Pars Pro Toto
“A Part for the Whole”:
Re-Envisioning the RFK Stadium Site

Benjamin J. Webne

Thesis submitted to the faculty of the Virginia Polytechnic Institute and State University
in partial fulfillment of the requirements for the degree of

Master of Science
In
Architecture

Susan Piedmont-Palladino, Committee Chair
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For the last three years, D.C. United and the District of Columbia have been negotiating a site for a new stadium for their soccer club. The owners of United wanted to take a small parcel of the land now known as "Poplar Point", an undeveloped brown-field on the Southeast side of the Anacostia River. The switch from the Anthony Williams to the Adrian Fenty administration in 2007 has proven unkind for the club, which to this day is embroiled in negotiations with the City for the Poplar Point site.

While following this debate in the media, I couldn't help but question why United was not pursuing a plot of land on their current site. The club now plays in RFK Stadium, a venue ill-equipped for the sport that costs the club millions of dollars a year because they cannot fill its stands. The site, however, is located on axis with the Capitol, the Washington Monument, and the Lincoln Memorial. My initial research brought me to France in the 18th century.

Figure 1: The L'Enfant Plan of 1791 (as shown as a facsimile published in 1887 by the US Coast and Geodetic Survey Office). Library of Congress
October 1, 2007

The Honorable Adrian Fenty
Mayor of the District of Columbia
1350 Pennsylvania Avenue, NW
Washington, DC 20003

Dear Mayor Fenty:

D.C. United will not be responding directly to the RFEI at Poplar Point. We understand that Poplar Point presents a unique development opportunity for the District and we appreciate your desire to offer a competitive process. We hope you can also appreciate our urgent need to build a new stadium for D.C. United as soon as possible. The terms outlined in the RFEI preclude D.C United from responding on its own without a Master Development firm.

For more than four years we have spent millions of dollars, held numerous meetings with the office of the Deputy Mayor of Economic Development and enjoyed strong support from Councilmembers and the community. Despite these efforts, the proposal that we offered this year was not accepted.

The RFEI creates no clear preference for a stadium at Poplar Point; it also does not outline a clear timeline by which, if selected, D.C. United might be able to occupy a stadium. These factors increase our uncertainty about both the city’s desire to keep D.C. United in the District and its commitment to supporting the relocation and construction of a new stadium in a timely manner.

Our strong preference is for D.C. United to relocate to Poplar Point and to remain in the District of Columbia. However, given the uncertainty around the RFEI process, the unabated pace of the negotiations with the federal government on the land transfer, and the fact that our current situation at RFK is not financially feasible, we have begun discussions with surrounding jurisdictions about alternate stadium sites.

We remain available to resume discussions at any time in the RFEI process, as appropriate. To that end, we reiterate what D.C. United will require to relocate to Poplar Point:

- Approximately 13 acres for a stadium and related uses. The acreage must be integrated as part of an urban entertainment plan.
Part I:
Pierre Charles L'Enfant
and the New Capital City
Pierre L'Enfant was born into the Gobelins in 1754, a small neighborhood in Paris characterized by densely packed craftsman workshops, courtyards, apartments and artisan studios. It was a center for artistic innovation, but was also distinguished by its rampant poverty and pollution. There was little reason to its winding streets, which were filled with as many goods as there was garbage (Berg, 24).

L’Enfant’s father was a painter for the royal court of Louis XV, and was often called out to the outskirts of the city to the king’s palace at Versailles for his services. Several times, he took Pierre along with him (Berg, 25).

Figure 4: Plan de Versailles, by Jean Delagrive, 1746 (Berg, 110)
It was the first time L’Enfant had ever experienced such an expanse of land planned so deliberately (note the strong central axis). It was a manner of land planning that would strike a life-long impression.

After a short time at the Royal Academy of Painting and Sculpture at the Louvre, L’Enfant passed up the opportunity to take over his father’s business, and followed many other young French men across the Atlantic to fight against the British in the Revolutionary War. He was placed under the command of General George Washington at Valley Forge, and because of his background in the arts, he was asked to draw the first book of American infantry structures (Berg, 43). At the end of the war, he would convince Washington to allow him to survey the land being procured for the new nation’s capital.

Figure 5: Pierre Patel, View of Versailles, 1668. Color by author. Musée National de Château de Versailles (Berg, 111)
L'Enfant's Plan

Survey work quickly turned into planning. At the time, Washington, D.C. was going to be largest planned city ever designed. In 1791, L'Enfant presented his plan for the city to Congress (Berg, 80).

The plan called for a long central axis to serve as the armature of the city, extending indefinitely from the Washington Monument and the Capitol, and out eastward into Maryland and beyond.

Like Versailles, this Axis was to symbolize the potential power of the young, democratic nation.

As shown by the yellow circle, the modern RFK Stadium site, there was a clear intent in L'Enfant's original plan to establish an important landmark at the intersection of the Axis and the Anacostia River.

Figure 6: The L'Enfant Plan of 1791 (as shown as a facsimile published in 1887 by the US Coast and Geodetic Survey Office). Color by author. Library of Congress
L’Enfant’s grand idealism for the city was cut short. Possibly because of his uncompromising artistic vision, or the growing tension in his relationship with Thomas Jefferson, he was removed from the project shortly after he published his plan. Implementation of the plan was handed over to surveyor Andrew Ellicott, who produced his own interpretation of L’Enfant’s plan the following year.

Ellicott’s plan, though arguably more practical, did away with many of the skillful nuances included in L’Enfant’s.

Ellicott minimized the size and grandeur of the Axis.

Most notable is the absence of any kind of attitude for the junction of the axis with the Anacostia River. For the next 100 years, Washington, D.C. was developed according to Ellicott’s plan.

Figure 7: Andrew Ellicott’s Plan of the City of Washington, 1792. Color by author. Library of Congress
In 1901, Senator James McMillan of Michigan commissioned three of the leading designers in the country, Daniel Burnham, Frederick Law Olmstead, Jr. and Charles McKim, to formally design the National Mall. At the time the project began, there was no organization for future buildings to be built on the Mall, and the buildings that were there lacked the presence that they possess today. The scene was one of such disarray that livestock was often seen grazing on the grass between the Capitol and the Washington Monument (Gutheim, 126-136).

The McMillan Plan symbolized the first major planning initiative to rekindle L'Enfant's vision for Washington, D.C. by defining the elements that would comprise his plan.

The MacMillan Plan

The central axis was reestablished. Along the axis, several national monuments were planned, including the Lincoln Memorial.

Flanking the axis were rows of trees, accentuating the site lines to the major national buildings.

On each side of the trees, auxiliary institutional and governmental buildings were designed to further capture the essence of the axis, and serve as the nation's center for culture and art.

The height of these buildings was to be lower than the dome of the Capitol (Gutheim, 126-136).

Though the McMillan Plan was largely responsible for presenting the modern image of Washington, D.C., its fundamental flaw lies in that it only concerned itself with the Mall proper, and did not acknowledge the possibility of National Axis that could extend beyond the bounds of the Capitol and the Potomac River.

The Legacy Plan

Later planning initiatives sought to extend the axis past the one defined by the McMillan Plan. This plan of the Mall in 1929 by the National Capitol Planning Commission shows the National Axis extending through the RFK site and into Maryland. Also reappearing is the circular site that L’Enfant had envisioned at the junction of the Anacostia and the National Axis. This particular plan may have been the impetus for the current shape and location of RFK Stadium.

Other large-scale planning efforts displayed the same sentiments; The Legacy Plan of the 1950’s also shows the axis extending, even in multiple directions.

Figure 10: (Above) Suggested eastward prolongation and development of East Capitol Street as the Avenue of the States, with a stadium at Anacostia Park. Color By Author. (Annual Report of the National Capital Planning Commission, 1929)

Figure 11: (Below) Aerial view of Washington, D.C. Color by author. (Annual Report of the National Capital Planning Commission, 1950)
Figure 12: Figure/Ground of the existing built structures on the RFK Stadium Site
The Existing Site

Robert F. Kennedy Stadium was completed in 1968, being heralded at the time as one of the most modern sporting facilities in the country. Throughout its existence, the stadium has provided sports fans with convenient access to local sports teams within the limits of Washington, D.C. Though admirable, on many levels the city planners and architects of the time failed to realize the importance levied upon this site by L’Enfant’s original plan.

Figure 13: (Above) Existing Aerial View of the RFK Stadium Site (Google Maps, 2007)
Figure 14: (Below) View of RFK Stadium from “Parking Lot 8” (Benjamin Webne, 2008)
Today, RFK stadium sits alone in a sea of parking. Its “bowl” structure makes it an inherent introvert, only concerning itself with what is happening within its walls. It is completely closed in.

By isolating itself from the city, it neglects the vision that L'Enfant had for the site.

When on the site, there is little contextual evidence that the stadium is part of a vast network of buildings and monuments of national significance.
Robert F. Kennedy Stadium

As seen in this photo looking east down East Capital Street, the stadium blocks a clear view to the Capitol and Washington Monument down the National Axis.

The size of RFK and position on the axis eliminate its connection to the Monumental Core.

While inside the stadium, it is impossible to see the urban context beyond, further estranging the Stadium and spectator from the city.

Its positioning directly on top of the National Axis violates one of the McMillan Plan’s implied rules; only buildings of national significance deserve to belong on the Axis. Although RFK Stadium is an important local building, it lacks the national significance to be located as it is. If it had been planned correctly, the stadium would have assumed a subordinate role along the flank of the Axis, just as the many museums on the National Mall have.

Figure 19: (Left) View looking east down East Capital Street (Benjamin Webe, 2007)
Figure 20: (Top left) View looking west down East Capital Street to RFK Stadium (Benjamin Webe, 2007)
Figure 21: (Top right) West facade detail, RFK Stadium (Benjamin Webe, 2007)
Picture 22: (Middle) The Stadium Armory (Benjamin Webe, 2007)
Figure 23: (Bottom right) Existing proposed site adjacent to RFK Stadium
Contradicting Stadia

According to Stadium Architects Geraint John, Ben Vickery, and Rod Sheard, in their book Stadia, buildings such as RFK were part of a trend of stadium designs of the 1960's and 1970's that focused on financial viability and large crowd capacities rather than their impact on urban developments. Television increased the popularity of sports around the world, and team owners were desperate to create structures that could hold large amounts of people to reap the financial benefits. They mention several stadia that were built under this ideology (John, 38):

- The Astrodome, Houston 1964
- Arrowhead and Royals Stadia, Kansas City, 1973
- Giants Stadium, New Jersey, 1976

One would be hard-pressed to conjure up the image of any one of these stadia, or the cities in which they are located.

On the other hand, if one were to mention Camden Yards, an immediate iconic image of a grand baseball diamond situated next to an old factory warehouse in downtown Baltimore comes to mind. The major difference between these two types of Stadia: one turns its back on the city in which it was built. The other melds with its urban context, creating a vision of the ballpark and the city that creates long-lasting memories for its fans. xix, just as the many museums on the National Mall have.

Figure 24: (Top left) Arrowhead and Royals Stadia (John, 38)
Figure 25: (Top right) View down Eutaw Street, Oriole Park at Camden Yards (John, 74)
Figure 26: (Bottom) Oriole Park at Camden Yards (John, 84)
Recent Development Plans

It has been widely recognized that the RFK Stadium site is in need of redevelopment, however even the most current plans seem to underestimate the potential of the site.

The sketch to the right by the National Capital Planning Commission proposes that RFK Stadium be raised and turned into a traffic circle, along with a discombobulated commercial development.

The sketch opposite gives little acknowledgment to the Axis, but proposes that the ground the stadium stands on be turned into a national monument; an assumption that I would draw from in my site plan.

NCPC’s vision of this monument is the “Gateway to the City”, in my scheme it is left undefined for a future thesis student’s design.

Figure 27: (Left) “RFK Site Development Scheme-Themed Sports Alternative” (NCPC, 2006)
Figure 28: (Right) “RFK Site Development Scheme-Cultural District Alternative” (NCPC, 2006)
Figure 29: Sketch of Axis extending through the RFK Stadium, opening views to the Capitol Building and the Washington Monument. A new stadium for D.C. United sits adjacent to a new National Monument.
Site Plan
Basic Structure

Reestablishing the National Axis through the site is the first step in completing L'Enfant's vision for Washington, D.C.

The ground where RFK now stands will be a new National Monument. The existing structure of the stadium can be used to frame a focal point for the site, which will attract tourists and visitors from around the country throughout the year. A new Monument will add immense value to the site by giving it a national identity. By situating the new D.C. United stadium directly adjacent to this attraction, the stadium will benefit from the notoriety of being located next to hallowed ground.

Linear rows of trees will be installed to accentuate the site lines to the new monument. All vehicle traffic coming from Independence Avenue, Constitution Avenue, and 295 will be diverted around the site, creating a pedestrian-friendly environment such as the National Mall allows today.

These rows will be flanked by strips of retail, restaurant, and entertainment venues, providing a place for tourists, fans, and locals to enjoy before and after games.

Behind this strip of commercial use will be high density residential buildings, which will help create a sense of community within the site.

Additional parkland will be provided around the Monument for active recreation. To account for the surface parking that has been taken up by the new buildings on the site, underground parking will be implemented. This parking can be used by both D.C. United fans, but for area residents and business patrons as well.

Figures 30-35: Site diagrams
Part III:
The Anacostia River Watershed
Picture 36: The Anacostia River Watershed (The Anacostia Waterfront Corporation, par)
The Anacostia Waterfront Corporation

While also playing a large role in completing Washington’s urban plan, the site is also a part of a large natural system. The RFK site occupies a central location in the Anacostia Watershed, which begins in West Virginia and Maryland and flows south into the Anacostia River. Currently the site is used for overflow from the city’s sewage system. When the system is too full, sewage is piped directly into the Anacostia (Anacostia Waterfront Corporation, par 2006).

Many organizations have taken up the cause of cleaning the river. The Anacostia Waterfront Corporation has outlined some of its objectives in its 2006 Framework Plan.

Under these initiatives, it became important that the architecture of the stadium aid in the process of cleaning the Anacostia River. I started to see the building as the link between the city and the natural landscape.

Figure 37: Diagram of the Anacostia Watershed within the limits of Washington, D.C. (Anacostia Waterfront Corporation, par 2006)
Figure 38: Diagram depicting RFK Stadium as the intermediary between L’Enfant’s Plan for Washington, D.C., and the natural system of the Anacostia River Watershed
Figure 39: Photo of Anacostia River bank near the RFK Stadium site (Benjamin Webne, 2007)
The Framework Plan

The Anacostia Waterfront Corporation has laid out several initiatives to clean the river in their Framework Plan:

1. Create six new wetland areas in the middle and upper reaches of the Anacostia.
2. Promote maritime activities, such as canoeing and rowing.
3. Restore over 300 acres of habitat along the Anacostia’s shores.
4. Implement low-impact development practices

These milestones became goals to achieve in the design of the new stadium.

Figure 40: Aerial photo of the RFK Stadium site and the Anacostia River (Anacostia Waterfront Corporation, par 2006)
Figure 41: “Location and Type of Riparian Buffers” (Anacostia Waterfront Corporation, par 2006)
Figure 42: Aerial view of proposed site design, flowing down to the Anacostia River (Benjamin Webne, 2008)
Figure 43: The Anacostia River, the new stadium, and the Monument (Benjamin Webne, 2006)
Part IV:
A Stadium for D.C. United
Figure 45: Initial Ground Level layout for the new stadium
Technical Requirements

Orientation:

The pitch is oriented northwest to southeast to take advantage of ideal natural lighting conditions for game time in the Northern Hemisphere. This also provides a subordinate relationship with the Monument, which is the primary element in the hierarchy of the site plan.

The stadium is designed to hold 25,000 spectators.

Ground Level:

There are four main entrances to the stadium on each corner of the pitch. The two main entrances are located adjacent to the new National Monument. Their orientation and location is purposefully indirect; it was important that the entrances not contend with the importance of the Monument. These entrances are marked by four towers, which house the elevators and stairs used to reach the upper levels. On either side of the towers are entrance turnstiles and ticket purchasing offices.

Around the perimeter of the Ground Level are a series of concession stands and bathrooms.

Figure 46: (Above left) Prime orientation for soccer fields in the Northern Hemisphere (John, 31)
Figure 47: (Above right) Pitch size and layout (John, 86)
Figures 48-50: (Lower) Initial pitch layouts

Dimensions from UK football association.
Note: Field size for FIFA / UEFA matches is 105 x 68 m.
Figure 7.2 Pitch size and layout for football or soccer.
Box Level:

The middle floor is accessed by the entrance tower stairs. These stairs are connected to the grandstands by bridges. On this level are the VIP boxes, whose elevation in the middle of the grandstand provides optimum site lines for the highest-paying clients.

Upper Levels:

The Upper Levels have access to concessions and bathrooms of their own, as well as an enjoyable view across the Anacostia River to the east and the new Monument across the pitch to the west.

Figure 51: (Top left) Diagram of RFK Stadium, demonstrating its layout for dual sports, soccer and baseball, which is often problematic. Spectator distances for soccer are acceptable, but for baseball they are too great (John, 131).

Figure 52: (Top right) RheineEnergie Football Stadium, which does away with poor corner seating and utilizes four light towers to support the roof structure (John, 286).

Figure 53: (Bottom) Degree of protection offered by a stadium canopy (John, 62).
Sections

The massing of the stadium is planned to be in deference to the National Monument. The building is sunk into the grade of the riverbank, which allows it to sit lower than the projected height of the Monument.
The Visitors Side, which is closest to the Monument, is lower in massing so as not to contend with the massing of the Monument. The Home Side, which is opposite, takes a greater massing to accommodate a larger crowd and create an intimidating atmosphere for the opposing team. From the upper deck of the Home Side, the pitch will be framed by the backdrop of the new Monument, and the Capitol and Washington Monument in the background.

In this manner, the fan, the game, and the city are able to be combined into one congruous experience.
Sectional Model Photos

Pictures 60-61: Primary Sectional Study Model through East Elevation (Benjamin Webne, 2008)

Pictures 62-63: Second Sectional Study Model through East Elevation (Benjamin Webne, 2008)
Pictures 64-65: Third Sectional Study Model through East Elevation (Benjamin Webne, 2008)
Figure 66: Section through the east facade of the stadium showing the building’s relationship with the proposed Constitution Avenue Tunnel and the Anacostia River Waterfront.
Compositionally, the building is designed to be a transition from heavy, natural materials, to lightweight, machined ones. Locally quarried stone makes up the base and supports of the stadium. As the building progresses upwardly into the sky, the materials change from stone to large steel members. These members become smaller and more intricate as they ascend to the roof, which is composed of cable and canvas.

The canvas is sloped to drain storm water to every other roof support. It is then filtered via gravity through a series of cisterns integrated with the stone supports. It is contained in an below-grade catch basin, and can then be used for grey water functions within the stadium (e.g. toilets and showers). Additional run-off can be cleaned and released back into the Anacostia River.
Picture 69: View of the new stadium from the Anacostia River. The facade is designed to meld with its natural surroundings.
Picture 70: Rendering of the new RFK Stadium development, as it relates to the National Axis and the urban plan of Washington, D.C.
Bibliography

*Unless otherwise noted, all photos and text are by the author.

*All works not cited in this bibliography are fully accessible in the public realm.


Dedication

This work is dedicated to:

Committee members Susan Piedmont-Palladino, Paul Emmons, and Paul Kelsch, whose skillful guidance I will carry with my throughout my professional career.

My parents, Ron and Barbara, who have supported me during all of my life’s journeys.

Theresa Weber, who never blinked an eye when I needed a ride home studio at 2 a.m.

Thank you!