

5. THE BIG PICTURE

Community Connections

Off-Site Access: Circulation Corridors

In its current arrangement the Bay View neighborhood to the south of the project is cutoff by block development. Ironically the industrial development and subsequent rail corridors that spurred the Bay View neighborhood growth is now the major impediment to pedestrian and bike access to this project site, in particular the former Louis Allis plant and the Soo Line railroad.

The result is that the site is secluded and access is restricted. However, because of its location on the Kinnickinnic River as well as its adjacency to roads the site corridors could be developed to improve site access by foot, bike, small non-motorized boats (kayak/canoe) as well as by motorized vehicles.

A brief discussion of the possible opportunities follows.

Pedestrian Connections

Currently, the site is fenced for protection, however, it has been visited by many residents from the Bay View Neighborhood of Milwaukee. Visitors are attracted to this site because it is a small piece of nature, a remnant of what once was. Prattling around wetlands and walking their dogs, bird watching and just observing nature were all common at the site before fencing. Some of these visitors still slip through the gates for a quick visit.

After development the site is expected to have improved access and pedestrian visitors from the neighborhood and the proposed business park are expected to comprise most visitors.

The improvements at the Bay View Wetland are expected to provide sufficient access for most once on site. However, appropriate circulation routes from Bay View to the site may need to be developed. A detailed examination of this route should be

conducted in the next phase of design.

The current condition of the old Louis Allis facility is imposing for some pedestrian visitors because it requires a slightly longer path for arrival and because of traffic associated with the current uses.

Lastly, because Stewart Street doesn't run between Marina Drive and Aldrich Street, pedestrians are forced to Allis Street to access the site. Converting the rail spur south of the site to pedestrian/bike access would improve visitor access.

Vehicular Connections

Automobiles

Visitors arriving by automobile will likely be the second most common way visitors will arrive at the site after the project is completed. This is especially likely for visitors arriving from more than one mile in distance. Appropriate parking will need to be provided in order for these visitors to enjoy the site.

We recommend off-street parking along the edge of the site on the east side of S. Marina Drive, and the incorporation of flexible parking on areas zoned industrial office (IO) or in the future business park's parking lot. Overall, parking signage should be clearly marked for visitors.

Currently, the City of Milwaukee and Port have zoning requirements for parking, transition buffers and signage in the three Sub-Areas of Development. (City of Milwaukee Design Guidelines). In general, the project site is located in Industrial Heavy (IH); however, the adjacent properties where most likely service and general parking will be provided calls for a General Office minimum of one space for each 1,000 SF of gross floor area.

Bikes and Boats

Visitor arrival by bike or boat (kayak/canoe) is also likely. Visitors arriving by bike or boat are expected to travel less than 5 miles, on average, to arrive at

the site. The addition of bicycle and kayak racks is an idea that merits further consideration. Opportunities should be provided for visitors to secure bikes and boats in order to walk the site's planned trails. Because visitors arriving by boat will only be able to access the site from the west, arriving through the channel, it is recommended that a boat rack be located west of the road overpass.

It is not recommended that power boat access be provided to this site, in part because of the possibility that the docks for power boats may be misused as parking for Skipper Buds.

Bike racks could be easily located on the site. Most bike visitors are expected to arrive west from across the river or south from the Bay View Neighborhood. The limited access from the south because of the Louis Allis plant described above in the pedestrian connections section also poses a problem for bike access. Visitors arriving from west of the river on Kinnickinnic and Beecher/Bay Streets may also find orienting to the site difficult. Eliminating the rail spur to the south of the site and converting to a pedestrian/bike corridor from Beecher to Aldrich would provide the safest and most navigable route for bikers. Furthermore this connection would create a convenient loop for pedestrian and bicycle visitors allowing them to loop around the Louis Allis plant on the pedestrian/bike path to the north, terminating at Aldrich Street to the east and looping back west towards the intersection of Beecher and the pedestrian/bike path south of the plant along Bay Street.

Bus

Currently four bus lines stop at the corner of Kinnickinnic Ave and Bay St. It is unlikely that closer stops would be planned in or near the immediate project without additional development. Enhancing the arrival and providing appropriate signage and a clear pedestrian or bike route from the bus stop would improve the arrival experience for visitors arriving by bus.



www.forms-surfaces.com/photo-gallery/bike-garden-bike-rack-settings



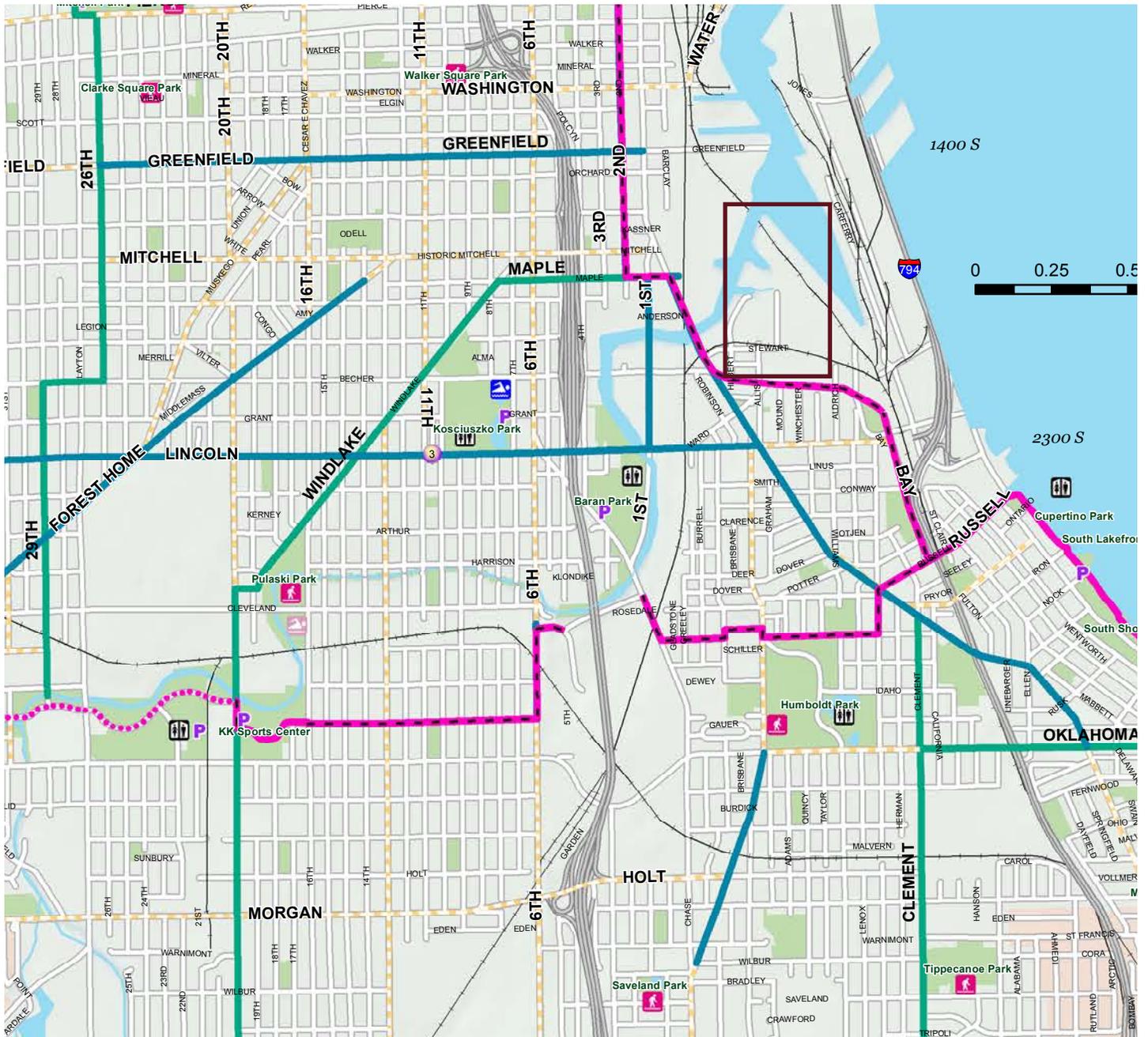
University of Wisconsin-Milwaukee



<http://urbanmilwaukee.com>



Figure 5.1: The 2012 map of Milwaukee County bus routes shows that the Bay View Wetland site has limited direct connectivity. The closest bus stop at E Becher St & Lincoln is approximately 0.3 miles from the site's southwest corner.



On-Street Bikeways

- Bike Lane
- Shared Lane Pavement Marking
- Bike Routes
- Preferred Streets

Oak Leaf Trail

- Paved Trail
- - - Municipal Street
- · · Parkway Drive
- Other Trail Systems
- R Ramp to trail
- 🚲 Trail connection

Parks Amenities

- 🏊 Water Park
- 👦 Splash Pad
- 🏊 Indoor Pool
- 🏖️ Outdoor Pool or Beach
- 🛒 Concession
- 🚻 Restroom
- 🏌️ Golf
- P Parking

Figure 5.2: The City of Milwaukee Bike Map

Milwaukee Estuary AOC Restoration Goals

The Bay View Wetland is situated within the Milwaukee Estuary Area of Concern, which encompasses the lower reaches of the Milwaukee, Menomonee, and Kinnickinnic rivers as well as the shoreline of Lake Michigan within Milwaukee and the town of St. Francis.

Areas of Concern (AOCs) are severely degraded geographic areas within the Great Lakes region. These areas typically suffer from contamination of river and harbor sediments by toxic pollutants which contribute to Beneficial Use Impairments (BUIs). The Milwaukee Estuary Remedial Action plan defines a “beneficial use” as “any way that a water body can improve the quality of life for humans or for fish and wildlife.” If an environmental issue interferes with a beneficial use, then that use is impaired.

The Milwaukee Estuary AOC, one of five AOCs in Wisconsin, was designated an AOC in 1987. Toxic pollutants such as polychlorinated biphenyls (PCBs), polycyclic aromatic hydrocarbons (PAHs), and heavy metals located in aquatic sediments were a primary

driver for listing the area as an AOC. In addition to the presence of these toxic substances, urbanization, terrestrial and aquatic habitat fragmentation, straightening and dredging of river channels, combined sewer overflows, soil erosion, and nutrient enrichment have also contributed to the AOC’s impairment.

Eleven of a possible fourteen BUIs have been identified as applicable to the Milwaukee Estuary AOC, though two of these BUIs were identified as “suspected”. The Milwaukee Estuary RAP identifies these BUIs and their sources (Table 5.1)

To address these BUIs the Milwaukee Estuary AOC improvement team is focused on the remediation of contaminated sediments in tributaries and nearshore waters of Lake Michigan, prevention of eutrophication, nonpoint source pollution control, improvement of beach water quality, enhancement of fish and wildlife populations, and habitat restoration (Delisting targets for the Milwaukee Estuary AOC Final Report, 2008). Improvements made at the Bay View Wetland will contribute toward these goals and the goal of delisting the Milwaukee Estuary AOC.

Impaired Beneficial Use (Original AOC boundaries)	Sources of Pollution or Problem			
	Toxic Substances	Point Source and Runoff Pollution	Physical Habitat Alteration	Other
Degradation of fish and wildlife populations	X	X	X	X
Loss of fish and wildlife habitat	X	X	X	X
Degradation of benthos	x	X	x	X
Restrictions on dredging	X	X		
Restrictions on fish and wildlife consumption	X	X		
<i>Bird/animal deformities or reproduction problems (suspected)</i>	x	x		
<i>Fish tumors or other deformities (suspected)</i>	x	x		
Beach closings/recreational restrictions	X	X		
Degraded phytoplankton and zooplankton populations	X	X	X	
Eutrophication or undesirable algae		X	X	X
Degradation of aesthetics	x	X	x	X

Note: A lower case x indicates that at the time of the original RAP, these sources were not understood to be part of the source contributing to a particular impaired beneficial use, but are now considered to be a component of the impairment.

Table 5.1: Impairments to beneficial uses in the Milwaukee Estuary AOC
(Milwaukee Estuary RAP, 2012)

Fish and Wildlife Habitat

Degradation of fish and wildlife populations and the loss of fish and wildlife habitat have occurred due to toxic substances in river sediments, point source pollution and runoff, physical habitat alteration, and other environmental degradation.

The Bay View Wetland Restoration will contribute to restoring fish and wildlife populations by creating nearly 1.5 acres of new fish habitat and restoring over 13.5 acres of an unused urban brownfield to dedicated natural area. Nearly 7 acres of this natural area will constitute improvements to wetland which will bolster the amphibian population at the wetland. The wetland habitat created for fish will also provide habitat for aquatic organisms such as insect larvae and crustaceans. This will help to reverse the degradation of benthos that has occurred in the AOC.

Soil Contamination

Contaminated sediment at the Bay View Wetland site will be remediated on-site as part of the remediation plan (page 40). Whether these sediments are capped or treated, successful implementation of a soil remediation plan at the Bay View Wetland will halt the introduction of soil pollutants from this site into the Kinnickinnic River. The reduction of toxic substances in runoff from the Bay View Wetland will contribute to reversing all but one BUI in the Milwaukee Estuary AOC. (Table 5.1)

Non-Point Source Pollution & Eutrophication

The existing wetland at the Bay View Wetland site appears to be fed by storm water from on-site as well as adjacent industrial properties. The restoration plan for this site will provide wet meadow infiltration areas that slow, infiltrate, and treat this runoff before it has a chance to enter the seiche wetland, and ultimately the Kinnickinnic river. The wetland plants established within the seiche wetland will also utilize nutrients that have already found their way into the Kinnickinnic River, thus reducing its total nutrient load. In this way both the seiche wetland and adjacent restoration areas will contribute to a reduction in eutrophication (undesirable algae) within the AOC. The reduction in nutrients will also allow currently degraded phytoplankton and zooplankton populations to establish themselves in aquatic habitats created at the site.

One source of pollution which commonly contributes to eutrophication is referred to as **Total Suspended Solids (TSS)**. Sites with soil erosion issues will have high TSS in their storm water runoff, which means that dissolved soil particles will have the opportunity to enter downstream waterbodies and contribute to their eutrophication.

The Bay View Wetland master plan calls for the development of a 4 acre corporate headquarters or industrial park on the site's southwest corner. If this site were built with traditional storm sewer infrastructure it would produce 4.22 acre-feet of runoff in a year and yield 1164 lbs of TSS*. The WI DNR standard for new development is that 80% of TSS be contained and treated on-site. The 4 acres of development which will occur at the Bay View Wetland site will be designed so that at least 90% of Total Suspended Solids (TSS) are contained and treated within the development site.

This goal will require setting aside at least 5% of the development area for bioinfiltration, which infiltrates stormwater and traps suspended sediments in the soil so their nutrients can be used by wetland plants rather than undesirable algae. Setting an ambitious goal for TSS removal will help development at the Bay View Wetland to cause no harm to the seiche wetland restoration and the Kinnickinnic River. A high quality industrial or corporate project could become a model which demonstrates how sensitive development can actually improve the total efficacy of a watershed's storm water infiltration and treatment.

*TSS quantities developed using WinSLAMM

Aesthetics

The restoration of the Bay View Wetland will improve the degraded aesthetics by creating cleaner, clearer water and a verdant green shoreline within an otherwise industrial area of Milwaukee. The plan will improve the aesthetics of the site as a whole by replacing monocultures of invasive species with diverse native wildflowers and grasses. A trail network through the site will allow visitors to appreciate these aesthetic improvements. The new development will also serve as a design feature which complements the restoration project, rather than a conflicting land use which imposes upon it.

Milwaukee Estuary AOC

Extent

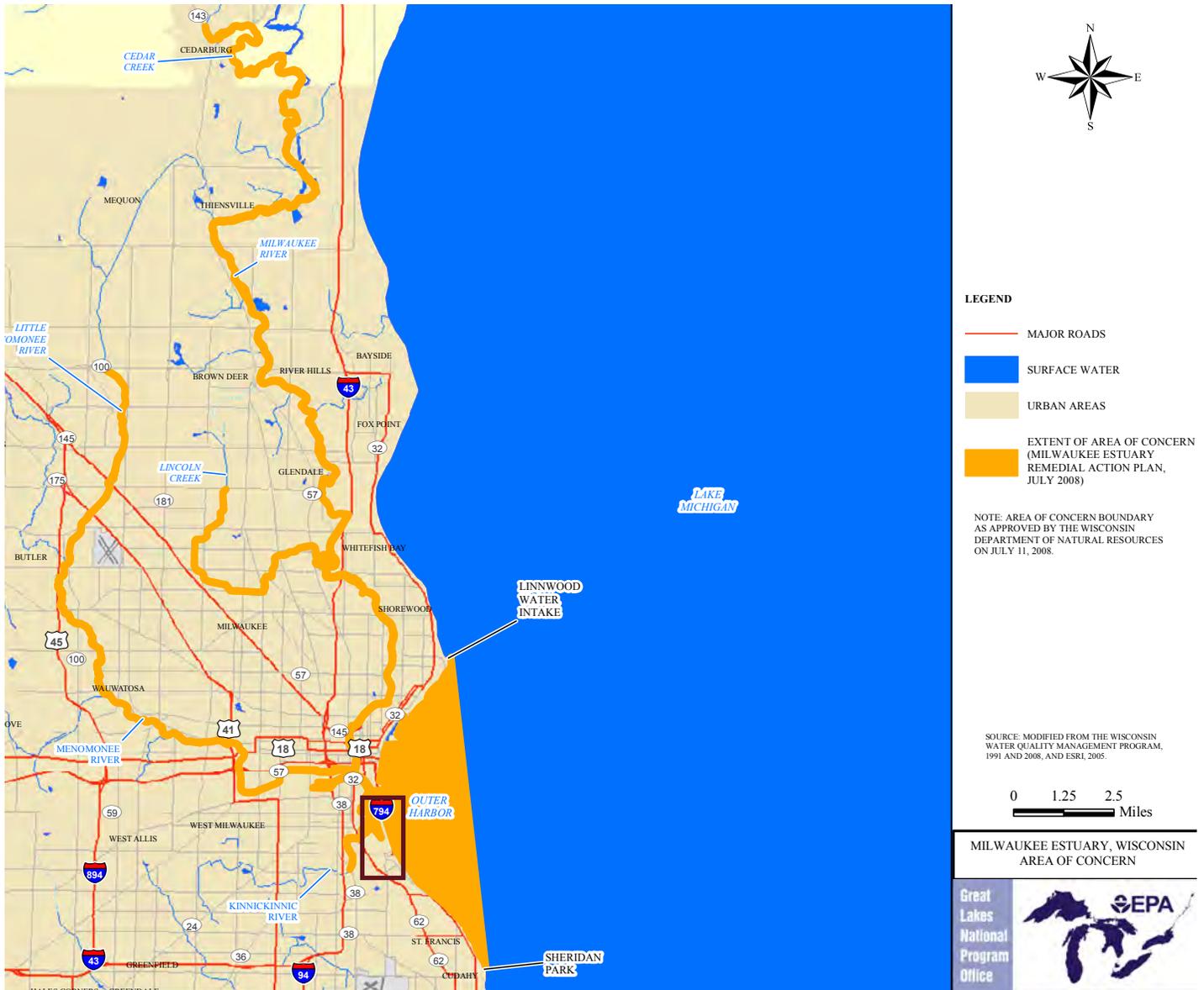


Figure 5.3: The Milwaukee Estuary AOC encompasses the lower reaches of the Milwaukee, Menomonee, and Kinnickinnic rivers as well as the shoreline of Lake Michigan within Milwaukee and the town of St. Francis.

Milwaukee Estuary AOC

Kinnickinnic River Watershed

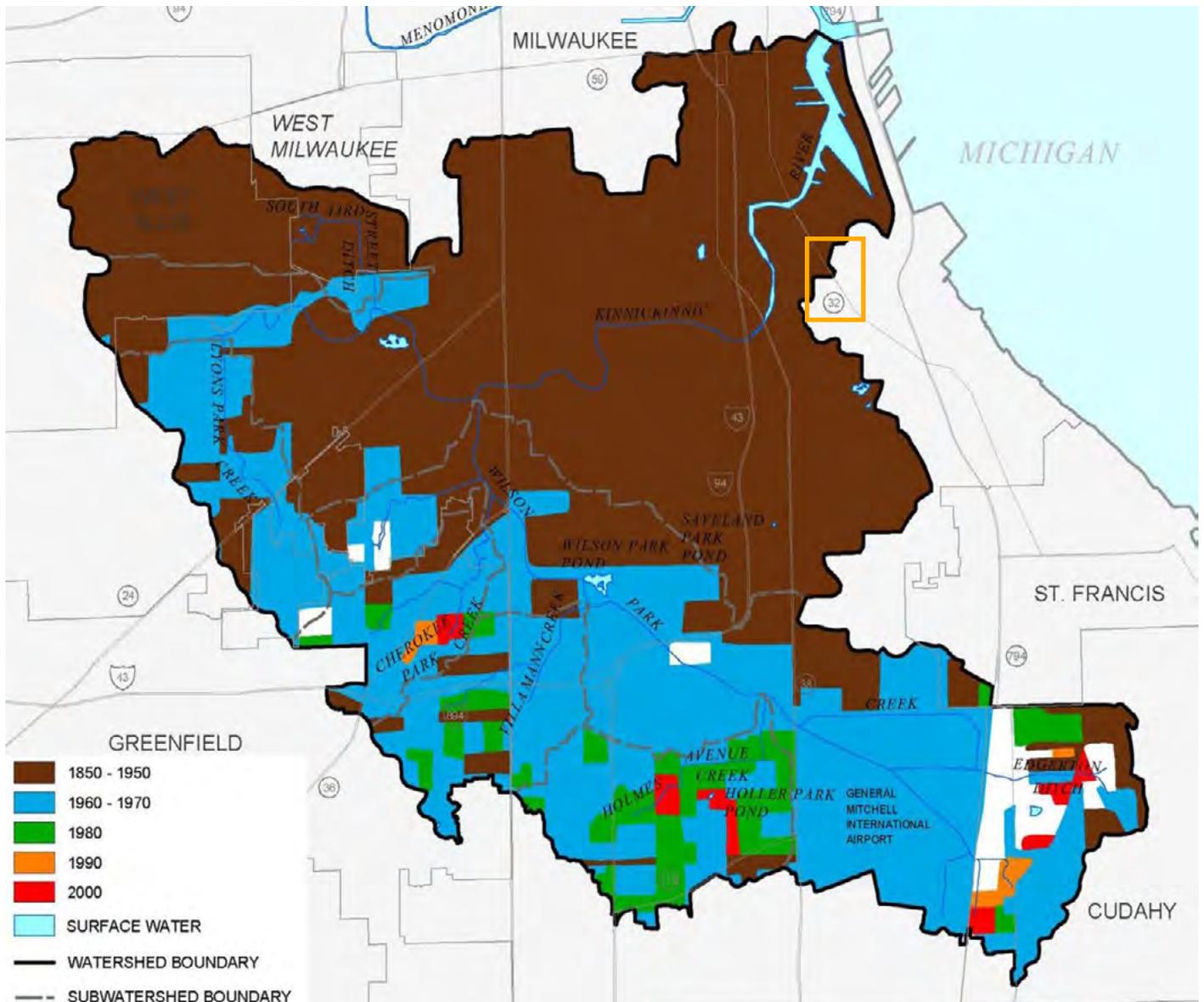


Figure 5.4: The Bay View Wetland is situated at the downstream end of the Kinnickinnic River watershed. The Kinnickinnic River watershed is mostly urban (78%) and the majority of it has been developed for more than 50 years. Wetlands comprise only 0.3% of the land area. In a watershed this developed, open spaces like the one at the Bay View Wetland should be preserved and enhanced.

Neighborhood Possibilities

Green Streets

Student Work

University of Wisconsin-Milwaukee students have been examining design possibilities for the Bay View Wetland's regional context as part of the Inner Harbor project in Milwaukee and other studio design courses.

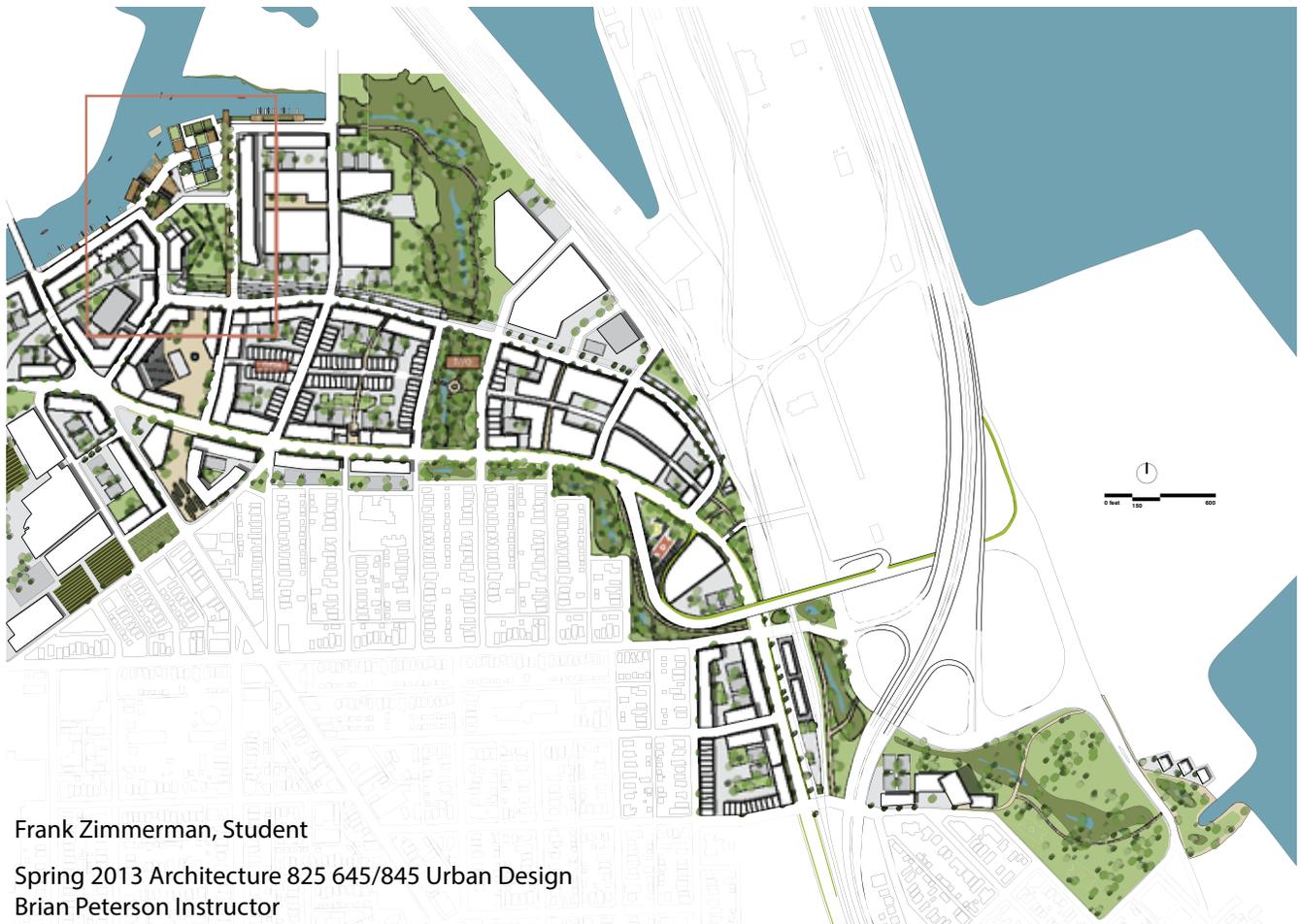
Numerous explorations of regional site layout have found ways to connect greenspaces and reorganize landuses to improve ecosystem connectivity, stormwater treatment, pedestrian movement, and neighborhood cohesiveness.

The Bay View Wetland has the potential to be a pilot project for improvement of green space within the Bay View neighborhood that could help realize portions of these ambitious design and planning ideas.



Adam Flickinger

Fall 2005 Architecture 645 and 845



Frank Zimmerman, Student

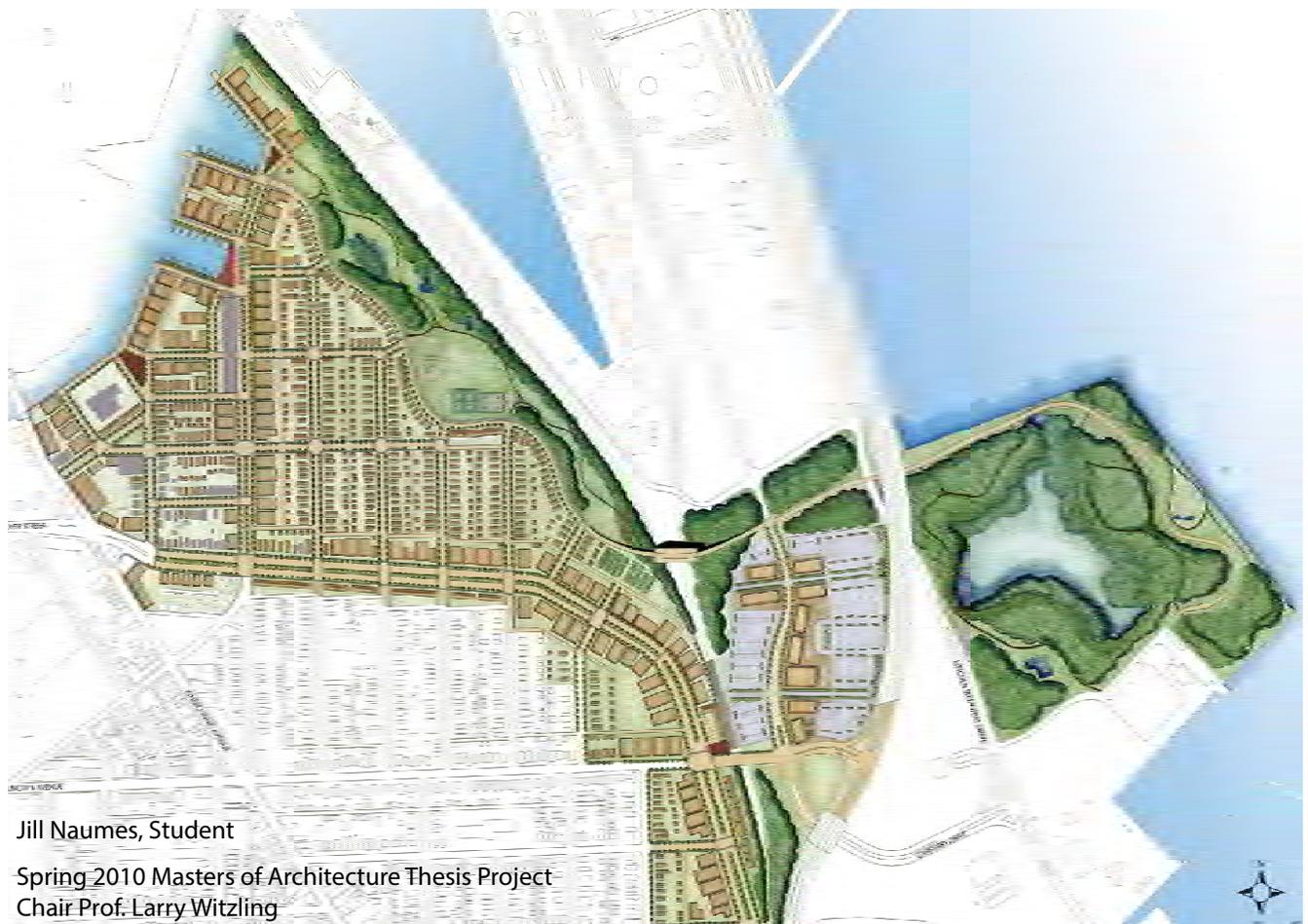
Spring 2013 Architecture 825 645/845 Urban Design
Brian Peterson Instructor

Neighborhood Possibilities

Connectivity



Kelly Yuen, Student
Spring 2013 Architecture 584 Urban Landscape Architecture
Jen Current Instructor



Jill Naumes, Student
Spring 2010 Masters of Architecture Thesis Project
Chair Prof. Larry Witzling

Southeast Milwaukee Comprehensive Plan

The Bay View Wetland is situated at the north end of Milwaukee's southeast side. In part, the comprehensive plan for this area has a vision for landuse that will:

- Foster distinctive, attractive public spaces with a strong sense of place
- Protect and maintain open space and recreation areas
- Protect and reclaim critical environmental areas
- Attract anchor institutions and promote family-supporting jobs
- Reclaim brownfield areas

The Bay View Wetland Restoration Project will help to realize this vision by turning a vacant brownfield into a place that can foster the restoration of a unique wetland ecosystem, cutting edge sustainable development, and community education and involvement.

The planning process for the Bay View Wetland thus far has shown that a core group of residents from the Bay View Neighborhood and stakeholders from organizations throughout Milwaukee are committed to the project's success. On-going investment from these concerned citizens and government organizations will ensure that the Bay View Wetland becomes a valuable resource for Milwaukee's wildlife, economy, and community for years to come.

The Bay View Wetland Restoration Project will create a place where industry, ecology, and community can thrive together.

