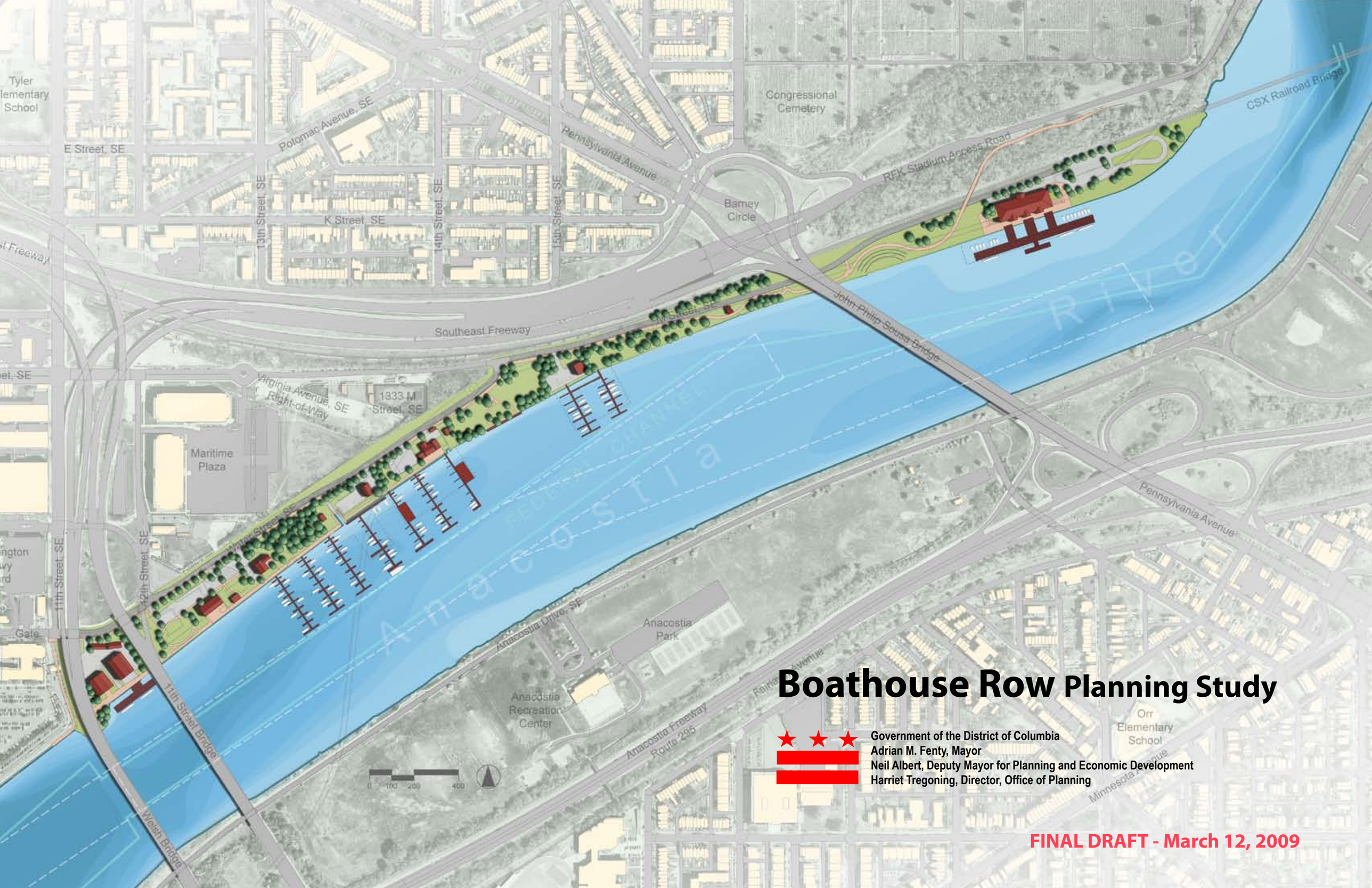

Boathouse Row Planning Study

Government of the District of Columbia
Adrian M. Fenty, Mayor
Neil Albert, Deputy Mayor for Planning and Economic Development
Harriet Tregoning, Director, Office of Planning

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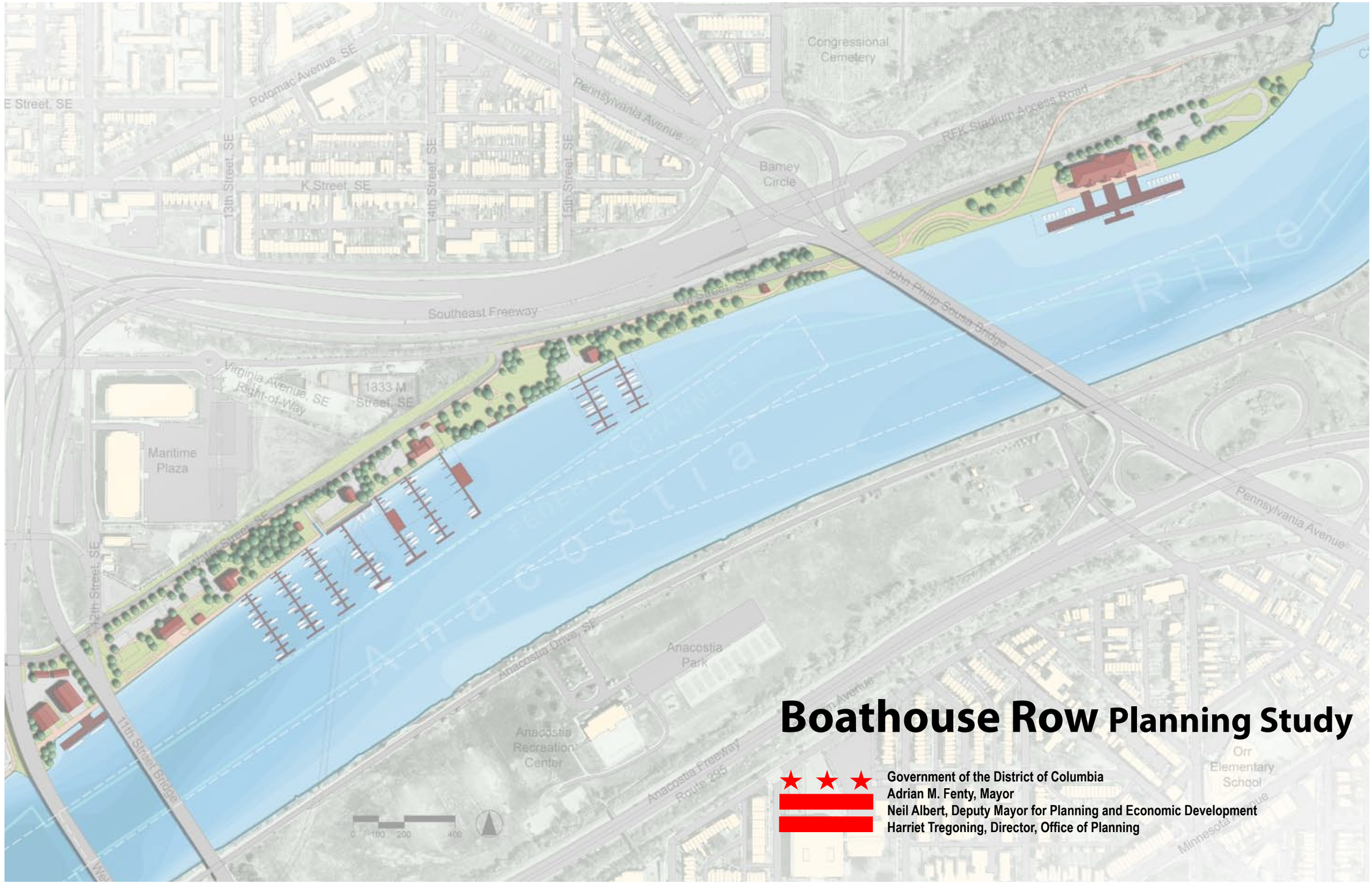

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EXECUTIVE SUMMARY

1. Overview

The District of Columbia Office of the Deputy Mayor for Planning and Economic Development (DMPED) and the Office of Planning (OP) have developed a Planning Study for the area along the west bank of the Anacostia River known as Boathouse Row. This land was previously owned by the United States government and administered by the National Park Service. It was transferred to the District of Columbia in the fall of 2008. Boathouse Row is a part of the city's Anacostia Waterfront Initiative (AWI), and future improvements to Boathouse Row will advance the implementation of the AWI, further establishing the District as a waterfront city.

Through this planning study, the District seeks to determine future land uses, provide upgraded public facilities, improve environmental conditions, preserve existing functions, and utilize remaining land to enhance and expand boathouse, boat clubs, and water recreation uses. The result of the Planning Study is an Existing Conditions Analysis, a Market Study, two proposed Concept Plans, a Financial Analysis and a series of Recommendations. The final concept plan will be determined in the future once certain District infrastructure and other relevant site projects are completed, and several key site-related issues are resolved.

2. Project Goals

The goals of the Planning Study are to:

- Develop a Planning Study that builds on the framework and goals of the Anacostia Waterfront Initiative and is specific to Boathouse Row;
- Create a Planning Study for Boathouse Row that balances the needs of existing boat club users, future users and the public;
- Develop a study and recommendations to guide the future development of Boathouse Row.

3. Planning Context

The Boathouse Row Planning Study was developed to determine future uses of a site that was not a District property until the recent land transfer. It builds upon the *Anacostia Waterfront Initiative Framework Plan* and the *Urban Design Framework for the Near Southeast*. The 2006 DC Comprehensive Plan Future Land Use map designates this area as "Parks, Recreation and Open Space".

Several key District infrastructure projects and other site initiatives are planned for implementation in the vicinity of Boathouse Row. The infrastructure projects include the District Department of Transportation (DDOT)'s rehabilitation of the 11th Street Bridges; DDOT's implementation of the AWI Riverwalk Trail; and the implementation of the DC Water and Sewer Authority (DCWASA) DC Long Term Control Plan, including a deep tunnel which will traverse the site and consolidate the three on-site Combined Sewer Outfalls (CSOs).

Other initiatives include the remediation of contamination from the Washington Gas Site. The completion of these projects will affect the time frame for implementation of the concepts and recommendations in this study.

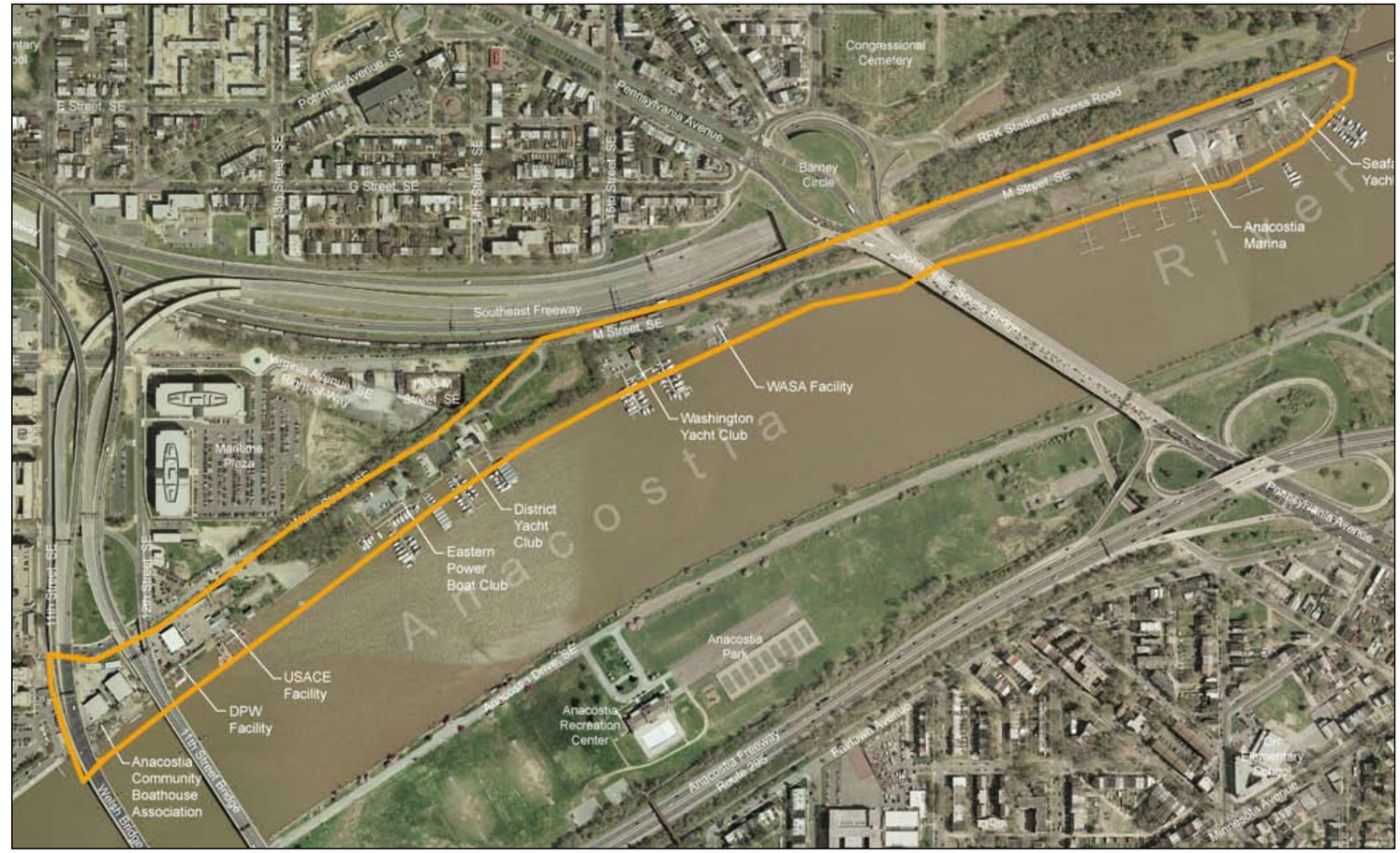

Fig. 1 – Aerial photograph showing existing conditions and project area

4. Planning Process

The Boathouse Row Planning Study consisted of an Existing Conditions Analysis that included interviews with site stakeholders; an existing transporation conditions analysis and an existing market conditions analysis; development of several concept alternatives; two final Concept Plans which are presented in this study; a financial analysis comparing the two options; and a series of recommendations to guide future refinement and implementation of any future final concept.

The Planning Study included a stakeholder and community engagement process. An Advisory Committee made up of representatives from each of the current public agencies, private boat clubs, and the community boathouse (currently located on Boathouse Row), as well as relevant city staff and elected officials, was created to help guide the Planning Study. Advisory Committee and Public Meetings were held over the course of the planning process to communicate information, discuss alternatives and develop consensus on the concepts.

5. Existing Conditions

Boathouse Row is a long, narrow strip of land located in Ward 6 in the District of Columbia, and is generally bounded by Water Street SE / M Street SE and the CSX railroad tracks to the north, the CSX rail river crossing to the east, the Anacostia River to the southwest, and the 11th Street Bridges and Navy Yard to the west. The land slopes down gradually from north to south toward the water, and from west to east along its length.

Site and Context

Boathouse Row consists of a boat house, boat clubs, various service facilities, roadways, and open spaces. It is currently home to the Anacostia Community Boathouse Association (ACBA), Eastern Power Boat Club (EPBC), District Yacht Club (DYC), Washington Yacht Club (WYC), the former

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Anacostia Marina, and the Seafarers Yacht Club (SYC). In addition, the DC Department of Public Works (DPW), the US Army Corps of Engineers (USACE) and the DC Water and Sewer Authority have facilities on the site. To the west of the site lies the Navy Yard, and just north of the site along M Street is the Maritime Plaza office development.

A number of notable existing developments as well as planned large-scale revitalization and redevelopment intitiatives are located in proximity to the study area including the Yards, Hill East and Poplar Point. Boathouse Row provides a significant link along the Anacostia Waterfront, especially from the Yards development to the Navy Yard promenade, to the future Hill East redevelopment.

The site is not currently zoned, but is designated in the DC Comprehensive Plan's Future Land Use map as Parks, Recreation and Open Space. Future zoning changes for this area will occur through the Zoning Commission process to include community notification and input.

Regional Boathouses, Boat Clubs, and Marinas

The maritime context of Boathouse Row was examined for this Planning Study. Regional boat/yacht clubs and boathouses in the area were studied in order to inform the study by comparing other facilities from physical layout, facility, and market perspectives. This information can be found in section 2.4 of this report.

Waterway

Over the years, the Anacostia River has experienced heavy siltation, filling of wetland and river areas, and development along its banks. A study on the Federal Channel shows the channel adjacent to the north bank of the river, and that the river is relatively deep in the channel immediately beneath the CSX bridge, but shallow on the inside of the adjacent bend. The entire channel becomes relatively shallow beyond this point, and becomes deeper again as it approaches the 11th Street Bridge, with greater depth on the north bank of the river adjacent to Boathouse Row. A 400 foot wide turning basin is located west of the Sousa Bridge between District Yacht Club and Washington Yacht Club. Boaters including members of the four boat clubs along the north bank of the river use the main channel for navigation and recreation. The other major use of this part of the river is for various forms of non-powered boating including regatta events.

Environment

Boathouse Row includes several areas of environmental contamination, as described in studies for related projects in the area. The area just east of the 11th Street Bridges and adjacent to the Anacostia River was previously a Washington Gas and Light coal gasification facility. The waterfront was used for delivery of petroleum to the former Steuart Petroleum Services facility just south of M Street. The Washington Gas & Light site and some areas adjacent to the river have contaminated soils. Other areas with some soil contamination include landfill materials at Barney Circle and minor soil contamination at the Anacostia Marina site.

The Boathouse Row riverfront includes three Combined Sewer Outfalls through which, during high rainfall events, sewage mixed with stormwater enters the Anacostia River. The river sediment also has areas of contamination from a variety of sources, and areas around the CSOs receive higher levels of sedimentation, creating sandbars in the river.

Habitat Areas

An area of land east of Pennsylvania Avenue and south of the Congressional Cemetery has been identified as a "priority wildlife area" because of the shrub and scrub type habitat that it provides. Members of the boat clubs have also indicated that some of the wooded areas and naturally vegetated banks, in addition to the river itself, along Boathouse Row provide habitat for wildlife.

Existing Conditions Analysis Findings

The Existing Conditions Analysis identified challenges to be faced and opportunities for improvement at Boathouse Row.

Challenges include:

- Constrainment of the site by the SE Freeway and CSX physical barriers to the north.
- Safety issues raised by the CSX tracks, especially along the east side of the site, where the tracks are at grade.
- Limited transportation access on the east side of the site.
- Limited space for parking to support motorized and non-motorized boating activities.
- Potential difficulty integrating site improvements with the planned AWI Riverwalk Trail bridge across the CSX tracks.
- Conflicts between the AWI Riverwalk trail and some open space areas.
- The need to create more accessible and connected open space areas to allow for better access to the river.
- Continued siltation of the river, and the challenges posed for the boating community, especially at Anacostia Marina and Seafarers YC.
- Implementation and integration of the WASA LTCP tunnel drop shafts.
- Waterside and landside environmental issues.
- The lack of on-site amenities such as food service.
- The need to create more accessible and connected open space areas to allow for better access to the river.

Opportunities include:

- Active uses on the west side of the site.
- Good transportation access on the west side of the site with some parking opportunities.

Anacostia Community Boathouse Association

DPW facility

USACE debris removal facility

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- Two potential redevelopment areas including the DPW/USACE site and the Anacostia Marina site.
- Large open spaces on the east side of the site topography that creates pleasant views of and across the river.
- Connectivity opportunities at Virginia Avenue and with the AWI Riverwalk trail and bridge.
- Expansion space for boat clubs and boathouse, and room for enhancement of site infrastructure.
- Green areas with vegetation and habitat, which suggest several potential community open space areas.
- Two potential redevelopment areas including the DPW/USACE site and the Anacostia Marina site.

6. Existing Transportation Conditions Summary

A review of existing transportation conditions has identified that the primary access to Boathouse Row will continue to be maintained via M Street and Water Street, given the long-term constraints of the CSX rail tracks and the Southeast Freeway. Other connections planned in the Boathouse Row study area include the AWI Riverwalk Trail Bridge over the CSX tracks that would provide additional pedestrian and bicycle connectivity to and from Boathouse Row, Reservation 13, and communities north of the Southeast Freeway.

7. Existing Market Conditions Summary

A review of the competitive market environment suggests that the Boathouse Row waterfront area along the Anacostia represents a unique position with affordable slip rentals, shallow depths and rural landside, unlike much of the other District and neighboring shorelines. Within the study area there are an estimated 141 wet slips within the four boat/yacht clubs.

In general, the supply of slips and related motorized boating facilities does not meet the needs of the market. There is demand for new slip space (particularly for boats in excess of 35 feet), storage, and repair facilities. In addition, there may be potential to capture more boater spending for recreation-related retail such as food service and rentals (livery). Applying the percentage of income-qualified households that currently own boats docked in DC waters (0.9 percent) to the growth in income-qualified households suggests a potential demand for roughly 294 more boat slips. This is likely a somewhat conservative estimate because it focuses on net household growth and does not reflect the District's current unmet demand for wet slips. This demand, however, is constrained by current supply and the high cost of creating new slips.

The demand anticipated for non-motorized boating activity will continue to rise. The Anacostia River represents a special opportunity for this type of activity as it offers a long and wide expanse of water without bends and with limited use by commercial vessels. The rowing, kayaking, and canoeing community feels strongly about keeping continued access to this section of the Anacostia River as it offers a good practice and race course.

8. Guiding Principles

Guiding Principles were created in order to guide the development of the Planning Study. The planning team worked with the Advisory Committee and received feedback from the community to develop a set of Guiding Principles that reflect the needs and hopes of the site's stakeholders and users. These Guiding Principles build on the principles of the *Anacostia Waterfront Initiative* and its themes of restoring, connecting, recreating, celebrating and living. The Guiding Principles also build on the *Urban Design Framework for the Near Southeast* which called for specific improvements and principles for the "East M Street" target area.

9. Concept Plans

This planning study presents two Concept Plans which could be imple-

EXISTING MARKET CONDITIONS KEY FINDINGS

- **DC registered motorized vessels increased by 11.4 percent from 2006 to 2007**
- **DC non-motorized vessels increased from 7.5 percent to 10 percent of annual registrations**
- **DC is underserved compared to other competitive water venues**
- **Within the study area are an estimated 141 wet slips**
- **Competitive shoreline locations offer deeper water, quicker and easier access**
- **Boat ownership favors middle and upper-middle-income households**
- **85 % of DC boat owners who dock in DC have incomes in excess of $75,000**
- **There is demand roughly for 294 new boat slips**
- **Increase in share of DC residents who own boats increases total demand up to 550 wet slips**

Eastern Power Boat Club

District Yacht Club

Washington Yacht Club

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mented for Boathouse Row. The concept that will be further developed in the future will depend on decisions made regarding the Federal Channel, and on the timing and implementation of the major infrastructure projects and initiatives affecting this site.

The two Concept Plans which are presented here share certain Design Principles, or common design intentions, which should be built upon and futher developed once a final plan is selected for implementation.

Design Principles

1. Enhance Boathouse Row as a waterfront destination, with a continuouse waterfront edge, to provide increased access to the water and recreational uses for the community.
2. Allow for expansion of boat clubs and the boathouse, and the provision of a new marina and/or boathouse to encourage increased use of the river for both motorized and non-motorized users.
3. Provide amenties and shared uses in order to support users of the site, surrounding places of employment and residences, and to encourage the public to experience Boathouse Row.
4. Create a series of linked community open spaces that preserve the natural setting of the site and enhance recreation and enjoyment at the river's edge.
5. Employ sustainable design techniques in all aspects of future improvements to Boathouse Row to further the District's sustainability goals and steward the natural resources of the site.
6. Provide improvements to utility, trail, roadway, and parking infrastructure at Boathouse Row to promote safety and enhance connectivity.
7. The long-term planning and development of the site and its surroundings should allow for future connectivity to the neighborhoods to the north in order to increase access to the river and fulfill the mission of the Anacostia Waterfront Initiative.

Concept 1

Concept 1 proposes that most of the existing uses remain on site and are enhanced or expanded. ACBA returns to its current location under the 11th Street Bridges, and an expansion of ACBA, or a second boathouse is located adjacent to ACBA. This is possible once the 11th Street bridges rehabilitation is completed and the on-site contamination in that area has been remediated. The pumphouse could be adaptively reused as part of the design for the second boathouse.

A community open space with active uses is proposed to be created between the second boathouse and Eastern Power Boat Club, and should be sensitively designed so as to preserve as much vegetation and habitat. On site contamination in this area must be cleaned-up. The DPW facility and the USACE facilities are relocated in this concept. The DPW facility is relocated off-site and the USACE facility is proposed to be relocated on site.

A second community open space is created between District Yacht Club and Washington Yacht Club. As part of this open space, a canteen or small food service facility could be located here, which could also include a bike rental shop or other community amenity.

The WASA debris removal facility remains at its current location in this concept, while the USACE debris removal facility is co-located with it. A new turning basin would have to be located in this part of the river to accommodate the USACE barges.

A third community open space is proposed for the area between the WASA/USACE debris removal facilities and the Anacostia Marina. The open space should be designed to integrate with the AWI Riverwalk trail bridge to the extent possible. For example, a stepped viewing area could be created for the enjoyment of boating events.

This concept proposes that Anacostia Marina is rehabilitated as a new mo-

Guiding Principles

Boat Clubs/Boathouse Users

- Provide opporunities to expand facilities and slip space for existing users to accommodate demand, taking into consideration the impact on the river and existing users
- Maintain racecourse for non-motorized users of the river
- Assess potential conflicts with water taxis
- Take safety issues into consideration

Shared Site Amenities

- Provide shared amenities
- Provide a restaurant/canteen/concession facilities
- Consider management of shared uses and parking functions

Urban Design

- Propose any new facilities at a scale and intensity that is sensitive to the existing boat club and boathouse character and the delicate riverfront environment
- Balance the needs of existing users, future users, and the public

Connectivity and Access

- Improve access to new public facilities and the Anacostia River
- Preserve and enhance pedestrian and bicycle access to the water

Environment/Sustainability

- Consider impacts on the waterway and the coexistence of diverse uses
- Incorporate sustainable site design and green building techniques
- Preserve and protect existing wildlife habitats
- Consider preservation or adaptive reuse of pump house

WASA debris removal facility

Anacostia Marina

Seafarers Yacht Club

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torized boat marina with expanded slips, a new club house building and a new boat repair facility.

The challenges with Concept 1 revolve around the issues of dredging and the federal channel. The channel will need to be realigned, dredged, and widened, in order to accommodate the relocation of the USACE debris removal facility. A new turning basin will also have to be created near that facility. Continued siltation of the river will have to be addressed prior to implementation of this concept. The long-term viability of Anacostia Marina and Seafarers YC may depend on dredging as well.
Concept 1 provides positive opportunities as well. Three community open spaces are created, providing enhanced community access to the Anacostia River and the opportunity for use of the Anacostia Riverwalk Trail. A canteen-style food service facility would serve both the boating community and visitors to Boathouse Row, as well as employees of the Navy Yard and surrounding developments such as Maritime Plaza. Dredging would improve recreational and sporting use of the river by the boating community.

Concept 2

Concept 2 is, in part, a response to the possibility that dredging of the Anacostia River will not take place. As a result, motorized boat facilities may not be viable in the long term in the area around Anacostia Marina and Seafarers YC. This concept proposes a relocation of several of the uses along Boathouse Row, as well as new infrastructure to support those uses.

In Concept 2, ACBA could return to its current location under the 11th Street Bridges as in Concept 1, or could reside at Anacostia Marina. A community open space is proposed for the area adjacent to ACBA. This open space requires the relocation of the existing DPW and the USACE facilities. A canteen-style food service facility that incorporates a bike rental service or other community amenity could be part of the community open space. The existing pump house could be adaptively reused as part of the design

Fig. 2 – Illustrative Plan of Concept 1

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for this space. The open space should be sensitively designed so as to preserve existing vegetation and habitat.

Concept 2 proposes the relocation of Seafarers Yacht Club adjacent to Eastern Power Boat Club. This assumes that dredging of the Anacostia River does not take place and Seafarers becomes no longer viable in its current location. New facilities for Seafarers would need to be sensistively designed to integrate with the existing green space. The remaining boat clubs could expand either parallel to or perpendicular to shore. Expansions should be coordinated with the boathouse users and designed so that there is no impact to the rowing course. A second community open space is located between District Yacht Club and Washington Yacht Club. This space should be sensitively designed to encourage access to the river while maintaining habitat and vegetation.

In this concept, the WASA and USACE debris removal facilities are relocated off-site as these functions are not dependent on being located specifically at Boathouse Row. A third community open space is located between Washington Yacht Club and the former Anacostia Marina in this concept. The area west of the Sousa bridge is envisioned as a passive, treed green space with access to the water. The area east of the Sousa Bridge is an open space which should be integrated with the Anacostia Riverwalk Trail bridge, as with Concept 1.

In Concept 2, the Anacostia Marina would be replaced by a new boathouse which would be less dependent on dredging in that area. A small amount of dredging may still be needed in the Anacostia Marina area to support use of dragon boats or other larger rowing vessels. The new boathouse site will need to be designed to provide some permanent parking spaces to accommodate rowers using the facility on a daily basis, as well as additional parking areas for automobiles and trailers used for delivery of sculls and rowing equipment during regatta events.

The main challenge with Concept 2 involves the relocation of existing uses, namely moving Seafarers Yacht Club; the creation of new uses, as a result of Anacostia Marina becoming the site of a new boathouse; and the need

Layout of boathouse and boat clubs shown in diagrams is for illustrative purposes only and is not meant to suggest a particular configuration or number of slips.

Fig. 3 – Illustrative Plan of Concept 2

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to create landside and waterside infrastructure for these uses, including new facilities, parking, docks and slips. Other challenges included the distance of the canteen from the second boathouse and the limited space for parking for large events at that boathouse.

Concept 2 provides opportunities as well, such as minimizing the amount of dredging that would be required in the river. Additionally, three community open spaces are created along the site, and the canteen and bike rental facility would be near the Navy Yard, Maritime Plaza and the yacht clubs.

Long-term Vision for Boathouse Row

The long-term vision for Boathouse Row is for a site that fulfills the vision of the Anacostia Waterfront Initiative: that the site and its users contribute positively to the restoration of the Anacostia River, providing active and passive sources of water recreation; that it is completely connected and accessible to surrounding neighborhoods and transit opportunities along a barrier-free street grid system; that it is part of the larger riverfront park system, providing areas for stewarding and enjoyment of habitat and vegetation; that it is one of the many memorable and distinct neighborhood destinations in the District; and that it is a focal point and vital element of the waterfront neighborhood of which it is a part.

Achieving this vision will require short and long-term changes to the site and its immediate surroundings, including implementation of the WASA LTCP deep tunnel, the rehabilitation of the 11th Street bridges, and the clean-up of on-site contamination. The major long-term challenges include reconnection of the site to the neighborhoods to the north once the portion of the Southeast Freeway immediately north of the site becomes a boulevard, reintegrated into the city fabric and with the potential future rerouting of the CSX line outside this part of the city, as studied by the National Capital Planning Commission.

Although the mid-term solution for Boathouse Row is still in question, keeping the long-term vision for this site as a guide for future planning and implementation will ensure that Boathouse Row will achieve its potential as a vital part of the city and the Anacostia River.

8. Transportation Findings Summary

In the Planning Study, both development concepts have identical transportation elements serving them. In the immediate and foreseeable future, primary access to Boathouse Row will continue to be maintained via M Street and Water Street, given the long-term constraints of the CSX rail tracks and the Southeast Freeway. However, M Street will be upgraded and improved to provide better access to all of Boathouse Row, while providing additional parking relief with on-street parking. This condition will also be improved with other planned transportation improvements that include the proposed streetcar service on M Street, construction of additional phases of the Anacostia Riverwalk Trail, and the reconstruction of the 11th Street Bridges and the Frederick Douglass Bridge. The planning study is compatible with the future AWI transportation vision, and does not preclude future connections to Boathouse Row from communities to the north after the CSX rail tracks are ultimately removed and the Southeast Freeway is converted into an urban boulevard.

9. Financial Analysis Summary

For both alternative planning scenarios, these estimates are grouped into the following four cost categories: (1) marina redevelopment (land improvements plus associated docks); (2) parks; (3) infrastructure (roads, streetscape, site-serving utilities); and (4) dredging. In total, the estimates range from $10 to $12 million for each alternative, excluding dredging costs.

The different sources of funding available to meet the needs associated

FINANCIAL ANALYSIS KEY FINDINGS

- **Order of magnitude cost estimates between the two concepts highlight the high cost of dredging ($20 to $30 million)**
- **Concept 2 is roughly 30 percent less than Concept 1**
- **Sources of Funding include direct public appropriations (federal or local); bond financing (general obligation, tax increment financing); grants (federal, private philanthropic); and private redevelopment funds**
- **A review of a potential TIF district highlighted that an estimated $207 million worth of taxable property and $61.6 million of tax-exempt property, based on 2009 tax assessment from the District's Office of Tax and Revenue could be assessed.**
- **These tax revenues could support $3.2 to $4.3 million in TIF bonds but would not likely be a good funding alternative for this area.**

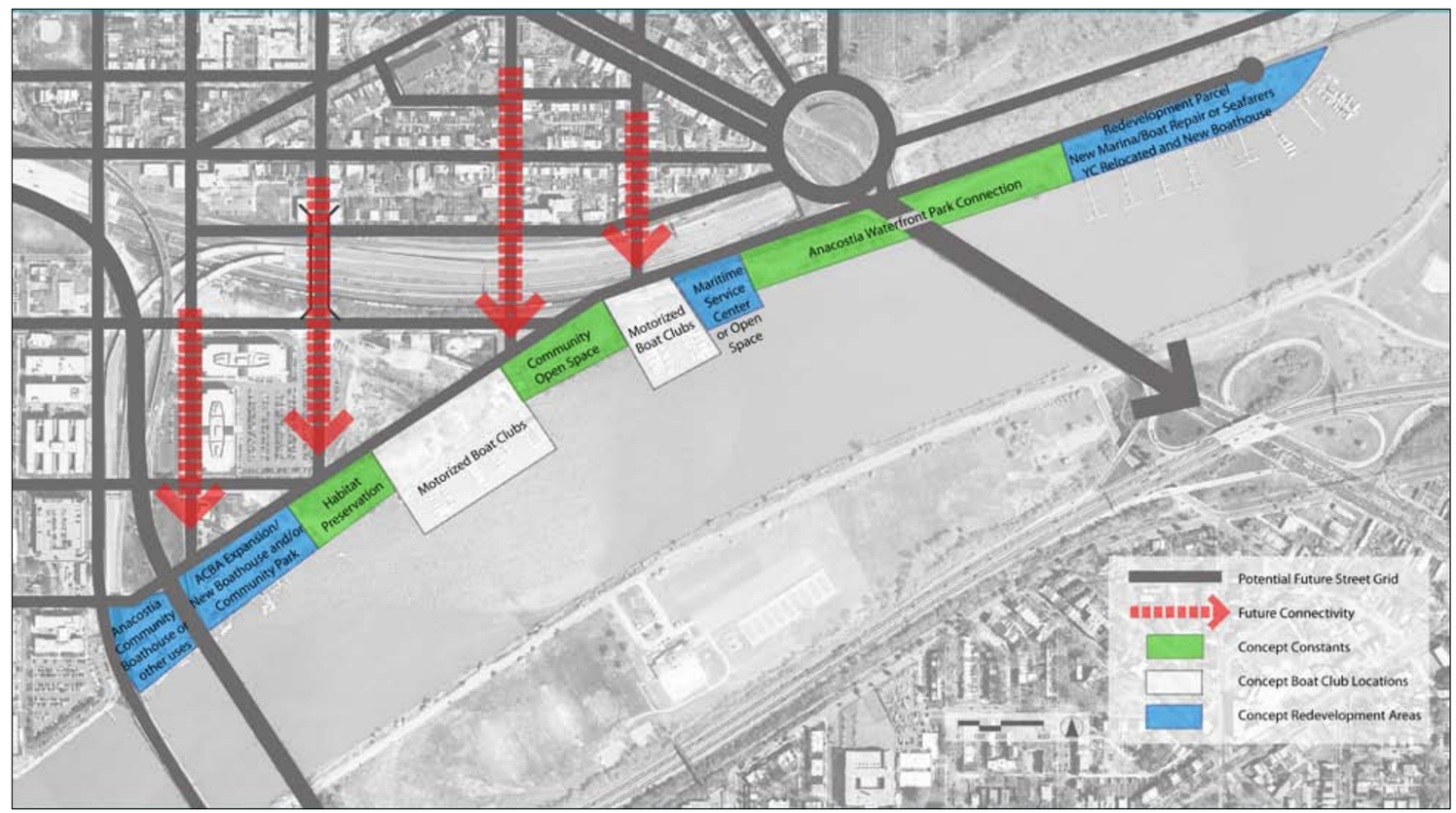

Fig. 4 – Illustrative diagram of long-term vision for Boathouse Row

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with this planning study include direct public appropriations (federal or local); bond financing (general obligation, tax-increment financing); grants (federal, private philanthropic); and private redevelopment funds. While all of these sources represent reasonable options for the Boathouse Row planning study implementation, the availability of these sources fluctuates depending on market conditions, government plans and other factors.

10. Recommendations

The following recommendations are to accompany the Design Principles and concepts. These are intended to help guide future decisionmaking and implementation of improvements to Boathouse Row.

1. Enhance Boathouse Row as a waterfront destination, with a continuous waterfront edge, to provide increased access to the water and recreational uses for the community.

    - DPW serves numerous important functions in the city. However, their functions are not dependent on being located near the water. DPW should be relocated to an alternative site after the 11th Street bridge construction completion.

    - DMPED and DPW should work together to find an appropriate new location for DPW and develop a transition strategy.

    - Implementation of WASA's Long Term Control Plan is critical to the Anacostia River's long-term health. The deep tunnel running along Boathouse Row is an important of accomplishing that project. WASA should work together with boat clubs and boathouse to coordinate future implementation of drop shafts for WASA's deep tunnel to minimize impact to site users.

    - The WASA debris removal facility should remain at Boathouse Row, at its current location, until the consolidation of the three CSOs on the site and completion of the implementation of WASA's LTCP. Subsequently, consideration should be given to removal of the WASA facility and transformation of that site into a community open space.

    - The USACE debris removal facility serves an important purpose in clearing large debris along the Anacostia and Potomac Rivers. However, its location at Boathouse Row prevents continuity of public access to the river along its edge. USACE should be relocated to a non-regularly publicly accessible site along the area waterways. Off-site relocation would remove the need to relocate the USACE's turning basin.

    - An alternative, but less preferred location for USACE is consolidated with the WASA debris removal facility. This would require the realignment of the Federal Channel and the relocation of USACE's turning basin.

2. Allow for expansion of boat clubs and boathouse and the provision of a new marina and/or boathouse to encourage increased use of the river for both motorized and non-motorized users.

    - ACBA should should reside at the site of the Anacostia Marina or return to its current location under the 11th Street Bridges upon completion of the 11th Street Bridge rehabilitation and remediation of the Washington Gas site.

    - An expansion of ACBA or new boathouse is recommended on site, either adjacent to ACBA or at Anacostia Marina to enahance the Anacostia River as a venue for non-motorized boating.

    - With the move of the federal channel, although potentially on paper only, there will be potential for boat clubs to expand either perpendicular or parallel to shore without impacting the number of rowing lanes. A detailed study of the expansion potential of each should be undertaken by each boat club.

    - Boat clubs should work together with the boathouse to plan for any future expansion so as not to impact rowing lanes.

3. Provide amenties and shared uses in order to support users of the site, surrounding places of employment and residences, and to encourage the public to experience Boathouse Row.

    - Additional bicycle racks should be located along Boathouse Row to encourage cycling along the AWI Riverwalk Trail and discourage vehicular circulation.

    - A small canteen-style food service facility is recommended to be located at Boathouse Row to support the regular site users and the public. A larger restaurant style facility is not recommended, due to parking requirements and potential conflicts with boaters. The canteen should be located near the Navy Yard and Maritime Plaza to help ensure daily patronage and long-term viability.

    - A bike rental operation could be located at Boathouse Row to encourage bicycling in the area and increase use of the AWI Riverwalk Trail. The bike rental facility should be c0-located together with the canteen.

4. Create a series of linked community open spaces that preserve the natural setting of the site and enhance recreation and enjoyment at the river's edge.

    - DDOE and DPR work with stakeholders, the public, boathouses/ boat clubs, to improve each community open space once projects are ready to be implemented.

    - Minimal, passive designs that preserve existing vegetation and habitat and respond to the primarily water-related use of the site are recommended.

    - Picnic areas should be included in community open spaces to encourage public access to Boathouse Row and the river.

    - Consideration should be given to the design of a terraced viewing area to be located at the community open space adjacent to the RW trail bridge. Such a design could help soften the impact of the piers and ramps leading up to the bridge and could serve as a viewing area for rowing races, and a community gathering space.

    - The current alignment of the AWI Riverwalk trail through the treed and vegetated area west of Eastern Power Boat Club is destructive to that sensitive habitat area. Realignment of the trail in that area is recommended.

5. Employ sustainable design techniques in all aspects of future improvements to Boathouse Row to further the District's sustainability goals and steward the natural resources of the site.

    - Incorporate sustainable site design and green building techniques.

    - Future improvements to roadway will follow DDOT standards and should employ low impact design elements to mimimize impacts to the river.

    - Preserve and protect existing wildlife habitats.

    - The existing pump house should be adaptively reused and integrated into Boathouse Row.

6. Provide improvements to utility, trail and roadway infrastructure at Boathouse Row to promote safety, and enhance connectivity.

    - City agencies should work with CSX to develop a strategy to ensure the public's safety around the tracks including the potential construction of a barrier or fence.

    - Infrastructure improvements should include enhanced streetscape and connectivity to surrounding neighborhoods to encourage increased public access to Boathouse Row and the river.

    - Adjustments to the AWI Riverwalk trail alignment may be necessary in the future to accommodate planned improvements at Boathouse Row. The alignment of the trail should be reviewed as projects near implementation so as to ensure that habitat areas are protected, and conflicts between pedestrians, bicyclists and boaters mimimized.

    - A parking management strategy should be developed for the site and future developments in the areas adjacent to Boathouse Row, and should allow parking structures and areas to be used by boat clubs / boathouse on evenings and weekends.

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- Future roadway improvements should provide on-street parking on M Street and Water Street where possible.

7. Allow for future connectivity to neighborhoods to the north in the long-term planning and development of the site and surroundings to increase access in order to the river and fulfill the mission of the Anacostia Waterfront Initiative.

    - Pedestrian connectivity to the Potomac Avenue Metro Station should be enhanced. The potential for a pedestrian bridge along 14th Street SE, across the Southeast Freeway should be explored.

    - The long-term future vision for Boathouse Row includes the reintegration the section of the SE Freeway to the north as a boulevard, and the relocation of the CSX railway. Improvements to Boathouse Row and surroundings should not preclude the future reconnection to the waterfront, of these neighborhoods to the north.

11. Conceptual Implementation Timeline

Overview

The implementation of improvements to Boathouse Row as illustrated in either Concept 1 or 2 would conceptually take place in stages and will depend first on the implementation of certain enabling projects in the short-term. There may be some overlap between projects in Stage 1 and Stage 2 - that is, some Stage 2 projects could take place while Stage 1 projects are being completed. The parties that would be responsible for each project include public (city agencies) and private (boat clubs / boathouse).

Stage 1 - Short Term - Enabling Projects

Timeframe: 2009 - 2014

Short Term Enabling Projects are the projects which will enable Concept Plan 1 or 2 to be implemented (conceptual timeline assumes negotiations with parties have been concluded, funding secured, design and permitting completed).

- Anacostia Riverwalk Trail completion (including bridge)
- Construction of ACBA facilities at Anacostia Marina
- 11th Street Bridge Construction
- DPW relocation
- USACE relocation - on-site co-location with WASA (Concept 1); or off-site (Concept 2)
- Washington Gas site remediation

Stage 2 - Medium Term - Implementation of Concept 1 or 2

Timeframe: 2014 - 2020

Following the enabling projects, one of the Concept Plans could be implemented. Timing could be similar for each concept despite cost differences.

- Dredging (Concept 1); or dredging under boat clubs (Concept 2)
- Bulkhead and utilities improvements
- Boat club improvements
- Parks developed
- Road infrastructure improvements
- Anacostia Marina redeveloped

Stage 3 - Long-term Future Projects

This stage would take place in the future once the portion of the Southwest Freeway immediately north of the site becomes a boulevard, as planned in concept by DDOT; and the CSX line is rerouted outside this part of the city. This will allow the city grid to be extended and neighborhoods to the north to connect directly to the waterfront. As this stage is far in the future, no timeline is associated with this stage.

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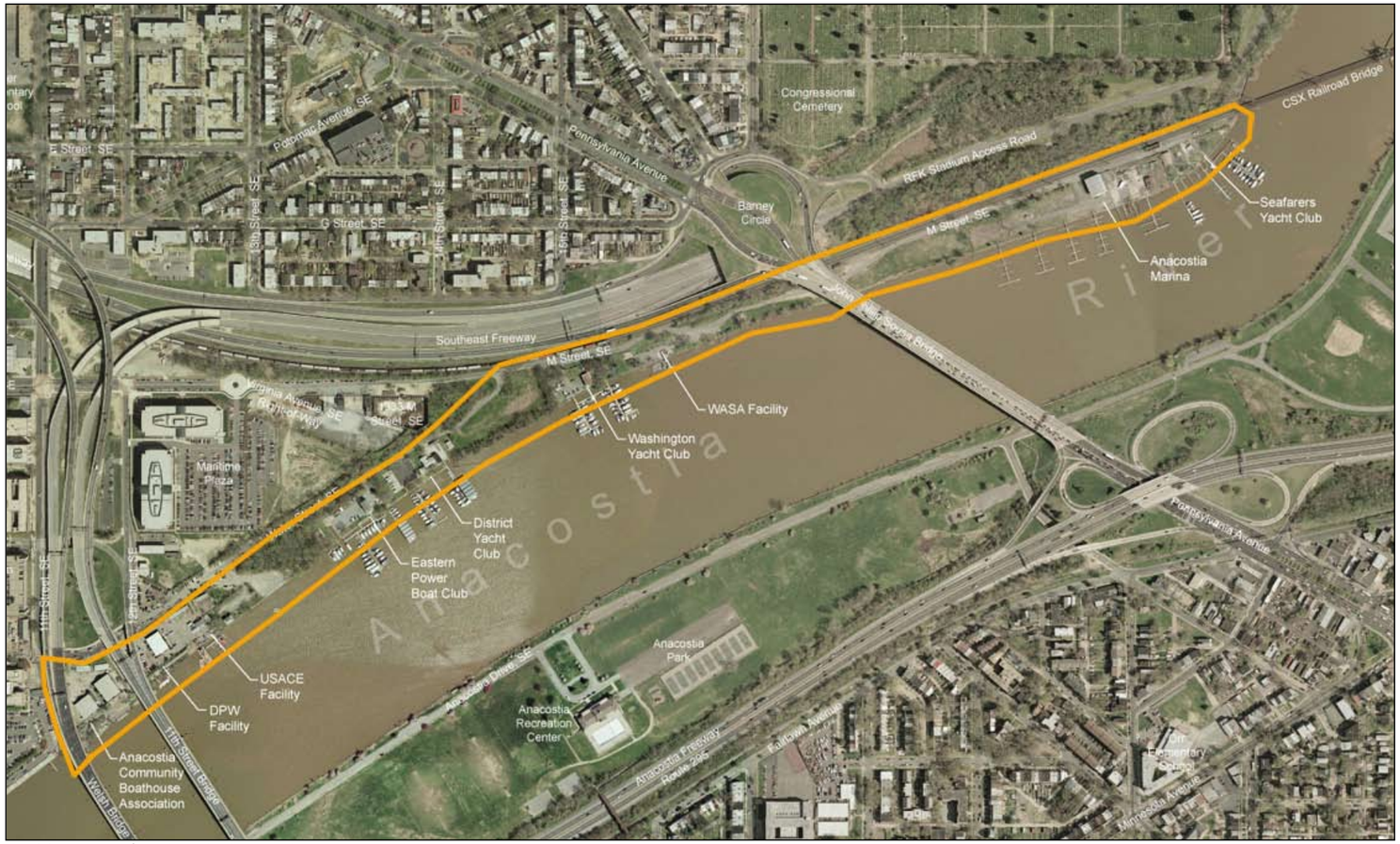

Fig. 1.1 – Aerial of existing Boathouse Row and project area

1. INTRODUCTION

1.0 Project Overview

In the spring of 2008, the District of Columbia Office of the Deputy Mayor for Planning and Economic Development (DMPED) and the Office of Planning (OP) launched a process to create a Planning Study for the area along the west bank of the Anacostia River known as Boathouse Row. Through the study, the District seeks to provide upgraded public facilities, improve environmental conditions, preserve existing functions and utilize remaining land to enhance and expand boathouse, marina, dock and water recreation uses.

Boathouse Row is located on the north shore of the Anacostia River, in Ward 6 in Southeast Washington DC, between the 11th Street bridges and the CSX rail crossing of the river. Nestled in between Water Street, SE, M Street, SE, the railroad tracks, and the river, motorized boat clubs and a community boathouse have long dotted the shore, offering maritime connections in the District to the Anacostia River. This land was previously owned by the United States government and administered by the National Park Service. It was transferred to the District of Columbia in the fall of 2008. The Planning Study determines the future of this now District-owned land.

The site is currently home to the Anacostia Community Boathouse Association (ACBA), Eastern Power Boat Club (EPBC), District Yacht Club (DYC), Washington Yacht Club (WYC), the former Anacostia Marina, and the Seafarers Yacht Club (SYC). In addition, the DC Department of Public Works (DPW), the US Army Corps of Engineers (USACE) and the DC Water and Sewer Authority (DCWASA) have facilities on the site.

1.1 Project Goals

As a result of the transfer of land along the Anacostia River from the United States to the District of Columbia, and the implementation of initiatives such as the AWI, DC is truly becoming a waterfront city. The Boathouse Row Planning Study was developed in order to determine future uses of a site that was not a District property until recently.

Boathouse Row sits in a fairly isolated part of the city. However, its future will be influenced by the surrounding projects described in the next section. It, in turn, will influence future decisionmaking as related to the Washington Gas site remediation, and future thinking regarding the Anacostia River.

The goals of the Planning Study are to:

- Develop a Planning Study that builds on the framework and goals of the Anacostia Waterfront Initiative and that is specific to Boathouse Row;
- Create a Planning Study for Boathouse Row that balances the needs of existing boat club users, future users and the public; and
- Develop a study and recommendations to guide the future development of Boathouse Row.

1.2 Planning Context

Several projects and studies were catalysts for the Boathouse Row Planning Study:

Anacostia Waterfront Intitiative

The *Anacostia Waterfront Intitiative (AWI) Framework Plan*, adopted by City Council in 2003, envisions the Boathouse Row area as the heart of water recreation uses on the Anacostia River:

> *"Marinas and community boathouses have long dotted the shore between the 11th Street Bridges and the CSX railroad bridge. The recently established Anacostia Community Boathouse is currently the only facility on the Anacostia River for sculling and hosts an increasing number of local high school teams. In the future, rowers and boaters will enjoy better access to enhanced facilities with the construction of Park Road and the Riverwalk along Boathouse Row."*

2006 DC Comprehensive Plan

The Boathouse Row site is currently designated Parkland on the 2006 Comprehensive Plan Future Land Use Map. The 2006 Comprehensive Plan includes numerous policy and action items which support the provision of greater access to and along the river, better utilization of the riverfront for recreation, and environmental improvements to both the Anacostia River and its shoreline.

Land Transfer

Until recently, the land currently known as Boathouse Row was owned by the United States and administered by the National Park Service. In 2006, Congress enacted Public Law 109-396, the Federal and District of Columbia Government Real Property Act of 2006 "To provide for the sale, acquisition, conveyance, and exchange of certain real property in the District of

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Columbia to facilitate the utilization, development, and redevelopment of such property, and for other purposes."

In late 2008, the transfer of this land, US Reservations 343D and 343E, was completed. This transfer allows the District to add an important link along the Anacostia River, to continue the Anacostia Waterfront Initiative.

Washington Gas Site Remediation
In 1999, Washington Gas submitted to the US Environmental Protection Agency (EPA), and received approval for, a Record of Decision (ROD) regarding remediation of contamination at the East Station Site. The site includes properties owned by Washington Gas, the National Park Service, the US Army Corps of Engineers, and the District of Columbia.

The ROD found that "actual or threatened releases of hazardous substances on and from this site, if not addressed by implementing the remedy selected in this decision document, may present a potential threat to public health or the environment." As a remedy, the ROD selected "... (1) eliminate human exposure to surface soil by covering exposed soil, during site development, with either one foot of clean soil stabilized with vegetation or impervious surface; (2) manage the risks to site development workers, current and future utility-maintenance workers, and future onsite office workers by applying institutional controls that minimize exposure; (3) protect ecological and human receptors from excessive influx of chemicals to the river by continuing to pump and treat ground water that otherwise would enter the river and by continuing to extract coal tar, a DNAPL, from areas where it accumulates above residual concentration and where it may enter the river; and (4) undertake or participate in additional environmental studies that might influence future remedial action at the site and in the Anacostia River."

The District of Columbia has not accepted the ROD, and desires a more agressive clean-up of contamination on the site. The Boathouse Row Planning Study will determine future land uses along the site. This information will influence the final decisionmaking regarding site remediation.

1.3 Infrastructure Projects
There are currently several planned District infrastructure projects to be implemented in the vicinity of Boathouse Row. Their completion directly affects the time frame for implementation of this study and its recommendations.

11th Street Bridges
The District Department of Transportation (DDOT) has recently completed plans and an Environmental Impact Statement (EIS) for the rehabilitation of both spans of the 11th Street bridges. This project is scheduled to begin construction in mid-2009, and with a projected 5-year construction phase, will be completed in mid-2014. The Anacostia Community Boathouse's facilities are located directly under the 11th Street bridges. As a result, their facilities will be relocated, for a period of 4 to 5 years, to the Anacostia Marina. Once the bridge rehabilitation is completed, DDOT will return ACBA to its current facilities. This bridge rehabilitation project is a high priority for the District of Columbia.

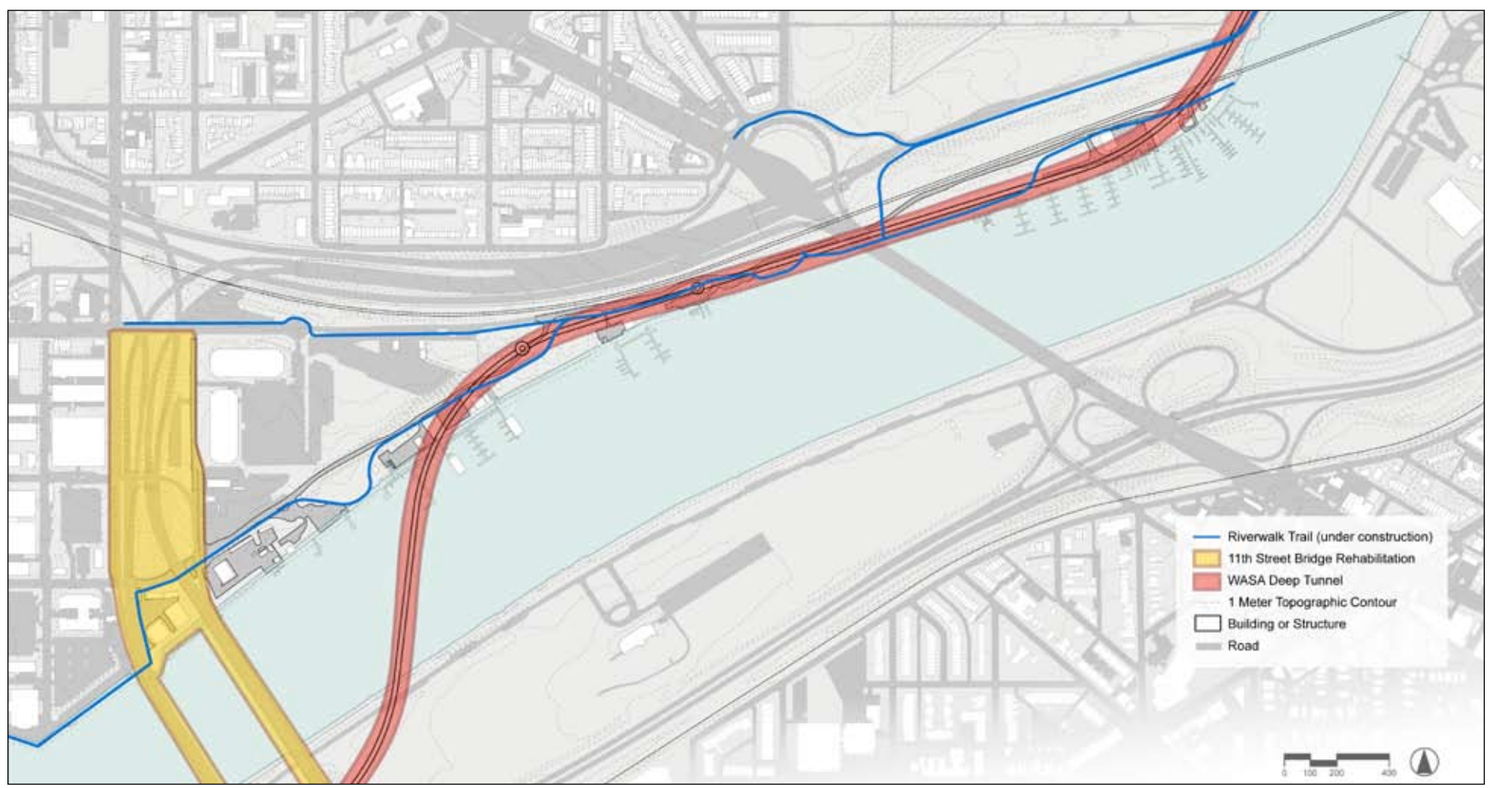

Fig. 1.2 – Diagram of planned area infrastructure projects

AWI Riverwalk Trail
As part of the Anacostia Waterfront Initiative, DDOT is currently implementing the Anacostia Riverwalk Trail, a pedestrian and bicycle trail along the Anacostia River. The section of the trail along Boathouse Row connects from the Navy Yard to RFK Stadium and Hill East. Parts of the trail along Boathouse Row have been constructed. Construction was recently halted due to the discovery of contaminated areas along the trail's alignment. As part of the trail, a pedestrian and bicyle bridge will connect Boathouse Row, at its eastern end, across the CSX track to Hill East.

DC Water and Sewer Authority LTCP
The District of Columbia has a combined sewer system, which carries both sewage and runoff together to treatment facilities. When the capacity of the combined sewer is exceeded during storms, the excess flow, which is a mixture of sewage and storm water runoff, is discharged into the Anacostia and Potomac Rivers, Rock Creek and tributary waters. In accordance with a Congressional Consent Decree, DCWASA has developed a plan for controlling overflows from combined sewer outfalls (CSOs) in the District of Columbia known as the Long Term Control Plan(LTCP).

Among the many measures which comprise the LTCP, are the consolidation of CSOs and the construction of storage tunnels to control overflows. There are three CSOs along the Boathouse Row site. The LTCP plan proposes to consolidate them to eliminate their impacts to this part of the Anacostia River. In addition, a deep storage tunnel will be constructed under part of Boathouse Row. There will be two drop shafts connected to the tunnel in the viscinity of the boat clubs. The control measures selected for the Anacostia River will improve water quality significantly and are predicted to reduce overflows from 82 to 2 events per average year. This project is also a high priority for the District.

1.4 Planning Process and Methodology
The Boathouse Row Planning Study was developed using an inclusive, collaborative consensus building process that involved representatives from the District of Columbia's Office of the Deputy Mayor for Planning and Economic Development, the Office of Planning, District agencies, leaders of the boat clubs and boathouse, representatives of the local ANC, community members and the consultant team. The consultant team consisted of SmithGroup/JJR for urban design, planning, waterfront expertise and sustainability; Partners for Economic Solutions for the economic analyses; Gorove/Slade for transportation planning; and Justice and Sustainability Associates for the community engagement process. The steps in the plan-

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ning process are described below.

Existing Conditions Analysis

The first part of the Master Plan process was to conduct an Existing Conditions Analysis. The analysis consisted of gathering and reviewing all pertinent documents and studies regarding the site; conducting numerous site visits and general surveys, including field work and tours on foot and by boat along the site in conjunction with stakeholders; photographing and recording site conditions; and creating analytical drawings of the findings. Through this analysis, site characteristics were documented so that all stakeholders had a common understanding of the site conditions, challenges and opportunities.

Stakeholder Interviews

The analysis also included conducting interviews with stakeholders including leaders of the boathouse, boat clubs, and District agencies. The results of interviews, questionnaires, and surveys completed by the boathouse and boat clubs, helped the planning team gain a strong understanding of site conditions and stakeholders concerns and hopes.

Existing Transportation Conditions

As part of the Existing Conditions Analysis, an assessment of the Existing Transportation Conditions was conducted to identify the existing transportation opportunities that can be maximized through the planning process, as well as existing constraints that would limit access and circulation within the Boathouse Row Study area.

Existing Market Conditions

An assessment of existing market conditions included motorized and non-motorized vessels, and other recreational or water-related retail. This analysis reviewed the competitive environment compared to the potential for new residental and commercial development in the surrounding areas. The market conclusions provide the framework for developing the alternative development concepts.

Guiding Principles

In collaboration with the Advisory Committee the planning team developed a set of Guiding Principles to help direct the project. These Guiding Principles build on the principles of the Anacostia Waterfront Initiative. They bring to light issues and opportunities faced by the site users, and describe their priorities for improvements to the site. The Guiding Principles were used to guide the development of the plans.

Concept Alternatives

A series of Concept Alternatives were developed based on the planning team's understanding of the existing conditions, the Guiding Principles, and the goals of the project. Several rounds of alternatives were discussed in detail during Advisory Committee and Public Meetings. Based on the input received, the planning team produced the two Final Alternative Concept Plans which are described in this report.

Financial Analysis

An order of magnitude financial analysis of the two concept plans was developed based on costs estimated for each of the concepts. The financial analysis distinguishes between the two alternatives and quantifies both the amount and types of private, public, and grant funding, highlighting anticipated funding shortfalls or gaps.

Recommendations

As described previously, several projects including the 11th Street Bridges rehabilitation, the WASA deep tunnel construction, and the Washington Gas site remediation, will need to be completed prior to the implementation of improvements to Boathouse Row. The concept plans described in this report are accompanied by a series of recommendations and suggested timelines for implementation.

1.5 Community Engagement Process

Boathouse Row Planning Study Meeting Schedule

June 12, 2008
Advisory Committee Meeting #1
Workshop on Existing Conditions, Guiding Principles and Brainstorming Alternatives

July 10, 2008
Public Meeting #1, Tyler Elementary School
Presentation of Existing Conditions, Guiding Principles, Alternatives

July 24, 2008
Advisory Committee Meeting #2
Interactive Workshop with Advisory Committee on Planning Alternatives

September 11, 2008
Advisory Committee Meeting #3
Presentation and Discussion of Draft Planning Alternatives

October 2, 2008
Public Meeting #2, Watkins Elementary School
Presentation of Draft Planning Alternatives

December 2, 2008
Advisory Committee Meeting #4
Presentation of Draft Planning Alternatives

December 16, 2008
Public Meeting #3, Watkins Elementary School
Presentation of Draft Planning Study

Public meeting

Advisory Committee meeting

Public Meeting

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The goal of the community engagement strategy for the Boathouse Row Planning Study was to engage public stakeholders on the existing conditions of Boathouse Row, develop guiding principles, examine tradeoffs, and deliberate over planning alternatives. The project team interacted with the public through stakeholder interviews to assess existing conditions, Advisory Committee meetings, and Public meetings.

Advisory Committee

The Advisory Committee was created with representatives from each of the current public agencies, private boat clubs, and the community boathouse (currently located on Boathouse Row), as well as relevant city staff and elected officials. Advisory Committee meetings were collaborative working meetings, during which the planning team and the Advisory Committee developed, reviewed, and discussed guiding principles and planning concepts for Boathouse Row. Advisory Committee Members included representatives of:

- Advisory Neighborhood Commission 6B representative
- Anacostia Community Boathouse Association
- Council Member Tommy Wells' staff
- Council Member Kwame Brown's staff
- CSX
- DC DPW
- DC WASA
- DDOE
- DDOT
- District Yacht Club
- Eastern Power Boat Club
- National Park Service
- Seafarers Yacht Club
- US Army Corps of Engineers
- Washington Yacht Club

Advisory Committee members played two principal roles:

1. Representing the interests of their organization and/or constituency. This included:
    - Representing their organization with some reasonable authority, so that the information provided can be a solid foundation for the planning team;
    - Closely examining and commenting on planning alternatives;
    - Consulting colleagues on potential "homework assignments" to bring information about the organization that is unique or special and that only they could bring; and
    - Publicizing public meetings. The planning team relied on the Advisory Committee members to conduct all the necessary outreach with their own organizations and constituencies to prepare for and attend public meetings.

2. Collaborating and deliberating on possible areas of consensus regarding guiding principles and planning concepts. This included:
    - Engaging in open dialogue, which allowed for the voicing of different opinions and recognition that everyone in the room is responsible for the process; and
    - Expressing themselves succinctly to allow time for others to share their thoughts and opinions.

Public Meetings

Public meetings were held in the format of open houses with the purpose of sharing information, making presentations, answering stakeholder questions and documenting comments. The project team publicized the public meetings by distributing meeting announcements to Advisory Committee members and other community stakeholders for them to distribute to their contacts and constituents. The broader community stakeholder group included local community members and the following organizations:

- Anacostia Riverkeeper
- Anacostia Watershed Society
- Association for the Preservation of Historic Congressional Cemetery
- Barney Circle Park Neighborhood Association
- Capitol Hill BID
- Capitol Riverfront BID
- Capitol Hill Association of Merchants and Professionals (CHAMPS)
- Capitol Hill Restoration Society
- Earth Conservation Corps
- Hill East Waterfront Action Network
- Hopkins Family Resident Council
- Maritime Plaza office tenants and management
- Metropolitan Police District 1D Citizens Advisory Council
- Naval District Washington

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2. EXISTING CONDITIONS ANALYSIS

2.0 Location

Boathouse Row is located in the District of Columbia, in Ward 6, on a long narrow stretch of land along the northwest side of the Anacostia River. It is generally bounded by Water Street SE / M Street SE and the CSX railroad tracks to the north, the CSX rail river crossing to the east, the Anacostia River to the southwest, and the 11th Street Bridges and Navy Yard to the west.

2.1 Historic Context

Boathouse Row is the name given to the study area in the *AWI Framework Plan* and in the *Urban Design Framework for the Near Southeast*. This area along the Anacostia River has been a part of the development of the District of Columbia since its beginnings. The L'Enfant Plan lald out a series of streets, avenues and blocks which came down to the rivers. Sites along the Eastern Branch, the former name of the Anacostia River, as well as the river itself, served primarily military and utilitarian maritime purposes for the early city. The activities of the Navy Yard in particular, situated just west of the study area, influenced the development of this part of the city. Established in 1799, the Navy Yard initially served as a port, receiving materials for construction of the city's monumental buildings.

Over the years, the development of the study area and its immediate surroundings has been influenced by the development of local residential neighborhoods as well as numerous major transportation infrastructure projects. The urban renewal projects of the mid 1900's included the development of the Southeast-Southwest freeway which separated neighborhoods to its north from access to the river. The CSX freight rail also cuts off connectivity of the site to local neighborhoods.

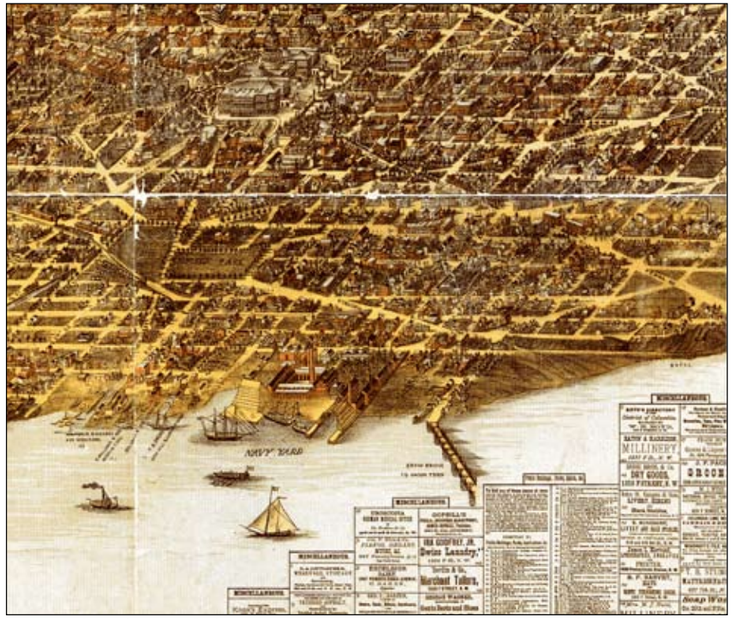

Fig. 2.1 – Partial view of *The National Capital Washington City DC* map by Adolph Sachse, 1883-84 showing Navy Yard and study area. Source: *Washington Through Two Centuries* by Joseph R. Passoneau

Until recently, as with many waterfronts around the country and around the world, the pervasive view was that waterfronts were mostly for utilitarian and industrial uses. At Boathouse Row, developments such as the Washington Gas and Stewart Petroleum plants operated as industrial uses north of the site until the late 20th century.

2.2 Land Use and Zoning

Because the land comprising Boathouse Row was previously owned by the United States and maintained by the National Park Service, it was not zoned by the District of Columbia. It is designated in the 2006 DC Comprehensive Plan's Future Land Use map as Parks, Recreation and Open Space. Future zoning changes for this area will occur through the Zoning Commission process to include community notification and input. At this time, a schedule has not been determined for when that process will occur. Any zoning implemented on this site would be consistent with a low-density waterfront designation as recommended in the Comprehensive Plan.

2.3 Local Context

Public and private investment is transforming this part of the city along the river's edge. A number of notable existing developments as well as planned large-scale revitalization and redevelopment intitiatives are located in proximity to the study area. Boathouse Row is a link along the Anacostia Waterfront, between the Yards development, the Navy Yard promenade and the future Hill East redevelopment.

Southwest Waterfront Redevelopment

The Southwest Waterfront is located along the Washington Channel. Home to DC's famous Fish Market and several restaurants and clubs, this 47-acre site recently received redevelopment approval. The redevelopment will include retail, restaurants, shops, and residences as well as a promenade along the waterfront.

Nationals Stadium and the Ballpark District

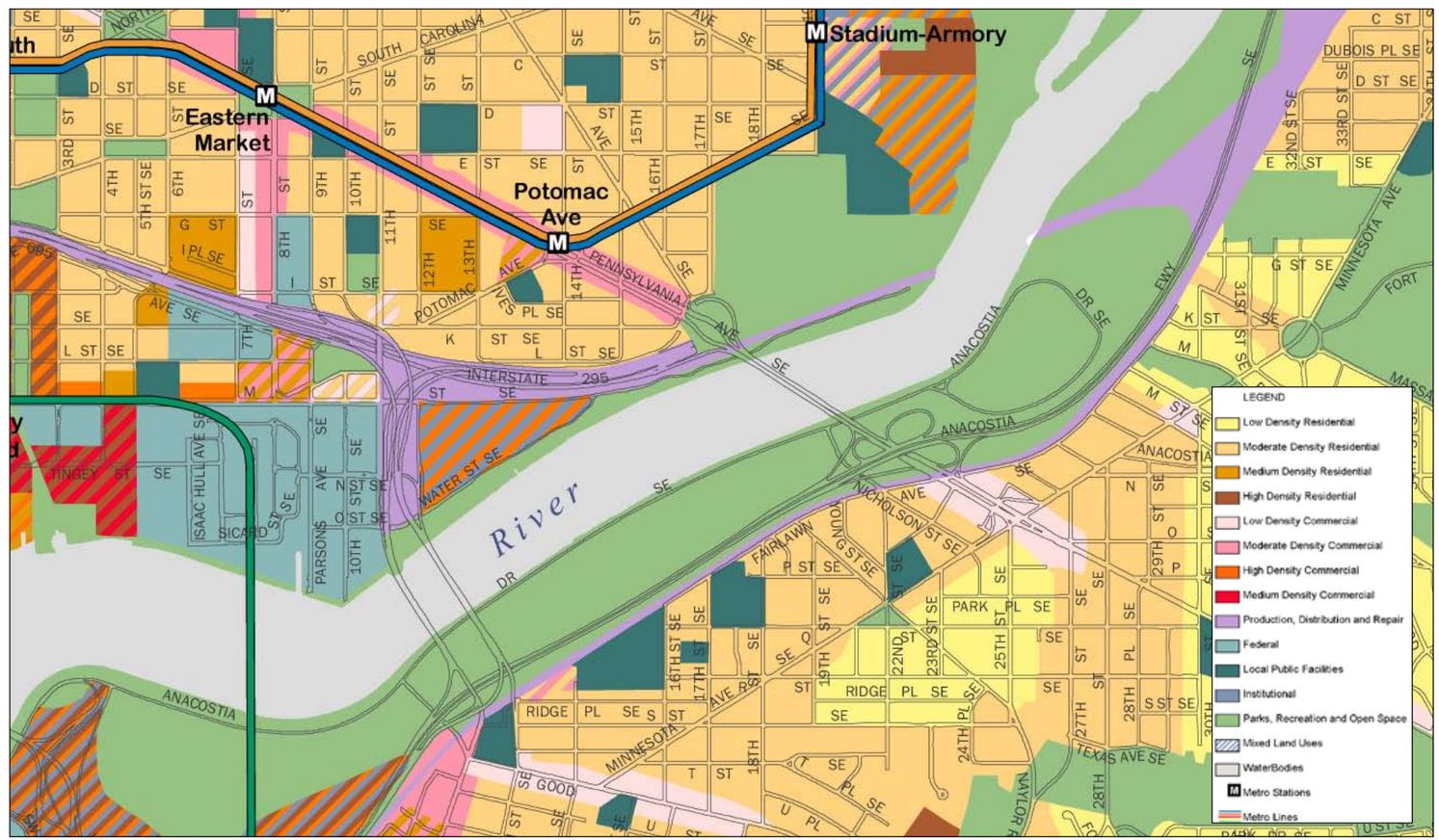

Fig. 2.2 – Partial view of Future Land Usse Map from the DC Comprehensive Plan, 2006

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The recently completed Nationals Stadium has become a new destination in Washington DC. The area around the stadium is planned to become a new waterfront entertainment district. Uses include a diverse mix of retail, restaurants, and entertainment venues, as well as residential, office space, and parking.

The Yards
Located west of the Navy Yard, the area formerly known as the Southeast Federal Center, is currently under construction. The 42-acre site, which includes existing historic buildings, will be home to a 5.5 acre waterfront park and marina, restaurants, shops, 2800 units of housing, and 1.8 million square feet of office space.

Navy Yard and Maritime Plaza
The Navy Yard is located immediately west of Boathouse Row. Together with related contractors, such as Maritime Plaza, it is a major employment center in the area. Once the AWI Riverwalk trail is completed, the waterfront promenade along the Navy Yard will connect the Yards to Boathouse Row.

Barracks Row
Barracks Row is the name of the section of 8th Street SE between the Navy Yard and Pennsylvania Avenue. Barracks Row is home to the Marine Barracks and the residence of the Marine Commandant. Over the last few years, this Main Street has been revitalized with new shops, restaurants and cultural uses.

Hill East
The District is currently in the process of selecting a development partner for the Hill East site in Northeast DC. The site is envisioned to be redeveloped into a sustainably-designed mixed-use urban waterfront community. Uses include health care, retail, residential, office, educational and civic uses. Hill East sits northeast of Boathouse Row and will eventually connect to it via a pedestrian and bicycle bridge across the CSX tracks, as part of the AWI Riverwalk trail.

Poplar Point
This site is located on the south bank of the Anacostia River, across from the Navy Yard and the Yards development. The District is in the process of planning this redevelopment. Poplar Point will include hundreds of units of housing, new retail, hotel and office space, as well as parks and open space.

Anacostia Park
Boathouse Row is also across the Anacostia River from the National Park Service's Anacostia Park, a large public park used for sporting and recreational activities by DC residents and visitors.

2.4 Maritime Context

The Washington metropolitan region is home to a variety of types of water users. Among those are numerous marinas, yacht/boat clubs and boathouses, some of which are in proximity to Boathouse Row. The planning team studied these in order to get an understanding of comparable facilities in the area. They were studied from a market perspective. The overall economic effect of the other motorized and non-motorized facilities on Boathouse Row is examined in detail in the Market Analysis section of this report. They were also studied from the perspective of their physical layout, components and amenities. The team documented this study with photographs and data regarding the facilities in the region. The team also studied other users of the area's waterways which have the potential to influence the future of Boathouse Row including small cruise facilities and water taxis.

Regional Marinas/Yacht/Boat Clubs
Several motorized boat clubs, yacht clubs and marinas are located in the DC area, primarily along the Potomac River and Washington Channel. Of particular note with respect to the Boathouse Row Planning Study are those located along the soon to be redeveloped Southwest Waterfront including the Washington and Gangplank Marinas. The redevelopment of the southwest waterfront will displace some boat slips and this affects the overall supply of and demand for slips in the area. James Creek and Buzzard Point Marinas are also nearby. James Creek provides pump-out services for many motorized boat owners in the area, as service that does not exist currently at Boathouse Row.

Regional Boathouses
The Washington area is also home to several private boathouses along the Potomac River which host individuals, organizations and schools and their skulling, paddling and kayaking, rowing, and regatta activities. While the Potomac River is a popular venue for rowing, the Anacostia River is considered a highly desirable rowing venue because it is not as subject to winds and tidal flutuations as the Potomac.

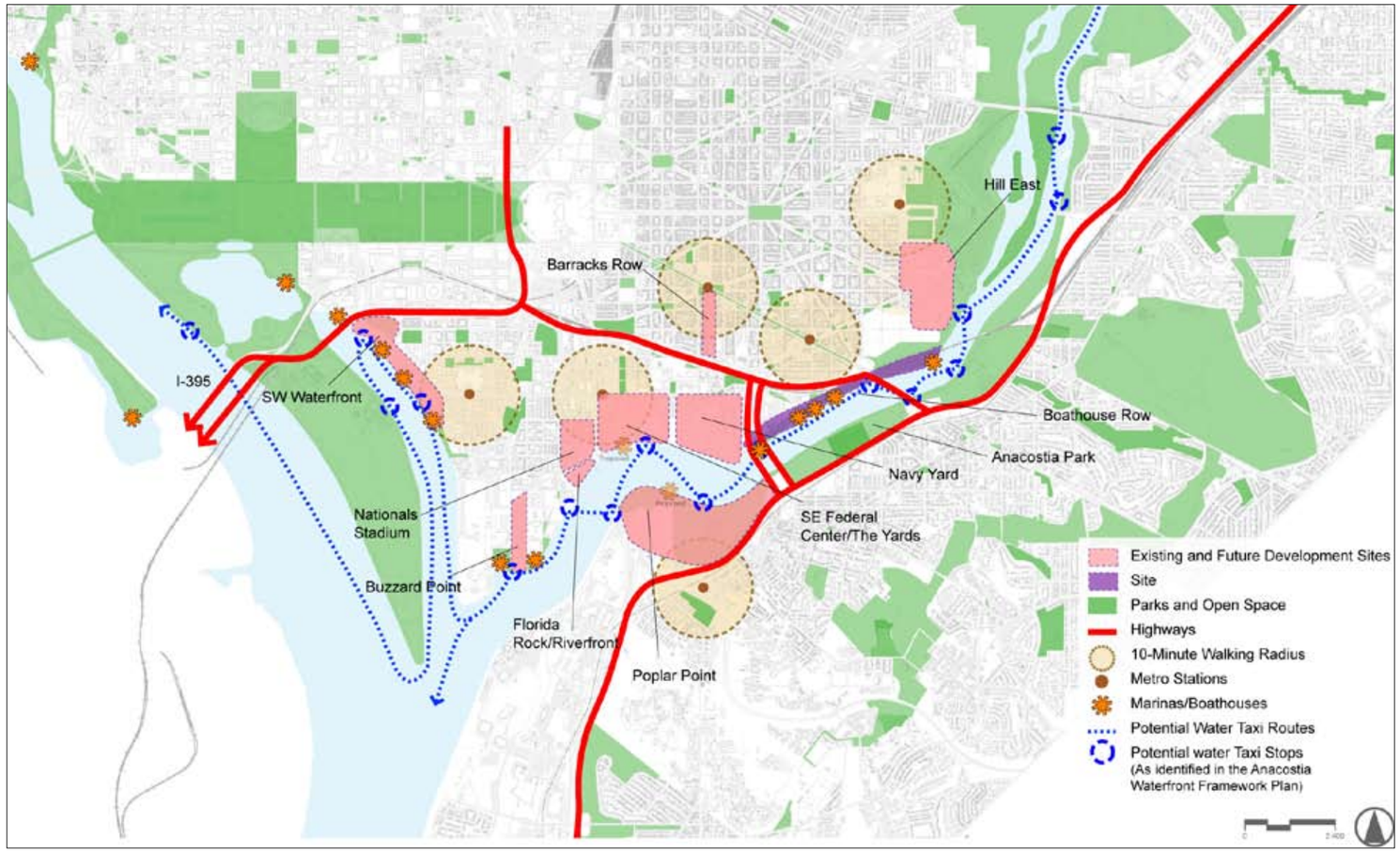

Fig. 2.3 – Regional Development Map

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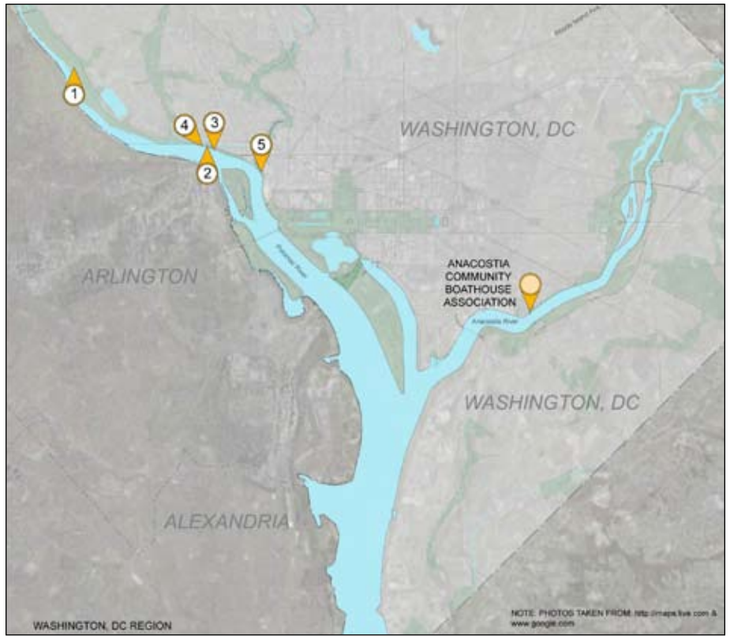
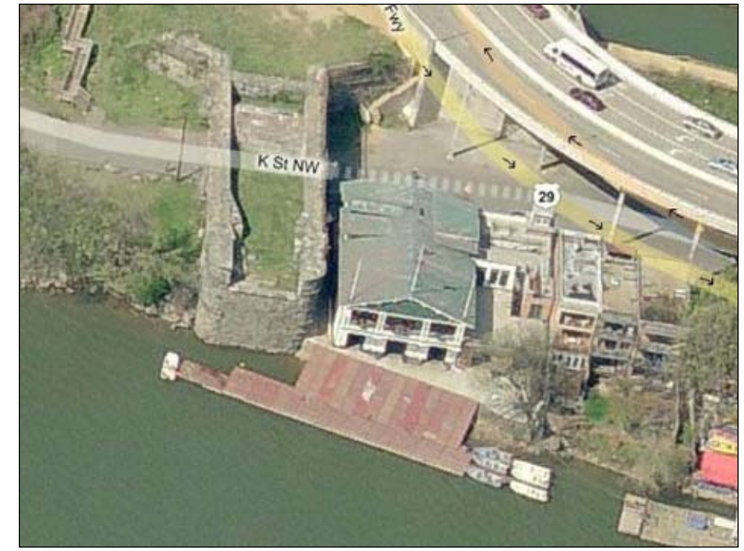


Key Map of boathouses in the Washington DC region

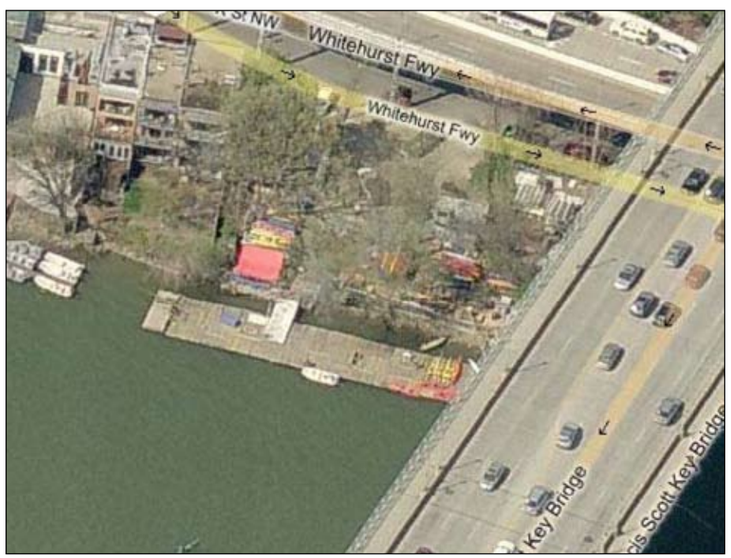
1 Fletcher's Boat House
4940 Canal Road, NW, DC

Users: Public
Rentals: Row boats, canoes, kayaks



2 Potomac Boat Club
3530 Water Street NW, DC

Users: Club Members
Boat Types: Crew rowing

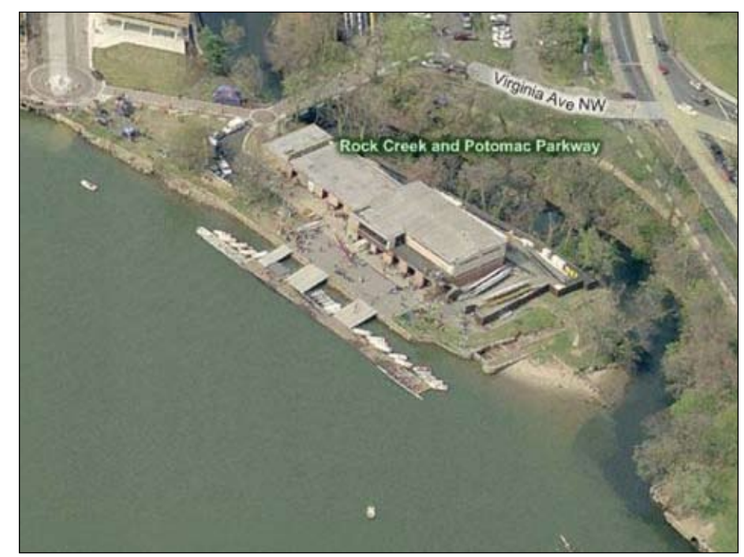


3 Jack's Boat House
3500 K Street, NW, DC

Users: Public
Rentals: Row boats, canoes, kayaks

4 Washington Canoe Club
3600 K Street, NW, DC

Users: Public
Boat type: Row boats, canoes



5 Thompson Boat Center
2900 Virginia Avenue, NW, DC

Users: Public, high school, college crew
Rentals: Row boats, canoes, kayaks, bicycles

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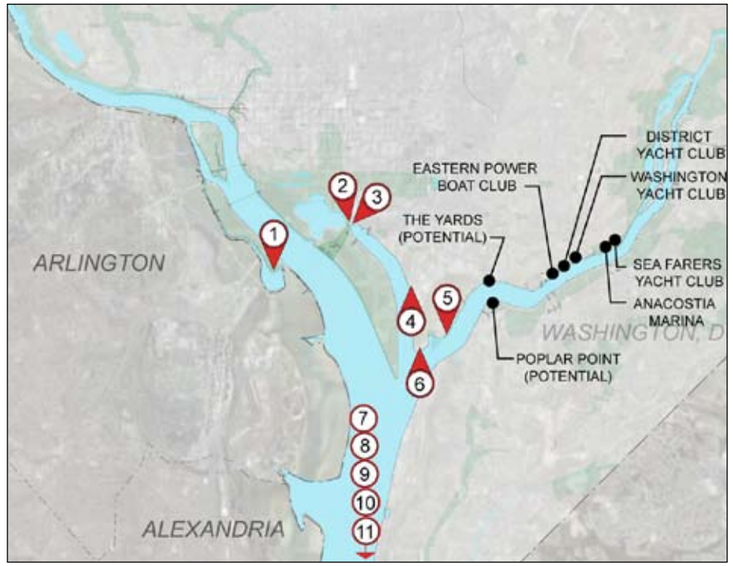
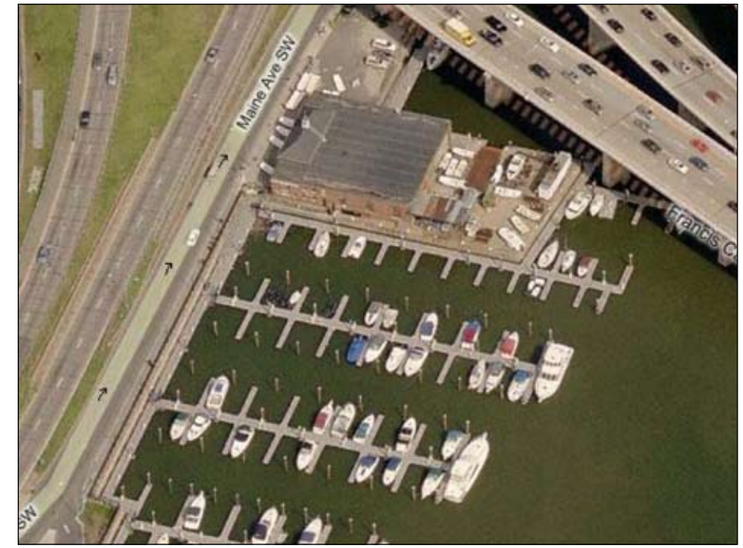


Key Map of boat/yacht clubs and marinas in the Washington DC region

1 Columbia Island Marina
George Washington Memorial Parkway, Arlington, VA

Slips: 380
Services: Cafe, fuel



2 Capital Yacht Charters
1000 Water Street SW, DC

Slips: 87
Services: Electric, cable, phone

3 Washington Marina Co.
1300 Maine Avenue SW, DC

Slips: 90
Services: Pumpout, water, electric, repair, marine store

4 Gangplank Marina
600 Water Street SW, DC

Slips: 309
Services: Pumpout, electric, cable TV, ice, showers, laundry

5 Buzzard Point Marina
2200 1st Street SW, DC

Slips: 80-85
Services: Restrooms

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6 James Creek Marina
200 V Street SW, Washington, DC

Slips: 294
Services: Electric, cable, phone, fuel, pumpout

7 Old Dominion Boat Club
One King Street, Alexandria, VA

Slips: 53
Services: Pumpout, electric

8 Mount Vernon Yacht Club
4817 Tarpon Lane, Alexandria, VA

Slips: 128
Services: Pumpout, gas, electric, water

9 Fort Washington Marina
13600 King Charles Terrace, Ft. Washington, MD

Slips: 300
Services: Fuel, pumpout, restaurant, repair, storage, laundry

10 Alexandria City Marina
Cameron Street, Alexandria, VA

Slips: 61
Services: Pumpout

11 Occoquan Harbor Marina
13180 Marina Way, Woodbridge, VA

Slips: 198
Services: Pumpout, fuel, repair

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2.5 Site and Context

Boathouse Row is comprised of a boat club, boat clubs, various service facilities, roadways and open spaces. The diagram below and text describe the site components and surrounding elements from west to east. The pages that follow give detailed information about the specific boating and other facilties located along the study area and their physical relationships.

Navy Yard

The Navy Yard forms the western edge of Boathouse Row. It has an entrance gate along 11th Street SE which is also used by ACBA event participants, during special regatta events, for access to the Navy Yard's parking garage. The Navy Yard's pedestrian promenade along the riverfront will eventually connect to the AWI Riverwalk Trail which continues along in front of ACBA.

11th Street Bridges

The 11th Street bridges are a tangle of roadways which fly over the western edge of the Boathouse Row site. These bridges form an important connector between the Southeast Freeway and Route 295, but are also a physical separator between Boathouse Row and the Navy Yard. The abutments of the 11th Street bridges are used by ACBA for fenced-in outdoor storage of rowing shells, canoes and kayaks. The 11th Street bridges are further discussed in the Existing Transportation Conditions of this report.

Maritime Plaza

Maritime Plaza is a 12-acre office park which is home to defense contractors working with the Navy Yard. The site consists of two office buildings and a fenced-in parking area. The site is proposed to be further developed in the future with additional office space, a hotel and parking.

Southeast Freeway

From a site perspective, the Southeast Freeway is a physical barrier to connectivity between Boathouse Row and neighborhoods to the north.

The next pages provide photographs and descriptive information about the boathouse, boat clubs and other site users.

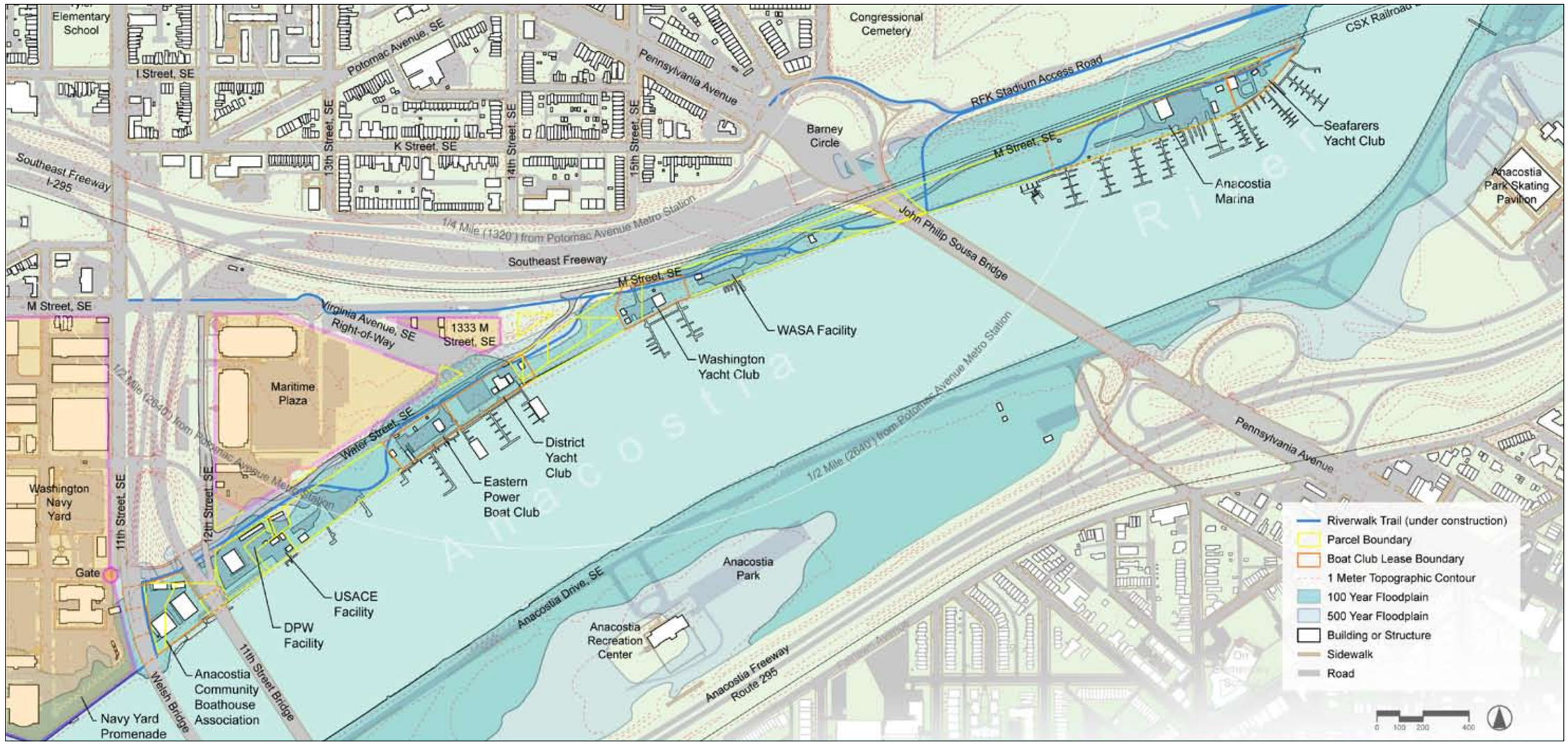

Fig. 2.4 – Site and context diagram

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Anacostia Community Boathouse Association

The ACBA occupies buildings under the 11th Street bridges that were originally built in the first quarter of the 20th century for the Department of the Interior and used by the US Army. DDOT currently leases the buildings to ACBA. ACBA and its predecessor organizations have been running school and community rowing programs since the1980's. The ACBA site is comprised of two brick-faced buildings as well as docks, outdoor boat storage areas between and under the bridges. ACBA's equipment, including over 150 boats and gear, fills their current boathouse, and outdoor fenced-in areas. Four Dragon boats are stored in the water behind the upstream dock. There are twelve launches, i.e. motorized boats, used for coaching, stored at the launch dock, including three wakeless launches, one Jon boat, and eight skiffs.

Aerial view of ACBA

ACBA boat storage building

Interior of main ACBA building

Dock in front of ACBA

ACBA members prepare for regatta

DC Department of Public Works Facility

The DC Department of Public Works has a small facility at Boathouse Row. The site is comprised of a parking area and vehicle and equipment storage sheds. The vehicles parked at this site serve functions related to street and alley cleaning operations as part of the Solid Waste Management division. The functions housed here are not dependent on proximity to the water.

The 2006 *DC Industrial Land Use Study* and maps show this area as underutilized and recommends land use change. Specifically, the study recommends acquisition of land in this area for public sector uses and cites the Anacostia Waterfront Initiative's goal of creating parks and open space along the waterfront.

DPW trucks

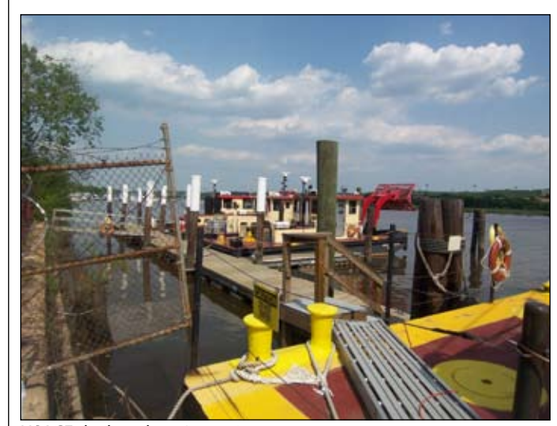
DPW facility yard

US Army Corps of Engineers Debris Removal Facility

The USACE has a debris removal facility east of ACBA along Boathouse Row. This facility is adjacent to the current alignment of the Federal Channel and is comprised of a small office, parking area, storage sheds, docks, a crane and barge. It functions to remove large debris such as tree branches and logs from the Anacostia and Potomac Rivers.

While the USACE functions here are water-dependent, they are not dependent on being specifically at Boathouse Row. As with the DPW facility, the 2006 *DC Industrial Land Use Study* and maps show this area as underutilized and recommends land use change in keeping with the Anacostia Waterfront Initiative.

USACE barge and debris removal equipment


USACE dock and equipment

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Eastern Power Boat Club

Established in 1905 and incorporated in 1910, Eastern Power Boat Club is the oldest of the yacht clubs on Boathouse Row, and one of the oldest boat clubs in the United States devoted exclusively to motorized boating. Initially located at the base of the 11th Street bridge, the club relocated twice, the second time moving to its current site which was created on landfill material dredged from the Anacostia River.

EPBC has 23 slips, a clubhouse, a rail, lift and parking area. Its members come from the surrounding DC community and larger region. The club is active in various national boating associations, including the American Power Boat Association, and members participated in early power boat regattas on the Potomac River and Chesapeake Bay.

Aerial view of EPBC

EPBC clubhouse

EPBC docks and picnic area

View of EPBC looking east

EPBC docks

District Yacht Club

The site occupied by District Yacht Club began as the site of an Army housing unit. It later became a boat yard called the District Boat Company operated by Mr. Warbock and later by the Brightenburg family. Around 1952, the boat yard closed and District Yacht Club, led by Ed Darnell, took over the operation of this property. In 1955, the club established its charter.

DYC is a membership boat club and has a clubhouse facility, which was previously a barracks purchased from the Army, 45 slips, a picnic area, a marine railway, shop facility and approximately 30 parking spaces. DYC is active in the boating community including the Potomac River Yacht Club Association, Chesapeake Bay Yacht Club Association, and the DC Clean Marina Program.

Aerial view of DYC

DYC clubhouse and picnic area

DYC grounds and docks

DYC covered docks

DYC grounds and docks

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Washington Yacht Club

The Washington Yacht Club was founded in 1910 on the south side of the Anacostia River, east of the Sousa Bridge. The club moved four times between 1910 and 1925. During its final move, the members used a scow, rafted their new clubhouse across the river, and set it on the newly-laid 7-foot block foundation to create the present clubhouse site at 15th Street.

The club has new docks, 37 slips, pumpout services, a renovated clubhouse, storage sheds, wood shops, a picnic area and approximately 25 parking spaces. In 2003, the club was certified as a Clean Marina.

Aerial view of WYC

WYC dock and clubhouse

WYC slips

vegetated open space adjacent to WYC

WYC docks

DC Water and Sewer Authority Debris Removal Facility

The DC Water and Sewer Authority has a small facility located west of the Sousa Bridge for the removal of garbage and debris associated with the overflows of the consolidated sewer outfalls. The site consists of small storage buildings, a dock, motorboats and debris removal equipment.

As with the DPW and USACE facilities, the 2006 *DC Industrial Land Use Study* and maps show this area as underutilized and recommends land use change in keeping with the Anacostia Waterfront Initiative. The completion of the consolidation of the three site CSOs may put in question the future need for this facility.

WASA facility dock and equipment

WASA equipment surrounding CSO

CSX Railroad

The physical boundary of the northern portion of Boathouse Row and its immediate surroundings is defined by the CSX railroad line. Along this area runs the Baltimore and Potomac railroad line, carrying freight, from 11th Street, SE, through Water Street, then crosses the Anacostia River and joins the Baltimore and Ohio line near Minnesota Avenue and E Street, SE.

The 2007 NCPC *Railroad Realignment Feasibility Study*, found that there are viable alternatives and significant benefits to the relocation of railroad lines which traverse the Capital City, creating physical barriers and security concerns. The long-term future may see the relocation of this CSX railway line.

CSX freight train and tracks adjacent to SYC

CSX train bridge accross the Anacostia River

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Anacostia Marina

The Anacostia Marina occupies a large site toward the end of M Street Southeast. The marina has 64 wet slips including transient slips, trailer and boat storage areas, pumpout services. A now closed boat repair facility also exists on the site and includes a large building and boat lifts. The marina and boat repair facility were shut down in 2000 for environmental violations. The marina reopened without the boat repair facility in 2006 under the control of Guest Services, Inc.

Continued siltation in this part of the Anacostia River has given rise to concerns about the long term viability of mooring and motorized boating in this part of the river.

Aerial view of Anacostia Marina

Anacostia Marina docks

Covered docks at Anacostia Marina

Area of future AWI Riverwalk Trail bridge

Boat lifts at repair facility

Seafarers Yacht Club

Seafarers Yacht Club, organized in 1945 by Lewis T. Green, Sr., a wood carver and vocational arts teacher, is the oldest African-American yacht club on the East Coast. The site was originally called Green's Boat Yard, and club members improved the marshy land and built docks and a clubhouse. Seafarers is comprised of a clubhouse, and small buildings and structures including a wheelhouse, railway and docks with approximately 35 slip spaces. Siltation around Seafarers has made it possible for members to take their boats out only at high tide. The seawall in that location is in great disrepair and water levels regularly rise above the seaway, spilling over onto the grounds. The Seafarers Yacht Club is part of the African American Heritage Trail.

Aerial view of SYC

Clubhouse at SYC

Picnic area at SYC

SYC docks

SYC grounds and clubhouse

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2.6 Site Topography

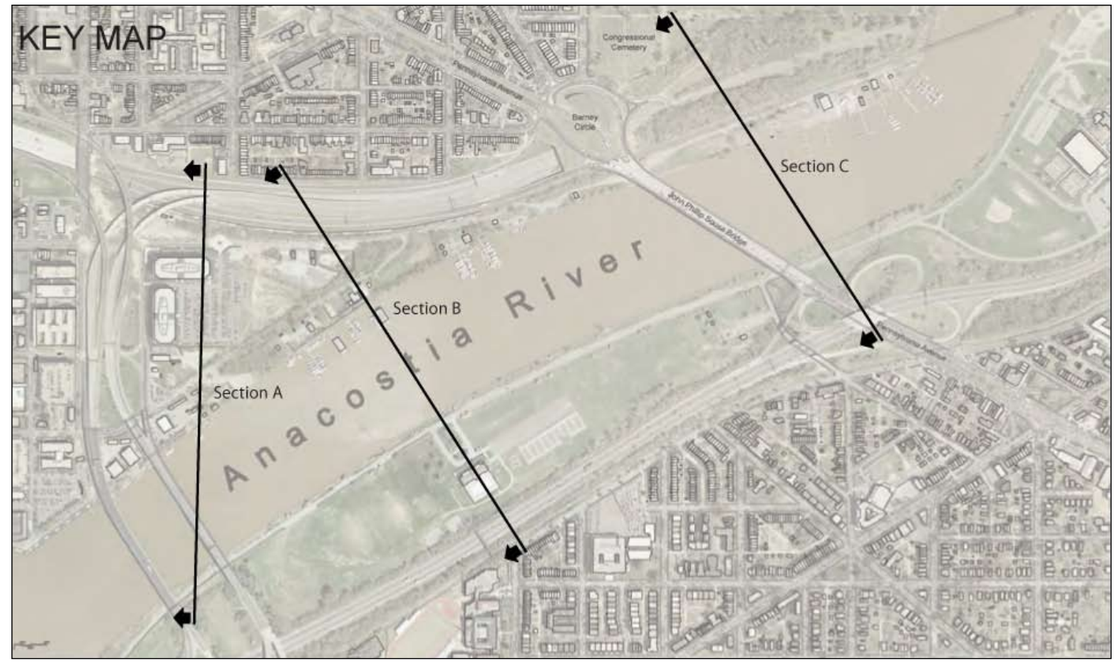
Boathouse Row sits on the low-lying areas at the edge of the Anacostia River. The land to the north slopes up gradually towards Capitol Hill, and RFK Stadium. Boathouse Row's site topography varies from a sloping hill at its western end along 11th Street SE near the Navy Yard, to a generally flat area at Seafarers Yacht Club on its eastern end. M Street slopes gradually down from west to east as the site flattens out.

On the west side of the site, the Maritime Plaza and adjacent land areas sit on a bluff above Boathouse Row, affording pleasant views of the river and Anacostia Park on the south side. ACBA, the DPW and USACE facilites, Eastern PBC and District YC are accessed from Water Street south of the bluff.

In the central portion of the site, Water Street meets M Street as they slope down toward and under the Sousa Bridge. Washington Marina, down at water level, is accessed from a driveway along a steep hill beginning at M Street. On the east side of the site, the land flattens providing large open spaces approaching Anacostia Marina and SeafarersYC framed by the vegetated hill of Congressional Cemetery.

Maritime Plaza

Anacostia Marina



Section Key Map

Fig. 2.7 – Site Section A

Fig. 2.6 – Site Section B

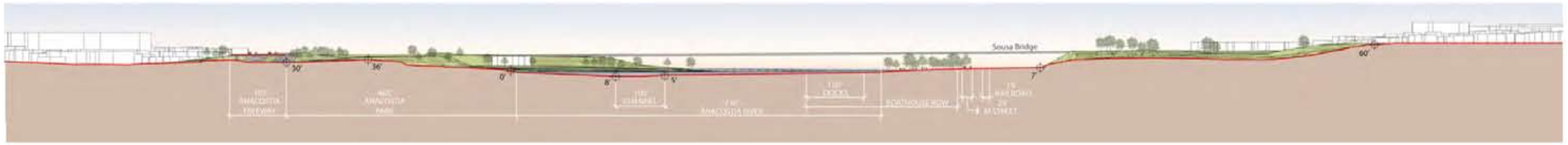


Fig. 2.5 – Site Section C

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2.7 Waterway

Over the years, the Anacostia River has experienced a significant amount of change. This has included heavy siltation, filling of wetland and river areas, and development along its banks. The physical condition and the use of the river are important considerations for the Planning Study and were analyzed as part of the planning process. A study on the Federal Channel for this portion of the Anacostia River was reviewed and used to develop a graphic depiction of the river depths. This information shows that the river is relatively deep in a channel immediately beneath the CSX bridge, but shallow on the inside of the adjacent bend. The entire channel becomes relatively shallow beyond this point, and becomes deeper again as it approaches the 11th Street Bridges, with greater depth on the north bank of the river adjacent to Boathouse Row. A portion of the Anacostia River includes a Federal Channel designation. This is a channel which is stipulated for maintenance by the U.S. Army Corps of Engineers to provide for defense, economic, and recreational use.

In the past, the economic use of the river along Boathouse Row was important because of the dockage for the Washington Gas & Light plant as well as the Steuart Petroleum facility. The Federal Channel reflects this in its location adjacent to the north bank of the river. At this point the clear width for the channel is 200 feet wide. A 400 foot wide turning basin is located west of the Sousa Bridge between District Yacht Club and Washington Yacht Club. Beyond the turning basin, the Federal Channel narrows to 80 feet wide and continues upriver to Bladensburg. Analysis for the planning process also included looking at studies on realigning the Federal Channel closer to the middle of the river so that it would not conflict with existing boat slips on the Anacostia's north bank.

Motorized boating is an important use of the river. Boaters including members of the four boat clubs along the north bank of the river use the main channel for navigation and recreation. Previously, a marina and boat repair facility serving the region's power boaters was located east of the Sousa Bridge at Anacostia Marina. The other major use of this part of the river is for various forms of non-powered boating. Many rowers feel that the Anacostia River is a better rowing venue than the Potomac River. The Anacostia Community Boathouse Association has set up a race course on the river that is used by local schools and other groups for racing events. The race course includes 1000, 1500, and 2000 meter lengths. The 1000 and 1500 course starts west of the Sousa Bridge, while the 2000 meter course starts to the east of the bridge. All three courses end near Poplar Point. The river is used daily by rowers and power boaters and is increasingly important to the community.

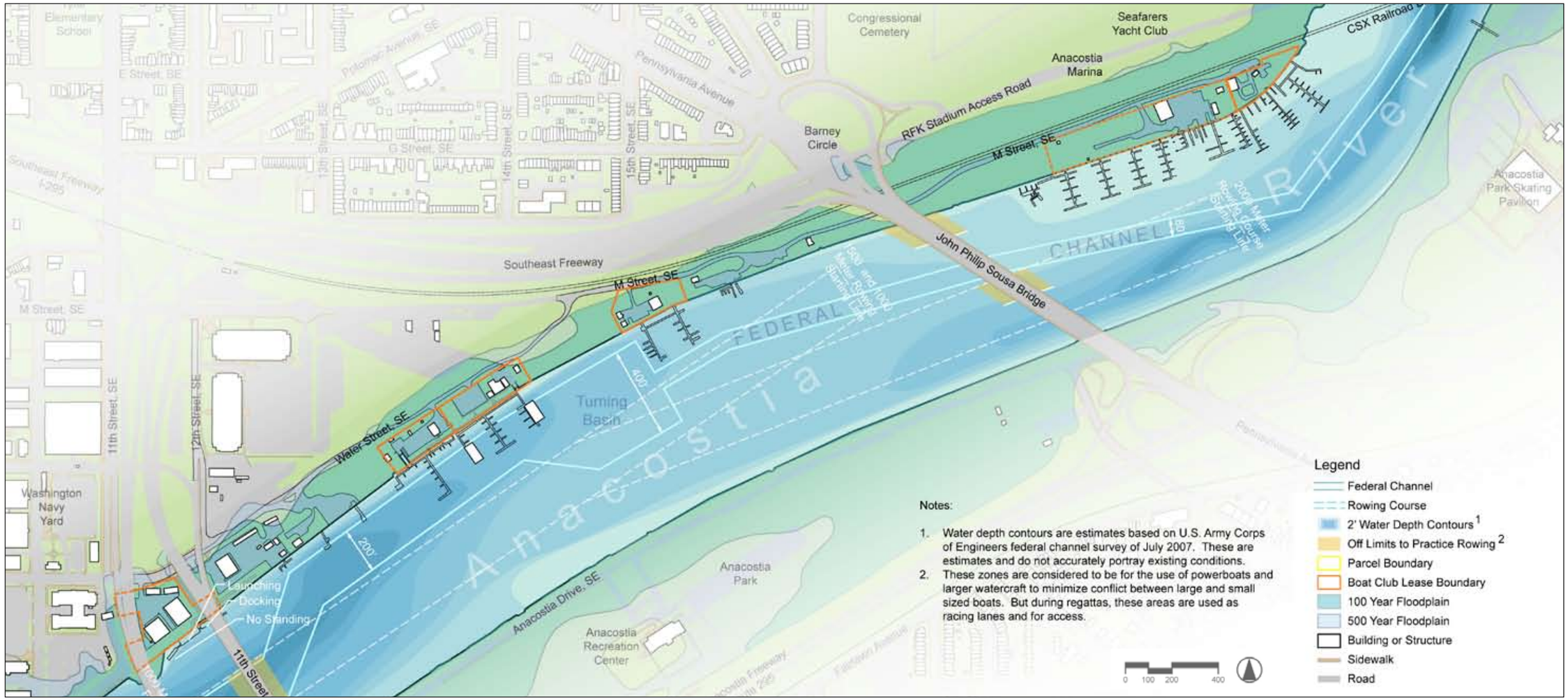

Fig. 2.8 – Waterway diagram

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2.8 Site Environment

No environmental studies were performed specifically for the Boathouse Row Planning Study. However, previous studies for related projects and adjacent sites were reviewed and referenced to create a diagram illustrating environmental conditions on the site. Historic and habitat resources are also included in the diagram.

Contamination

The area just east of the 11th Street Bridges and adjacent to the Anacostia River was previously a Washington Gas and Light coal gasification facility. The waterfront was used for delivery of petroleum to the former Steuart Petroleum Services facility just south of M Street. The Washington Gas & Light site and some areas adjacent to the river have contaminated soils. This area is currently monitored and contaminated water is pumped out of infiltration trenches and removed, but portions east of the 11th Street Bridges on the Boathouse Row site are still impacted by soil contamination. Other areas with some soil contamination include landfill materials at Barney Circle and minor soil contamination at the Anacostia Marina site. The Boathouse Row riverfront includes three Combined Sewer Outfalls - CSOs 16, 17, and 18. During high rainfall events, sewage is mixed with stormwater and enters the Anacostia River at these CSOs. The DCWASA LTCP proposes a tunnel to collect the sewage overflow and substantially reduce the frequency that overflows occur. The river sediment also has areas of contamination from a variety of sources. Areas around the CSOs receive higher levels of sedimentation, creating sandbars in the river.

Areas of Historic Interest

Boathouse Row and adjacent areas include some potential items of historical interest. Although not technically considered an historic structure, the old Steuart Petroleum pumphouse could potentially have some architectural significance. An area in the Virginia Avenue right-of-way was identified as a prehistoric quarry site. There may also be remains of an 18th century wharf at the terminus of the Virginia Avenue right-of-way and remains of a 19th century drawbridge near the John Phillip Sousa Bridge.

Habitat Areas

An area of land east of Pennsylvania Avenue and south of Congressional Cemetery has been identified as a "priority wildlife area" because of the shrub and scrub type habitat that it provides. Members of the boat clubs have also indicated that some of the wooded areas and naturally vegetated banks along Boathouse Row as well as the river itself provide habitat for wildlife.

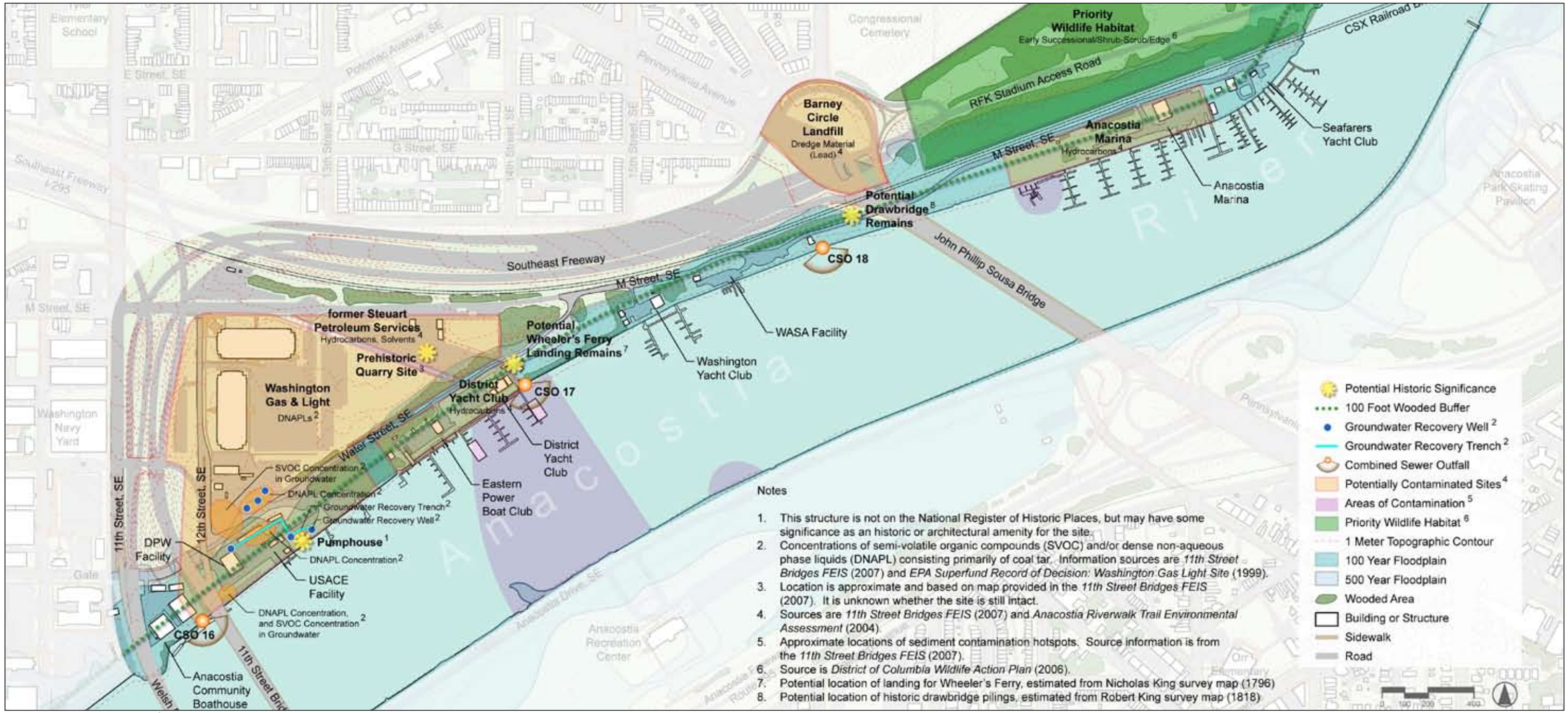

Fig. 2.9 – Site environment diagram

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2.8 Existing Conditions Analysis Findings

The Boathouse Row site is composed of three generally distinct areas:

1. West - From ACBA and the east edge of the Navy Yard to the intersection of Water Street with M Street
2. Middle - From Washington Yacht Club to the Sousa Bridge
3. East - From the Sousa bridge to the CSX railway river crossing

These areas each have challenges to be addressed and opportunities for enhancement:

The West area is the gateway to Boathouse Row. It is the most active area with entrances to the Navy Yard, existing and future proposed development at Maritime Plaza, ACBA, EPBC, DYC as well as the DPW and USACE facilities. This area should continue to include a variety of active uses, providing residents and visitors access to the river. This area has good transportation access and parking opportunities, and is less constrained by the highway and CSX physical barriers to the north.

Virginia Avenue is an axis in the plan of Washington DC and will be an important future connector between M Street and the waterfront. There are several important existing green spaces on the site with vegetation and habitat. The green area west of EPBC is currently threatened by the implementation of the proposed alignment of the AWI Riverwalk trail in that area.

The Middle area is a narrow, sloping, well-vegetated site, which includes WYC, some informal fishing and picnic spaces and the WASA debris removal facility. This area is constrained by its narrowness, its topography, the SE Freeway and the CSX rail line. The site has the benefit of trees and plantings for habitat and enjoyment of the waterfront, and its topography provides opportunities for pleasant views of and across the river.

The East area contains large open spaces as well as the Anacostia Marina and SYC. Its large flat open space presents good opportunities for enhancement. The planned AWI Riverwalk Trail bridge will serve an important function in connecting pedestrians and bicyclists with the waterfront. However, its alignment through the only large unconstrained open space on the site will be challenging to work around. This area is constrained by the CSX railway which is both a physical barrier as well as a safety concern.

Challenges include:

- Constrainment of the site by the SE Freeway and CSX physical barriers to the north.
- Safety issues raised by the CSX tracks, especially along the east side of the site, where the tracks are at grade.
- Limited transportation access on the east side of the site.
- Limited space for parking to support motorized and non-motorized boating activities.
- Potential difficulty integrating site improvements with the planned AWI Riverwalk Trail bridge across the CSX tracks.
- Conflicts between the AWI Riverwalk trail and some open space areas.
- The need to create more accessible and connected open space areas to allow for better access to the river.
- Continued siltation of the river, and the challenges posed for the boating community, especially at Anacostia Marina and Seafarers YC.
- Implementation and integration of the WASA LTCP tunnel drop shafts.
- Waterside and landside environmental issues.
- The lack of on-site amenities such as food service.
- The need to create more accessible and connected open space areas to allow for better access to the river.

Opportunities include:

- Active uses on the west side of the site.
- Good transportation access on the west side of the site with some parking opportunities.
- Two potential redevelopment areas including the DPW/USACE site and the Anacostia Marina site.
- Large open spaces on the east side of the site topography that creates pleasant views of and across the river.
- Connectivity opportunities at Virginia Avenue and with the AWI Riverwalk trail and bridge.
- Expansion space for boat clubs and boathouse, and room for enhancement of site infrastructure.
- Green areas with vegetation and habitat, which suggest several potential community open space areas.
- Two potential redevelopment areas including the DPW/USACE site and the Anacostia Marina site.

Fig. 2.10 – Opportunities diagram

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3. EXISTING TRANSPORTATION CONDITIONS

3.0 Introduction

As part of the Existing Conditions Analysis, an assessment of the Existing Transportation Conditions was conducted to identify the existing transportation opportunities and constraints. Existing transportation conditions have been identified through the collection of information from field reconnaissance as well as information provided by DDOT and the community. This information was consolidated and analyzed. By compiling the existing conditions for Boathouse Row, opportunities are identified that could be maximized through the planning process. Similarly, existing constraints are identified that limit access and circulation within the Boathouse Row study area. These will need to be addressed. The following sections represent the results of this effort.

3.1 Roadway Network

Existing

The Boathouse Row study area includes several major roadways that carry significant traffic volumes to and from the Southeast quadrant of Washington, DC. Speed limits within the study area range from 25 mph for most local streets to 50 mph on sections of the Anacostia Freeway and the Southeast/Southwest Freeway. Figure 3.1 illustrates the study area's roadway network, including functional classification.

M Street, SE

M Street extends from Maine Avenue on the west to 11th Street, SE as a minor arterial with an average daily traffic (ADT) volume of 4,600 vehicle trips (near the intersection of M and 11th Streets, SE). Commuters use M Street during peak periods, offering access between the Maryland suburbs (via I-295 and the Whitney Young Memorial Bridge), the Washington Navy Yard, and other destinations in Washington.

The arterial section of M Street has six lanes (three in each direction), a mix of divided and undivided sections, and on-street parking during off-peak periods. Between 12th Street, SE and the Maritime Plaza parking access driveway, M Street has two travel lanes and two parking lanes.

East of the Maritime Plaza driveway, M Street narrows down to a two-lane local roadway and continues for approximately a mile just before reaching the CSX railroad bridge. The posted speed limit along the entire corridor is 25 mph. M Street has signalized intersections within the study area at 8th. 9th, and 11th Streets, SE. These traffic signals, combined with high peak-hour traffic volumes, can result in capacity operations during peak periods.

Water Street, SE

Water Street, SE is classified as a two-way street that extends between 12th Street, SE to the west and M Street to the east.

O Street, SE

In the study area, O Street, SE is classified as a local street operating one-way eastbound between 11th and 12th Streets and serves as an extension of Water Street, which begins east of 12th Street.

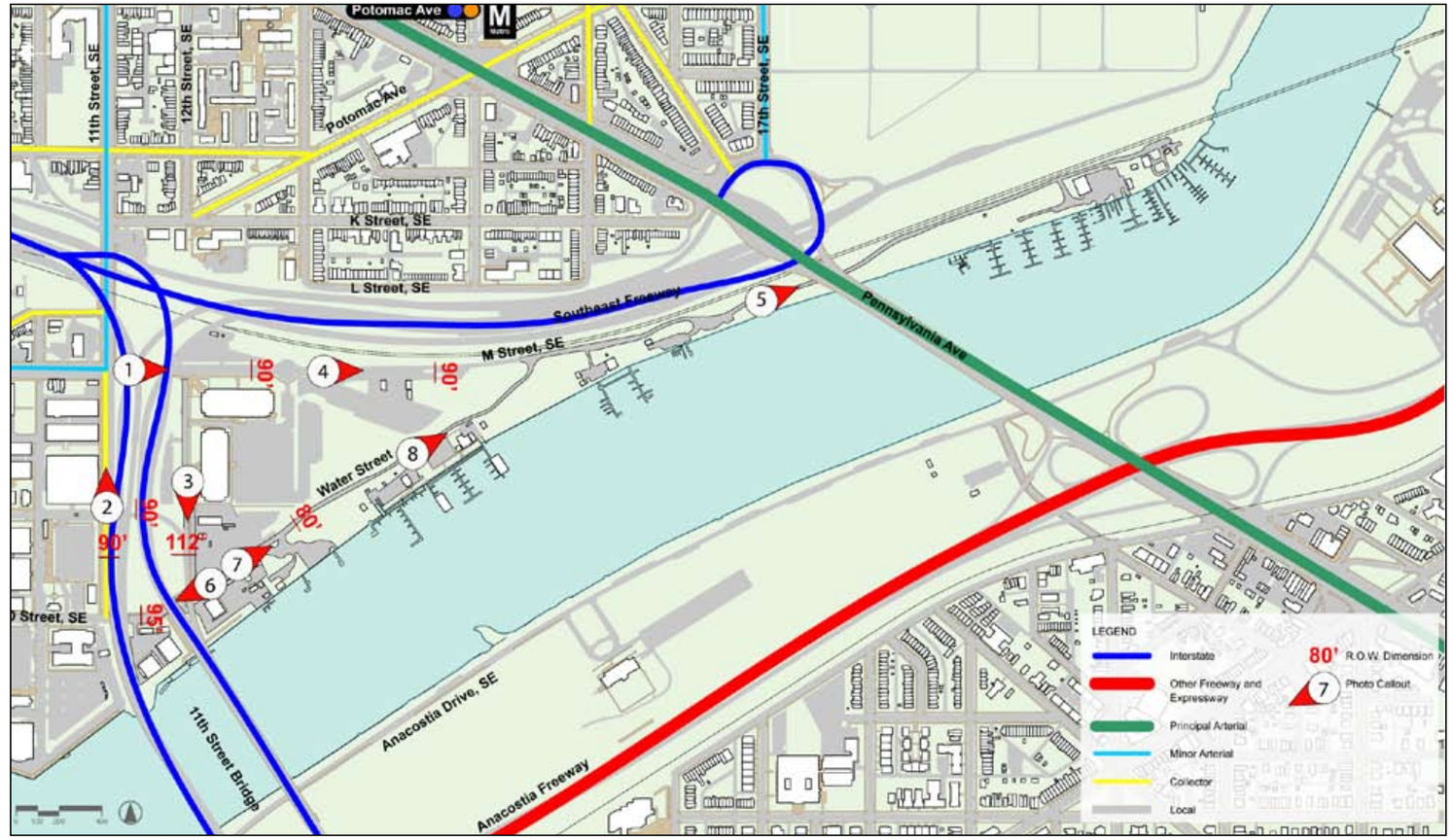

Fig. 3.1 – Diagram of local roadways and street rights-of-way

View 1

View 2

View 3

View 4

View 5

View 6

View 7

View 8

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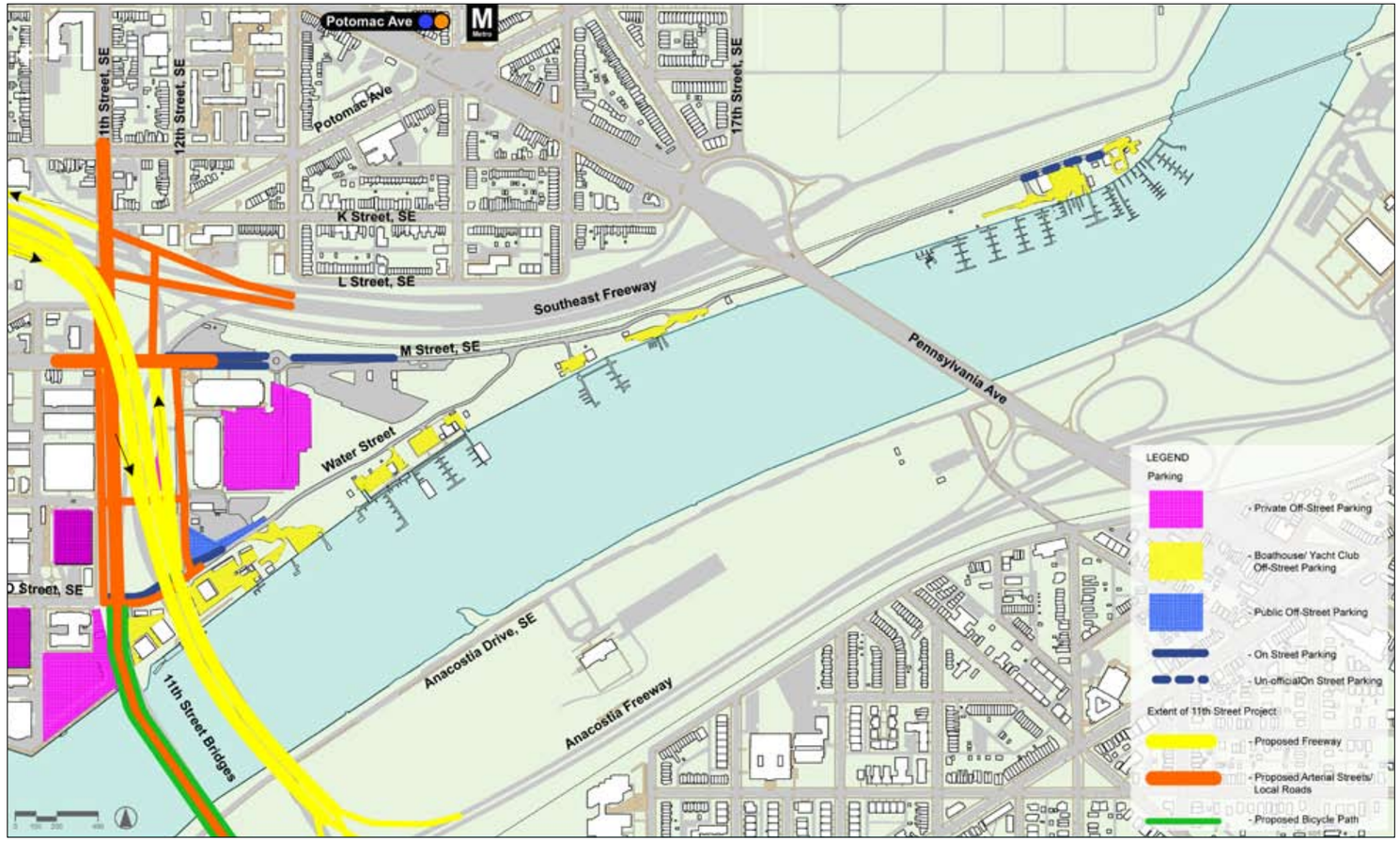
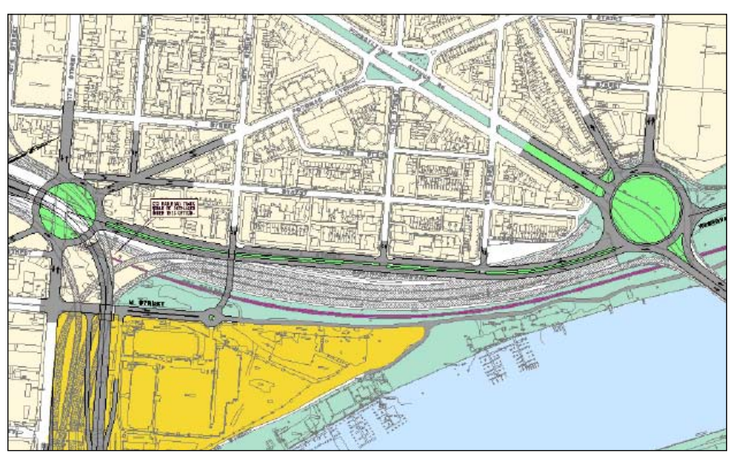


Fig. 3.2 – Diagram of proposed 11th Street bridges alignment and existing on and off-street parking areas



A DDOT concept for a boulevard replacing the SE Fwy between 11th St. and Barney Circle

11th Street bridges

N Street, SE

N Street, SE serves as an exit ramp from the 1-295 northbound and the 11th Street Bridges and intersects with 11th Street. This portion of N Street terminates at a restricted-access, gated entrance for the Washington Navy Yard.

11th Street, SE

11th Street, SE is classified as a minor arterial north of M Street and a local street south of M Street. North of M Street, 11th Street is a four-lane bi-directional roadway while south of M Street, it becomes one-way south-bound with access to the southbound lanes of the 11th Street Bridges. 11th Street is a through street connecting the southeast Washington, DC. area with points north, such as Capitol Hill.

In the ½-mile section of 11th Street between Pennsylvania Avenue and the Officer Welsh Bridge, there are five signalized intersections, including at M and N Streets within the immediate study area. During the afternoon peak period, portions of 11th Street operate at congested conditions. About 10,500 vehicles used 11th Street just north of K Street, SE on an average day in 2002, according to DDOT.

12th Street, SE

12th Street, SE is a one-way northbound local street extending from Water Street to M Street. 12th Street also serves as an exit ramp from I-295 north-bound and the 11th Street Bridges. Commuters use 12th Street during peak periods to access the major employers in the area, such as the Wash-ington Navy Yard, from points south in Maryland and Virginia.

Southeast/Southwest Freeway

The Southeast/Southwest Freeway, located west of the Anacostia River, is a six-lane, divided interstate with a speed limit of 45 mph connecting the 11th Street Bridges on the east with I-395, Downtown DC, and Virginia on the west. The section between the 11th Street Bridges and Barney Circle is designated as I-695. Within the general study area, about 85,000 vehicles used the Southeast/Southwest Freeway on an average day in 2002, accord-ing to DDOT.

11th Street Bridges

The 11th Street Bridges cross the Anacostia River in the Southeast quad-rant of Washington, DC. Classified as an Interstate, they connect the Southeast and Anacostia Freeways as well as local streets on both sides of the river. The 11th Street Bridges operate as a one-way pair and have four lanes each. The 11th Street Bridges carry westbound traffic from I-295 and 13th Street in historic Anacostia to the Southeast/Southwest Freeway and points west of the river as well as connects eastbound traffic from the Southeast/Southwest Freeway. They also connect 11th Street to southbound I-295 and Martin Luther King, Jr. Avenue in historic Anacostia. About 93,000 vehicles used the 11th Street Bridges on an average day in 2002, according to DDOT.

3.2 Planned Projects

The Boathouse Row study area falls within the Middle Anacostia Crossings Transportation Study Area and planned projects resulting from that study will have a limited impact on access to the Boathouse Row study area. The 11th Street Bridges project and EIS are based on concepts generated in the

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study. That project represents the only funded and planned implementation of the concepts presented in the Middle Anacostia Crossings Study.

The Middle Anacostia River Crossings Transportation Study evaluated the current and future needs for vehicular, transit, pedestrian, and bicycle mobility and safety, as well as existing access problems caused or ignored by past transportation investment in and around the study area. Some of the common themes of many of the improvements, regardless of project size or timeframe, were improving safety and accessibility for all travel modes, enhancing mobility, reducing demand on neighborhood streets, and providing redevelopment opportunities on unneeded rights-of-way.

The Middle Anacostia River Crossings Transportation Study identified three general types of improvements: near-term, mid-term, and long-term. While the near-term and mid-term projects focus on more immediate improvements, the long-term projects will require additional engineering design effort with a much higher construction cost and a longer timeframe.

Besides the funded and adopted 11th Street Bridges EIS, long-term but currently un-funded plans within the vicinity of Boathouse Row include new signalized traffic circles at 11th Street and Barney Circle, at either side of a new tree-lined boulevard proposed to be built within the right-of-way of the Southeast Freeway. However, partially because of the barrier posed by the CSX railroad tracks, these changes will not impact access to Boathouse Row.

11th Street Bridges

The District Department of Transportation in conjunction with the Federal Highway Administration (FHWA), propose to reconstruct and reconfigure the interchange of the Southeast/Southwest Freeway and the Anacostia Freeway over the Anacostia River, a distance of approximately one mile. The key design features of the project are described below and are illustrated in Figure 3.2.

- New ramps east of the Anacostia River would connect both directions of the Anacostia Freeway with cross-river freeway bridges. Currently only the southern reach of the Anacostia Freeway is directly linked to the bridges.
- Local traffic would be separated from freeway traffic either by dedicating one bridge to each use or by providing physical separation of uses on each bridge. The Preferred Alternative dedicates one bridge to freeway traffic (the eastern bridge) and one bridge (the western bridge) to local traffic.
- The project would rehabilitate or replace portions of the Southeast Freeway from approximately 6th Street north to the 11th Street Bridges. This includes reconstruction of entrance and exit ramps and the relocation of the freeway connection to the bridges. The current ramps at N Street adjacent to the study area would move to M Street. The current exit between 9th and 10th Streets would move to 9th Street. Linkages to the proposed redesigned Southeast Freeway Boulevard and reconstruction of portions of the surface street network in the immediate vicinity of the freeway are also included.
- Finally, the current freeway lane capacity of four lanes in each direction would remain unchanged. In addition, two lanes in each direction would be provided for local traffic as would enhanced facilities for bicyclists and pedestrians adjacent to the local travel lanes. The local lanes will be designed to accommodate a streetcar if that should result from a separate project. The local lane improvements would enhance city street-level access to Boathouse Row, particularly from east of the River. This would also mean that the main local roadway access both to and from Boathouse Row would be along 11th Street, SE with direct connections between the bridge and Boathouse Row at both N and O Streets, SE.

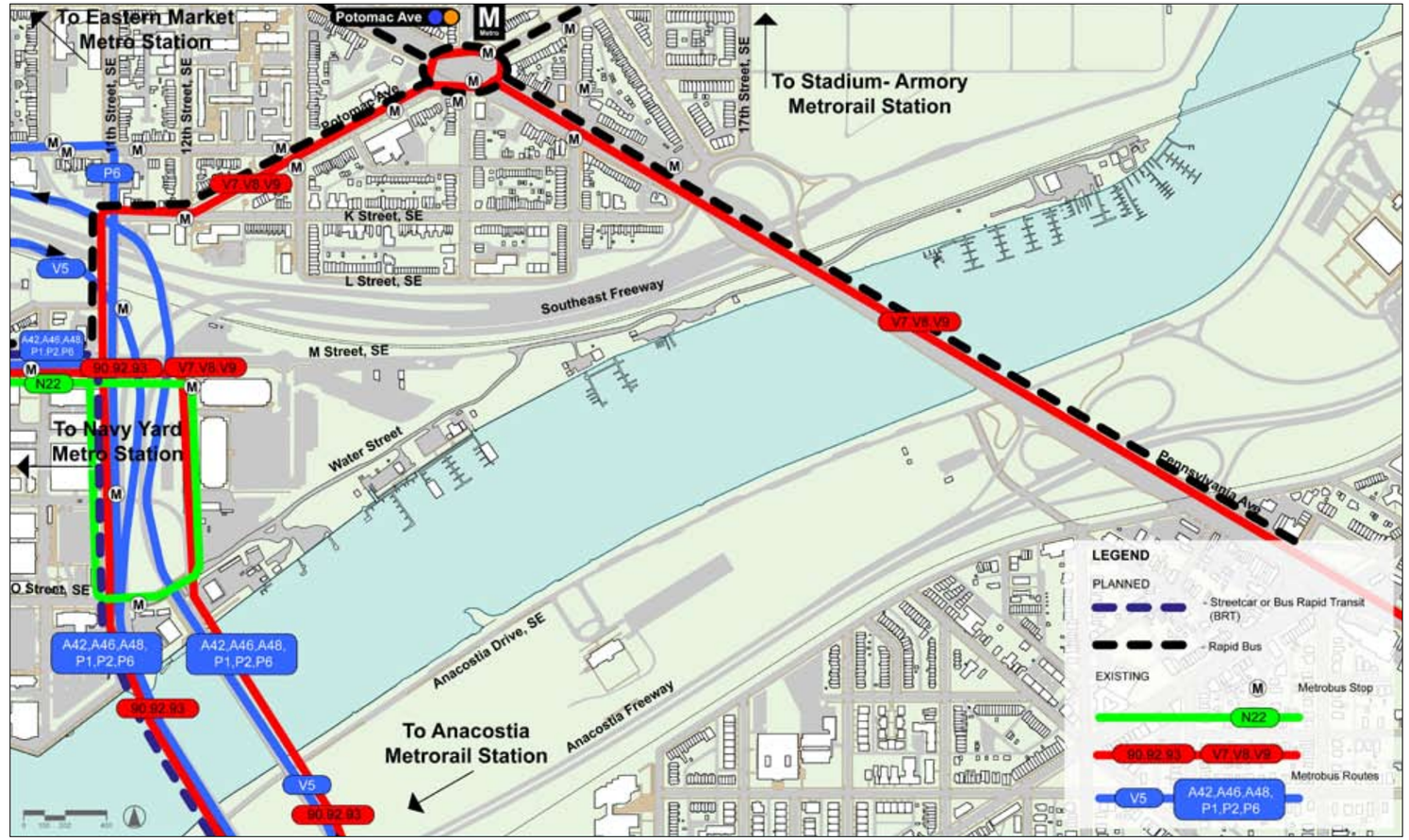

Fig. 3.3 – Diagram of existing and proposed transit routes

3.3 Transit Facilities

Existing

The study area is within a 15-minute walk of the Potomac Avenue Metrorail Station on the Blue and Orange Lines, and within a 20-minute walk of the Navy Yard Metrorail Station on the Green Line. Metrorail provides city-wide and regional connections to the study area.

The site is also within the vicinity of a number of Metrobus routes that not only connect the study area to neighborhoods throughout the District, but also to a number of Metrorail stations, as detailed in Table 3.1. Of particular note is the N22 Metrobus route, which directly connects the study area to the Navy Yard, Eastern Market, and Union Station Metrorail Stations. While originally created to provide direct transit access to Maritime Plaza, service

Line	Route	Metrorail Stations Served
Navy Yard Shuttle	N22	Navy Yard, Eastern Market, Union Station
Anacostia-Congress Heights	A42, A46, A48	Archives-Navy Memorial, L'Enfant, Navy Yard, Anacostia
U Street-Garfield Line	90,92,93	Archives-Navy Memorial, L'Enfant, Navy Yard, Anacostia
Minnesota Avenue - M Street	V7, V8, V9	Archives-Navy Memorial, L'Enfant, Smithsonian, Waterfront, Navy Yard, Minnesota Ave, Deanwood
Anacostia-Eckington	P1, P2, P6	Anacostia, Navy Yard, Waterfont-SEU, Archives-Navy Memorial, Gallery Place/Chinatown, Metro Center, Federal Triangle, Federal Center SW, Rhode Island Avenue

Table 3.1 – Local bus routes and Metrorail stations served

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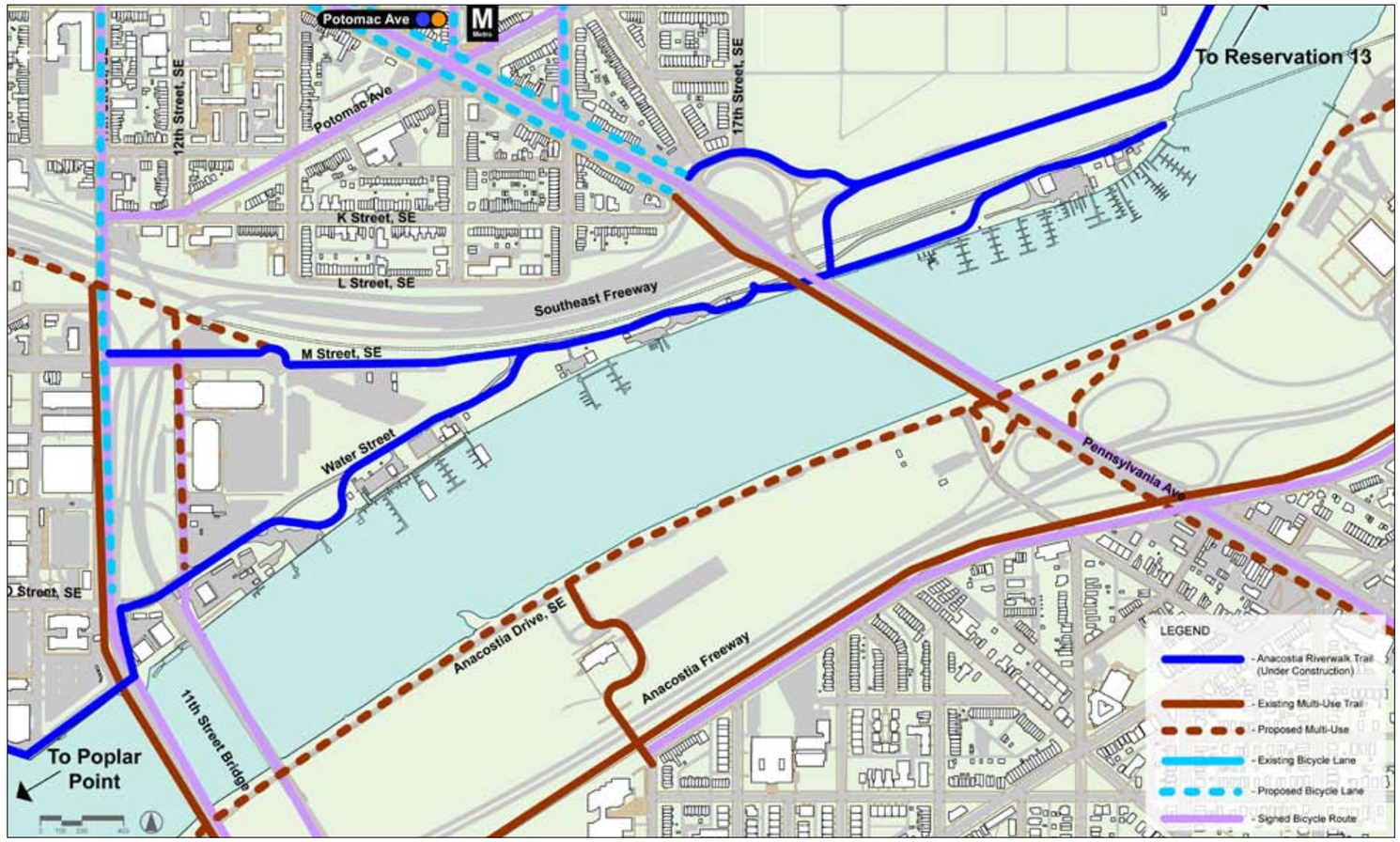

Fig. 3.4 – Diagram of local pedestrian paths and bicycle lanes

on this route has recently been enhanced with more frequent routes (every 10-to-20 minutes) and longer operating hours, including weekends, to better connect the new Ballpark with the Red, Orange, and Blue Metrorail lines. Figure 3.3 depicts the Metrorail and Metrobus facilities and service near the study area.

The 11th Street Bridges on- and off- ramps, the Southeast Freeway, and the CSX railroad tracks all create barriers between most Metrorail stations and Metrobus stops and the riverfront lengthening walking distances and limiting walking routes.

Planned

New transit services, including limited stop express bus service, bus rapid transit, streetcars, and a water taxi are planned for the near and long term (between 2010 and 2030) in order to accommodate increased ridership generated by the number of large-scale development projects in the Southeast area such as the Ballpark, the new USDOT Headquarters, and The Yards at the former Southeast Federal Center.

Specifically, by 2030, streetcar or Bus Rapid Transit service is planned for the 11th Street Bridge. This service will connect the study area directly with the Martin Luther King, Jr. Avenue transit corridor across the Anacostia as well as with the M Street South and 8th Street East transit corridors. In the shorter term, limited stop or rapid bus service is also planned along M Street and Potomac Avenue as well as along Pennsylvania Avenue, SE, connecting the study area to the rest of Central Washington to the west and to the Stadium Armory and Minnesota Avenue Metrorail Stations to the east.

Finally, by the spring of 2009, the N22 Metrobus line should be upgraded to a DC Circulator route with special low-floor buses. Also in the near term, DDOT is installing enhanced bus stops with shelter, seating, and clear route and neighborhood wayfinding information. These improvements should further enhance transit as a viable transportation option for commuters. Figure 3.3 depicts the new transit services planned near the study area.

Water Taxi

A future water taxi service may connect key destinations along the Anacostia and Potomac Riverfronts, such as the Ballpark, Southwest Waterfront, and National Harbor to each other. There is potential to have a taxi landing facility at the Boathouse Row site, as previously identified in the Anacostia Waterfront Initiative plan.

3.4 Bicycle/Pedestrian Network

Existing

There are several roadways within and around the study area that provide bicycle connectivity. On-road bike routes refer to those routes that are preferred by experienced bicyclists for their scenic quality and their relationship to other such routes. Portions of the roadways identified as on-road bike routes in the study area include:

- Potomac Avenue
- Eye Street, and
- 11th Street

However, existing bicycling conditions in the study area are generally fair to poor, primarily consisting of street use shared with motor vehicles. There are no dedicated bicycle lanes on the local streets, and the high traffic volumes combined with narrow travel lanes, make bicycling difficult.

Sidewalks are present or are being constructed along most roadways throughout the study area and are generally adequate, with many, but not all, areas having accessible curb ramps and crossing accommodations for the disabled. Recent streetscape improvements and new development, such as Maritime Plaza, have improved many pedestrian facilities, but have also resulted in a somewhat disconnected system. There are still large areas with no sidewalks, limiting connectivity, and wide variations in conditions are prominent. In addition, the 11th Street Bridges on- and off-ramps, the Southeast Freeway, and the CSX railroad tracks create barriers to bicycle and pedestrian access to the river.

Recently improved bicycle and pedestrian access to and along the waterfront is provided from 11th, 12th, O, M, and Water Streets, though this network still has gaps and safety deficiencies. The shared-use path along M and Water Streets, which is currently under construction, is part of the greater Anacostia Riverwalk trail.

The 11th Street Bridges and Sousa Bridge provide both vehicular access and pedestrian access across the River, but not directly to the waterfront or Park areas. The Middle Anacostia Crossings Study recommends these connections as part of both the near-term and mid-term improvements and the 11th Street Bridges EIS includes bicycle and pedestrian improvements on Officer Welsh Bridge (western half of the current 11th Street Bridges.

Bicycle access to the 11th Street bridges is limited to the westernmost of the 11th Street Bridges. A 4-foot passageway along the southern edge of the bridge accommodates both bicyclists and pedestrians traveling in

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both directions. The narrow path makes passing in opposite directions difficult. The passageway is separated from the freeway traffic on the bridge by a short concrete wall, resulting in high noise levels and frequent wind gusts from passing vehicles.

Access to the bridge path from the west side of the river is accomplished using a ramp at the intersection of 11th Street and N Street. However, no crosswalk or pedestrian signals are provided to accommodate users needing to cross 11th Street. East of the river, users have two choices to access the bridge. A paved bicycle path from Good Hope Road provides the only route for cyclists, while a tree-covered, concrete stairway alongside the bridge connects pedestrians to Anacostia Drive in Anacostia Park. The sidewalk is generally hidden from view and is a safety and security concern for users.

The 11th Street Bridges provide a 5-foot sidewalk along the upstream side of the bridge. The open sidewalk is separated from freeway traffic by a curb, making travel uncomfortable at best. Access to the bridge from either end is provided by narrow stairways. West of the river, the stairway is located on O Street, in front of the Public Works facility. East of the river, the stairway is heavily tree-covered and hidden from view within the Anacostia Park. Safety and security are concerns.

Planned

The Anacostia River Trail will include widespread improvements to bicycle path and sidewalk facilities on both sides of the river. Within the study area, sidewalks on 11th Street and M Street are currently being rehabilitated as a part of this project, as well as complete bicycle paths on M, O, and Water Streets that are being constructed between 10 and 12 feet in width.

A bicycle and pedestrian bridge will take the Riverwalk trail over the CSX railroad tracks just east of the Sousa Bridge. Potential bicycle and pedestrian connections between the Riverwalk and the improved shared-use path along Pennsylvania Avenue, Barney Circle, and the Sousa Bridge as well as along the proposed extension of 13th Street from L Street across the future boulevard down to Water Street are also being considered as part of mid-to-long range plans.

Finally, the planned new Officer Welsh Bridge connecting the local roadways on both sides of the Anacostia accommodates wide, shared-use paths for easy walking, jogging, and bicycling that tie into existing and planned trails on both sides of the river as well as the planned extension of the striped bike lanes along 11th Street. Figure 3.4 depicts the existing and planned bicycle and pedestrian facilities in the study area.

3.5 Parking

Within the study area, the western portion of M Street has some curbside parking as does O Street and the far western segment of Water Street. M Street west of 11th Street has curbside parking with restrictions in the peak direction during the morning and evening rush periods.

There is also limited off-street parking available in a gravel lot across from the Anacostia Community Boathouse. There are limited-sized private parking lots on most of the boating club properties along with a private lot on 12th Street across from Maritime Plaza.

Maritime Plaza and the Navy Yard have large-scale parking facilities that are generally available only to employees and visitors. However, the Navy Yard does allow Anacostia Community Boathouse visitors to park in one of their lots accessible from O Street during special events at that boathouse. See Figure 3.2 for all study area on- and off- street parking facilities.

Regatta Parking

During special events, such as regattas, the Anacostia Community Boathouse generally has all visitors park at a garage in the nearby Navy Yard, with the Navy Yard's cooperation. Boat-carrying trailers are parked on site.

3.6 Conclusions

A review of existing transportation conditions have identified that the primary access to Boathouse Row will continue to be maintained via M Street and Water Street, given the long-term constraints of the CSX rail tracks and the Southeast Freeway. Other connections planned in the Boathouse Row study area include the AWI Riverwalk Trail Bridge over the CSX tracks that would provide additional pedestrian and bicycle connectivity to and from Boathouse Row and Reservation 13 and communities north of the Southeast Freeway. This condition will also be improved with other planned transportation improvements that include the proposed streetcar service on M Street, construction of additional phases of the Anacostia Riverwalk Trail, and the reconstruction of the 11th Street Bridges and the Frederick Douglass Bridge.

Existing Transportation Conditions

Key Findings

- Access to Boathouse Row is currently provided via M Street and Water Street.
- The study area is within walking distance of the Potomac Avenue Metrorail Station on the Blue and Orange Lines and the Navy Yard Metrorail Station on the Green Line. The site is also within walking distance of several Metrobus routes.
- Planned transportation improvements in the vicinity include the reconstruction of the 11th Street Bridges and the Frederick Douglass Bridge.
- The CSX rail tracks and the Southeast Freeway compose the long-term constraints that would inhibit direct access to Boathouse Row from the Capitol Hill neighborhoods to the north and the Potomac South Metrorail station.
- Parking within the study area is provided in limited-sized private parking lots on most of the boating club properties along with a private lot on 12th Street across from Maritime Plaza. On-street parking is provided primarily on M Street and on O Street under the 11th Street Bridge.
- During special events, such as regattas, the Anacostia Community Boathouse generally directs visitors to park within the nearby Navy Yard, with the Navy Yard's cooperation.

Existing on-street parking along Water Street

Existing off-street parking along Water Street

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4. EXISTING MARKET CONDITIONS

4.0 Introduction

The Boathouse Row Planning study includes a detailed market and financial analysis. The market analysis helped determine the potential improvement and reuse options for the area based on the competitive environment by reviewing the general market conditions, supply and demand, as well as current usage of the land for boat clubs and recreational operations.

4.1 Market

According to the U.S. Recreational Boat Registration Statistics report prepared by the National Marine Manufacturers Association, boating continues to gain momentum as a recreational activity with an estimated 70 million boat users nationwide, with more than 12.7 million boats. Trends in boating indicate a desire for larger and more expensive boats. Additionally, the growth in non-motorized recreational water-related activities continues to climb.

Data from the DC Metropolitan Police Department's Harbor Master suggests that the number of powered boats registered for use primarily on DC waters increased by 11.4 percent, from 1,326 to 1,477 vessels from 2006 to 2007. Approximately 45.1 percent of registered boat owners live in the District of Columbia, while 38.9 percent live in Virginia, and 12.6 percent in Maryland. Two-thirds of the vessels registered with the Harbor Master are power boats, and 28 percent include non-motorized vessels such as kayaks, rowing shells, canoes, etc. Information provided by local rowing community members suggests additional growth in the levels of non-motorized water-related activity with a need to expand opportunities for rowing, kayaking and canoeing throughout the District's waterways.

A review of the competitive environment suggests that the Boathouse Row waterfront area along the Anacostia represents a unique position with affordable slip rentals, shallow depths and rural landside feel unlike much of the other District and neighboring shorelines. Within the study area, there are an estimated 141 wet slips within four boat/yacht clubs. The competitive shorelines along Maryland, Virginia and the rest of DC offer deeper water, quicker and easier access to the Chesapeake Bay and Atlantic Ocean, as well as different landside amenities and characteristics.

In general the supply of slips and related boater facilities does not meet the needs of the market. There is demand for new slip space (particularly for boats in excess of 35 feet), storage and repair facilities. In addition there may be potential to capture more boater spending for recreation-related retail such as food service and rentals (livery).

The Washington region continues to experience strong population and economic growth. The Comprehensive Plan projects the addition of 55,000 new households in the District by 2025. The economics of boat ownership favor middle- and upper-middle-income households, and the survey of Boathouse Row boat/yacht club members reflects that fact. The analysis estimates that 85 percent of DC boat owners who dock their boats in DC have incomes of $75,000 or more, which represents only 0.9 percent of all income-qualified DC households. The analysis estimates that 60 percent, or 33,000, of the new households that will move into the District by 2025 will have incomes of $75,000 or more. Applying the percentage of income-qualified households that currently own boats docked in DC waters to the growth in income-qualified households suggests a potential demand for roughly 294 more boat slips. This is likely a somewhat conservative estimate because it focuses on net household growth and does not reflect the District's current unmet demand for wet slips. Assuming that the current share of DC residents who own boats increases, by virtue of higher incomes, and the share of boats docked in DC that are owned by DC residents increases from 45 percent to 55 percent, total slip demand could increase by 500 to 550 slips. However, this demand is constrained by current supply and the high cost to create new slips.

Growth anticipated for non-motorized activity will continue to rise. The Anacostia River represents a special opportunity for this type of activity as it offers a long and wide expanse of water without bends with limited use by commercial vessels. The rowing, kayaking and canoeing community feels strongly about keeping continued access to this section of the Anacostia River as it offers a good practice and race course. Supporting these types of uses requires a capital expenditure for facilities – landside storage of vessels and infrastructure improvements to accommodate parking and public transportation offerings – which may result in the need for public and private investment. Fortunately, these types of organizations typically have access to private fundraising monies and can make the case for public subsidy.

ACBA regatta

Motorboats at District Yacht Club

EXISTING MARKET CONDITIONS KEY FINDINGS

- **DC registered motorized vessels increased by 11.4 percent from 2006 to 2007**
- **DC non-motorized vessels increased from 7.5 percent to 10 percent of annual registrations**
- **DC is underserved compared to other competitive water venues**
- **Within the study area are an estimated 141 wet slips**
- **Competitive shoreline locations offer deeper water, quicker and easier access**
- **Boat ownership favors middle and upper-middle-income households**
- **85 % of DC boat owners who dock in DC have incomes in excess of $75,000**
- **There is a demand for roughly 294 new boat slips**
- **Increase in share of DC residents who own boats increases total demand up to 550 wet slips**

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Fig. 5.1 – AWI Framework Plan graphic

Fig. 5.2 – AWI Framework Plan graphic

5. GUIDING PRINCIPLES

A series of Guiding Principles was created in order to guide the development of the planning study. The planning team worked with the Advisory Committee and received feedback from the community to develop a set of Guiding Principles which reflected the needs and hopes of the site's stakeholders and users.

The Guiding Principles developed for this study build on the principles of the *Anacostia Waterfront Initiative* and its themes:

1. Restore: A Clean and Active River
2. Connect: Eliminating Barriers and Gaining Access
3. Play: A Great Riverfront Park System
4. Celebrate: Cultural Destinations of Distinct Character
5. Live: Building Strong Waterfront Neighborhoods

The Guiding Principles also build on the *Urban Design Framework for the Near Southeast*. That framework plan called for specific improvements and design principles for the "East M Street" target area.

- Improve M Street
- Rebuild Water Street
- Reestablish Virginia Avenue as a Greenway
- Incorporate Anacostia Riverwalk Trail
- Create a Mix of Uses and Open Space
- Maintain views of river
- Create a Grand plaza/waterfront park

During the meetings held for the project, there was a sense of community among the river users. There was general consensus among stakeholders, site users and members of the community that the best things about Boathouse Row had primarily to do with the river. They described the Anacostia River as a unique waterway and natural sanctuary in the heart of the city. They felt that water and nature – vegetation and wildlife, especially, were precious and that the parts of the river especially upstream held species whose habitat should be protected.

Among the issues and concerns for the site users with the transfer of land from the National Park Service to the District was the sense of uncertainty about the future. They shared a desire to maintain the accessibility and affordability of the facilities.

Other concerns included the quality of the water and the quantity of trash, debris and pollution in the river, especially from the CSOs after strong rainstorms. There were concerns about future site maintenance and safety and security.

There were differences of opinion among the users of the site including the desire to have additional rowing facilities versus the concern about increased rowing activity; the desire for boat club expansion versus the concern about increased motorized boat traffic; the desire for parking for events such as regattas versus the desire for limiting vehicular traffic on the site.

Despite differences of opinion, there was general consensus that the major hopes and opportunities possible with the site have to do with the preservation of vegetation and habitat on the site, the need to maintain affordability for users, the need to upgrade the site while maintaining its unique character; and that the single most important thing was stewardship of the river. The resulting Guiding Principles reflect both the core concerns voiced by the stakeholders and the District's priorities.

Guiding Principles

Boat Clubs/Boathouse Users

- Provide the opportunity to expand facilities and slip space for existing users to accommodate demand, taking into consideration the impact on the river and existing users
- Maintain racecourse for non-motorized users of the river
- Assess potential conflicts with water taxis
- Take safety issues into consideration

Shared Site Amenities

- Provide shared amenities
- Provide a restaurant/canteen/concession facilities
- Consider management of shared uses and parking functions

Urban Design

- Propose any new facilities at a scale and intensity that is sensitive to the existing boat club and boathouse character and the delicate riverfront environment
- Balance the needs of existing users, future users, and the public

Connectivity and Access

- Improve access to new public facilities and the Anacostia River
- Preserve and enhance pedestrian and bicycle access to the water

Environment/Sustainability

- Consider impacts on the waterway and the coexistence of diverse uses
- Incorporate sustainable site design and green building techniques
- Preserve and protect existing wildlife habitats
- Consider preservation or adaptive reuse of pump house

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6. CONCEPT PLANS

6.0 Concept Plan Overview

Boathouse Row is an important link between the Navy Yard/Yards development and Hill East along the Anacostia River. Improvements to Boathouse Row will further implement the vision of the Anacostia Waterfront Initiative. Boathouse Row will provide a community waterfront experience along the Anacostia.

Several District infrastructure projects will need to be completed before improvements to Boathouse Row can be implemented. these include the rehabilitation of the 11th Street bridges, the implementation of the AWI Riverwalk Trail, and the consolidation of the three site CSO's with the implementation of the WASA LTCP deep tunnel. Other initiatives affecting Boathouse Row include the remediation of the Washington Gas site, and the Federal Channel. The District continues to study the future relocation of the Federal Channel, as well as the potential for future dredging to address the continual siltation of the river. A decision regarding these issue will be made by the District in the future.

As a result of these unresolved issues, this planning study presents two Concept Plans which could be implemented in the future for Boathouse Row. The concept that will be further developed will depend on decisions made regarding the Federal Channel, and on the timing and implementation of the major infrastructure projects affecting this site.

6.1 Design Principles

The Guiding Principles provided the direction for the development of the various concept alternatives that were presented during the planning process. The two final Concept Plans which are presented here share certain Design Principles, or common design intentions, which should be built upon and futher developed once a final plan is selected for implementation.

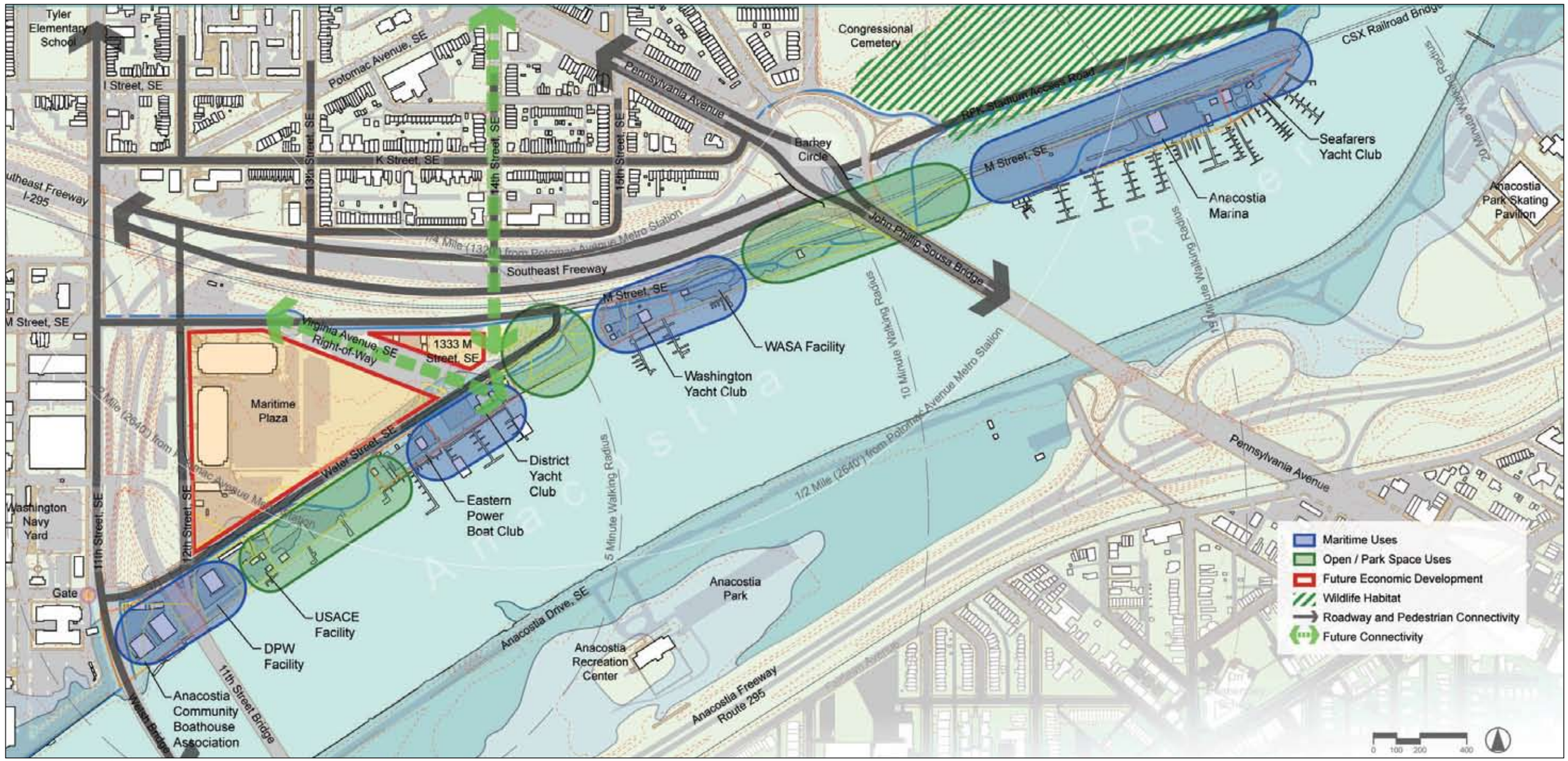

Fig. 6.1 – Concept diagram

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1. Enhance Boathouse Row as a waterfront destination, with a continuouse waterfront edge, to provide increased access to the water and recreational uses for the community.
2. Allow for expansion of boat clubs and boathouse and the provision of a new marina and/or boathouse to encourage increased use of the river for both motorized and non-motorized users.
3. Provide amenties and shared uses in order to support users of the site, surrounding places of employment and residences, and to encourage the public to experience Boathouse Row.
4. Create a series of linked community open spaces that preserve the natural setting of the site and enhance recreation and enjoyment at the river's edge.
5. Employ sustainable design techniques in all aspects of future improvements to Boathouse Row to further the District's sustainability goals and steward the natural resources of the site.
6. Provide improvements to utility, trail, roadway, and parking infrastructure at Boathouse Row to promote safety, and enhance connectivity.
7. Allow for future connectivity to neighborhoods to the north in the long-term planning and development of the site and its surroundings in order to increase access to the site and fulfill the mission of the Anacostia Waterfront Initiative.

6.2 Concept 1

The main idea behind Concept 1 is that most of the existing uses remain on site and are enhanced or expanded. Improvements to land-side infrastructure will be needed, but those will be expansions or enhancements in this concept. With regard to water-side improvements, boat club slips could expand as well, dependent in some locations on dredging of the river.

In this concept, ACBA returns to its current location under the 11th Street

Layout of boathouse and boat clubs shown in diagrams is for illustrative purposes only and is not meant to suggest a particular configuration or number of slips.

Fig. 6.2 – Illustrative plan of Concept 1

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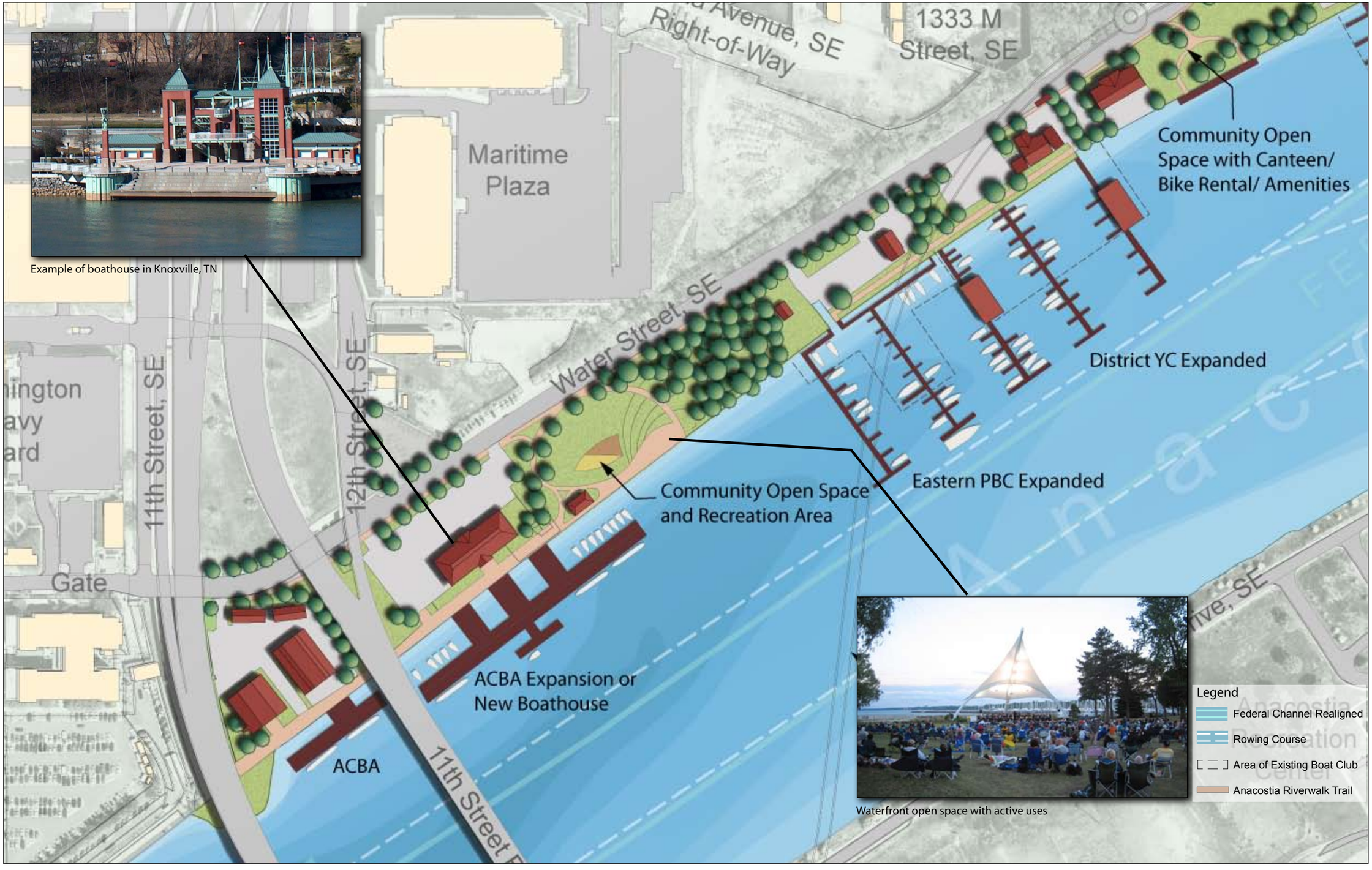

Fig. 6.3 – Enlarged plan of Concept 1 - West section

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Bridges, and an expansion of ACBA, or a second boathouse is built adjacent to ACBA. This is possible once the 11th Street bridges rehabilitation is completed and the on-site contamination in that area has been remediated. The pumphouse could be adaptively reused as part of the design for the second boathouse.

A community open space is proposed to be created between the second boathouse and Eastern Power Boat Club. This space will be activated with people and could have a variety of uses. The design for this space should be sensitive so as to preserve as much vegetation and habitat as possible. The existing stand of trees and vegetation should be integrated into this open space. In order for the second boathouse and the community open space to be created, the DPW facility and the USACE facilities must be relocated and on-site contamination must be cleaned up. The DPW facility should be relocated off-site and the USACE facility is proposed to be relocated on site near the Sousa Bridge.

Concept 1 allows for expansions of the motorized boat clubs in their current locations. The boat clubs can expand either perpendicular to or parallel to the shore. Expansions should be coordinated with the boathouse users and designed so that there is no impact to the rowing course.

A second community open space is created between District Yacht Club and Washington Yacht Club. Again, this space should be sensitively designed so as to maintain the passive character of green spaces along Boathouse Row. As part of this open space, a canteen or small food service facility culd be located here to serve the boating community as well as surrounding places of employment. This facility could also include a bike rental shop or other community amenity.

The WASA debris removal facility remains at its current location in this concept, while the USACE debris removal facility is co-located with it. A new turning basin would have to be located in this part of the river to accom-

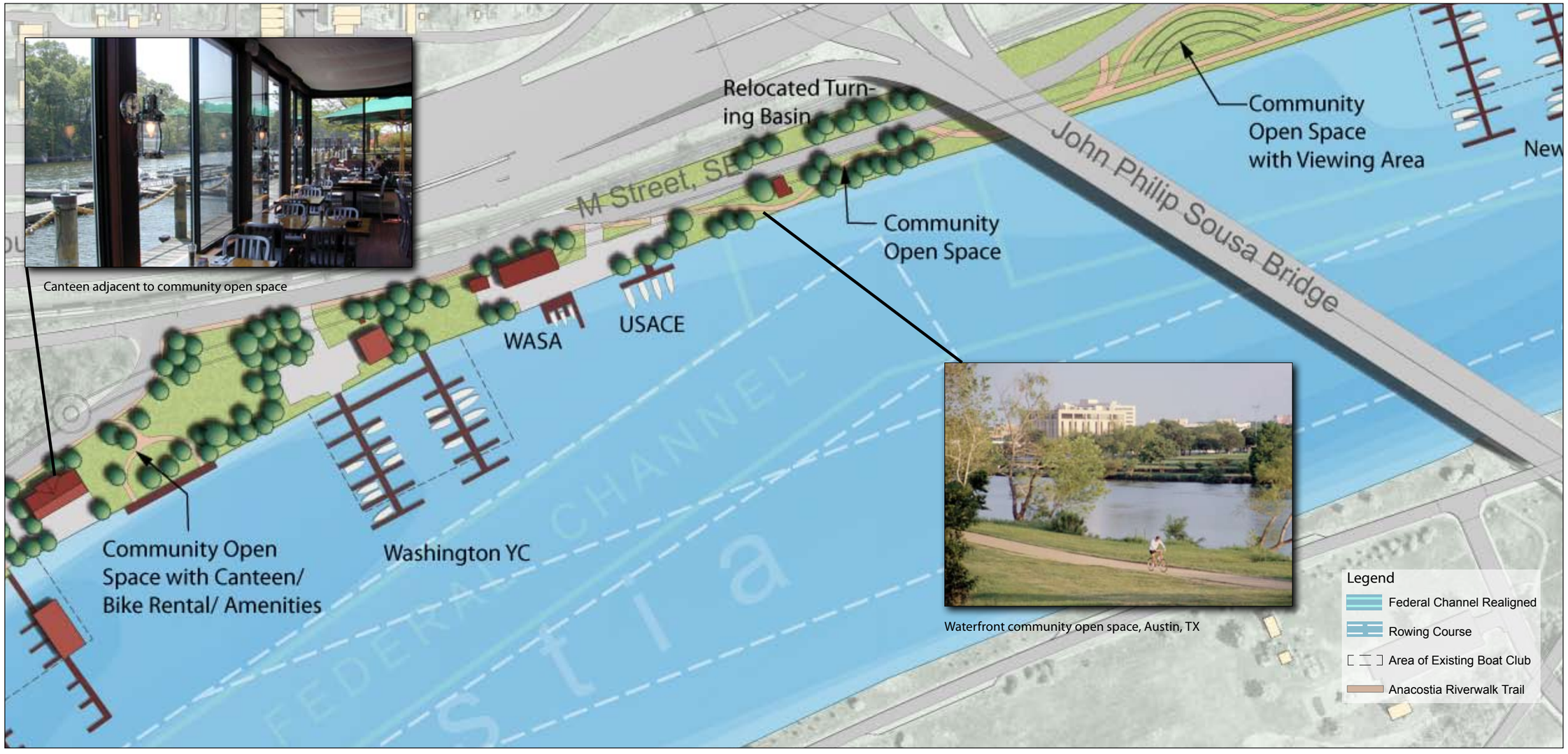

Fig. 6.4 – Enlarged plan of Concept 1 - Middle section

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modate the USACE barges.

A third community open space is proposed for the area between the WASA/USACE debris removal facilities and the Anacostia Marina. The soon-to-be constructed Anacostia Riverwalk Trail bridge, which crosses the CSX railroad tracks, will be located here. The ramp to be constructed for the bridge begins just east of the Sousa Bridge. The open space should be designed to integrate with the bridge to the extent possible. A stepped viewing area could be created for the enjoyment of boating events.

This concept proposes that Anacostia Marina is rehabilitated as a new motorized boat marina with expanded slips. A new club house building would need to be built. A new boat repair facility could be created as part of the marina as well.

The challenges with Concept 1 revolve primarily around the issues of dredging and the federal channel. The channel will need to be realigned, dredged and widened in order to accommodate the relocation of the USACE debris removal facility. A new turning basin will also have to be created near that facility. Continued siltation of the river will have to be addressed prior to implementation of this concept. The long-term viability of Anacostia Marina and Seafarers Yacht Club is dependent on dredging as well.

Concept 1 provides positive opportunities as well. Three community open spaces are created, providing enhanced community access to the Anacostia River and the opportunity for use of the Anacostia Riverwalk Trail. A canteen-style food service facility will serve both the boating community and visitors to Boathouse Row, as well as employees of the Navy Yard and surrounding developments such as Maritime Plaza. The implementation of this concept implies dredging of the river. This will improve recreational and sporting use of the river by the boating community.

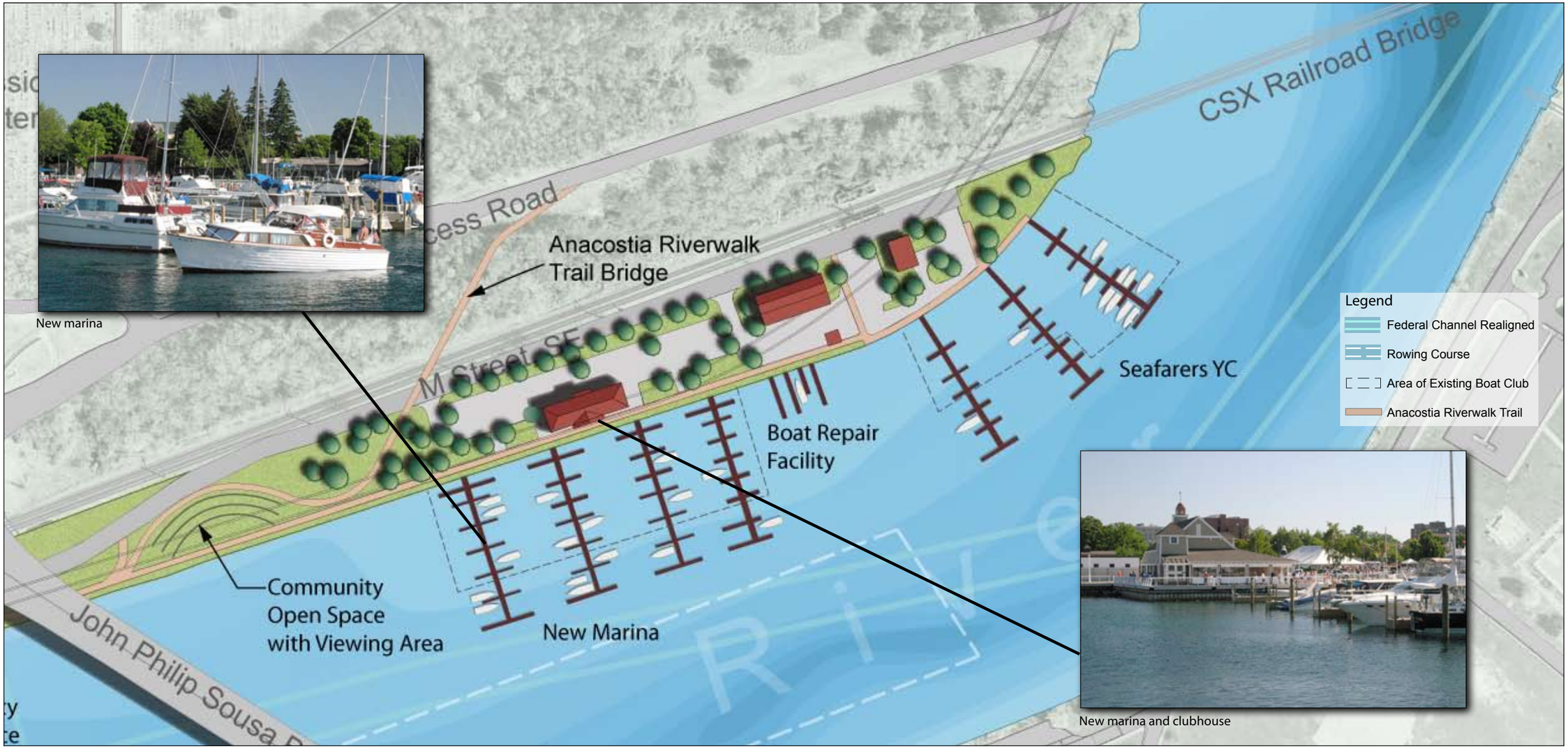

Fig. 6.5 – Enlarged plan of Concept 1 - East section

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6.3 Concept 2

Concept 2 is, in part, a response to the possibility that dredging of the Anacostia River will not take place. As a result, motorized boat facilities may not be viable in the long term in the area around Anacostia Marina and Seafarers Yacht Club. This concept proposes a relocation of several of the uses along Boathouse Row, as well as new infrastructure to support those uses.

In Concept 2, ACBA could return to its current location under the 11th Street Bridges, as in Concept 1, or could reside at Anacostia Marina. This is possible following the rehabilitation of the 11th Street bridges and the clean-up of on-site contamination. A community open space is proposed for the area adjacent to ACBA. This open space requires the relocation of the existing DPW and the USACE facilities and cleanup of on-site contamination. This area will be active with people, uses and amenities. A canteen-style food service facility incorporating a bike rental service or other community amenity could be part of the community open space. The existing pump house could be adaptively reused as part of the design for this space. The open space should be sensitively designed so as to preserve existing vegetation and habitat.

Concept 2 proposes the relocation of Seafarers Yacht Club adjacent to Eastern Power Boat Club. This assumes that dredging of the Anacostia River does not take place and Seafarers becomes no longer viable in its current location. New facilities for Seafarers would need to be sensistively designed to integrate with the existing green space. The remaining boat clubs could expand either parallel to or perpendicular to shore. Expansions should be coordinated with the boathouse users and designed so that there is no impact to the rowing course.

A second community open space is located between District Yacht Club and Washington Yacht Club. This space should be sensitively designed to encourage access to the river while maintaining habitat and vegetation.

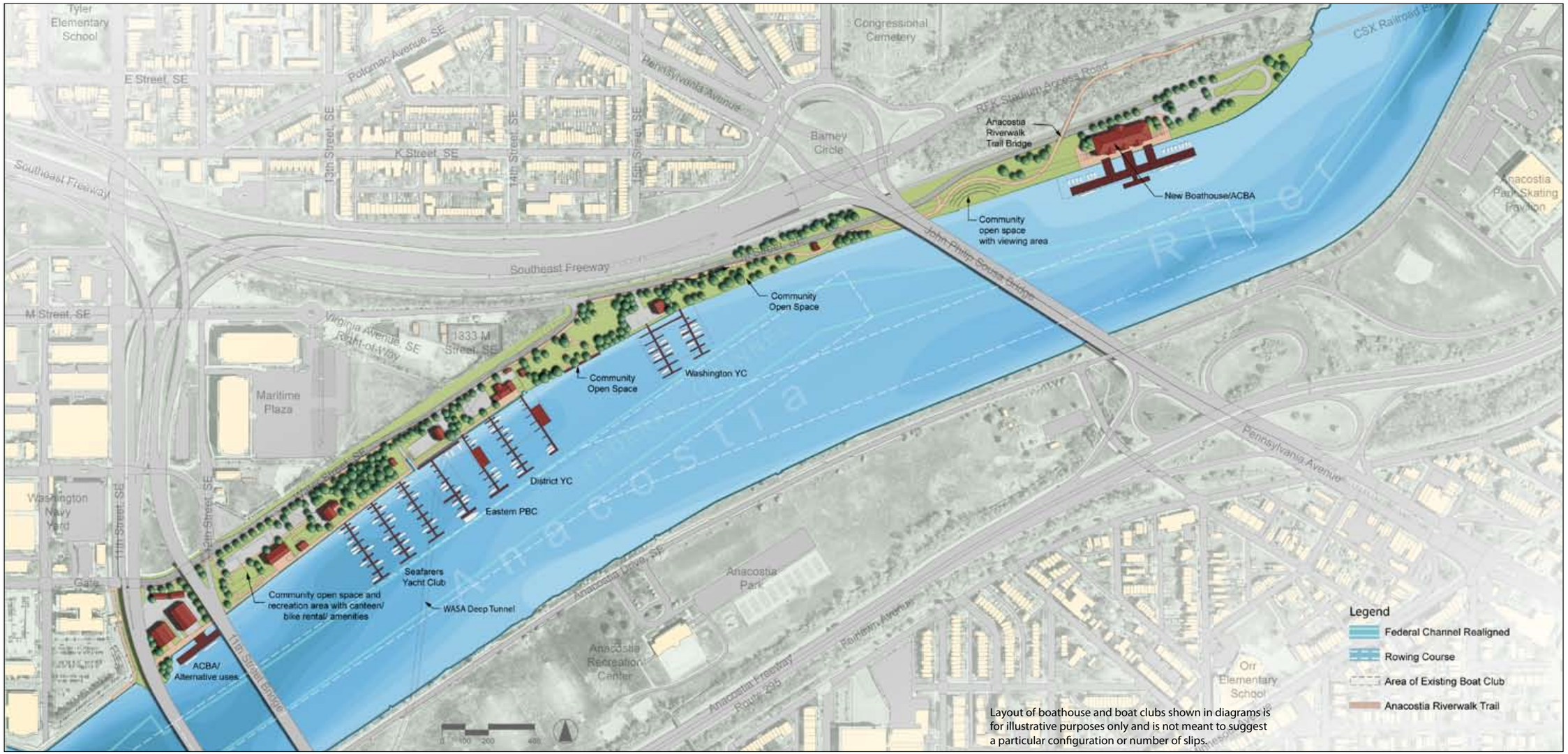

Fig. 6.6 – Illustrative plan of Concept 2

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Fig. 6.7 – Enlarged plan of Concept 2 - West Section

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In this concept, the WASA and USACE debris removal facilities are relocated off-site. While this study recognizes the important service provided by the debris removal functions of WASA and USACE, these functions are not dependent on being located specifically at Boathouse Row. This concept therefore explores the possiblity of creating a continuous waterfront edge at Boathouse Row, uninterrupted by these facilities.

A third community open space is located between Washington Yacht Club and the former Anacostia Marina in this concept. The area west of the Sousa bridge is envisioned as a passive, treed green space with access to the water. The area east of the Sousa Bridge is an open space which should be integrated with the soon-to-be constructed Anacostia Riverwalk Trail bridge that will be located there. As with Concept 1, a stepped viewing area, integrated with the bridge design could be located in that area for the enjoyment of boating events.

In Concept 2, the Anacostia Marina would be replaced by a new boathouse. A boathouse and non-motorized boating facilities would be an appropriate use of the Anacostia Marina site, as they are less dependent on dredging of siltation in that area. A small amount of dredging may still be needed in the Anacostia Marina area to support use of dragon boats or other larger rowing vessels. The new boathouse site will need to be designed to provide some permanent parking spaces to accommodate rowers using the facility on a daily basis and must identify additional parking areas for automobiles and trailers used for delivery of skulls and rowing equipment. There will need to be a balance between parking needs and maintaining green space on that site.

The main challenge with Concept 2 involves the relocation of existing uses, namely moving Seafarers Yacht Club; the creation of new uses, as a result of Anacostia Marina becoming the site of a new boathouse; and the need to create landside and waterside infrastructure for these uses including new facilities, parking, docks and slips. Other challenges included the

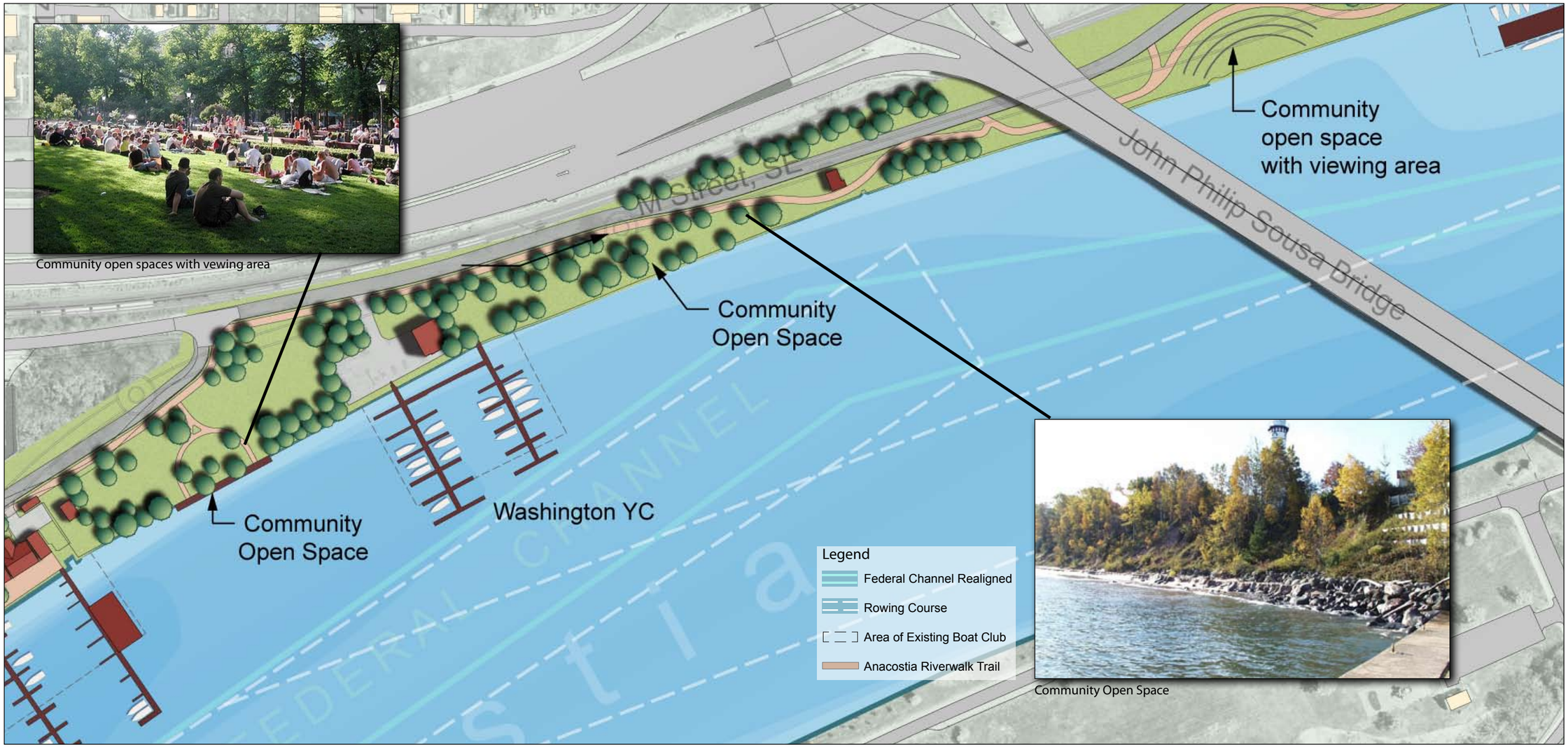

Fig. 6.8 – Enlarged plan of Concept 2 - Middle section

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distance of the canteen from the second boathouse and the limited access to parking for large events at that boathouse.
Concept 2 provides opportunities as well. In this option, the amount of dredging that would be required in the river would be minimized. Three community open spaces are created along the site. The canteen and bike rental facility would be near the Navy Yard, Maritime Plaza and the yacht clubs.

6.4 Transportation Findings

In developing the Planning Study, both development concepts have identical transportation elements serving them. In the immediate and foreseeable future, primary access to Boathouse Row will continue to be maintained via M Street and Water Street, given the long-term constraints of the CSX rail tracks and the Southeast Freeway. However, M Street will be upgraded and improved to provide better access to all of Boathouse Row, while providing additional parking relief with on-street parking. This condition will also be improved with other planned transportation improvements that include the proposed streetcar service on M Street, construction of additional phases of the Anacostia Riverwalk Trail, and the reconstruction of the 11th Street Bridges and the Frederick Douglass Bridge. The planning study is compatible with the future AWI transportation vision does not preclude future connections to Boathouse Row from communities to the north after the CSX rail tracks are ultimately removed and the Southeast Freeway is converted into an urban boulevard.

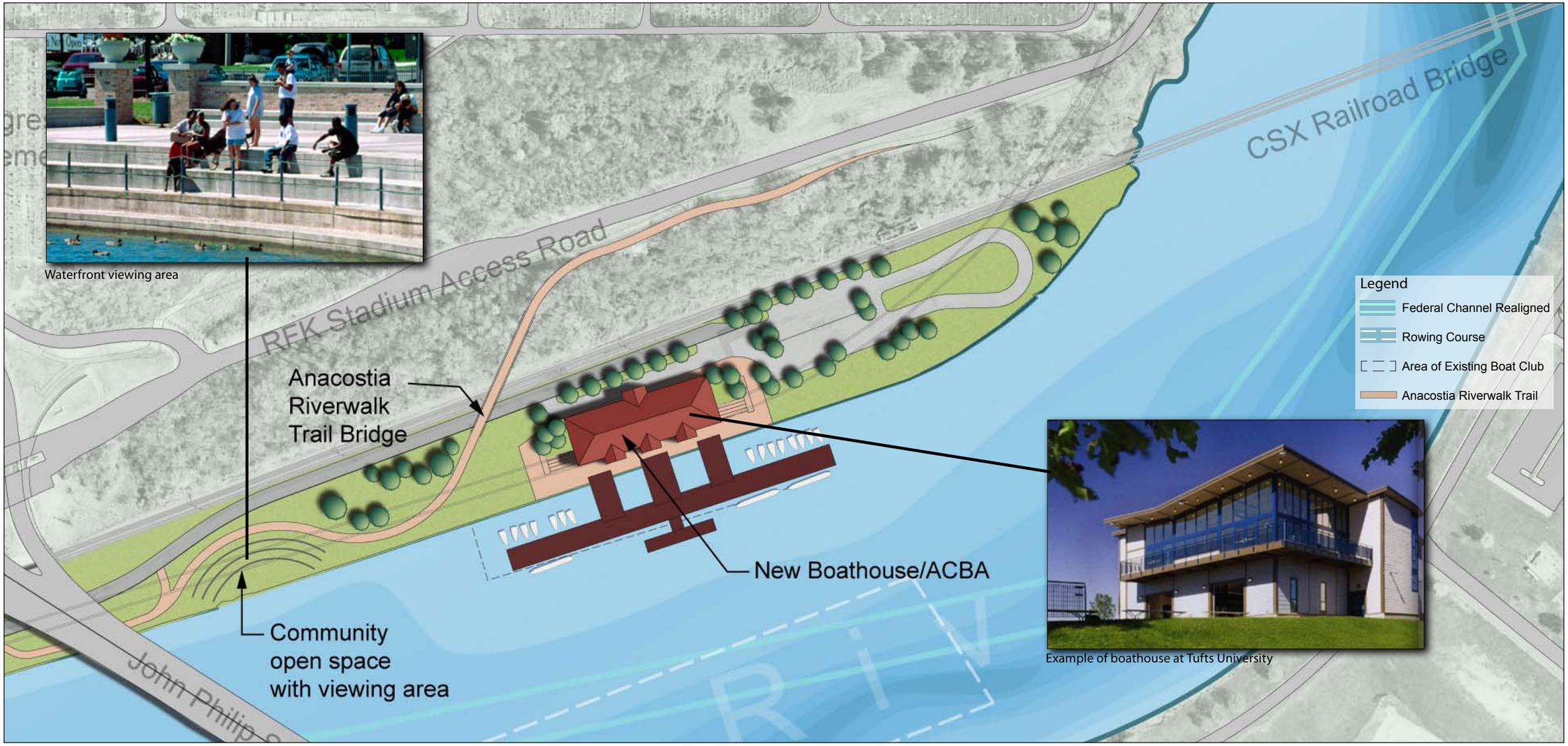

Fig. 6.9 – Enlarged plan of Concept 2 - East section

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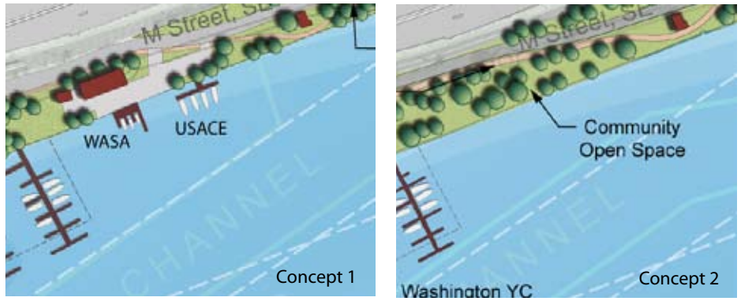
6.5 Concept Analysis

As discussed, this Planning Study presents two concepts a result of the unresolved issues of dredging of the Anacostia River in this area and the timing of implementation of major District of Columbia infrastructure and other initiatives. The diagram on this page ahighlights the major themes, commonalities and differences between the two concepts in order to help facilitate future discussion and decisionmaking with regard to Boathouse Row. The commonalities of both concepts include EPBC, DYC and WYC remain in their current locations with possible expansions; the creation of three community open spaces and the redevelopment of the Anacostia Marina site.



Another community open space will be created in this area. In addition, options include the colocation of WASA and USACE at this site or the relocation of these uses off-site.

The area east of the 11th Street bridges will become an active community focal point. This area could have several uses including a new park, a canteen and bike rental facility and a boathouse.

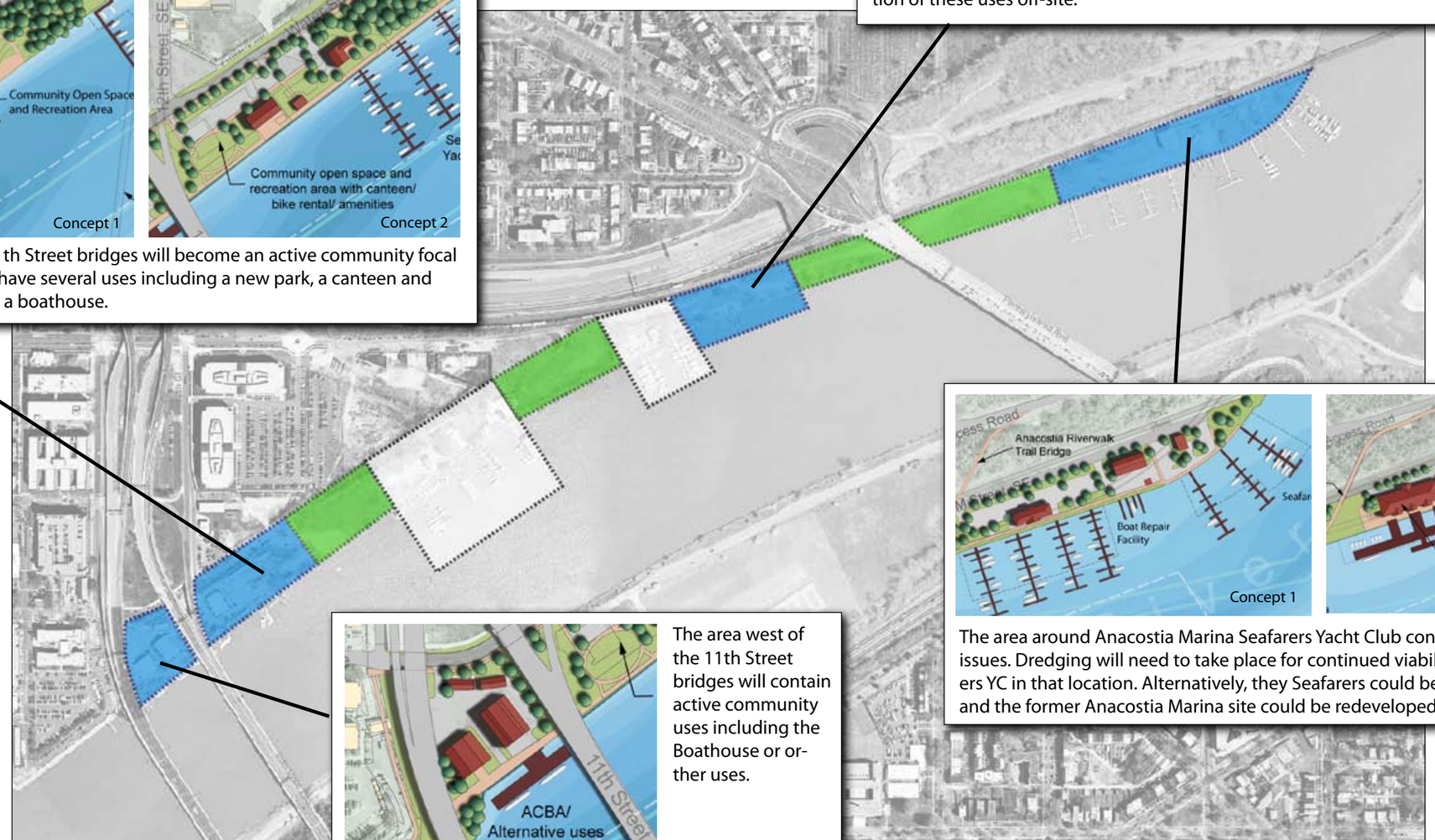
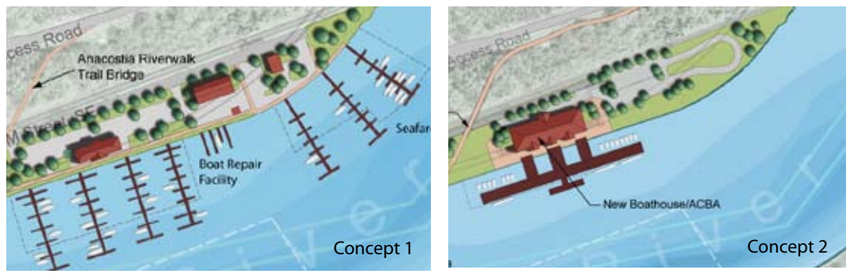


Fig. 6.10 – Concept Analysis

The area west of the 11th Street bridges will contain active community uses including the Boathouse or orther uses.



The area around Anacostia Marina Seafarers Yacht Club continue to suffer from siltation issues. Dredging will need to take place for continued viability of a marina and Seafarers YC in that location. Alternatively, they Seafarers could be relocated adjacent to EPBC and the former Anacostia Marina site could be redeveloped as a new boathouse.

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6.6 Long-term Vision for Boathouse Row

The long-term vision for Boathouse Row is for a site that fulfills the vision of the Anacostia Waterfront Initiative: that the site and its users contribute positively to the restoration of the Anacostia River, providing active and passive sources of water recreation; that it is completely connected and accessible to surrounding neighborhoods and transit opportunities along a barrier-free street grid system; that it is part of the larger riverfront park system, providing areas for stewarding and enjoyment of habitat and vegetation; that it is one of the many memorable and distinct neighborhood destinations in the District; and that it is a focal point and vital element of the waterfront neighborhood of which it is a part.
Achieving this vision will require short and long-term changes to the site and its immediate surroundings. The short and mid-term changes, including the WASA deep tunnel, the rehabilitation of the 11th Street bridges, and the clean-up of on-site contamination have been described in previous sections.

The major long-term challenges include reconnection of the site to the neighborhoods to the north. This could be implemented once the portion of the Southeast Freeway immediately north of the site becomes a boulevard, reintegrated into the city fabric, as conceptually planned by DDOT. In addition, as suggested in NCPC's Railroad Realignment Study, the CSX line could be rerouted outside this part of the city. This would allow the city grid to be extended to the waterfront connecting neighborhoods to the north directly to the Anacostia River.

Although the mid-term solution for Boathouse Row is still in question, while a number of site-related intitiatives are implemented and issues resolved, keeping the long-term vision for this site as a guide for future planning and implementation will ensure that Boathouse Row will achieve its potential as a vital part of the city and the Anacostia River.

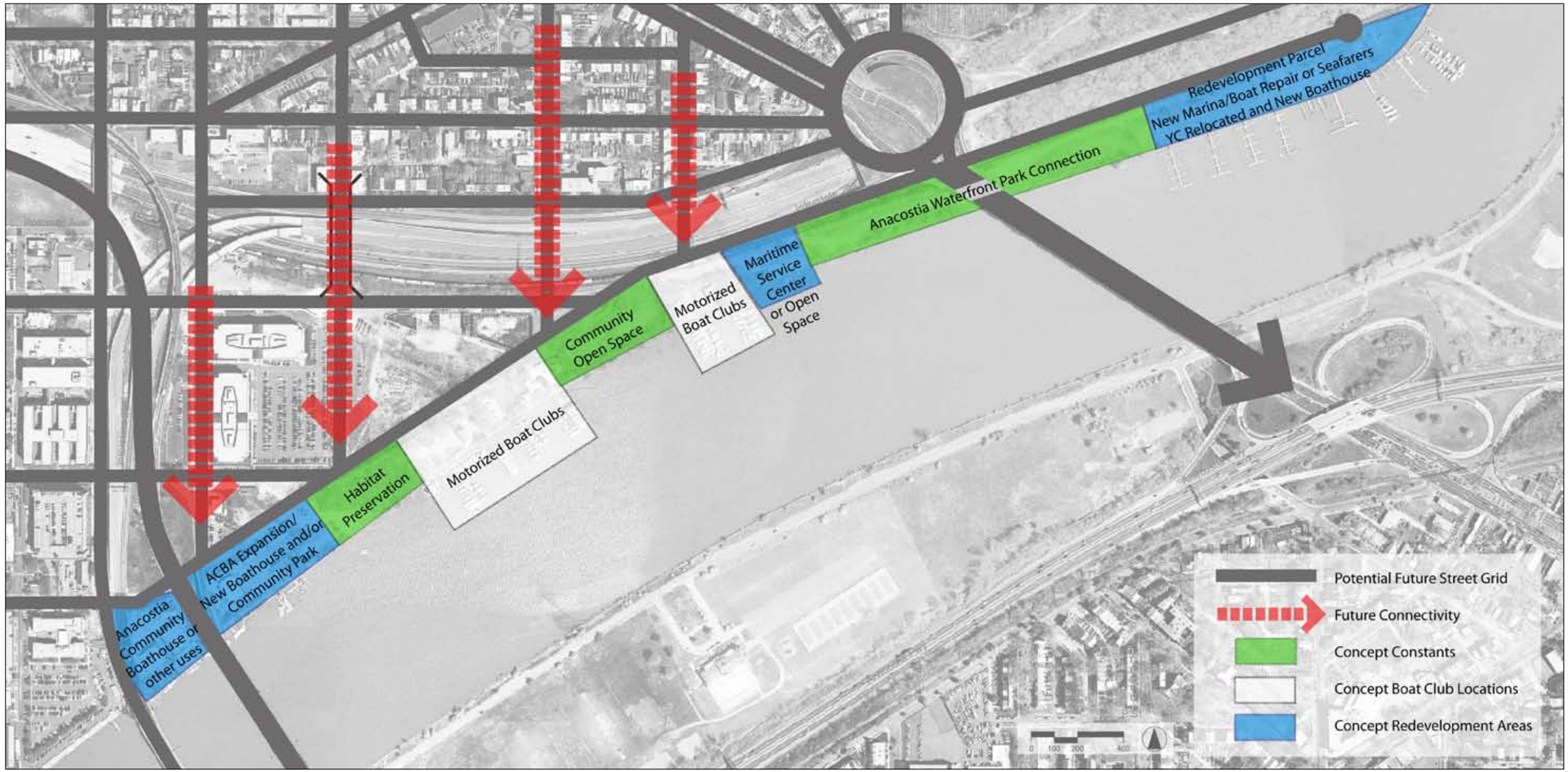

Fig. 6.11 – Diagram of long-term vision for Boathouse Row

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7. FINANCIAL ANALYSIS SUMMARY

The financial analysis details the project costs based on two alternatives. The conclusions of the financial analysis suggest potential implementation options with regards to funding.

7.0 Costs

The 'order of magnitude' financial analysis distinguishes between the two alternatives and quantifies both the amount and types of private, public, and grant funding, highlighting anticipated funding shortfalls or gaps. SmithGroup/JJR and Gorove/Slade estimated costs after a review of the existing site conditions and comparison to modern standards for similar operations. For each component, the consultant team prepared a gross order-of-magnitude cost estimate per cubic yard, square feet or linear feet (depending on the component) to perform the construction. The cost estimate assumes 2008 average unit prices for similar construction. As only preliminary plans exist, the basis of the unit costs were adjusted by adding a 25 percent contingency factor for unknowns. In particular transportation costs were estimated per linear foot with an additional 10 percent contingency.

The financial analysis assumed that the existing boat clubs and yacht clubs continue to occupy their current sites except in Concept 2. Any costs associated with the redevelopment of these existing facilities and associated open space and parking area are deemed "marina redevelopment". All other land and facilities are considered public. For both alternative planning scenarios, these estimates are grouped into the following four cost categories: (1) marina redevelopment (land improvements plus associated docks); (2) parks; (3) infrastructure (roads, streetscape, site-serving utilities); and (4) dredging. In total, the estimates range from $10 to $12 million for each alternative, excluding dredging costs.

The different costs associated with each alternative result from distinctions between the two build-out programs. The first alternative incorporates a repair facility to serve area boaters, segregating motorized and non-motorized operations along the river. The second alternative costs do not include the costs associated with dredging the Anacostia River and, as such, costs approximately 30 percent less than the other alternative.

7.1 Sources of Funds

The different sources of funding available to meet the needs associated with this planning study include direct public appropriations (federal or local); bond financing (general obligation, tax-increment financing); grants (federal, private philanthropic); and private redevelopment funds. While all of these sources represent reasonable options for the Boathouse Row Planning Study implementation, the availability of these sources fluctuates depending on market conditions, government plans and other factors.

Direct public appropriations include a large variety of different options. Federal assistance is unlikely with the exception of monies available for the Federal Channel. The District of Columbia's Capital Improvement Program (CIP) sets aside dollars from the general fund for specific projects based on each agency's annual request. These capital expenditures set aside funds years in advance following the priorities of each agency and the District as a whole. Bond financing offers two specific bond vehicles for the implementation of this planning study: General Obligation (G.O.) bonds and Tax Increment Financing or TIF bonds. G.O. bonds funded by taxing all taxable property in the jurisdiction offer one of the main vehicles for financing public improvements. They may be used to pay for infrastructure improvements and typically use a standard pay down period to retire the bond.

Tax Increment Financing (TIF) captures the value associated with current development and uses the increases in private development values generated by a new public investment to pay for the infrastructure. This method varies to use all or only part of the taxes generated by the incremental land value. The implementation of this method includes the creation of a tax increment financing district and often a public-private partnership to develop the land adjacent to the new public infrastructure. It is most effective in helping to fund infrastructure directly supporting a new development with major committed investment that will begin generating new taxes in the short term.

PES reviewed the potential to use the new development and resulting taxes to leverage funds for the infrastructure improvements. A detailed Tax Increment Finance (TIF) calculation provided an estimation of the current tax base, reviewing assessed values from the District's Office of Tax and Revenue. This tax estimate includes a broad-based TIF boundary (extending from 10th Street SE to the CSX railroad bridge, south of the Southeast /Southwest Expressway) that includes an estimated $207 million worth of taxable property and $61.6 million of tax-exempt property, based on 2009 tax assessment from the District's Office of Tax and Revenue. These tax revenues could support $3.2 to $4.3 million in TIF bonds. Ultimately, the creation of a TIF district and use of TIF financing is not recommended as a good source of funds for this area. TIF financing depends on new development and appreciation of existing real estate; those conditions may not exist for some time.

Federal grant programs offer funds for marina projects and improvements, infrastructure, marketing and environmental upgrades. The programs administered by the U.S. Fish & Wildlife Service include the Boating Infrastructure Grant program, Clean Vessel program and Chesapeake Bay Small Watersheds Grant program. Grant amounts vary based on the program; the typically range for smaller planning projects is $10,000 and $30,000, and up to $200,000 for implementation-phase projects. However, the Clean Vessel program funds up to $1.5 million and averaged roughly $400,000 in 2007. These funds should be targeted by the private boat and yacht clubs as discrete funds to match their contributions for specific improvement projects.

7.2 Marina Redevelopment Sources

The private users of the boathouse row study area include several marina operations with boat and yacht clubs. These clubs offer wet slips with a range of standard amenities, access to a club facility and charge a nominal-rate for membership. These clubs operate as non-profit organizations. PES prepared an estimate of the operating income for the first stabilized year after improvements shown in the cost section above. This analysis offers a suggestion of the projected expansion in membership for all clubs according to the two alternatives. For each alternative the number of wet slip spaces increases and in some alternatives boat clubs replace or improve existing landside facilities. The projected usage and resulting operating revenue increase based on these improvements.

Revenue comes directly from those using the wet slips, which includes both transient and club members. Some of the potential marina sites along Boathouse Row have the potential for other types of maritime-related revenue generating activity such as storage. This analysis highlights the gaps in current revenue stream based on the expenses of running a marina and shows only the comment elements for each of the different locations.

The limited operating cash flow from the basic marina operations suggests a need for alternative sources of funding, such as private fundraising, government grants and / or private debt. Typically a ground lease charges seven to eight percent of the value of the property. At an assumed $1.3 million an acre in value, this would add $90,000 to $105,000 a year to club operating expenses. Unfortunately there is no profit generator to provide cross-subsidy for the private boat club marina operations. To reduce the gap, the boat and yacht clubs may allow members to offer some of the facility management and other related operating costs with in-kind contributions. For example, the boat club's current treasurer may serve as 'bookeeper' to reduce this operating expense.

FINANCIAL ANALYSIS KEY FINDINGS

- **Order of magnitude cost estimates between the two concepts highlight the high cost of dredging ($20 to $30 million)**
- **Concept 2 is roughly 30 percent less than Concept 1**
- **Sources of Funding include direct public appropriations (federal or local); bond financing (general obligation, tax increment financing); grants (federal, private philanthropic); and private redevelopment funds**
- **A review of a potential TIF district highlighted that an estimated $207 million worth of taxable property and $61.6 million of tax-exempt property, based on 2009 tax assessment from the District's Office of Tax and Revenue could be assessed.**
- **These tax revenues could support $3.2 to $4.3 million in TIF bonds but would not likely be a good funding alternative for this area.**

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8. RECOMMENDATIONS AND IMPLEMENTATION

8.0 Conclusion

Boathouse Row plays an important part in furthering the implementation of the Anacostia Waterfront Initiative. Improvements to the site and facilities together with restoration of the river and habitat area are critical to fulfilling the goals of the AWI of restoring a clean and active river; connectivity and accessibility to the river for all; creating a great riverfront park system; creating and celebrating cultural destinations; and strengthening the city with strong waterfront neighborhoods. Boathouse Row provides an opportunity fo access to the water for the Capitol Hill neighborhood, and is the link between the Navy Yard and Southeast Federal Center and the Hill East Neighborhood

Washington DC is the Capital City with its monumental streets, parks and buildings. Parks, development and maritime facilities along the Potomac and Washington Channel showcase the "Capital Waterfront" aspect of DC. Washington DC is also hometown for a significant number of people. The Anacostia River is DC's hometown river and provides the residents and visitors with the opportunity to access another and different community waterfront experience.

8.1 Recommendations

The following recommendations to accompany the Design Principles and concepts. These are intended to help guide future decisionmaking and implementation of improvements to Boathouse Row.

1. **Enhance Boathouse Row as a waterfront destination, with a continuous waterfront edge, to provide increased access to the water and recreational uses for the community.**

   - DPW serves numerous important functions in the city. However, their functions are not dependent on being located near the water. DPW should be relocated to an alternative site after the 11th Street bridge construction completion.

   - DMPED and DPW should work together to find an appropriate new location for DPW and develop a transition strategy.

   - Implementation of WASA's Long Term Control Plan is critical to the Anacostia River's long-term health. The deep tunnel running along Boathouse Row is an important of accomplishing that project. WASA should work together with boat clubs and boathouse to coordinate future implementation of drop shafts for WASA's deep tunnel to minimize impact to site users.

   - The WASA debris removal facility should remain at Boathouse Row, at its current location, until the consolidation of the three CSOs on the site and completion of the implementation of WASA's LTCP. Subsequently, consideration should be given to removal of the WASA facility and transformation of that site into a community open space.

   - The USACE debris removal facility serves an important purpose in clearing large debris along the Anacostia and Potomac Rivers. However, its location at Boathouse Row prevents continuity of public access to the river along its edge. USACE should be relocated to a non-regularly publicly accessible site along the area waterways. Off-site relocation would remove the need to relocate the USACE's turning basin.

   - An alternative, but less preferred location for USACE is consolidated with the WASA debris removal facility. This would require the realignment of the Federal Channel and the relocation of USACE's turning basin.

2. **Allow for expansion of boat clubs and boathouse and the provision of a new marina and/or boathouse to encourage increased use of the river for both motorized and non-motorized users.**

   - ACBA should should reside at the site of the Anacostia Marina or return to its current location under the 11th Street Bridges upon completion of the 11th Street Bridge rehabilitation and remediation of the Washington Gas site.

   - An expansion of ACBA or new boathouse is recommended on site, either adjacent to ACBA or at Anacostia Marina to enahance the Anacostia River as a venue for non-motorized boating.

   - With the move of the federal channel, although potentially on paper only, there will be potential for boat clubs to expand either perpendicular or parallel to shore without impacting the number of rowing lanes. A detailed study of the expansion potential of each should be undertaken by each boat club.

   - Boat clubs should work together with the boathouse to plan for any future expansion so as not to impact rowing lanes.

3. **Provide amenties and shared uses in order to support users of the site, surrounding places of employment and residences, and to encourage the public to experience Boathouse Row.**

   - Additional bicycle racks should be located along Boathouse Row to encourage cycling along the AWI Riverwalk Trail and discourage vehicular circulation.

   - A small canteen-style food service facility is recommended to be located at Boathouse Row to support the regular site users and the public. A larger restaurant style facility is not recommended, due to parking requirements and potential conflicts with boaters. The canteen should be located near the Navy Yard and Maritime Plaza

Example of boathouse in Knoxville, TN

Waterfront open space with active uses

Canteen adjacent to community open space

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to help ensure daily patronage and long-term viability.

- A bike rental operation could be located at Boathouse Row to encourage bicycling in the area and increase use of the AWI Riverwalk Trail. The bike rental facility should be c0-located together with the canteen.

4. **Create a series of linked community open spaces that preserve the natural setting of the site and enhance recreation and enjoyment at the river's edge.**

- DDOE and DPR work with stakeholders, the public, boathouses/ boat clubs, to improve each community open space once projects are ready to be implemented.

- Minimal, passive designs that preserve existing vegetation and habitat and respond to the primarily water-related use of the site are recommended.

- Picnic areas should be included in community open spaces to encourage public access to Boathouse Row and the river.

- Consideration should be given to the design of a terraced viewing area to be located at the community open space adjacent to the RW trail bridge. Such a design could help soften the impact of the piers and ramps leading up to the bridge and could serve as a viewing area for rowing races, and a community gathering space.

- The current alignment of the AWI Riverwalk trail through the treed and vegetated area west of Eastern Power Boat Club is destructive to that sensitive habitat area. Realignment of the trail in that area is recommended.

5. **Employ sustainable design techniques in all aspects of future improvements to Boathouse Row to further the District's sustainability goals and steward the natural resources of the site.**

- Incorporate sustainable site design and green building techniques.

- Future improvements to roadway will follow DDOT standards and should employ low impact design elements to mimimize impacts to the river.

- Preserve and protect existing wildlife habitats.

- The existing pump house should be adaptively reused and integrated into Boathouse Row.

6. **Provide improvements to utility, trail and roadway infrastructure at Boathouse Row to promote safety, and enhance connectivity.**

- City agencies should work with CSX to develop a strategy to ensure the public's safety around the tracks including the potential construction of a barrier or fence.

- Infrastructure improvements should include enhanced streetscape and connectivity to surrounding neighborhoods to encourage increased public access to Boathouse Row and the river.

- Adjustments to the AWI Riverwalk trail alignment may be necessary in the future to accommodate planned improvements at Boathouse Row. The alignment of the trail should be reviewed as projects near implementation so as to ensure that habitat areas are protected, and conflicts between pedestrians, bicyclists and boaters mimimized.

- A parking management strategy should be developed for the site and future developments in the areas adjacent to Boathouse Row, and should allow parking structures and areas to be used by boat clubs / boathouse on evenings and weekends.

- Future roadway improvements should provide on-street parking on M Street and Water Street where possible.

7. **Allow for future connectivity to neighborhoods to the north in the long-term planning and development of the site and surroundings in order to increase access to the river and fulfill the mission of the Anacostia Waterfront Initiative.**

- Pedestrian connectivity to the Potomac Avenue Metro Station should be enhanced. The potential for a pedestrian bridge along 14th Street SE, across the Southeast Freeway should be explored.

- The long-term future vision for Boathouse Row includes the reintegration the section of the SE Freeway to the north as a boulevard, and the relocation of the CSX railway. Improvements to Boathouse Row and surroundings should not preclude the future reconnection to the waterfront, of these neighborhoods to the north.

8.2 Issues

Several issues regarding the Boathouse Row site were discussed during the course of the Planning Study. These issues were addressed as follows:

Dredging the Federal Channel

The City is assessing the relocation of the Federal Channel and the potential for dredging based on all the collective projects and requirements along the Anacostia River. There are no immediate plans for dredging. As it relates to Boathouse Row, dredging of the Anacostia would ensure the long-term viability of maritime uses, both motorized and non-motorized along this stretch of the river.

Water Taxis

The integration of water taxis at Boathouse Row is not included in this

Waterfront community open space, Austin, TX

New marina

New marina and clubhouse

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planning study as they are a larger issue to be addressed by the city. The proposed community open spaces do not preclude provision of landing areas for future water taxis. However, the nature of the site and the Anacostia River suggests that only very small water taxis could be accommodated here.

Live Aboards
This study recommends that allowance for live aboard boating, or occasional overnight or weekend stays on boats, be determined during negotiations on future lease arrangements between boat clubs and the District.

Floating Homes
This study recommends that Boathouse Row is not an appropriate site for floating homes (defined as non-propulsion structures that reside permanently on the water and have significant utility infrastructure connections to land).

Boat Repair Facility
Several locations for a boat repair facility were explored in this study. Due to size constraints, the most viable location would be as part of a new marina to be located on the site of the former Anacostia Marina and boat repair facility. However, the continued siltation of the river in that area may constrain that option.

Education Center
The placement of an education center was considered aduring the course of the study, but was found to be redundant with other such facilities in the area including the Earth Conservation Corps, and a planned nature center on Kingsman Island.

8.3 Conceptual Implementation Timeline

Overview
The implementation of improvements to Boathouse Row as illustrated in either Concept 1 or 2 would conceptually take place in stages and will depend first on the implementation of certain enabling projects in the short-term. There may be some overlap between projects in Stage 1 and Stage 2 - that is, some Stage 2 projects could take place while Stage 1 projects are being completed. The parties that would be responsible for each project include public (city agencies) and private (boat clubs / boathouse).

Stage 1 - Short Term - Enabling Projects
Timeframe: 2009 - 2014

Short Term Enabling Projects are the projects which will enable Concept Plan 1 or 2 to be implemented (conceptual timeline assumes negotiations with parties have been concluded, funding secured, design and permitting completed).

- Anacostia Riverwalk Trail completion (including bridge)
- Construction of ACBA facilities at Anacostia Marina
- 11th Street Bridge Construction
- DPW relocation
- USACE relocation - on-site co-location with WASA (Concept 1); or off-site (Concept 2)
- Washington Gas site remediation

Stage 2 - Medium Term - Implementation of Concept 1 or 2
Timeframe: 2014 - 2020

Following the enabling projects, one of the Concept Plans could be implemented. Timing could be similar for each concept despite cost differences.

- Dredging (Concept 1); or dredging under boat clubs (Concept 2)
- Bulkhead and utilities improvements
- Boat club improvements
- Parks developed
- Road infrastructure improvements
- Anacostia Marina redeveloped

Stage 3 - Long-term Future Projects
This stage would take place in the future once the portion of the Southwest Freeway immediately north of the site becomes a boulevard, as planned in concept by DDOT; and the CSX line is rerouted outside this part of the city. This will allow the city grid to be extended and neighborhoods to the north to connect directly to the waterfront. As this stage is far in the future, no timeline is associated with this stage.

Canteen

Seafarers relocated

Community open spaces with vewing area

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Courtney Wilkerson, Seafarers Yacht Club

Mary Withum, Eastern Power Boat Club

Community Open Space

Waterfront viewing area

Example of boathouse at Tufts University

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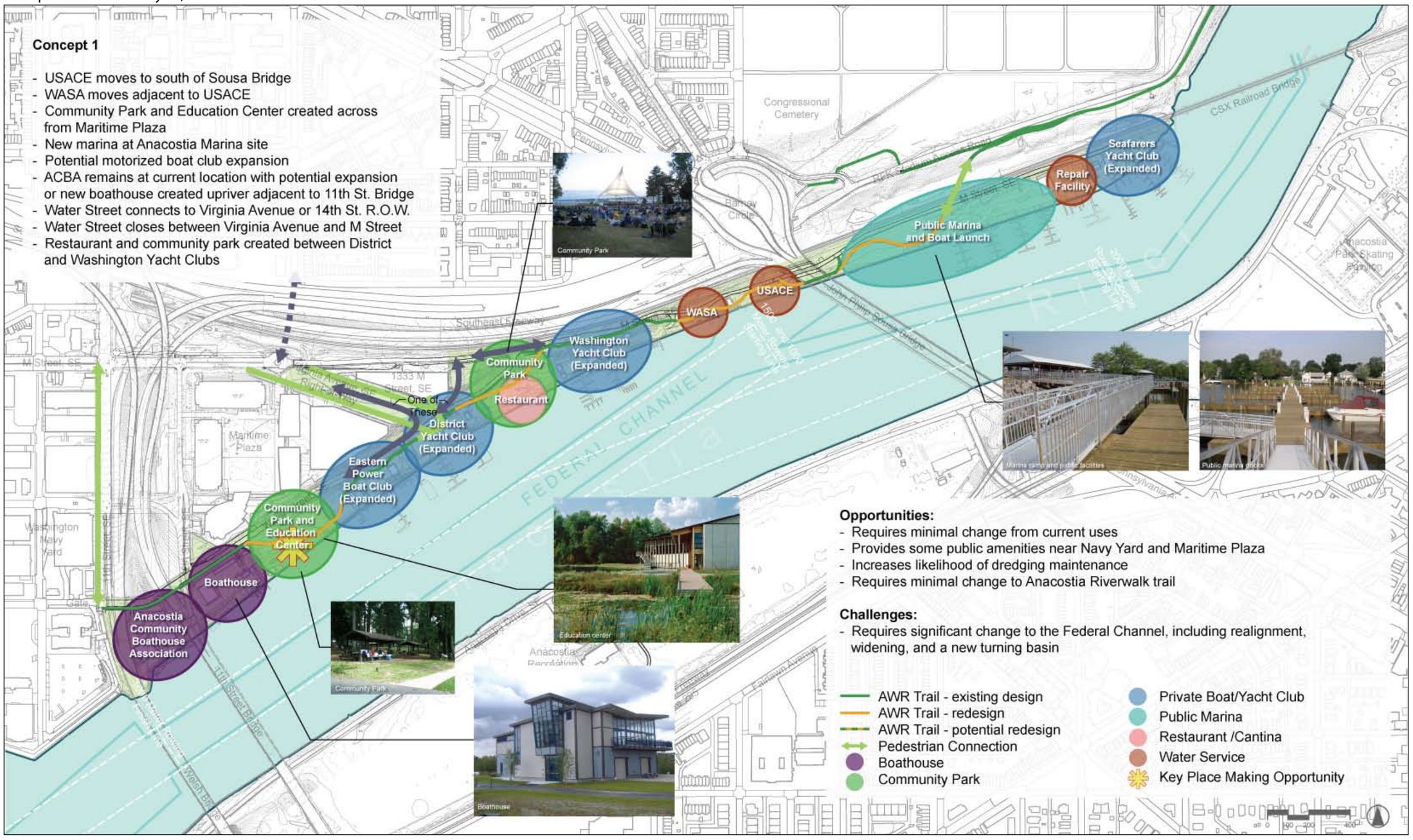
APPENDIX A: RECORD OF CONCEPT ALTERNATIVES PRESENTED

Concept 1 - Presented July 10, 2008



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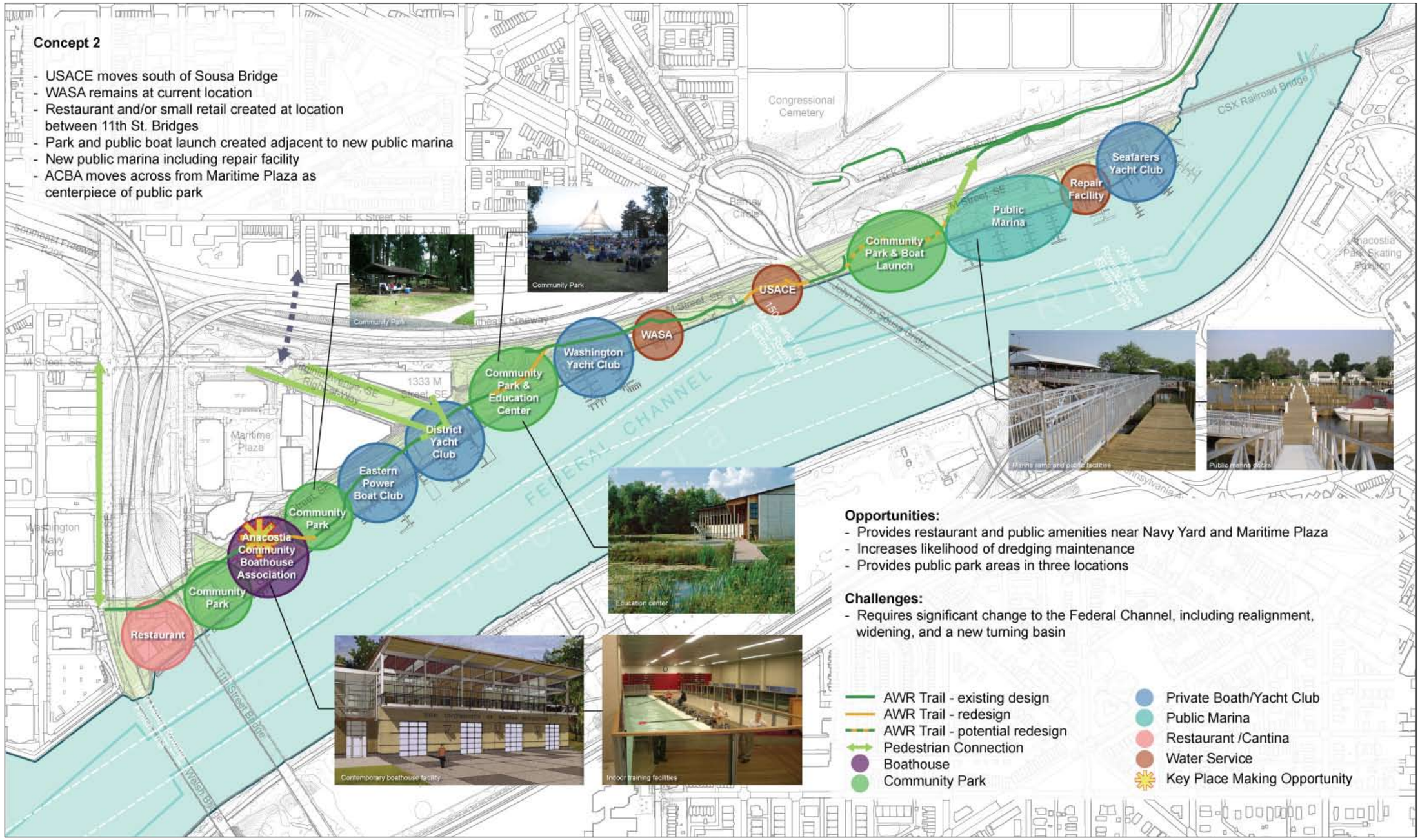
Concept 2 - Presented July 10, 2008



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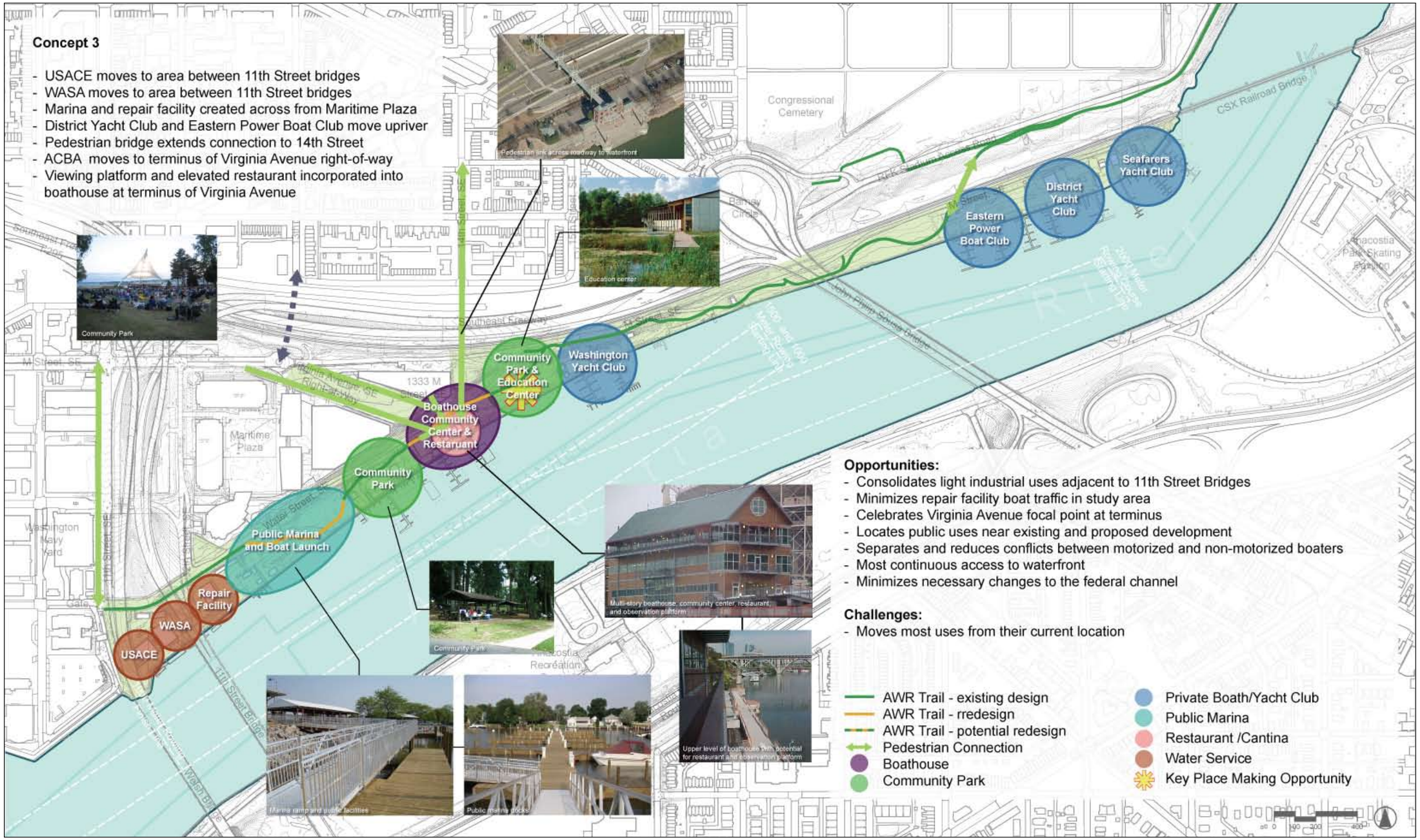
Concept 3 - Presented July 10, 2008



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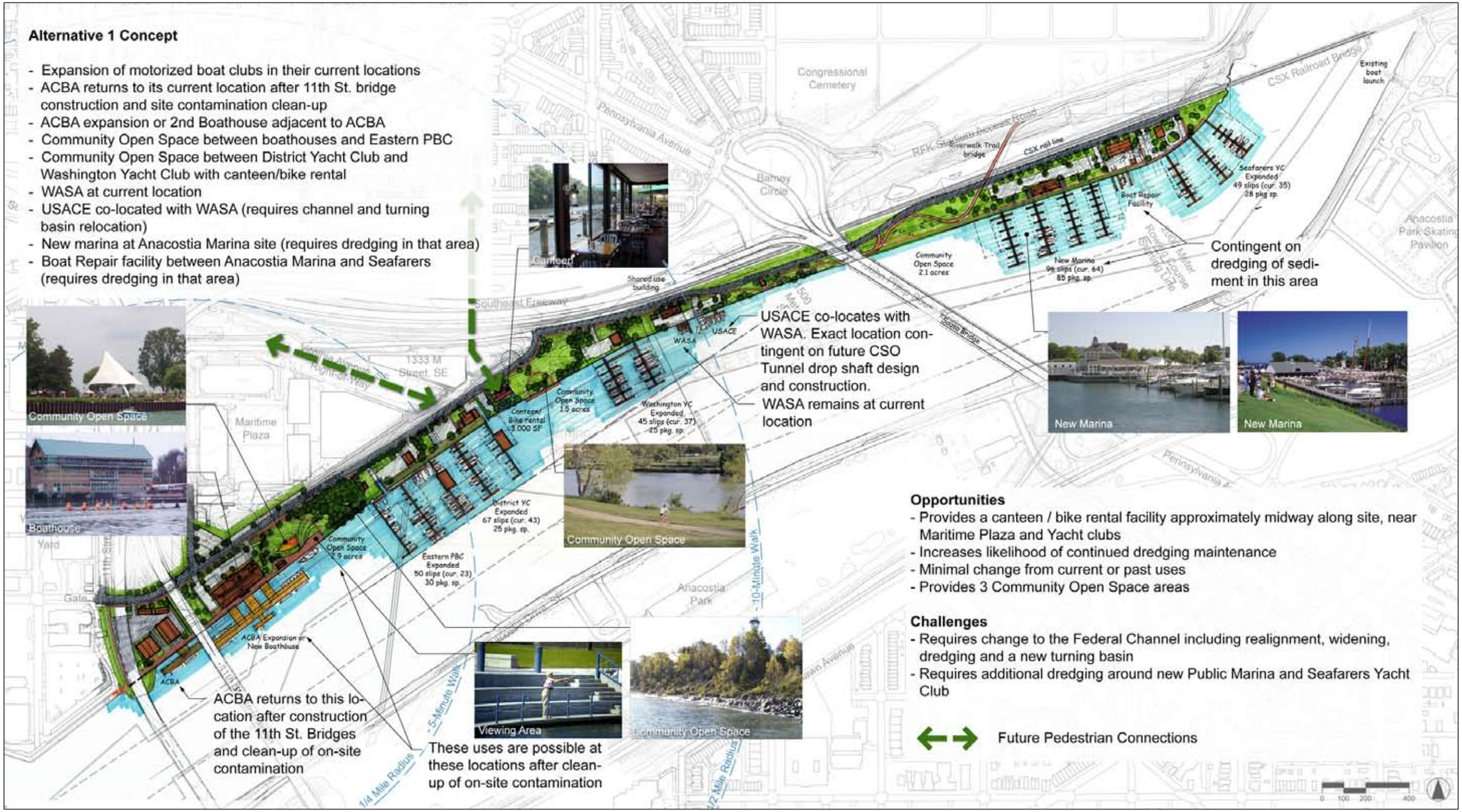
Alternative 1 - Presented October 2, 2008



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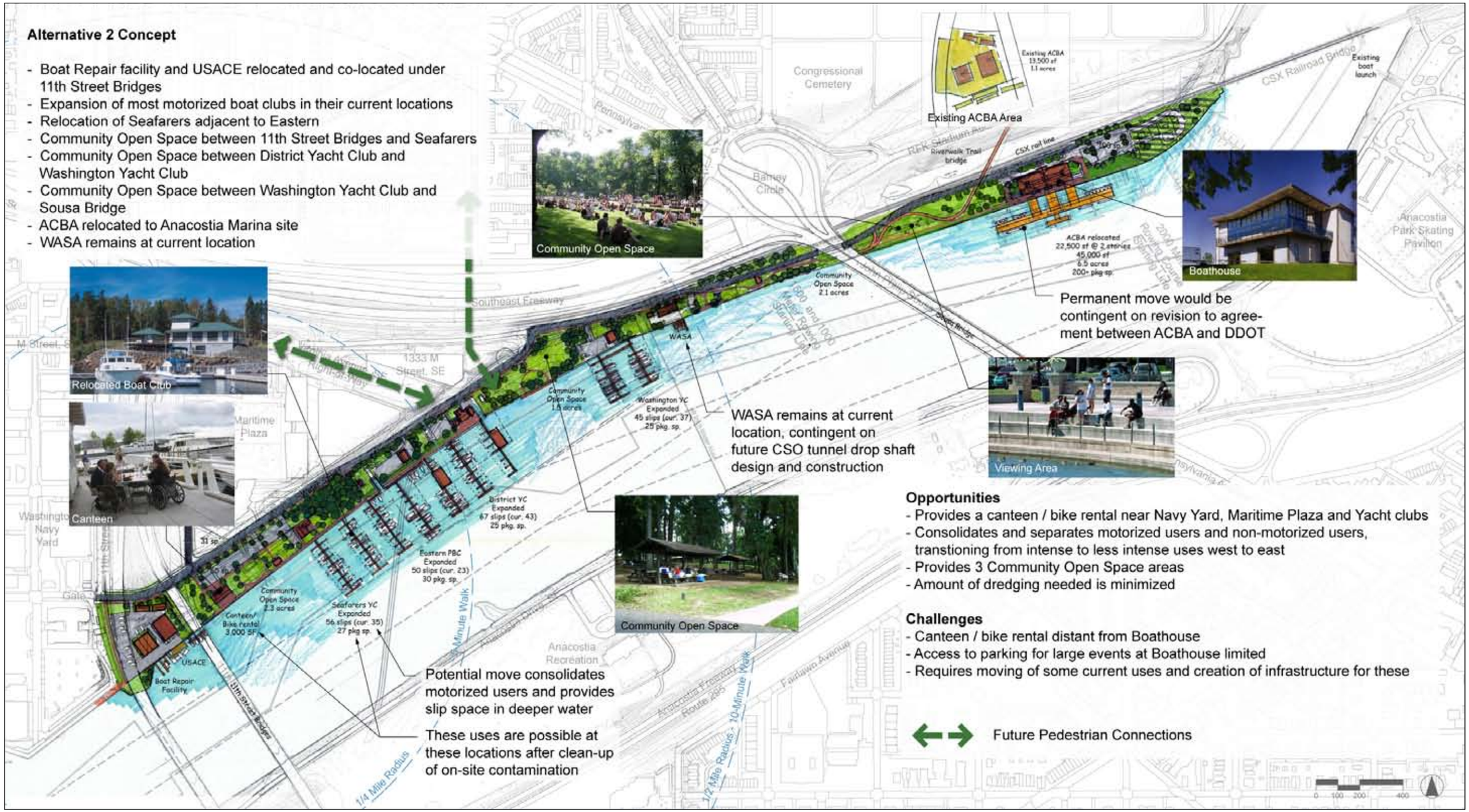
Alternative 2 - Presented October 2, 2008



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APPENDIX B: LIST OF STUDIES

Document, date, source or agency

1. 11th Street Bridge Final Environmental Impact Statement, 2007, District Department of Transportation and Federal Highways Administration
2. Anacostia 2032: Plan for a Swimmable and Fishable Anacostia River, 2008, District Department of the Environment
3. Anacostia River Condition Survey, 2007, United States Army Corps of Engineers
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8. Anacostia Riverwalk Trail Construction Documents, 2005, T.Y. Lin International
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16. Boathouse Row Notice of Land Transfer to Yacht Clubs, 2008, Office of the Deputy Mayor for Planning and Economic Development
17. Boathouse Row Signs, 2008, unknown
18. Boathouse Row Tenant Locations Powerpoint, 2008, unknown
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21. Comprehensive Plan, District Elements, 2006, DC Office of Planning
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26. District of Columbia Bicycle Master Plan, 2005, District Department of Transportation
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30. District of Columbia Wildlife Action Plan, 2006, District Department of the Environment
31. Fecal Coliform at Bladensburg Road, 2007, Anacostia Watershed Society
32. Federal Land Transfer Government Accountability Office Update, 2007, Government of the District of Columbia
33. Hill East Reservation 13 Draft Master Plan, 2002, District of Columbia Office of Planning
34. HIstoric Boathouse Row River Exploration Day Event Flyer, 2008, Eastern Power Boat Club
35. Kingfisher Canoe Trail Map, unknown, Anacostia Watershed Society
36. Large Tract Review report Maritime Plaza, 2006, DC Office of Planning
37. L'Enfant Plan of Washington,1791, Library of Congress
38. Letters to Congresspersons on D.C. Land Transfer, 2008, Government of the District of Columbia
39. Long-Term Development of the Anacostia Community Boathouse and the Anacostia River's "Boathouse Row", 2008, Anacostia Community Boathouse Association
40. Map of Anacostia in the District of Columbia and Maryland,1891, Library of Congress
41. Map of Young Farm, 1796, Association for the Preservation of Historic Congressional Cemetery
42. Middle Anacostia River Crossings Transportation Study, 2005, District Department of Transportation
43. Near Southeast Draft Framework Plan,2003, District of Columbia Office of Planning
44. NPS Reservation Property Survey, 2007, AMT, LLC
45. Occupancy Chart, 2008, unknown
46. PCB TMDL for the Tidal Potomac River, 2007, Interstate Commission on the Potomac River Basin
47. Proposed Paddle Access Map, unknown, Anacostia Watershed Society
48. Railroad Realignment Study, 2007, National Capital Planning Commission
49. Reconaissance of Anacostia above Washington Navy Yard,1861,Library of Congress
50. South Capitol Street Draft Environmental Impact Statement, 2008, District Department of Transportation and Federal Highways Administration
51. Stormwater Administration Study Report, 2008, District Department of the Environment
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53. ULI Washington Cruise of the Capital: Annual Real Estate Boat Tour, 2008, Urban Land Institute
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