

3.2 ROSSLYN WATERFRONT – UPPER LEVEL

3.2.1 Existing Conditions

3.2.1.1 – Physical Conditions

a. Existing Land Use

The Rosslyn Waterfront Upper Level site is located to the west of GWMP, and to the east of North Lynn Street in Rosslyn. See Figure 3.1. The site is privately owned and sits isolated between Virginia Department of Transportation and NPS lands. It is currently vacant. This site provides an opportunity to locate the boathouse away from the river, with docks located adjacent to the river at the Rosslyn Waterfront Lower Level site.

b. Infrastructure

- Water: Record drawings of the GWMP indicate that a 16-inch waterline exists on the east and the north side of the site. A 12-inch waterline may also exist on the south side of the site. However, it is unclear as to whether this 12-inch line was abandoned when the former government garage facility was demolished. Nonetheless, it is likely that the new boathouse would be able to connect to the 16-inch line.
- Sanitary Sewer: Record drawings of the GWMP indicate that a 6-inch sanitary sewer force main may exist near the intersection of the abandoned driveway and N. Lynn Street. This sewer served the former government garage. However, it is unclear as to whether this force main

was abandoned when the garage facility was demolished.

- Electrical/Telephone: Record drawings for the GWMP indicate the existence of overhead electric lines on the south side of the site. This service appears to have served the former government garage facility. It is assumed that the final siting of the boathouse facility and site improvements would not require relocation of the overhead electric lines. The size and capacity of this system is unknown at this time. Coordination with the utility companies would be required to determine if service is available. An underground telephone system exists in N. Lynn Street. Its size and capacity are unknown at this time.

3.2.1.2 – Environmental Conditions (See maps 3.3, 3.4 and 3.6)

- Floodplains: According to FEMA mapping, the upper Rosslyn site for the potential boathouse is designated an area of minimal flood potential (FEMA 1982).
- Wetlands: National Wetland Inventory data does not indicate any wetlands on this site. While it appears runoff may temporarily collect in the forested depression on the site during storms, NPS has conducted studies that indicate soils in this area do not exhibit hydric condition, thereby affirming the NWI indication of no wetlands on the property.
- Soils: Soils on the hillside site are likely similar to Glenelg loam. Glenelg soils are deep, strongly sloping, well-drained

materials common on ridges and convex side slopes in the Northern Piedmont physiographic region of Arlington County (Hydel 2001). The site soils are moderately sloping and relatively well vegetated. A small stormwater channel has been eroded from the base of the steep southwestern slopes through the forested area on-site to the eastern depression. If similar to Glenelg loam, the site soils could be micaceous, which would indicate higher erosion and slough potential.

- Geology: No significant geologic features are evident on the site. The underlying geology is Sykesville Formation, a precursory malange of the Mather Gorge Formation, the prominent formation exposed around Chain Bridge and Great Falls (Fleming 1994).
- Vegetation: Vegetation on the upper Rosslyn site includes common suburban canopy and understory species in a western forest patch, and a grassy area on the eastern portion of the site. The forest growth exhibits edge characteristics such as prominent vine growth. A letter from the Virginia Division of Natural Heritage, dated December 10, 2001 states that no natural heritage resources or State Natural Area Preserves have been documented at the site. An additional letter from Natural Heritage dated February 11, 2002 states that highly altered sites, such as the upper Rosslyn and 14th Street Bridge sites, would present habitat less suitable for supporting rarities than the other potential boathouse sites.

- **Wildlife:** Wildlife on the upper Rosslyn site likely includes common urban species such as small mammals and birds. Since major roadways confine the small patch of forest on the site, larger species are not likely to utilize the forest patch for movement. A letter from the Virginia Division of Natural Heritage, dated December 10, 2001 states that no natural heritage resources or State Natural Area Preserves have been documented at the site. An additional letter from Natural Heritage dated February 11, 2002 states that highly altered sites, such as the upper Rosslyn and 14th Street Bridge sites, would present habitat less suitable for supporting rarities than the other potential boathouse sites.
- **Topography:** The upper Rosslyn site lies on moderate slopes descending from west to east. The southwestern extent of the site exhibits steeper slopes descending from the elevation of the adjacent jogging trail to a depression on the eastern portion of the site.
- **Stormwater:** Stormwater flows from west to east across the site toward the GWMP. Some slight channelization of stormwater is evident originating at the base of the steep southwestern slopes. Under heavy storm conditions it appears stormwater may collect on site where this small channel reaches a forested depression to the east.
- **Noise:** Noise conditions are the same as for the Rosslyn Waterfront Lower site.

3.2.1.3 – Operational Factors

a. Transportation (Access and Parking)

This site is located in Rosslyn with potential vehicular access from the northbound lanes of North Lynn Street (US 29) rather than from the GWMP. The access would be located between the exit ramp from westbound I-66 and the exit loop ramp from the southbound lanes of the GWMP.

- **Access:** Regionally, the proposed site would be directly accessible from several major roadways including the eastbound and westbound lanes of I-66* (*see ensuing discussion in following paragraph), the eastbound and westbound lanes of Lee Highway, and northbound and southbound US 29. Access to the site from the GWMP, while not direct, would be relatively straightforward; most likely motorists would use Spout Run and Lee Highway as a connection.

Vehicular access to the site would be provided from the northbound lanes of N. Lynn Street, immediately adjacent to and north of the intersection of N. Lynn Street and the exit ramp from westbound I-66. Currently, there is a curb cut and an unused paved road that provides access to the site.

The relatively close spacing along N. Lynn Street between the entrance to the proposed boathouse and the existing signalized intersection at the exit ramp from westbound I-66 may be problematic for larger vehicles. Specifically, it may be

difficult for vehicles, especially those pulling large trailers, which use the exit ramp from westbound I-66 to turn right onto N. Lynn Street and then immediately turn right again into the Boathouse site. If it is not possible to achieve a sufficient turning radius in the design of the proposed site access, those vehicles could, instead, travel on a short but circuitous path using nearby local roads to reach the site:

- From the I-66 westbound ramp, continue straight across N. Lynn Street onto westbound Lee Highway
- At the next intersection, turn left onto southbound US 29
- At the next intersection, turn left onto eastbound Lee Highway
- At the next intersection, turn left onto N. Lynn Street
- Turn right into the site driveway

Local access to the site from other directions should not be problematic. Likewise, access from the site should be straightforward as well. While the site is located along a one-way northbound street, vehicles can easily gain access to the west, south and east within one block of the site via local roads.

- **Parking:** A paved area currently exists at this location. This area is in a state of disrepair, with poor pavement condition and overgrown vegetation. A cursory

review of the site showed that parking could be provided in a space approximately 320-feet long by 55-feet wide. This space could provide parking for approximately 60 vehicles with standard size spaces, or fewer, larger spaces if provision is made for vehicles with trailers.

b. Rowing Conditions

Rowing conditions are the same as the Rosslyn Waterfront Lower Site.

3.2.1.4 – Cultural/Visual Conditions

a. Cultural Resources

There are no known archaeological features on or adjacent to the upper Rosslyn site. Arlington County historic photos and maps indicate that the site had been previously developed by the early 1900s, thus greatly reducing the potential for undisturbed prehistoric artifacts on the site (Arlington County, 2001). Artifacts from this initial period of development could potentially be present on the site. The GWMP is a National Historic Register property that is in the vicinity of the project site.

b. Visual Conditions

The site is largely wooded (see Figures 3.28 and 3.30). It is part of a larger vegetated and wooded area to the east of Rosslyn. The area where the boathouse may be located is visible from Rosslyn, Key Bridge, portions of TRI, from the off-ramp off GWMP southbound, from the river and from Georgetown.

3.2.2 Conceptual Site Plan

Two conceptual plans were prepared to test the potential of locating a boathouse at this site. Figures 3.24 and 3.25 illustrate a smaller boathouse with a footprint of 10,000 SF. Figure 3.26 illustrates a larger boathouse with a footprint of 14,000 SF. Docks and a staging area are proposed at the river's edge. In both plans, a new access road is proposed off North Lynn Street, with a drop-off area to the east of the boathouse. In both cases, the boat storage bays are assumed to open to the east. A staging area is proposed at the upper level. To avoid potential conflicts with users of the Mount Vernon Trail, a second pedestrian bridge and a new trail is proposed. These schemes would require rowers to either carry their boats, or use some form of a small

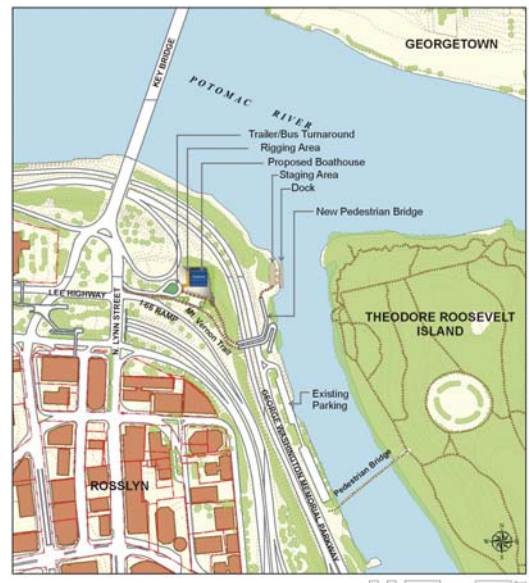


Figure 3.24 Conceptual Site Plan

towing vehicle, to bring the boats to the river and back each time they go rowing. The coaches' boats would be tied to the dock during the entire rowing season. During non-rowing periods, these boats could be off-loaded at another existing boathouse (e.g. Thompsons) and brought back via a trailer to be stored at the proposed boathouse.

3.2.3 Site Analysis

Summary: A boathouse, based on the proposed minimum and maximum program, with a footprint that ranges from 10,000 SF to 14,000 SF, could be accommodated at the upper Rosslyn site. However, there are a number of measures and improvements that would be necessary for these plans to work.

- The site is privately owned. To construct a boathouse, the site would have to be acquired.
- The Mount Vernon Trail currently provides pedestrian access across the GWMP at this location. This trail is heavily used by bicyclists, joggers and pedestrians. Rowers could use this trail, and its pedestrian bridge, to carry their boats from the boathouse to the river. However, the daily use of the trail by rowers taking their boats, often before sunrise or after sunset, and cyclists and/or joggers using the trail, could result in conflicting situations including potential accidents. To avoid such conflicts, a second path designed specifically for the use of rowers, along with a second bridge across GWMP, could be constructed. The appearance of this bridge could be similar to the existing bridge.

- An access road would be required off North Lynn Street for school buses, trailers and emergency vehicles. Historically there was a street that existed at this location. Property ownership records indicate that Arlington County may still retain the original right-of-way for this street, which would help to re-establish a street to serve the proposed boathouse.

3.2.3.1 – Physical Conditions

a. Existing Land Use

The boathouse would result in developing a wooded area. The dock and staging area would also result in adding a fairly active use in an area that is vegetated and minimally used.

b. Infrastructure

- **Water:** It is assumed that the new water service would need to be approximately 100-feet in length and consist of 4-inch ductile iron pipe. One new fire hydrant is likely to be required for fire protection.
- **Sanitary Sewer:** For purposes of this study it is assumed that a new force main would be required to serve the boathouse and connect to an existing sewer main in Rosslyn Circle. A pump/lift station in the boathouse would also be required to tie into this force main sewer. Approximately 500 -feet of new 4-inch force main sewer would be required to serve the boathouse.



Figure 3.25: Enlarged Conceptual Site Plan, Minimum Program Boathouse

- **Electrical/Telephone:** For purposes of this study it is assumed that new telephone and electric services will be required to serve the boathouse and connect to existing electric/telephone facilities in N.

Lynn Street. These services are assumed to be approximately 450-feet in length.

A summary of the new utility services are as follows:

- 500-feet of 4-inch ductile iron sanitary sewer force main.
- 1 ejector pump/lift station
- 100-feet of 4-inch ductile iron water main
- 450 -feet of two-way 4-inch PVC electric conduit with handbox
- 450 -feet of two-way 4-inch PVC telephone conduit with handbox
- 200-feet of 15-inch RCP storm drain
- one fire hydrant
- two storm drain inlets
- one storm drain manhole
- two sanitary sewer manholes

Note: It is assumed that the staging area and dock do not require utility services.

3.2.3.2 Environmental Conditions

- **Floodplains:** In accordance with the FEMA designation and observations of topography at the potential development site, the site would not be inundated by 100-year flood conditions.
- **Wetlands:** There are no wetlands located on the upper Rosslyn site. Therefore development of the potential boathouse facilities on the site would not result in direct impacts to wetlands. There would be approximately 7,800 square feet of wetlands along the shoreline that would be impacted due to the construction of the staging area and docks.
- **Soils:** The sloping, well-drained soils on the upper Rosslyn site provide a suitable substrate for vegetative growth while exhibiting a high potential for erosion. To



Figure 3.26: Enlarged Conceptual Site Plan, Maximum Program Boathouse

preserve the sensitive site soils for the growth of vegetation and to reduce the potential for increased soil erosion and sedimentation, development of the potential boathouse facilities should retain the maximum practicable amount of undisturbed soil area. Development of the smaller boathouse would likely disturb approximately 1.33 acres of area while

development of the larger boathouse would likely disturb about 1.41 acres of area.

- **Geology:** Many examples of past development upon Sykesville formation geology within Rosslyn indicate that development of the potential boathouse facilities on the upper Rosslyn site would

not likely be complicated by adverse geologic structural conditions. Since the Sykesville formation is composed of a variety of materials and could be inconsistent in composition and structure, geologic borings conducted prior to construction would provide the necessary detailed understanding of structural conditions under the development site.

- **Vegetation:** Some vegetation on the upper Rosslyn site would be removed by development of the potential boathouse facilities. The smaller boathouse would clear approximately 39,000 square feet of treed area; the larger boathouse would clear about 41,220 square feet of treed area. Based on visual surveys and Virginia Natural Heritage Department records, the trees that would likely be removed are not rare, threatened or endangered species and are not part of critical habitat.
- **Wildlife:** There is no documented critical habitat on the upper Rosslyn site and there are no records of rare, threatened or endangered species on the site. Accordingly, development of the potential boathouse at the site would not likely disturb sensitive wildlife species. Common urban species inhabiting the site should be readily able to utilize other similar habitat along the Potomac River, in proximity to the site, if disturbed by development of the boathouse.
- **Topography:** The potential boathouse facilities at the upper Rosslyn site would be built on the northwestern portion of the site, thereby minimizing disturbance of

the steeper slopes at the southwestern extent of the site. The addition of fill material on the eastern slopes that descend toward GWMP would likely be necessary to provide an adequate foundation for the boathouse. Per the conceptual site plan, construction of the smaller boathouse would require approximately 35,000 cubic feet of fill while the larger boathouse would require about 63,000 cubic feet of fill.

- **Stormwater:** Construction of the potential boathouse facilities at the upper Rosslyn site would increase the amount of impervious surface on the site. The smaller boathouse would add 28,000 square feet of impervious surfaces while the larger boathouse would add approximately 32,000 square feet of impervious surfaces. This increase in impervious surfaces would increase the potential runoff volume on the site. The presence of sensitive sloping soils would necessitate stormwater controls to effectively prohibit accumulated runoff from eroding soils on the site. Stormwater management measures would be required to prevent adverse changes to the predevelopment stormwater quantity and quality conditions at the site.
- **Noise:** This area is likely to experience the least amount of aircraft noise as planes are at a much higher altitude compared to the 14th Street and Daingerfield Island sites.

3.2.3.3 – Operational Factors

a. Transportation (Access and Parking)

Three potential constraints related to traffic and access issues were identified for this site:

- Vehicular access to the site from the westbound exit ramp from I-66 for large vehicles (possibly buses) or vehicles pulling trailers; direct access may not be possible due to restricted turning radii.
- Since no parking is proposed, it is likely that automobiles will be able to use the existing parking spaces in the GWMP parking lot, accessible from the GWMP, or other existing parking spaces in downtown Rosslyn.
- **Travel Times:** During the week of January 18, 2002, travel times were obtained between the site and the three public high schools. Vehicles departed the schools at approximately 3:15 PM to simulate vehicles leaving the schools and traveling to after-school practice. Vehicles departed the site at approximately 6:00 PM to simulate vehicles leaving the boathouse after practice and returning to school. These times were based on information received from the coaches of the rowing teams at Washington-Lee and Wakefield High Schools.

Table 3.3

School	Travel Times to Site	Travel Times from Site
	Depart 3:15 PM	Depart 6:00 PM
Washington Lee	11 minutes	14 minutes
Yorktown	16 minutes	14 minutes
Wakefield	15 minutes	19 minutes
Average Travel Time	14 minutes	15 min 40 sec

- **Transit Access:** The closest Metro Station at Rosslyn is about 0.25 miles from the site, less than 10 minute walking distance. There is currently no bus service to the site.

b. Rowing Conditions

Rowing conditions on the river would be identical to those described for the Rosslyn lower site. In addition, locating the boathouse at the Rosslyn upper site would require students/rowers to take their boats daily to and from the river, a walk of approximately 900 feet.

3.2.3.4 – Cultural/Visual Resources

a. Cultural Resources

Since there are no known archaeological resources on the upper Rosslyn site, the development of the potential boathouse would not be expected to result in impacts to archaeology. Performance of careful historic and archeological studies of the project site and adjacent areas, prior to initiation of construction, would help to ensure against the loss of any potential, valuable cultural resources due to development of boathouse facilities.

The GWMP would not be directly affected by construction of the boathouse facilities at the upper Rosslyn site. The visual character associated with the historic property could be affected by the development as discussed regarding the visual simulations of the conceptual plan.

b. Visual:

To assess potential visual impacts of the proposed boathouse, simulations of the boathouse were prepared and overlapped with existing images. The locations of the images were determined based on their level of visibility from public places (see Figure

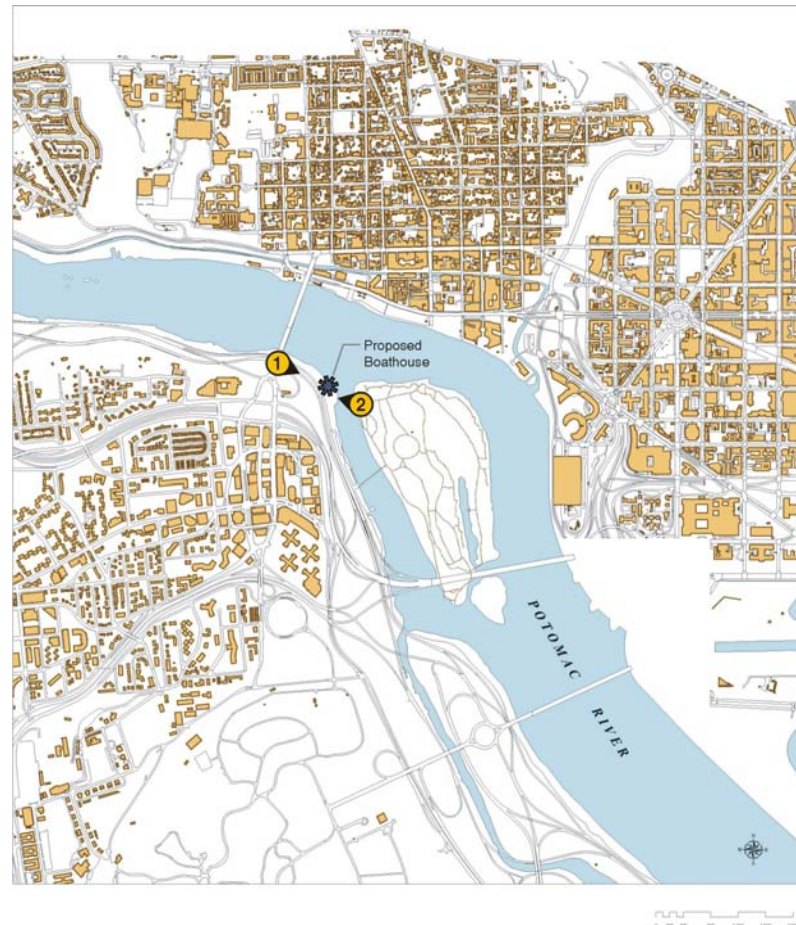


Figure 3.27: Location of Photo Simulations

3.27). The existing boathouse at Alexandria was used as a model for the simulated architectural style of the proposed boathouse.



Figure 3.28: Existing View from North End of Key Bridge

View 1: From the pedestrian walkway at the northern end of the Key Bridge the Potomac River, Rosslyn skyline and the vegetation edge along the GWMP is visible (see Figure 3.28). From this location, the boathouse will be obscured. However, the dock area would be visible along the shoreline, as would be portions of the additional pedestrian bridge across GWMP (see Figure 3.29).



Figure 3.29: Simulation of Proposed Smaller Boathouse – View from North End of Key Bridge



Figure 3.30: Existing View from TRI

View 2: From the existing hiking trail within TRI, the Little River Channel, portions of the boathouse site, existing vegetation along GWMP and some portions of existing buildings in Rosslyn are visible (see Figure 3.30). The boathouse will be totally obscured behind existing vegetation (see Figure 3.31, where the boathouse outline is shown). The docks will be visible from this location, but partially obscured by existing vegetation.

3.2.3.5 Order Of Magnitude Cost

A preliminary cost estimate of the conceptual plans, prepared for comparison purposes only, indicates that the redevelopment of this site with a potential boathouse could cost the following:



Figure 3.31: Simulation of Proposed Smaller Boathouse – View from TRI (the boathouse outline is indicated to identify its location)

Table 3.4: Preliminary Cost Estimates

	Smaller	Larger
Boathouse @\$200/SF	\$3.0 million	\$3.8 million
Site Improvements*	\$1.62 million	\$1.66 million
30% Contingency	\$1.38 million	\$1.64 million
Total	\$6.0 million	\$7.1 million

* includes an estimate of \$1,151,000 for a new pedestrian bridge.