)

Phase 2 shifts the investment focus to open space enhancement, unlocking the potential of areas outside of Riverbend Employment. Lehigh Valley is purchased, allowing for an expansion of the Tifft Nature Preserve, a new north-south road and additional lands for advanced recycling and green industries. A bird sanctuary is formalized across most of the Conrail property while Concrete Central is retained for industrial use. A golf course is established on the former landfills creating a new open space and recreational amenity and the value needed for employment and community development. The isolation of natural assets is resolved with improved open space connections. These changes are supplemented by the construction of new local roads in Riverbend Peninsula.

The emphasis on parks, natural areas and local roads will create a desirable setting to encourage new private development. Residential, commercial and retail development in mixed use buildings will commence in the Riverbend Peninsula. Following the relocation of the containment cell, new investment is expected to fill a majority of the employment areas including the Lakeside Commerce Park and Riverbend Employment areas. A Research and Development campus is reserved in the mixed use Riverbend Peninsula and will be achieved through public/private partnerships and linked with the activities of the proposed Tifft Brownfield Center. This will create a local resource promoting leading edge technology which can be utilized and commercialized by green industries and businesses. This will enhance the BOA's competitive advantage in the Region as well as nationally.

Initiatives 5-15 Years	Implementation Activities						
	Partnerships	Scoping/Feasibility study	Management	Detailed Master Planning	Performance Criteria	Planning and Regulatory Changes	Installation
1. Riverbend Peninsula							
Riverbend Road				x			x
Assessment and Construction of Required Utilities				x			x
Public Parks				x	x		x
Local Roads				x			x
2. Riverbend Employment							
Relocation of Containment Cell	x		x				x
Service Road over former Containment Cell Land				x			x
3. Existing Neighborhoods							
No Major Initiatives							
4. Hopkins North							
No Major Initiatives							
5. Hopkins South							
Riverbend Drive Extension South				x			x
6. South Park Open Space System							
South Park Traffic Management Improvements		x	x				x
Golf Course Completion							x
7. Lakeside Commerce Park							
No Major Initiatives							

Table 5.7: Phase 2 Initiatives

continued...

... continued

8. Lehigh Valley/Tifft							
Environmental Masterplan		x		x			x
Rail Side Drive				x			x
Management and Marketing Strategy			x				
Sustainability Center	x	x		x			x
New Tifft Education and Visitor Center		x		x			x
Assessment and Construction of Required Utilities				x			x
CSX Rail Line Re-configuration		x		x			x
9. Riverfront							
Bird Sanctuary				x			x
RiverWright Expansion	x		x				
Rail Side Drive Extension				x			x
Greenway Trail with Bike Path				x		x	x
Beyond BOA Boundary							
LRT Extension EA	x	x					
Route 5 EA		x					

Map 5.7: Phase 2

Phase 3: 15 - 25+ years
(Map 5.8 and Table 5.8)

The final phase will target investment towards build out of the highest value areas and completion of the most expensive projects. Riverbend Peninsula, and the mixed use areas along Reading Street and along Riverbend Drive south of Tifft Street, will fully develop once there is sufficient residential demand. Completion of a higher order bus or light rail transit link to downtown will enhance mobility options and raise the profile of the BOA. This will be most evident in the Peninsula, which will offer high quality walkable living environment with easy access to the downtown. Although improvements to the facilities and recreation opportunities along the lakefront will have been on-going, the lakefront will not be a fully embraced asset without barrier free access from the BOA. The repositioning of Route 5 as an urban boulevard, assisted by the improvements to Fuhrmann Boulevard occurring today, will promote seamless movement between the lakefront and the BOA for those living and working within the BOA and beyond.

Initiatives 15 – 25+ years	**Implementation Activities**						
	Partnerships	Scoping/ Feasibility Study	Management	Detailed Master Planning	Performance Criteria	Planning and Regulatory Changes	Installation
1. Riverbend Peninsula							
Management Strategy			x				
Buffalo LRT Extension to Riverbend	x	x		x			x
2. Hopkins South							
Reading Street Streetscaping				x			x
3. Lehigh Valley/Tifft							
Tifft Outdoor Performance Theatre		x		x			
4. Beyond BOA Boundary							
Reposition Route 5 as a Lakefront Boulevard		x		x			x
Lakefront Open Space Enhancements				x			

Table 5.8: Phase 3 Initiatives

Map 5.8: Phase 3

Additional Projects: Flexible Timing (Map 5.9 and Table 5.9)

Certain projects, including a River Center, Railway Museum and additional bridge over the rail corridor are not tied to the phasing program and can be completed whenever financing or sponsorship is secured. These projects will add value to the BOA community and its cultural and recreational offerings.

Initiatives No fixed timing	**Implementation Activities**						
	Partnerships	Scoping/ Feasibility Study	Management	Detailed Master Planning	Performance Criteria	Planning and Regulatory Changes	Installation
Within the BOA							
1. South River Drive				x			x
2. South River Drive Bridge		x		x			x
3. River Center	x	x					x
4. Bird Sanctuary Education Center	x	x		x			x
Beyond BOA Boundary							
5. Waste to Energy Facility			x	x			x
6. Railway Museum	x	x		x			x

Table 5.9: Flexible Initiatives

Map 5.9: Flexible Time Frame

5.6 Summary of Economic, Environmental and Community Benefits

The redevelopment of the South Buffalo BOA in accordance with the Master Plan will result in a number of community benefits to the surrounding neighborhood and the City as a whole. These include:

- A more sustainable BOA
- A local demonstration of Smart Growth
- Supporting the City's Employment Land Base
- Supporting New Job and Residential Growth in the City
- Increasing the City's Residential and Commercial Tax Base
- Capital Investment in Buildings
- Capital Investment in Parks
- Efficient Use of Existing Infrastructure
- Potential for Improved Transit

A more Sustainable BOA

The City of Buffalo and the State of New York are committed to building economically, environmentally and socially sustainable communities. Development on the South Buffalo BOA will allow the government to showcase this commitment. Physically, all elements of the Site will incorporate a sustainable approach to their development. Adding significant uses to the Site, including higher density employment and mixed use communities, will result in an efficient use of land. Buildings on the site will aim to achieve LEED certification, in support of its branding as a place for green industry and development.

The City may seek to lower the City's parking requirements for the Site and may make significant investments in either BRT (bus rapid transit) or LRT (light rail transit), encouraging those working on and visiting the BOA to travel by transit rather than by car. Finally, the government will take a progressive approach to municipal services, providing stormwater management ponds, where feasible, and will consider, as part of green development guidelines, the installation of green roofs, permeable paving, landscaping that filters runoff and other 'green' measures.

A Local Demonstration of Smart Growth

The Master Plan effectively demonstrates the first application of Smart Growth principles in a planned community in Buffalo. This is beneficial as it provides a local development example of how to achieve a complete community outside of the downtown by planning for a more urban development pattern than has traditionally existed. As it develops, the BOA will set a new precedent for Buffalo with respect to planning and design, encouraging the future development of:

- compact neighbourhoods that promote increased height and density, encourage a mix of uses and minimize surface parking; and,
- complete streets that accommodate pedestrians, cyclists, motorists and transit, supplemented by bike and pedestrian trails through public open spaces;

The long term benefits to Buffalo of incorporating additional Smart Growth developments into the existing City fabric include:

- Reducing sprawl and urban decline and increasing property values;
- Re-connecting neighborhoods, building a sense of place and attracting more people and businesses; and,
- Promoting a more active, less car dependent lifestyle, reducing emissions and fostering healthier population.

Supporting the City's Employment Land Base

The proposed redevelopment will maintain over 600 acres of land within the City for employment purposes. This is an area of the City that does not contain a significant employment node. Given that

much of the land surrounding the BOA is residential, the BOA redevelopment will help to maintain a healthy ratio of employment to residential uses.

Supporting New Job and Residential Growth in the City

Once fully developed, thousands of people will work and live in the BOA. Much of the employment in the BOA is anticipated to create high quality jobs in business, research and 'green' industry, providing good work opportunities for residents in the area. In addition, over 15 years of construction jobs will be created as the project is phased. Spin-off commercial development in the surrounding area, resulting from the new employees, will generate additional off-site employment. Finally, employees on the Site who wish to live close to their place of employment may be encouraged to move to adjacent neighborhoods or new communities in the BOA. This will result in new residential construction and additional clients for existing businesses.

Increasing the City's Residential and Commercial Tax Base

Redevelopment of the BOA will increase property tax revenue with each new building and generate spin-off residential and commercial activity in the area. This will help to increase the health of commercial uses in the surrounding neighborhood and enhance assessment values which will generate additional revenue for the City. If the Master Plan did not plan for higher value uses and they were to locate elsewhere, possibly outside of the City of Buffalo, much of this tax revenue would accrue to another municipality.

Capital Investment in Buildings

While many of the anticipated improvements will focus on new infrastructure and enrichment of the public realm, benefitting existing communities and encouraging private sector investment in the BOA, the Master Plan contemplates construction of several new buildings, financed at least in part by the public sector. These include:

- A Brownfield Center
- A Sustainability Center
- A new Tifft Education and Visitor Center
- A River Center
- An Athletic Center
- A Railway Museum

Capital Investment in Parks

Significant new open space is planned for the BOA, with almost half of the total acreage reserved for naturalized areas and places for active and passive recreation, including new parkland and improved programming and facilities. The Tifft Nature Preserve will be expanded eastward enhancing this already significant City amenity. It is anticipated that much of the Conrail property will be converted into a bird sanctuary. The addition of a golf course on the landfills, combined with an athletic facility, sports fields and improvements to South Park will an important center for recreation. Finally, naturalization of the Riverfront and a new River Center will enhance habitat and reintroduce residents to the Buffalo River.

Efficient Use of Existing Infrastructure

The proposed redevelopment of the BOA will create a large employment hub that better connects the site into the surrounding community. New roads and bike paths on the BOA will directly link with existing roads off the site, improving connectivity between the adjacent neighborhoods and the BOA and the lakefront. Investment in a connection to the I-190 and the siting of appropriate industrial uses adjacent to the port and the rail corridor will take advantage of these transportation amenities. Although, ultimately, some upgrades to sewers, transit, roads and power lines will be required, development in this location will efficiently use

much of the City's existing infrastructure. This provides economies of scale and reduces City costs associated with servicing such developments should they be located in less developed locations.

Potential for Improved Transit

The City desires that some of the travel demand to the Site be satisfied through transit usage. By adding a significant new employment population to the area, opportunities to improve the level and type of transit service to the BOA and through the community may be available. Initially, increased demand generated by new employment will likely be met by additional buses. Once the Site is fully developed with employment and residential units there may be sufficient transit demand to justify construction of a light rail line from downtown along the existing transit right-of-way north of the Buffalo River.

5.7 Key Recommendations

The following eight recommendations will serve as the basis for the Implementation Strategy. They are comprised of critical activities centered on managing the BOA, financing the BOA's redevelopment and commencing development within the BOA. They recognize that realizing the full potential of the South Buffalo BOA will take a concerted and coordinated effort by many parties, significant up front public resources and completion of priority public projects to initiate redevelopment. Successful implementation will result in a strong return on investment over the medium and long term and demonstration of interest for contemporary urban solutions to city building and renewal.

Managing the BOA

1. Apply for Step 3: Implementation Strategy

The Implementation Strategy, the third step of the Brown Opportunity Areas Program, provides a description of the full range of techniques and actions, ranging from actions and projects that can be undertaken immediately to those which have a longer time-frame. These are necessary to implement the area-wide plan and to ensure that proposed uses and improvements materialize. As well, site assessments on strategic brownfield sites may be eligible for funding if environmental data is required.

Although the Master Plan, completed as part of Step 2 of the BOA Program, proposes preliminary phasing and a list of strategic sites, the actual implementation details and determination of which sites will be assessed will occur in Step 3. An application for Step 3 should be submitted by the City to the Department of State and the Department of Environmental Conservation shortly after completion of the Step 2 Nomination Document and Master Plan to build momentum and maintain public interest in the BOA process.

2. Use the Master Plan to Guide Decision-Making

The BOA Master Plan should be adopted as a core framework to guide change within and in the vicinity of the BOA and should be formally recognized within Buffalo's planning and regulatory framework. The Principles within the Master Plan were developed with significant public input and represent the overall Vision for the BOA. The Principles, along with all elements of the Master Plan, particularly the Precinct Areas and the Phasing Strategy, provide clear direction for decisions about land use, growth and investment priorities. As additional studies, such as the Buffalo River or Outer Harbor BOAs come forward, the South Buffalo BOA Master Plan should act as a strong departure point for initiatives in and around the BOA. As such, development in adjacent areas should complement and not compete with the emerging economic sectors that will be fostered in the South Buffalo BOA. Similarly, the suitability of private development proposals and public infrastructure investment should be based on their consistency with the land use, built form and other directives in the Master Plan.

3. Seek Commitment to both the Short Term and Long Term Potential of the Site

Many of the immediate opportunities on the BOA involve land management, such as conducting site assessments and acquiring land, overseeing feasibility and Master Plan studies, and constructing crucial road infrastructure, primarily to support the development of industrial and business park uses. Given the potential scope of activity, the BOA would benefit from the establishment of a Redevelopment Authority or Implementation Council to coordinate initiatives, make applications and manage reports and analyses. The structure and composition should be explored in Step 3 of the BOA program but it is recommended that the Steering Committee established in Step 2 be a significant part of this body, given their breadth of experience, commitment and knowledge of the BOA.

Medium to longer term activities are comprised of several large scale investments, including the re-positioning of Route 5, the relocation of the containment cell and the construction of a higher order transit link to the downtown. It is anticipated that the development of the highest value lands with mixed uses and R & D will also occur in the medium to longer terms. Fostering this long term potential will require significant financial resources as well as the preservation of land for high value development and the transit right-of-way. It will be important to continue to build public and State support for the Master Plan to successfully seek funding and investment for the most ambitious BOA initiatives and to resist pressure to develop high value lands in the near term with uses that are incompatible with the long term vision for the BOA.

4. Formalize Partnerships between the City, State, Public Agencies and the Private Sector

The Master Plan Principles recognize the importance of partnerships for the BOA. In particular, Principle 7 emphasizes that "Success in the BOA will depend upon the collaboration and coordination of many people and agencies, including state and regional departments, educational institutions, the City, private sector investors and the local community." Partnerships should be reinforced and enhanced that move forward many of the initiatives envisioned by the Master Plan, including:

- with private owners to encourage the assessment and remediation of privately owned sites;
- with educational institutions to create an R & D campus, Brownfield remediation facilities, Sustainability Center and green industries;
- with the Olmsted Parks Conservancy and other private interests to determine the appropriate ownership structure of the landfill sites, develop a golf course and construct a joint Athletic Center and golf club house; and,
- with the Department of Transportation to conduct an assessment for higher order transit, facilitate the remediation of lands for certain roads and construct key streets such as Riverbend Drive and the connection to I-190.

Financing the BOA

5. Seek and Leverage Funding Sources and Partners

While the BOA program will provide financial assistance to undertake the assessment of strategic sites, funding for the remediation of these sites and for redevelopment initiatives, including infrastructure improvements, building construction and public realm enhancements, will need to be sought from other sources. There are many potential agencies, such as the Environmental Restoration Program, the Brownfield Clean-up program, the Department of Transportation and the New York Power Authority, that may offer support or incentives for public or private led projects. These agencies should be approached now to determine the level of assistance they can realistically offer. The Brownfields Smart Growth Spotlight Communities Initiative, which has designated the South Buffalo BOA as a Spotlight Community, will be an important source of funding and organizational capacity building, helping to raise awareness and improve coordination and partnerships with state agencies.

6. Target Reinvestment to Encourage Private Development

Requests to State agencies should seek to target funding to the delivery of priority projects. While the full redevelopment of the BOA will occur over decades, focusing resources to specific areas and actions will make the best use of initial investments by demonstrating coordinated action and change in key locations. Selected projects can be either small or expansive in scope, but must face limited barriers, be feasible to implement, capable of demonstrating early success and/or deliver a community benefit or fuel further growth. Public funds will not finance

the redevelopment of the BOA but will ultimately attract the private development that will transform the area. These projects leverage public money and represent the first wave of investment. Additional waves of investment will follow which are much less dependent on City and State resources. Priority projects should therefore not only benefit existing communities but should also act as magnets for private sector interest, such as the installation of infrastructure to allow private lands to be developed or improvements to the public realm to create an attractive setting for new residential and commercial development.

Commencing Development

7. Commence Site Assessments and Priority Projects

The Master Plan identifies numerous initiatives that will facilitate the development of the BOA (Table 5.10). While several of the initiatives involve the construction of a building, infrastructure or public realm project, many of these activities are focused on more preliminary actions, including completing studies, undertaking management actions and developing partnerships. These initiatives are critical as they illustrate to the general public and development community that change is occurring on the BOA, they often provide a public benefit that has been absent and they may put in place support for private sector investment. Also identified as part of the Remediation Strategy are Strategic Sites. These are discrete land parcels located throughout the BOA that are recommended for site assessment and potentially site remediation depending upon the outcome of the assessment.

8. Integrate Sustainable Building Practices

Green standards for the BOA, which address the preparation of sites, the installation of infrastructure and the construction of buildings, should be adopted and implemented as development occurs. The standards can either be drafted specifically for the BOA, or can be adapted or taken directly from an existing set of criteria, such as the Leadership in Energy and Environmental Design (LEED) Green Building Rating System. The purpose of these practices is to mitigate the environmental impacts of development on air and water quality, to reduce energy use and greenhouse gas emissions and to improve the provision of city services and utilities, such as solid waste and stormwater management. Performance measures for sustainable development should specifically address such elements as building energy efficiency and materials, road, pedestrian and bicycle network design, landscaping and plant selection, and stormwater management through ponds, green roofs, permeable paving and other measures. Adherence to these criteria both respects the health of the natural environment, a significant feature of the BOA, and contribute to the branding of the BOA as a hub for green industry, creating a district where the design of buildings, infrastructure and spaces and the activities and industries that occur within them are focused on sustainability.

Project	Project Type	Significance
Riverbend Drive	Infrastructure Installation	• The creation of Riverbend Drive linking Tifft Street to I-190 will help to enhance access to the BOA and be key to the establishment of a new high profile address for the Riverbend Employment area • The connection to I-190 will also serve to enhance access to the Elk Street Redevelopment Area north of the River
Riverbend Peninsula and Employment Area	Park Feasibility Study and Master Plan	• The market data indicates the employment area can come forward in the short term. This will rebrand the area as a focus for new employment and green economic activities and encourage additional employment growth
Riverfront Naturalization	Environmental Enhancement	• The re-naturalization of the Buffalo River will complement existing initiatives to enhance the quality of the river, improve public access and help to create a setting for higher value investments on the Peninsula
Lakeside Commerce Park Road	Infrastructure Installation	• The design and construction of north canal road will provide access to the remaining available lands within the commerce park. This will enable the ongoing development of the area and feed the current market demand for industrial and business uses
Hickory Woods Clean Up/ Residential Property Rehabilitation/ Tifft Street bridge/ Hopkins Street Streetscaping	Community Renewal	• These projects, intended to promote the ongoing cleanup and renewal of local neighborhoods represent an important opportunity to demonstrate a continued commitment to the South Buffalo community. New streetscaping along Hopkins Street and Tifft Street Bridge enhancements will help to improve the image of the area and strengthen connections between the neighborhoods and the area's various natural amenities
Athletic Center	Public Realm and Recreation	• A new community athletic center at the gateway to South Park represents an important opportunity to enhance the recreational offer in South Buffalo at an area which is both accessible to the local community and capable of dovetailing with existing Olmsted recreational and site initiatives

Table 5.10: Priority Projects

continued...

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Project	Project Type	Significance
Tifft Expansion	Environmental Enhancement	• The remediation and expansion of the TIFFT Nature Preserve represents an important opportunity to create a green focus and identity for the BOA. The remediation and expansion of Tifft will help to improve its hydrological functions and create the potential for a new research campus focused around sustainability, natural sciences and remediation • Enhanced access to the lands adjacent to the rail corridor will create space for new green industries
Golf Course/Open Space	Feasibility Study and Master Plan	• The majority of these lands are former landfill sites and have little development potential. The extension of Riverbend Drive and development of an open space amenity such as a park or golf course will create a high value setting for new commercial and residential uses as well as the existing neighborhoods east of Hopkins • A new golf course would enable the relocation of the existing golf course within South Park and restoration of the park to its original Olmsted design
90 Hopkins/BLCP Parcel 4	Assessment and Remediation	• Preliminary site assessments under Environmental Restoration Program have occurred and DEC is currently reviewing Remedial Action Plans • Remediation of BLCP Parcel 4 would enable the construction of north canal road and enable short term redevelopment opportunities • 90 Hopkins has potential for longer term redevelopment as a component of the South Buffalo Golf Course / Open Space
Sustainability Center	Education/R&D	• The development of a sustainability centre off of Tifft Street would contribute to the branding of the BOA. The center could create a focus for research and educational activities related to energy conservation, the environment, brownfield remediation and / or green development. It would help to support employment within the BOA by encouraging the clustering of "green" research related activities and industry

The existing portion of Riverbend Drive north of Tifft Street

6

Assessment and Remediation Strategy for Strategic Sites

6.1 Introduction

Following completion of the land base inventory and analysis and compilation of the site profiles detailing relevant brownfield, abandoned and vacant sites in the BOA, an analysis was undertaken to determine the scope and location of strategic site parcels for which site assessments and/or remediation would be necessary and appropriate to spur redevelopment opportunities in accordance with the BOA Master Plan. Strategic Sites are individual parcels that may require a Phase II Environmental Site Assessment (ESA). The site profiles included in Appendix B provides information that is typically included in a Phase I ESA. Strategic Sites have three conditions:

1. The owner cannot have been responsible for the contamination;
2. The owner must be willing to redevelop the Site in a manner consistent with the BOA Master Plan; and
3. The Site must allow for a key redevelopment opportunity, either on the Site itself or on another property within the BOA.

The primary focus of the Assessment and Remediation Strategy is to identify specific parcels that are eligible for site assessment funding under the BOA program and sites that require remediation which may be eligible for funding and/or incentives under other State programs.

Within the BOA, a significant portion of the publicly owned lands have been remediated and are available for commercial or industrial development. The 275-acre Buffalo Lakeside Commerce Park, developed by the Buffalo Urban Development Corporation, has largely been remediated and is now home to new facilities including CertainTeed Corp., Cobey, Inc. and Sonwil Distribution, employing more than 400 workers. Approximately 105 acres within the commerce park are available for new development.

Remediation activities at the 180-acre Riverbend Commerce Park (formerly Steelfields) were completed in 2007. These lands have been remediated and are available for commercial or industrial development. An additional 31 acres at the southern end of the Riverbend site has been remediated and is now home to Hydro-Air Components, Inc. A portion of the 31-acre Hydro-Air site is vacant and may be available for future expansion of the Hydro-Air facility or related development.

6.2 Strategic Sites

The Strategic Sites were determined through extensive input from the steering committee, and with consideration given to the following: overall importance to the community; location; ownership; property size and capacity for redevelopment; potential to spur additional economic development or positive change in the community; potential to improve quality of life or to site new public amenities; community support; and, adequacy of supporting or nearby infrastructure, utilities and transportation systems.

An analysis of individual tax parcels was undertaken to determine whether:

1. sites with known contamination, no site characterization, or sites categorized as brownfields should be assessed under Step 3 of the BOA program;
2. sites that have been adequately assessed require remediation under a State or Federal program to accommodate the potential contemplated use; and,
3. sites that have been remediated can accommodate the identified contemplated uses. A total of 86 sites are recommended for site assessments under the BOA program and four sites (approximately 10 tax parcels) are recommended for remediation (i.e., sites that have already been adequately assessed and are awaiting remediation).

Site Assessments

Within the 1,968 acre BOA there are approximately 900 tax parcels. Approximately 500 of these, on approximately 1,000 acres include residential, parks and open space, rail corridors and rights-of-way, public services/utilities and closed landfills and are not considered to be appropriate candidates for site assessments under the BOA program. The remaining approximately 400 tax parcels, also on approximately 1,000 acres, include vacant and underutilized land and industrial and commercial uses. Brownfield, abandoned and vacant sites within these areas became the primary focus for site assessment prioritization consistent with the goals and objectives of the BOA program.

A total of 86 individual tax parcels on approximately 311 acres have been identified as priority strategic sites for which site assessments are recommended. A few additional sites have been identified as requiring site assessments but these would not be undertaken under the BOA program. Rather, site assessments would be undertaken under a different State program or by another public entity such as the NYSDOT. These include the berm area and Norfolk Southern railroad right-of-way in the Riverbend Employment Precinct, 90 Hopkins Street and individual parcels primarily in the existing neighborhoods, which, due to the number of strategic sites identified that will require site assessments, are not included at this time. The sites for which site assessments are recommended are summarized in more detail under section B below.

The primary objective of conducting a BOA site assessment is to provide sufficient information regarding contamination to assist in making an informed decision about the strategic site's potential for redevelopment and revitalization. In order to be eligible for a site assessment, the State must determine that additional environmental information regarding contamination of the site is necessary to determine a technically and economically viable land use.

Under Step 3 of the BOA Program, site assessment funding is available for strategic sites on a competitive basis. Remediation activities are not eligible for funding under the BOA Program but may be eligible for funding and tax incentives. A site assessment is a Phase II ESA and is conducted in accordance with ASTM E1903-97 (2002), the industry standard. If an ASTM Phase I ESA was not performed on the strategic site under Step 2, it can be included as a task under the Phase II ESA. In

most instances, a combined Phase I/II ESA would be recommended. Based on the guidance provided under the BOA program, while Phase II ESAs are typically not sufficient for selecting a remedy, a Phase II ESA is sufficient for land use planning purposes and can be completed in a short period of time. The level of assessment required will depend on the environmental information currently available for the site and the proposed land use for the site.

For a strategic site to be eligible for site assessment funds under the BOA program, it must meet the following criteria:

- be any real property, the redevelopment or reuse of which may be complicated by the presence or potential presence of a contaminant;
- additional environmental information must be necessary to determine a technically and economically viable land use for the BOA;
- must be owned by a volunteer (as defined at 6 NYCCR 375-3.2) or a municipality (as defined at 6 NYCCR 375-4.2);
- cannot be a Class 1 or 2 site on the Registry of Inactive Hazardous Waste Disposal Sites in New York;
- cannot be on the Federal National Priority List;
- cannot be a permitted Resource Conservation and Recovery Act site (note: interim status sites are eligible);
- cannot be subject to an order for cleanup under Article 12 of the Navigation Law or Article 17 Title 10 of the Environmental Conservation Law; and,
- cannot be subject to an enforcement action under another State or Federal remedial program.

Other programs including USEPA's Brownfield Assessment Grants and Targeted Brownfield Assessment Program may provide additional site assessment resources for strategic sites within the BOA.

Remediation

Of the numerous brownfield, abandoned and vacant sites identified during the inventory and analysis phase, a total of four sites on approximately 60 acres, summarized in more detail under Section B below, have been identified as strategic sites that have been assessed but which require remediation prior to redevelopment. They are:

- Village Farms site (excluding the warehouse parcel)
- Hickory Woods Parcels (3 parcels)
- 90 Hopkins Street
- Buffalo Lakeside Commerce Park Parcel 4

As indicated above, remediation activities are not eligible for funding under Step 3 of the BOA program. However, other State programs are available for remediation activities, including programs that provide significant tax incentives for both remediation and redevelopment. For example, the State's Environmental Restoration Program (ERP) provides grants to municipalities to reimburse up to 90 percent of on-site eligible costs and 100% of off-site eligible costs for site investigation and remediation activities. Although the ERP currently lacks funding, replenishment of the ERP may be authorized in the future and could provide a funding source for remediation of strategic sites in the BOA.

The Brownfield Cleanup Program (BCP) is a State program that can be utilized for both remediation and redevelopment activities within the BOA. The BCP legislation, which was amended in 2008, provides tax credits in return for the cleanup and redevelopment of BCP sites. Key elements of the amended BCP legislation include:

- Site Preparation Credit and On-site Groundwater Remediation Credits. Eligible costs include remediation, demolition, excavation, fencing, security, and other capital account costs to make

the site usable for redevelopment, excluding site acquisition costs. Eligible costs may be claimed for up to five years after the issuance of a Certificate of Completion. Projects accepted into the BCP after June 23, 2008 may qualify for credits ranging from 22-50%, whereas projects accepted prior to June 23, 2008 may qualify for credits ranging from 10-22%.

- Tangible Property Credit Component ("Redevelopment Credit"). For sites accepted into the BCP after June 23, 2008, the legislation increases the tangible property credits by 2% for sites in a designated BOA where redevelopment conforms to the goals and priorities of the BOA. Eligible costs include buildings and improvements (including structural components of buildings) that are placed into service within 10 years after a Certificate of Completion is issued. Projects accepted into the BCP after June 23, 2008 may qualify for credits ranging from 10-24%, whereas projects accepted prior to June 23, 2008 may qualify for credits ranging from 10-22%.

- Tangible Property Credit Cap. For sites accepted into the BCP after June 23, 2008, the applicable tangible property tax cap is based on allowable land uses as outlined in the Certificate of Completion and calculated as follows:

  - Non-manufacturing projects: $35 million or three times (3x) the site preparation and on-site groundwater remediation costs, whichever is less.
  - Manufacturing projects: $45 million or six times (6x) the site preparation and on-site groundwater remediation costs, whichever is less.

6.3 Assessment and Remediation Strategy

The following discussion provides a summary of the specific strategic site parcels, organized by Precinct Area. The summary is based on the inventory and analysis and includes site assessment/remediation recommendations for strategic sites.

6.3.1 Riverbend Peninsula

The Riverbend Peninsula precinct is bounded by the Buffalo River on the north, west and east and by an area to the immediate north of the Norfolk Southern Railroad right-of-way on the south. It includes the former Village Farms hydroponics site between South Park Avenue and the Buffalo River and the northern portion of the Riverbend (formerly Steelfields) site (see Map 6.1).

Village Farms Site

The publicly owned portion of the Village Farms site is approximately 29 acres and owned by the City of Buffalo and the Buffalo Economic Renaissance Corporation (BERC). An approximately 7-acre parcel within the Village Farms site is owned by Village Farms, LP.

The site was historically occupied by industrial facilities from the early 1900s to the 1980s. Republic Steel occupied the site from the 1940s to the 1980s. A gas station was also present on one of the smaller parcels in the 1940's. In 1991, the City of Buffalo purchased the property from LTV Steel Company for construction of a hydroponics tomato manufacturing facility operated by Village Farms, LP. The hydroponics facility, constructed in 1999, included a large greenhouse with storage areas and a warehouse. Village Farms ceased operations in 2003 and the greenhouse/storage areas were demolished leaving only the 42,150 square foot warehouse, which sits on the adjoining 7-acre parcel and which is still operated as a warehouse facility by Village Farms. The publicly owned remainder of the site has been vacant since 2003.

The site was remediated in 1996 prior to construction of the hydroponics facility. Remediation activities conducted in 1996 included removal of underground storage tanks and an abandoned steel pipeline, and excavation of contaminated soil. In 2007, a Phase I ESA was completed on the publicly owned portion of the site which recommended surface soil/material sampling and subsurface soil and groundwater analyses to assess for the presence of hazardous materials. A Limited Phase II ESA was undertaken recently and the results are pending.

Riverbend Site

The largest and northernmost parcel within the Riverbend site is approximately 90 acres. This area was labeled Area I by the NYSDEC for purposes of organizing remedial activities within the overall site. It is located north of the Norfolk Southern Railroad (formerly Con-Rail) right-of-way and south of the Village Farms site. This rail right-of-way has been abandoned and the railroad tracks have been removed. An electric transmission line is located within this right-of-way.

The Riverbend site was historically occupied by industrial facilities from the early 1900s to the 1980s, including Republic Steel which occupied this and the remainder of the Riverbend site from the 1940s to the 1980s. LTV Steel Company also owned the site in more recent years. The site had significant amount of fill material from past activities, consisting of waste slag and coke, in addition to significant quantities of chemically contaminated soils from past disposal practices.

LTV Steel Company previously entered into a Voluntary Cleanup Agreement with the NYSDEC to

Map 6.1. Assessment and Remediation Sites - Riverbend Peninsula

remediate the site but filed for bankruptcy in 2000. In October 2002, Steelfields Ltd. purchased the site out of bankruptcy and entered into the Voluntary Cleanup Program and agreed to undertake the necessary investigation and cleanup. A work plan outlining the work to be performed was approved in 2002, and remedial work was completed in this area (i.e., Area I) in 2004. Today, the site is vacant and undeveloped. In May 2008, the BUDC purchased the property from Steelfields Ltd. and is contemplating redevelopment in accordance with the BOA Master Plan.

Recommendations

Assessment under BOA Program

The following parcel(s) have not been assessed and, therefore, it is recommended that an environmental site assessment under Step 3 of the BOA program be undertaken:

Site	Owner	Location	SBL No.	Acreage	Phase 1/II ESA Estimated Cost
Village Farms	Village Farms, LP	1196 South Park Avenue	122.16-1-17	7.01	$60,000

Assessment/Remediation under other program(s)

A Limited Phase II Environmental Site Assessment for the berm located along the eastern portion of the Riverbend site should be conducted. It is anticipated that a site assessment of this berm would be undertaken by the NYSDOT in anticipation of the construction of the new access road termed Riverbend Drive, which will connect Tifft Street to the I-190. The berm is located within portions of the following parcels:

Site	Owner	Location	SBL No.	Acreage*
Riverbend Berm	BUDC	312 Abby Street	122.20-1-5.1	3.248
Riverbend Berm	BUDC	321 Baraga Street	122.20-1-21	1.964
Riverbend Berm	BUDC	310 Abby Street	132.08-1-6	44.953
Riverbend Berm	BUDC	308 Abby Street	132.08-1-7	40.76

* It is noted that the berm is linear and is located along the eastern edge of the four tax parcels within Riverbend Commerce Park. Only the berm which comprises a small portion of each tax parcel will be assessed.

The publicly owned portion of the Village Farms site should be remediated as appropriate based on conclusions and recommendations presented in the Phase II Environmental Site Assessment which is pending completion. Recommendations regarding remediation levels should be based on contemplated uses within this portion of the site including residential and commercial uses (e.g., mixed use, business, and research). Remediation under the ERP or BCP could be undertaken depending upon specific site circumstances. The following parcels comprise the publicly owned portion of the Village Farms site:

Site	Owner	Location	SBL No.	Acreage
Village Farms	City of Buffalo	1086 South Park Avenue	122.16-1-4.112	1.19
Village Farms	BERC	1140 South Park Avenue	122.16-1-6	0.183
Village Farms	BERC	1176 South Park Avenue	122.16-1-16	26.16
Village Farms	City of Buffalo	1328 South Park Avenue	123.13-1-1.2	0.795
Village Farms	City of Buffalo	11 Bertha Street	123.17-1-1.11	0.368

Other Recommendations

The Riverbend site (Area I) has been remediated to commercial or industrial standards and no further remediation is recommended at this time. However, residential and mixed uses are contemplated for portions of this site over the long term which may require additional remediation to meet more stringent cleanup standards. Whether additional remediation is required depends on the type of residential development proposed. For example, single family residential with basements would require additional remediation to meet cleanup standards but mixed use development with commercial ground floors and residential upper floors may not require additional remediation. Any additional remediation for future residential development would require amendment of the restrictive covenants in place for the site.

For portions of this site that may be developed with commercial uses in the near term, certain restrictions in accordance with a Declaration of Covenants and Restrictions filed in the Erie County Clerk's office must be followed. These restrictive covenants impose certain restrictions on the owners of the site and its successors and assigns including maintenance of a vegetative cover, limiting the site's use to commercial and/or industrial purposes and a prohibition on using the groundwater underlying the site for drinking water or industrial purposes.

6.3.2 Riverbend Employment

The Riverbend Employment precinct is bounded by an area to the immediate north of the Norfolk Southern Railroad right-of-way on the north, the Buffalo River on the northeast, Tifft Street on the south, Germania Street and/or its right-of-way on the east and the rail corridor on the west. It includes the remainder of the Riverbend site including the Norfolk Southern right-of-way and Hydro-Air sites; several small parcels along Tifft Street; several parcels along Germania Street; a portion of the Skyway Auto Parts site south of Tifft Street; and the northeast portion of the BOA along the Buffalo River between the Norfolk Southern right-of-way and Payson Street (see Map 6.2).

Riverbend Site

The remainder of the Riverbend site south of the northern area (i.e. Area I) includes the remainder of the site (i.e., Norfolk Southern Railroad right-of-way, the containment cell and the former manufacturing building); the area south of the containment cell and north of the Hydro-Air property; and the manufacturing facility owned and operated by Hydro-Air and the vacant, undeveloped land to the west (also owned by Hydro-Air). Today, the site is vacant except for the former "August Feine" building located adjacent to the containment cell and the active Hydro-Air facility at the southern end of the site.

In 2006, the Hydro-Air site was separated from the overall Riverbend site and its owners entered into the BCP as Steelfields Area IV (Site #C915204). This area is also listed on the NYS Registry as a Class 3 hazardous waste site under Site #915017.

As stated above, the Riverbend site had significant amount of fill material (2 to 20 feet in depth) from past activities. The fill consisted of waste slag and coke, in addition to significant quantities of chemically contaminated soils from past disposal practices on the site. The site was remediated to commercial or industrial standards. Remedial work was completed in all areas of the site by October 2007.

As part of the overall cleanup of the Riverbend site, the approximately 14-acre containment cell was constructed to hold non-hazardous solid wastes that were excavated from other areas of the site. Land beneath the containment cell was not remediated and is suspected to contain levels of contamination that would require remediation if the containment cell were removed or relocated.

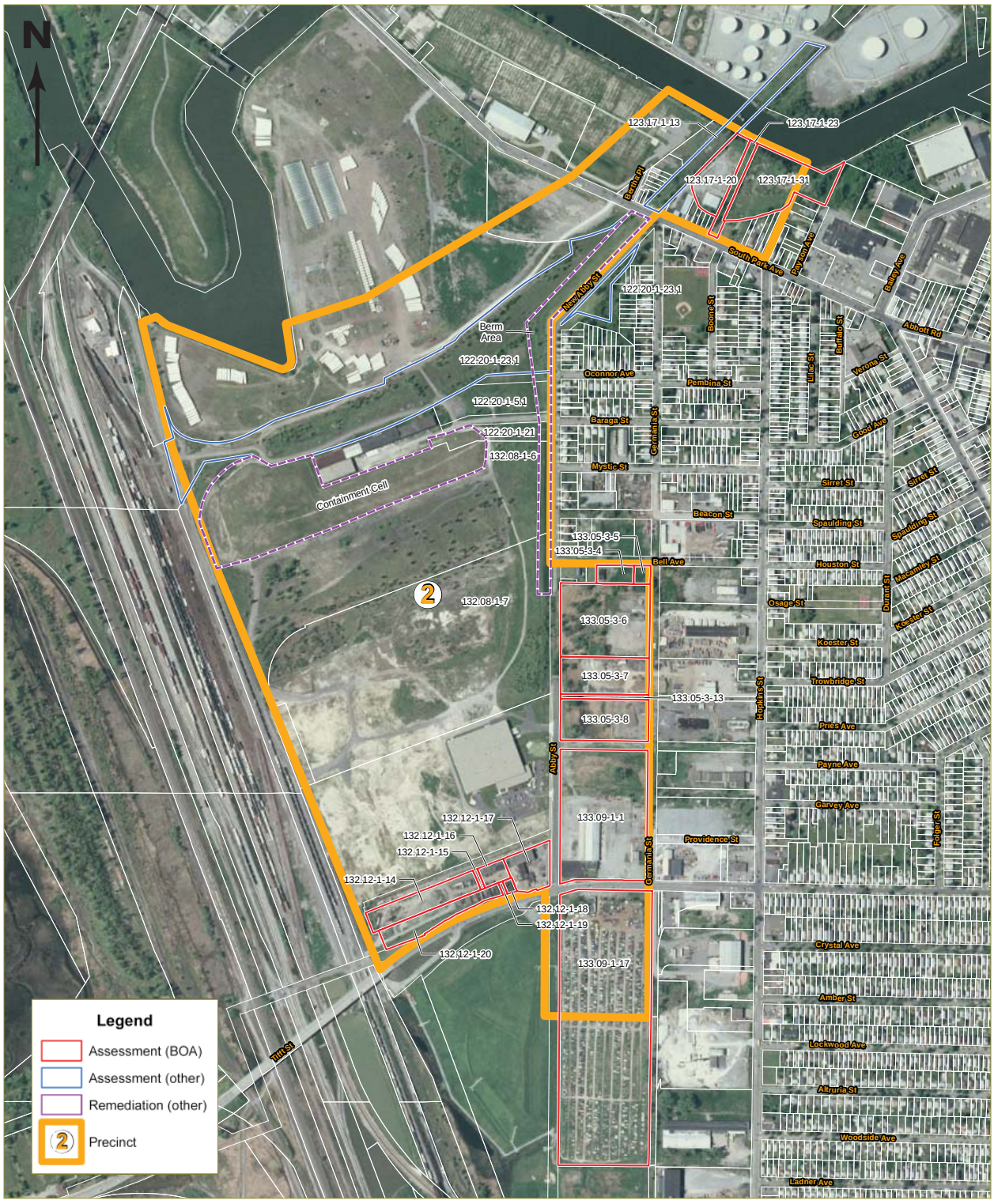
Krog Parcels

These seven parcels, comprising approximately seven acres, are located at the southernmost portion of the Riverbend Employment precinct area and are owned by a single entity, Krog USC Associates-1 LLC (formerly owned by Stanley Doraski). These parcels were recently purchased by Krog and it is unknown at this time whether a Phase 1 and 2 Environmental Site Assessment was conducted as part of the property transaction. No site characterization information was identified during the inventory and analysis phase.

Given the limited site characterization information available for parcels within this area, current and past uses, and proximity to nearby past and present industrial operations and contaminated sites, parcels in this area may have been impacted. Therefore, site assessments are recommended to properly characterize the sites and determine whether remediation is necessary to accommodate future contemplated uses.

Germania Street Parcels

This area comprising approximately 26 acres is located along the eastern edge of the Riverbend site east of the Abby Street right-of-way and south of



Map 6.2 Assessment and Remediation Sites - Riverbend Employment

Bell Avenue. Parcels in this area include an active warehouse facility and vacant and underutilized parcels. No site characterization for some of the parcels in this area was identified during the inventory and analysis phase. Other parcels such as the Price Trucking parcels include numerous past petroleum spills. Regarding the City of Buffalo owned 170 Germania Street parcels, a Phase I Environmental Site Assessment was conducted in September 2007 with recommendations for a Phase II site investigation consisting of fill pile sampling, surficial and subsurface and groundwater sampling and analyses to determine the presence of hazardous materials.

Given the limited site characterization information available for parcels within this area, current and past uses, and proximity to nearby past and present industrial operations and contaminated sites, parcels in this area may have been impacted. Therefore, site assessments are recommended to properly characterize the sites and determine whether remediation is necessary to accommodate future contemplated uses.

Skyway Auto Parts Site

This site is comprised of approximately 24 acres and is located south of Tifft Street, east of the Alltift Landfill, north of the Ramco Steel site and west of various commercial and industrial properties along Hopkins Street. The site has been used as an automotive scrap yard since approximately 1963. NYSDEC records indicate that the site has three registered aboveground storage tanks on site storing waste oil. In addition, a reported spill of auto waste fluids was recorded in 2000 and contaminated soil and waste antifreeze were being stored on site. Contaminated soil was disposed off site and the spill was subsequently closed by the NYSDEC. Given the limited information available for the site, past and current use as an automotive junkyard, the presence of storage tanks, a reported spill, and proximity to nearby past and present industrial operations and contaminated sites, the site may have been impacted. Therefore, a site assessment is recommended to properly characterize the site and determine whether remediation is necessary to accommodate future contemplated uses.

Buffalo River Parcels

These parcels are located in the northeast portion of the BOA north of South Park Avenue, east of the Norfolk Southern Railroad right-of-way, south of the Buffalo River and west of Payson Street. Three parcels abut the Buffalo River in this area including the former Clinton Disposal Service's which previously operated a construction and demolition debris facility (registered under NYSDEC Permit No. 9-1402-0194/01) , a City of Buffalo owned parcel and a large vacant parcel owned by Forest Stream Inc. The remaining parcels within this area front South Park Avenue and include a mix of residential and commercial uses and vacant properties.

According to NYSDEC records, a diesel fuel spill was reported at the former Clinton Disposal (1342 South Park Avenue) property but was subsequently closed and no further action was required. No further site characterization information was identified. Moreover, no further site characterization information was identified during the inventory and analysis phase for the City-owned or Forest Stream parcels.

Given the limited site characterization information available for parcels within this area, current and past uses, and proximity to nearby past and present industrial operations and contaminated sites, parcels in this area may have been impacted. Therefore, site assessments are recommended to properly characterize the sites and determine whether remediation is necessary to accommodate future contemplated uses.

Recommendations

Assessment under BOA Program

The following parcel(s) have not been assessed and, therefore, it is recommended that an environmental site assessment under Step 3 of the BOA program be undertaken:

Site	Owner	Location	SBL No.	Acreage*	Phase 1/II ESA Estimated Cost
Krog Parcels	Krog USC Associates-1 LLC	560 Tifft Street	132.12-1-20	2.047	
Krog Parcels	Krog USC Associates-1 LLC	562 Tifft Street	132.12-1-19	0.056	
Krog Parcels	Krog USC Associates-1 LLC	570 Tifft Street	132.12-1-18	0.136	
Krog Parcels	Krog USC Associates-1 LLC	580 Tifft Street	132.12-1-17	1.619	$110,000
Krog Parcels	Krog USC Associates-1 LLC	3 Providence	132.12-1-16	0.555	
Krog Parcels	Krog USC Associates-1 LLC	5 Providence	132.12-1-15	0.093	
Krog Parcels	Krog USC Associates-1 LLC	7 Providence	132.12-1-14	2.356	
Germania Street Parcels	L.A. Woolley Inc.	620 Tifft Street	133.09-1-1	10.962	
Germania Street Parcels	City of Buffalo	170 Germania Street	133.05-3-8	3.53	
Germania Street Parcels	City of Buffalo	172 Germania Street	133.05-3-13	0.41	
Germania Street Parcels	478 Hopkins Inc.	174 Germania Street	133.05-3-7	3.152	$200,000
Germania Street Parcels	Pallet Exchange Inc.	176 Germania Street	133.05-3-6	6.343	
Germania Street Parcels	Frank J. Marth	13 Bell Avenue	133.05-3-4	0.66	
Germania Street Parcels	John T. Price, Jr.	178 Germania Street	133.05-3-5	0.30	
Skyway Auto Parts	Skyway Auto Parts Inc.	637 Tifft Street	133.09-1-17	24.3	$110,000
Buffalo River Parcels	Douglas Terray	22 Buffalo River	123.17-1-20	2.23	
Buffalo River Parcels	City of Buffalo	1388 South Park Avenue	123.17-1-23	0.808	$60,000
Buffalo River Parcels	Forest Stream Inc.	8 Buffalo River	123.17-1-31	4.56	

* It is noted that the berm is linear and is located along the eastern edge of the four tax parcels within Riverbend Commerce Park. Only the berm which comprises a small portion of each tax parcel will be assessed.

Assessment/Remediation under other program(s)

A Limited Phase II Environmental Site Assessment should be conducted for the Norfolk Southern Railroad right-of-way parcels listed below, where appropriate. It is anticipated that site assessments of these areas would be undertaken as necessary by the NYSDOT in anticipation of the construction of the new access road also known as the Tifft Street Connector:

Site	Owner	Location	SBL No.	Acreage
Riverbend	Norfolk Southern	South Park Avenue and Abby Street	122.20-1-23.1	22.1
Riverbend	Norfolk Southern	South Park Avenue and Abby Street	123.17-1-13	3.3

The Riverbend containment cell should be relocated off site and a Remedial Investigation/Feasibility Study should be conducted of lands beneath the containment cell. Relocation of the containment cell and remediation of this area would be undertaken in the long term to accommodate future commercial and industrial development. The following parcels comprise the containment cell:

Site	Owner	Location	SBL No.	Acreage*
Riverbend	BUDC	321 Baraga Street	122.20-1-21	1.964
Riverbend	BUDC	310 Abby Street	132.08-1-6	44.95

* It is noted that the containment cell is located within two tax parcels in Riverbend Commerce Park. Only the containment cell which comprises approximately 14 acres will be assessed.

Other Recommendations

The Riverbend site (Area II, III & IV) has been remediated to commercial or industrial standards and no further remediation is recommended at this time. For portions of this site that may be developed with commercial uses in the near term, certain restrictions in accordance with a Declaration of Covenants and Restrictions filed in the Erie County Clerk's office must be followed. These restrictive covenants impose certain restrictions on the owners of the site and its successors and assigns including maintenance of a vegetative cover, limiting the site's use to commercial and/or industrial purposes and a prohibition on using the groundwater underlying the site for drinking water or industrial purposes.

6.3.3 Existing Neighborhoods

The Existing Neighborhoods precinct includes the Hickory Woods Neighborhood in the northern portion of the BOA and the South Hopkins neighborhood in the southern portion of the BOA. The Hickory Woods neighborhood is bounded by South Park Avenue on the North, New Abby and Abby Streets on the west, Bell Avenue and Beacon Street on the south and Hopkins Street on the east. It includes several vacant and active commercial parcels along South Park Avenue, the Amelia Street paper subdivision, and occupied residential areas. The South Hopkins neighborhood is bounded by Colgate Avenue on the north, underutilized, vacant parcels to the immediate east of Hopkins Street on the west, a railroad right-of-way on the south and South Park Avenue on the east (see Maps 6.3a and 6.3b).

Parcels within these two areas include residences, several active commercial operations, and underutilized and vacant parcels. The inventory and analysis phase identified some past petroleum spills at some of the commercial parcels. No site characterization information was identified for some of the other commercial and vacant parcels in this area.

Hickory Woods Parcels

Within the Hickory Woods neighborhood, three vacant, undeveloped parcels comprising an approximately one acre site are located at 92 and 9 Beacon Streets and 229 Abby Street. Donner Hanna Coke Corporation owned and operated this site for ancillary functions including employee housing, parking and vehicle maintenance. None of the parcels were evidently used for coke, steelmaking or other manufacturing operations. The Buffalo Urban Renewal Agency, as part of the Hickory Woods Subdivision development, acquired these parcels for residential development but they were never developed. A site investigation indicated that elevated concentrations of PAHs have impacted onsite surface and subsurface soils. This site has been temporarily capped and fenced off pending remediation by the City of Buffalo under U.S. Environmental Protection Agency oversight. The remediation of these parcels is required as part of the Hickory Woods settlement.

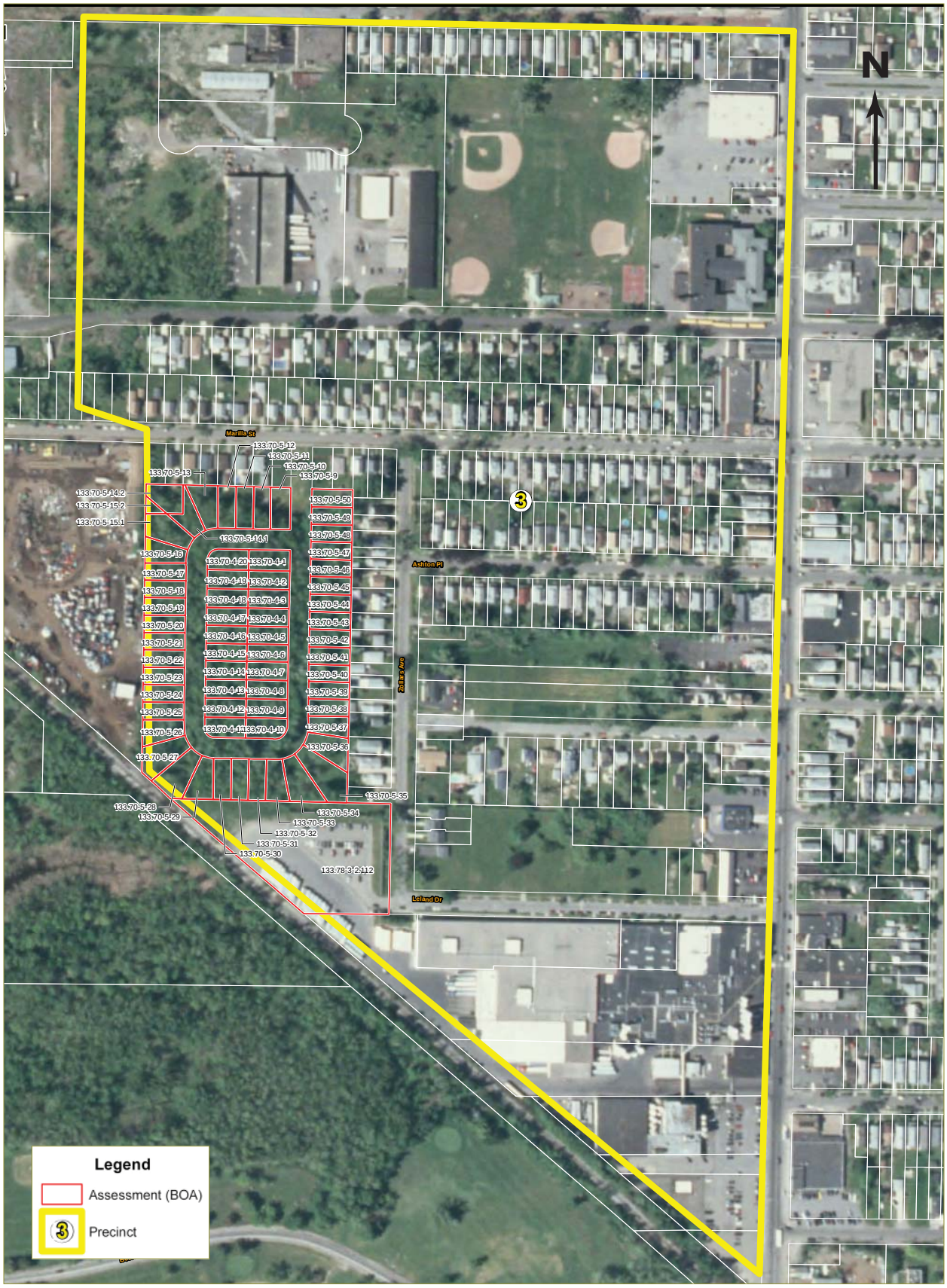
South Hopkins Neighborhood

Within the South Hopkins neighborhood, two sites comprising approximately nine acres are located in the southwest corner of the neighborhood to the immediate north of the railroad right-of-way. These include the Nevilly Court Paper Subdivision and the 2 Zollars Parking Lot described below.

Nevilly Court Paper Subdivision

The site is approximately 6.6 acres and is currently a vacant woodlot. The City of Buffalo acquired the parcels between the 1950's and 1970's. The site is comprised of 61 residential subdivision lots (approximately 0.1 acre each) that were never developed. The site also includes a paper subdivision street that also remains undeveloped. No site characterization was identified during the inventory and analysis phase and past uses indicated that the site has always been vacant. Therefore, the site was identified as having no known contamination. Nevertheless, given the lack of site characterization information available for the site and proximity to nearby junkyards and past and present industrial operations and contaminated sites, the site may have been impacted. Therefore, a site assessment is recommended to properly characterize the site and determine whether remediation is necessary to accommodate future contemplated uses.

Map 6.3a Assessment and Remediation Sites - Existing Neighbourhoods North



Map 6.3b Assessment and Remediation Sites - Existing Neighbourhoods South

2 Zollars Parking Lot

This site is approximately 2.3 acres and is used as a parking lot for the Sorrento Cheese facility. No site characterization information was identified during the inventory and analysis phase. Given the lack of site characterization information available for the site and proximity to nearby junkyards and past and present industrial operations and contaminated sites, the site may have been impacted. Therefore, a site assessment is recommended to properly characterize the site and determine whether remediation is necessary to accommodate future contemplated uses.

Recommendations

Assessment under BOA Program

The following parcel(s) have not been assessed and, therefore, it is recommended that an environmental site assessment under Step 3 of the BOA program be undertaken:

Site	Owner	Location	SBL No.	Acreage	Phase I/ II ESA cost Estimate
Nevilly Court Paper Subdivision	City of Buffalo	Nevilly Court East and West	Numerous	6.631	$60,000
2 Zollars Parking Lot	ECIDA	2 Zollars Avenue	133.78-3-2.112	2.287	

Assessment/Remediation under other program(s)

The following three BURA-owned parcels along Beacon and Abby Streets should be remediated:

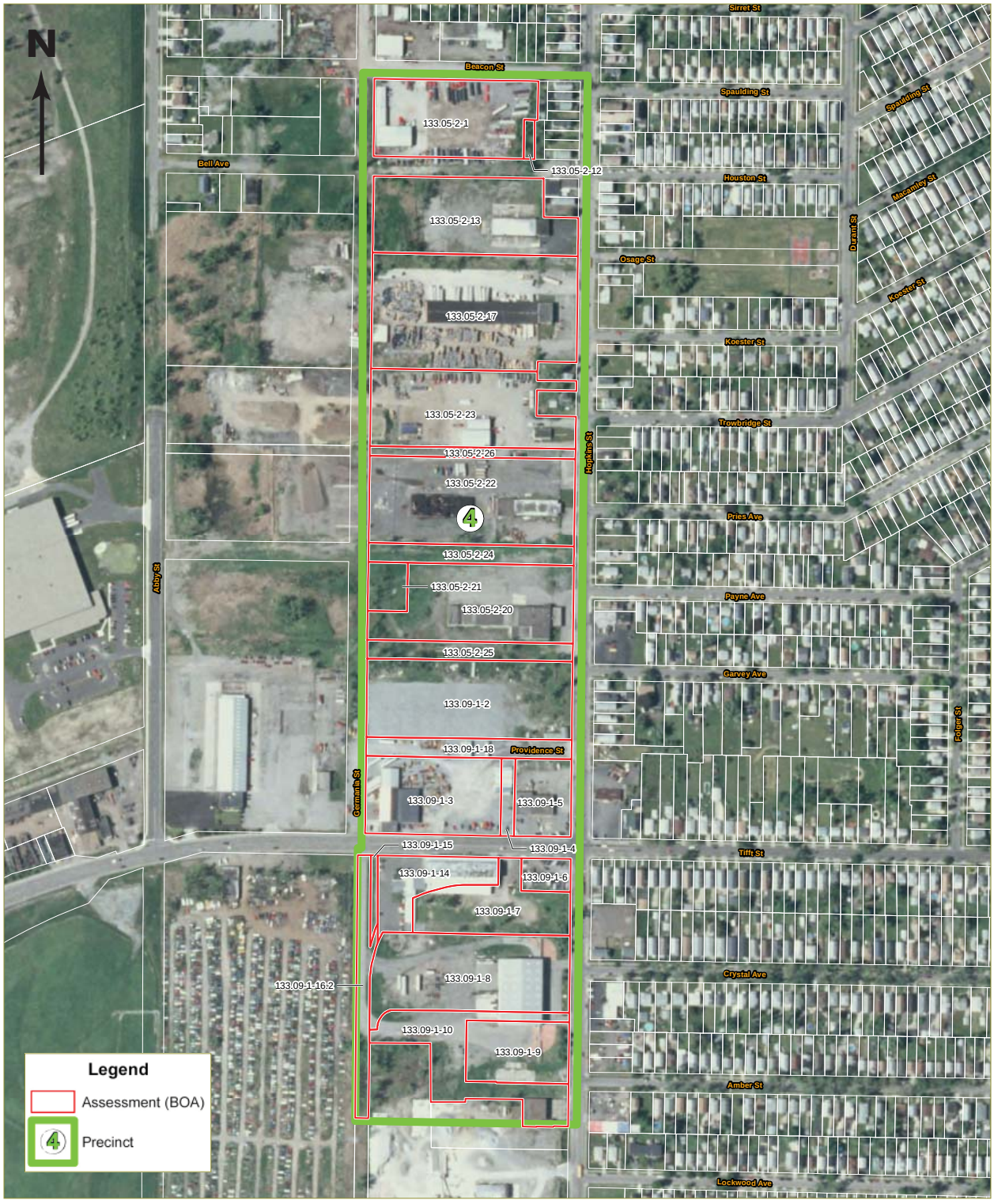
Site	Owner	Location	SBL No.	Acreage
Hickory Woods Parcels	BURA	92 Beacon Street	133.05-1-7	0.67
Hickory Woods Parcels	BURA	9 Beacon Street	133.05-4-1.11	0.26
Hickory Woods Parcels	BURA	229 Abby Street	133.05-4-8.11	0.019

6.3.4 Hopkins North

The Hopkins North precinct is bounded by Beacon Street on the north, Germania Street and a paper street right-of-way on the west, underutilized parcels to the south of Tifft Street and Hopkins Street on the east (see Map 6.4).

Hopkins Street Parcels

Parcels within this area include several active commercial and industrial operations, underutilized and vacant parcels, and residences (primarily along Hopkins Street north of Tifft Street). The inventory and analysis phase identified some past petroleum spills at some of the parcels used or formerly used for commercial and/or industrial purposes. No site characterization information was identified for other parcels in this area. Given the limited site characterization information available for parcels within this area, current and past uses for manufacturing, reported spills, and proximity to nearby past and present industrial operations and contaminated sites, parcels in this area may have been impacted. Therefore, site assessments are recommended to properly characterize the sites and determine whether remediation is necessary to accommodate future contemplated uses.



Map 6.4 Assessment and Remediation Sites - Hopkins North

Recommendations

Assessment under BOA Program

The following parcel(s) have not been assessed and, therefore, it is recommended that an environmental site assessment under Step 3 of the BOA program be undertaken:

Site	Owner	Location	SBL No.	Acreage	Phase I/ II ESA cost Estimate
Hopkins Street Parcels	John T. Price	265 Germania Street	133.05-2-1	2.69	$260,000
Hopkins Street Parcels	City of Buffalo	6 Bell Avenue	133.05-2-12	0.09	
Hopkins Street Parcels	Home-Maid Services Inc.	540 Hopkins Street	133.05-2-13	3.19	
Hopkins Street Parcels	Pallet Exchange Inc.	534 Hopkins Street	133.05-2-17	5.16	
Hopkins Street Parcels	478 Hopkins Inc.	263 Germania Street	133.05-2-23	3.20	
Hopkins Street Parcels	478 Hopkins Inc.	456 Hopkins Street	133.05-2-22	3.95	
Hopkins Street Parcels	City of Buffalo	0 Germania Street	133.05-2-26	0.46	
Hopkins Street Parcels	Western NY Trailer Parts Warehouse Inc.	259 Germania Street	133.05-2-21	0.43	
Hopkins Street Parcels	Kulp Waco Corp.	261 Germania Street	133.05-2-24	0.87	
Hopkins Street Parcels	Kulp Waco Corp.	420 Hopkins Street	133.05-2-20	3.11	
Hopkins Street Parcels	Kulp Waco Corp.	257 Germania Street	133.05-2-25	0.84	
Hopkins Street Parcels	Bernard A. Jakubik	380 Hopkins Street	133.09-1-2	3.55	

... continued

Site	Owner	Location	SBL No.	Acreage	Phase I/ II ESA cost Estimate
Hopkins Street Parcels	Raymond Radotavich	360 Hopkins Street	133.09-1-18	0.87	
Hopkins Street Parcels	Raymond Radotavich	666 Tifft Street	133.09-1-3	2.32	
Hopkins Street Parcels	Raymond Radotavich	744 Tifft Street	133.09-1-4	0.23	
Hopkins Street Parcels	William F. Jaworski and Louise M. Jaworski	356 Hopkins Street	133.09-1-5	0.97	
Hopkins Street Parcels	Process Welding & Fabrication	667 Tifft Street	133.09-1-14	1.18	
Hopkins Street Parcels	Process Welding & Fabrication	268 Hopkins Street	133.09-1-7	1.73	
Hopkins Street Parcels	Bernard A. Jakubik	346 Hopkins Street	133.09-1-6	0.36	
Hopkins Street Parcels	Fox LLC	627 Tifft Street	133.09-1-16.2	0.81	
Hopkins Street Parcels	Fox LLC	665 Tifft Street	133.09-1-15	0.12	
Hopkins Street Parcels	Fox LLC	266 Hopkins Street	133.09-1-8	3.40	
Hopkins Street Parcels	Fox LLC	264 Hopkins Street	133.09-1-9	1.39	
Hopkins Street Parcels	Fox LLC	250 Hopkins Street	133.09-1-10	1.97	

6.3.5 Hopkins South

The Hopkins South precinct is bounded by a portion of the Skyway Auto Parts site and other industrial properties south of Tifft Street on the north, the Alltift Landfill on the west, the Colgate Avenue right-of way and railroad right-of-way on the south and South Park Avenue on the east. It includes a portion of the Skyway Auto Parts site (see summary under Riverbend Employment precinct above), several parcels on the west side of Hopkins Street between the LaFarge facility and Colgate Avenue, the Reading Street corridor and several parcels on the east side of Hopkins Street between Reading Street and the railroad right-of-way (see Map 6.5).

Ramco Steel Site

The Ramco Steel Site is approximately 7 acres and largely consists of a pond and vacant land behind the current Niagara LaSalle/Niagara Cold Drawn facility. The pond at the rear of the plant was used to dispose of waste pickle liquors, rinse water, lime sludge, and wastes containing iron and chrome. A Remedial Investigation for the site concluded that the on-site pond and some soil in the fill area were severely contaminated and required remediation. The site has also been impacted by the adjacent Alltift Landfill Site. A Record of Decision for this site was issued in March 1996 and the selected remedy required excavation and relocation of contaminated soil and sediment to the Alltift Landfill for final disposal and the restoration of the pond area as a wetland. A Remedial action, removing the impacted soils with site restoration as a productive pond and wetland was completed in 2005.

Hopkins Street West Parcels

This area is located south of Tifft Street, east of Skyway Auto Parts, north of the Colgate Avenue right-of-way and west of Hopkins Street. Parcels within this area include several active commercial and industrial operations, and underutilized and vacant parcels. The inventory and analysis phase identified some past petroleum spills at some of these parcels. No site characterization information was identified for other parcels in this area. Given the limited site characterization information available for parcels within this area, current and past uses for manufacturing, reported spills, and proximity to nearby past and present industrial operations and contaminated sites, parcels in this area may have been impacted. Therefore, site assessments are recommended to properly characterize the sites and determine whether remediation is necessary to accommodate future contemplated uses.

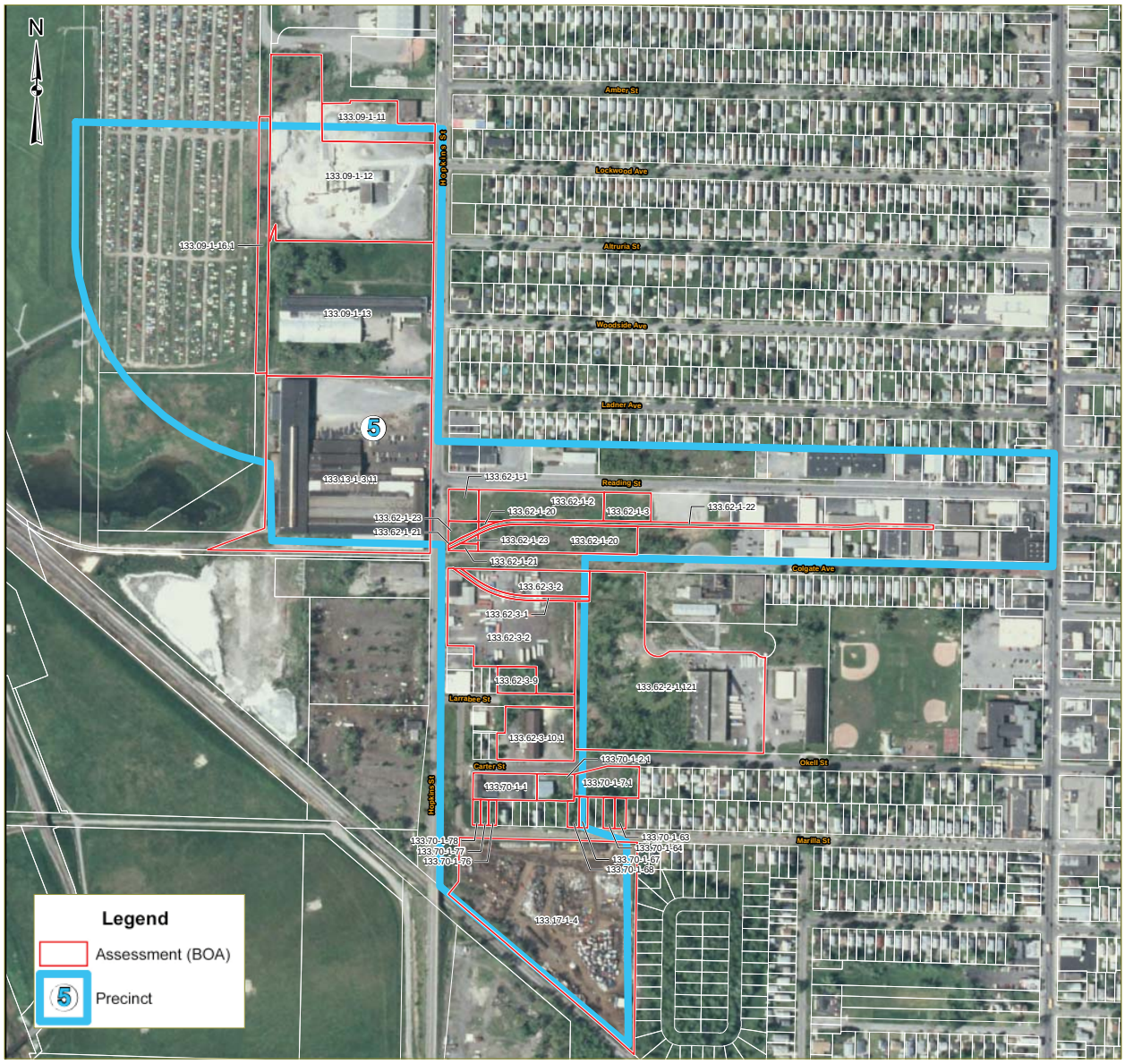
Hopkins Street East Parcels

This area is comprised of approximately 25 acres and is located south of Reading Street, east of Hopkins Street, north of Marilla Street and west of the commercial and residential properties in the South Hopkins neighborhood. Several of the parcels in this area are undeveloped and/or include vacant buildings. A few active commercial/ industrial operations are also located in this area, and seven vacant residential lots owned by the City of Buffalo are located on the south along Marilla Street. A small number of petroleum spills associated with past industrial operations were identified in the inventory and analysis phase. No site characterization information was identified for the majority of the parcels in this area. Given the limited site characterization information available for parcels within this area, current and past uses for manufacturing, reported spills, and proximity to nearby past and present industrial operations and contaminated sites, parcels in this area may have been impacted. Therefore, site assessments are recommended to properly characterize the sites and determine whether remediation is necessary to accommodate future contemplated uses.

Diamond Hurwitz Scrapyard

This site is approximately eight acres and is operated as a junkyard. NYSDEC records

indicate a NYSDEC site inspection revealed oil contamination over much of the yard from vehicle dismantling operations and an underground storage tank. The NYSDEC required remediation which was undertaken over the course of several years. NYSDEC issued an Inactive Status letter for the site in 2007 after on-site monitoring wells were dismantled. Waste oils from auto dismantling operations and an underground storage tank impacted on-site soils and groundwater. Given the past remediation activities, its use as a junkyard facility and proximity to nearby past and present industrial operations and contaminated sites, this parcel has been impacted. Therefore, a site assessment is recommended to properly characterize the site and determine whether remediation is necessary to accommodate future contemplated uses.



Map 6.5 Assessment and Remediation Sites - Hopkins South

Recommendations

Assessment under BOA Program

The following parcel(s) have not been assessed and, therefore, it is recommended that an environmental site assessment under Step 3 of the BOA program be undertaken:

Site	Owner	Location	SBL No.	Acreage	Phase I/ II ESA cost Estimate
Hopkins Street West Parcels	Lafarge Corporation	242 Hopkins Street	133.09-1-12	6.74	
Hopkins Street West Parcels	Lafarge Corporation	248 Hopkins Street	133.09-1-11	1.21	
Hopkins Street West Parcels	Buzzard Corp.	180 Hopkins Street	133.09-1-13	7.25	$110,000
Hopkins Street West Parcels	South Buffalo Railway	West of Hopkins Street	133.09-1-16.1	0.93	
Hopkins Street West Parcels	Niagara Cold Drawn Corp.	110 Hopkins Street	133.13-1-3.11	9.72	
Hopkins Street East Parcels	Ralph J. Nowak	141 Reading Avenue	133.62-1-2	1.22	
Hopkins Street East Parcels	Ralph J. Nowak	143 Reading Avenue	133.62-1-3	0.44	
Hopkins Street East Parcels	Henry J. Mazurek, Jr.	109 Hopkins Street	133.62-1-1	0.29	
Hopkins Street East Parcels	Henry J. Mazurek, Jr.	99 Hopkins Street	133.62-1-23	0.15	
Hopkins Street East Parcels	Henry J. Mazurek, Jr.	97 Hopkins Street	133.62-1-21	0.055	
Hopkins Street East Parcels	Henry J. Mazurek, Jr.	120 Colgate	133.62-1-20	1.39	
Hopkins Street East Parcels	95 Hopkins LLC	95 Hopkins Street	133.62-3-2	Parcel 1 (0.9) Parcel 2 (3.22)	
Hopkins Street East Parcels	South Buffalo Railway Co.	East of Hopkins Street	133.62-3-1	0.19	
Hopkins Street East Parcels	South Buffalo Railway Co.	10 Colgate	133.62-1-22	0.71	$110,000

... continued

Site	Owner	Location	SBL No.	Acreage	Phase I/ II ESA cost Estimate
Hopkins Street East Parcels	Adolph Koch	18 Larabee Street	133.62-3-9	0.33	
Hopkins Street East Parcels	Patrick E. Leary and Christopher M. Tryjankowski	1 Carter Street	133.70-1-2.1	0.32	
Hopkins Street East Parcels	Process Welding & Fabrication	268 Hopkins Street	133.09-1-7	1.73	
Hopkins Street East Parcels	11 Carter Street, Inc.	11 Carter Street	133.70-1-1	0.55	
Hopkins Street East Parcels	Eleanor J. Nowak	14 Carter Street	133.62-3-10.1	1.26	
Hopkins Street East Parcels	GJ Brewerson LLC	17 Okell Street	133.70-1-7.1	0.61	
Hopkins Street East Parcels	Consumers Beverage Inc.	88 Okell Street	133.62-2-1.121	7.75	
Hopkins Street East Parcels	City of Buffalo	232 Marilla Street	133.70-1-78	0.07	
Hopkins Street East Parcels	City of Buffalo	234 Marilla Street	133.70-1-77	0.07	
Hopkins Street East Parcels	City of Buffalo	236 Marilla Street	133.70-1-76	0.07	
Hopkins Street East Parcels	City of Buffalo	256 Marilla Street	133.70-1-68	0.11	
Hopkins Street East Parcels	City of Buffalo	258 Marilla Street	133.70-1-67	0.08	
Hopkins Street East Parcels	City of Buffalo	278 Marilla Street	133.70-1-64	0.11	
Hopkins Street East Parcels	City of Buffalo	280 Marilla Street	133.70-1-63	0.11	
Diamond Hurwitz Scrapyard	Hurwitz Company Inc.	207 Marilla Street	133.17-1-4	7.992	$60,000

6.3.6 South Park Open Space System

The South Park Open Space System precinct area is bounded by Tifft Street on the north, the active rail corridor on the west, South Park on the south and Skyway Auto Parts, Hopkins Street and South Park Avenue on the east. It includes the Alltift and Marilla Street landfills, South Park, the City of Buffalo-owned 90 Hopkins Street and parcels along Hopkins Street used for manufacturing and junkyards (see Map 6.6).

Alltift and Marilla Street Landfills

The Alltift Landfill is comprised of approximately 25 acres and is a former active landfill that was previously used for the disposal of domestic and industrial wastes. Environmental studies documented surface and groundwater contamination. According to Phase II Investigation documentation, Allied Corp. (National Aniline Division) disposed miscellaneous organic chemicals, chrome sludge, copper sulfate, nitrobenzene, monochlorobenzene, and naphthalene on a monthly basis in the landfill. A smaller landfill containing automobile shredder wastes, demolition debris, fly-ash and sand wastes was situated on top of the older chemical waste landfill. A Record of Decision was signed on March 27, 1995 requiring installation of a multi-layer cap with a suitable sub-base, a composite gas venting system, a geomembrane barrier layer, a composite drainage layer, two feet of cover soil to protect the barrier layer, and a 6-inch topsoil layer to support vegetation. The project also included waste consolidation, wetlands restoration, and groundwater collection. Remedial action was completed in 2005. It included consolidation of waste material from Alltift and the adjacent Ramco Steel site as well as four offsite areas including the J.D. Cousins site (677 Tifft Street), Lehigh Valley Railroad Site (adjacent to Tifft Nature Preserve), the Tifft and Hopkins Site and the Buffalo Outer Harbor/ Radio Tower Area Site. An Operation, Maintenance and Monitoring Plan was put in place in 2006.

The Marilla Street Landfill is comprised of approximately 92 acres and was built in a former wetland. Waste materials on the site include slag, precipitator dust, clarifier sludge, checker bricks, pickle liquor, tool scale, blast furnace dust and basic oxygen furnace dust and brick generated by the Republic Steel Plant. The waste-mound averages about 30 feet above the undisturbed grade. The Record of Decision was issued in 1997 which required the excavation of sediments containing elevated levels of metals, covering low contaminated sediments with soil, restoration of remediated wetlands, upland enhancement, and long term monitoring of the wetlands and landfill. Remediation of 16 acres of wetlands which consisted of excavation of sediments from ponds and ditches and covering with clean soil, wetland restoration, and upland enhancement started in 1998 and was completed in 1999. The site is being monitored under a long-term Operation and Maintenance Plan.

90 Hopkins Street Site

The 90 Hopkins Street site is approximately nine acres and was subject to a U.S. Environmental Protection Agency removal action to address drums of waste, some PCB soil removal and building demolition. The property currently contains two piles of residual industrial lime. Originally thought to contain 30,000 cubic yards, subsequent investigations have more accurately estimated these piles to contain approximately 118,000 cubic yards of lime. The lime is believed to be a by-product of the acetylene processing industry. High pH (greater than 12) runoff from the piles has/is impacting local surface waters. An Environmental Restoration Project application has been submitted to the NYSDEC by the City of Buffalo to complete a Site Investigation & Remedial Alternatives Report. Included in this application is an Interim Remedial Measure consisting of removal and off-site disposal of the lime piles to facilitate complete investigation of the site. Due to an increased quantity of lime to

Map 6.6 Assessment and Remediation Sites - South Park Open Space System

be removed before site investigation activities can be completed, the City of Buffalo has submitted a State Assistance Contract amendment seeking increased cost and one year extension for time.

Mardan and AA1 Auto Wrecking Sites

The Mardan Machine site is approximately two acres and is located along Hopkins Street south of the Niagara LaSalle facility and the Colgate Avenue paper street right-of-way. In 1999, while removing an underground storage tank, contamination was discovered related to a release of #4 fuel oil which impacted the soil and groundwater. The spill was remediated and closed by the NYSDEC. In addition, NYSDEC records indicate that during a bank transaction inspection in 2001, a concrete vault filled with tar was discovered. The tar and contaminated soils were excavated and disposed off site and the vault was then backfilled. NYSDEC subsequently closed the spill and no further action was required. Given the limited site characterization information available for this parcel, current and past uses for manufacturing, reported spills, and proximity to nearby past and present industrial operations and contaminated sites, parcels in this area may have been impacted. Therefore, a site assessment is recommended to properly characterize the site and determine whether remediation is necessary to accommodate future contemplated uses.

The AA1 Auto Wrecking site is approximately eight acres. NYSDEC records indicated widespread contamination of the site from auto waste fluids. The records indicate a Consent Order was being prepared to remediate contamination on the site and install spill control around the auto crusher and drainage stand. Status of the remediation is unknown at this time. Given the ongoing remediation, current and past uses as a junkyard facility, and proximity to nearby past and present industrial operations and contaminated sites, these parcels have been impacted. Therefore, a site assessment is recommended to properly characterize the site and determine whether remediation is necessary to accommodate future contemplated uses.

Bob & Don's Auto Parts Site

This site is approximately 3.7 acres and has been used as a junkyard in the past. The site is currently vacant. A cell tower is located on the northwest corner of the property near Hopkins Street. Given the lack of site characterization information available for the site, past use as a junkyard facility and proximity to nearby past and present industrial operations and contaminated sites, the site may have been impacted. Therefore, a site assessment is recommended to properly characterize the site and determine whether remediation is necessary to accommodate future contemplated uses.

51 Hopkins Street Site

This site is approximately 10 acres. A site inspection in 1984 initiated by the NYSDEC reported that an alleged waste disposal lagoon was operated near the site by the Allied Chemical Company. Soil and water samples collected from the site contained metals and low levels of organic compounds. A Phase I Investigation was conducted in 1990 which indicated that the southern portion of the site was reportedly used by the City of Buffalo for the disposal of non-putrescible wastes such as leaves, street cleanings and demolition debris. A site inspection documented piles of non-putrescible debris such as asphalt, scrap steel, discarded appliances, brick and slag. A site map that accompanied the Phase I report depicted a Republic Steel Landfill on the northern portion of the site. Soil and water samples collected from the site contained metals and low levels of organic compounds in the soils, surface waters and sediments. Given the documented past uses of this site as a landfill and its proximity to a nearby junkyard, the site has been impacted. Therefore, a site assessment is recommended to further characterize the site and determine whether remediation is necessary to accommodate future contemplated uses.

Recommendations

Assessment under BOA Program

The following parcel(s) have not been assessed and, therefore, it is recommended that an environmental site assessment under Step 3 of the BOA program be undertaken:

Site	Owner	Location	SBL No.	Acreage	Phase 1/ II ESA Estimated Cost
Mardan and AA1 Auto Wrecking Sites	Mardan Machine LLC	88 Hopkins Street	133.13-1-5	1.89	$60,000
Mardan and AA1 Auto Wrecking Sites	LKQ Broadway Auto Parts Inc.	40 Hopkins Street	133.13-1-7	3.77	
Mardan and AA1 Auto Wrecking Sites	LKQ Broadway Auto Parts Inc.	42 Hopkins Street	133.13-1-6	4.16	
Bob & Don's Auto Parts	49 Hopkins Inc.	49 Hopkins Street	133.17-1-7	3.7	$85,000
51 Hopkins Street	Steelfields Ltd.	51 Hopkins Street	133.17-1-6	10.2	

Assessment/Remediation under other program(s)

A site investigation and remediation should be completed under the State's Environmental Restoration Program for the following parcel:

Site	Owner	Location	SBL No.	Acreage
90 Hopkins Street	City of Buffalo	90 Hopkins Street	133.13-1-10	Parcel 1 (0.761 acres) Parcel 2 (8.332 acres)

Other Recommendations

Further define parameters and limitations regarding development of a golf course on the landfill parcels. A study to determine the feasibility of locating a public golf course on the landfills is recommended. Any reconfiguration of the landfill caps would require input and approval from the NYSDEC, and continued operations and maintenance would be required to protect public health and the environment.

6.3.7 Lakeside Commerce Park

The Lakeside Commerce Park precinct is bounded by Tifft Street on the north, Fuhrmann Boulevard and State Route 5 on the west, the Buffalo-Lackawanna municipal boundary on the south and the active railroad corridor on the east. This area is approximately 275 acres and includes a significant State freshwater wetland on the north along Tifft Street (see Map 6.7).

Parcel 4

The parcel to the immediate north of the Union Ship Canal Open Space is known as Parcel 4 and is approximately 20 acres. A site investigation completed in 2007 under the Environmental Restoration Program found that an on-site flue ash mound contained elevated concentrations of lead, characterizing the fill as a hazardous waste. A buried layer of cyanide-contaminated, blue-colored wood chips, approximately 100 cubic yards in volume, was also found, straddling both the site and the adjacent Parcel 3. A Proposed Remedial Action Plan is currently under review by the NYSDEC which recommends the excavation and off-site disposal of the flue ash mound and the cyanide-contaminated wood chips. Debris would be sorted/separated from the other mound, disposed off site and the remaining fill spread/graded across the site before being covered with a minimum of 12 inches of clean soil. An environmental easement would be placed on the property to ensure that the groundwater is never used for drinking, and that the site cover is properly maintained and monitored.

Former Rail/Darling Parcels

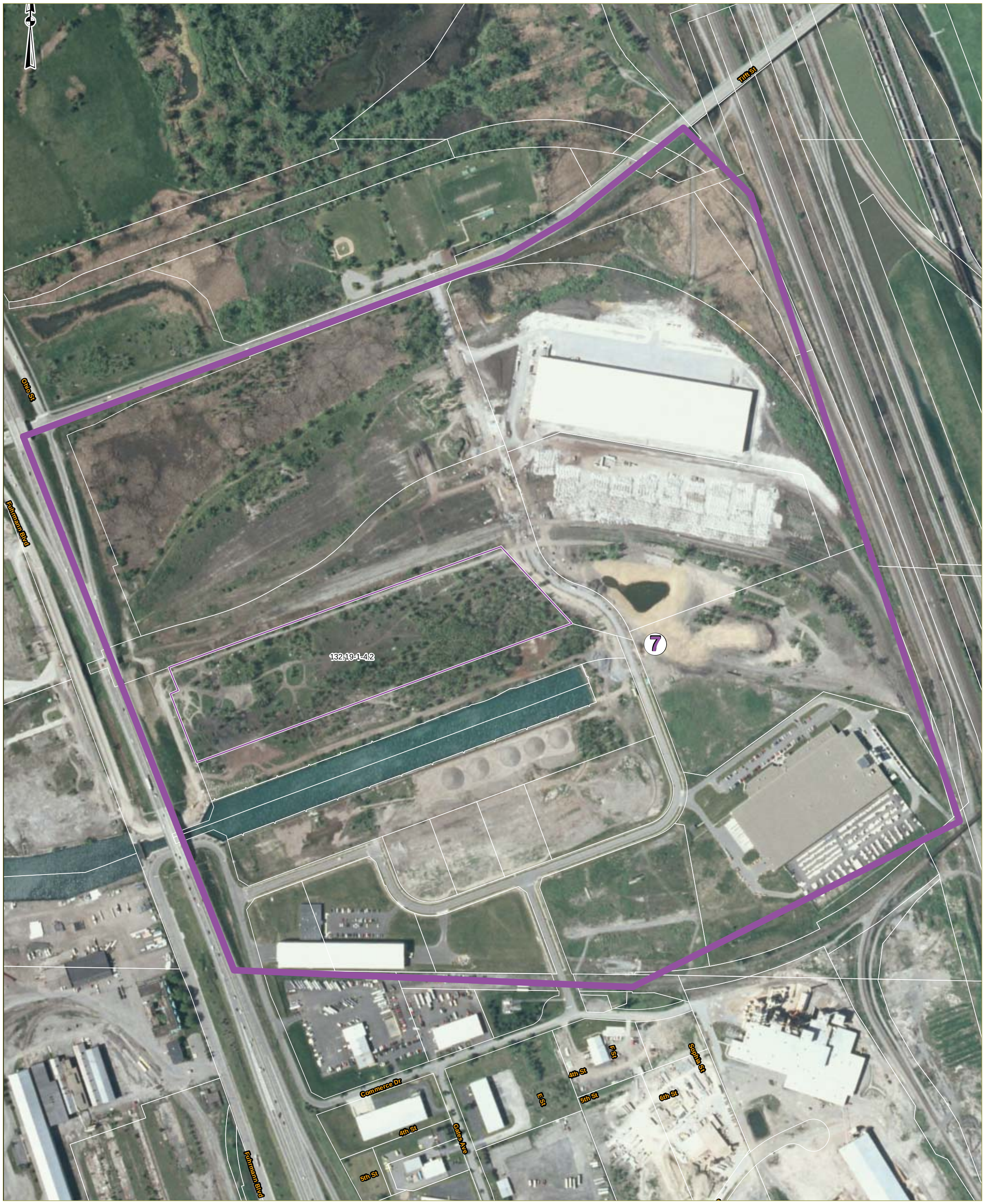
These two parcels are located to the immediate north of Parcel 4 and are comprised of approximately 60 acres. A Phase II Environmental Site Assessment was conducted for these parcels which indicated contamination levels below State standards making these sites ineligible for the Brownfield Cleanup Program. Therefore, no further site investigation or remediation is warranted for these parcels at this time, provided future uses are consistent with the commercial/industrial uses in Buffalo Lakeside Commerce Park.

Recommendations

Assessment/Remediation under other program(s)

The following parcels should be remediated in accordance with NYSDEC requirements to accommodate future commercial or industrial development:

Site	Owner	Location	SBL No.	Acreage
Parcel 4	ECIDA	1714 Fuhrmann Blvd.	132.19-1-4.2	19.95


Tifft St
Otto St
Fuhrmann Blvd
7
132.19-1-4.2
Commerce Dr
4th St
5th St
Gates Ave
E St
F St
4th St
5th St
6th St
Sophia St
Fuhrmann Blvd

6.3.8 Tifft/Lehigh Valley

The Tifft/Lehigh Valley precinct is comprised of approximately 150 acres and is bounded by the active CSX Ohio Street Yard on the north, a utility right-of-way and Tifft Nature Preserve on the west, Tifft Street on the south and the active rail corridor on the east (see Map 6.8). Approximately 100 acres within this precinct consists of inactive rail lands owned by the Lehigh Valley Railroad Co. CSX owns one large parcel along the eastern portion of this precinct which includes two active rail lines. Other smaller parcels are owned by the City of Buffalo and the NFTA.

Lehigh Valley Parcels

A Phase II Investigation prepared for the NYSDEC in 1990 indicated that dumping occurred on a portion of the Lehigh Valley property beginning in the 1970's. Two 100,000 gallon aboveground storage tanks formerly located on the site were used to store waste oil mixed with chlorinated volatile organic compounds. The Phase II Investigation also documented that these compounds impacted the on-site soils and the groundwater under the site. The Phase II Investigation findings indicated that a remedial investigation and feasibility was warranted for the site, recommending additional groundwater sampling, surficial soil sampling, removal of tanks and sludge, drum investigation and a regional study. In October 1991, absent NYSDEC oversight, Lehigh removed the tank contents as RCRA F001 hazardous waste and scrapped the piping and tanks. In April

1993, Lehigh Valley Railroad completed a site investigation and found that low-level contamination remained in the soils and groundwater.

In 1996, the NYSDOT encountered a pocket of waste materials in an approximately five-acre area while constructing a wetland area west of the rail corridor and north of Tifft Street. The wastes, located on an approximately five-acre site, contained elevated levels of chlorobenzenes, chloroanilines, nitroanilines and PAHs and were determined to be hazardous by definition. During the period of 2002-2004, the wastes were removed during a series of Interim Remedial Measures (IRMs). The IRMs were conducted to mitigate threats to the nearby Tifft Nature Preserve and State-regulated wetlands. A Record of Decision was signed in March 2006 recommending no further action. Residuals from a previous cleanup, absent DEC oversight, remain within the five-acre parcel. However, removal of hazardous dye and industrial debris wastes from the site has protected the groundwater resources. Groundwater monitoring has verified that impacts to groundwater have been limited, and exposures via drinking water were not expected because public water is supplied to the area.

Publicly Owned Parcels

Regarding the City of Buffalo and NFTA parcels within this precinct, no site characterization information was identified during the inventory and analysis phase.

Given the limited site characterization information available for parcels within this area, past remediation activities and evidence of residual contamination and past uses, parcels in this area may have been impacted. Therefore, site assessments are recommended to properly characterize the sites and determine whether remediation is necessary to accommodate future contemplated uses.

Map 6.8 Assessment and Remediation Sites - Tifft/Lehigh Valley

Recommendations

Assessment under BOA Program

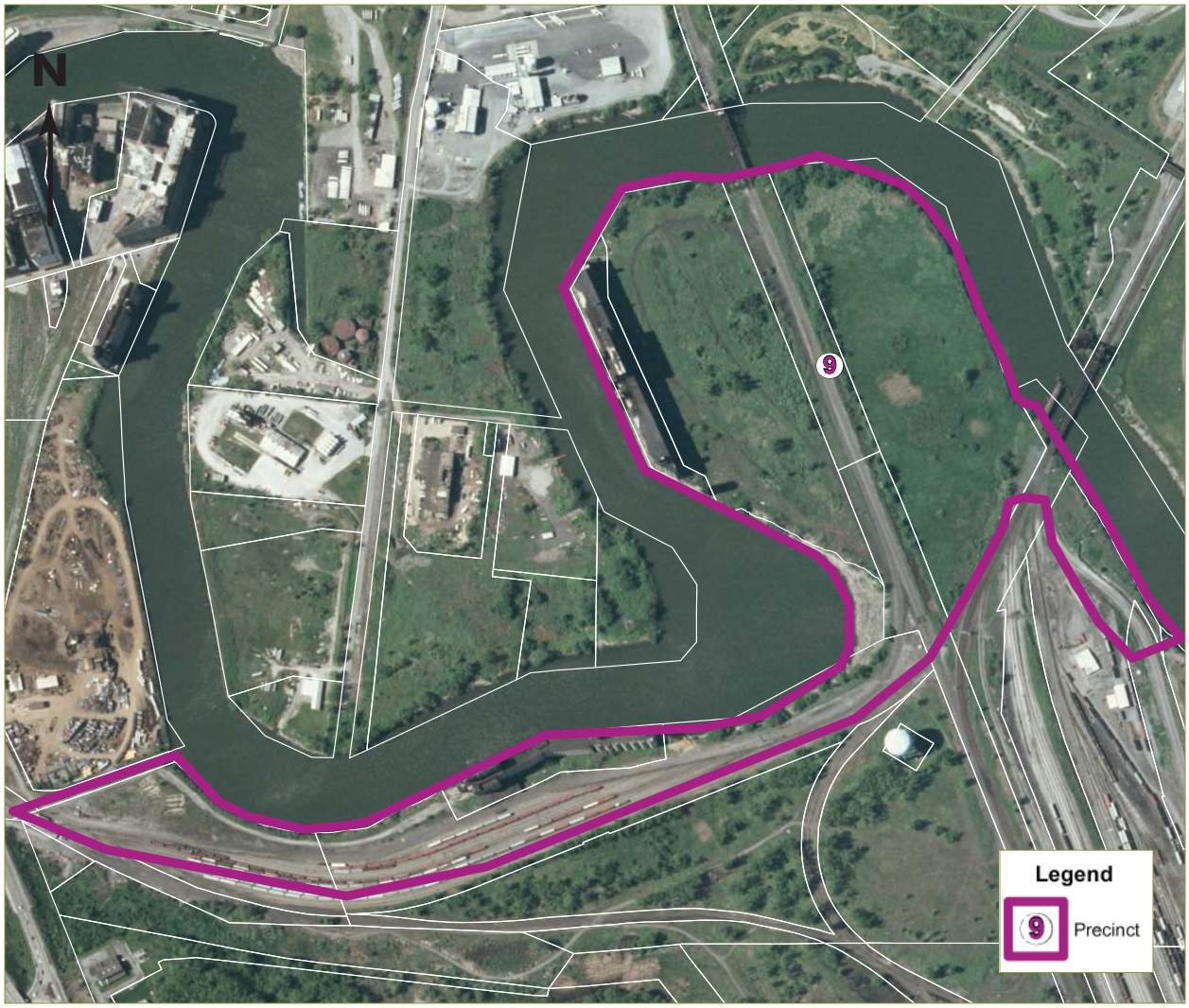
The following parcel(s) have not been assessed and, therefore, it is recommended that an environmental site assessment under Step 3 of the BOA program be undertaken:

Site	Owner	Location	SBL No.	Acreage	Phase 1/ II ESA Estimated Cost
Lehigh Valley Parcels	Lehigh Valley Railroad Co.	110 Fuhrmann Blvd.	122.19-2-3.1	Parcel 1 (12.81 acres) Parcel 2 (2.22 acres) Parcel 3 (13.82 acres)	$200,000
Lehigh Valley Parcels	Lehigh Valley Railroad Co.	110 Fuhrmann Blvd.	132.07-1-2.1	Parcel 1 (28.22 acres) Parcel 2 (6.96 acres)	
Lehigh Valley Parcels	Lehigh Valley Railroad Co.	110 Fuhrmann Blvd.	132.1-1-1.11	29.99	
Lehigh Valley Parcels	Lehigh Valley Railroad Co.	110 Fuhrmann Blvd.	132.15-1-1.1	6.95	
Publicly Owned Parcels	NFTA	1484 Fuhrmann Blvd.	132.15-1-1.2	5.10	
Publicly Owned Parcels	NFTA	400 Tifft Street	132.16-1-2.21	2.79	
Publicly Owned Parcels	City of Buffalo	410 Tifft Street	132.16-1-2.23	0.72	
Publicly Owned Parcels	City of Buffalo	420 Tifft Street	132.12-1-1.12	1.00	

6.3.9 Riverfront

The Riverfront precinct is comprised of approximately 60 acres and is bounded by the Buffalo River on the north and east, Fuhrmann Boulevard and New York State Route 5 on the west, and Tifft Nature Preserve and the Lehigh Valley parcels on the south (see Map 6.9). This precinct includes the active CSX Ohio Street Yard, two grain elevators (i.e., Cargill Superior and Concrete Central) and the Conrail Peninsula which is comprised of vacant land bisected by the active rail corridor.

Given the active rail yard and the potential for reactivation of the two grain elevators, no site assessments under the BOA program are recommended within this precinct. However, site assessments could be undertaken in the future if warranted depending on contemplated or change in use.



Map 6.9 Assessment and Remediation Sites - Riverfront

6.4 Summary/Conclusion

The land base inventory and analysis including compilation of the compendium of site profiles detailing relevant brownfield, abandoned and vacant sites in the BOA identified strategic site parcels for which site assessments and/or remediation would be necessary and appropriate to spur redevelopment opportunities in accordance with the BOA Plan. The primary focus of the Assessment and Remediation Strategy was to identify specific parcels that are eligible for site assessment funding under the BOA Program and sites that require assessment or remediation which may be eligible for significant funding and/or incentives under other State programs.

The inventory and analysis identified approximately 400 tax parcels on approximately 1,000 acres comprised of vacant and underutilized land and industrial and commercial uses. Brownfield, abandoned and vacant sites within these areas became the primary focus for site assessment prioritization consistent with the goals and objectives of the BOA program. The key findings and recommendations identified in the Assessment and Remediation Strategy are summarized as follows:

- A total of 86 individual tax parcels on approximately 311 acres have been identified as priority strategic sites for which site assessments under the BOA program are recommended

- Site assessments not conducted under the BOA Program would be limited to a few sites (e.g., Riverbend berm and rail right-of-way) and could be undertaken under a different State program or by another public entity

- Several publicly owned strategic sites including the Village Farms site, BURA-owned parcels along Beacon and Abby Streets in the Hickory Woods neighborhood, the 90 Hopkins Street site and Parcel 4 within Buffalo Lakeside Commerce Park should be remediated

- Remediation activities could be funded under several different programs including the State's Brownfield Cleanup Program which offers significant tax incentives to applicants

- The Riverbend containment cell should be relocated off site and a Remedial Investigation/ Feasibility Study of lands beneath the containment cell should be conducted

- Parameters and limitations regarding development of a golf course on the landfill parcels should be defined and a study conducted to determine the feasibility of locating a public golf course at this location

- Remediated sites, which include significant acreage in the Riverbend Commerce Park and Buffalo Lakeside Commerce Park, can accommodate commercial or industrial development and include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