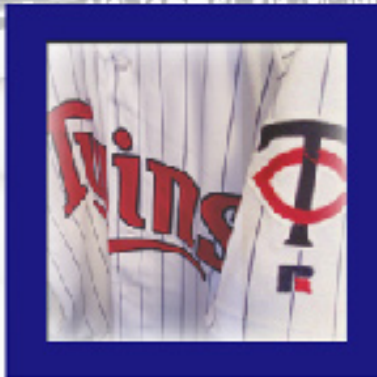
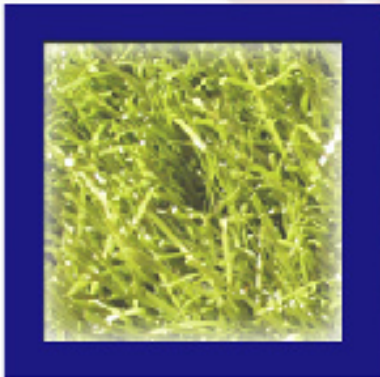
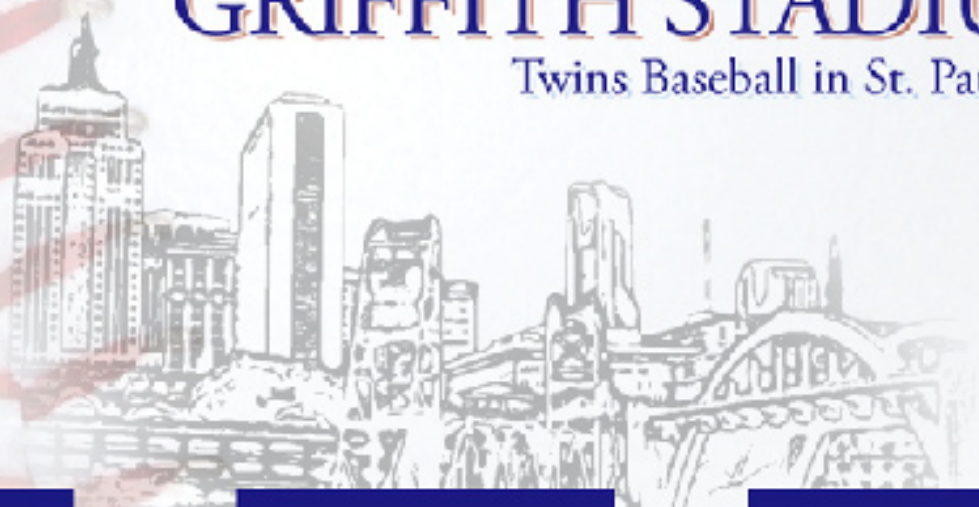


MINNESOTA
Twins

GRIFFITH STADIUM

Twins Baseball in St. Paul, MN



GRIFFITH STADIUM
Ballpark for Twins' Baseball

A Design Thesis Submitted to the
Department of Architecture and Landscape Architecture
of North Dakota State University

by

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In Partial Fulfillment of the Requirements
for the Degree of
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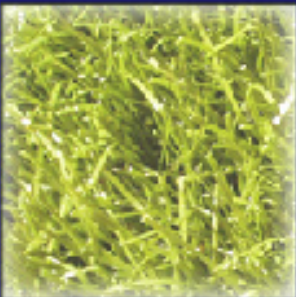
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Project Introduction



A ballpark is a special place. It is where a community comes together to celebrate one common interest in a single event. A ballpark exhibits a character so powerful that its personality becomes an imperative part of the event which so many gather in celebration of.

The underlying goal of this design is to reintroduce the National Pastime as a cornerstone to the social activity of the Twin Cities community. A natural grass park under an open summer sky at the crossing of the Mississippi and a historic railway passage will bond the nature of a ballpark and the spirit of the game with the historic roots of St. Paul. An outdoor stadium gives fans inside the stadium a connection with the surrounding urban environment. The relationship between the stadium and the setting in which it stands builds the personality that is so important to the game.

Critical to the design of the new stadium will be an emphasis on the response to the site. Contrary to the basement that the Metrodome is, this project will establish the relationship with a community that injects the energy and spirit into fans capable of an outdoor ballpark atmosphere (Fig. 1.1). This requires careful analysis of how the existing urban fibers coincide with one another. New development must not interfere with the flow of existing features.

Emphasis must also be placed on the structural plan of the stadium. To fully utilize the angles of seating and sightlines, each successive deck should be stacked as close to the field as possible without structural obscurities to levels below. Another critical consideration relating to structure will be the long spanning system and operability of a retractable roof.

A third point of emphasis is the network of many different paths of circulation required. The users of each area of the ballpark should be the only ones with access to their respective zones. Therefore, circulation remains as smooth and safe as possible. Players and coaches, ballpark staff, media, season-ticket holders, luxury suite owners, club level visitors, and general admission attendees must each be arranged with their own roads to prevent interference with one another.



Fig. 1.1: The excitement of Wrigley Field.



The earliest Major League Baseball stadiums were community staples. Ballparks were flanked by residents' homes and were shaped by its neighborhood roads (Fig. 1.2). They were cozy and friendly community gathering places within walking distance from most homes or train stations. Early successful ballparks established the backbone for relationships between teams and communities.

Shibe Park in Philadelphia set the precedent from which Major League parks would soon follow. Later named Connie Mack Stadium, Shibe Park was built in 1909 as the first baseball facility constructed with concrete and steel. The technical advancement allowed for deeper grandstands of seating than previous wood construction ballparks would permit.

Soon to follow were the neighbor-friendly parks Crosley Field (1912) in Cincinnati, Ebbets Field (1913) in Brooklyn, and the modern-day classics Fenway Park (1912) in Boston, and Wrigley Field (1916) in Chicago, which are still in use today.

The post-war era saw baseball expand to the midwest and western regions of the country. During the 1950s and '60s, many new stadiums were built and existing stadiums were renovated as recruiting tools for expansion teams and relocating clubs. Ballparks of this age include Dodger Stadium in Los Angeles, Angels Stadium in Anaheim (Fig. 1.3), and Shea Stadium in New York. The intimate character associated with many of the league's original ballparks was lost in the new stadiums, as functionality became the premise to design. Flat facades and acres of parking became common characteristics of the new ballpark movement.

On the heels of baseball's middle ages came the period of dual-purpose facilities. Like the Metrodome, Busch Stadium in St. Louis (Fig. 1.4), Three Rivers Stadium in Pittsburgh, Veterans Stadium in Philadelphia, and the Kingdome in Seattle were built to fill the basic needs required in hosting both baseball games and National Football League games. This stadium type has been the most ridiculed movement in sports architecture. The symmetrical cookie-cutter shape required of the two entirely different field dimensions causes all multi-sport venues to look the



Fig. 1.2: Shibe Park in 1909.

"It looked like a ballpark. It smelled like a ballpark. It had feeling and a heartbeat, a personality that was all baseball. It was a total baseball experience." - Richie Ashburn, Philadelphia Athletics player.



Fig. 1.3: Angels Stadium in the 1960s.

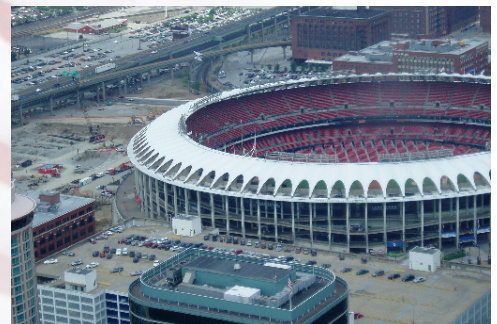


Fig. 1.4: Busch Stadium.



same. In most instances, sightlines are best configured for one of the sports and less suitable for the other. Artificial turf, a marvel of the 1970s, has also been highly criticized for its removal of natural grass from the National Pastime. For the future of stadium design, however, this building type is quickly on its way out.

Leading the turnaround in stadium design, the Baltimore Orioles moved from Memorial Stadium to Camden Yards in 1992. The park is situated on the site of a former downtown railroad center (Fig. 1.5). Materials of the project replicate materials of existing Baltimore surroundings. The outfield remains open to the city skyline and the old B&O Warehouse of the rail center was incorporated for team offices beyond the right field bleacher section. These features make the ballpark an extension to the community, a throw-back to the charm and character of early 1900s stadiums. Camden Yards is both a reminder of baseball's past and an important component to the future of Baltimore's downtown revitalization efforts.

Camden Yards has been the model from which other new stadiums have derived their designs for the past decade. Several new parks, including Jacobs Field in Cleveland, Coors Field in Denver (Fig. 1.6), and Comerica Park in Detroit have successfully reintroduced the magic baseball atmosphere that had previously slipped away from recent ballpark design. The future of baseball has turned toward reflecting on the roots of the game as the history behind our National Pastime has more significance with the game today than in any other sporting event. The future also looks for a design which can most successfully incorporate the existing fabric of the city, thereby improving the overall structure of the community.

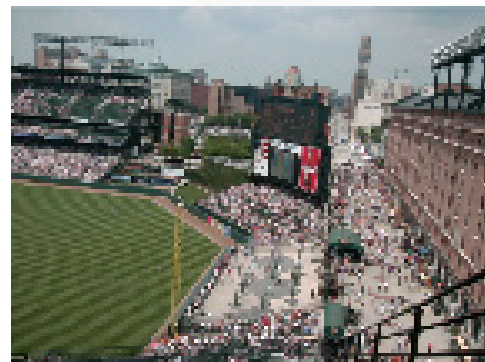


Fig. 1.5: Camden Yards and the B&O Warehouse.

"Once this is built, everybody will want one like it." - Bart Giamatti, commissioner, upon seeing a model for Camden Yards.



Fig. 1.6: The urban setting of Coors Field.

"It's just a healthy atmosphere to be there." - Craig Biggio, Houston Astros player.



The Minnesota Twins Baseball Club landed in the state in 1961, moving from Washington, D.C., where the team was known as the Senators.

The Senators began play in the National League in 1886 in 6500-seat National Park. Several years later, however, the Senators and three other teams were eliminated by the league before the 1900 season. The team resurfaced for the 1901 season, this time as a member of the newly founded American League. National Park was renamed American League Park and was destroyed by fire in 1911. A rebuilt 29,000 seat, steel and concrete version of League Park was later changed to Griffith Stadium (Fig. 1.7), honoring team owner, president, and manager Clark Griffith.

Griffith Stadium was not a power hitters' park. Its dimensions measured 407 feet to left field, 421 feet to center, and 320 feet to the 31-foot high concrete wall in right field. This pitchers' park helped make Hall-of-Fame pitcher Walter Johnson the Senators best-known player.

An irregular nook on center field side of the right field wall was this park's defining feature, the result of a neighboring homeowner who refused to sell his land to the team.

After Clark Griffith's death in 1955, his adopted son Calvin took ownership and presidency of the team. Calvin had never been committed to the city of Washington, and in 1960, made the decision to move the team to Bloomington, Minnesota for the 1961 season.

The club dropped the 'Senators' nickname upon arrival, and became known as the Twins, a reference to the Minneapolis-St. Paul area that would be represented by the team. The Twins moved into Metropolitan Stadium, curiously named for a park in the corner of an isolated cornfield. "The Met" was built in 1955 in hopes of luring a Major League Baseball team (Fig. 1.8), successfully bringing the Twins to Minnesota, as well as the National Football League's expansion Minnesota Vikings in 1961.

The initial Twins' core of Harmon Killebrew, Bob Allison, Tony Oliva, and Rod Carew became an offensive engine that powered to the American



Fig. 1.7: Griffith Stadium.



Fig. 1.8: Metropolitan Stadium.



League pennant in 1965 and won division titles in 1969 and 1970. The ability of the lineup to work the park's dimensions to its advantage created a Metropolitan Stadium personality adored by fans. By the mid-'70s, however, the Met's poor maintenance efforts had pushed the stadium into disrepair. Both the Twins and Vikings eventually left the Met after their respective 1981 seasons for the Metrodome, a new indoor stadium in Minneapolis (Fig. 1.9).

In the mid 1980s, under new owner Carl Pohlad, a new wave of Twins talent made its way to the top of the organization. With Gary Gaetti, Kent Hrbek and Kirby Puckett powering baseballs over the fences, Homer Hankies, and fan decibel levels untested by anyone in the league, the Metrodome became a venue difficult for visiting teams to contend in. The Metrodome success peaked during the late 1980s and early 1990s with the Twins running to two World Series titles and attendance reaching or nearing three million fans annually.

In the decade following the 1991 World Series thriller, the Twins dropped to the bottom of the standings as their stars retired and emerging players struggled. At the same time, the organization was beginning to realize that the Metrodome's revenue production was falling further and further behind the rest of the league as the new, current wave of ballpark construction began. Attendances have continually dropped without recovery, and efforts for another new stadium arose in the late 1990s and continues today.

In the meantime, the Twins turned their focus toward developing their farm system in hopes of soon fielding a competitive Major League team again. That goal became reality in 2002, when the Twins won their first division title in 12 years behind home-grown talent Torii Hunter, Brad Radke, and Doug Mientkiewicz. The team followed with division titles again in 2003 and 2004, the first time in franchise history that the Twins advanced to the playoffs in three consecutive years. The team looks to continue their winning ways in 2005 behind defensive wizard Hunter, young sluggers Justin Morneau and Joe Mauer, and Cy Young Award-winning pitcher Johan Santana.



Fig. 1.9: HHH Metrodome.



With the widening gap between the aggressive high-dollar, large-market teams and the less successful, struggling-to-compete, small-market teams, league commissioner Bud Selig proposed to contract the two teams having the most financial difficulty in keeping up with the rest of the league. The Minnesota Twins were one of the two teams to be eliminated before the 2002 season. A lawsuit, however, stood in the way of contraction, as the Twins were forced to play out the remaining seasons they had scheduled on their lease with the Metrodome.

Grateful to remain in existence, the team is now fighting for a new stadium in reaction to the issues addressed for the attempt in folding the team. The lease with the Metrodome saved the team in 2002, but ultimately, the stadium is the reason contraction talks came to Minnesota in the first place.

The long list of the Metrodome's faults begins with the inability to generate revenues competitively with the rest of the league. Currently, Major League Baseball is without a salary cap which would limit the free-spending New York Yankees, Boston Red Sox and Atlanta Braves to an amount in dollars that an entire team roster can earn. As a result, the most talented free agent players most often end up signing with the biggest spenders in the league. The Twins are not able to enter the free agent sweepstakes in most instances because revenue profits are the bank that a team's payroll depends on.

The Metrodome offers the Twins' fans insufficient numbers and variety of food concessions, and those which are available interfere with the traffic throughout the concourse (Fig. 1.10). There is also no club level seating area in the Metrodome, a seating area designated with private suites, lounges, and classier restaurants than the concessions offer. Improving these aspects alone would significantly impact the Twins spending capabilities.

Complementing the inadequate number of concessions in the Metrodome is an equally short supply of public restrooms, 16 for a capacity crowd of 56,000.



Fig. 1.10: The Metrodome's main concourse and concessions.



Among other Metrodome downfalls is the presence of the air-pressurized roof. Although the white Teflon cover acts as a crowd-noise reflector and has caused problems with opposing players finding fly balls, the roof prohibits fans, players and staff from enjoying Minnesota's outdoors. Traditionally, our National Pastime has been meant to be enjoyed outside, but has been substituted by the dome with a temperature controlled environment over artificial turf. Attending the indoor isolation of the Metrodome sacrifices fans' all-too-short summer season. Low attendance figures show that locals and visitors alike prefer Minnesota's rich variety of outdoor recreation possibilities over the monotony of the dome. Fans simply cannot be drawn into the uncomfortable, artificial, indoor bubble with the option to enjoy the outdoors.

Once inside the stadium, the building reeks of its dual-function purpose. Symmetrical football seating around a baseball field has created awkward sight-lines for all sections not situated around the lower infield (Fig. 1.11). The treatment to the retractable seats in right field also suggests that baseball is only the Metrodome's secondary activity (Fig. 1.12). And, as is becoming popular throughout the nation's ball-parks, the Metrodome lacks any locally related features incorporated toward the baseball design specific to the park's location. As an example, homeruns are celebrated on the river in Cincinnati's Great American Ball Park with the smoking of the Pepsi Power Stacks (Fig. 1.13a) representing the steamboat history of the Ohio River, and in Milwaukee with Bernie Brewer, the team mascot, twisting down a slide into a giant beer mug; in Minnesota – a corporate sponsored milk jug with a blinking light inside flickers whenever a Twins player goes deep (Fig. 1.13b).



Fig. 1.11: The view from left field.



Fig. 1.12: The right-center field wall.



Fig. 1.13a: The Reds' Pepsi Power Stacks.



Fig. 1.13b: The Dome's milk jug.



Funding for a new stadium can come from a variety of sources which include money up front from the team, from ballpark naming rights royalties, from the issuance of taxable bonds, and through sales tax increases. Taxes may be increased by a small percentage on goods and services such as team apparel, restaurant and bar menu items, and hotel rooms. The area where tax increases would go into effect would be the community which would likely experience an economic benefit with a new stadium.

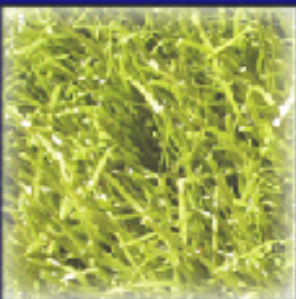
Debate among recent new-stadium talks have centered on how much the Twins' organization should put forward. In 1998, Gov. Jesse Ventura called for the team to pitch in half the cost of a proposed \$506-million facility that eventually fell through. Any less, the government concluded, would be an inappropriate use of public funds, being that a new stadium would be most beneficial to private owners.



MINNESOTA

Twins

Project Context



The Mississippi River spawned a fur-trading post in the early 1800s which eventually led to the initial settlement of St. Paul in 1841. Upon being named the territorial capital for traders, missionaries, and explorers, the population quickly began to grow. Thousands more St. Paul-bound immigrants arrived via steamboat in 1858, when Minnesota was admitted to the union. After becoming the newest of the United States, St. Paul remained the capital. During the 1860s, after the Civil War, the city boomed as a transportation center with both the river port of the Mississippi and the arrival of the railroad. In 1888, some eight million people passed through St. Paul by train, significantly impacting the network of rails that would bring a growing population to the area.

The solid foundation of transportation networks has sustained St. Paul as a city, and by the year 2000, the population had grown to over 287,000. Neighboring Minneapolis is home to another 382,000, bringing the Twin Cities population over 669,000. A total of 2.2 million total populate the greater metro area today.

In 1995, Mayor Norm Coleman “envisioned the St. Paul Mississippi riverfront as a stimulus for community development throughout the city... The vision for downtown is a system of interconnected, mixed-use urban villages nestled in the lush green of a reforested river valley. People live and work in these villages, each of which is designed around a high-quality public park or other gathering place. The goal is to build and rebuild the connections between villages and to re-establish the links...of the city to its soul, the Mississippi River.”



Criteria which were considered in the selection of a site for this project began with the need to keep the Twins in the Twin Cities area. Success of a project of this magnitude begins with its proximity from a majority of the state's population.

Of equal importance was discovering a supportive character necessary in a community for hosting Major League Baseball games. This requires a careful fit of such a large-scale project into the existing structure of the community.

Proximity to the Mississippi River also became an important factor in the selection of the site (Fig. 2.1). The river is the identifying feature of the area and a reflection of the history of the Twin Cities.

A number of Minneapolis – St. Paul area sites were considered for this project. That which best fit the selection criteria is the site on the south-side of the Mississippi River in St. Paul. Robert St. and Wabasha St., which frame the site on either side, cross the river and intersect with Kellogg Blvd. downtown.

Features of the site which support the decision for the selection include the ability of the site to interact with its surroundings. Being framed in a pocket by the bridges crossing the river, the area is easily accessible, but does not act as a dead space in transition between other areas when the building is not in use.

Proximity to available downtown parking and public transportation systems was also of concern as parking for all users of the stadium on its own requires too much land to occupy an urban setting. The connection with downtown's public amenities will strengthen the stadium's relationship with the existing urban system.

These factors made the site that was chosen the obvious candidate in where baseball will best succeed in St. Paul.



Fig. 2.1: The Mississippi River making its way through St. Paul.



Location of the Site

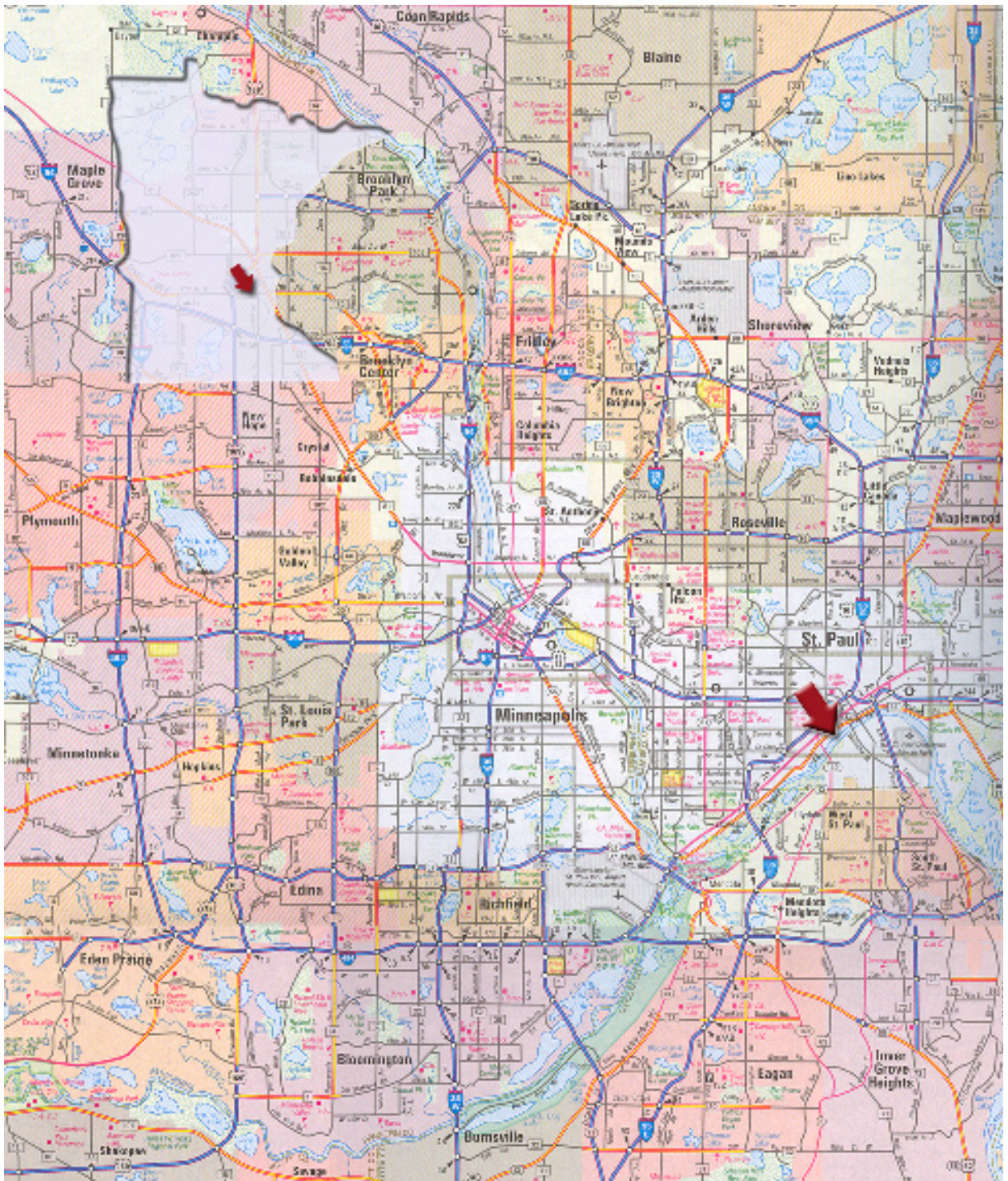


Fig. 2.2: The suburbs of the greater metro area, relative to St. Paul, are illustrated in this map. Highways and interstates that will provide the most convenient vehicular traffic to the site are mapped.



Location of the Site

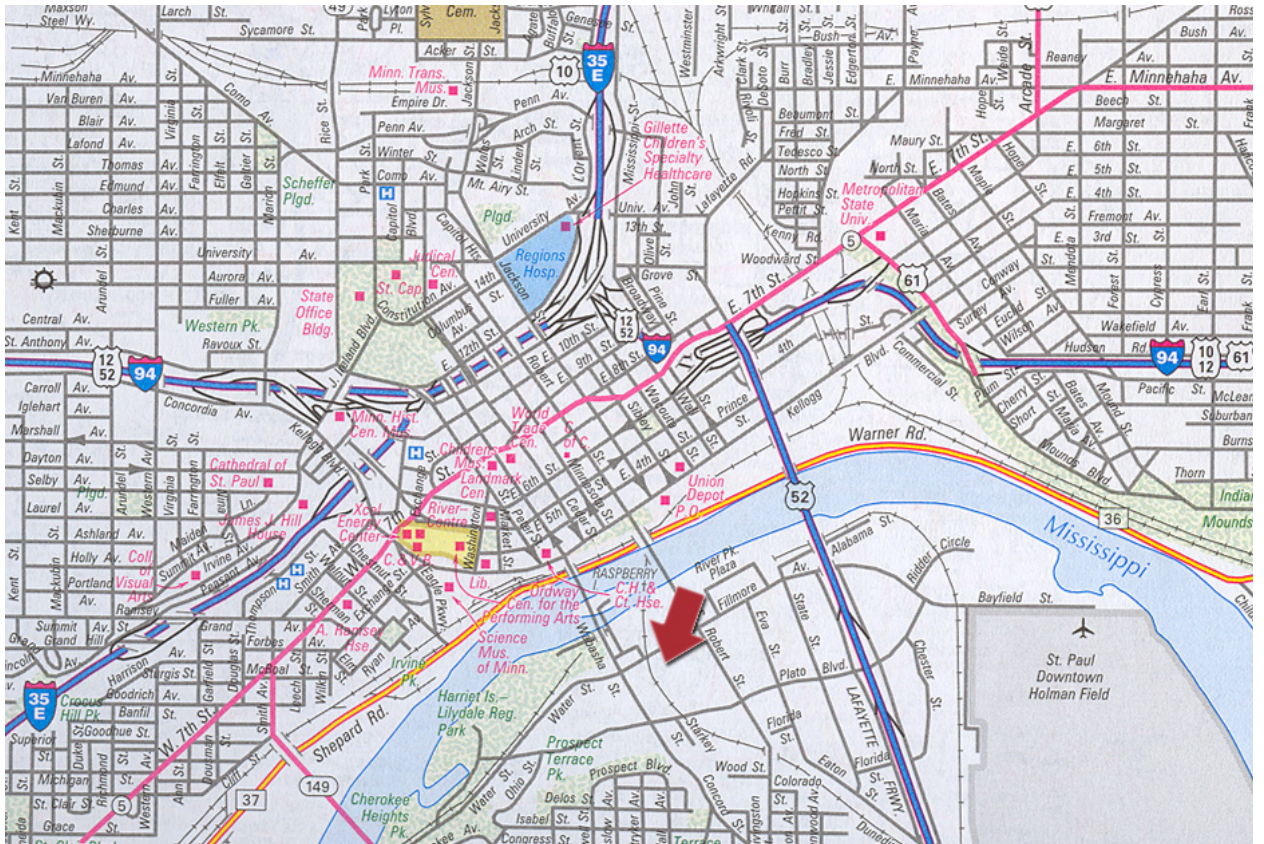


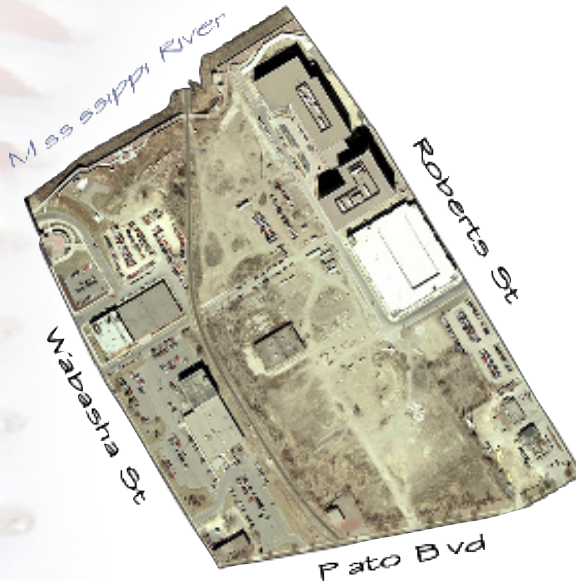
Fig. 2.3: This map shows the city streets of and around downtown St. Paul, which service all means of local transportation in the community.





Fig. 2.4: This aerial photo shows the site in the southeast corner, bound on either side by roads spanning the Mississippi. Harriet Island Regional Park is in the southwest corner. Downtown St. Paul is on the north side of the river.





Directions to the park

From the west (Minneapolis, St. Cloud):

I-94 E toward St. Paul
 Exit 242D - US-52 S
 0.8 miles to Plato Blvd. exit
 driving distance from US-52 S to site: 0.3 miles

From the north (Duluth):

I-35E S toward St. Paul
 Exit 107A - US-52 S
 1.4 miles to Plato Blvd. exit
 driving distance from US-52 S to site: 0.3 miles

From the east (Hudson/Eau Claire, WI):

I-94 W toward St. Paul
 Exit 242D - US-52 S
 0.9 miles to Plato Blvd. exit
 driving distance from US-52 S to site: 0.3 miles

From the southeast (Rochester):

US-52 N toward St. Paul
 Exit toward Plato Blvd./Fillmore Ave.
 Turn left on Lafayette Rd. S
 Turn left on Plato Blvd. E
 driving distance from US-52 S to site: 0.8 miles

From the south (Iowa):

I-35 N toward St. Paul
 Merge onto I-94 E/US-12 E
 Exit 242D - US-52 S
 Exit toward Plato Blvd.
 Take Lafayette Rd. S. to Plato Blvd.
 driving distance from US-52 S to site: 0.8 miles

The first and last impression fans will have of the stadium is that of the transportation to and from the site. If the commute to the game becomes a time-consuming struggle due to traffic conditions, either by congested highways or by long stretches of intersecting city streets, one may prefer to avoid the traffic and watch the game from home.

Coming from any direction, users should find relative quickness in arriving onto this site. From the main interstates and highways that will be taken to the site, the stadium is only blocks from the nearest exit. Congestion may result, however, as traffic converges from the north, east, and west by means of highway US-52 S. This may require either widening of the road by a lane, or by construction of a stadium-access only exit.







City streets that will see increased traffic include:

- Plato Blvd.
- Robert St.
- Wabasha St.
- Livingston St.
- Concord St.





KEY

-  Major Transit Stops
-  Major Bus Routes
-  Commuter & High Speed Rail (proposed)
-  LRT (proposed)
-  Taxi Stands
-  Water Taxi Stops (proposed)

A wide variety of public transportation is either currently available or has been proposed to the city in the downtown area.

Metro transit public buses run throughout the downtown area, and cross the river over both the Wabasha St. and Robert St. bridges. The transit currently runs 905 buses, all equipped with wheelchair lifts.

Taxi stands are also located throughout the area, the closest to the site being situated at City Hall near Kellogg Park.

A water taxi schedule has been proposed with stops on the Mississippi at Harriet Island Regional Park, Raspberry Island, and near Union Depot on the north side of the river.

Plans have also been proposed to the city for two high speed commuter trains, one through downtown and around the State Capitol, and the other tracing the foot of the cliffs on the north side of the river.

The recent implementation of a light rail transit in Minneapolis has been largely successful. The transit plans to service the airport and the Mall of America by the end of





Parking is most suitable for visitors of the site when it is adjacent to the stadium. Not all users can be accommodated with such convenient parking, however, as acre after acre of parking is an inefficient use of space in a downtown setting. This situation would isolate the stadium from pedestrian activity in the existing community. Therefore, the park will utilize the public parking options available in the downtown area.

Most parking in downtown is utilized for offices with normal business hours ending around 5:00 P.M. on weekdays. Game times will most often occur at 7:00 P.M. on weeknights. Therefore, parking garages should have emptied before being opened to those driving to the area for a Twins' game.

Thousands of parking spaces are available within a 15-minute walk from the site. Thirty-three lots are within a mile from either river crossing. Existing lots providing parking for 180 – 900 in four locations, another 100 – 180 in seven positions, and 22 lots provide parking for up to 99 vehicles. Thirty-two parking garages for 75 – 2000 vehicles are available within the same one-mile radius.

Walking to the site will shed opportunities onto fans to enjoy the ballpark's immediate surroundings, as they would walk from their skyscraper-outlined parking spaces, through Kellogg Park, and over the Mississippi.





The project will occupy a relatively flat site, as infill has leveled the area. The infill was incorporated as the base to a warehouse district, which occupied the site until the 1980s.

Directly across the river from the site, rolling limestone bluffs are the foundation to the downtown district's skyscrapers. The north bank overlooks the site with its elevation climbing approximately 70 feet above the horizon of the south bank (Fig. 2.5a-b). The presence of the limestone cliff provides an exaggerated height in viewing the city skyline from the site.

The water table on the site is twenty feet below the surface. The playing field commonly is excavated significantly below grade. Therefore, waterproofing structures will need to be incorporated into the design.

The presence of limestone on the site will accelerate the drainage of runoff and standing water, as limestone is a fairly porous material.

It is 60 feet from the surface of the site to bedrock.

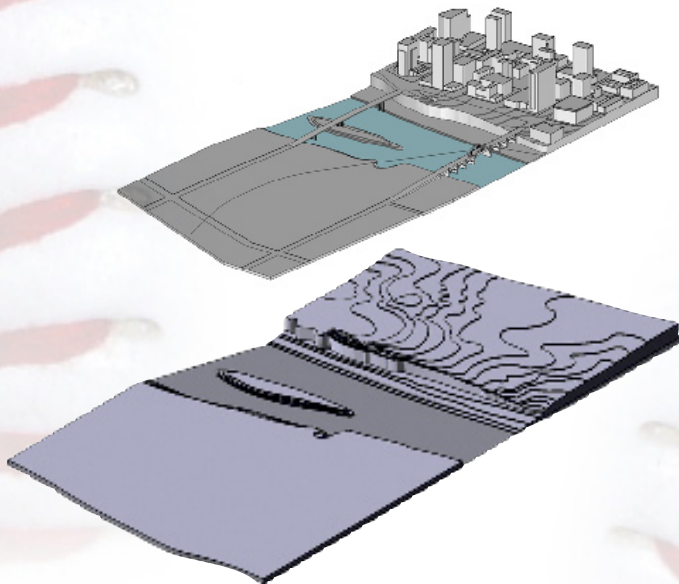


Fig. 2-5a: This 3-D model illustrates the topography near the river. Contours are drawn for every 5'-0" in elevation change.



Fig. 2.5b: St. Paul's limestone topography.





The wind rose diagrams (Fig. 2.6a-g) illustrate the average speed and direction of winds in the Minneapolis - St. Paul area during the baseball season. Winds are strongest in April and May, with April bringing chillier northwest winds.

At a smaller scale, though, elevation along the river sometimes tunnels the wind in different directions over the riverbanks. This will largely affect play of the game as fly balls make their way into somewhat unpredictable swirling winds.



Fig. 2.6a: April



Fig. 2.6e: August



Fig. 2.6b: May



Fig. 2.6f: September



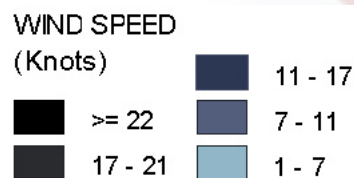
Fig. 2.6c: June



Fig. 2.6g: October



Fig. 2.6d: July





The St. Paul area receives an average of approximately 20 inches of rain over the course of the regular baseball season. The incorporation of a retractable roof will help keep the field dry, preventing player and spectator injuries due to slips. A roof will also ensure fans that raincoats and umbrellas will not be necessary luggage for ballpark visits.

Relative afternoon humidity remains consistent throughout the season, ranging on average between 54% and 62%. Therefore, the ball will not have such varying effects through the air after making contact with the bat as in climates with more variable humidity. Opening or closing the roof will not affect the humidity relative to the site, as the retractable roof will not enclose the stadium from the open air.

This will eliminate the need for any climate-controlling elements that would be necessary if the ballpark entirely closes itself from the outdoors.





With the baseball season running from April through October, games will be played for the most part with the sun at its highest altitudes (Fig. 2.7). Sunset will occur sometime during night games, thereby affecting orientation of the stadium.

“It is desirable that the line from home base through second base shall run East Northeast.” - Official Baseball Rules, Section 1.04.

No player or fan then, would be required to look directly into the sun to follow the ball. The 30 ballparks currently used for Major League Baseball are oriented with the home plate - second base axis running from NNW clockwise to SSE, avoiding the west-facing axis in all instances (Fig. 2.8).

The sun will shine on clear days or partly sunny days for approximately 60% of the season. Over 40% of the season’s cloudy days will occur in April and May alone, bringing average temperatures of 46.4 and 58.5 degrees respectively. It is intended that the roof be closed on rainy days, but closing it additionally on cooler days may provide a slightly warmer atmosphere, cutting down on swirling winds.

Average temperatures for the summer months remain comfortable between 68.2 and 73.6 before the crisp playoff-run month of September, which averages 60.5 degrees.

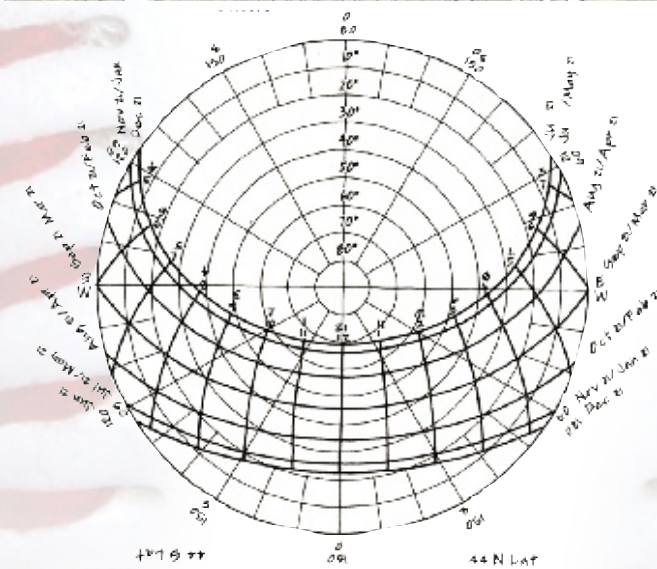


Fig. 2.7: Sun path diagram for St. Paul.



Fig. 2.8: Orientation, left to right, of Minute Maid Park, Wrigley Field, PNC Park, and Comerica Park.



To the southwest, and within walking distance from the site, St. Paul offers a variety of recreational activities that incorporate the region's natural features, water and topography.

The connection between St. Paul's lower residential district and the river is highlighted by the transition of Terrace Park. A lookout tower accessible from both the top, residential side of the park, and from the bottom where the Wabasha St. Caves begin, offers visitors a 270-degree panoramic view of St. Paul (Fig. 2.9).

Harriet Island Regional Park offers a large lawn sporadically shaded with trees (Fig. 2.10). Events include live music, fireworks, carnivals and recreational boating celebrations.

The St. Paul Yacht Club is a marina for personal watercrafts. Houseboats and yachts are docked here when not being used in enjoyment of the Mississippi (Fig. 2.11). An opportunity is presented here to incorporate boating traffic as did the successful model presented by SBC Park in San Francisco.



Fig. 2.9: View 1. A view from the lookout tower at the top of the Wabasha St. Caves at Terrace Park.



Fig. 2.10: View 2. Harriet Island Regional Park.



Fig. 2.11: View 3. St. Paul Yacht Club.



Many well-designed green spaces bring people into the downtown area, either for specific activities or for lunch-break leisure time.

Raspberry Island features a newly constructed saddle-shaped glass block bandstand (Fig. 2.12). The structure serves as both a musical performance venue and as a work of art. Local bands and high school bands often perform free to the public during the summer months here. A pedestrian bridge allows visitors to the island from the stadium's site.

Kellogg Park is a peaceful green transition between the river and the downtown skyscrapers (Fig. 2.13). Three blocks of lawn and trees provide a shaded area common for games of soccer or touch football. The park also features two fountains, often visited by joggers, readers, or tourists.

On the south bed of the river lies a riverwalk stretching west to Harriet Island Regional Park. The walk provides a quiet progression along the water and the area's best views back toward the skyline (Fig. 2.14). The riverwalk creates an opportunity to the project, as it defines the north edge of the site.



Fig. 2.12: View 1. The Heilmaier Bandstand by S.O.M. on Raspberry Island.



Fig. 2.13: View 2. Kellogg Park.



Fig. 2.14: View 3. The riverfront walk on the south bank of the Mississippi River.



With the topographical elevations along the north side of the river, views open up to the site just outside the skyscraper-laced downtown district.

Pedestrians on either the Wabasha St., or the Robert St. bridge, as well as users of Raspberry Island and Kellogg Park, will be provided with a glimpse of the activity on the site (Fig. 2.15 - 2.17).



Fig. 2.15: View 1. From the landing accessible to Raspberry Island on the Wabasha St. bridge.



Fig. 2.16: View 2. From the lower elevations of Kellogg Park.



Fig. 2.17: View 3. From the Robert St. bridge.



The most important and dynamic view from the site is to the north. A root in St. Paul's history is reflected with the river and historic railway passage defining an edge to the site. In the distance, the success of St. Paul's development is illustrated in the vertical growth of the skyline (Fig. 2.18). The orientation of the building in this project will maximize the potential of the view that defines what St. Paul is.

Views in the remaining three general directions express the industrial nature of the site's surroundings (Fig. 2.19 - 2.21).



Fig. 2.18: View 1. Looking north.



Fig. 2.19: View 2. Looking east.



Fig. 2.20: View 3. Looking south.



Fig. 2.21: View 4. Looking west.



Trains frequently cross the sweeping pattern the railroad makes through the site (Fig. 2.22). Creating a visual link from the stadium to the railroad tracks presents an opportunity to reflect on the early days of the game, in which teams traveled to visiting cities by means of passenger train. The role of the train in forming St. Paul will also be stressed by incorporating the tracks into the ballpark's design. The power of the Burlington Northern bridge to lift, opening lanes of shipping, adds another element of visual interest, as well as further definition to the initial establishment of St. Paul (Fig. 2.23).

The site should take advantage of the location of Raspberry Island, assuming boaters may visit the site as frequently as in the San Francisco Bay near SBC Park. The island provides a buffer between the potential river traffic and the shipping channel.

The riverwalk on the north edge of the site may begin to realize its full potential as other aspects regarding the site fall into place. Currently, the walk progresses along nothingness to the south, but its relation with the skyline should not be ignored (Fig.2.24).



Fig. 2.22: View 1. Train tracks through the site.



Fig. 2.23: View 2. The Burlington Northern lift bridge.



Fig. 2.24: View 3. Riverfront walking and biking path.

KEY

- Burlington Northern rail
- Shipping lane
- Pedestrian path



Looking through the site, the view to the south presents an inactive image, but one of calmer topography rolling in the distance (Fig. 2.25).

From the center of the site looking north, the identifying features of downtown buildings become recognizable, as do the distinguishable natural attributes of the business district (Fig. 2.26). It is anticipated that this location utilizes its views and presents itself for high-pedestrian traffic such as a building entry.

The grid of downtown's structure becomes evident from the southern edge of the site on Plato Blvd. (Fig. 2.27). The overall success of the stadium's relation with its context should be apparent from this location.



Fig. 2.25: View 1. The scene from the riverwalk, looking south.



Fig. 2.26: View 2. Northward view from the center of the site.



Fig. 2.27: View 3. Entering the site from the southeast on Plato Blvd.



A handful of small buildings from the days of the site's warehouse-era remain, including:

162 Wabasha St. S (Fig. 2.28)
W.I. Maas Mfg. Corp.
Building value: \$274,600
Land value: \$73,900
Built in 1929 for manufacturing and processing

122 Wabasha St. S (Fig. 2.29)
Nasseff Mechanical Contractors
Wabasha Deli and Joseph's Grill
Building value: \$1,296,900
Land value: \$207,900
Built in 1981; office/warehouse and retail use

41 Plato Blvd. (Fig. 2.30)
Nasseff Plumbing & Heating Warehouse
Building value: \$52,900
Land value: \$125,400
Built in 1925; formerly an auto-service garage



Fig. 2.28: View 1. W.I. Maas Mfg. Corp.



Fig. 2.29: View 2. Nasseff Mechanical Contractors, Wabasha Deli and Joseph's Grill.



Fig. 2.30: View 3. Nasseff Plumbing & Heating Warehouse.



84 Wabasha St. S (Fig. 2.31)
J Lewellyn Publications
Building value: 912,800
Land value: 156,000
Built 1940; formerly a Coca-Cola warehouse



Fig. 2.31: View 1. J Lewellyn Publications.

60 Livingston Ave. (Fig. 2.32)
U.S. Bank
Building value: \$26,740,800
Land value: \$2,482,900
Built 2002



Fig. 2.32: View 2. U.S. Bank.

Robert St. S (Fig. 2.33)
1000-1100 space parking garage
Building value: \$7,614,800
Land value: \$1,385,200
Built in 2002



Fig. 2.33: View 3. Robert St. parking garage.



Fillmore Ave. (Fig. 2.34)
Building value: \$200,000
Land value: \$2,670,000

173 Robert St. S (Fig. 2.35)
Restaurant
Building value: \$299,600
Land value: \$35,200
Built 1969

193 Robert St. S (Fig. 2.36)
Restaurant
Building value: \$319,400
Land value: \$80,700
Built 1974



Fig. 2.34: View 1. Fillmore Ave.



Fig. 2.35: View 2. 173 Robert St. S.



Fig. 2.36: View 3. 193 Robert St. S.



To the northeast of the site, St. Paul offers a variety of cultural institutions visited by locals and tourists alike. Some of the better-known include the Cathedral of St. Paul, the State Capitol, the Xcel Energy Center and the Science Museum of Minnesota.

The Cathedral of St. Paul (Fig. 2.37) was built in the 1840s and is the building from which the city's name was derived. Before receiving the name, St. Paul was known as Pigs Eye.

Not far from the Cathedral, the State Capitol marks the northeast corner of the downtown area (Fig. 2.38). The dome highlights the third capitol building St. Paul has seen. The building opened in 1905.

The Xcel Energy Center is the arena built on the site of old St. Paul Civic Center Arena (Fig. 2.39). The Xcel is home to the National Hockey League's Minnesota Wild and has sold out every game played since the expansion team joined the league for the 2000-2001 season. Exhibiting the success of professional sports in St. Paul, the arena also hosts concerts, ice shows, circuses, conventions and high school sporting events.

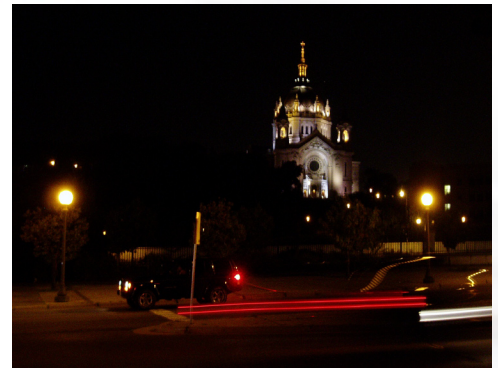


Fig. 2.37: View 1. The Cathedral of St. Paul.



Fig. 2.38: View 2. Minnesota State Capitol.



Fig. 2.39: View 3. Xcel Energy Center.



Across the street, The Science Museum of Minnesota (Fig. 2.40) exhibits natural, environmental and medical sciences. Classes and lectures are also offered. The technology of the Omnitheater, however, is the focus of this building. The theater is the United States most advanced, having the first convertible roof for its function.



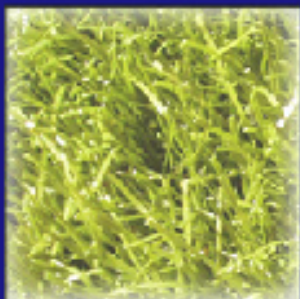
Fig. 2.40: View 4. Science Museum of MN.



MINNESOTA

Twins

Case Studies





Citizens Bank Park is located on a 110-acre site in southern Philadelphia. The stadium neighbors Lincoln Financial Field (home of the NFL's Philadelphia Eagles), the Wachovia Spectrum and the Wachovia Center. Being bound by acres of parking and two interstates, this detached portion of Philadelphia has been dubbed the sports complex. Its location provides very easy access to and from the park, but its isolation to the city also limits pre- and post-game activity.

The most important goal in this project was to offer the most optimal sightlines possible. This goal was met first of all, by the configuration of the seating bowl. Each section of seats is directed to face the infield, so no matter where you sit, the game is played directly in front of you. In addition, over 88% of the seats have views to an entirely open sky (the remaining being limited only by seating under the cantilevered upper deck). This feature is maximized where the orientation of the ballpark provides a view of the city skyline in the distance beyond center field, and where gaps in the upper deck along the foul lines create views outside the stadium.

The most powerful elements toward achieving this goal, however, exist within the concourses at both the street level and in the upper deck. Both are open toward the field from every point around the ballpark (Fig. 3.1). This is unusual for baseball stadiums, particularly in the upper deck. Having a view

Philadelphia, PA
 Home of the Philadelphia Phillies
 EwingCole and HOK SVE
 1.15 million s.f.
 Seating capacity: 43,500
 \$458 million
 (\$346M construction, \$112M site)
 Completed 2004



Fig. 3.1. View of the field from the main concourse.



Fig. 3.2. Standing room spectators in Ashburn Alley.

to the game from anywhere as you circulate through the stadium electrifies this park's atmosphere. This is most apparent by a number of visitors choosing standing room in the concourses over their seating assignments, and by the amount of activity in Ashburn Alley, an entertainment plaza in the concourse that follows the outfield wall (Fig. 3.2).

Because the concourse to the lower deck is at street level, the playing field ends up 23 feet below grade (Fig. 3.3). This presented an immense challenge to the ballpark's designers, as the water table on the site is only 13 feet below street level. The resulting solution included waterproof structures and a gravity system of deepwells below the playing field that relieve water pressure. The system acts as an underground envelope to the stadium and is capable of draining water at a rate of 10 inches per hour.



Fig. 3.3. The playing field is 23 feet below grade.





Paul Brown Stadium
Cincinnati, OH
Home of the Cincinnati Bengals
(NFL)
Architect: NBBJ Sports and Entertainment
1.85 million s.f., 66,000 seating
\$453.2 million
Opened 2000

The new home of the NFL's Cincinnati Bengals occupies 22 acres of downtown riverfront property. Paul Brown Stadium with neighboring Great American Ball Park, home of the Cincinnati Reds, inhabits a significant length of downtown land on the banks of the Ohio River.

The 157-foot tall building capable of hosting 66,000 spectators was brought closer to a pedestrian-friendly scale by its emphasis on horizontality of materials.

The swooshing shape of the building's canopy, the stadium's signature identifier has a continuous bank of lights hidden underneath (Fig. 3.4). At night, whether a game is being played or not, the canopy is backlit, creating a glowing band across the length of the stadium.

At street level, split facades represent the willingness of the stadium to meet the human scale. Changes in material at various angles and depths create excitement from eye level (Fig. 3.5).



Fig. 3.4: Paul Brown Stadium with the canopy lit.

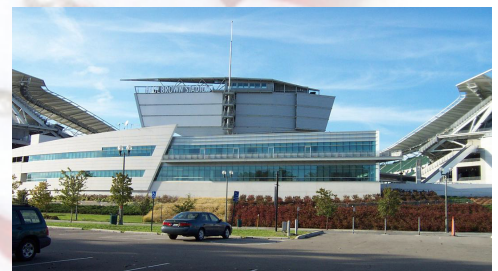


Fig. 3.5: Administrative offices of Paul Brown Stadium.



Pittsburgh, the City of Steel, is composed around its three rivers, the Ohio, and the two merging rivers from which it forms, the Allegheny and the Monongahela. On the northwest bed of the intersection of rivers, PNC Park and Heinz Field are stadiums built as true fits within the structure of the city of Pittsburgh.

Both stadiums are crafts of steel and limestone (Fig. 3.6a-b), the latter through which the rivers carve their way through Pittsburgh. The limestone detailing on either stadium complement one another, as well as the historic form of architecture in the downtown area.

PNC Park and Heinz Field
Pittsburgh, PA
Homes of the Pittsburgh Pirates and
Pittsburgh Steelers (NFL)
Architect: HOK Sport
PNC: 970,000 s.f., 38,365 seating;
Heinz: 1.49 million s.f., 65,000
seating
PNC Park: \$216 million
Heinz Field: \$281 million
Both opened in 2001

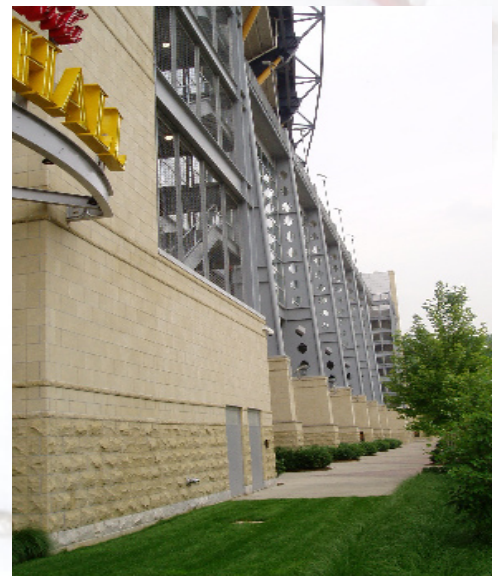


Fig. 3.6a. Heinz Field.



Fig. 3.6b. PNC Park.

Both stadiums are oriented toward the Golden Triangle of Pittsburgh, the peninsula home to downtown and Point State Park, and arguably offer the best outward views from any stadium in the respective league of each (Fig. 3.7a-b).

The connection of either stadium with the downtown setting across the Allegheny is most strongly tied through the pedestrian scale. The 6th St. bridge, otherwise known as the Roberto Clemente Bridge (Fig. 3.8a-b) which is visible from PNC Park, is closed to vehicular traffic on game days in encouragement of pedestrian use to either side of the river.



Fig. 3.7a: View from PNC Park.



Fig. 3.7b: View from Heinz Field.



Fig. 3.8a: Roberto Clemente Bridge.

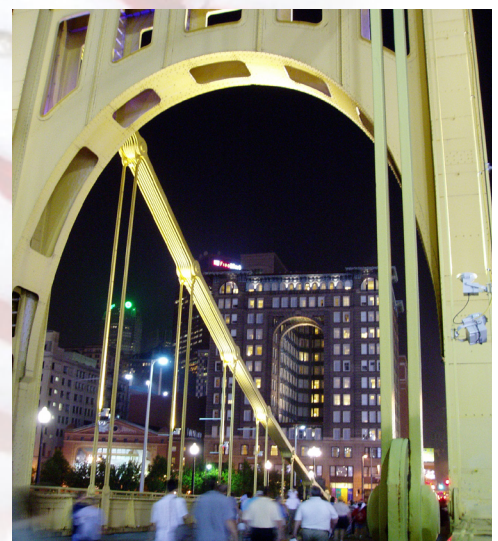


Fig. 3.8b: Roberto Clemente Bridge.



At the midpoint of the 1999 season, the Seattle Mariners moved out of the Kingdome and across the street to Safeco Field. The new stadium occupies a 19.6-acre, edge of downtown site and continues the trend of retro-style urban ballparks.

In a city known for rainfall, a roof was incorporated to act as an umbrella. The design team chose the increasingly popular retractable style roof for this project. Unlike most others, however, this roof simply covered the stadium rather than enclosing it. This allows users to enjoy the game's open air tradition even when protected from the rain.

Design to the roof was achieved with three large rubberized sheet metal panels at staggered heights. Each portion of the roof could then slide over one another when retracted (Fig. 3.9). The roof panels, spanning over 600 feet, are supported by more than 20 million pounds of steel, enough structure for a 55-story building. The structure is sufficient to handle winds of up to 70 mph, to operate in winds up to 30 mph, and to withstand seven feet of snow. Clearspan trusses allow the roof to retract off the stadium (Fig. 3.10) to the north over a set of railroad tracks. Situated near an industrial neighborhood, the structural and working parts of the roof remain exposed to fit the stadium's setting (Fig. 3.11).

Safeco Field
 Seattle, WA
 Home of the Seattle Mariners
 Architect: NBBJ Sports and Entertainment
 1.17 million s.f., 47,116 seating
 \$517.6 million
 Opened 1999



Fig. 3.9: Safeco's retractable roof.



Fig. 3.10: Safeco with an open roof.



Fig. 3.11: Structure of the roof.



Minute Maid Park, formerly Enron Field, was built on a 29-acre site on the northeast end of downtown Houston, one block from Highway U.S. 59. With its retractable roof, the stadium has become a highly visible skyline feature.

Minute Maid Park required construction of a retractable roof to provide an air conditioned escape from the summertime Texas heat (Fig. 3.12). The roof is expected to be closed for about 40 percent of the season. When open, it allows the greatest area of open sky for any roofed Major League stadium (Fig. 3.13). The roof retracts completely off the stadium to the north.

The roof operates at a cost of only \$5 each time it is opened or closed, a process that takes about 20 minutes. The roof, totaling 18 million pounds, is made up of three large panels that are transported by 35-inch diameter steel wheels with electric motors. To enclose the stadium, a sliding glass wall follows the structure of the roof behind the outfield bleachers (Fig. 3.14).

Minute Maid Park
Houston, TX
Home of the Houston Astros
Architect: HOK SVE
Construction Manager: Brown &
Root Services
1.26 million s.f., 40,950 seating
\$250 million
Opened 2000



Fig. 3.12: Minute Maid park with the roof closed.



Fig. 3.13: The roof open.



Fig. 3.14: Structure of the roof.



SBC Park edges the San Francisco Bay on a 13-acre site south of the San Francisco-Oakland Bay Bridge. The orientation of the ballpark has become the defining feature of this building, as home runs to right field sometimes drop into a channel of the bay known as McCovey Cove.

As the new wave of stadiums is being designed, seating capacity is steering away from the 50,000 and 60,000 seat venues of the mid- to late-1900s. Seldom in baseball are crowds anticipated to reach such numbers, and smaller ballparks don't seem as empty when not fully attended. The current trend is to minimize the seats furthest from the action, which happen to be those in the outfield. This design movement has allowed stadiums to open up toward the community for which they serve (Fig. 3.15).

Baseball is the only professional sport where the field dimensions are not specifically determined by the rules of the game. This provides an opportunity to be distinctive from the outfields of other parks. The shape of SBC's outfield complements not only the power of star slugger Barry Bonds, but also the views over the bay as well as from it. Pedestrian activity behind the park on the right field side encourages users to watch the game for free through an open-arched brick façade (Fig. 3.16).

SBC Park
 San Francisco, CA
 Home of the San Francisco Giants
 Architect: HOK SVE
 Construction Manager: Huber, Hunt
 & Nichols, Inc. and Kajima Con-
 struction Services
 41,503 seating
 \$255 million
 Opened 2000

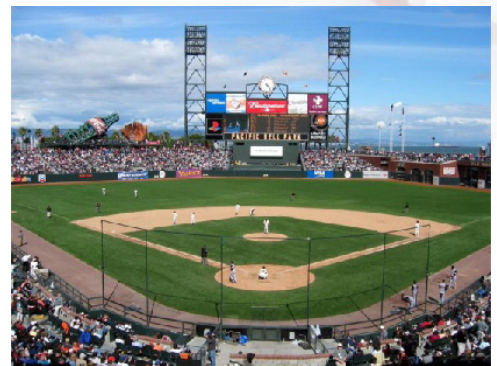


Fig. 3.15: The defining features of SBC Park's outfield wall.



Fig. 3.16: The right field facade, with an open view for outside pedestrians.

The proximity of the outfield to the bay also brings boaters and kayakers out in hopes of a “Splash Hit” (Fig. 3.17).

The signature element behind the left field bleachers is a pair of sculptures, an oversized, old-fashioned, three-fingered baseball mitt and an 80-foot Coca-Cola bottle that provides light and sound shows with Giants’ homeruns (Fig. 3.18). The Coca-Cola bottle also functions as the structure to four children’s slides in Little Giants Park, an interactive play area.



Fig. 3.17: Fans and boaters in McCovey Cove.



Fig. 3.18: Sculptures in the left field bleacher section.



Miller Park
Milwaukee, WI
Home of the Milwaukee Brewers
Architect: HKS Inc., NBBJ, Eppstein
Uhen Architects
1.1 million s.f., 42,400 seating
\$400 million
Opened 2001

The 260-acre site of Miller Park provides enough parking and space for tailgating for the entire attendance of the stadium. The park is situated between two major highways only minutes from downtown.

Miller Park's most unique feature is without a doubt its retractable roof (Fig. 3.19). The seven-paneled steel structure fans out to either side of the grandstands, pivoting on a fixed point behind home plate. Two of the seven panels are fixed above large glass façades down the foul lines. Each panel is powered by a 60-horsepower motor, traveling along a rail that defines the back façade of the stadium. A glass-paned wall follows and complements the roof, fully enclosing the stadium from the outdoors (Fig 3.20).

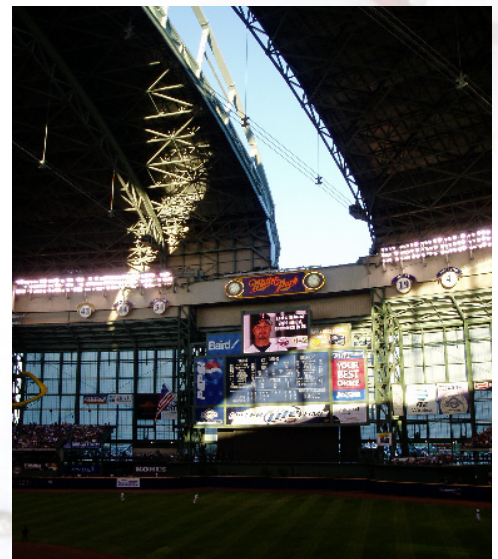


Fig. 3.19: Closing the roof.



Fig. 3.20: The sliding enclosure wall.

The inventive result of the fan-shaped roof (Fig. 3.21a-c) won an award in achieving innovative design. North America's only convertible fan-shaped structure opens and closes soundlessly to the crowd in ten minutes. The roof reaches a height of 200 feet above the playing field.

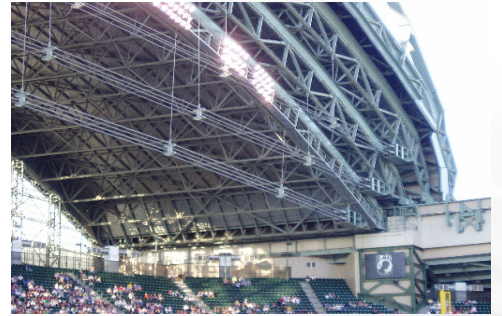


Fig. 3.21a: Closing the retractable roof.

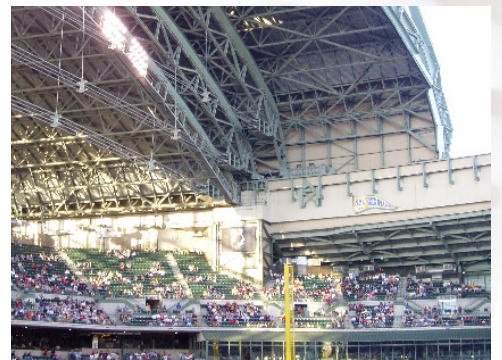


Fig. 3.22b.

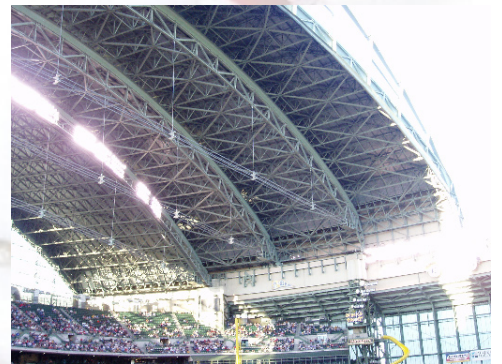


Fig. 3.22c.



This case study is based on my experience of observing the power baseball can have on a community. Wrigley Field is one of baseball's most popular and historic ballparks. Known for its atmosphere rather than its architecture, baseball becomes an emotion at Wrigley. The electricity of the crowd is felt not only inside the park, but outside on the Clark-Addison and Waveland-Sheffield Ave. axes as well.

From the Wrigleyville gift shops, restaurants and bars to the famous rooftop bleachers, the spirit of baseball at Wrigley overcomes all those in attendance.

"Is this your first trip to Wrigley?" was a question asked on more than one occasion, an indication that Wrigley is a sacred place for all baseball fans to visit at least once. "Twins fans?! What are you guys doing here?" was the sarcastic comment made to us by a joking spectator, fully knowing that fans from across the country make the trip to Wrigley. And others asked if we would like them to take our picture for us.

Our run-ins with those who were either Cubs fans or Wrigley fans were not merely a coincidence, but only a random sample of what makes up a Cubs' game crowd. Wrigley Field is "The Friendly Confines."

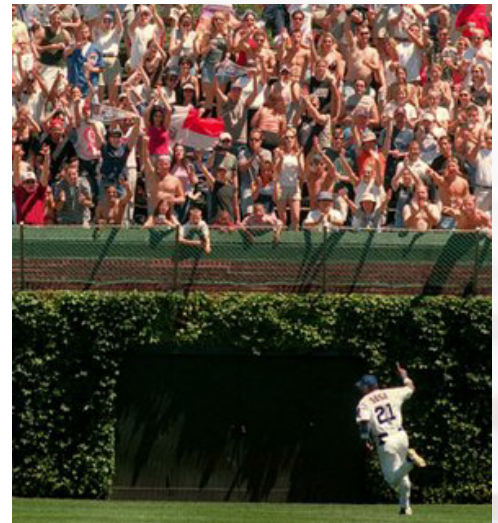


Fig. 3.23: The Bleacher Bums.



Fig. 3.24.



Fig. 3.25: Rooftop bleachers.

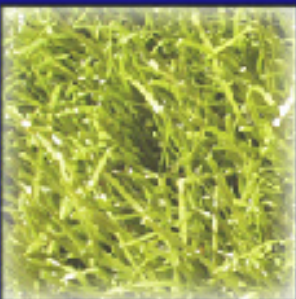


Fig. 3.26.

MINNESOTA

Twins

Spacial Program



The clients for this project include the city of St. Paul and the Minnesota Twins Baseball Club. Users of the building include the spectators, teams and officials, media, and staff.

Spectators of all ages, ethnic and economic backgrounds will use the building. Economic base will be differentiated by choice of seating level. The building will be used on 81 game days, excluding playoff scenarios. The gates will open an hour and a half to two hours before game time and will close upon evacuation from the building after completion of the game. Users of the general public may also visit the building during business hours, but will have restricted access to gift shops, the Twins' museum and restaurants.

Teams and officials will have access to the stadium as they see fit in preparation for games. Players often use the clubhouse weight rooms, training facilities, video rooms and lounges before and after game times on their own schedule. Families of the players also have limited access to the building. Team owners and coaching crews will use the building full-time, handling team meetings when games are not their immediate focus.

The media, including TV and radio broadcasters, camera crew, communications crew, and those handling controls will generally arrive with ample time to set up equipment before any game-related activity begins. They continue to use the building as long as teams and staff permit in the clubhouses after the game.

The stadium's staff of approximately 1000 consists of two groups. A full-time year round administrative staff will use offices for the team's marketing, traveling, and team activities and operations. The second group of stadium staff includes the game-day personnel. Sales clerks, security officials and ushers, maintenance and janitorial crews, groundskeepers, and hospitality of exclusive seating levels will occupy the building in preparation for the crowds to come upon opening of the building to the public.



Spectator Spaces

	Entrance/Turnstiles	Team Shop	Kids' Shop	Food Concessions	Restrooms	First Aid	Picnic/Family Area	Children's Area	Smoking Patio	Twins' Museum	Fan Assistance
Ticket Booth	+	+	o	=	=	o	=	=	=	+	+
Entrance/Turnstiles		+	+	o	o	o	=	=	=	+	+
Team Shop			+	o	o	o	o	o	x	+	o
Kids' Shop				o	o	o	=	+	x	o	=
Food Concessions					+	o	+	+	=	=	=
Restrooms						o	+	+	+	+	=
First Aid							o	+	o	o	o
Picnic/Family Area								+	x	o	=
Children's Area									x	o	=
Smoking Patio										x	=
Twins' Museum											=

- + Necessary
- o Somewhat Necessary
- = Not Necessary
- x Avoid





SBC Park
San Francisco, CA

Activity and User Behavior: Ticket windows offer a convenient location for either ticket sales or pickup of pre-ordered tickets. The windows will remain open during normal business hours and during game times.

Material and Performance Requirements: Ticket windows most often involve an interaction between the staff inside the building and the ticket purchaser outside the building. Design of the ticket windows should prohibit rain or high winds from penetrating from the outside.

Furnishings: Handrails to guide and control pedestrian traffic, countertop, and awning or canopy to protect the purchaser from the weather. The ticket sales representative will be furnished with a desk/countertop, cash drawer, and monitor and printing devices.

Design Criteria: The ticket windows and will call windows should be clearly visible and easily accessible from the street. They also should be located near the entry gate for the fans' convenience.

Ticket Windows

Quantity: 25-30

Square Footage: 6000 s.f.





Great American Ball Park
Cincinnati, OH

Description: Multiple entrances will be provided around the stadium for access to the park from any direction. The entry points should be the most attractive element to the architecture of the stadium's exterior façade, as it is the first and last feature of the park that fans generally will see.

Material and Performance Requirements: Durable materials will prevent general wear-and-tear activity. Upon opening to the general public, thousands of people should be expected to pass through this space. One turnstile should be provided for every 600-750 spectators.

Furnishings: As visitors make their way through the gates, they will be required to check their tickets with staff members and pass through turnstiles.

Design Criteria: The entrances must be attractive vistas. They also must include enough turnstiles to keep pedestrian traffic moving through the gates and into the concourse. The largest of the main entrances should be aligned with a majority of the parking.

Entry Gates

Quantity: 1 Main, 2-3 Secondary

Square Footage: 1500 s.f.





Great American Ball Park
Cincinnati, OH

Activity and User Behavior: The fan assistance center is a space devoted to providing general information to spectators. Fans may also check their items that are not allowed into the ballpark here and pick them up again on their way out. Fans needing wheelchair accessible seating assignments will also make accommodations here.

Material and Performance Requirements: More durable materials should be used on the spectator-side of the assistance center as hundreds of guests should be expected to visit the area each day. The staff side of the space should provide materials more common to an everyday office, aiding in their comfort throughout their workday.

Furnishings: Countertop and window. The staff of the area will be provided with desks and chairs.

Design Criteria: The fan assistance center should be located near the main entrance gate. Fans will most often be looking for information upon arrival to the stadium, and its proximity to the entrance will assist in their whereabouts.

Fan Assistance Center

Quantity: 1

Square Footage: 1000 s.f.





SBC Park
San Francisco, CA

Activity and User Behavior: Team shops are generally inhabited most heavily before and after the game. The main shop offers countless items of different varieties and price ranges. The children's shop will be a place to purchase Twins toys and souvenirs specific to children's interests. Concession stand shops have a smaller selection and inventory, including basic items such as t-shirts, caps, and baseballs.

Material Performance Requirements: The materials of the team shops should be exciting to the eye, making presentation of the merchandise attractive to shoppers. Durable materials should also be selected, as the team shop will remain open year round to the public through seasons and weather of all sorts.

Furnishings: Checkout counter, clothing racks and merchandise shelves. Interactive displays (such as Citizens' Bank Park's life-size Jim Thome bobblehead statue greeting guests as they enter).

Design Criteria: The team shop should be located in an area of high traffic relative to the main concourse, and be accessible from the street so that it can remain open year round. The children's shop should be adjacent to the main team store. Secondary concession shops should be located evenly throughout the concourses, close to and easily accessible from each section of seating.

Team Shop

Quantity: 1 main shop, 1 children's shop, 4-6 concession stands

Square footage: 3500 s.f.





Busch Stadium
St. Louis, MO

Activity and User Behavior: The history museum will contain a collection of equipment used in eras significant to the Twins' past. The display of this equipment will be complemented with descriptive elements which tell the story of the Twins as a franchise.

Material and Performance Requirements: The museum's artifacts should be displayed in attractive, protective casework. The museum itself should make an attempt to minimize background noise as the displays will include readings and be subject to visitor discussions.

Furnishings: Displays and casework, occasional seating.

Design Criteria: The museum will not require views to the field, therefore can occupy space along the outer ring of the concourse. The museum's ideal location would be adjacent to the team stores that are open to the public year round. The museum can also remain open to the public during the off-season.

Twins' History Museum

Quantity: 1

Square Footage: 5000 s.f.



Description: First aid facilities must be provided in the event of an emergency for spectators and staff of the stadium. The expectation that accidents will include trips, falls, collisions, injuries from baseballs being hit into crowds, or general health failure should be anticipated.

Material and Performance Requirements: First aid facilities must be easily cleaned and maintained. The staff of this space must be prepared for an emergency at any time.

Furnishings: Sinks, work surfaces, medical equipment, beds and seating for patients, waiting room furniture, office equipment.

Design Criteria: First aid rooms must be easily located and accessed from every level of the concourse. The area must also be accessible to emergency vehicles, with transport of patients on stretchers. Within an area of high traffic, an attempt must be made to protect the privacy of the rooms' patients. Within an area of high traffic, an attempt must be made to protect the privacy of the rooms' patients.

First Aid

Quantity: 2

Square Footage: 2000 s.f.





Great American Ball Park
Cincinnati, OH

Description: Public toilets for all users of the stadium.

Material and Performance Requirements: Expected to be visited by most users at least once during the game, the amount of traffic requires that the restrooms be quickly and easily cleaned and maintained.

Furnishings: Toilets and partitions, sinks, countertops, mirrors, dispensers, and trash collectors.

Design Criteria: Average ratio of male to female fans will determine the requirements for number of restrooms to be provided. A greater number of smaller restrooms should be located evenly along all levels of the concourses to minimize the distance pedestrians must travel from their seats.

Restrooms

Quantity: 1 per 75 - 100 guests.





PNC Park
Pittsburgh, PA

Activity and User Behavior: Food concession counters offer fans fast-food meals, snacks, and desserts that vendors do not offer in the stands. Common concessions include hot dogs, burgers, nachos, and ice cream. Local tastes should also be incorporated as a flavor unique to the experience of this ballpark. Freshwater fish and wild game-birds offer an opportunity for individuality in this area.

Material and Performance Requirements: The most important material requirement for the concessions area is that they be easily cleaned. Projecting hundreds to thousands of consumers on any particular game day, lines should be expected from the time the gates open through the late innings.

Furnishings: Kitchen equipment, security door, linear counter, trash collection, and condiment and beverage countertop.

Design Criteria: Concessions should be easily accessible from seating in all areas of the park. Location within the concourses that preserve views to the field are optimal. Concession stands must be covered and bound by walls on all sides.

Food Concessions

Quantity: 1 point of sale (5 lineal feet of counter space) per 200 spectators

Square Footage: 175 s.f. each





Jacobs Field
Cleveland, OH

Description: The family area and picnic grounds area is a plaza with views to the game in which fans can sit with food and drinks. This area will provide spectators more comfortable and spacious accommodations than eating their meals from their ticketed seats.

Material and Performance Requirements: Tables and seating should be constructed of a material expected to withstand many years of heavy use. Cleaning of spills on the plaza floor should be made easy and fast-drying.

Furnishings: Picnic tables, condiment stations, trash collection.

Design Criteria: The picnic area will most likely be situated behind the outfield, providing a pleasurable view for its users, and allowing general seating decks to be of maximum opportunity.

Family/Picnic Area

Quantity: 1

Square Footage: 6000 s.f.





PNC Park
Pittsburgh, PA

Activity and User Behavior: The restaurant will be a ticketed seating area in itself. Exclusive access to the restaurant on game days will be permitted by paid admittance. The restaurant will offer premium viewing of the field, and each table in the restaurant will be oriented toward the game. Fans in this area will have reserved access to their particular tables through the entire course of the game.

Material and Performance Requirements: The materials of the restaurant will resemble a classier dining establishment, but a tiered plan which optimizes sightlines will distinguish its character from traditional restaurants. A sound barrier should minimize crowd noise from the general seating areas, as seating assignments in the restaurant will encourage group conversation.

Furnishings: Dining tables and chairs, restrooms. Bar and barstools.

Design Criteria: The restaurant will admit entrance only to the select number of ticket-holders, so entry to this area should not occur at an area of high traffic. Separate parking for this area is an option, as this is another area that can remain open on non-game days.

Club Level Restaurant

Quantity: 1

Square Footage: 6000 s.f.





Description: The children's park will be an area where families can take their children to remain active and entertained during the game.

Material and Performance Requirements: Playground equipment should withstand the abuse received by large groups of children. Keeping in mind that many children may occupy the playground at any given time, softer and safer materials will prevent accidents and injuries.

Furnishings: Playground equipment, seating, lighting.

Design Criteria: The playground should incorporate features of the game and of the ballpark at a level that children appreciate and find interest in. The area should be cornered by the concourses and eating areas, and make an effort to provide a view toward the playing field.

SBC Park
San Francisco, CA

Children's Park

Quantity: 1

Square Footage: 2500 s.f.



St. Paul is the birthplace of Charles Schulz, creator of Peanuts. During the Dog Days of Summer, Snoopy statues can be found throughout the downtown area.

The ballpark may incorporate the Peanuts gang in the children's park.





PNC Park
Pittsburgh, PA

Activity and User Behavior: Because smoking will not be permitted in the building, a smoking area will be a small outlet to the concourse where smoking is allowed on each level.

Material and Performance Requirements: Materials must not absorb either the smoke or the smell of smoke in consideration of the health of users of adjacent spaces. The patio must also make an effort to minimize the maintenance and cleaning of the space.

Design Criteria: The smoking area should be designed as a dead-end pocket to the concourse so that fans are not exposed to smoke as they circulate throughout the stadium. The area should not be enclosed. The smoker's patio should be located near restrooms to save them the time in searching for either space.

Smoking Patio

Quantity: 2

Square Footage: 800 s.f. each





PNC Park
Pittsburgh, PA

Activity and User Behavior: The lower level of the seating bowl is the section that wraps from foul pole to foul pole between the field of play and the main concourse. These seats offer the closest view to the game.

Material and Performance Requirements: Seats in this area will be spring-loaded in a manner that folds the seat upright with the seat back when not in use, maximizing the circulation area in the seating row.

Furnishings: Seats with drink-holders.

Design Criteria: Comfort will be achieved by orienting the seats directly toward the infield, where a majority of the action will take place.

Lower Level Seating

Quantity: 12,500

Square Footage: 5.25 s.f. per guest





Citizens' Bank Park
Philadelphia, PA

Activity and User Behavior: The lounge will act as a social gathering space for groups to get together before, during or after the game. A stylish dining/seating area will be provided in the lounge for meals and drinks.

Material and Performance Requirements: The lounge will require materials complementing an intimate environment and should obstruct the noise of the area from adjacent spaces.

Furnishings: The lounge should be equipped with televisions that broadcast the game so that its use will become attractive throughout the day of the game. The lounge will also be furnished with seating, tables, a bar and barstools.

Design Criteria: This lounge will be accessible only to the group of season ticket holders. Therefore, placement of the lounge should be situated behind home plate with secure entry from the area of seating.

Season Ticket Holders' Lounge

Quantity: 1

Square Footage: 12,000 s.f.





Jacobs Field
Cleveland, OH

Upper Deck Seating

Quantity: 15,000

Square Footage: 5.25 s.f. per guest

Activity and User Behavior: The upper deck of the seating bowl is the section that wraps from foul pole to foul pole between the sections of suites and the top of the stadium. These seats are the furthest from the field of play but offer a bird's-eye-view of the game and the best views outside the stadium.

Material and Performance Requirements: Seats in this area will be spring-loaded in a manner that folds the seat upright with the seat back when not in use, maximizing the circulation area in the seating row.

Furnishings: Seats with drink-holders.

Design Criteria: Comfort will be achieved by orienting the seats directly toward the infield, where a majority of the action will take place. Views toward the outside will be maximized by the form of the upper deck.





SBC Park
San Francisco, CA

Activity and User Behavior: The bleacher section offers the stadium's cheapest seats, on average of \$8-\$12 per ticket. The spectators in this section are generally those in a lower-income bracket, younger fans and families with children. This area is the busiest of the park's pre-game activities, as many fans look to catch a batting practice home run ball.

Material and Performance Requirements: In an environment where temperatures can range from 40 to 90 degrees throughout the course of a season, the increasingly popular recycled plastic may be a better option than traditional metal bleachers. Metal can be a more uncomfortable solution as it chills and heats faster in extreme temperatures.

Furnishings: bleacher seating.

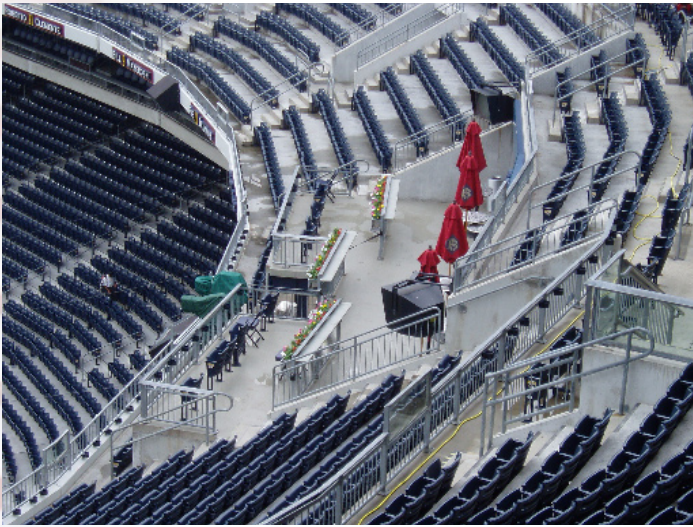
Design Criteria: Because the main concourse is at a level significantly above the field of play, maximizing the tier of bleachers is the most ideal use of the vertical space between the two. An effort must be made, however, to avoid excessive outfield seating.

Bleacher Seating

Quantity: 2500

Square Footage: 5.25 s.f. per guest





PNC Park
Pittsburgh, PA

Activity and User Behavior: The club level seating wraps from foul pole to foul pole between the field of play and the main concourse. These seats are between the upper and lower decks, providing an elevated view that is still relatively close to the field of play.

Material and Performance Requirements: Seats in this area will be spring-loaded in a manner that folds the seat upright with the seat back when not in use, maximizing the circulation area in the seating row.

Furnishings: More luxurious seats with drink-holders.

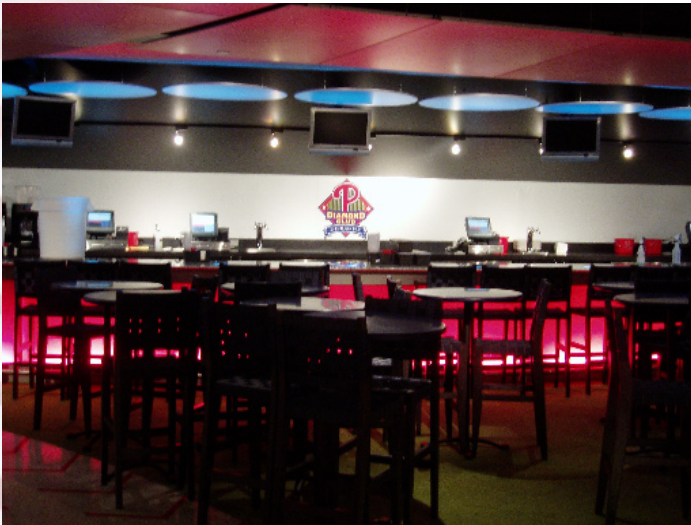
Design Criteria: Comfort will be achieved by orienting the seats directly toward the infield, where a majority of the action will take place. Users in this area will also have more space than the seating in the upper and lower levels provide.

Club Level Seating

Quantity: 3000

Square Footage: 5.5 s.f. per guest





Citizens' Bank Park
Philadelphia, PA

Activity and User Behavior: The lounge will act as a social gathering space for groups to get together before, during or after the game. A stylish dining/seating area will be provided in the lounge for meals and drinks.

Material and Performance Requirements: The lounge will require materials complementing an intimate environment and should obstruct the noise of the area from adjacent spaces.

Furnishings: The lounge should be equipped with televisions that broadcast the game so that its use will become attractive throughout the day of the game. The lounge will also be furnished with seating, tables, a bar and barstools.

Design Criteria: The lounge should be located behind home plate, becoming an active center to club level seating, which wraps around the field from foul pole to foul pole.

Club Level Lounge

Quantity: 1

Square Footage: 10,000 s.f.





PNC Park
Pittsburgh, PA

Activity and User Behavior: Club level concession counters offer fans upscale fast-food meals, appetizers and desserts. Local tastes should also be incorporated as a flavor unique to the experience of this ballpark. Freshwater fish and wild game-birds offer an opportunity for individuality in this area.

Material and Performance Requirements: The most important material requirement for the concessions area is that they be easily cleaned. Projecting hundreds of users throughout the game, the image of the concession should remain clean and orderly.

Furnishings: Kitchen equipment, security door, linear counter, trash collection, and condiment and beverage station.

Design Criteria: Concessions should be located evenly around the club level lounge, food court style, offering groups a variety of choices before meeting at a central location in the lounge.

Club Level Concessions

Quantity: 6

Square Footage: 1200 s.f.





Citizens' Bank Park
Philadelphia, PA

Activity and User Behavior: The private suites offer a homelike setting for users which lease the space on multi-year agreements. The users of the space have access to the suites at any time, given the stadium's consent. Design of the suites will most comfortably accommodate 12-16 users.

Material and Performance Requirements: The plan must resemble a comfortable setting, with materials similar to those of a hotel suite. Each suite should provide its users with privacy from the rest of the stadium.

Furnishings: Chairs, sofas and tables. Kitchenette including a sink, beverage-sized fridge, and stove. Coat closet and private restroom. Television and stereo.

Design Criteria: The level of private suites will receive the most ideal viewing elevation. This level also requires secure access and privacy from the rest of the park.

Private Suites

Quantity: 60-70
2 owner's boxes
2 party suites

Square Footage: 400 s.f. each





Citizens' Bank Park
Philadelphia, PA

Activity and User Behavior: The conference room will be a gathering space in which business meetings are held between the stadium and suite-holders.

Material and Performance Requirements: The acoustics in this space are of primary concern, as meetings will involve a speaker presenting facts and figures to spectators.

Furnishings: Removable chairs, video screen, audio equipment.

Design Criteria: Proximity to the suites is important as meetings may involve prospective suite-owners who wish to tour the area.

Suites Users' Conference Room

Quantity: 1

Square Footage: 4000 s.f.



	Players' Locker Room	Players' Lounge	Family Lounge	Coaches' Locker	Weight Training Room	Player Therapy Room	Examination Room	X-Ray	Laundry	Video Room	Team Meeting Room	Batting Cages	Equipment Room	Dugouts	Field	Restrooms
Umpires' Locker/Lounge	X	X	X	X	X	X	=	=	+	X	X	X	+	X	+	+
Players' Locker Room		+	X	+	o	o	=	=	+	o	+	=	=	+	=	+
Players' Lounge			+	=	+	+	=	=	=	o	+	=	=	=	=	+
Family Lounge				X	X	X	=	=	X	X	X	X	X	X	X	+
Coaches' Locker Room					o	o	=	=	+	o	+	=	=	+	=	+
Weight Training Room						+	+	o	=	=	=	=	=	=	=	+
Player Therapy Room							+	o	o	=	=	=	=	=	=	=
Examination Room								+	o	=	=	=	=	=	o	o
X-Ray									=	=	=	=	=	=	o	=
Laundry										=	=	=	=	=	=	=
Video Room											o	=	=	=	=	=
Team Meeting Room												=	=	=	=	o
Batting Cages													+	+	o	=
Equipment Room														+	=	=
Dugouts															+	+
Field																=

+	Necessary
o	Somewhat Necessary
=	Not Necessary
X	Avoid





Great American Ball Park
Cincinnati, OH

Activity and User Behavior: The playing field is the showcase for the entire stadium. It is where the game will be played and all spectators' seats will be oriented toward.

Material and Performance Requirements: A natural grass field, allowed by an open sky, will be the biggest change in the transition between ballparks. Grass baseball fields are typically mowed and maintained every day. The field must remain level without any dips or holes. The infield dirt must also be consistently maintained, watered and painted. Material for the warning track, a narrow path around the entire field should utilize natural materials rather than the recycled rubber track of the Metrodome.

Furnishings: Foul poles, bases and pitcher's mound.

Design Criteria: Standard dimensions of the infield are defined by the Official Rules of Major League Baseball. Foul territory and outfield depth are designed to fit the team, however. The outfield dimensions will complement the power of the Twins' lineup and more importantly, the defensive ability of the team's outfielders. Foul territory will be minimized for the Twins' batters, a team built on fundamentals including fouling pitches off in pursuit of a better pitch.

Playing Field

Quantity: 1

Square Footage: 3-3.5 acres





Citizens' Bank Park
Philadelphia, PA

Activity and User Behavior: The bullpens are the area where the pitching staff observes the game from. Two pitching mounds are present, allowing pitchers in the bullpen to warm up before coming into the game.

Material and Performance Requirements: The dimensions and materials of the bullpen should replicate the surfaces of the actual playing field.

Furnishings: Two pitching mounds, seating for the pitching staff.

Design Criteria: The bullpens should be carefully designed into the composition of the outfield wall, as they are a piece to the field where the stadium blends into the community through views over the outfield.

Bullpens

Quantity: 2

Square Footage: 1500 s.f. each





Citizens' Bank Park
Philadelphia, PA

Activity and User Behavior: The dugouts are where the players are seated when not on the field.

Material and Performance Requirements: Materials of the dugout floor should respond to the fact that players will be wearing cleats. A softer material is necessary in providing a reasonable progression. Appearance of the dugouts is of importance as they are clearly visible from spectator seating, and choice of materials will assist in their upkeep. Maintenance in the dugout will consist of removing the field dirt from the floor which had been stuck to players' cleats, and of sweeping the sunflower seeds and paper cups which overwhelm the dugout by the end of the game.

Furnishings: Benches. Rails with a protective mesh will prevent foul balls from entering the dugout and will provide a leaning post for those in the dugout wishing to stand

Design Criteria: The dugouts should be situated a few steps below field level so they do not interrupt the sightlines of the lower rows of seating.

Dugouts

Quantity: 2

Square Footage: 400 s.f. each





Citizens' Bank Park
Philadelphia, PA

Activity and User Behavior: The batting cages are one space where players work on their hitting skills. A team batting practice will also occur once per game day on the playing field.

Material and Performance Requirements: Each batting cage should be entirely framed in a mesh netting to prevent injury to nearby players. A turf similar to the surface of the playing field should cover the floor for stable footing.

Furnishings: shelving for bats and helmets, seating for the next batter.

Design Criteria: The batting cages should be located in the clubhouse as near to the field as possible, potentially at the field end of the tunnel.

Batting Cages

Quantity: 2 in each clubhouse

Square Footage: 1400 s.f. in each clubhouse





Citizens' Bank Park
Philadelphia, PA

Activity and User Behavior: Equipment storage will hold players' equipment before and after games. Items to be stored here include batting helmets, bats and other equipment that does not return to the locker rooms.

Material and Performance Requirements: This space will not be occupied by users of the building. Materials of the storage room should be durable and able to withstand the beating of removal and returning equipment.

Furnishings: shelving.

Design Criteria: The most convenient location for equipment storage would be in a locking closet to the clubhouse side of the dugouts.

Equipment Storage

Quantity: 1 for each clubhouse

Square Footage: 150 s.f.





Citizens' Bank Park
Philadelphia, PA

Player Locker Rooms

Quantity: 2

Square Footage: 3000 s.f. each

Activity and User Behavior: Each player will have his own locker in the locker room. This is where players will suit up before the game and change back into their street clothes after the game. The central space of the locker room will also serve as a meeting space for pep talks and post-game team meetings. Player lounging will also occur in the locker room.

Material and Performance Requirements: An effort should be made to accommodate players' comfort level, as this is the first space in which the players will rest after the game.

Furnishings: Personal lockers and seating.

Design Criteria: The locker room should be the central node to the team clubhouse. Whether or not players participate in any pre- or post-game activities or training, the locker room will be visited at least twice during the game day.





SBC Park
San Francisco, CA

Activity and User Behavior: The team manager, coaches and trainers will each have their own lockers in their own locker room. This is where the coaching staff will suit up before the game and change back into street clothes after the game. The coaches will also use the central space of the locker room for short meetings.

Material and Performance Requirements: An effort should be made to accommodate the staff's comfort level, keeping in mind that the coaches will use this as a resting space separate from that of the players'.

Furnishings: Personal lockers and seating.

Design Criteria: The locker room should be located adjacent to the players' locker room, as they will share some related spaces with the players.

Coaching Staff Locker Rooms

Quantity: 2

Square Footage: 1800 s.f. each





SBC Park
San Francisco, CA

Activity and User Behavior: The shower rooms will be used after the game for cleaning up.

Material and Performance Requirements: The showers will generally be used by most of the team after the game. With the amount of traffic moving through the space, non-slip surfaces will aid in the safety of the players.

Furnishings: showers.

Design Criteria: The showers should be located adjacent to the locker rooms and training facilities.

Showers

Quantity: 2

Square Footage: 1500 s.f. each





Jacobs Field
Cleveland, OH

Activity and User Behavior: The players' lounge will be dedicated to player dining and social gathering for the home team before and after games. This is where team chemistry, which leads to on-field team participation is built as players establish friendships with one another.

Material and Performance Requirements: The materials of the lounge should excite and encourage players to use the space and visit other team members. Player hobbies should be considered in selection of materials, as leisure will have a part in the lounge.

Furnishings: Dining tables and chairs, kitchenette. Sofas and televisions.

Design Criteria: The players' lounge should be located near other spaces specific to the home team's clubhouse, such as the weight training room and pool room. This grouping of spaces should encourage players to interact with each other.

Player Lounge

Quantity: 1

Square Footage: 600 s.f.





Citizens' Bank Park
Philadelphia, PA

Activity and User Behavior: The meeting room will provide a more formal setting for addressing team meetings than the locker rooms are capable of.

Material and Performance Requirements: A general sitting space, the acoustics of this room should be ideal for addressing team issues.

Furnishings: Seating and a conference table.

Design Criteria: The meeting room should remain deep within the clubhouse, as this space should not allow the media to attend or interfere.

Team Meeting Room

Quantity: 1 in each clubhouse

Square Footage: 2500 s.f.





Citizens' Bank Park
Philadelphia, PA

Activity and User Behavior: The team manager, coaches and trainers will be assigned offices in which they work on their game strategies and hold individual player meetings. Coaches meetings will also take place in the office area.

Material and Performance Requirements: This area of the clubhouse will be the most private, and should provide comfort to the staff as they may use the space for long stretches of time, especially during the off-season when they prepare for the upcoming season.

Furnishings: Desk and office chair, audio/video equipment and storage.

Design Criteria: The office area should be located in close proximity with the coaches' locker room, filling out the wing of the clubhouse for the coaching staff.

Coaching Staff Offices

Quantity: 6

Square Footage: 150 s.f.





Citizens' Bank Park
Philadelphia, PA

Activity and User Behavior: Typical series between teams last three games over three days. Therefore, players' uniforms will be left at the stadium and cleaned for them. Prior to the players arriving the following day, the uniforms will be hung in the lockers for them.

Material and Performance Requirements: The laundry rooms should provide a reasonable working environment for the staff.

Furnishings: Washing machines, dryers and hanging rods.

Design Criteria: Retrieval and return of the uniforms will be transported by large baskets or carts. Therefore, the laundry rooms should be located near the locker room.

Laundry Rooms

Quantity: 2

Square Footage: 300 s.f. each





SBC Park
San Francisco, CA

Activity and User Behavior: Players and coaches will use this space to evaluate video of the techniques of batters' swings, pitchers' throwing mechanics, and fielders' defensive positions. The team will also evaluate film of opposing teams and players in preparation for what they will be up against in the coming games.

Material and Performance Requirements: This space should provide privacy for its users, as concentration will be an important part of evaluating a player's mechanics. Positioning of monitors and display quality should be maximized.

Furnishings: Desks or tables, seating and video screens.

Design Criteria: This may be a space intermediate to players' and coaches' wings in the clubhouse. Generally, a player will work with a coach in reviewing film.

Video and Film

Quantity: 1 in each clubhouse

Square Footage: 300 s.f.





Ralph Engelstad Arena
Grand Forks, ND

Weight Training and Exercise

Quantity: 1

Square Footage: 3000 s.f.

Activity and User Behavior: More and more players are realizing the need to keep fit year round. With a healthy body, a player may well recognize his full athletic potential, prevent injury and prolong his career. A modern day training facility, staffed with a conditioning coach will keep players in the shape necessary to withstand a 162-game schedule.

Material and Performance Requirements: Sound absorbing materials will dampen the sound of exercise machines, promoting psychological well-being and communication between users. Soft materials will also be more understanding as a player goes through stretching techniques.

Furnishings: weight training and fitness equipment. Lockers for storage of personal items. Advantageous placement of fountains for replenishing fluids.

Design Criteria: In the event of a physical emergency, or with the instance that a player is training in recuperation of an injury, the training room should be located near therapy and medical rooms, as well as x-rays. The conditioning coach should be provided an office.





Citizens' Bank Park
Philadelphia, PA

Activity and User Behavior: After games or long workouts, players may need to relax their muscles. Players will take advantage of hydrotherapy pools and massage locations to lessen the tension their bodies go through in the amount of physical activity performed.

Material and Performance Requirements: The primary consideration of the therapy rooms is the comfort and relaxation of the players.

Furnishings: Massaging tables and whirlpool. Countertop and cabinets for staff of the space.

Design Criteria: Location of this space should relate to the training facilities of the clubhouse.

Player Therapy

Quantity: 1 per clubhouse

Square Footage: 600 s.f.





Jacobs Field
Cleveland, OH

Activity and User Behavior: In the event that a player requires medical assistance, a doctor will be on staff in the examination room. Injuries may occur either on the field during a game or as part of a clubhouse or training accident.

Material and Performance Requirements: Like any ordinary doctors' office, the space must be easily cleaned and maintained.

Furnishings: Seating or a bed. Doctor's medical equipment.

Design Criteria: The examination room should be easily accessible from the field or the training facilities, the areas in which injuries will most likely occur. This space should be adjacent with the therapy room.

Examination Room

Quantity: 1 per clubhouse

Square Footage: 400 s.f.



Activity and User Behavior: With more serious injuries, x-rays or MRIs may be required to reveal whether or not internal damage has occurred.

Material and Performance Requirements: The space must exhibit proper performance of medical procedures.

Furnishings: Large medical equipment.

Design Criteria: The x-ray should be adjacent to the examination room as the team doctor will also perform the x-rays.

X-Ray

Quantity: 1 per clubhouse

Square Footage: 300 s.f.



Activity and User Behavior: Toilets for all users of the clubhouse.

Material and Performance Requirements: The restrooms should be expected to be visited at any time that the clubhouse is occupied. Therefore, the restrooms should be quickly and easily cleaned and maintained.

Furnishings: Toilets and partitions, sinks, countertops, mirrors, dispensers and trash collectors.

Design Criteria: Smaller restrooms should be located near the training facilities and dugouts for player convenience, and a main restroom should be located near the showers and locker rooms.

Clubhouse Restrooms

Quantity: 3 per clubhouse

Square Footage: 750 s.f.





Jacobs Field
Cleveland, OH

Activity and User Behavior: The family lounge will act as a comfortable waiting space for the families of players and coaches. Generally the families, if in attendance, will watch the game from the stands. Therefore, it is perceived that the lounge will normally be used before and after games.

Material and Performance Requirements: The lounge should provide a comfortable setting for the team's families and encourage socializing between them.

Furnishings: Seating and tables. Televisions and stereo, with the option to watch the game from the lounge rather than from general seating decks. Kitchenette including a fridge, sink and stove.

Design Criteria: The post-game activities of the team may require somewhat lengthy waiting times for the families, so the lounge should provide the opportunity to be kept entertained. The family lounge should also be provided with a restroom.

Family Lounge

Quantity: 1 per clubhouse

Square Footage: 1000 s.f.



Activity and User Behavior: The officiating crew of four umpires will more than likely come to the ball-park to do their job, shower, spend some time visiting with each other before or after the game and be on their way home or to the hotel.

Material and Performance Requirements: The lounge should provide a comfortable setting for the umpires to relax in, as they are the only ones who spend the entire nine innings on the field.

Furnishings: lockers, showers and restrooms. Seating and tables.

Design Criteria: Access to the officials area should be separate from any other users path of circulation.

Umpire Lounge/Locker

Quantity: 1

Square Footage: 1000 s.f.



	Public Address	TV/Radio Booths	Camera Locations	Auxiliary Booth	Scoreboard Control	Sound Engineer	Press Services
Writer's Booth	o	o	=	o	o	o	+
Public Address Booth		o	=	o	o	o	+
TV/Radio Booths			o	o	o	o	+
Camera Locations				=	=	=	o
Auxiliary Booth					o	o	+
Scoreboard Control						o	+
Sound Engineer							+

- + Necessary
- o Somewhat Necessary
- = Not Necessary
- x Avoid





Jacobs Field
Cleveland, OH

Activity and User Behavior: The press conference room is where important team information will be communicated with the media. A large group of media will gather to ask questions, film and collect information so they can release their stories to the public.

Material and Performance Requirements: The space must utilize the potential of acoustic friendly materials and also those which most favorably reveal the focus or speaker to be recorded on film

Furnishings: Removable chairs and a pedestal with audio/visual access for the speaker.

Design Criteria: The press conference room should be located on the team clubhouse level, with easy access for reporters to and from the locker room, where they have limited access.

Press Conference Room

Quantity: 1

Square Footage: 3000 s.f.





PNC Park
Pittsburgh, PA

Activity and User Behavior: Members of the media will have exclusive access to this booth. Each reporter will be reserved a spot in the tiered seating level and have online access for a laptop computer.

Material and Performance Requirements: Materials will resemble those found in a typical office setting.

Furnishings: Seating, countertop and online hookups.

Design Criteria: The media's booth should have a clear view of the field and be unobstructed from the spectators.

Writer's Booth

Quantity: 1

Square Footage: 2500 s.f.





PNC Park
Pittsburgh, PA

Activity and User Behavior: Broadcasters' booths will be provided for home and away television and radio analysts. Each booth will seat two or three commentators, depending on the audience.

Material and Performance Requirements: Materials will be similar to those used for the media's booth. The booths should be enclosed for the most part to the spectators, eliminating crowd noise that is broadcast.

Furnishings: Countertop and seating. Electronic monitors both for use by the announcers and those that will communicate to them from the controls room.

Design Criteria: The broadcasters' booths should have a clear view of the field and be unobstructed from the spectators.

Television and Radio Broadcasters' Booths

Quantity: 4

Square Footage: 250 s.f. each





Great American Ball Park
Cincinnati, OH

Activity and User Behavior: The public address announcer will make general announcements to the crowd, such as ballpark rules and player introductions. This booth will be similar in design to the booths designated for broadcasters. Communication will also be necessary for the announcer to let the crowd know of changes or player substitutions.

Material and Performance Requirements: Materials will be similar to those used for the media's booth. The booth should be enclosed for the most part to the spectators, eliminating crowd noise over the intercom.

Furnishings: Countertop and seating. Electronic monitors both for use by the announcer and those that will communicate to the booth from the controls room.

Design Criteria: The public address announcer's booth should be adjacent to the other media spaces to support communication between the broadcasters.

Public Address Announcer

Quantity: 1

Square Footage: 150 s.f.





SBC Park
San Francisco, CA

Activity and User Behavior: Each camera location will be a small terrace where a member of the camera crew is stationed for the duration of the game.

Material and Performance Requirements: The crew members should be situated with a work area which enables them to hold the camera steady and pivot in any direction.

Furnishings: access to electricity.

Design Criteria: Camera positions should give the television audience the best possible angle on the game. Locations include those near the dugout and from straight-away center field, as well as other strategic positions.

Camera Crew Locations

Quantity: 8-12

Square Footage: 25 s.f. each



Activity and User Behavior: The employees of the press services area are there to accommodate the needs of the media and broadcasting team. They will serve as a central communication core between the parties and will assist in the hosting of guests.

Material and Performance Requirements: The space should remain flexible to the type of activities demanded by the media.

Furnishings: computer desks and chairs, kitchenette.

Design Criteria: The press services should remain centralized to the media level, acknowledging that it may be of assistance to each media group.

Press Services

Quantity: 1

Square Footage: 2500 s.f.





SBC Park
San Francisco, CA

Activity and User Behavior: Staff in the auxiliary and film room will queue tapes and replays; one for television and one for closed circuit, in stadium use and the scoreboard's video screen.

Material and Performance Requirements:

Furnishings: Countertops and seating. Numerous television and playback devices.

Design Criteria: The control spaces do not need views to the game as the staff in this space will have their time filled by the work required in queuing graphics and replays.

Auxiliary and Film Room

Quantity: 2

Square Footage: 250 s.f. each



Activity and User Behavior: Scoreboard controls involve displaying player bios, game day statistics and updating out-of-town scores. Other than the main scoreboard that will occupy the outfield, secondary scoreboards will be applied to the face of the upper deck.

Material and Performance Requirements:

Furnishings: Countertops and seating. Monitors and computer equipment.

Design Criteria: The control spaces do not need views to the game as the staff in this space will have their time filled by the work required in queuing graphics and replays.

Scoreboard Control Room

Quantity: 1

Square Footage: 200 s.f.



Activity and User Behavior: The sound engineer will be responsible for mixing sound effects for plays such as home team homeruns or visiting team strikeouts, as well as adding special effects to replays.

Material and Performance Requirements:

Furnishings: Countertops and seating. A variety of electrical and computer equipment.

Design Criteria: The control spaces do not need views to the game as the staff in this space will have their time filled by the work required in queuing special effects and sound.

Sound Engineer

Quantity: 1

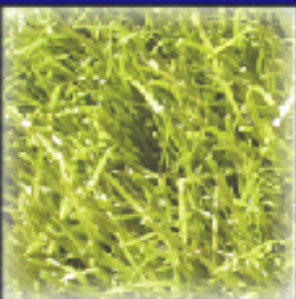
Square Footage: 200 s.f.



MINNESOTA

Twins

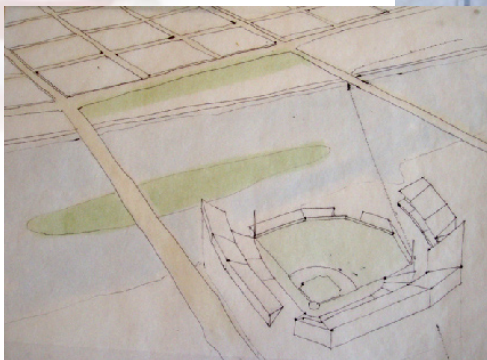
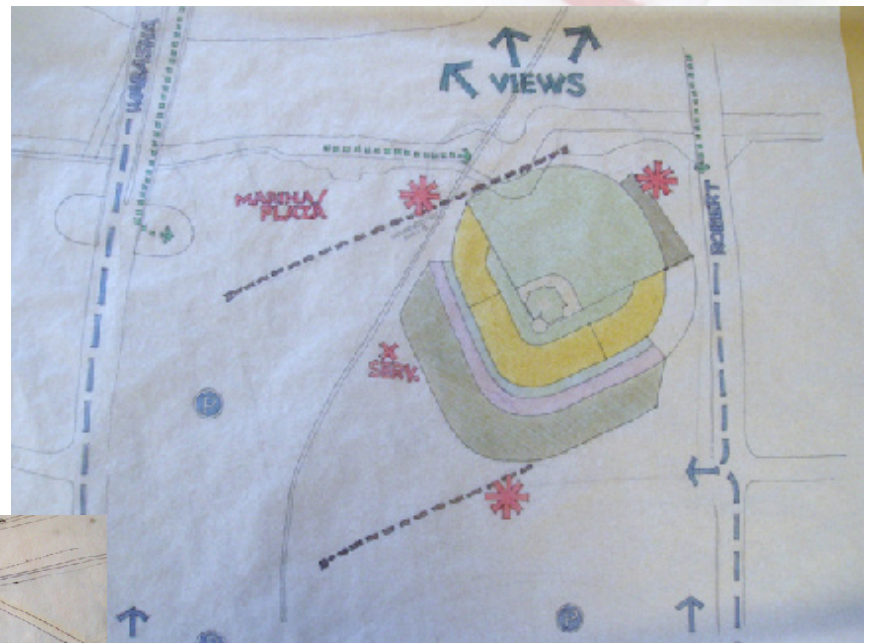
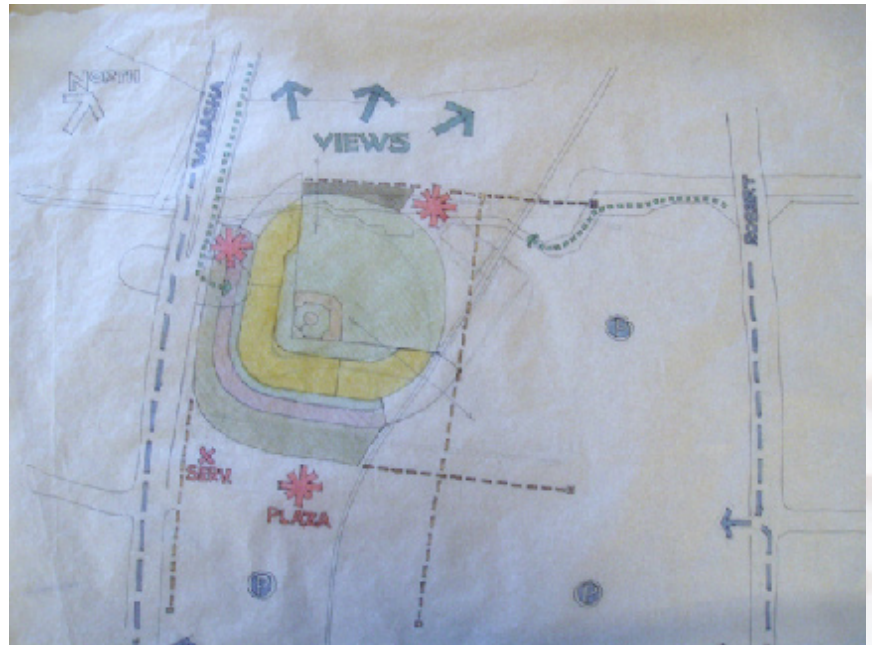
Process & Solution



Site Concept:

Orientation of the building within the site was guided by the rules of Major League Baseball's suggestion that the home plate - second base axis runs NNE.

The two concepts presented here situate the building on either side of the train tracks that run through the site.

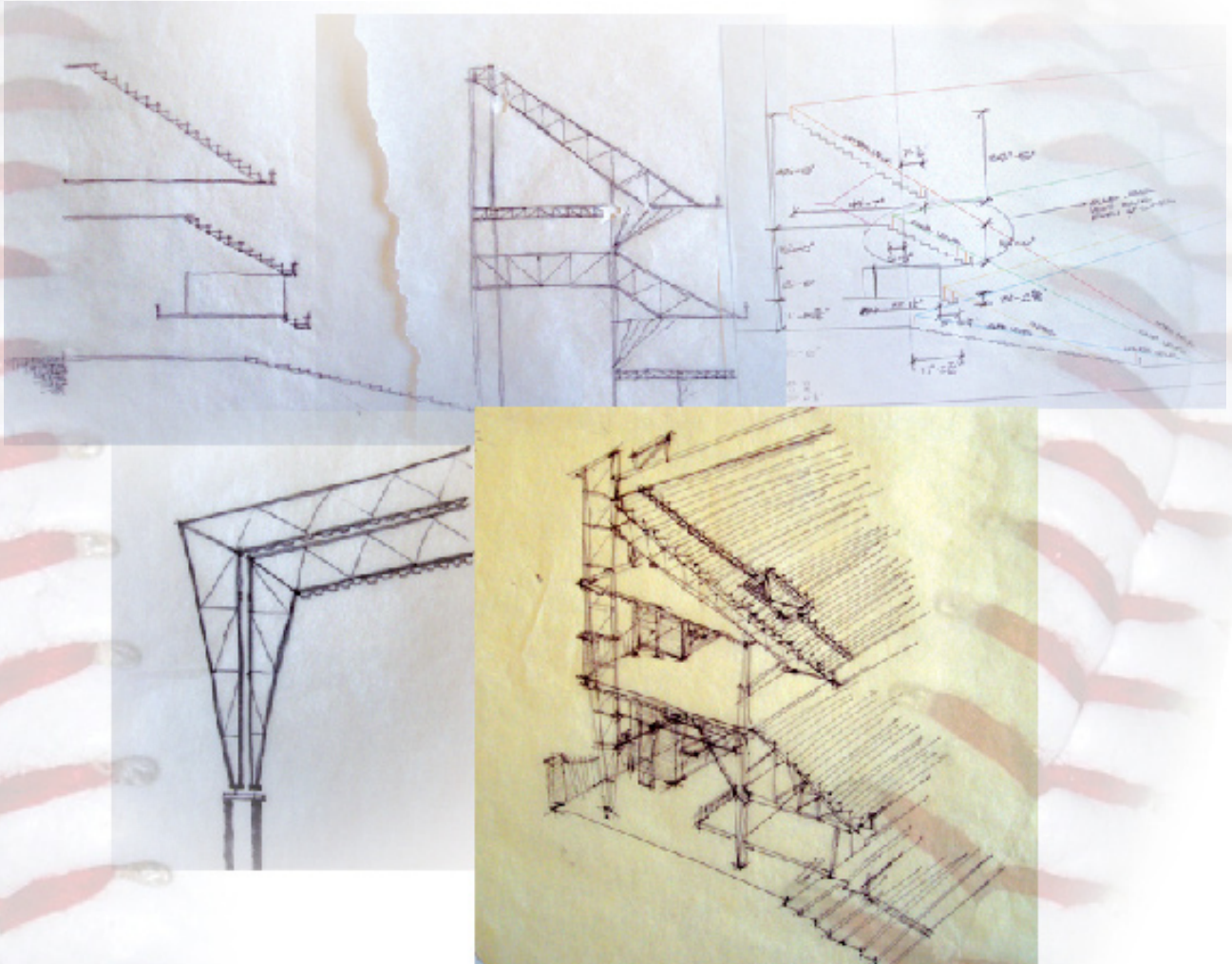


Seating studies:

It was important to maximize the amount of seating allowed by the space bounded between Wabasha St. and the railroad tracks. These images study the orientation and capacity of the lower seating level.

Shape of the field also was derived from these studies.

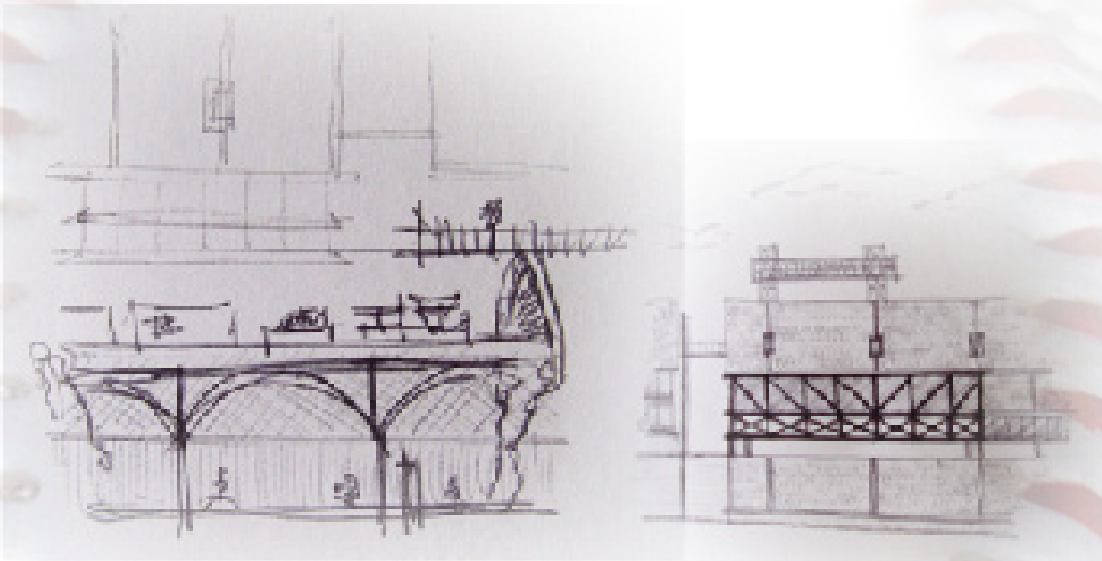




Section studies:

These images capture the process of the building's design in section. Structure, sightlines and seating angles, as well as vertical dimensioning of each level were derived from section studies.





Detail studies:

The right-field area responds to the presence of the railroad tracks just beyond the warning track. The path of the tracks remains undisturbed. A tunnel underneath the club level restaurants and bullpens excavated from beneath the tracks take advantage of the visual opportunity created by the tracks and also combine to minimize the impact to the site.



Site Plan



Field Level Seating

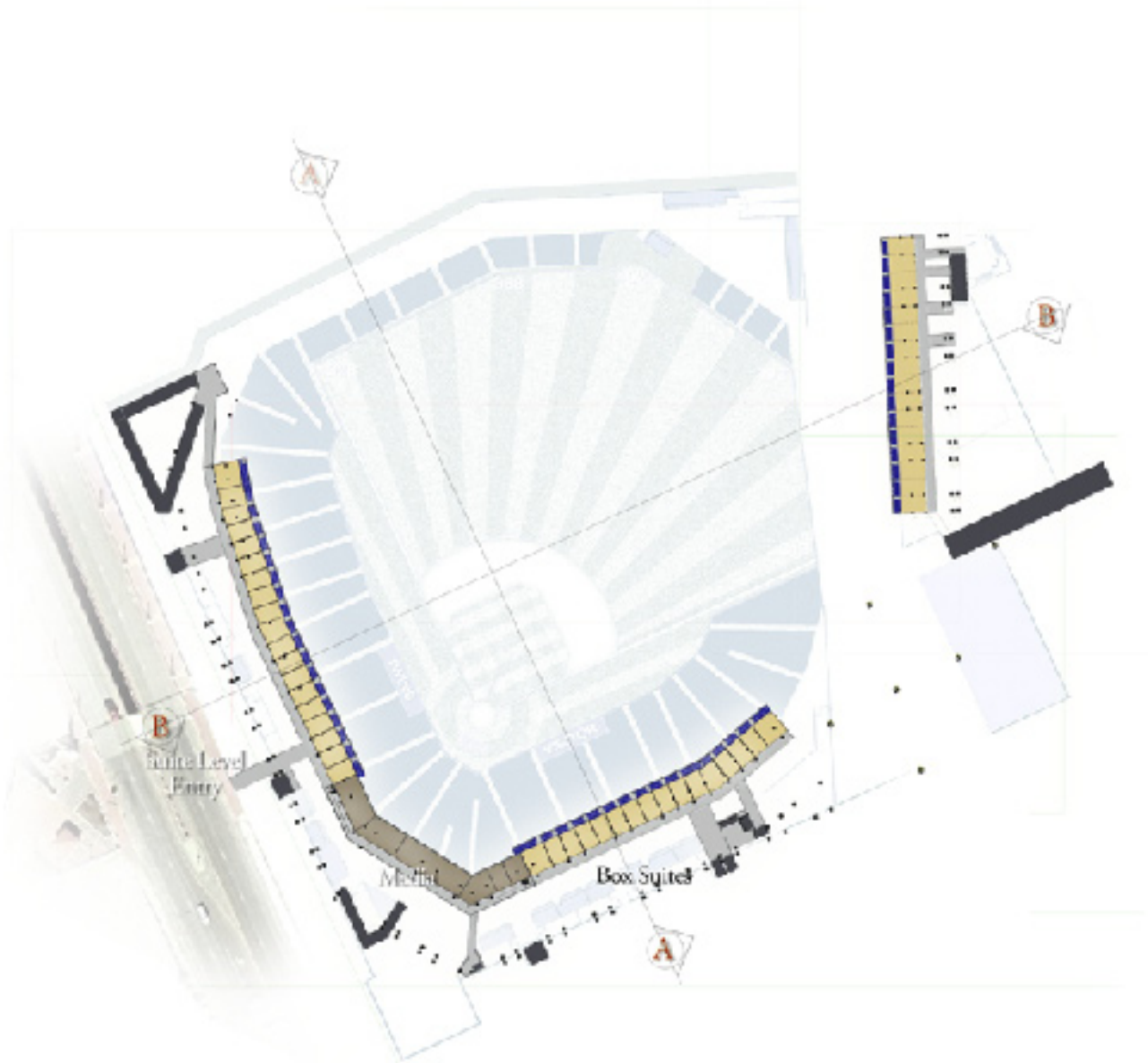
First tier of seating.
Main concourse at grade.



Private Suite Level Seating

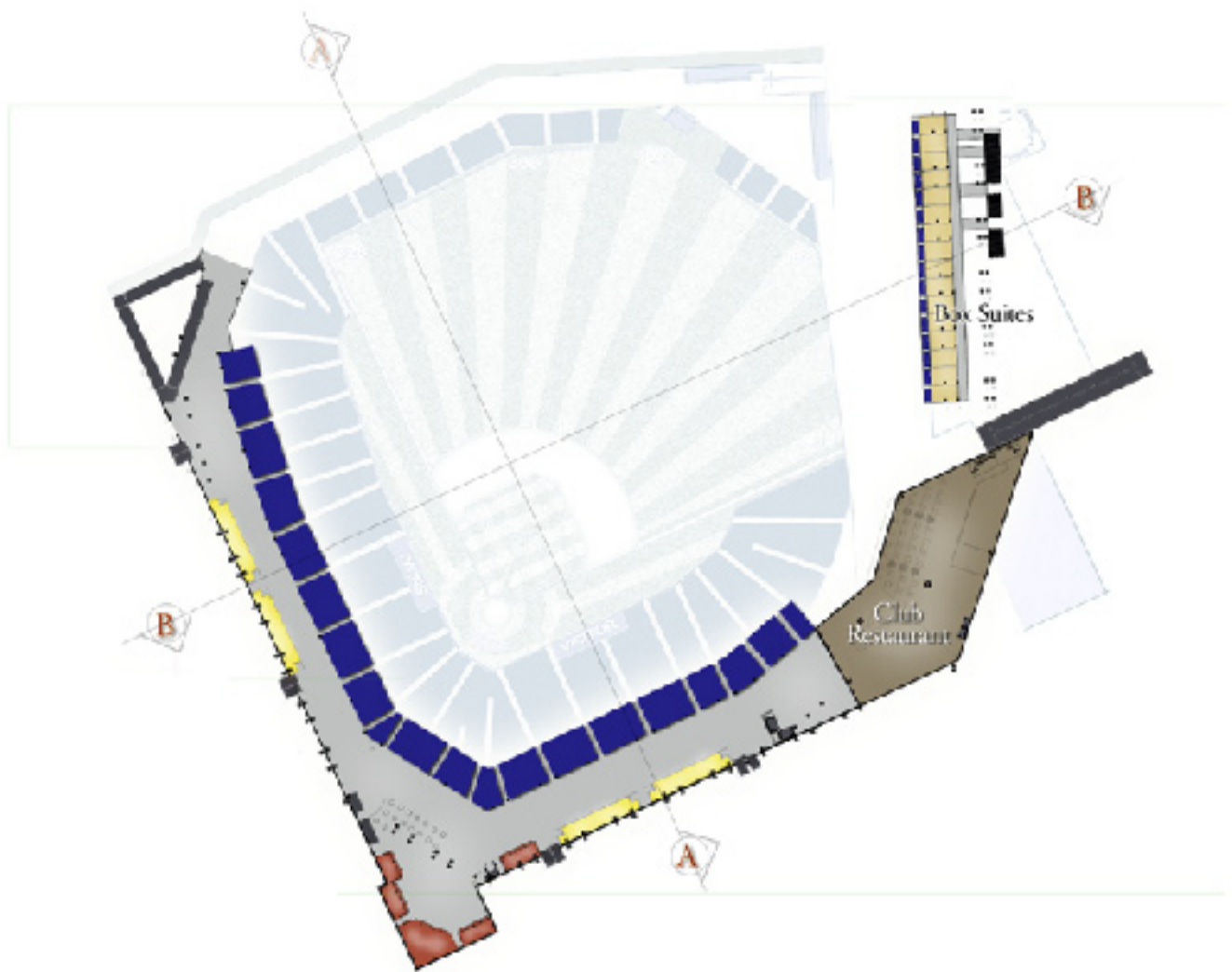
Second tier of seating.

Concourse accessible from Wabasha St. bridge.



Club Level Seating

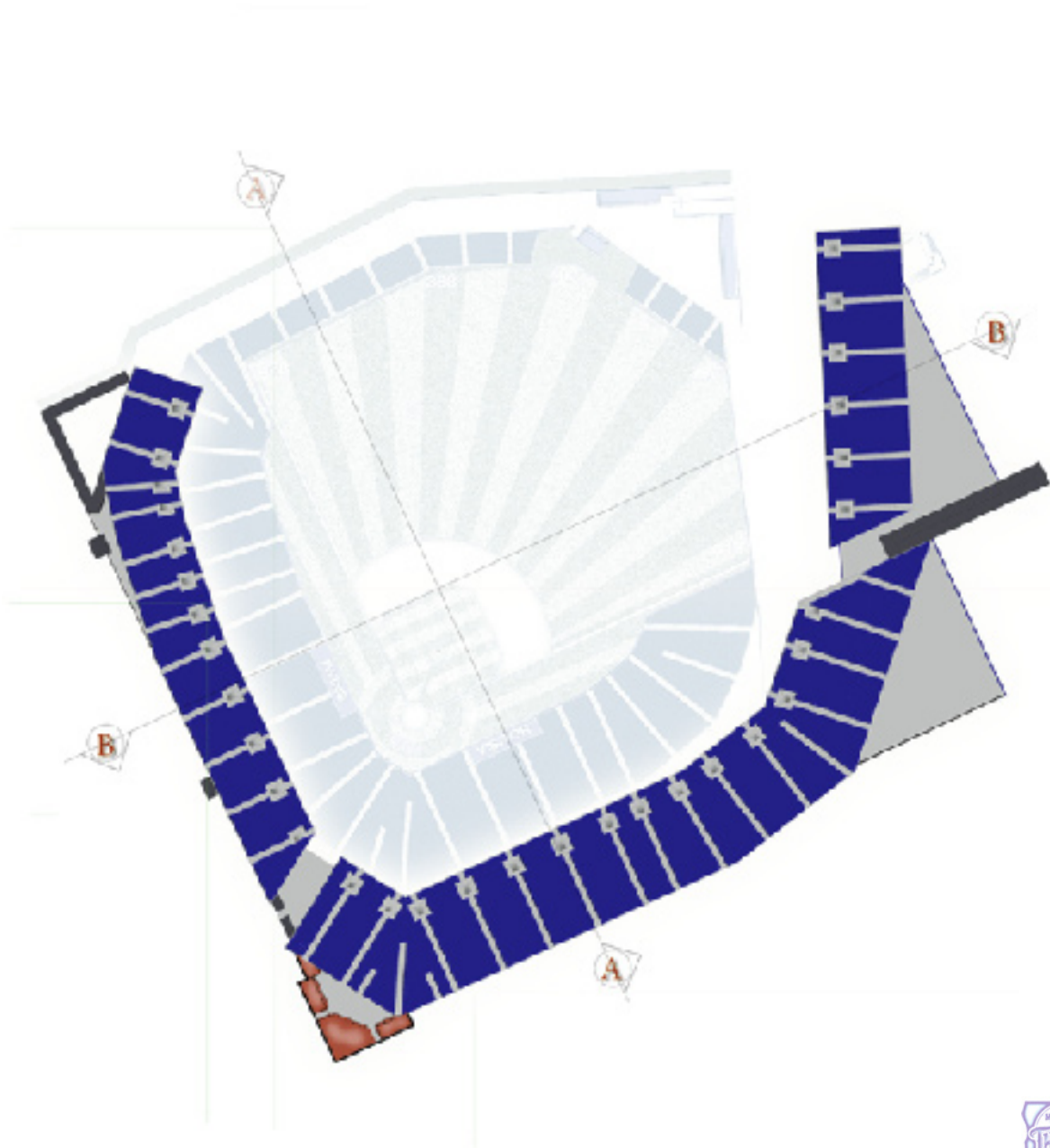
Third tier of seating.



Upper Deck Seating

Fourth tier of seating.

Seating accessible through tunnels to concourse.

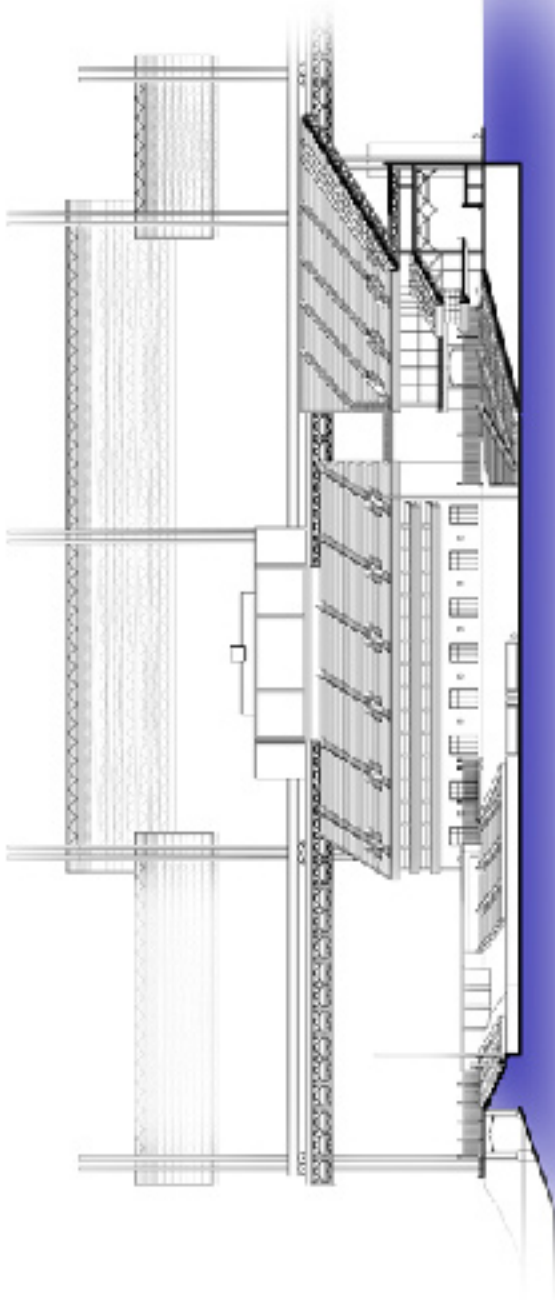


Building Elevations

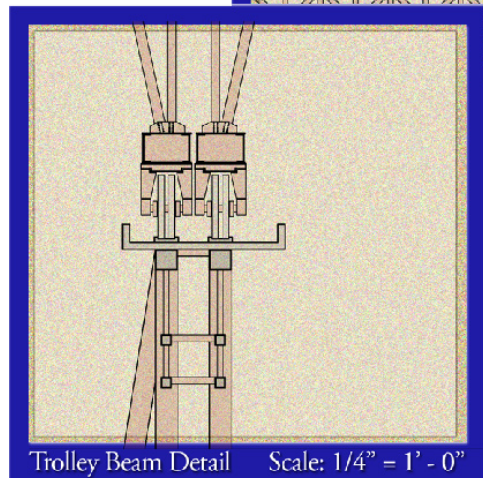
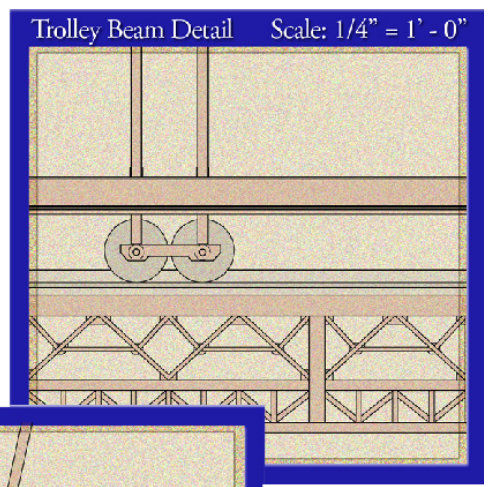
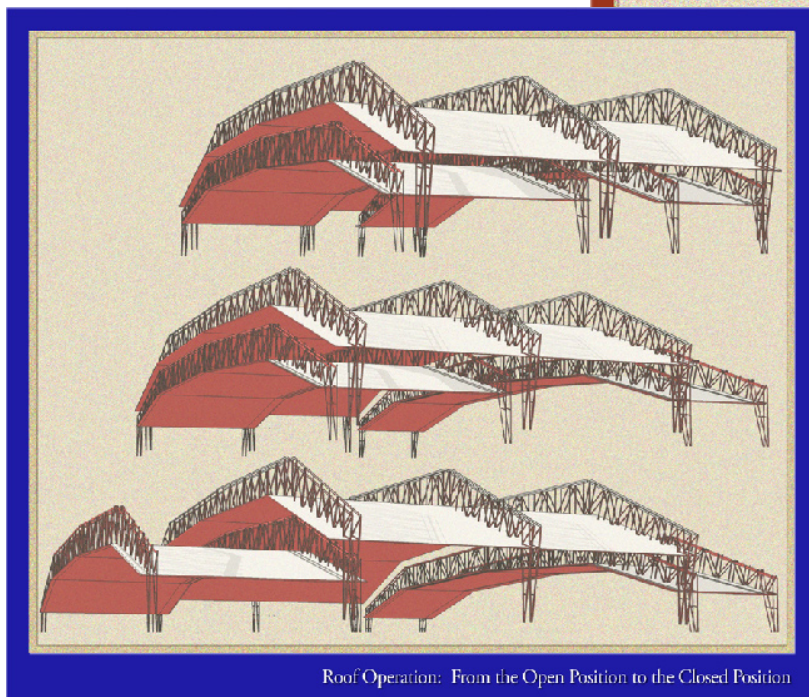
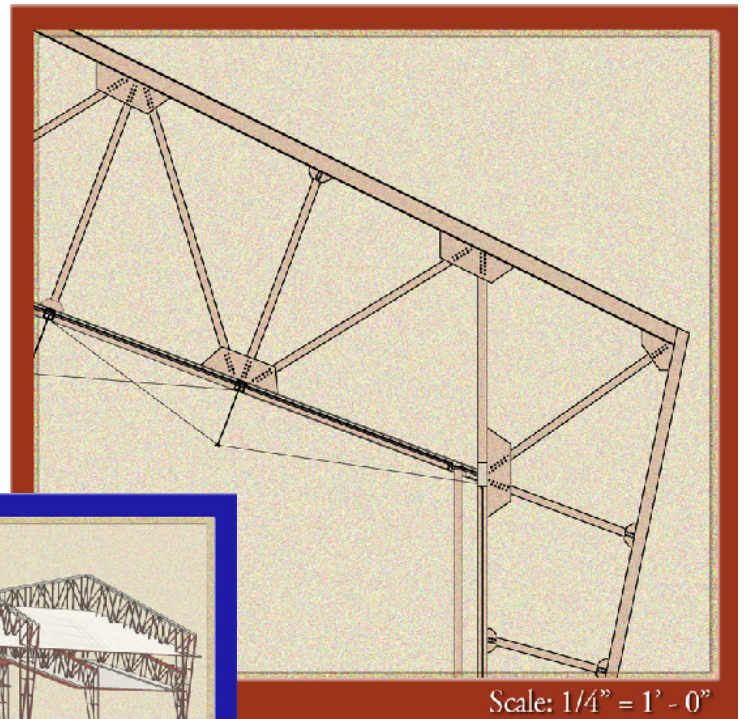
West (left), South (right)



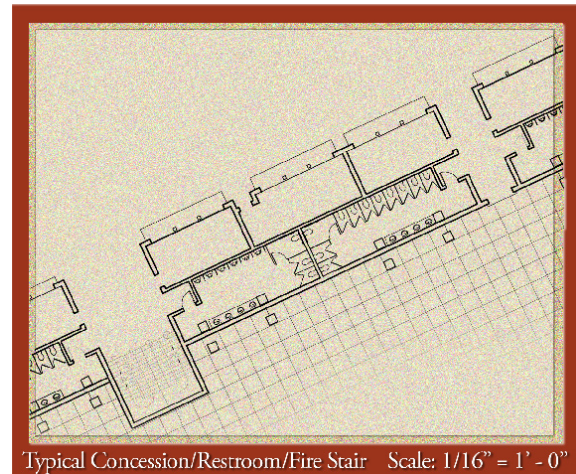
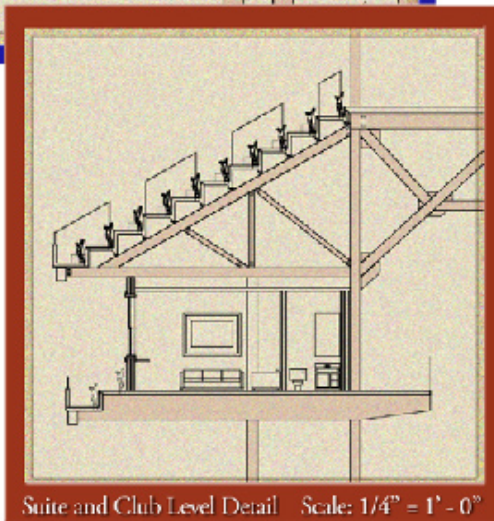
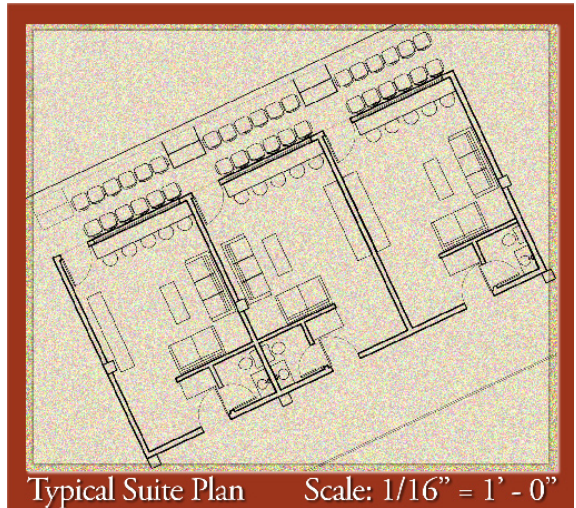
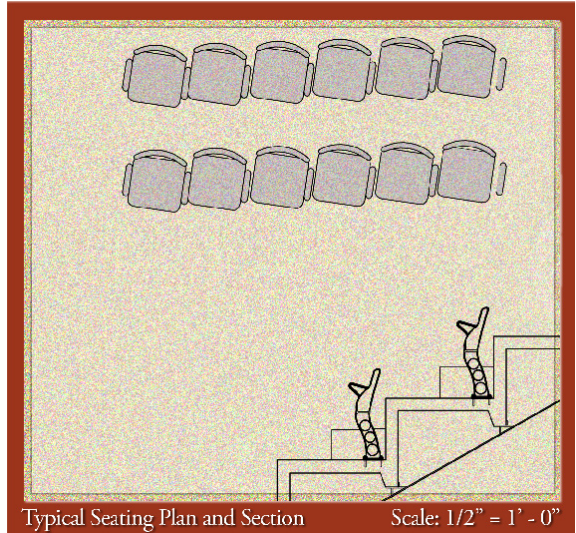
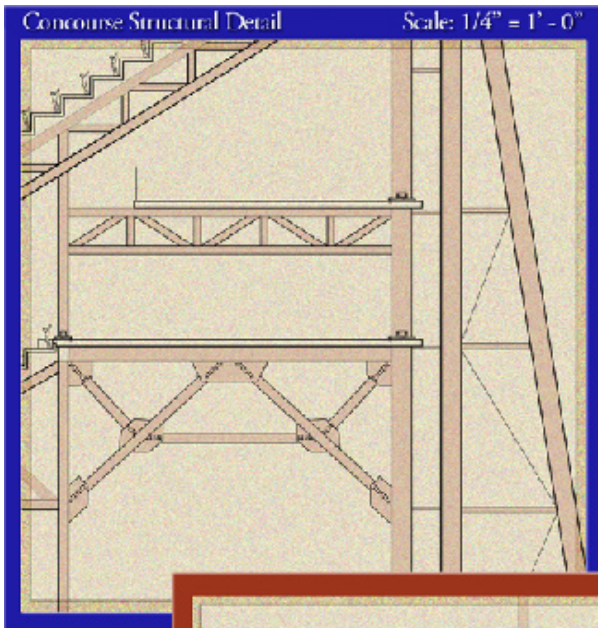
Building Sections
AA (left), BB (right)

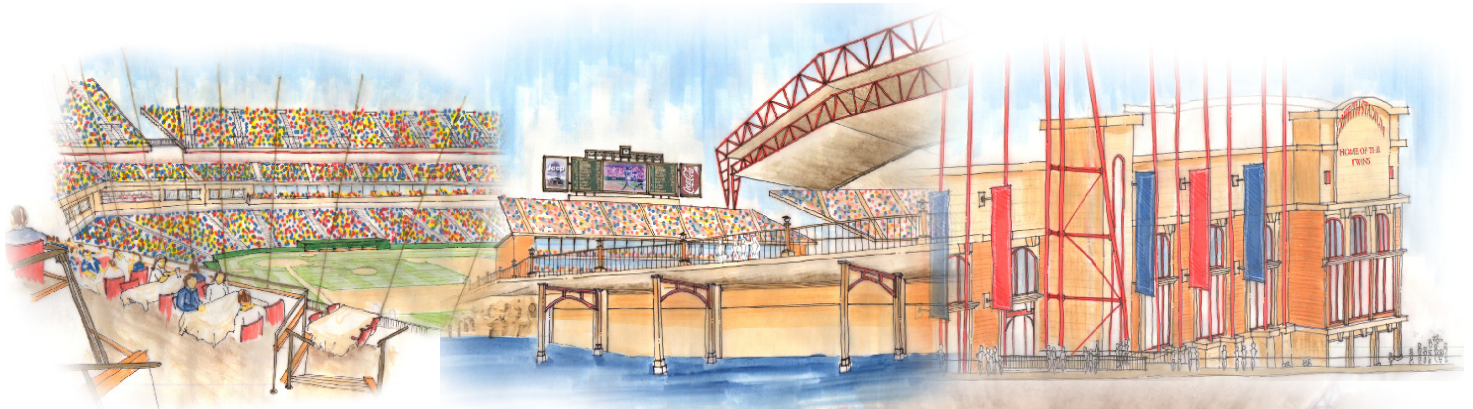


Roof Construction Details



Structure and Spacial Details





Perspectives:

- Club Restaurant (top left),
- From the Mississippi (top middle),
- Wabasha St. Facade (top right),
- Club Level Seating (right),
- Upper Deck Seating (below right)



THE BALLPARK
A Vision for the Future of Twins Baseball

Twins' new ballpark location is a landmark of sorts. It is a place where the past meets the future and the community comes together to create a new chapter in the team's history.

THE SITE
The location of the ballpark is a key factor in the team's success.

The new ballpark location is a landmark of sorts. It is a place where the past meets the future and the community comes together to create a new chapter in the team's history.

SITE PLAN
APPROXIMATE SCALE: 1" = 100'

- Ballpark
- Ballpark Plaza
- Ballpark Parking
- Ballpark Access
- Ballpark Entrance
- Ballpark Exit

PLAZA
The plaza is a key feature of the ballpark design. It is a place where the past meets the future and the community comes together to create a new chapter in the team's history.

GRIFFITH STADIUM
Twins Baseball in St. Paul, MN

View from Upper Deck with Roof Open **View from Club Level with Roof Closed**

UPPER DECK
The upper deck is a key feature of the ballpark design. It is a place where the past meets the future and the community comes together to create a new chapter in the team's history.

SEATING CHART
The seating chart shows the layout of the ballpark. It is a place where the past meets the future and the community comes together to create a new chapter in the team's history.

RETRACTABLE ROOF
The retractable roof is a key feature of the ballpark design. It is a place where the past meets the future and the community comes together to create a new chapter in the team's history.

CONCESSIONS
The concessions area is a key feature of the ballpark design. It is a place where the past meets the future and the community comes together to create a new chapter in the team's history.

SERVICE LEVEL
The service level is a key feature of the ballpark design. It is a place where the past meets the future and the community comes together to create a new chapter in the team's history.

SUITE LEVEL
The suite level is a key feature of the ballpark design. It is a place where the past meets the future and the community comes together to create a new chapter in the team's history.

CLUB RESTAURANTE
The club restaurant is a key feature of the ballpark design. It is a place where the past meets the future and the community comes together to create a new chapter in the team's history.

SUITES
The suites are a key feature of the ballpark design. It is a place where the past meets the future and the community comes together to create a new chapter in the team's history.

RAILROAD
The railroad is a key feature of the ballpark design. It is a place where the past meets the future and the community comes together to create a new chapter in the team's history.

RETRACTABLE ROOF
The retractable roof is a key feature of the ballpark design. It is a place where the past meets the future and the community comes together to create a new chapter in the team's history.

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SIGNATURE
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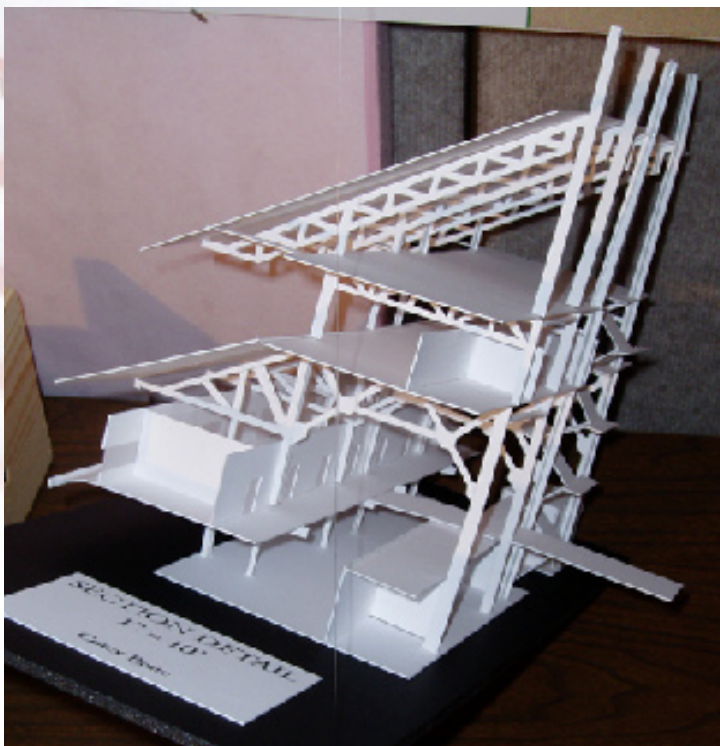
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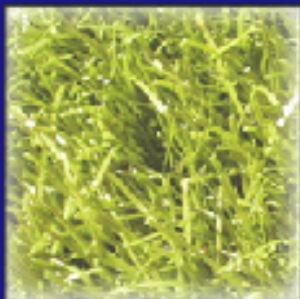
Context and Detail Models.



MINNESOTA

Twins

Appendices



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In the game of baseball, the fans are as important a part of the game as the ball. The Metrodome, home of the Minnesota Twins in Minneapolis, does not accommodate fans well enough to bring them to games. The Metrodome is the last of the cookie-cutter multi-sport venues and its dual purpose design sacrifices the luxuries and comfort of a baseball-only stadium.

I plan to design a Twin Cities area stadium deserving of the word 'ballpark'. My stadium will satisfy fans' wants and needs in comfort, entertainment, and luxury. Gone will be the displaced Metrodome, replaced by a stadium located in a community with supporting surroundings of hotels, restaurants, entertainment, and nightlife. Leisure at the ballpark will be highlighted by activities and features native to the Minnesota and Twin Cities areas. These secondary events would provide an additional incentive for fans to attend a game in person.

Comfort will be achieved by maximizing the sightlines and angles of each seat, correcting the viewpoints devoted for watching football games at the Metrodome. Sections of box suites will also add a little plush to those wishing to attend a game more luxuriously. In addition to anatomical comfort, psychological satisfaction will be enhanced with the existence of an open-air retractable roof, allowing fans to enjoy Minnesota's all-to-short summer season during the game.

Needs of fans will be met by widening the main concourses and opening them to the field, and by increasing the number of public restrooms, concession areas, and handicapped accessible seating. All of these will provide safer, more convenient, and more enjoyable circulation throughout the stadium.

All in all, replacing the Metrodome with a new state of the art baseball stadium will enrich the energy and support that fans show for their team. A stronger desire for fans to attend games will result and ultimately strengthen the atmosphere of the local community.

What I plan to research for this project includes information I have gathered at nine Major League stadiums I have visited this year. Guided stadium tours in St. Louis (Busch Stadium), Pittsburgh (PNC Park), Philadelphia (Citizens Bank Park), and San Francisco (SBC Park) have helped in understanding spaces and use of spaces in general levels, club levels, and season-ticket holding levels, as well as service levels, players' levels, and circulation. Other research will include case studies of each Major League Stadium, information in understanding finances, funding, and revenues associated with a new stadium, and responses to climate and situational weather on the sites of other stadiums.



- o Title
A River Port Ballpark for the Minnesota Twins Baseball Club in St. Paul, MN
- o Conceptual Basis and Building Typology
A ballpark is a special place. It is a place where a community comes together to celebrate one common interest in a single event. A ballpark exhibits a character so powerful that its personality becomes an imperative part of the event which so many gather in celebration of. The new Twins' ballpark will be reminiscent to the current wave of new Major League Baseball stadiums, such as Camden Yards in Baltimore, Jacobs Field in Cleveland, and SBC Park in San Francisco. Modern conveniences and technologies will be incorporated with the emotional characteristics of the classic stadiums of the early 1900s, like Yankee Stadium, Fenway Park, and Wrigley Field.
The underlying idea of this design is to reintroduce the National Pastime as a cornerstone to the social activity of the Twin Cities community. A natural grass park under an open summer sky at the crossing of the Mississippi and a historic railway passage will bond the nature of a ballpark and the spirit of the game with the historic roots of St. Paul. An outdoor stadium gives fans inside the stadium a connection with the surrounding urban environment. The relationship between the stadium and the setting in which it stands builds the personality that is so important to the game.
- o Project Justification
The Twins narrowly escaped contraction before the 2002 season. Grateful to still be in existence, the team must react to the issues addressed by the league commissioner's reasoning for the attempt in folding the team.
To begin the list is the fact that the Metrodome cannot generate the revenues necessary for the Twins to remain competitive with the league's bigger market teams. The Twins' current stadium situation faces them with insufficient amounts of concessions and restrooms, and no club level seating, private suites, or lounges. As a result, the Twins do not generate the cash flow to invest in free agent players who may best fill inconsistencies in the lineup.
The other major downfall to the Metrodome is that it is an indoor cookie-cutter stadium. It is the last of the multi-sport venues and its dual purpose design sacrifices the luxuries, comfort, and character of an open air, baseball only stadium. Fans simply cannot be drawn into the uncomfortable, artificial, indoor bubble during Minnesota's all-too-short summer season.
- o Emphasis
Critical to the design of the new stadium will be an emphasis on the response to the site. Contrary to the basement that the Metrodome is, this project will establish the relationship with a community that injects the energy and spirit into fans capable of an outdoor ballpark atmosphere. This requires careful analysis of how the existing urban fibers coincide with one another. New development must not interfere with the flow of existing features.



Emphasis must also be placed on the structural plan of the stadium. To fully utilize the angles of seating and sightlines, each successive deck should be stacked as close to the field as possible without structural obscurities to levels below. Another critical consideration relating to structure will be the long spanning system and operability of a retractable roof.

A third concern to place emphasis on is the network of many different paths of circulation required. The users of each area of the ballpark should be the only ones with access to their respective zones. Therefore, circulation remains as smooth and safe as possible. Players and coaches, ballpark staff, media, season-ticket holders, luxury suite owners, club level visitors, and general admission attendees must each be arranged with their own roads to prevent interference with one another.

o Site Information

The site for the Twins' ballpark reflects the early history of St. Paul as it is crossed by an historic railway bridge spanning the Mississippi.

The Mississippi River spawned a fur-trading post in the early 1800s which eventually led to the settlement of St. Paul, territorial capital for traders, missionaries, and explorers. Thousands more St. Paul-bound immigrants arrived via steamboat in 1858, when Minnesota was admitted to the union. St. Paul remained the capital and boomed as a transportation center, with both the river port of the Mississippi and the arrival of the railroad in the 1860s.

By the year 2000, the population of St. Paul had grown to over 287,000. Neighboring Minneapolis is home to another 382,000, giving the Twin Cities metro area a population of over 669,000.

The downtown St. Paul area is a very clean and well designed urban system. Intertwined with the skyscrapers cresting the limestone bluffs are abundant green urban parks. Within walking distance are Kellogg Park and Harriet Island Park, as well as landmarks including the capitol building, the St. Paul Science Museum, and the Xcel Energy Center and RiverCenter.

Vehicular transportation from any direction is quick and convenient with the presence of I-35E, I-94, and Highway 52 passing through the area within a one-mile radius.

The site is separated from the downtown district by the river, but held intact by the accessibility to the site and by the views back toward the skyline.

Bordering the remaining sides of the site are Plato Blvd. on the south, Livingston Ave. to the east, and Wabasha St. to the west. The site is framed with the skyline by north-south bridges to Wabasha St., Roberts St., and Raspberry Island, as well as the Burlington Northern Railroad lift bridge.

Presently the site is largely undeveloped. In the way of site construction is one small abandoned building. As recently as the 1980s, the site had been fully utilized with small warehouses and parking.

The site sits in elevation lower than that of downtown across the river and of the hills to the south. As evidenced by the excessive flooding of 1997, water level is of concern to the site.



The rolling elevation of the bluffs along the bends of the river is also cause for swirling winds on the site.

Soils consist of udorthents along the river and dorerton and Mahtomedi on the southern boundary of the site.

o User/Client Description and Project Elements

The client base for this project involves two parties; the Minnesota Twins and the people of Minnesota that are projected to attend games at the ballpark.

Requirements of the team and its estimated 1000 staff members include offices for administrative operations and meeting spaces designated toward the responsibilities in marketing, promotion, advertising, and ticketing. Stadium control areas also must be available for lighting, mechanical, and electrical procedures.

Team players and coaching staff also necessitate the careful planning of the clubhouse consisting of meeting spaces, washing and dressing areas, a training and exercise gym, and medical, therapy, and emergency areas.

Demands for a capacity of approximately 35,000 visitors daily begins with seat comfort within the general seating levels. Correcting the awkward angles of the football game vantage points one encounters at the Metrodome will result in better comfort for fans of all ages. Seating angles will be directed toward the infield from all sections, enhancing fans' comfort level. The length of typical baseball games which one sits through also calls for the attention to aisle and individual seat dimensions. More space must be allotted to fan comfort to prevent restlessness. Private luxury suites and a club level are the primary money-makers the Twins are seeking in the form of ticket revenues. Luxury suites are generally on their own level and are leased on multi-year contracts, designed for groups in the range of 15 people per suite. They have their own toilets and kitchens, and are catered to as well. The club level is also its own level, but attendance is on a per game admission. Fans get the best view to the field from this level. They also have exclusive access to lounges, restaurants and bars, features of the stadium which can be used even on non-game days.

Much of downtown St. Paul's existing parking utilized for business hours will be shared with the stadium, thus limiting the amount of parking required on site. Downtown parking is made available by the abundant vacancy after business hours and the frequent game time scheduling at 7:00 P.M, except for select weekend day games. Results will prove more efficient use of land in the urban setting, and the encouragement of pedestrian activity between the ballpark and the river.

Other design elements of the project include mechanics to operate a retractable roof, service and delivery access, storage, media spaces, activity areas such as picnic grounds and a children's area, and design of the playing field.

The use of the stadium for baseball games will occur on 81 occasions between April and October, barring the situation that the Twins host any playoff games.



- o Design Methodology

Through the use of case studies, insight will be gained toward the design of circulation and structure. This information will lead to the discovery of spatial requirements for the building footprint and further the development of the site.

Information will also be gathered from books covering issues such as ballpark neighborhoods, histories, and stadium overviews, and from stadium development guides.

- o Realization of the Design Method in the Design Process

Case studies will serve as the foundation from which structural and circulation plans evolve.

Notations of advantages and disadvantages of each design will lead to the integration of a system specific to the St. Paul site.

- o Documentation of the Design Process

Documentation is being recorded in a sketchbook and research is being collected in a binder.

Information being gathered includes photographs, surveys, and text on Major League Baseball stadiums, as well as select minor league and independent league ballparks.



o Bibliography/Resources

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(2001). St. Paul. The Columbia Encyclopedia, Sixth Edition. Retrieved October 6, 2004 from <http://www.bartleby.com/65/st/StPaul.html>

Lambrecht, A. L. (1993). Mississippi River Timeline (Minneapolis/St.Paul-Iowa border). Retrieved October 6, 2004 from <http://www.oldmanriver.com/pages/timeline.htm>



Previous Studio Experience

2nd year

Fall:

Milt Yergens
Cooking School and Restaurant

Spring:

Philip D'Anjou
New York City Ground Zero
Copenhagen School of Architecture
Lachine Canal Bridge

3rd year

Fall:

Mohammed Elnahas
NDSU Arboretum and Ecological Enrichment Center
Assisted Living Residential Units

Spring:

Carol Praefcke
Children's Center for the Arts
Assembly of God Church: Masonry Competition

4th year

Fall:

Mark Barnhouse, Brian Dougan, Cindy Urness, Josh Walter
Downtown Fargo Urban Design: Urban Renewal Competition

Spring:

Frank Kratky
Apartment Housing: Marvin Windows Competition
Bioclimatic High-Rise
Design Build Kite Project

5th year

Fall:

Steve Martens
Valley City Historic Preservation



I would like to thank all the professors, students and friends who have helped me through this project as well as through the past five years. Your assistance has been greatly appreciated and has helped make my experience at NDSU an enjoyable one!

Good luck to all thesis students of the future!

Corey Beste

