

# North Dakota State University Graduate School

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**Title**

24/7 Stadiums: Their Effect on Local Communities

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24/7 STADIUMS: THEIR IMPACT ON LOCAL COMMUNITIES

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By

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## **ABSTRACT**

This disquisition focuses on the ways in which a plausible stadium can be operated 24 hours a day, 7 days a week. With there being no such thing as a “24/7 stadium”, research was conducted through case studies, data collection, and schematic designs to see if this new type of stadium can have a positive impact on the local community surrounding it. The reason for this type of stadium is that stadiums typically have limited functionality that hinders the community in developing other developments that may benefit them more directly than a stadium would. With that in mind, a stadium that works 24/7 may have a better impact than typical stadiums, leading to new possibilities in the future of stadium design. With this disquisition, research has been conducted to prove that these stadiums are possible and have a positive impact on their surrounding communities.

## TABLE OF CONTENTS

ABSTRACT .....	i
LIST OF TABLES .....	iv
LIST OF FIGURES .....	v
LIST OF SYMBOLS.....	vii
INTRODUCTION .....	1
Problem Statement .....	1
Research Question.....	2
Proposed Outcomes .....	2
Deliverables:.....	2
Impact .....	2
Aim.....	2
Significance .....	3
BACKGROUND .....	3
Literature Review .....	4
Previous Research.....	4
Gap Identification.....	7
Project Type .....	7
Project Issues.....	7
METHODOLOGY .....	8
Approach .....	8
Case Study: Lincoln Financial Field.....	9
Case Study: 24/7 Aspects .....	12
Case Study: U.S. Bank Stadium .....	15
Schematic Designs.....	44
Results.....	91
Project Location .....	97

CONCLUSION .....	100
Final Project Description.....	100
Positive Impact on the Surrounding Community .....	100
Project Design.....	101
Conclusions.....	108
REFERENCES .....	109

## LIST OF TABLES

<u>Table</u>	<u>Page</u>
1. Small Stadium (High School Football Stadium) with NAICS Codes .....	20
2. Medium-sized Stadium with NAICS Codes .....	25
3. Large-scale Stadium with NAICS Codes.....	36
4. High School Stadium .....	91
5. NHL Stadium.....	93
6. NFL.....	94

## LIST OF FIGURES

<u>Figure</u>	<u>Page</u>
1. FIFA Section .....	6
2. Lincoln Financial Field.....	9
3. Lincoln Field Solar Panels .....	10
4. Recycle Bin .....	11
5. Apartments - Cooley Law School .....	12
6. Data Center .....	13
7. Field Hospital .....	14
8. U.S. Bank Stadium.....	15
9. Stadium Seating .....	16
10. Multi-purpose aspects.....	17
11. Sustainability.....	18
12. Field Level .....	44
13. Main Concourse .....	50
14. Third Level - Hotel .....	52
15. Level 1 - Ice Rink Level.....	54
16. Level 2 - Main Concourse.....	60
17. Third Level - Suites .....	62
18. Level 4 - Upper-Level Concourse .....	64
19. Level 1 - Field Level .....	66
20. Level 2 - Sideline Suite Level .....	74
21. Level 3 - Lower Club Level .....	76
22. Level 4- Main Concourse.....	78
23. Level 5 - Upper Club Level.....	81
24. Level 6 - Upper Suite Level .....	84
25. Level 7 - Upper Concourse Level .....	87

26. Level 8 - Mechanical Mezzanine .....	89
27. Available Jobs .....	95
28. Available Statements .....	95
29. Revenue .....	96
30. Site.....	97
31. Site overview .....	98
32. Site Views .....	98
33. Future Development .....	99
34. Site overview with Design .....	99
35. Southwest Interior .....	101
36. Concourse 2 View.....	102
37. Northwest Exterior .....	102
38. Hotel Room.....	103
39. Stores and Vendors.....	103
40. Suites .....	104
41. Northeast Exterior.....	104
42. East Elevation .....	105
43. Stadium Structure .....	105
44. Hard Rock Stadium Structure.....	106
45. Project Structure (Close).....	106
46. Section Cut.....	107
47. Field Level Floor Plan .....	107
48. Concourse 1 Floor Plan.....	108



**LIST OF SYMBOLS**

\$ .....United States Dollar sign

& .....And

% .....Percentage

## INTRODUCTION

Stadiums are used all over the world and are a major focal point for cities and countries. The issue, however, when it comes to these stadiums is that they have little use compared to other structures. Such a large space can be used often and provide many benefits to a community when designed to accommodate every hour of each day. With stadiums being used rarely, stadiums designed to be used 24 hours a day, 7 days a week can provide more benefits to the surrounding communities no matter the size of the community. Whether it's a small, medium, or large-scale community, the effects of 24/7 stadiums will have a significant impact on the community. 24/7 stadiums can provide many uses besides large events. The research behind the effects 24/7 stadiums have on different communities can be beneficial in that communities can see the research and how a 24/7 stadium will affect their community. In today's world, there is little research done on stadiums that are used all the time. Providing research for this area that has an insufficient knowledge base will benefit the architectural community by providing such information. The use of 24/7 stadiums aren't something that is normally built, but including such could begin a 'new age' of stadium design in providing new jobs along with a space to use at all times of the day.

### **Problem Statement**

Most stadiums struggle to make even when it comes to their revenue stream, such as the newly proposed NFL team the Chicago Bears and their new stadium. Adding these 24/7 aspects can not only provide multiple uses for the surrounding community, but it can also benefit the community through the economic impact that the 24/7 aspects provide. Stadiums without these uses are the main designs used throughout the world, but they miss out on some of the community aspects that a stadium should focus on. The research compiled in this report examines how the stadium can truly be used 24/7 while supporting the community. In the end, this design may replace the modern stadium and become the new leading design in stadium design with its 24/7 aspects leading the way to a new future.

## **Research Question**

How can 24/7 stadiums impact the surrounding community: financially, physically, visually?

## **Proposed Outcomes**

### **Deliverables:**

- A new stadium that is 24/7 that positively impacts the surrounding community: visually, physically, financially.
- Develop schematic designs in order to see hypothetical 24/7 stadiums in action and their overall impact.

## **Impact**

Overall, the potential impact this research has for the future is one that can be very beneficial for future projects. With there being so little literature on the idea of 24/7 stadiums, doing such research will provide future projects with the theory of such and build up the stadium to its greatest potential. There is a need in stadium design and that is efficiency. The 24/7 stadium is that and much more. The research provided will help build a clear path to how this stadium functions and set the groundwork for this new stadium design. Regarding the actual project, the potential of a 24/7 stadium will boost communities in the right direction. Most if not all communities will only benefit from such a project. Many aspects will increase such as more local jobs, more housing aspects, increase in community engagement, increase in tourism, and lastly increase the overall revenue stream of the stadium. All these points will have a positive impact on the surrounding community and focuses on the areas a typical stadium can't achieve.

## **Aim**

This disquisition aims at a new possibility for stadium design that provides for the surrounding community in new and interesting ways. Creating spaces that are 24/7 are key to making a stadium efficient while also having a positive impact on the surrounding community.

## **Significance**

This research is necessary due to the fact that stadiums lack efficient use when large events aren't being held. Depending on the stadium, they are often only used 40 times or days a year. Along with such, stadiums often see their revenue put right back into the stadium itself. One of the goals of this disquisition is to show how the 24/7 aspects not only generate more revenue for the stadium, but that this revenue can be put directly towards the community. Besides revenue, stadiums take up hundreds of thousands of square feet of land that a city could use for other developments. When these spaces aren't being used, locals become upset as the stadium has no function besides during large events. With the 24/7 stadium, users can use the space at any time they would like, filling the desire of functionality while also providing directly to the community.

## **BACKGROUND**

Moving into the new generation, buildings and humans must adapt to the changing times. The need for new stadiums is rising and have changed cityscapes with their brilliant designs. However, cities can fail when it comes to the financial impact these stadiums can have and often look over the community aspects.

Historically, stadiums served as large areas for people to come and enjoy large-scale events. Even during the Roman times, the Coliseum featured these large events while also having small shops around the exterior, making it a global hub. Stadiums have been a large focal point for every city, but often enough they lack year-round use. Knowing this, I often asked the question "Why aren't these stadiums used all the time?". Since these are such large buildings and are large social hubs, shouldn't they be used more?

This in turn is the central premise of this thesis; what ways stadiums can become the social hub they used to be, how a stadium can provide for the community, and how a stadium can be 24/7. As mentioned before, modern stadiums are not 24/7 and fail to use their spaces

during non-event hours. With that, focusing on ways a stadium can be built 24/7 and the overall effects it has on the surrounding community will be a key goal of this disquisition.

## **Literature Review**

24/7 stadiums unfortunately are not a current design trend and there is no such thing in the world. With that in mind, the literature used focuses on different aspects of stadium design that can still complement the 24/7 design. In turn, there isn't as much literature review due to the lack of literature to review on the topic.

## **Previous Research**

### **Stadia: A design and development guide**

- Key Points:
  - External Planning
    - This chapter focuses on the overall planning and development of the spaces outside the stadium. This covers parking, out-of-town stadiums, locational factors, public transport, zoning, and other public related topics. The chapter doesn't go in depth about design but rather reminds the reader of the small details that can lead to big impacts on the users.
  - Stadia and Tourism
    - For this chapter, the main theme is that of tourism and how the stadium becomes an attraction. The location of the stadium was touched on in the fact that stadiums should be close to other tourist attractions to allow a good circulation of tourists. Later in the chapter, a focus switches in that stadiums become more than just a stadium. They focus on the stadium itself but the surrounding aspects too like leisure. Not mentioned in the book as it is an older book, but the author was correct in the statement

as most stadiums these days are getting expansions that don't relate to the sport(s) that are played in the stadium. They focus on the leisure aspect to allow the visitors to stay near the stadium/game while being able to enjoy the leisure aspect.

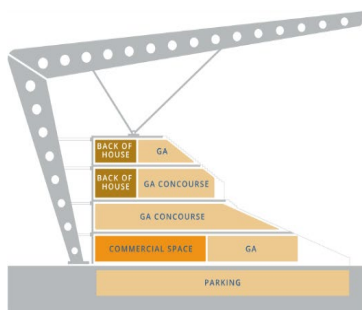
- Operation and Funding
  - Chapter 19 covers the overall costs and finances of a stadium. In this chapter, graphs showing where the money is spent regarding the different parts of the stadium are extremely beneficial in that now I know where I can put more money/aspects into one space than the other. The chapter also covers design factors, operating costs, and seating regarding the overall finances and costs to keep in mind.
- Retail sales
  - Sales are a large aspect when it comes to stadiums and to relate such to 24/7 stadiums will be an even bigger impact. The chapter covers what type of spaces will be included in the stadium like souvenir shops museum/exhibition spaces or visitor centers. This chapter is small, but it relates to 24/7 stadiums in how to bring tourists in and what to accommodate for such.
  -

### **Initiation and Feasibility – FIFA – 1.7 Multi-Use**

- Key Points
  - Advantages and disadvantages of multi-use.
    - This section talks mostly about the ups and downs when it comes to multi-use stadiums. The biggest portion of the section shows an advantages and disadvantages table showing information about multi-use.

- Community Use
  - This brief section mentions the fact that community teams could use the stadium. Having the community use the stadium can help with receiving public funding for the project and overall, back the project.
- Use of Stadium Building
  - Within this section is the different uses one may get out of a multi-use stadium. One of the main points made in this section is that “the aim should not be to design specific facilities for conferences and events but to optimize the use of those already required for matches.”. Keeping that in mind will be a big focus for 24/7 stadiums.
- Inclusion of Mixed-Use Functions
  - Another small section but it talks about the different levels of a stadium and what parts are used and in which ways. This can be used for so many things besides the sport(s) played in the stadium.

**Figure 1. FIFA Section**



Note\* <https://publications.fifa.com>

## **Gap Identification**

One of the biggest missing items in both pieces of literature is that there is no mention of 24/7 stadiums and the overall effect stadiums have on the surrounding communities. With that, my research still fits into these categories as including mixed/multi-use aspects into a 24/7 stadium will provide many amenities for the surrounding community, small to large. To follow, bringing in the research from typical stadiums and mixed/multi-use will allow the ability to address the current topic that others have not. Lastly, this missing area will address just how these 24/7 stadiums operate overall and their general benefit.

## **Project Type**

The nature of this project focuses on the community and how 24/7 aspects can help them. Architects and other design professionals have done no research on this topic for unknown reasons. Although, there has been a growing need for space in a populous downtown along with community engagement practices. Stadiums have become more and more open to mix/multi-use designs but fail to reach being operated 24/7. While these multi-use designs are strong have do provide for the community, they still don't function often enough to truly help the surrounding community. Stadiums have been used for thousands of years and always have taken up large spaces. That can continue to happen but finding out how the stadium can be used during non-event hours is key to success.

## **Project Issues**

As mentioned before, the biggest issue for the project is the 24/7 aspects that can be included in the stadium. While there is no specific literature on the idea of 24/7 stadiums, looking at other places that are 24/7 like *Brewhalla* in Fargo, ND. can be of good use. While this may not be true literature and rather focuses on firsthand experience, *Brewhalla* is a multi-use project that serves as a brewery, mall, and hotel. Taking inspiration from the overall design in



how the circulation of people is achieved, security of the locals, along with general uses of the design are all key points of this experience that can be used on the 24/7 stadium.

## METHODOLOGY

### Approach

The approach for this project is focused on design explorations/experiments. Along with such, using case studies that have mixed/multi-use aspects that can be included on the 24/7 stadium. With the focus being on how the stadiums affect the surrounding communities, seeing the effects of each stadium in towns that vary from size to size is a large focus. Seeing what parts of the stadium provide the most and experimenting along the way will prove just how beneficial these stadiums can be to a community. For case studies, using mixed/multi-use case studies is truly beneficial in their own way in relating to the 24/7 aspect. Using sustainable aspects in these studies for the stadium can not only benefit the stadium itself, but the surrounding community as well.

Along with case studies, using a time matrix will be another way of finding and/or understanding the research. The time matrix allows me to see what is going on at all times every day within the stadium. With all the data found, I can use such data in other areas of my research. For example, using websites like U.S. Bureau of Labor Statistics and Statista to further my research regarding sales per square foot and along with what the surrounding community is spending their money on. Creating a basic square footage for a possible stadium in each sized community allows me to see the sales per square foot. These research methods are key for the research to understand the true effect the stadium is having for the surrounding communities whether small, medium, or large.

## Case Study: Lincoln Financial Field

**Figure 2.** Lincoln Financial Field

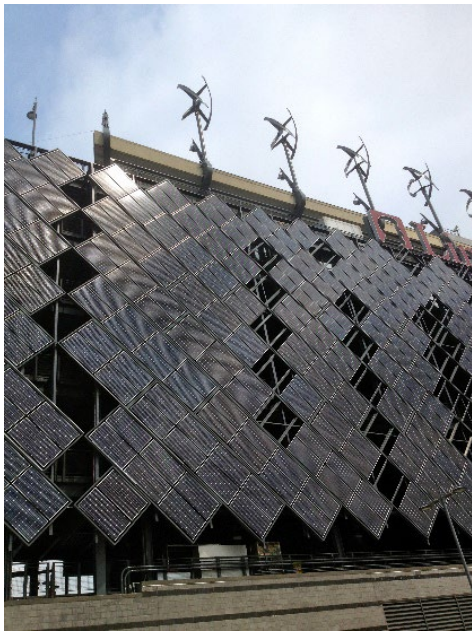


Note: <https://www.gensler.com/projects/lincoln-financial-field>

Located in Philadelphia, Pennsylvania, Lincoln Financial Field is a multi-use stadium home the NFL (National Football League) team, the Philadelphia Eagles. When the stadium is not used by the Eagles, the stadium is used for collegiate football, collegiate lacrosse, MLS (Major League Soccer), Monster Jam, and many types of concerts/events. The stadium features seating for 68,500 people and was opened on August 3<sup>rd</sup>, 2003. Once the stadium was finished, Lincoln Financial Field started its 'Go Green' program with the help of the National Resources Defense Council (NRDC). Jeffery and Christina Lurie, the owners of Lincoln Financial Field, have strong philanthropic values which led to the overall beginning of the Go Green program. According to Don Smolenski, the current chief operating officer of the Eagles, "Our owners are philanthropic by nature; it's a very important part of who they are. That philanthropy carries over in their personal lives as well as with the team," ... "The green message resonates with our owners. They recognize the incredible platform that professional sports and the Philadelphia Eagles must demonstrate social good. They made a strong green commitment and fully believe that the Eagles can make a difference by reducing our environmental impacts." In 2018, Lincoln Financial Field became LEED Gold Certified and before that, was LEED Silver Certified in 2012.

## Green Accomplishments

**Figure 3.** Lincoln Field Solar Panels



Note: <https://greensportsblog.com/beyond-sport-summit-sustainability-on-display-at-lincoln-financial-field-in-south-philly/>

Lincoln Financial Field has many green accomplishments in its design and use. Some of these accomplishments are the Eagles have installed 11,000 solar panels and 14 on site wind turbines to generate all of its electricity on site, having multiple energy conservation programs to reduce energy consumption by 33%, the Eagles' energy conservation and green power initiatives from 2003 to 2010 were enough to power 7,150 average American homes for a year, the Eagles' efforts to reduce paper usage and purchase recycled paper from 2003 to 2010 saved approximately 6,000 trees, and the Eagles' RFPs mandate that all vendors include green-certified materials in their proposals as the default option.

## Challenges

**Figure 4.** Recycle Bin



Note: <https://www.phillyvoice.com/eagles-recycling-reverse-vending-machines-lincoln-financial-field-prizes/>

The average person creates 4.5 pounds of waste a day. With that in mind, Smolenski said “We’re a big building. We can fit close to 70,000 people. We use a lot of energy and water and generate a lot of waste, but that doesn’t mean we have to be wasteful.” Recycling efforts began by putting up signs at tailgating to help users know where to recycle, pair recycling and normal trash bins next to each other, a ‘Green Team’ that helps recycle waste after tailgating, transforming their waste stream from trash to recycling. All these new initiatives have helped Lincoln Financial Field to divert 75% of their waste from landfill in 2011 and in February 2012, went up to 99% waste diversion from landfill. Lincoln Financial Field also had vendors to help with the diversion rate. Each vendor had everything from cutlery, plates, napkins, to wrappers for the food to become compostable by 2012. With support from all the managers in Lincoln Financial Stadium and a detailed timeline, a stadium can be a couple steps closer to becoming self-sustainable.

## Case Study: 24/7 Aspects

### Apartment/Living

Figure 5. Apartments - Cooley Law School



Note: <https://www.apartments.com/outfield-ball-park-lofts-lansing-mi/nnqyh9q/>

To make a stadium truly 24/7, the stadium needs to be always used. One of the ways this can be done is by designing apartments to be part of the stadium itself. In April 2016, the Cooley Law School Stadium in Lansing, Michigan, developed an outfield portion to be used by guests during and after baseball games. This outfield portion will create a new concourse for the stadium with a covered picnic area, a craft beer bar, and a year-round banquet space that can be rented out. It will also serve as the base for the new apartment complex. The apartment complex has 84 rooms featuring 1- and 2-bedroom housing as well as micro units that are 380 square feet. The designer, Gillespie, had to focus on the overall benefits of the added apartments such as revenue to the city as well as a balance between life for tenants while a baseball game is playing. This took many discussions with the city to decide, especially in cost. The improvement cost was \$13.8 million and at the time was only generating \$875,000. But after some time, everyone came to an agreement. The tenants of the stadium would not be allowed to use the public areas of the stadium while the game was in play. However, tenants could watch the game from their balcony free of charge along with any guests they had.

Gillespie also designed the apartment with shatterproof glass and other damage resistant materials in case a ball was to hit such. After construction, the total revenue increased \$515,000 to \$1,390,000 per year.

## Data Centers

**Figure 6.** Data Center



Note: <https://www.hksinc.com/what-we-do/case-studies/sofi-stadium-modular-das-data-center/>

Another way to include 24/7 aspects into a stadium includes data centers. One specific way this is shown is by looking at Sofi Stadium. Sofi included a Distributed Antenna System (DAS) data center to help broadcast the events at Sofi as well as provide cellular data and Wi-Fi to those in the stadium. The average user in the stadium uses 538 MG (megabytes) of data adding up to 18 TB (terabytes) of data being used during an NFL game and 24 TB being used during a concert. While no events are being held at the stadium, the data centers are still working providing cellular data to the surrounding community along with broadcasts at home. The facility is 13,500 square feet and has a 2.5-megawatt critical capacity.

## Clinic/Field Hospital

Figure 7. Field Hospital



Note: <https://time.com/5813442/coronavirus-stadiums-hospitals/>

While data centers are a great way to keep a stadium functional 24/7, clinics/field hospitals can be another use to provide all year-round operation. Most stadiums in the U.S. serve as field hospitals or clinics when in time in need. In 2020, the Corona Virus struck the world and caused hospitals to fill up with those affected by the virus. Needing space within the cities to create field hospitals was needed to keep up with the infection rate. In turn, this caused stadiums to open their doors and allowed 100,000 square feet of the stadium to be used as a hospital and house those who need care. By Bill de Blasio, the New York Mayor. Another example Creating 350-bed facilities that was deemed a "...lifesaving place" By Bill de Blasio, the New York Mayor. Another example of when a stadium was used as a clinic/field hospital was in 2005 when hurricane Katrina hit New Orleans, Louisiana. The NFL team, the Saints, opened their stadium doors to those who had no home or shelter after/during the storm. While this may not be a typical use of the stadium, it still adds the fact that this can be done at any time of the year. Keeping the stadium functional and with the correct amenities to act on at a moment's notice will bring more 24/7 aspects into the stadium.

## Case Study: U.S. Bank Stadium

**Figure 8.** U.S. Bank Stadium



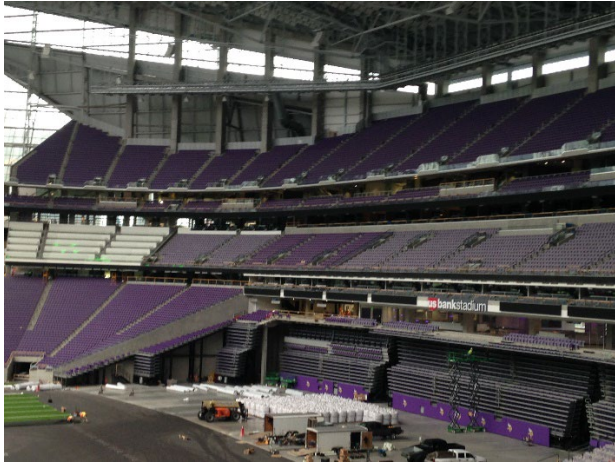
Note: *Future*. <https://www.re-thinkingthefuture.com/case-studies/a10184-u-s-bank-stadium-in-minneapolis-by-hks/>

The U.S. Bank Stadium was built in Minneapolis, Minnesota in 2016 for the NFL team the Minnesota Vikings but is a multi-purpose stadium. The stadium was designed by HKS architects and features 66,200 seats including 7,500 club seats, 125 suites, a party plaza, and a hall of fame museum all spread over 1.8 million square feet. The stadium was built to reflect the culture, climate, and context of the city, bringing in inspiration from ice formations on St. Anthony's falls and other design techniques such as Scandinavian design like Viking longboats. The stadium in Minneapolis is a versatile venue that can be used for a variety of events throughout the year such as baseball, high school and college athletics, concerts, festivals, conventions, and NFL games. This helps to attract visitors and businesses to the city, which drives economic growth and real estate development. As mentioned by HKS, 2 of the stadium's notable design innovations include The Legacy Gate that is comprised of 5 pivoting glass doors ranging from 75-95 feet tall, and the first ever ETFE roof in a United States stadium. This allows users to have plenty of natural sunlight, making it feel and look like they are outside, but aren't subjected to the elements. Along with all this information, the U.S. Bank Stadium was certified LEED Gold in 2018.



## Stadium Seating

Figure 9. Stadium Seating



Note: <https://zonecoverage.com/2016/minnesota-vikings-news/new-pictures-of-a-nearly-complete-us-bank-stadium/>

With seating being a large aspect of a stadium, HKS architects went with a unique technique for U.S. Bank Stadium's seating. Seating will be the closest seats (41 feet) and closest turf suites (25 feet) from the sideline in the NFL. Typical seats range from 19-22 inches wide and 33-35 inches between rows. These seats are wider with more legroom compared to other stadiums, allowing users' circulation to move more smoothly and comfortably. As mentioned earlier, the stadium features 66,200 seats. 6,000 of these seats, however, are completely retractable. These seats were placed on a rail system which has a faster installation process and provides flexibility to remove seats or move them closer together to allow for additional seating. On the north side of the stadium there is more retractable seating which allows the stadium to be reconfigured for other events such as the hundreds of high school and college baseball games each year.

## Multi-Purpose Aspects

**Figure 10.** Multi-purpose aspects



Note: <https://businessviewmagazine.com/u-s-bank-stadium-epicenter-events/>

While the U.S. Bank Stadium provides a home for the Minnesota Vikings, the stadium itself is home to over 600 events a year. These events are held for baseball (college and high school), football (college and high school), concerts, conventions, trade shows, private/corporate events, and community events. The stadium itself was built upon the same site as the stadium it replaced. The area before the U.S. Bank Stadium was run down and had little to offer to the community. Allowing all these events to happen brought in more businesses to the area as well as increased housing. With over 600 events a year, the U.S. Bank Stadium brings in hundreds of thousands of people to the surrounding businesses. The stadium is open to the public for private rentals, allowing the stadium to be used at almost all times of the day, any day of the week. With general events allowing for multi-purpose, the U.S. Bank stadium also has a data center in the stadium. This allows the stadium to provide data and Wi-Fi to those in the stadium and not overwork the community data centers. Besides events, the stadium itself has other vendors. Most stadiums have access to vendors to of course

feed/supply the users of the stadium. Keeping these vendors open after events can be a great way to keep the stadium functioning 24/7 while not taking up unnecessary space.

## Sustainability

Figure 11. Sustainability



Note: Note: *Future*. <https://www.re-thinkingthefuture.com/case-studies/a10184-u-s-bank-stadium-in-minneapolis-by-hks/>

The U.S. Bank Stadium is LEED (Leadership in Energy and Environmental Design) certified Gold and with that comes a huge benefit to the surrounding community. The stadium is able to meet this certification by following a few sustainable ideas. First, U.S. Bank Stadium built a 2.5-acre green roof that reduces the urban heat island effect, insulates the building, and captures rainwater for irrigation. Following such, the stadium is designed to use energy as efficiently as possible, with features such as a low-energy HVAC system, LED lighting, and a building automation system that optimizes energy use based on occupancy.

Next is renewable energy; the stadium has a 2.25-megawatt solar array installed on its roof, generating enough electricity to power its LED lighting system. In addition, the stadium has a partnership with a local utility company to purchase wind energy credits, which offset the stadium's energy consumption. While renewing energy, the U.S. Bank Stadium also has a water

conservation aspect in that the roof collects rainwater for the green roof along with other non-potable applications. A small but useful way along with rainwater is the plumbing fixtures and systems that recycles water from ice-making machines. On the topic of recycling, the stadium has taken steps to reduce its environmental impact by implementing a comprehensive recycling and waste management program, including recycling stations throughout the facility and a system for composting food waste. Lastly, the stadium has bike racks and bike valet service to encourage users to bike rather than drive to the stadium.

### **Data Collection**

To gather this data, using a time matrix, schematic designs, and using the NAICS codes will be key to seeing the 24/7 aspects in action. The time matrix lists everything happening at all times, during each day to show how the stadium is being used 24/7. The NAICS codes for each of these aspects in turn help with understanding what the national and state revenue, establishments, and employment are for each aspect along with how these codes interact with the schematic designs. The schematic designs will help show how the stadium is being used 24/7 and get square footage to then match the NAICS code, allowing me to get the number of jobs, revenue, and establishments for that specific design. In turn, using all these methods will allow the data to transfer over to the project design and to see how the aspects affect it.

## Time Matrix

### Small Stadium

**Table 1. Small Stadium (High School Football Stadium) with NAICS Codes**

	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
12am	Housing (531110) Vendor(s) (722330) Data Center (519210) Water Collection System (221310) Clinic (621493) Park (713990)	Housing (531110) Vendor(s) (722330) Data Center (519210) Water Collection System (221310) Clinic (621493) Park (713990)	Housing (531110) Vendor(s) (722330) Data Center (519210) Water Collection System (221310) Clinic (621493) Park (713990)	Housing (531110) Vendor(s) (722330) Data Center (519210) Water Collection System (221310) Clinic (621493) Park (713990)	Housing (531110) Vendor(s) (722330) Data Center (519210) Water Collection System (221310) Clinic (621493) Park (713990)	Housing (531110) Vendor(s) (722330) Data Center (519210) Water Collection System (221310) Clinic (621493) Park (713990)	Housing (531110) Vendor(s) (722330) Data Center (519210) Water Collection System (221310) Clinic (621493) Park (713990)
1am	Housing Vendor(s) Data Center Water Collection System Clinic Park	Housing Vendor(s) Data Center Water Collection System Clinic Park	Housing Vendor(s) Data Center Water Collection System Clinic Park	Housing Vendor(s) Data Center Water Collection System Clinic Park	Housing Vendor(s) Data Center Water Collection System Clinic Park	Housing Vendor(s) Data Center Water Collection System Clinic Park	Housing Vendor(s) Data Center Water Collection System Clinic Park
2am	Housing Vendor(s) Data Center Water Collection System Clinic Park	Housing Vendor(s) Data Center Water Collection System Clinic Park	Housing Vendor(s) Data Center Water Collection System Clinic Park	Housing Vendor(s) Data Center Water Collection System Clinic Park	Housing Vendor(s) Data Center Water Collection System Clinic Park	Housing Vendor(s) Data Center Water Collection System Clinic Park	Housing Vendor(s) Data Center Water Collection System Clinic Park
3am	Housing Vendor(s) Data Center Water Collection System Clinic Park	Housing Vendor(s) Data Center Water Collection System Clinic Park	Housing Vendor(s) Data Center Water Collection System Clinic Park	Housing Vendor(s) Data Center Water Collection System Clinic Park	Housing Vendor(s) Data Center Water Collection System Clinic Park	Housing Vendor(s) Data Center Water Collection System Clinic Park	Housing Vendor(s) Data Center Water Collection System Clinic Park
4am	Housing Vendor(s) Data Center Water Collection System Clinic Park	Housing Vendor(s) Data Center Water Collection System Clinic Park	Housing Vendor(s) Data Center Water Collection System Clinic Park	Housing Vendor(s) Data Center Water Collection System Clinic Park	Housing Vendor(s) Data Center Water Collection System Clinic Park	Housing Vendor(s) Data Center Water Collection System Clinic Park	Housing Vendor(s) Data Center Water Collection System Clinic Park









**Table 1. Small Stadium (High School Football Stadium) with NAICS Codes (Continued)**

6pm	Housing Solar Panels Wind Turbine Vendor(s) Data Center Event (s) Water Collection System Clinic Park	Housing Solar Panels Wind Turbine Vendor(s) Data Center Event (s) Water Collection System Clinic Park	Housing Solar Panels Wind Turbine Vendor(s) Data Center Event (s) Water Collection System Clinic Park	Housing Solar Panels Wind Turbine Vendor(s) Data Center Event (s) Water Collection System Clinic Park	Housing Solar Panels Wind Turbine Vendor(s) Data Center Event (s) Water Collection System Clinic Park	Housing Solar Panels Wind Turbine Vendor(s) Data Center Event (s) Water Collection System Clinic Park	Housing Solar Panels Wind Turbine Vendor(s) Data Center Event (s) Water Collection System Clinic Park
7pm	Housing Solar Panels Wind Turbine Vendor(s) Data Center Event (s) Water Collection System Clinic Park	Housing Solar Panels Wind Turbine Vendor(s) Data Center Event (s) Water Collection System Clinic Park	Housing Solar Panels Wind Turbine Vendor(s) Data Center Event (s) Water Collection System Clinic Park	Housing Solar Panels Wind Turbine Vendor(s) Data Center Event (s) Water Collection System Clinic Park	Housing Solar Panels Wind Turbine Vendor(s) Data Center Event (s) Water Collection System Clinic Park	Housing Solar Panels Wind Turbine Vendor(s) Data Center Event (s) Water Collection System Clinic Park	Housing Solar Panels Wind Turbine Vendor(s) Data Center Event (s) Water Collection System Clinic Park
8pm	Housing Vendor(s) Data Center Event(s) Water Collection System Clinic Park	Housing Vendor(s) Data Center Event(s) Water Collection System Clinic Park	Housing Vendor(s) Data Center Event(s) Water Collection System Clinic Park	Housing Vendor(s) Data Center Event(s) Water Collection System Clinic Park	Housing Vendor(s) Data Center Event(s) Water Collection System Clinic Park	Housing Vendor(s) Data Center Event(s) Water Collection System Clinic Park	Housing Vendor(s) Data Center Event(s) Water Collection System Clinic Park
9pm	Housing Vendor(s) Data Center Event (s) Water Collection System Clinic Park	Housing Vendor(s) Data Center Event (s) Water Collection System Clinic Park	Housing Vendor(s) Data Center Event (s) Water Collection System Clinic Park	Housing Vendor(s) Data Center Event (s) Water Collection System Clinic Park	Housing Vendor(s) Data Center Event (s) Water Collection System Clinic Park	Housing Vendor(s) Data Center Event (s) Water Collection System Clinic Park	Housing Vendor(s) Data Center Event (s) Water Collection System Clinic Park

**Table 1. Small Stadium (High School Football Stadium) with NAICS Codes (Continued)**

10pm	Housing Vendor(s) Data Center Event (s) Water Collection System Clinic Park	Housing Vendor(s) Data Center Event (s) Water Collection System Clinic Park	Housing Vendor(s) Data Center Event (s) Water Collection System Clinic Park	Housing Vendor(s) Data Center Event (s) Water Collection System Clinic Park	Housing Vendor(s) Data Center Event (s) Water Collection System Clinic Park	Housing Vendor(s) Data Center Event (s) Water Collection System Clinic Park	Housing Vendor(s) Data Center Event(s) Water Collection System Clinic Park
11pm	Housing Vendor(s) Data Center Event (s) Water Collection System Clinic Park	Housing Vendor(s) Data Center Event (s) Water Collection System Clinic Park	Housing Vendor(s) Data Center Event (s) Water Collection System Clinic Park	Housing Vendor(s) Data Center Event (s) Water Collection System Clinic Park	Housing Vendor(s) Data Center Event (s) Water Collection System Clinic Park	Housing Vendor(s) Data Center Event (s) Water Collection System Clinic Park	Housing Vendor(s) Data Center Event (s) Water Collection System Clinic Park

**Table 2. Medium-sized Stadium with NAICS Codes**

	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
12 am	Hotel (721110) Vendor(s) (722330) Wind Turbine (221115) Data Center (519210) Water Collection System (221310) Clinic (621493) Water Treatment (221310)	Hotel (721110) Vendor(s) (722330) Wind Turbine (221115) Data Center (519210) Water Collection System (221310) Clinic (621493) Water Treatment (221310)	Hotel (721110) Vendor(s) (722330) Wind Turbine (221115) Data Center (519210) Water Collection System (221310) Clinic (621493) Water Treatment (221310)	Hotel (721110) Vendor(s) (722330) Wind Turbine (221115) Data Center (519210) Water Collection System (221310) Clinic (621493) Water Treatment (221310)	Hotel (721110) Vendor(s) (722330) Wind Turbine (221115) Data Center (519210) Water Collection System (221310) Clinic (621493) Water Treatment (221310)	Hotel (721110) Vendor(s) (722330) Wind Turbine (221115) Data Center (519210) Water Collection System (221310) Clinic (621493) Water Treatment (221310)	Hotel (721110) Vendor(s) (722330) Wind Turbine (221115) Data Center (519210) Water Collection System (221310) Clinic (621493) Water Treatment (221310)

**Table 2. Medium-sized Stadium (Continued)**

1am	Hotel	Hotel	Hotel	Hotel	Hotel	Hotel	Hotel
	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine
	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)
	Data Center	Data Center	Data Center	Data Center	Data Center	Data Center	Data Center
	Water Collection	Water Collection	Water Collection	Water Collection	Water Collection	Water Collection	Water Collection
	System	System	System	System	System	System	System
	Clinic	Clinic	Clinic	Clinic	Clinic	Clinic	Clinic
	Water Treatment	Water Treatment	Water Treatment	Water Treatment	Water Treatment	Water Treatment	Water Treatment
2am	Hotel	Hotel	Hotel	Hotel	Hotel	Hotel	Hotel
	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine
	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)
	Data Center	Data Center	Data Center	Data Center	Data Center	Data Center	Data Center
	Water Collection	Water Collection	Water Collection	Water Collection	Water Collection	Water Collection	Water Collection
	System	System	System	System	System	System	System
	Clinic	Clinic	Clinic	Clinic	Clinic	Clinic	Clinic
	Water Treatment	Water Treatment	Water Treatment	Water Treatment	Water Treatment	Water Treatment	Water Treatment
3am	Hotel	Hotel	Hotel	Hotel	Hotel	Hotel	Hotel
	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine
	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)
	Data Center	Data Center	Data Center	Data Center	Data Center	Data Center	Data Center
	Water	Water	Water	Water	Water	Water	Water
	Collection	Collection	Collection	Collection	Collection	Collection	Collection
	System	System	System	System	System	System	System
	Clinic	Clinic	Clinic	Clinic	Clinic	Clinic	Clinic
Water	Water	Water	Water	Water	Water	Water	
Treatment	Treatment	Treatment	Treatment	Treatment	Treatment	Treatment	

**Table 2. Medium-sized Stadium (Continued)**

4am	Hotel	Hotel	Hotel	Hotel	Hotel	Hotel	Hotel
	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine
	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)
	Data Center	Data Center	Data Center	Data Center	Data Center	Data Center	Data Center
	Water	Water	Water	Water	Water	Water	Water
	Collection	Collection	Collection	Collection	Collection	Collection	Collection
	System	System	System	System	System	System	System
	Clinic	Clinic	Clinic	Clinic	Clinic	Clinic	Clinic
5am	Water	Water	Water	Water	Water	Water	Water
	Treatment	Treatment	Treatment	Treatment	Treatment	Treatment	Treatment
	Hotel	Hotel	Hotel	Hotel	Hotel	Hotel	Hotel
	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine
	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)
	Water	Water	Water	Water	Water	Water	Water
	Collection	Collection	Collection	Collection	Collection	Collection	Collection
	System	System	System	System	System	System	System
6am	Data Center	Data Center	Data Center	Data Center	Data Center	Data Center	Data Center
	Clinic	Clinic	Clinic	Clinic	Clinic	Clinic	Clinic
	Water	Water	Water	Water	Water	Water	Water
	Treatment	Treatment	Treatment	Treatment	Treatment	Treatment	Treatment
	Hotel	Hotel	Hotel	Hotel	Hotel	Hotel	Hotel
	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine
	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)
	Data Center	Data Center	Data Center	Data Center	Data Center	Data Center	Data Center
Water	Water	Water	Water	Water	Water	Water	
Collection	Collection	Collection	Collection	Collection	Collection	Collection	
System	System	System	System	System	System	System	
Clinic	Clinic	Clinic	Clinic	Clinic	Clinic	Clinic	
Water	Water	Water	Water	Water	Water	Water	
Treatment	Treatment	Treatment	Treatment	Treatment	Treatment	Treatment	

**Table 2. Medium-sized Stadium (Continued)**

7am	Hotel	Hotel	Hotel	Hotel	Hotel	Hotel	Hotel
	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine
	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)
	Data Center	Data Center	Data Center	Data Center	Data Center	Data Center	Data Center
	Water	Water	Water	Water	Water	Water	Water
	Collection	Collection	Collection	Collection	Collection	Collection	Collection
	System	System	System	System	System	System	System
	Clinic	Clinic	Clinic	Clinic	Clinic	Clinic	Clinic
8am	Water	Water	Water	Water	Water	Water	Water
	Treatment	Treatment	Treatment	Treatment	Treatment	Treatment	Treatment
	Solar Panels	Solar Panels	Solar Panels	Solar Panels	Solar Panels	Solar Panels	Solar Panels
	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine
	(221115)	(221115)	(221115)	(221115)	(221115)	(221115)	(221115)
	Hotel	Hotel	Hotel	Hotel	Hotel	Hotel	Hotel
	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)
	Data Center	Data Center	Data Center	Data Center	Data Center	Data Center	Data Center
Event (s)	Event (s)	Event (s)	Event (s)	Event (s)	Event (s)	Event (s)	
Water	Water	Water	Water	Water	Water	Water	
Collection	Collection	Collection	Collection	Collection	Collection	Collection	
System	System	System	System	System	System	System	
Clinic	Clinic	Clinic	Clinic	Clinic	Clinic	Clinic	
Water	Water	Water	Water	Water	Water	Water	
Treatment	Treatment	Treatment	Treatment	Treatment	Treatment	Treatment	

**Table 2. Medium-sized Stadium (Continued)**

9am	Hotel	Hotel	Hotel	Hotel	Hotel	Hotel	Hotel
	Solar Panels	Solar Panels	Solar Panels	Solar Panels	Solar Panels	Solar Panels	Solar Panels
	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine
	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)
	Data Center	Data Center	Data Center	Data Center	Data Center	Data Center	Data Center
	Event(s)	Event(s)	Event(s)	Event (s)	Event(s)	Event(s)	Event(s)
	Water	Water	Water	Water	Water	Water	Water
	Collection	Collection	Collection	Collection	Collection	Collection	Collection
	System	System	System	System	System	System	System
	Clinic	Clinic	Clinic	Clinic	Clinic	Clinic	Clinic
	Water	Water	Water	Water	Water	Water	Water
Treatment	Treatment	Treatment	Treatment	Treatment	Treatment	Treatment	
10am	Hotel	Hotel	Hotel	Hotel	Hotel	Hotel	Hotel
	Solar Panels	Solar Panels	Solar Panels	Solar Panels	Solar Panels	Solar Panels	Solar Panels
	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine
	Event (s)	Event (s)	Event (s)	Vendor(s)	Event (s)	Vendor(s)	Vendor(s)
	Vendor(s)	Vendor(s)	Vendor(s)	Event (s)	Vendor(s)	Event (s)	Event (s)
	Data Center	Data Center	Data Center	Data Center	Data Center	Data Center	Data Center
	Water	Water	Water	Water	Water	Water	Water
	Collection	Collection	Collection	Collection	Collection	Collection	Collection
	System	System	System	System	System	System	System
	Clinic	Clinic	Clinic	Clinic	Clinic	Clinic	Clinic
	Water	Water	Water	Water	Water	Water	Water
Treatment	Treatment	Treatment	Treatment	Treatment	Treatment	Treatment	

**Table 2. Medium-sized Stadium (Continued)**

11 am	Hotel	Hotel	Hotel	Hotel	Hotel	Hotel	Hotel
	Solar Panels	Solar Panels	Solar Panels	Solar Panels	Solar Panels	Solar Panels	Solar Panels
	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine
	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)
	Data Center	Data Center	Data Center	Data Center	Data Center	Data Center	Data Center
	Event (s)	Event (s)	Event (s)	Event (s)	Event (s)	Event (s)	Event (s)
	Water	Water	Water	Water	Water	Water	Water
	Collection	Collection	Collection	Collection	Collection	Collection	Collection
	System	System	System	System	System	System	System
	Clinic	Clinic	Clinic	Clinic	Clinic	Clinic	Clinic
	Water	Water	Water	Water	Water	Water	Water
Treatment	Treatment	Treatment	Treatment	Treatment	Treatment	Treatment	
12 pm	Hotel	Hotel	Hotel	Hotel	Hotel	Hotel	Hotel
	Solar Panels	Solar Panels	Solar Panels	Solar Panels	Solar Panels	Solar Panels	Solar Panels
	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine
	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)
	Data Center	Data Center	Data Center	Data Center	Data Center	Data Center	Data Center
	Event (s)	Event (s)	Event (s)	Event (s)	Event (s)	Event (s)	Event (s)
	Water	Water	Water	Water	Water	Water	Water
	Collection	Collection	Collection	Collection	Collection	Collection	Collection
	System	System	System	System	System	System	System
	Clinic	Clinic	Clinic	Clinic	Clinic	Clinic	Clinic
	Water	Water	Water	Water	Water	Water	Water
Treatment	Treatment	Treatment	Treatment	Treatment	Treatment	Treatment	

**Table 2. Medium-sized Stadium (Continued)**

1pm	Hotel	Hotel	Hotel	Hotel	Hotel	Hotel	Hotel
	Solar Panels	Solar Panels	Solar Panels	Solar Panels	Solar Panels	Solar Panels	Solar Panels
	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine
	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)
	Data Center	Data Center	Data Center	Data Center	Data Center	Data Center	Data Center
	Event (s)	Event (s)	Event (s)	Event (s)	Event (s)	Event (s)	Event (s)
	Water	Water	Water	Water	Water	Water	Water
	Collection	Collection	Collection	Collection	Collection	Collection	Collection
	System	System	System	System	System	System	System
	Clinic	Clinic	Clinic	Clinic	Clinic	Clinic	Clinic
	Water	Water	Water	Water	Water	Water	Water
Treatment	Treatment	Treatment	Treatment	Treatment	Treatment	Treatment	
					Event(s)		
2pm	Hotel	Hotel	Hotel	Hotel	Hotel	Hotel	Hotel
	Solar Panels	Solar Panels	Solar Panels	Solar Panels	Solar Panels	Solar Panels	Solar Panels
	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine
	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)
	Water	Data Center	Data Center	Data Center	Data Center	Data Center	Data Center
	Collection	Event (s)	Event (s)	Event (s)	Event (s)	Event (s)	Event (s)
	System	Water	Water	Water	Water	Water	Water
	Data Center	Collection	Collection	Collection	Collection	Collection	Collection
	Event (s)	System	System	System	System	System	System
	Clinic	Clinic	Clinic	Clinic	Clinic	Clinic	Clinic
	Water	Water	Water	Water	Water	Water	Water
Treatment	Treatment	Treatment	Treatment	Treatment	Treatment	Treatment	



**Table 2. Medium-sized Stadium (Continued)**

3pm	Hotel	Hotel	Hotel	Hotel	Hotel	Hotel	Hotel
	Solar Panels	Solar Panels	Solar Panels	Solar Panels	Solar Panels	Solar Panels	Solar Panels
	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine
	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)
	Data Center	Data Center	Data Center	Data Center	Data Center	Data Center	Data Center
	Event (s)	Event (s)	Event (s)	Event (s)	Event (s)	Event (s)	Event (s)
	Water	Water	Water	Water	Water	Water	Water
	Collection	Collection	Collection	Collection	Collection	Collection	Collection
	System	System	System	System	System	System	System
	Clinic	Clinic	Clinic	Clinic	Clinic	Clinic	Clinic
	Water	Water	Water	Water	Water	Water	Water
Treatment	Treatment	Treatment	Treatment	Treatment	Treatment	Treatment	
4pm	Hotel	Hotel	Hotel	Hotel	Hotel	Hotel	Hotel
	Solar Panels	Solar Panels	Solar Panels	Solar Panels	Solar Panels	Solar Panels	Solar Panels
	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine
	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)
	Data Center	Data Center	Data Center	Data Center	Data Center	Data Center	Data Center
	Event (s)	Event (s)	Event (s)	Event (s)	Event (s)	Event (s)	Event (s)
	Water	Water	Water	Water	Water	Water	Water
	Collection	Collection	Collection	Collection	Collection	Collection	Collection
	System	System	System	System	System	System	System
	Clinic	Clinic	Clinic	Clinic	Clinic	Clinic	Clinic
	Water	Water	Water	Water	Water	Water	Water
Treatment	Treatment	Treatment	Treatment	Treatment	Treatment	Treatment	

**Table 2. Medium-sized Stadium (Continued)**

5pm	Hotel	Hotel	Hotel	Hotel	Hotel	Hotel	Hotel
	Solar Panels	Solar Panels	Solar Panels	Solar Panels	Solar Panels	Solar Panels	Solar Panels
	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine
	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)
	Data Center	Data Center	Data Center	Data Center	Data Center	Data Center	Data Center
	Event (s)	Event (s)	Event (s)	Event (s)	Event (s)	Event (s)	Event (s)
	Water	Water	Water	Water	Water	Water	Water
	Collection	Collection	Collection	Collection	Collection	Collection	Collection
	System	System	System	System	System	System	System
	Clinic	Clinic	Clinic	Clinic	Clinic	Clinic	Clinic
	Water	Water	Water	Water	Water	Water	Water
Treatment	Treatment	Treatment	Treatment	Treatment	Treatment	Treatment	
6pm	Hotel	Hotel	Hotel	Hotel	Hotel	Hotel	Hotel
	Solar Panels	Solar Panels	Solar Panels	Solar Panels	Solar Panels	Solar Panels	Solar Panels
	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine
	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)
	Data Center	Data Center	Data Center	Data Center	Data Center	Data Center	Data Center
	Event (s)	Event (s)	Event (s)	Event (s)	Event (s)	Event (s)	Event (s)
	Water	Water	Water	Water	Water	Water	Water
	Collection	Collection	Collection	Collection	Collection	Collection	Collection
	System	System	System	System	System	System	System
	Clinic	Clinic	Clinic	Clinic	Clinic	Clinic	Clinic
	Water	Water	Water	Water	Water	Water	Water
Treatment	Treatment	Treatment	Treatment	Treatment	Treatment	Treatment	

**Table 2. Medium-sized Stadium (Continued)**

7pm	Hotel	Hotel	Hotel	Hotel	Hotel	Hotel	Hotel
	Solar Panels	Solar Panels	Solar Panels	Solar Panels	Solar Panels	Solar Panels	Solar Panels
	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine
	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)
	Data Center	Data Center	Data Center	Data Center	Data Center	Data Center	Data Center
	Event (s)	Event (s)	Event (s)	Event (s)	Event (s)	Event (s)	Event (s)
	Water	Water	Water	Water	Water	Water	Water
	Collection	Collection	Collection	Collection	Collection	Collection	Collection
	System	System	System	System	System	System	System
	Clinic	Clinic	Clinic	Clinic	Clinic	Clinic	Clinic
Water	Water	Water	Water	Water	Water	Water	
Treatment	Treatment	Treatment	Treatment	Treatment	Treatment	Treatment	
8pm	Hotel	Hotel	Hotel	Hotel	Hotel	Hotel	Hotel
	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine
	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)
	Data Center	Data Center	Data Center	Data Center	Data Center	Data Center	Data Center
	Event(s)	Event(s)	Event(s)	Event(s)	Event(s)	Event(s)	Event(s)
	Water	Water	Water	Water	Water	Water	Water
	Collection	Collection	Collection	Collection	Collection	Collection	Collection
	System	System	System	System	System	System	System
	Clinic	Clinic	Clinic	Clinic	Clinic	Clinic	Clinic
	Water	Water	Water	Water	Water	Water	Water
Treatment	Treatment	Treatment	Treatment	Treatment	Treatment	Treatment	

**Table 2. Medium-sized Stadium (Continued)**

9pm	Hotel	Hotel	Hotel	Hotel	Hotel	Hotel	Hotel
	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine
	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)
	Data Center	Data Center	Data Center	Data Center	Data Center	Data Center	Data Center
	Event (s)	Event (s)	Event (s)	Event (s)	Event (s)	Event (s)	Event (s)
	Water	Water	Water	Water	Water	Water	Water
	Collection	Collection	Collection	Collection	Collection	Collection	Collection
	System	System	System	System	System	System	System
	Clinic	Clinic	Clinic	Clinic	Clinic	Clinic	Clinic
	Water	Water	Water	Water	Water	Water	Water
Treatment	Treatment	Treatment	Treatment	Treatment	Treatment	Treatment	
10pm	Hotel	Hotel	Hotel	Hotel	Hotel	Hotel	Hotel
	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine
	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s) Data	Vendor(s)
	Data Center	Data Center	Data Center	Data Center	Data Center	Center	Data Center
	Event (s)	Event (s)	Event (s)	Event (s)	Event (s)	Event (s)	Event(s)
	Water	Water	Water	Water	Water	Water	Water
	Collection	Collection	Collection	Collection	Collection	Collection	Collection
	System	System	System	System	System	System	System
	Clinic	Clinic	Clinic	Clinic	Clinic	Clinic	Clinic
	Water	Water	Water	Water	Water	Water	Water
Treatment	Treatment	Treatment	Treatment	Treatment	Treatment	Treatment	
11pm	Hotel	Hotel	Hotel	Hotel	Hotel	Hotel	Hotel
	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine
	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s) Data	Vendor(s)
	Data Center	Data Center	Data Center	Data Center	Data Center	Center	Data Center
	Event (s)	Event (s)	Event (s)	Event (s)	Event (s)	Event (s)	Event (s)
	Water	Water	Water	Water	Water	Water	Water
	Collection	Collection	Collection	Collection	Collection	Collection	Collection
	System	System	System	System	System	System	System
	Clinic	Clinic	Clinic	Clinic	Clinic	Clinic	Clinic
	Water	Water	Water	Water	Water	Water	Water
Treatment	Treatment	Treatment	Treatment	Treatment	Treatment	Treatment	

**Table 3. Large-scale Stadium with NAICS Codes**

	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
12 am	Hotel (721110) Vendor(s) (722330) Wind Turbine (221115) Data Center (519210) Water Collection System (221310) Clinic (621493)	Hotel (721110) Vendor(s) (722330) Wind Turbine (221115) Data Center (519210) Water Collection System (221310) Clinic (621493)	Hotel (721110) Vendor(s) (722330) Wind Turbine (221115) Data Center (519210) Water Collection System (221310) Clinic (621493)	Hotel (721110) Vendor(s) (722330) Wind Turbine (221115) Data Center (519210) Water Collection System (221310) Clinic (621493)	Hotel (721110) Vendor(s) (722330) Wind Turbine (221115) Data Center (519210) Water Collection System (221310) Clinic (621493)	Hotel (721110) Vendor(s) (722330) Wind Turbine (221115) Data Center (519210) Water Collection System (221310) Clinic (621493)	Hotel (721110) Vendor(s) (722330) Wind Turbine (221115) Data Center (519210) Water Collection System (221310) Clinic (621493)
1am	Hotel Wind Turbine Vendor(s) Data Center Water Collection System Clinic	Hotel Wind Turbine Vendor(s) Data Center Water Collection System Clinic	Hotel Wind Turbine Vendor(s) Data Center Water Collection System Clinic	Hotel Wind Turbine Vendor(s) Data Center Water Collection System Clinic	Hotel Wind Turbine Vendor(s) Data Center Water Collection System Clinic	Hotel Wind Turbine Vendor(s) Data Center Water Collection System Clinic	Hotel Wind Turbine Vendor(s) Data Center Water Collection System Clinic
2am	Hotel Wind Turbine Vendor(s) Data Center Water Collection System Clinic	Hotel Wind Turbine Vendor(s) Data Center Water Collection System Clinic	Hotel Wind Turbine Vendor(s) Data Center Water Collection System Clinic	Hotel Wind Turbine Vendor(s) Data Center Water Collection System Clinic	Hotel Wind Turbine Vendor(s) Data Center Water Collection System Clinic	Hotel Wind Turbine Vendor(s) Data Center Water Collection System Clinic	Hotel Wind Turbine Vendor(s) Data Center Water Collection System Clinic

**Table 3. Large-scale Stadium (Continued)**

3am	Hotel	Hotel	Hotel	Hotel	Hotel	Hotel	Hotel
	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine
	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)
	Data Center	Data Center	Data Center	Data Center	Data Center	Data Center	Data Center
	Water	Water	Water	Water	Water	Water	Water
	Collection	Collection	Collection	Collection	Collection	Collection	Collection
	System	System	System	System	System	System	System
4am	Clinic	Clinic	Clinic	Clinic	Clinic	Clinic	Clinic
	Hotel	Hotel	Hotel	Hotel	Hotel	Hotel	Hotel
	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine
	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)
	Data Center	Data Center	Data Center	Data Center	Data Center	Data Center	Data Center
	Water	Water	Water	Water	Water	Water	Water
	Collection	Collection	Collection	Collection	Collection	Collection	Collection
5am	System	System	System	System	System	System	System
	Clinic	Clinic	Clinic	Clinic	Clinic	Clinic	Clinic
	Hotel	Hotel	Hotel	Hotel	Hotel	Hotel	Hotel
	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine
	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)
	Data Center	Data Center	Data Center	Data Center	Data Center	Data Center	Data Center
	Water	Water	Water	Water	Water	Water	Water
Collection	Collection	Collection	Collection	Collection	Collection	Collection	
System	System	System	System	System	System	System	
Clinic	Clinic	Clinic	Clinic	Clinic	Clinic	Clinic	

**Table 3. Large-scale Stadium (Continued)**

6am	Hotel	Hotel	Hotel	Hotel	Hotel	Hotel	Hotel
	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine
	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)
	Data Center	Data Center	Data Center	Data Center	Data Center	Data Center	Data Center
	Water	Water	Water	Water	Water	Water	Water
	Collection	Collection	Collection	Collection	Collection	Collection	Collection
	System	System	System	System	System	System	System
Clinic	Clinic	Clinic	Clinic	Clinic	Clinic	Clinic	
7am	Hotel	Hotel	Hotel	Hotel	Hotel	Hotel	Hotel
	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine
	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)
	Data Center	Data Center	Data Center	Data Center	Data Center	Data Center	Data Center
	Water	Water	Water	Water	Water	Water	Water
	Collection	Collection	Collection	Collection	Collection	Collection	Collection
	System	System	System	System	System	System	System
Clinic	Clinic	Clinic	Clinic	Clinic	Clinic	Clinic	
8am	Solar Panels	Solar Panels	Solar Panels	Solar Panels	Solar Panels	Solar Panels	Solar Panels
	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine
	Hotel	Hotel	Hotel	Hotel	Hotel	Hotel	Hotel
	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)
	Data Center	Data Center	Data Center	Data Center	Data Center	Data Center	Data Center
	Event (s)	Event (s)	Event (s)	Event (s)	Event (s)	Event (s)	Event (s)
	Water	Water	Water	Water	Water	Water	Water
	Collection	Collection	Collection	Collection	Collection	Collection	Collection
	System	System	System	System	System	System	System
Clinic	Clinic	Clinic	Clinic	Clinic	Clinic	Clinic	

**Table 3. Large-scale Stadium (Continued)**

9am	Hotel	Hotel	Hotel	Hotel	Hotel	Hotel	Hotel
	Solar Panels	Solar Panels	Solar Panels	Solar Panels	Solar Panels	Solar Panels	Solar Panels
	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine
	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)
	Data Center	Data Center	Data Center	Data Center	Data Center	Data Center	Data Center
	Event(s)	Event(s)	Event(s)	Event (s)	Event(s)	Event(s)	Event(s)
	Water	Water	Water	Water	Water	Water	Water
	Collection	Collection	Collection	Collection	Collection	Collection	Collection
	System	System	System	System	System	System	System
Clinic	Clinic	Clinic	Clinic	Clinic	Clinic	Clinic	
10am	Hotel	Hotel	Hotel	Hotel	Hotel	Hotel	Hotel
	Solar Panels	Solar Panels	Solar Panels	Solar Panels	Solar Panels	Solar Panels	Solar Panels
	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine
	Event (s)	Event (s)	Event (s)	Vendor(s)	Event (s)	Vendor(s)	Vendor(s)
	Vendor(s)	Vendor(s)	Vendor(s)	Event (s)	Vendor(s)	Event (s)	Event (s)
	Data Center	Data Center	Data Center	Data Center	Data Center	Data Center	Data Center
	Water	Water	Water	Water	Water	Water	Water
	Collection	Collection	Collection	Collection	Collection	Collection	Collection
	System	System	System	System	System	System	System
Clinic	Clinic	Clinic	Clinic	Clinic	Clinic	Clinic	



**Table 3. Large-scale Stadium (Continued)**

11 am	Hotel	Hotel	Hotel	Hotel	Hotel	Hotel	Hotel
	Solar Panels	Solar Panels	Solar Panels	Solar Panels	Solar Panels	Solar Panels	Solar Panels
	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine
	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)
	Data Center	Data Center	Data Center	Data Center	Data Center	Data Center	Data Center
	Event (s)	Event (s)	Event (s)	Event (s)	Event (s)	Event (s)	Event (s)
	Water	Water	Water	Water	Water	Water	Water
	Collection	Collection	Collection	Collection	Collection	Collection	Collection
	System	System	System	System	System	System	System
Clinic	Clinic	Clinic	Clinic	Clinic	Clinic	Clinic	
12 pm	Hotel	Hotel	Hotel	Hotel	Hotel	Hotel	Hotel
	Solar Panels	Solar Panels	Solar Panels	Solar Panels	Solar Panels	Solar Panels	Solar Panels
	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine
	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)
	Data Center	Data Center	Data Center	Data Center	Data Center	Data Center	Data Center
	Event (s)	Event (s)	Event (s)	Event (s)	Event (s)	Event (s)	Event (s)
	Water	Water	Water	Water	Water	Water	Water
	Collection	Collection	Collection	Collection	Collection	Collection	Collection
	System	System	System	System	System	System	System
Clinic	Clinic	Clinic	Clinic	Clinic	Clinic	Clinic	
1pm	Hotel	Hotel	Hotel	Hotel	Hotel	Hotel	Hotel
	Solar Panels	Solar Panels	Solar Panels	Solar Panels	Solar Panels	Solar Panels	Solar Panels
	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine
	Vendor(s) Data	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)
	Center	Data Center	Data Center	Data Center	Data Center	Data Center	Data Center
	Event (s)	Event (s)	Event (s)	Event (s)	Event (s)	Event (s)	Event (s)
	Water	Water	Water	Water	Water	Water	Water
	Collection	Collection	Collection	Collection	Collection	Collection	Collection
	System	System	System	System	System	System	System
Clinic	Clinic	Clinic	Clinic	Clinic	Clinic	Clinic	

**Table 3. Large-scale Stadium (Continued)**

2pm	Hotel	Hotel	Hotel	Hotel	Hotel	Hotel	Hotel
	Solar Panels	Solar Panels	Solar Panels	Solar Panels	Solar Panels	Solar Panels	Solar Panels
	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine
	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)
	Water	Data Center	Data Center	Data Center	Data Center	Data Center	Data Center
	Collection	Event (s)	Event (s)	Event (s)	Event (s)	Event (s)	Event (s)
	System	Water	Water	Water	Water	Water	Water
	Data Center	Collection	Collection	Collection	Collection	Collection	Collection
	Event (s)	System	System	System	System	System	System
Clinic	Clinic	Clinic	Clinic	Clinic	Clinic	Clinic	
3pm	Hotel	Hotel	Hotel	Hotel	Hotel	Hotel	Hotel
	Solar Panels	Solar Panels	Solar Panels	Solar Panels	Solar Panels	Solar Panels	Solar Panels
	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine
	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)
	Data Center	Data Center	Data Center	Data Center	Data Center	Data Center	Data Center
	Event (s)	Event (s)	Event (s)	Event (s)	Event (s)	Event (s)	Event (s)
	Water	Water	Water	Water	Water	Water	Water
	Collection	Collection	Collection	Collection	Collection	Collection	Collection
	System	System	System	System	System	System	System
Clinic	Clinic	Clinic	Clinic	Clinic	Clinic	Clinic	
4pm	Hotel	Hotel	Hotel	Hotel	Hotel	Hotel	Hotel
	Solar Panels	Solar Panels	Solar Panels	Solar Panels	Solar Panels	Solar Panels	Solar Panels
	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine
	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)
	Data Center	Data Center	Data Center	Data Center	Data Center	Data Center	Data Center
	Event (s)	Event (s)	Event (s)	Event (s)	Event (s)	Event (s)	Event (s)
	Water	Water	Water	Water	Water	Water	Water
	Collection	Collection	Collection	Collection	Collection	Collection	Collection
	System	System	System	System	System	System	System
Clinic	Clinic	Clinic	Clinic	Clinic	Clinic	Clinic	

**Table 3. Large-scale Stadium (Continued)**

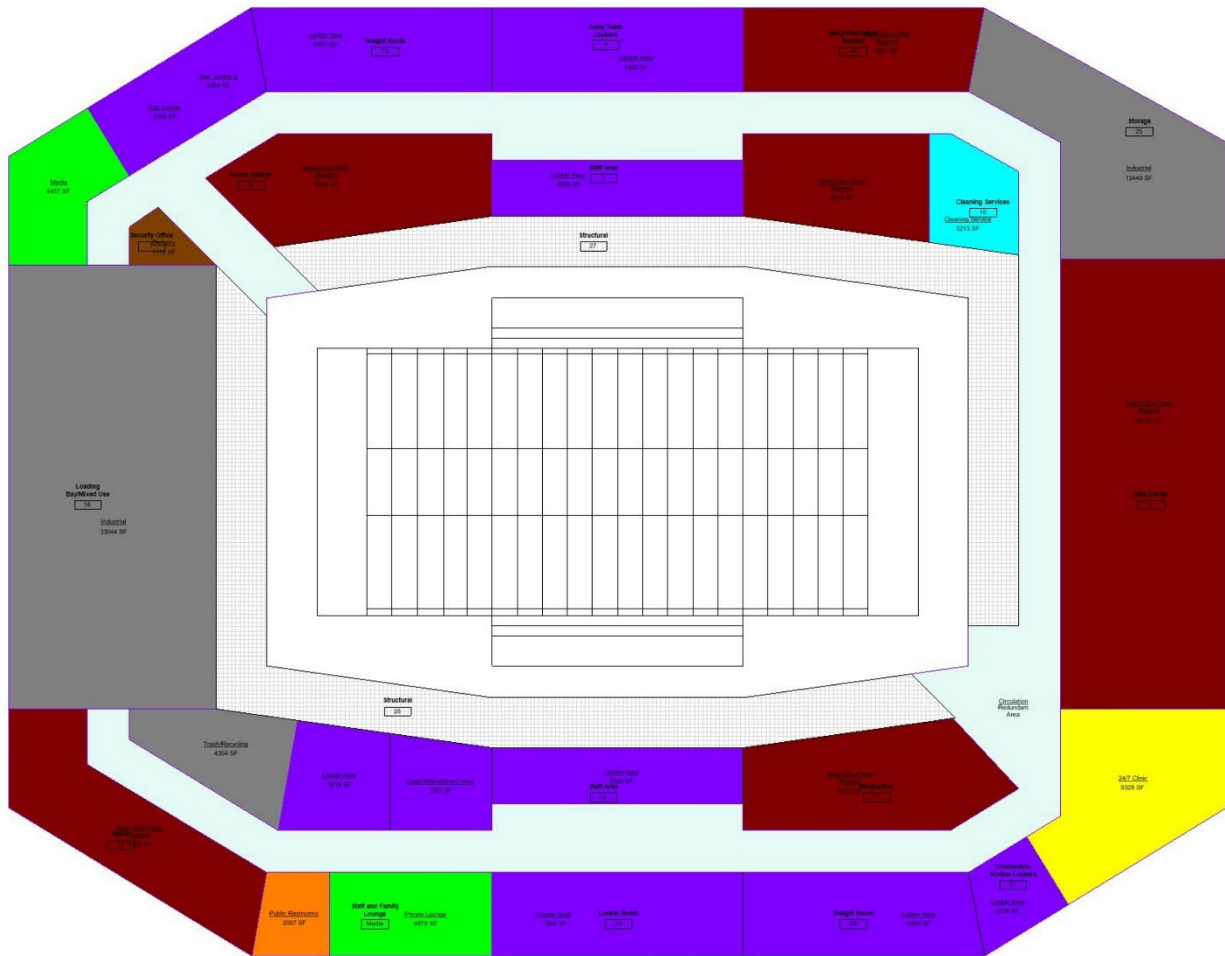
5pm	Hotel	Hotel	Hotel	Hotel	Hotel	Hotel	Hotel
	Solar Panels	Solar Panels	Solar Panels	Solar Panels	Solar Panels	Solar Panels	Solar Panels
	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine
	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s) Data
	Data Center	Data Center	Data Center	Data Center	Data Center	Data Center	Center
	Event (s)	Event (s) Water	Event (s)	Event (s)	Event (s)	Event (s)	Event (s)
	Water	Collection	Water	Water	Water	Water	Water
	Collection	System	Collection	Collection	Collection	Collection	Collection
System	Clinic	System	System	System	System	System	
Clinic		Clinic	Clinic	Clinic	Clinic	Clinic	
6pm	Hotel	Hotel	Hotel	Hotel	Hotel	Hotel	Hotel
	Solar Panels	Solar Panels	Solar Panels	Solar Panels	Solar Panels	Solar Panels	Solar Panels
	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine
	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)
	Data Center	Data Center	Data Center	Data Center	Data Center	Data Center	Data Center
	Event (s)	Event (s)	Event (s)	Event (s)	Event (s)	Event (s)	Event (s) Water
	Water	Water	Water	Water	Water	Water	Collection
	Collection	Collection	Collection	Collection	Collection	Collection	System
System	System	System	System	System	System	Clinic	
Clinic	Clinic	Clinic	Clinic	Clinic	Clinic		
7pm	Hotel	Hotel	Hotel	Hotel	Hotel	Hotel	Hotel
	Solar Panels	Solar Panels	Solar Panels	Solar Panels	Solar Panels	Solar Panels	Solar Panels
	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine	Wind Turbine
	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)	Vendor(s)
	Data Center	Data Center	Data Center	Data Center	Data Center	Data Center	Data Center
	Event (s)	Event (s)	Event (s)	Event (s)	Event (s)	Event (s)	Event (s)
	Water	Water	Water	Water	Water	Water	Water
	Collection	Collection	Collection	Collection	Collection	Collection	Collection
System	System	System	System	System	System	System	
Clinic	Clinic	Clinic	Clinic	Clinic	Clinic	Clinic	



# Schematic Designs

## High School Football Stadium

Figure 12. Field Level



**Program:**

**Industrial (49,846 SF)**

**Storage Space (12,448 SF)**

Team Storage.....	7,000 SF
Video Storage.....	351 SF
Audio Storage.....	351 SF
Turf Storage.....	3,000 SF
Auxiliary Storage Space.....	750 SF
Janitorial Closets.....	200 SF
Cheerleader Storage.....	100 SF
<b>Other (37,398 SF)</b>	
Loading Dock Area/Mixed Use.....	33,044 SF
Trash & Recycle Room.....	4,354 SF

**Locker Area (56,212 SF)**

**Home Locker Room (22,801 SF)**

**Team Area (7,500 SF)**

Team Lockers.....	2,500 SF
Stretching Room.....	800 SF
(2) Meeting Rooms.....	1,300 SF
Team Storage Room 1.....	650 SF
Team Storage Room 2.....	250 SF
Video Storage.....	250 SF
Team Restroom.....	650 SF
Team Wet Room.....	650 SF
Drying Area.....	250 SF
Concession Room.....	200 SF

**Staff Area (5,026 SF)**

Medical Staff Room.....	300 SF
Medical Room 1.....	250 SF
Medical Room 2.....	400 SF
Thermal Plunge.....	250 SF
Physical Training Room.....	1,296 SF
Trainer Office.....	80 SF
Equipment Room.....	1,200 SF
Equipment Manager Office.....	500 SF
Staff Locker Room.....	450 SF
Staff Toilet.....	100 SF
X-Ray Room.....	200 SF

**Coach/Management Area (3,281 SF)**

Owner's Room.....	500 SF
Owner's Toilet.....	150 SF

GM Office.....	350 SF
Head Coach Office.....	200 SF
Head Coach Toilet.....	150 SF
Assistant Coach Locker Room.....	1,231 SF
Assistant Coach Restroom.....	450 SF
Assistant Coach Wet Room.....	250 SF

**Weight Room (6,994 SF)**

**Visitor Locker Room:**

**Visitor Locker Room (26,017 SF)**

**Team Area (7,500 SF)**

Team Lockers.....	2,500 SF
Stretching Room.....	800 SF
(2) Meeting Rooms.....	1,300 SF
Team Storage Room 1.....	650 SF
Team Storage Room 2.....	250 SF
Video Storage.....	250 SF
Team Restroom.....	650 SF
Team Wet Room.....	650 SF
Drying Area.....	250 SF
Concession Room.....	200 SF

**Staff Area (8,242 SF)**

Medical Staff Room - Home and Away.....	3,516 SF
Medical Room 1.....	250 SF
Medical Room 2.....	400 SF
Thermal Plunge.....	250 SF
Physical Training Room.....	1,296 SF
Trainer Office.....	80 SF
Equipment Room.....	1,200 SF
Equipment Manager Office.....	500 SF
Staff Locker Room.....	450 SF
Staff Toilet.....	100 SF
X-Ray Room.....	200 SF

**Weight Room (6,987 SF)**

**Auxiliary Locker Room 1 (2,564 SF)**

**Team Area (2,050 SF)**

Team Lockers.....	800 SF
Team Restroom/Wet Room.....	650 SF

Training Room.....	400 SF
Equipment Room.....	200 SF

**Coach Area (514 SF)**

Coach Locker Room.....	264
Coach Wet Room & Toilet.....	250

**Auxiliary Locker 2 (2,454 SF)**

**Team Area (1,754 SF)**

Team Lockers.....	654 SF
Team Restroom/Wet Room Area.....	550 SF
Training Room.....	350 SF
Equipment Room.....	200 SF

**Coach Area (700 SF)**

Coach Locker Room.....	350 SF
Coach Wet Room & Toilet.....	250 SF
Miscellaneous Area.....	100 SF

**Concession Worker Lockers (2,900 SF)**

**Locker Area (2,376 SF)**

Men's Locker Room.....	900 SF
Men's Restroom.....	326 SF
Women's Locker Room.....	700 SF
Women's Restroom.....	350 SF

**Mech/Elec/Other Related (66,128 SF)**

**Mechanical Fan Rooms (17,811 SF)**

Lower-Level Fan Room.....	5,500 SF
Private Lounge Fan Room.....	2,700 SF
Visitor Locker & Commissionary Fan Room...	5,500 SF
Steam Room.....	5,900 SF

**Main Electrical Rooms (12,029 SF)**

Zone 1 Room.....	3,750 SF
Zone 2 Room.....	4,700 SF
Zone 3 Room.....	3,600 SF
Zone 4 Room.....	3,200 SF

**Beverage Pumps (for Concessions Above - 1,800 SF)**

Pump Room 1.....	450 SF
Pump Room 2.....	400 SF
Pump Room 3.....	500 SF



Pump Room 4..... 400 SF

**Sump Pumps (1,750 SF)**

Pump Room 1..... 450 SF  
Pump Room 2..... 400 SF  
Pump Room 3..... 500 SF  
Pump Room 4..... 400 SF

**Sound System Amp Rooms (950 SF)**

Room 1..... 150 SF  
Room 2..... 150 SF  
Room 3..... 150 SF  
Room 4..... 200 SF

**Information Technology (30,397 SF)**

Data Center..... 26,797 SF  
Main Telecommunications Room..... 1,000 SF  
OAS Room..... 1,800 SF  
Other Space..... 1,700 SF

**Fire Stair/Elevator Areas (1,391 SF)**

Electrical Rooms..... 491 SF  
Elevator Mechanical Rooms..... 760 SF  
Intermediate Distribution Frame (IDF)..... 150 SF

**Cleaning Services (3,213 SF):**

**Cleaning (550 SF)**

Laundry Room..... 350 SF  
Dryer Room..... 150 SF  
Chemical Storage Closet..... 50 SF

**Storage (1,050 SF)**

Premium Cleaning Storage Room..... 400 SF  
Cleaning Storage Room..... 500 SF  
Extra Storage..... 150 SF

**Employee Area (1,323 SF)**

Administrative Office..... 273 SF  
Cleaning Services Break Room..... 300 SF  
BOH Office..... 200 SF  
BOH Break Room..... 150 SF  
Restrooms..... 250 SF  
Circulation..... 150 SF

**TV Crew/Media Lounge (4,457 SF):**

**Lounge Area (4,210 SF)**

Lounge Area.....	2,085 SF
Pantry.....	450 SF
Men's Toilet.....	80 SF
Women's Toilet.....	80 SF

**Misc. (147 SF)**

Circulation.....	147 SF
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**TV/Camera Area (1,615 SF):**

Camera Wells.....	450 SF
Show Power Rooms.....	815 SF
Photography Room.....	350 SF

**Private Lounge (4,878 SF):**

**Staff & Player Family Lounge:**

**Staff Family Lounge (2,160 SF)**

Family Lounge Area.....	2,000 SF
Men's Toilet.....	80 SF
Women's Toilet.....	80 SF

**Player Family Lounge (2,600 SF)**

Family Lounge Area.....	2,400 SF
Men's Toilet.....	100 SF
Women's Toilet.....	100 SF

**Misc. (118 SF)**

Circulation.....	118 SF
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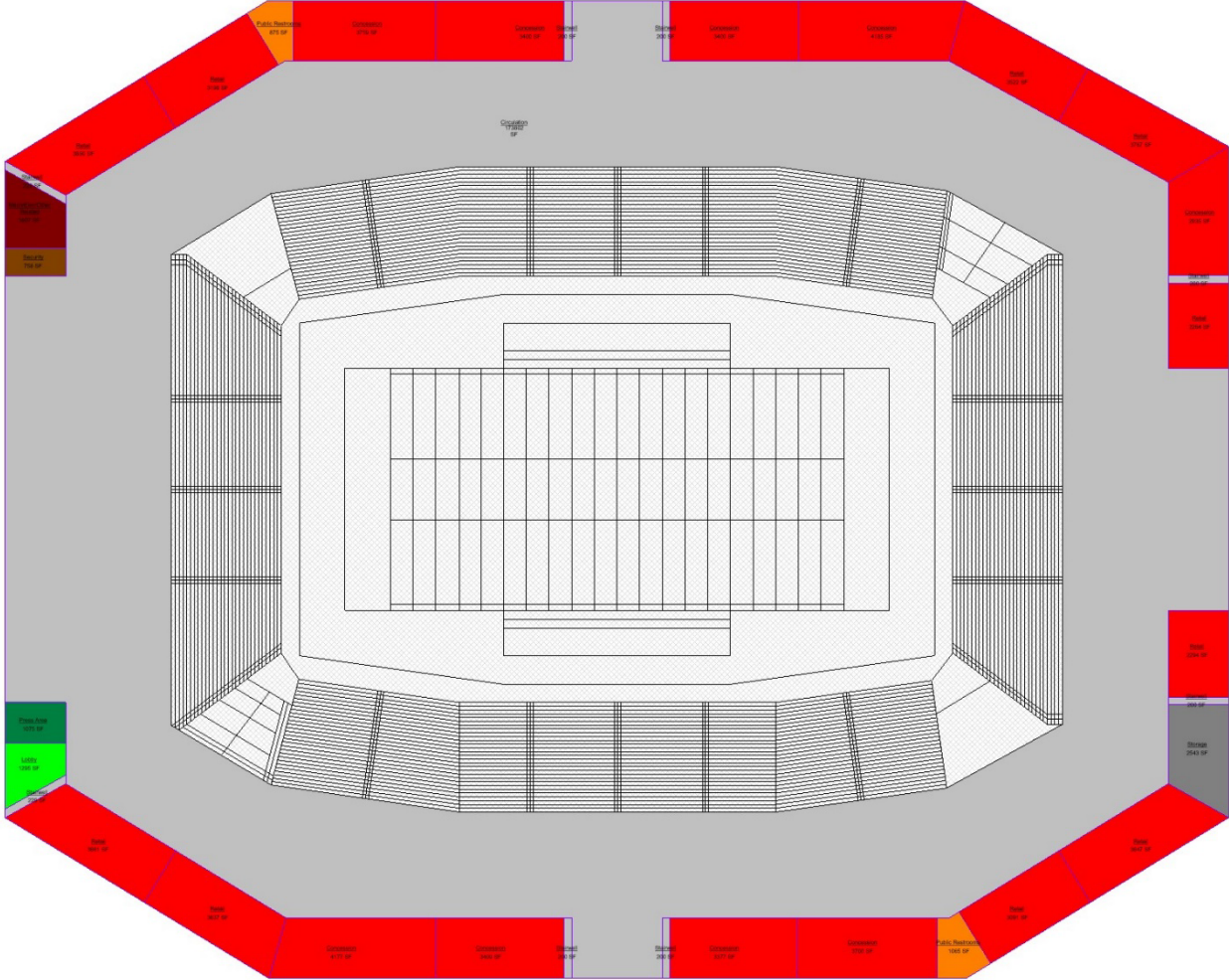
**Public Restrooms (2,097 SF)**

**Security (1,110 SF):**

Command Center.....	400 SF
Security Room.....	300 SF
Storage Room.....	250 SF
Toilet.....	80 SF
Circulation.....	80 SF

**24/7 Clinic (9,328 SF):**

Figure 13. Main Concourse



**Program:**

**Areas of Sale (65,684 SF)**

**Retail (33,351 SF)**

Restaurants.....	14,027 SF
Stores.....	19,324 SF

**General Concessions (32,333 SF)**

**Mech/Elec/Other Related (1,607 SF)**

**Mechanical Fan Rooms (800 SF)**

Team Store & Ticket Office Fan Room.....	800 SF
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**Fire Stair/Elevator Areas (807 SF)**

Electrical Rooms.....	407 SF
Intermediate Distribution Frame (IDF).....	400 SF

**Industrial (178,003 SF)**

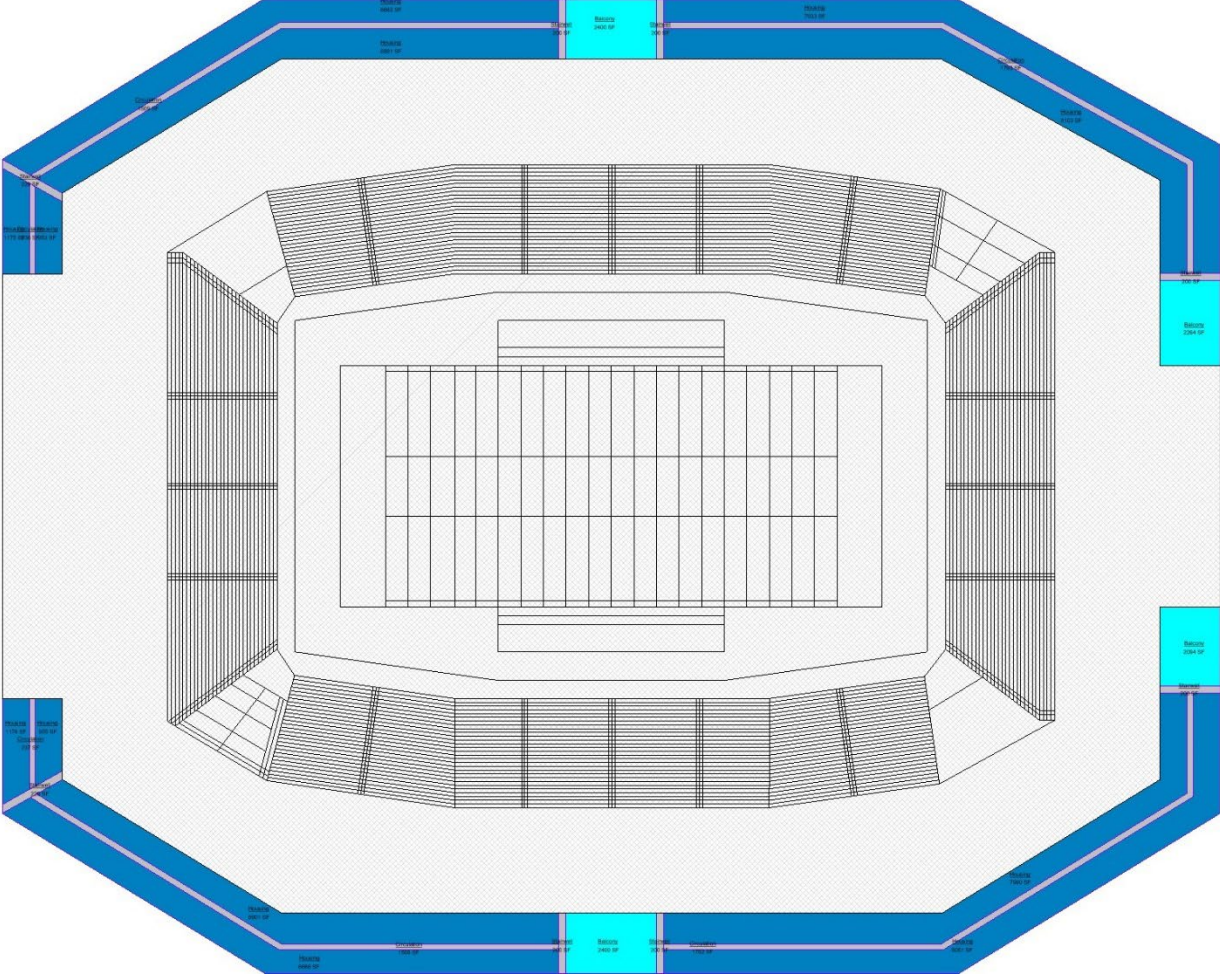
Storage.....	2,543 SF
Circulation.....	173,802 SF
Stairwells.....	1,658 SF

**Press Area – Broadcast Booth (1,065 SF)**

**Public Restrooms (1,940 SF)**

**Security (758 SF)**

Figure 14. Third Level - Hotel



**Program:**

**Housing (63,478 SF)**

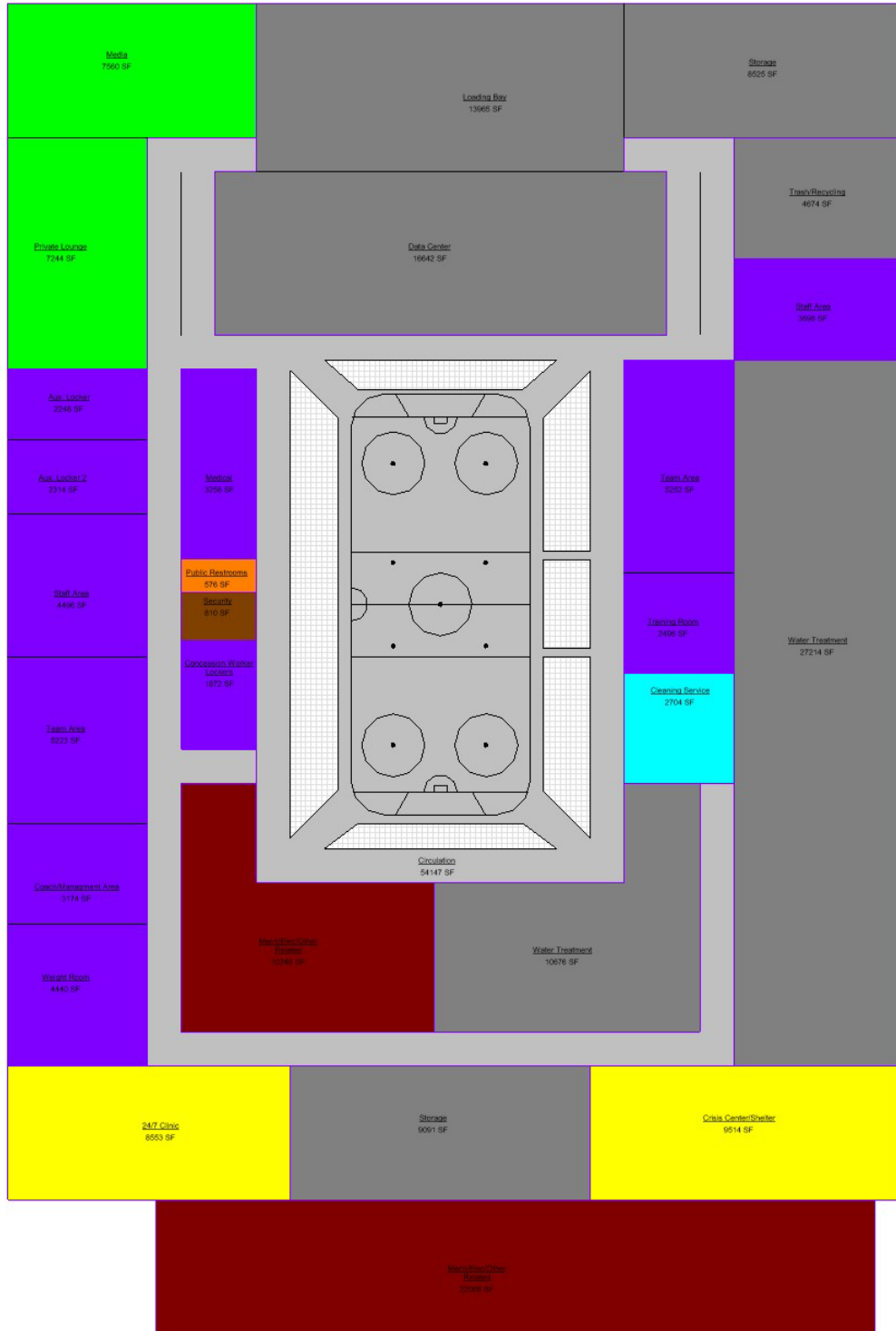
Studios.....	15,478 SF
2 Bedroom.....	18,000 SF
3 Bedroom.....	25,000 SF

**Circulation (7,065 SF)**

**Balcony (9,158 SF)**

# Schematic Design 2 - NHL Stadium

Figure 15. Level 1 - Ice Rink Level



**Program:**

**Industrial (36,255 SF)**

**Storage Space (12,448 SF) 17,616**

Team Storage.....	9,000 SF
Video Storage.....	351 SF
Audio Storage.....	351 SF
Floor Storage.....	4,000 SF
Auxiliary Storage Space.....	750 SF
Janitorial Closets.....	200 SF
Event(s) Storage.....	3,968 SF

**Other (73,171 SF)**

Loading Dock Area/Mixed Use.....	13,965 SF
Trash & Recycle Room.....	4,674 SF
Water Treatment Plant.....	37,890 SF
Data Center.....	16,642 SF

**Locker Area (56,212 SF)**

**Home Locker Room (17,333 SF)**

**Team Area (5,223 SF)**

Team Lockers.....	1,500 SF
Stretching Room.....	600 SF
(2) Meeting Rooms.....	800 SF
Team Storage Room 1.....	450 SF
Team Storage Room 2.....	250 SF
Video Storage.....	250 SF
Team Restroom.....	400 SF
Team Wet Room.....	550 SF
Drying Area.....	250 SF
Concession Closet.....	73 SF

**Staff Area (4,496 SF)**

Medical Staff Room.....	300 SF
Medical Room 1.....	250 SF
Medical Room 2.....	400 SF
Thermal Plunge.....	250 SF
Physical Training Room.....	1,000 SF
Trainer Office.....	80 SF
Equipment Room.....	966 SF
Equipment Manager Office.....	500 SF
Staff Locker Room.....	450 SF
Staff Toilet.....	100 SF
X-Ray Room.....	200 SF



**Coach/Management Area (3,174 SF)**

Owner's Room.....	500 SF
Owner's Toilet.....	150 SF
GM Office.....	350 SF
Head Coach Office.....	200 SF
Head Coach Toilet.....	150 SF
Assistant Coach Locker Room.....	1,124 SF
Assistant Coach Restroom.....	450 SF
Assistant Coach Wet Room.....	250 SF

**Weight Room (4,440 SF)**

**Visitor Locker Room:**

**Visitor Locker Room (14,904 SF)**

**Team Area (5,252 SF)**

Team Lockers.....	1,700 SF
Stretching Room.....	700 SF
(2) Meeting Rooms.....	600 SF
Team Storage Room 1.....	550 SF
Video Storage.....	250 SF
Team Restroom.....	552 SF
Team Wet Room.....	250 SF
Drying Area.....	250 SF

**Staff Area (7,156 SF)**

Medical Staff Room - Home and Away.....	3,258 SF
Physical Training Room.....	1,296 SF
Medical Room.....	228 SF
Trainer Office.....	80 SF
Equipment Room.....	1,200 SF
Equipment Manager Office.....	500 SF
Staff Locker Room.....	450 SF
Staff Toilet.....	100 SF
X-Ray Room.....	200 SF

**Weight Room (2,496 SF)**

**Auxiliary Locker Room 1 (2,224 SF)**

**Team Area (1,700 SF)**

Team Lockers.....	700 SF
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Team Restroom/Wet Room.....	450 SF
Training Room.....	350 SF
Equipment Room.....	200 SF

**Coach Area (582 SF)**

Coach Locker Room.....	232 SF
Coach Wet Room & Toilet.....	250 SF

**Auxiliary Locker 2 (2,314 SF)**

**Team Area (1,614 SF)**

Team Lockers.....	554 SF
Team Restroom/Wet Room Area.....	510 SF
Training Room.....	350 SF
Equipment Room.....	200 SF

**Coach Area (700 SF)**

Coach Locker Room.....	350 SF
Coach Wet Room & Toilet.....	250 SF
Miscellaneous Area.....	100 SF

**Concession Worker Lockers (1,872 SF)**

**Locker Area (1,872 SF)**

Men's Locker Room.....	450 SF
Men's Restroom.....	226 SF
Women's Locker Room.....	322 SF
Women's Restroom.....	250 SF

**Mech/Elec/Other Related (32,315 SF)**

**Mechanical Fan Rooms (14,040 SF)**

Lower-Level Fan Room.....	4,940 SF
Private Lounge Fan Room.....	3,200 SF
Visitor Locker & Commissionary Fan Room...	2,500 SF
Steam Room.....	3,400 SF

**Main Electrical Rooms (8,884 SF)**

Zone 1 Room.....	2,750 SF
Zone 2 Room.....	2,200 SF
Zone 3 Room.....	2,100 SF
Zone 4 Room.....	1,834 SF

**Beverage Pumps (for Concessions Above - 1,800 SF)**

Pump Room 1.....	450 SF
Pump Room 2.....	400 SF

Pump Room 3.....	500 SF
Pump Room 4.....	400 SF

**Sump Pumps (1,750 SF)**

Pump Room 1.....	450 SF
Pump Room 2.....	400 SF
Pump Room 3.....	500 SF
Pump Room 4.....	400 SF

**Sound System Amp Rooms (950 SF)**

Room 1.....	150 SF
Room 2.....	150 SF
Room 3.....	150 SF
Room 4.....	200 SF

**Information Technology (3,500 SF)**

Main Telecommunications Room.....	1,000 SF
OAS Room.....	1,200 SF
Other Space.....	1,300 SF

**Fire Stair/Elevator Areas (1,391 SF)**

Electrical Rooms.....	491 SF
Elevator Mechanical Rooms .....	760 SF
Intermediate Distribution Frame (IDF).....	150 SF

**Cleaning Services (2,704 SF):**

**Cleaning (954 SF)**

Laundry Room.....	450 SF
Dryer Room.....	354 SF
Chemical Storage Closet.....	150 SF

**Storage (600 SF)**

Premium Cleaning Storage Room.....	300 SF
Cleaning Storage Room.....	200 SF
Extra Storage.....	100 SF

**Employee Area (1,150 SF)**

Administrative Office.....	200 SF
Cleaning Services Break Room.....	300 SF
BOH Office.....	200 SF
BOH Break Room.....	150 SF
Restrooms.....	150 SF
Circulation.....	150 SF

**TV Crew/Media Lounge (7,560 SF):**

**Lounge Area (5,098 SF)**

Lounge Area.....	3,788 SF
Pantry.....	550 SF
Men's Restroom.....	380 SF
Women's Restroom.....	380 SF

**Misc. (347 SF)**

Circulation.....	347 SF
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**TV/Camera Area (2,115 SF):**

Camera Wells.....	650 SF
Show Power Rooms.....	915 SF
Photography Room.....	550 SF

**Private Lounge (7,244 SF):**

**Staff & Player Family Lounge:**

**Staff Family Lounge (3,560 SF)**

Family Lounge Area.....	3,000 SF
Men's Toilet.....	280 SF
Women's Toilet.....	280 SF

**Player Family Lounge (3,300 SF)**

Family Lounge Area.....	3,000 SF
Men's Toilet.....	200 SF
Women's Toilet.....	100 SF

**Misc. (284 SF)**

Circulation.....	284 SF
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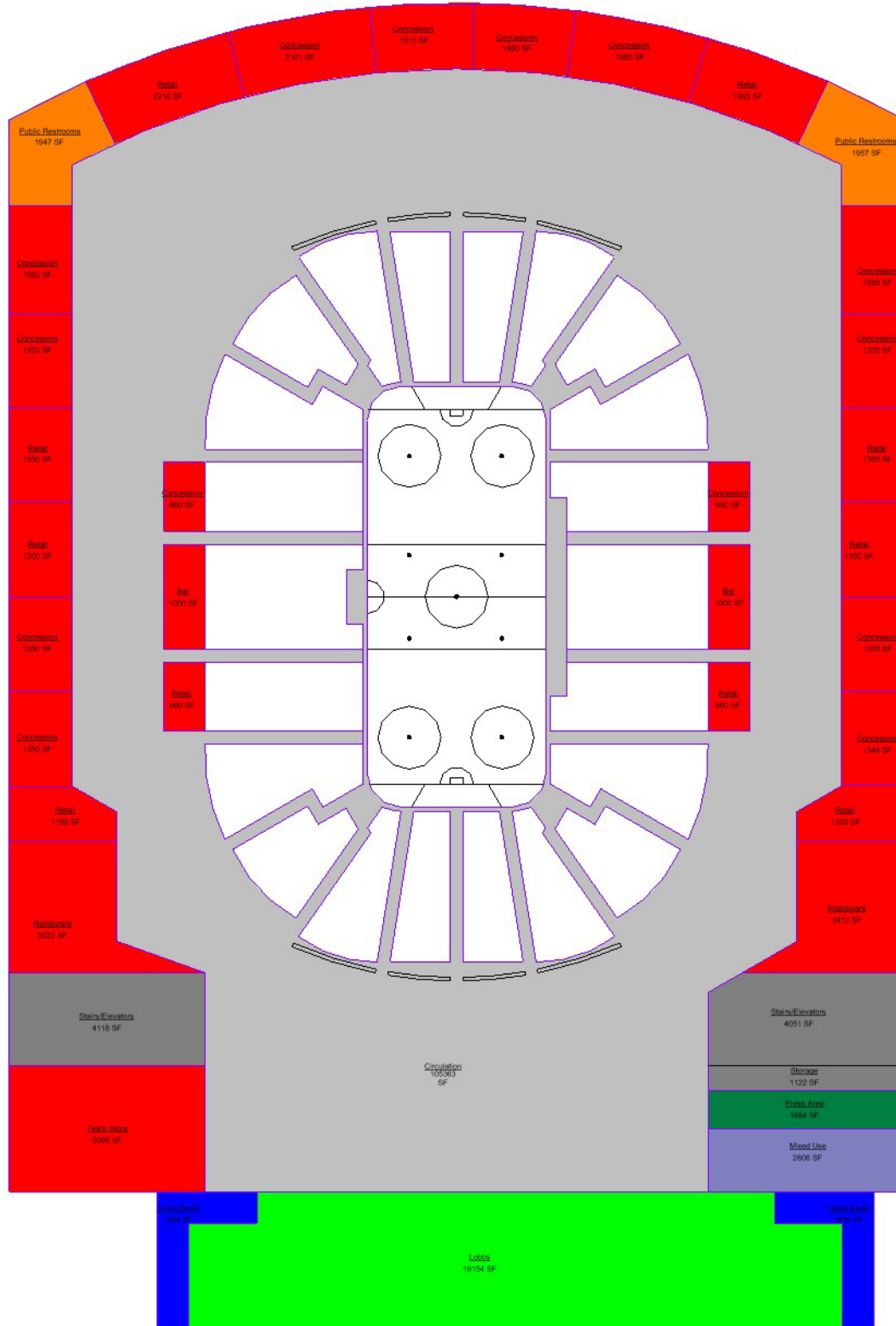
**Medical (18,067 SF):**

24/7 Clinic	8,553 SF
Crisis Center/Shelter	9,514 SF

**Public Restrooms (576 SF)**

**Security (810 SF)**

**Figure 16. Level 2 - Main Concourse**



**Program:**

**Areas of Sale (49,974 SF)**

**Retail (25,759 SF)**

Restaurants.....	6,934 SF
Stores.....	18,825 SF

**General Concessions (24,215 SF)**

**Industrial (114,654 SF)**

Storage.....	1,122 SF
Circulation.....	105,363 SF
Stairwells/Elevators.....	8,169 SF

**Press Area - Broadcast Booth (1,684 SF)**

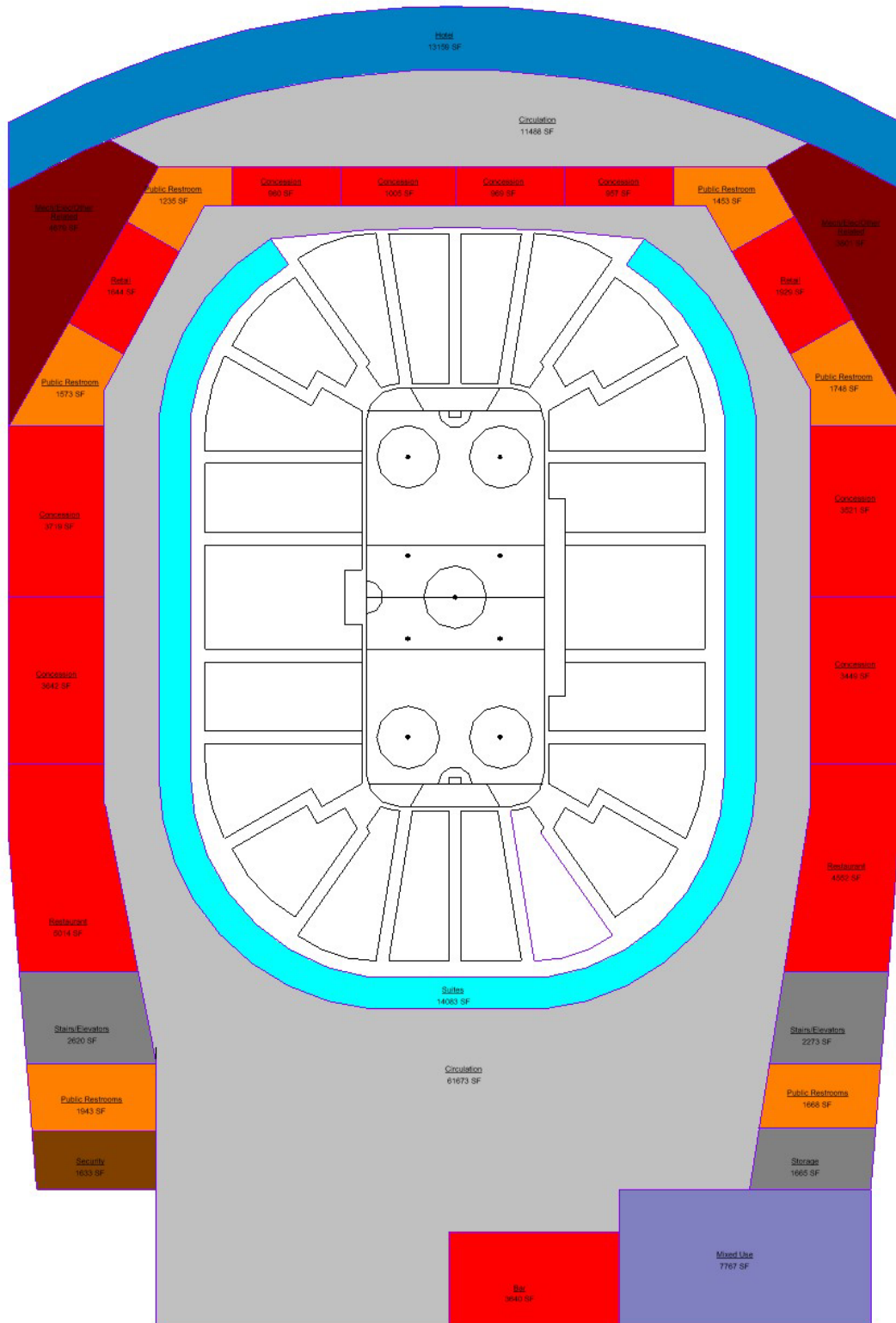
**Public Restrooms (3,904 SF)**

**Mixed Use (2,806 SF)**

**Lobby (19,154 SF)**

**Administration - Ticket Booths (2,912 SF)**

Figure 17. Third Level - Suites



**Program:**

**Areas of Sale (35,001 SF)**

**Retail (16,769 SF)**

Restaurants.....	9,556 SF
Stores.....	3,573 SF
Bar.....	3,640

**General Concessions (18,232 SF)**

**Mech/Elec/Other Related (8,480 SF)**

**Mechanical Fan Rooms (5,866 SF)**

MSFA Office Fan Room.....	1,666 SF
Club Area Fan Room 1.....	1,700 SF
Club Area Fan Room 2.....	1,500 SF
Restaurant Area Fan Room.....	1,000 SF

**Fire Stair/Elevator Areas (2,614 SF)**

Electrical Rooms.....	1,604 SF
Intermediate Distribution Frame (IDF).....	1,010 SF

**Industrial (79,719 SF)**

Storage.....	1,665 SF
Circulation.....	73,161 SF
Stairwells/Elevators.....	4,893 SF

**Suites (14,083 SF)**

**Public Restrooms (9,620 SF)**

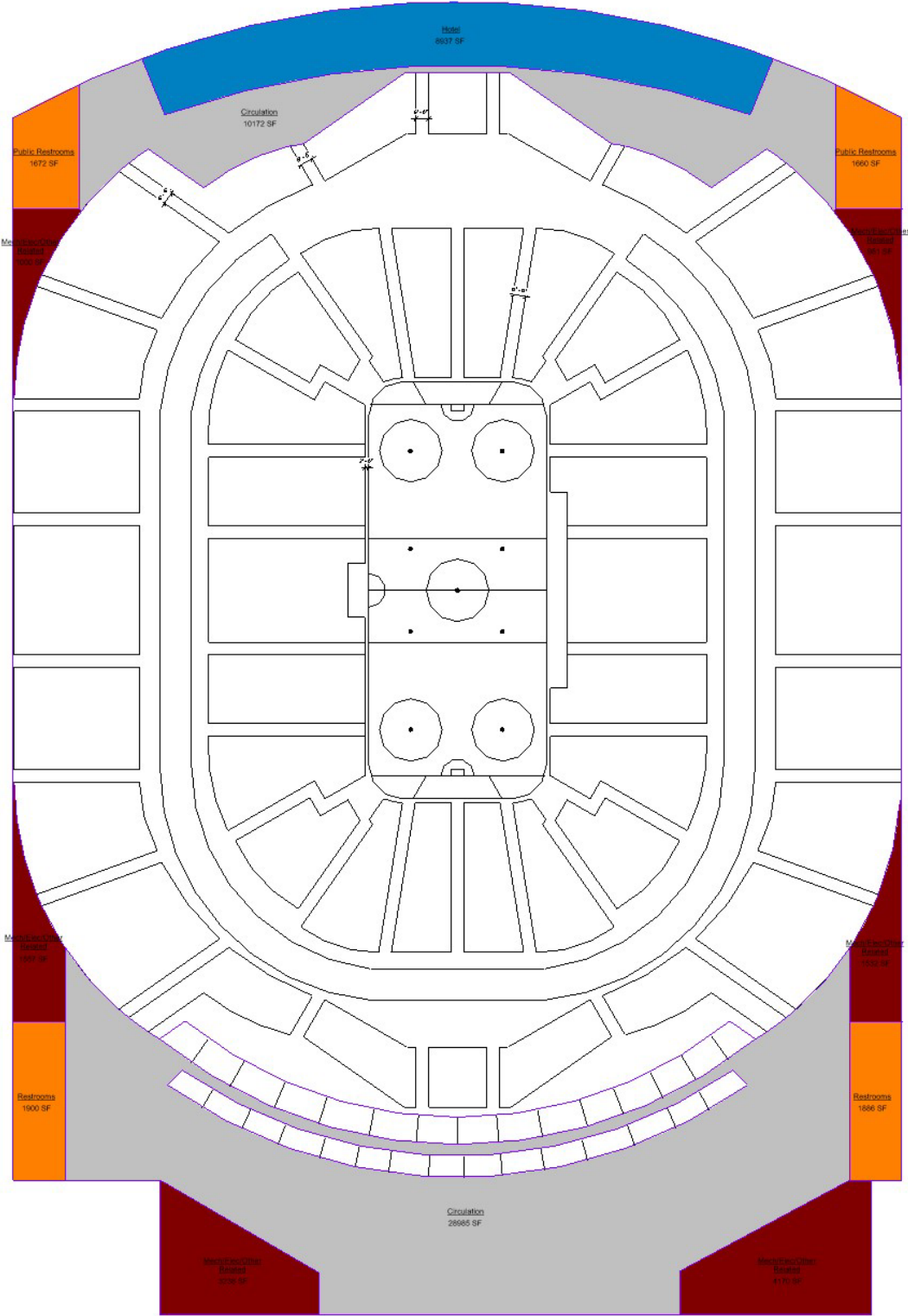
**Security (1,663 SF)**

**Mixed Use (7,767 SF)**

**Hotel (13,159 SF)**



Figure 18. Level 4 - Upper-Level Concourse



**Program:**

**Mech/Elec/Other Related (12,523 SF) 12,523**

**Mechanical Fan Rooms (7,300 SF)**

Bowl Mechanical Fan Room 1.....	1,800 SF
Bowl Mechanical Fan Room 2.....	1,100 SF
Bowl Mechanical Fan Room 3.....	1,200 SF
Bowl Mechanical Fan Room 4.....	1,700 SF
Bowl Mechanical Fan Room 5.....	1,500 SF

**Main Electrical (2,900 SF)**

Electrical Sub 1.....	1,000 SF
Electrical Sub 2.....	1,300 SF
Electrical Sub 3.....	600 SF

**Sound System Amp Rooms (400 SF)**

Amp Room 1.....	400 SF
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**Fire Stair/Elevator Areas (1,923 SF)**

Electrical Rooms.....	323 SF
Elevator Control Rooms.....	1,000 SF
A/V Room.....	600 SF

**Wind Turbines (Roof ~ 60,000 SF)**

**Solar Panels (Roof/Siding ~ 120,000 SF)**

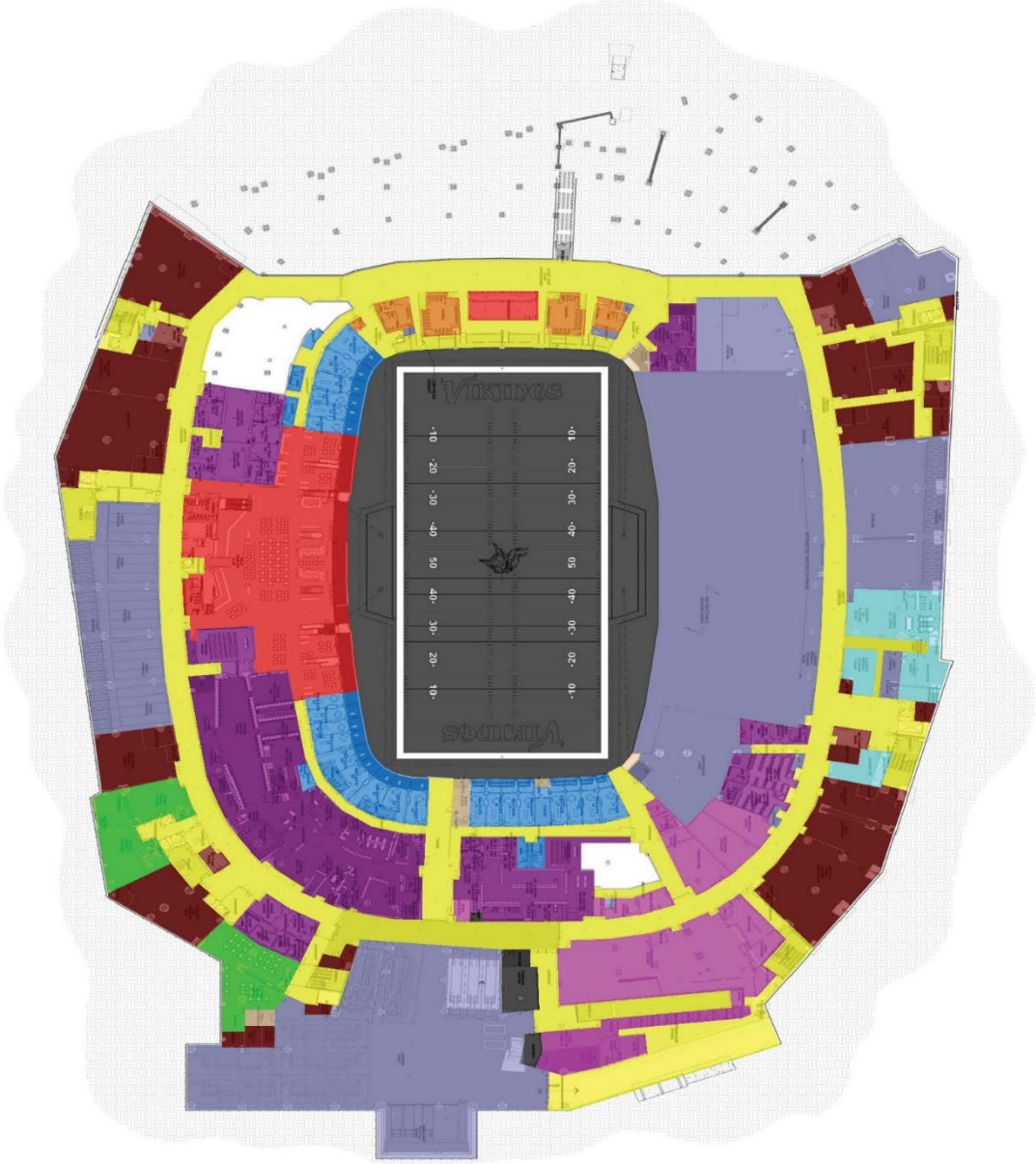
**Circulation (39,157 SF)**

**Public Restrooms (7,118 SF)**

**Hotel (8,937 SF)**

Schematic Design 3 - NFL Stadium (U.S. Bank Stadium)

Figure 19. Level 1 - Field Level



Note: From HKS Architects

**Program – US. Bank with possible 24/7 additions**

**Industrial (123,600 SF):**

**Storage Space (70,400 SF)**

Team Storage.....	13,300 SF
Video Storage.....	350 SF
Audio Storage.....	350 SF
Turf Storage.....	5,650 SF
Auxiliary Storage Space.....	750 SF
Janitorial Closets.....	200 SF
Extra Storage Space.....	44,000 SF
Minnesota Sports Federation Storage.....	5,700 SF
Cheerleader Storage.....	100 SF

**Other (53,200 SF)**

Loading Dock Area.....	32,200 SF
Trash & Recycle Room.....	4,000 SF
Maintenance Shop.....	6,000 SF
Parking Garage.....	11,000 SF

**Locker Areas (45,510):**

**Vikings Locker Room (23,950)**

**Team Area (10,550 SF)**

Team Lockers.....	3,900 SF
Stretching Room.....	1,000 SF
(2) Meeting Rooms.....	1,700 SF
Team Storage Room 1.....	850 SF
Team Storage Room 2.....	450 SF
Video Storage.....	450 SF
Team Restroom.....	650 SF
Team Wet Room.....	850 SF
Drying Area.....	450 SF
Concession Room.....	250 SF

**Staff Area (4,930 SF)**

Medical Staff Room.....	300 SF
Medical Room 1.....	250 SF
Medical Room 2.....	400 SF
Thermal Plunge.....	250 SF
Training Room.....	1,200 SF
Trainer Office.....	80 SF
Equipment Room.....	1,200 SF
Equipment Manager Office.....	500 SF
Staff Locker Room.....	450 SF
Staff Toilet.....	100 SF

X-Ray Room.....	200 SF
<b>Coach/Management Area (2,870 SF)</b>	
Owner's Room.....	400 SF
Owner's Toilet.....	100 SF
GM Office.....	150 SF
Head Coach Office.....	170 SF
Head Coach Toilet.....	150 SF
Assistant Coach Locker Room.....	1,200 SF
Assistant Coach Restroom.....	450 SF
Assistant Coach Wet Room.....	250 SF
<b>Interview Area (2,000 SF)</b>	
Interview Room.....	1,500 SF
A/V Room.....	250 SF
<b>Mech/Elec/Misc. (3,600 SF)</b>	
Intermediate Distribution Frame (IDF).....	350 SF
Circulation.....	3,250 SF
<b>Visitor Locker (7,800 SF)</b>	
<b>Team Area (5,050 SF)</b>	
Team Lockers.....	2,500 SF
Team Restrooms.....	700 SF
Team Wet Room.....	400 SF
Training Room.....	900 SF
Equipment Room.....	550 SF
<b>Coach/Staff Area (1,240 SF)</b>	
Head Coach Locker Room.....	180 SF
Head Coach Wet Room.....	180 SF
Assistant Coach Locker Room.....	380 SF
Assistant Coach Wet Room.....	200 SF
Coaches Restroom.....	300 SF
<b>Interview Area (900 SF)</b>	
Interview Room.....	900 SF
<b>Mech/Elec/Misc. (610 SF)</b>	
Circulation.....	610 SF
<b>Auxillary Locker Room 1 (3,280 SF)</b>	
<b>Team Area (2,450 SF)</b>	
Team Lockers.....	1,200 SF
Team Restroom/Wet Room.....	650 SF
Training Room.....	400 SF
Equipment Room.....	200 SF
<b>Coach Area (830 SF)</b>	
Coach Locker Room.....	350
Coach Wet Room & Toilet.....	350

Miscellaneous Area.....	130
<b>Auxillary Locker Room 2 (2,700 SF)</b>	
<b>Team Area (2,000 SF)</b>	
Team Lockers.....	900 SF
Team Restroom/Wet Room Area.....	550 SF
Training Room.....	350 SF
Equipment Room.....	200 SF
<b>Coach Area (700 SF)</b>	
Coach Locker Room.....	350 SF
Coach Wet Room & Toilet.....	250 SF
Miscellaneous Area.....	100 SF
<b>Game Officials Locker Room (2,080 SF)</b>	
<b>Locker Area (1,750 SF)</b>	
Men's Official Locker Room.....	500 SF
Women's Official Locker Room.....	300 SF
Chain Crew Locker Room.....	600 SF
Official Meeting Room.....	350 SF
<b>Mech/Elec/Misc. (330 SF)</b>	
Intermediate Distribution Frame (IDF).....	230 SF
Circulation.....	100 SF
<b>Concession Worker Lockers (2,900 SF)</b>	
<b>Locker Area (2,750 SF)</b>	
Men's Locker Room.....	1,100 SF
Men's Restroom.....	500 SF
Women's Locker Room.....	800 SF
Women's Restroom.....	350 SF
<b>Mech/Elec/Misc. (150 SF)</b>	
Circulation.....	150 SF
<b>Usher Lockers (2,500 SF)</b>	
<b>Locker Area (2,200 SF)</b>	
Men's Locker Room.....	400 SF
Men's Restroom.....	300 SF
Women's Locker Room.....	300 SF
Women's Restroom.....	250 SF
Usher Conference Room.....	500 SF
Usher Operations Rooms.....	450 SF
<b>Mech/Elec/Misc. (300 SF)</b>	
Circulation.....	300 SF

**MFSA Uniform Lockers (1,130 SF):**

**Locker Area (1,130 SF)**

Men's Locker Room.....	300 SF
Men's Restroom.....	250 SF
Women's Locker Room.....	300 SF
Women's Restroom.....	250 SF
Miscellaneous Space .....	30 SF

**Mech/Elec/Other Related (45,410 SF):**

**Mechanical Fan Rooms (19,600 SF)**

Lower-Level Fan Room.....	5,500 SF
Private Lounge Fan Room.....	2,700 SF
Visitor Locker & Commissionary Fan Room...	5,500 SF
Steam Room.....	5,900 SF

**Main Electrical Rooms (15,250 SF)**

Zone 1 Room.....	3,750 SF
Zone 2 Room.....	4,700 SF
Zone 3 Room.....	3,600 SF
Zone 4 Room.....	3,200 SF

**Beverage Pumps (for Concessions Above - 1,800 SF)**

Pump Room 1.....	450 SF
Pump Room 2.....	400 SF
Pump Room 3.....	500 SF
Pump Room 4 .....	400 SF

**Sump Pumps (1,750 SF)**

Pump Room 1.....	450 SF
Pump Room 2.....	400 SF
Pump Room 3.....	500 SF
Pump Room 4.....	400 SF

**Sound System Amp Rooms (650 SF)**

Room 1.....	150 SF
Room 2.....	150 SF
Room 3.....	150 SF
Room 4.....	200 SF

**Information Technology (5,150 SF)**

Data Center - N/A.....	850 SF - N/A
Main Telecommunications Room.....	800 SF
OAS Room.....	1,800 SF
Other Space.....	1,700 SF

**Fire Stair/Elevator Areas (1,200 SF)**

Electrical Rooms.....	300 SF
Elevator Mechanical Rooms.....	760 SF
Intermediate Distribution Frame (IDF).....	150 SF

**Areas of Sale (27,250 SF) – Changed to a Data Center for Thesis**

**Commissary Area (27,750 SF)**

**Storage Area (5,880 SF)**

Beverage Storage.....	1,200 SF
Beverage Cooler.....	1,500 SF
Paper Storage.....	1,500 SF
Chemical Storage.....	300 SF
Commercial Storage.....	400 SF
Men’s Restroom.....	250 SF
Women’s Restroom.....	300 SF
Fryer Waste Oil.....	280 SF
Cart Wash.....	150 SF

**Kitchen Area (11,800 SF)**

Commissionary Kitchen.....	9,700 SF
Dish wash.....	1,000 SF
Janitorial Closet.....	150 SF
Dish Storage.....	550 SF
Dry Storage.....	250 SF
Detergent Storage.....	150 SF

**Administrative Area (2,250 SF)**

(10) Private Offices.....	1,150 SF
Conference Room.....	450 SF
Receipt .....	250 SF
Count Room.....	400 SF

**Entry Area (1,700 SF)**

Employee Check-In.....	800 SF
Domestic Water Entry.....	900 SF

**Mech/Elec/Misc. (1,120 SF)**

Intermediate Distribution Frame (IDF).....	150 SF
Condenser Unity (For Cooler) .....	500 SF
Circulation.....	470 SF



**Suite Area (17,630 SF) – Changed to Hotel Rooms for Users/Family/Guests**

Suite Boxes – Hotel Rooms.....	14,780 SF
Serving Restrooms – Included into Rooms...	1,950 SF
Serving Pantry Areas – Guests.....	900 SF

**Private Lounge (9,350 SF) – Cut in Half for 24/7 Clinic:**

**Staff & Player Family Lounge:**

**Staff Family Lounge (1,660 SF)**

Family Lounge Area.....	1,500 SF
Men’s Toilet.....	80 SF
Women’s Toilet.....	80 SF

**Nursery Area (1,000 SF)**

Nursery.....	900 SF
Room.....	
Nursery Toilet .....	100 SF

**Player Family Lounge (2,200 SF)**

Family Lounge Area.....	2,000 SF
Men’s Toilet.....	100 SF
Women’s Toilet .....	100 SF

**Misc. (190 SF)**

Circulation	190 SF
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**TV Crew/Media Lounge (4,300 SF) – 24/7 Clinic for Thesis:**

**Lounge Area (4,210 SF)**

Lounge Area.....	3,700 SF
Pantry – Changed to Medicine Cabinet.....	350 SF
Men’s Toilet.....	80 SF
Women’s Toilet .....	80 SF

**Misc. (90 SF)**

Circulation	90 SF
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**Cleaning Services (7,540 SF):**

**Cleaning (1,100 SF)**

Laundry Room.....	850 SF
Dryer Room	200 SF
.....	
Chemical Storage Closet.....	50 SF

**Storage (2,750 SF)**

Premium Cleaning Storage Room.....	1,000 SF
Cleaning Storage Room.....	1,100 SF
Suite/Club Cleaning Storage.....	400 SF
Extra Storage.....	250 SF

**Employee Area (3,600 SF)**

Administrative Office.....	650 SF
Cleaning Services Break Room .....	900 SF
BOH Office.....	600 SF
BOH Break Room.....	400 SF
Restrooms.....	650 SF
Circulation .....	400 SF

**Public Restrooms (4,000 SF)**

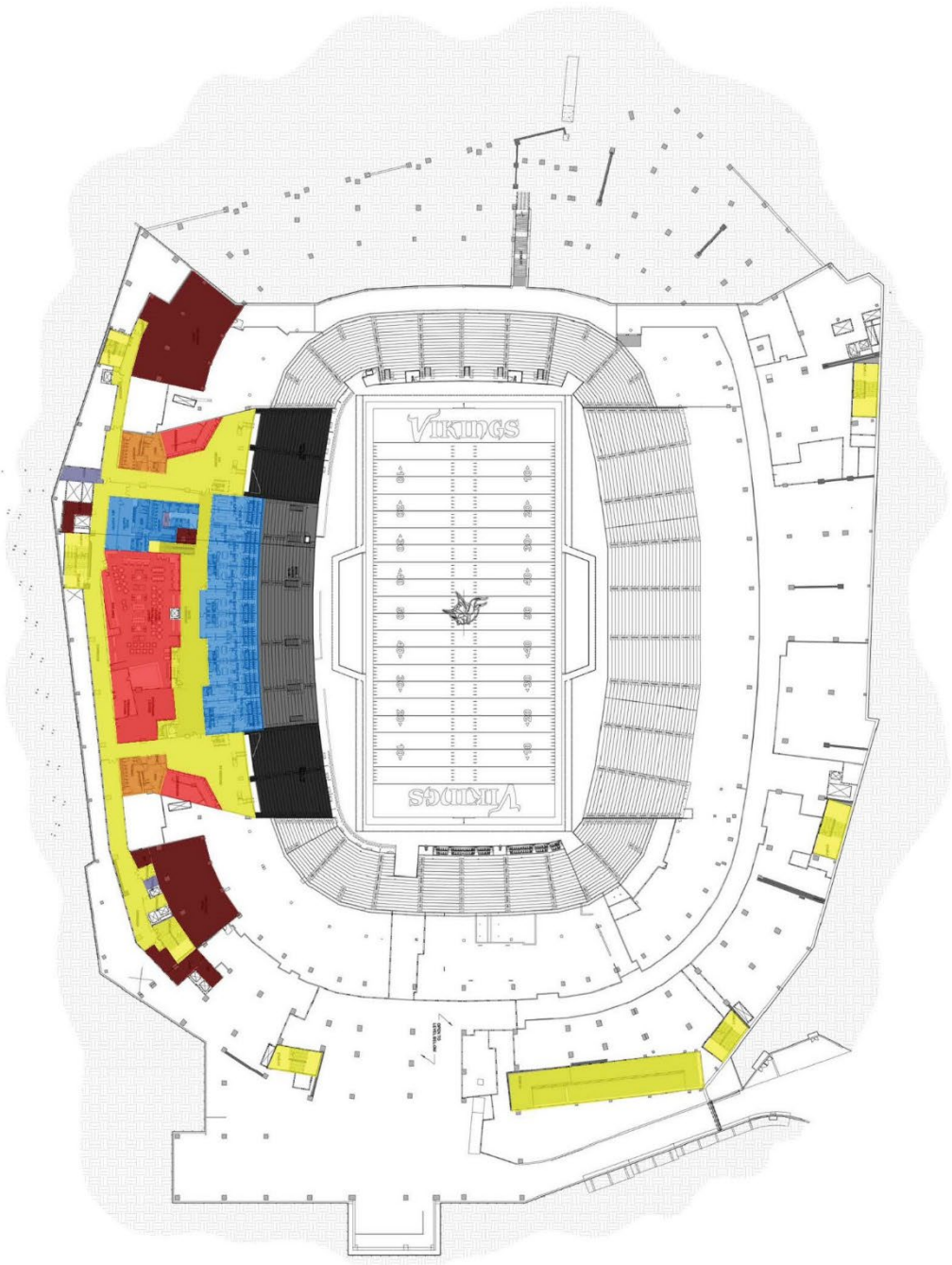
**Security (2,150 SF):**

Command Center.....	1,200 SF
Security Room.....	400 SF
Storage Room.....	350 SF
Toilet.....	80 SF
Circulation.....	120 SF

**TV/Camera Area (1,615 SF):**

Camera Wells.....	450 SF
Show Power Rooms .....	815 SF
Photography Room.....	350 SF

Figure 20. Level 2 - Sideline Suite Level



Note: From HKS Architects

**Program:**

**Areas of Sale (13,000 SF)**

**Bar/Restaurant/Lounge (10,800 SF)**

Kitchen.....	1,400 SF
Bar.....	550 SF
Pantry Areas.....	1,100 SF
Lounge Area.....	7,750 SF

**Club Concession (2,200 SF)**

**Mech/Elec/Other Related (12,500 SF)**

**Mechanical Fan Rooms (10,450 SF)**

Lower Bowl Fan Room 1.....	6,100 SF
Lower Bowl Fan Room 2.....	4,350 SF

**Fire Stair/Elevator Areas (2,050 SF)**

Electrical Rooms  
Intermediate Distribution Frame (IDF)

**Suite Area (11,950 SF)**

Suite Boxes.....	10,000 SF
Serving Restrooms.....	1,950 SF

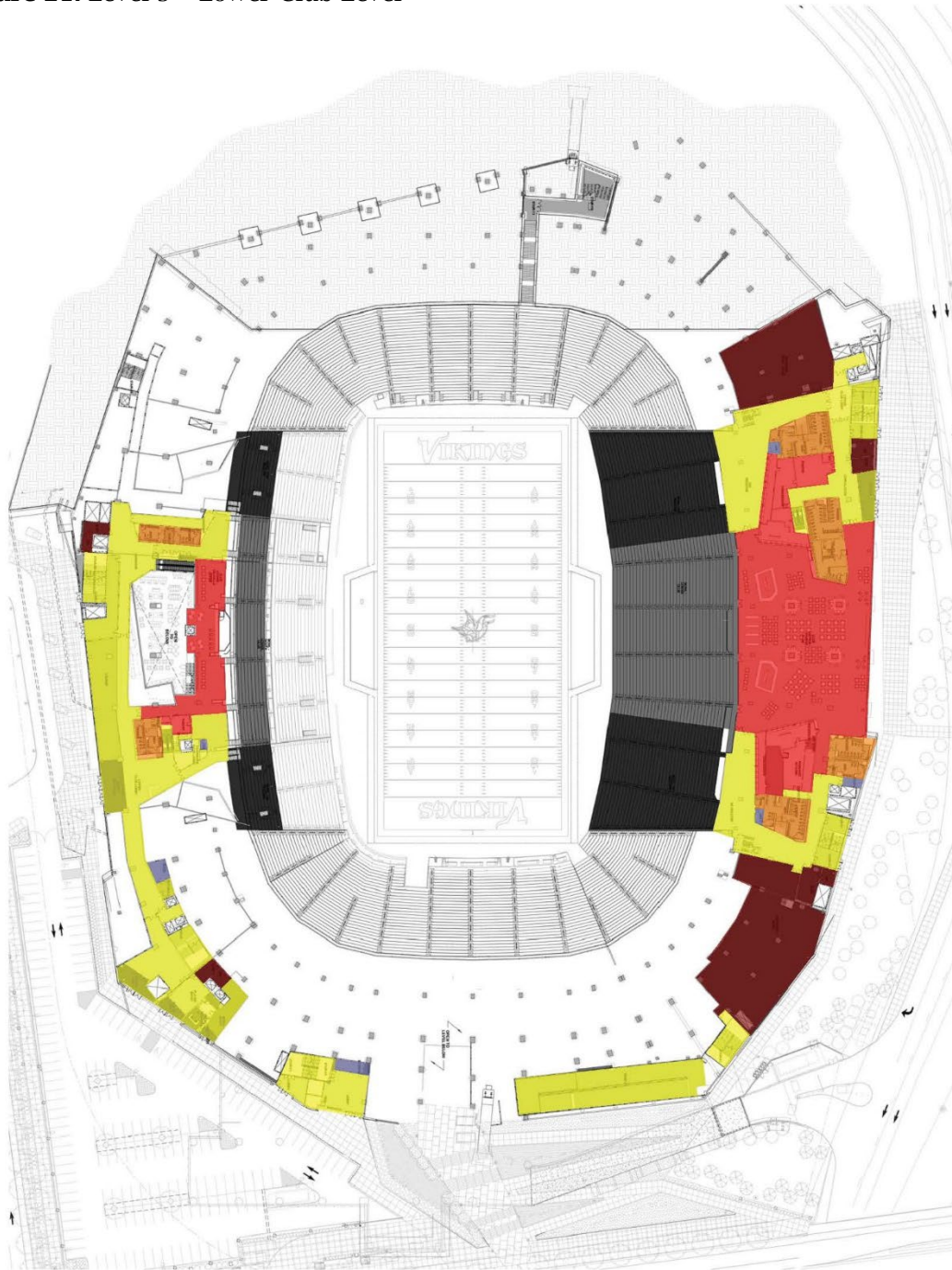
**Public Restrooms (2,600 SF)**

**Industrial (640 SF)**

**Storage Space (640 SF)**

Trash Rooms.....	450 SF
Janitorial Closets/Storage.....	190 SF

Figure 21. Level 3 - Lower Club Level



Note: From HKS Architects

**Program:**

**Areas of Sale (13,000 SF):**

**Bar/Restaurant/Lounge (31,800 SF)**

Kitchen.....	1,200 SF
Club Concession (built into club area).....	4,500 SF
Pantry Areas.....	1,300 SF
Lounge Area.....	24,800 SF

**Mech/Elec/Other Related (18,800 SF):**

**Mechanical Fan Rooms (16,500 SF)**

Lower Club Fan Room.....	6,500 SF
Lower Bowl Fan Room.....	10,000 SF

**Fire Stair/Elevator Areas (2,300 SF)**

Electrical Rooms.....	1,400 SF
Intermediate Distribution Frame (IDF).....	900 SF

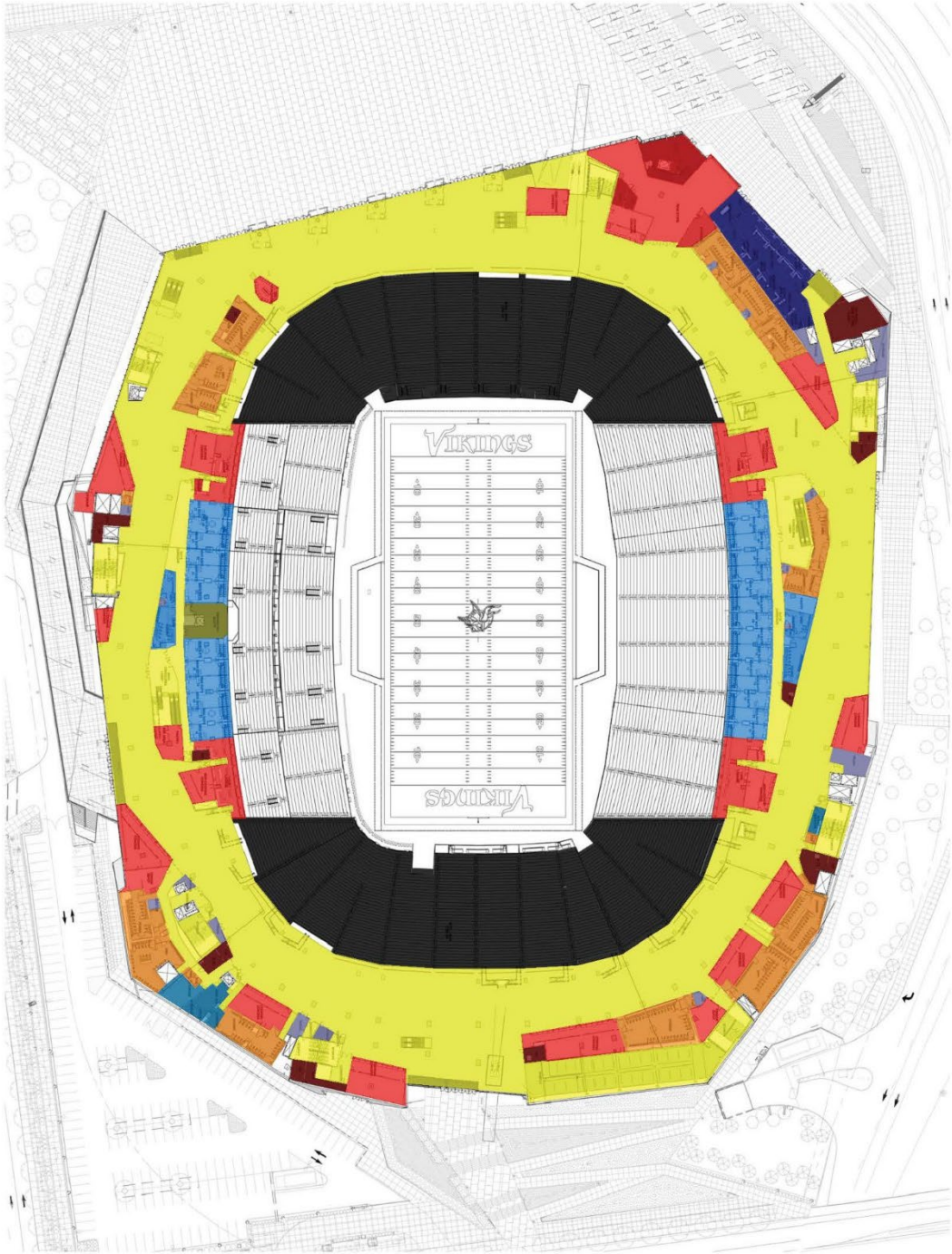
**Public Restrooms (8,850 SF):**

**Industrial (1,060 SF)**

**Storage Space (1,060 SF)**

Trash Rooms.....	430 SF
Janitorial Closets.....	280 SF
Storage.....	350 SF

Figure 22. Level 4- Main Concourse



Note: From HKS Architects

**Program:**

**Areas of Sale (39,275 SF)**

**Bar/Restaurant/Lounge (8,000 SF)**

Lounge Area.....	6,900 SF
Pantry Areas .....	1,100 SF

**Team Store:**

**General (7,100 SF)**

Entry Area.....	1,800 SF
Apparel.....	5,300 SF

**Misc. (1,125 SF)**

Electrical Room.....	250 SF
Intermediate Distribution Frame (IDF).....	150 SF
Storage.....	725 SF

**General Concession (23,000 SF)**

**Public Restrooms (21,000 SF)**

**Suite Area (18,950 SF)**

Suite Boxes.....	16,000 SF
Serving Restrooms.....	2,500 SF
Serving Pantry Areas.....	450 SF

**Mech/Elec/Other Related (4,850 SF)**

**Mechanical Fan Rooms (1,600 SF)**

Team Store & Ticket Office Fan Room.....	1,600 SF
--	----------

**Fire Stair/Elevator Areas (3,250 SF)**

Electrical Rooms.....	1,950 SF
Intermediate Distribution Frame (IDF).....	1,300 SF

**Administration Office Area (4,810 SF)**

**Ticket Office (4,810 SF)**

Work Area.....	2,900 SF
Work Room.....	500 SF
(5) Private Offices.....	900 SF
Break Room.....	250 SF
Storage Closet.....	100 SF
Men's Toilet.....	80 SF
Women's Toilet.....	80 SF



**Industrial (3,100 SF)**

**Storage Space (3,100 SF)**

Trash Rooms.....	1,100 SF
Janitorial Closets.....	650 SF
Storage.....	1,350 SF

**Guest Services (1,930 SF)**

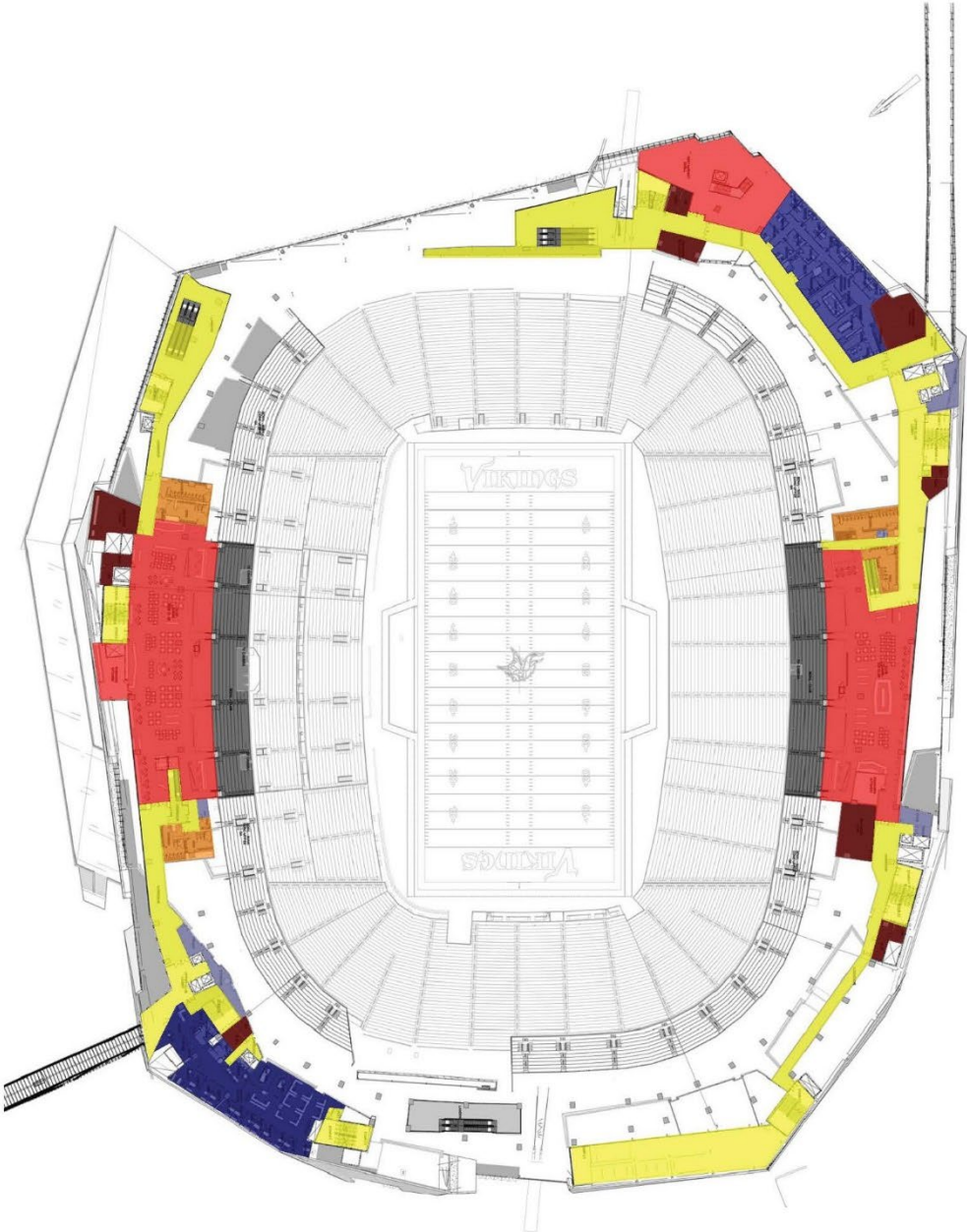
**First Aid Area (1,680 SF)**

First Aid Room.....	600 SF
Office.....	80 SF
Storage Areas.....	1,000 SF

**Guest Service Booth (250 SF)**

**Press Area – Broadcast Booth (1,260 SF)**

Figure 23. Level 5 - Upper Club Level



From HKS Architects

Note:

**Program:**

**Areas of Sale (37,400SF)**

**Bar/Restaurant/Lounge (37,400 SF)**

Kitchen.....	1,900 SF
Lounge Area.....	35,500 SF

**Administrative Office Area (15,050 SF)**

**MSFA Offices (7,050 SF)**

Reception Area.....	350 SF
Offices.....	2,800 SF
Work Room.....	200 SF
Conference Room 1.....	800 SF
Conference Room 2.....	400 SF
Break Room.....	250 SF
Storage Closets.....	300 SF
Men's Restroom.....	250 SF
Women's Restroom.....	280 SF
Circulation.....	1,420 SF

**Vikings Staff Offices (8,000 SF)**

Reception Area.....	600 SF
Offices.....	2,200
Work Area .....	2,300
Work Room.....	150
Conference Room 1.....	400
Conference Room 2.....	350
Break Room .....	350
Storage Closets.....	120
Men's Restroom.....	250
Women's Restroom.....	250
Data Room.....	150
Circulation.....	880

**Mech/Elec/Other Related (7,236 SF)**

**Mechanical Fan Rooms (5,000 SF)**

MSFA Office Fan Room.....	1,600 SF
Club Area Fan Room 1.....	1,400 SF
Club Area Fan Room 2.....	1,300 SF
Restaurant Area Fan Room.....	700 SF

**Fire Stair/Elevator Areas (2,235 SF)**

Electrical Rooms.....	1,370 SF
Intermediate Distribution Frame (IDF).....	865 SF

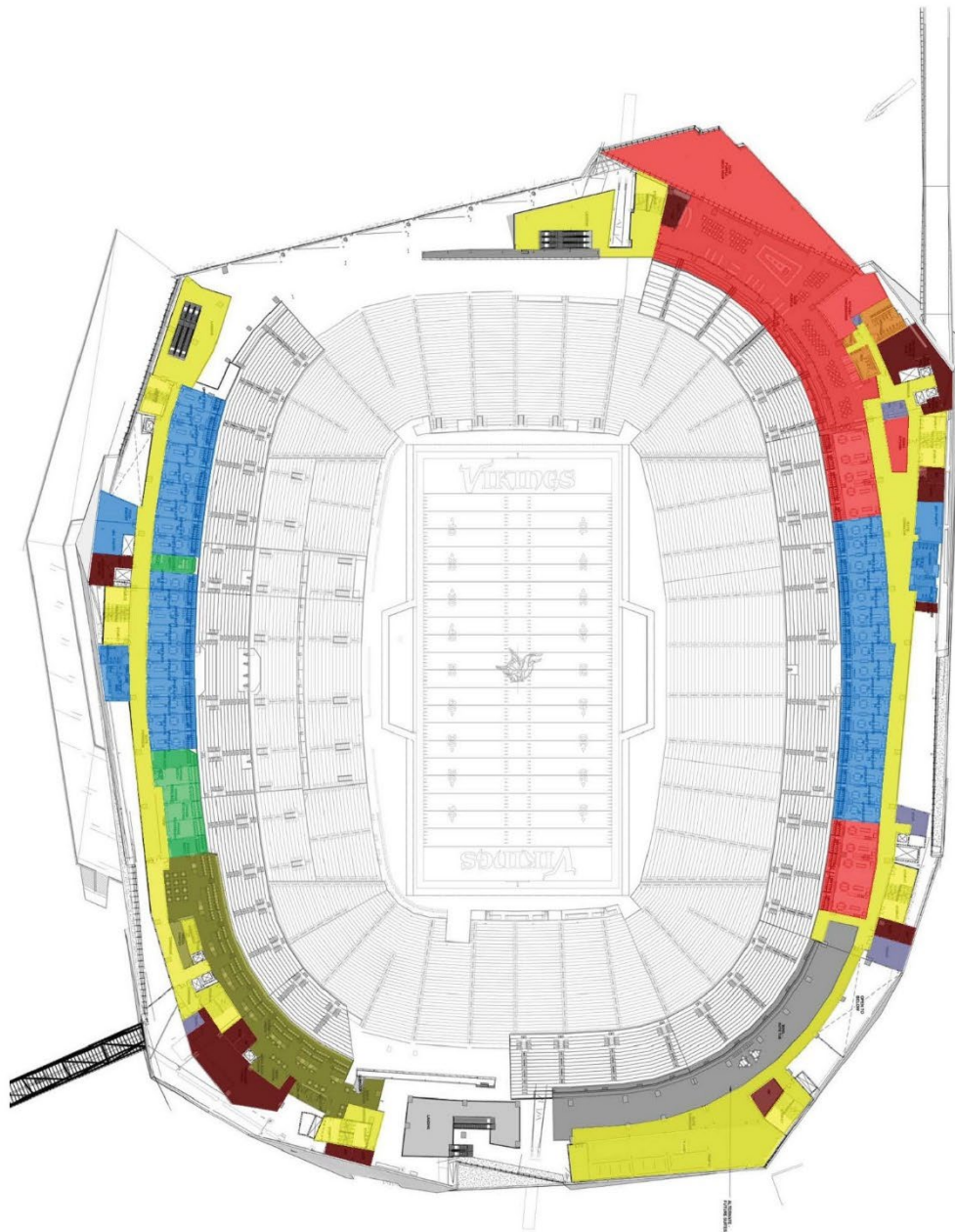
**Public Restrooms (21,000 SF)**

**Industrial (2,210 SF)**

**Storage Space (2,210 SF)**

Trash Rooms.....	450 SF
Janitorial Closets.....	60 SF
Storage Space.....	1,550 SF
A/V Room.....	150 SF

Figure 24. Level 6 - Upper Suite Level



Note: From HKS Architects

**Program:**

**Areas of Sale (31,800 SF)**

**Bar/Restaurant/Lounge (31,800 SF)**

Kitchen.....	2,500 SF
Lounge Area.....	29,300 SF

**Suite Area (27,360 SF)**

Suite Boxes.....	22,800 SF
Serving Restrooms.....	2,280 SF
Serving Pantry Areas.....	2,280 SF

**Press Area (11,680 SF)**

**Press Box (11,080 SF)**

Press Area.....	9,200 SF
Media Work Room.....	280 SF
Media Equipment Storage.....	220 SF
Media Storage Closet.....	500 SF
Pantry.....	380 SF
Men's Restroom.....	250 SF
Women's Restroom.....	250 SF

**Home Radio (600 SF)**

**Mech/Elec/Other Related (9,330 SF)**

**Mechanical Fan Rooms (4,950 SF)**

Club Fan Room.....	1,900 SF
Press Area Fan Room .....	3,050 SF

**Sound System Amp Rooms (430 SF)**

Room 1.....	150 SF
Room 2.....	280 SF

**Fire Stair/Elevator Areas (3,950 SF)**

Electrical Rooms.....	1,900 SF
Intermediate Distribution Frame (IDF).....	1,750 SF
Elevator Control Rooms.....	300 SF

**Coaching Boxes (3,310 SF)**

Coaches Booth 1.....	550 SF
Coaches Booth 2.....	580 SF
Vikings Personnel.....	500 SF
Vikings Scouting.....	500 SF
Vikings Management.....	500 SF
Stats Booth.....	500 SF

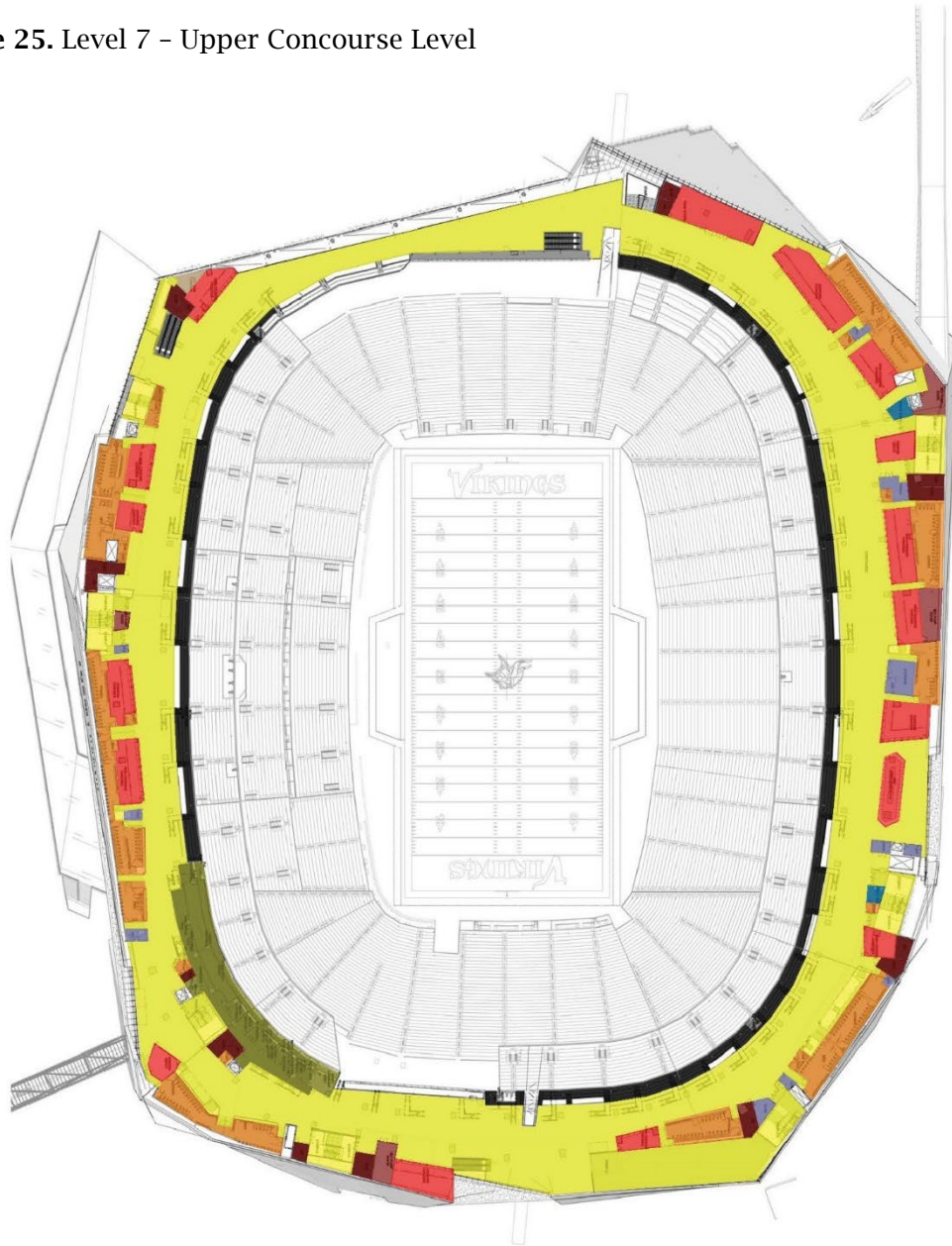
**Industrial (1,795 SF)**

**Storage Space (1,795 SF)**

Trash Rooms.....	930 SF
Janitorial Closets.....	215 SF
Storage Space.....	500 SF
A/V Room.....	150 SF

**Public Restrooms (1,450 SF)**

Figure 25. Level 7 - Upper Concourse Level



Note: *From HKS Architects*



**Program:**

**Areas of Sale (18,350 SF)**

General Concessions.....	16,450 SF
Team Store.....	1,900 SF

**Press Area (6,950 SF)**

**Video/Radio Press Box (6,950 SF)**

PA Announcer.....	120 SF
Control Room.....	215 SF
Video Production Pods.....	240 SF
Video Control Room.....	1,050 SF
Video Rack Room.....	850 SF
Men's Restroom.....	80 SF
Women's Restroom.....	80 SF
Individual Broadcast Booths.....	1,860 SF
Event Command Center.....	475 SF
Circulation.....	1,980 SF

**Mech/Elec/Other Related (5,930 SF)**

**Beverage Pumps**

Room 1.....	700 SF
Room 2.....	750 SF
Room 3.....	580 SF
Room 4.....	200 SF

**Fire Stair/Elevator Areas (3,700 SF)**

Electrical Rooms.....	2,100 SF
Intermediate Distribution Frame (IDF).....	1,600 SF

**Industrial (2,400 SF)**

**Storage Space (1,795 SF)**

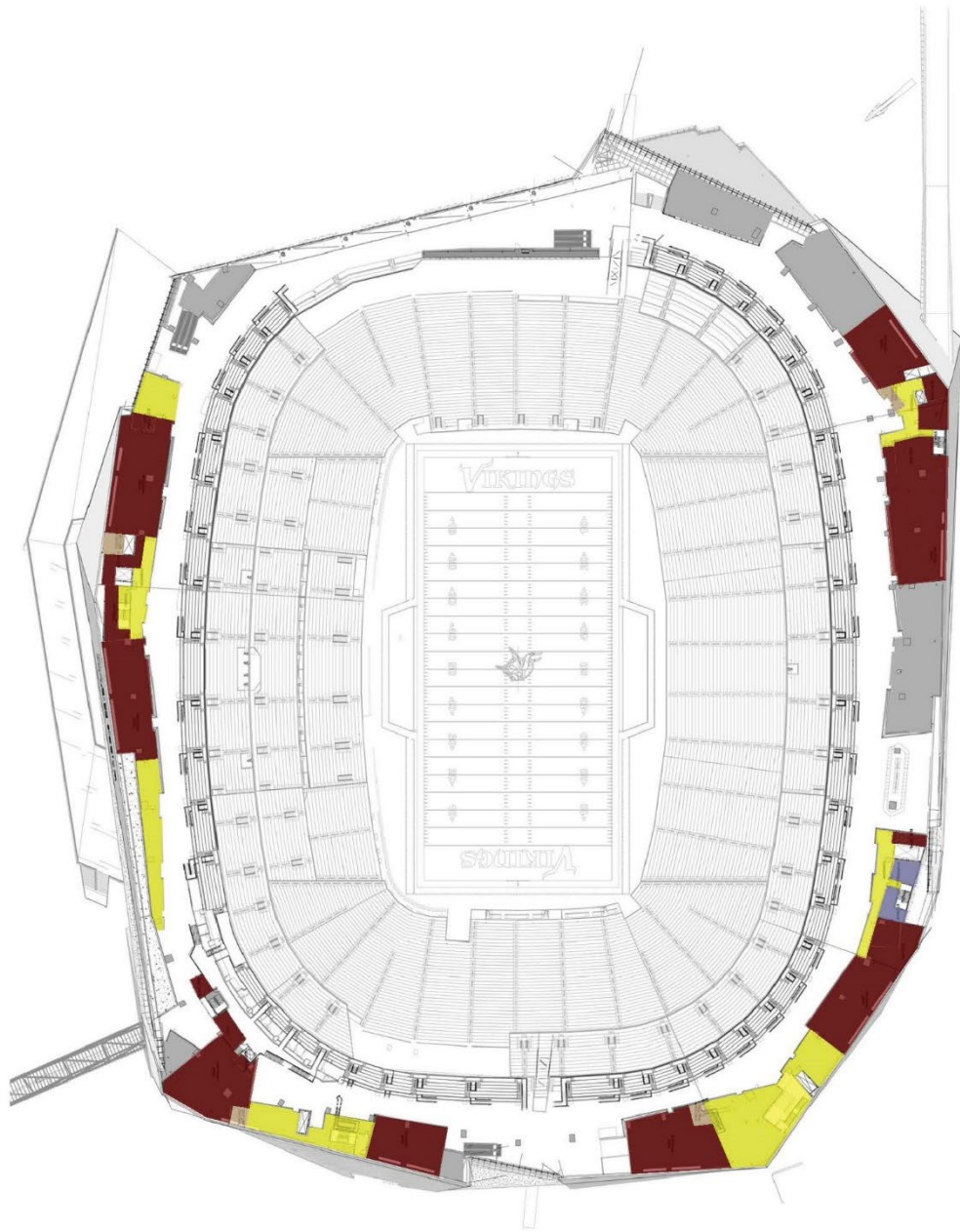
Trash Rooms.....	550 SF
Janitorial Closets.....	1,000 SF
Storage Space.....	850 SF

**Guest Services (450 SF)**

First Aid Area.....	200 SF
Guest Services Booth.....	250 SF

**TV/Camera Area (250 SF)**

Figure 26. Level 8 - Mechanical Mezzanine



Note: From HKS Architects

**Program:**

**Mech/Elec/Other Related (34,465 SF)**

**Mechanical Fan Rooms (27,450 SF)**

Bowl Mechanical Fan Room 1.....	2,800 SF
Bowl Mechanical Fan Room 2.....	4,100 SF
Bowl Mechanical Fan Room 3.....	3,200 SF
Bowl Mechanical Fan Room 4.....	3,700 SF
Bowl Mechanical Fan Room 5.....	2,500 SF
Bowl Mechanical Fan Room 6.....	3,400 SF
Bowl Mechanical Fan Room 7.....	3,500 SF
Bowl Mechanical Fan Room 8.....	4,250 SF

**Main Electrical (3,950 SF)**

Electrical Sub 1.....	1,850 SF
Electrical Sub 2.....	1,500 SF
Electrical Sub 3 .....	600 SF

**Sound System Amp Rooms (650 SF)**

Amp Room 1.....	650 SF
-----------------	--------

**Fire Stair/Elevator Areas (2,415 SF)**

Electrical Rooms.....	415 SF
Elevator Control Rooms.....	1,400 SF
A/V Room.....	600 SF

**Wind Turbines (Roof ~ 4,000 SF)**

**Solar Panels (Roof/Siding ~ 120,000 SF)**

**TV/Camera Area – Sky-Cam Control Room (1,050 SF)**

**Industrial – Storage (900 SF)**

## Results

### NAISC Codes and their Economic Impacts

**Table 4.** High School Stadium

<b>High School Stadium – Texas (2021)</b>	<b>(B-Billion) (T-Trillion)</b>								
Code:	National Revenue	State Revenue	National Number of Establishments	State Number of Establishments	National Employment (Jobs)	State Employment (Jobs)	Number of Establishments in the Stadium	Revenue from Stadium	Number of Jobs Provided from Stadium
531110 - Housing	\$753.2 B	\$35.2 B	1,665,674	81,415	3,189,315	148,723	75	\$432,352	2
722330 - Vendors	\$23.5 B	\$1.2 B	87,992	5,492	467,120	18,294	80	\$218,499	120
518210 - Data Center	\$220.3 B	\$4.5 B	28,400	568	371,100	7,422	1	\$7.9 M	12
221310 - Water Collection System	\$120.9 B	\$10.5 B	115,500	7,800	467,700	38,500	1	\$1.3 M	8
621111 - 24/7 Clinic	\$663.8 B	\$86.4 B	227,400	33,100	1,318,600	180,100	1	\$2,610,237	~10
221114 - Solar Panels	\$31.6 B	\$3.1 B	2,483	423	13,521	2,748	1	\$7,328,605	4
221115 - Wind Turbines	\$21.6 B	\$1.7 B	734	153	8,452	1,234	1	~\$11,111,111	8
N/A Code Events (Due to High School)	~50k - 10 M	~50k - 10 M	Unknown	1267	Unknown	~4,000	1	\$1M - 10M	~50
N/A Code Stadium Workers (No vendors)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	~50
						<b>Total Cost to Operate ~ \$4 Million</b>	<b>Total Revenue per Year \$36,551,655</b>	<b>Total Jobs Provided 293</b>	

*Note: Less than the general revenue for turbines due to the vague NAICS code term for “wind turbines” but the amounts are a general number for revenue. No data is given on high school stadiums having concerts or other events hence there is a large difference in revenue. Revenue for national and state events under high school are inferred numbers based on amount of revenue high school stadiums may generate through sporting events and general revenue from concerts. No NAICS code given on stadium workers, had to base data on average NFL stadium employee numbers. Generated revenue for the events is broad in that there is little to no data to provide an accurate amount. The numbers provided are based on the high school stadium Eagle Stadium in Texas which is similar to the high school stadium for this report. Eagle Stadium generated \$1.5 million from sporting events alone; with concerts included, that number can vary from the \$1-10 million range. The number of jobs provided is also an estimate given there is no data for high school stadiums with such events. Cost to operate is also an estimate because of the little data of such. The average cost of operating an NFL stadium is more than \$10 million, leaving the high school stadium to be much lower than the NFL stadium, but still \$4 million due to the extra events and 24/7 aspects.*

**Table 5. NHL Stadium**

**NHL Stadium - Arizona (2017)**

Code:	National Revenue	State Revenue	National Number of Establishments	State Number of Establishments	National Employment (Jobs)	State Employment (Jobs)	Number of Establishments in the Stadium	Revenue from Stadium	Number of Jobs Provided from Stadium
721110 - Hotel B	\$ 170.3 B	\$6.4 B	54,000	2,154	2.3 M	72,245	1	\$3 M	33
722330 - Vendors	\$16.9 B	\$175.5 M	152,000	887	221,800	3,356	200	\$197,857	760
518201 - Data Center	\$220.3 B	\$3.2 B	28,400	464	371,100	10,102	1	\$6.9 M	21
221310 - Water Collection System	\$120.9 B	\$540 M	115,500	1,900	446,700	9,200	1	\$284,210	5
621111 - 24/7 Clinic	\$138.3 B	\$5.8 B	227,400	1,900	1,318,600	9,200	1	\$3.05 M	~15
221114 - Solar Panels	\$10.3 B	\$556 M	2,483	50	13,521	270	1	\$ 11.1 M	5
221115 - Wind Turbines	\$14.3 B	\$370 M	734	14	8,452	169	1	\$26.4 M	12
711211 - Events	\$88.8 B	\$992.7 M	10,423	158	942,300	5,333	1	\$6.3 M	35
624130 - Crisis Center	\$15.9 B	\$318 M	4,374	87	153,700	3,074	1	\$3.6 M	35
221310 - Water Treatment	\$52.9 B	1.06 B	12,583	252	234,900	4,698	1	\$4.2 M	19
N/A Code Stadium Workers (No vendors)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	130
						<b>Total Cost to Operate ~ \$40 Million</b>	<b>Total Revenue per Year \$65,032,067</b>	<b>Total Jobs Provided 1,070</b>	

**Table 6. NFL**

**NFL Stadium – Minnesota (2017-2021)**

(B -

**Billion) (M – Million)**

Code:	National Revenue	State Revenue	National Number of Establishments	State Number of Establishments	National Employment (Jobs)	State Employment (Jobs)	Number of Establishments in the Stadium	Revenue from Stadium	Number of Jobs Provided from Stadium
721110 - Hotel	\$ 170.3 B	\$2.7 B	54,000	1,329	2.3 M	33,444	1	\$2 M	25
722330 - Vendors	\$16.9 B	\$78.3 M	152,000	461	221,800	1,846	250	\$169,848	1,500
518201 - Data Center	\$220.3 B	\$1.4 B	28,400	600	371,100	8,442	1	\$2.3 M	15
221310 - Water Collection System	\$120.9 B	\$748.4 M	115,500	327	446,700	4,583	1	\$2.3 M	15
621111 - 24/7 Clinic	\$138.3 B	\$3.8 B	227,400	2,098	1,318,600	18,424	1	\$1.8M	~10
221114 - Solar Panels	\$10.3 B	\$124.3 M	2,483	48	13,521	246	1	\$2.6 M	5
221115 - Wind Turbines	\$14.3 B	\$395.9 M	734	20	8,452	204	1	\$19.5 M	10
711211 - Events	\$88.8 B	3.6 B	10,423	159	942,300	11,461	1	\$22.6 M	75
624130 - Crisis Center	\$15.9 B	\$318 M	4,374	87	153,700	3,074	1	\$3.6 M	35
221310 - Water Treatment	\$52.9 B	571.5 M	12,583	148	234,900	4,060	1	\$3.9 M	28
N/A Code Stadium Workers (No vendors)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	32

**Total Cost to Operate ~ \$40 Million**     
**Total Revenue per Year \$60,769,848**     
**Total Jobs Provided 1,750**

*Note: Most stadiums offset their value with how much money they generate in revenue each year in the end not benefiting the community but not hurting it either. With 24/7 stadiums, they bring in even more money by functioning similarly to a mall. All the 24/7 aspects of the stadium all for an overall boost in total revenue. For the NHL and NFL Stadium, we see roughly 40% increase in total revenue based on the average revenue per stadium being \$145 Million.*

## Bar Graph Results

Figure 27. Available Jobs

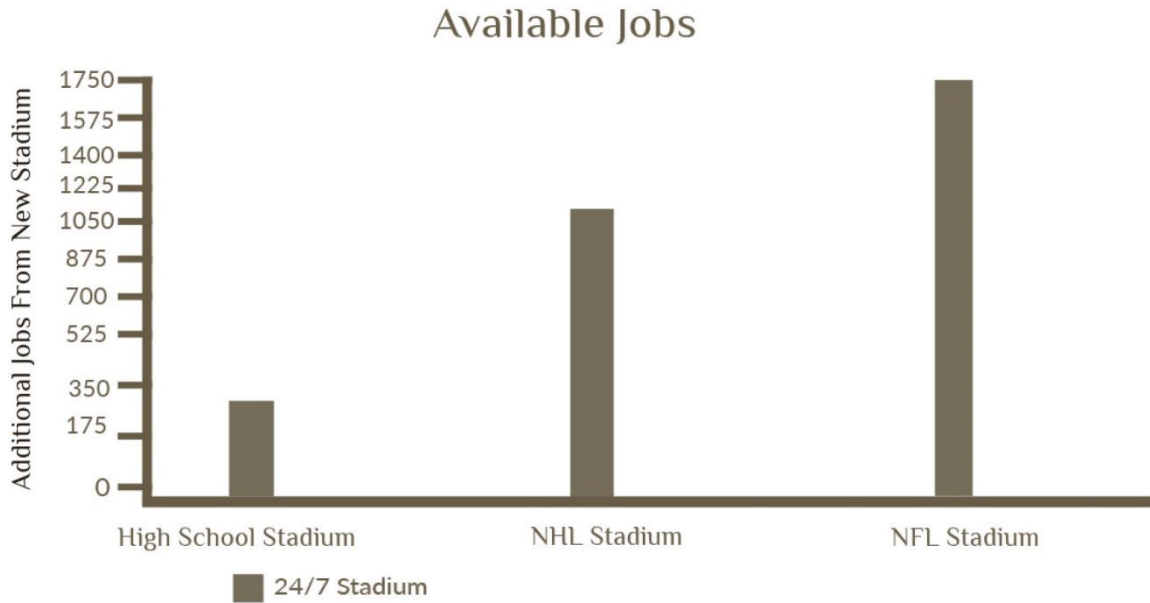
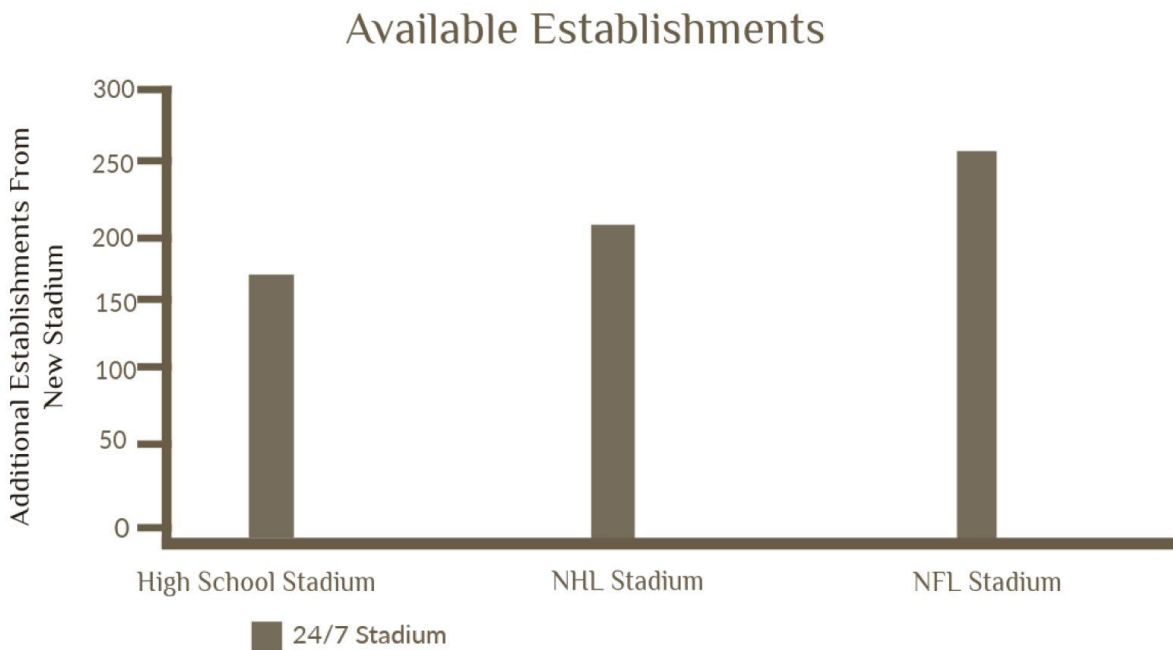
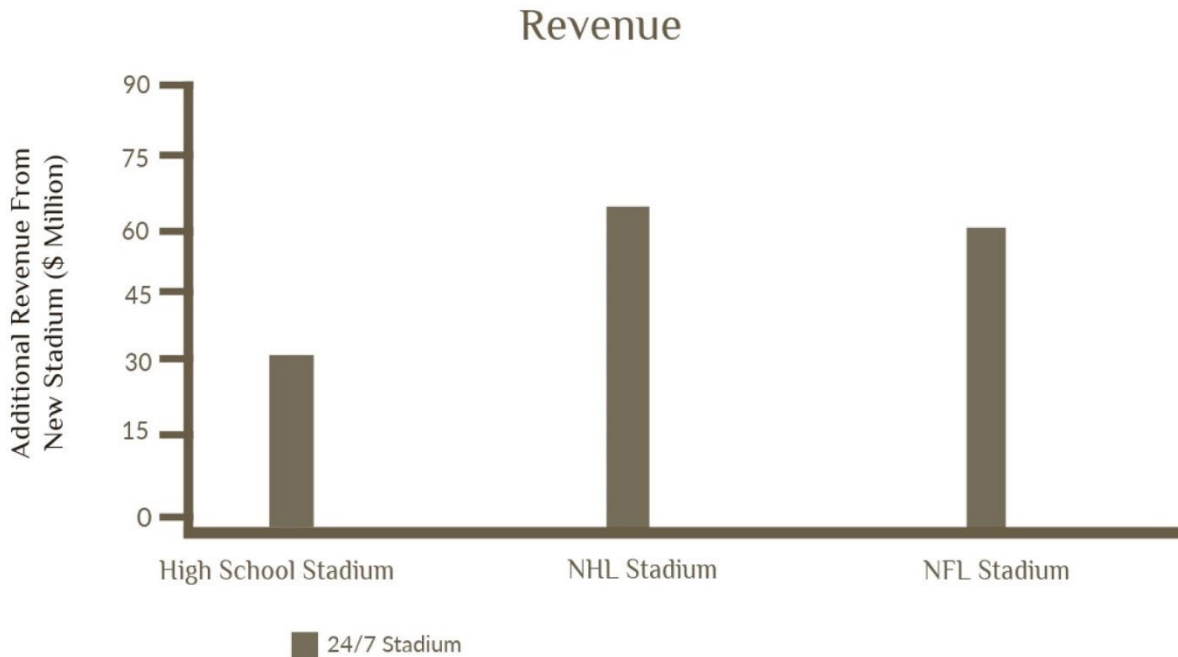


Figure 28. Available Statements





**Figure 29. Revenue**



24/7 stadiums clearly have a positive impact on their surrounding communities and the recognition of this can be the future of stadium design in always allowing access and profiting from such. In the bar graph ‘Available Jobs’, there is only an increase in jobs available. The high school stadium will be lower due to the overall size of such as the larger the stadium, the more jobs needed. The NFL stadium has the largest number of jobs available, allowing for 1,750 new jobs. This goes hand in hand with establishments/businesses as the NFL stadium allows for an additional 267 businesses. Revenue, however, is different in that the NHL stadium produced more revenue. This is due to more square footage being available for 24/7 aspects whereas the NFL stadium had less space for such. These bar graphs help further the data gathered by showing just how much of an impact they can have, and the overall profit each one can make.

The overall profit from the stadiums was positive. 20+ for NHL and NFL and 30+ for high school. This is due to high school stadiums not being used typically for anything else other than high school sport games. Opening their doors to more events and 24/7 aspects will bring in plenty of profit while being smaller in size. The overall operational cost is much lower for a high school stadium rather than a professional stadium like NHL and NFL. As stated before, the statistics provided are not the total amount of revenue brought in, but the profit made from the 24/7 aspects. Stadiums bring in nearly \$500 million or more in revenue but lack the 24/7 aspects. IF you take the 24/7 aspects and add them to the \$500+ million, it adds more revenue, jobs, and businesses to the community. IF stadiums were to include the 24/7 aspects and design the built environment to be open at all times, the generated profit from such would equal the profits shown from the 3 schematic stadiums in this report.

### **Project Location**

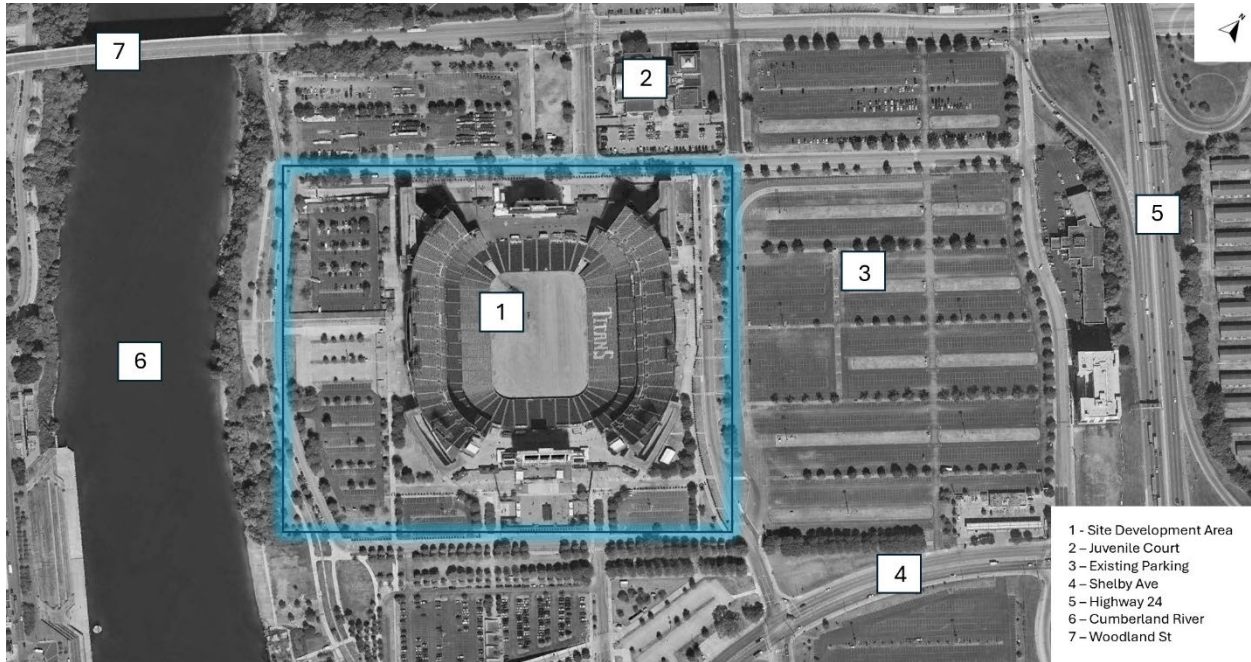
**Figure 30.** Site



The project site is located in Nashville, TN and the site itself is home to the NFL team, the Tennessee Titans. Nashville has a population of ~700,000 with a milder climate. The site itself is relatively flat and features strong lighting from the sun. The site itself has plans for

remodel by tearing down the old stadium and building a new one with a more urban development being designed around such.

**Figure 31.** Site overview



**Figure 32.** Site Views

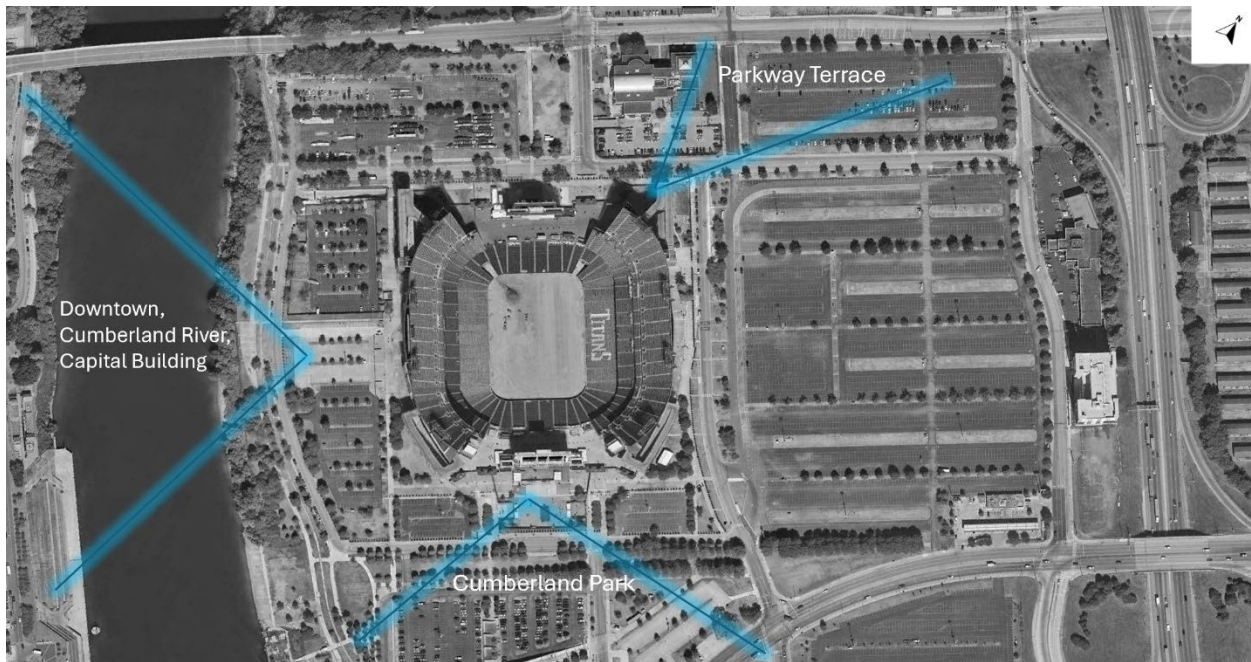


Figure 33. Future Development



Figure 34. Site overview with Design



## CONCLUSION

### **Final Project Description**

The project design features a 900ft x 850ft stadium that includes aspects for the community to enjoy. The stadium features many 24/7 aspects such as a clinic, gym, water treatment plant, data center, hotel, stores, vendors, and multi-use spaces. Along with those aspects, there are many spaces that are mixed-use that allows the public to use such at all times such as a tailgate space and other large spaces for weddings or farmers markets. Events covered feature NFL games or other large to small events such as concerts, Monster Jam, X games, and so much more. The stadium also has exterior decks that are also 24/7 for those wanting to enjoy the outdoor space. The overall design of the stadium still has a look of an NFL stadium but with more of a focus on making interior and exterior spaces similar to a mall in the sense of circulation of users and location of stores and vendors. The project features 90% of the spaces being 24/7 with 70% of the spaces are publicly available.

### **Positive Impact on the Surrounding Community**

With the project focused on the 24/7 aspects and their impact on the community, the focus can switch between those aspects along with the impacts. The stadium itself houses 85,000 people, allowing for some of the largest events to be held here. These seats allow for over 350 events per year while not interrupting the everyday use of the stadium itself. Along with that, the water treatment plant helps treat the local water by 90%, allowing the drinking water to be improved for the locals. The data center also creates a positive impact as during events, many cellphones are used which in turn causes a need for data. The data center provides such and during non-event times, the data center provides for the surrounding community. Next, the stadium features a hotel with 60 rooms. These 60 rooms not only benefit tourism but also provide housing for locals or visitors. Moving back to water, the project features a water collection system that helps provide wastewater, so the stadium doesn't waste clean drinking water. As for finances, using the same process as the schematic designs, the overall benefits from this stadium are like those tested. The project generates \$38 Million in

revenue each year via the 24/7 aspects alone. These profits go directly back to the community to allow for new budget expenses for the community. Jobs are another benefit to the community as during construction, 4,000 jobs are created for the initial production of the project. After construction, the stadium takes 1,900 jobs to run smoothly, supplying that year-round.

## Project Design

Figure 35. Southwest Interior



Figure 36. Concourse 2 View



Figure 37. Northwest Exterior



Figure 38. Hotel Room



Figure 39. Stores and Vendors

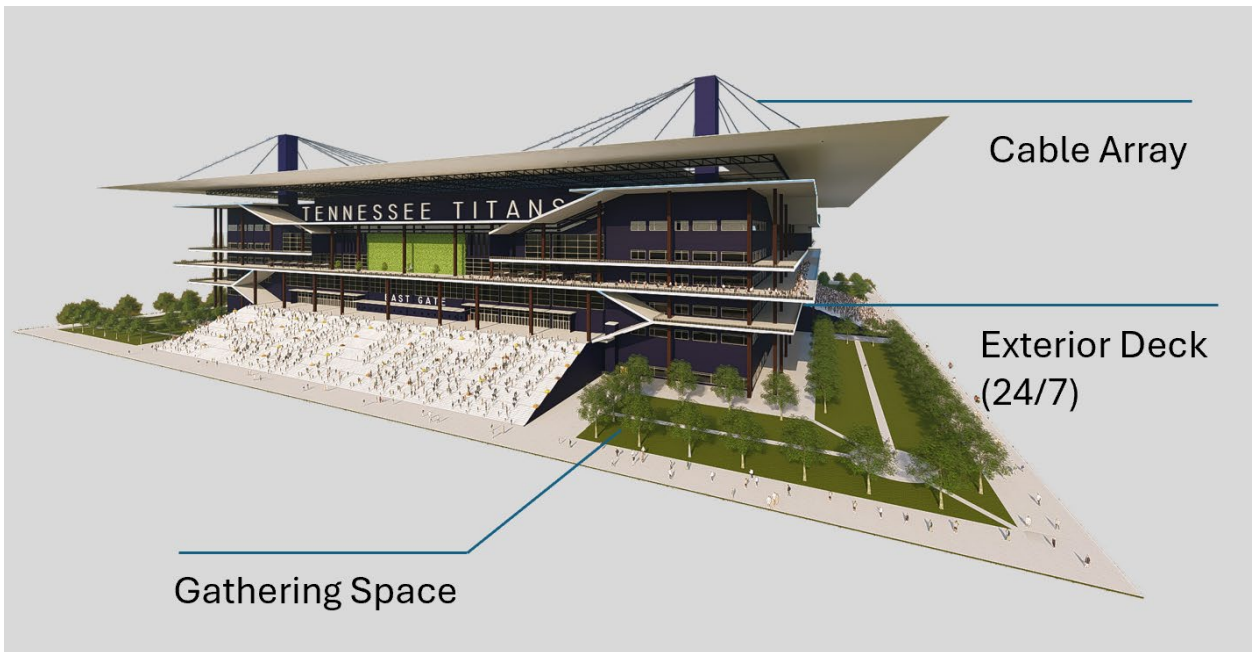




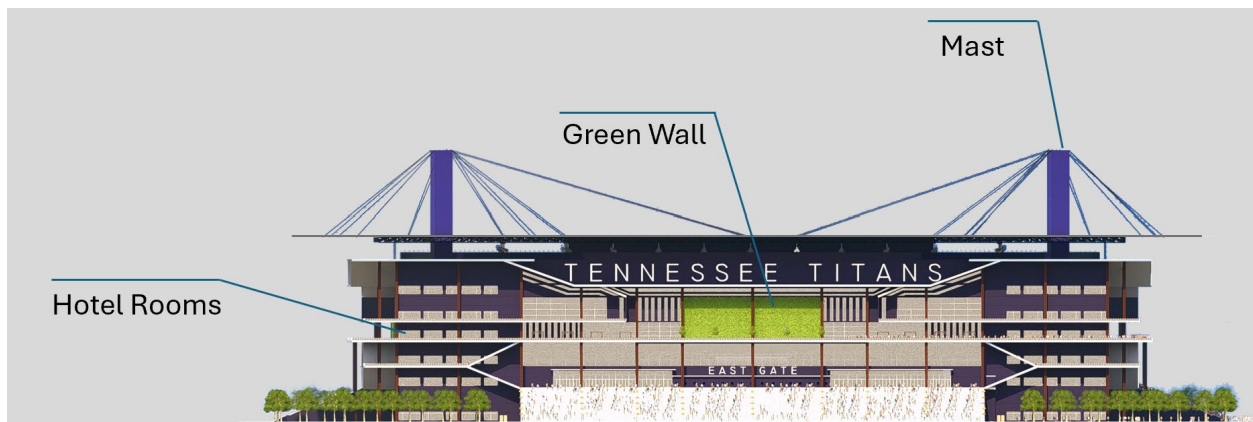
Figure 40. Suites



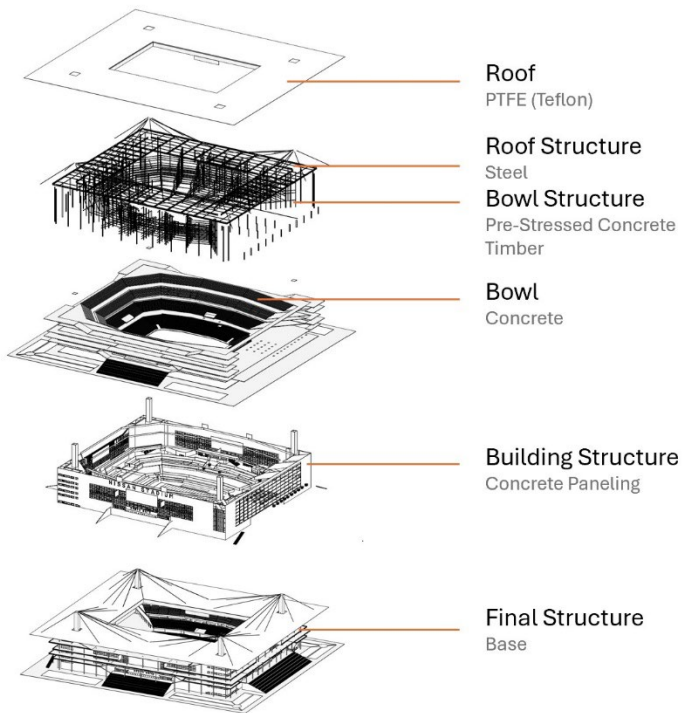
Figure 41. Northeast Exterior



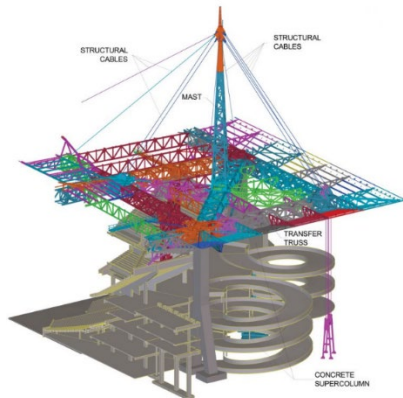
**Figure 42. East Elevation**



**Figure 43. Stadium Structure**



**Figure 44. Hard Rock Stadium Structure**



Note: From <https://www.structuremag.org/?p=12790>

**Figure 45. Project Structure (Close)**

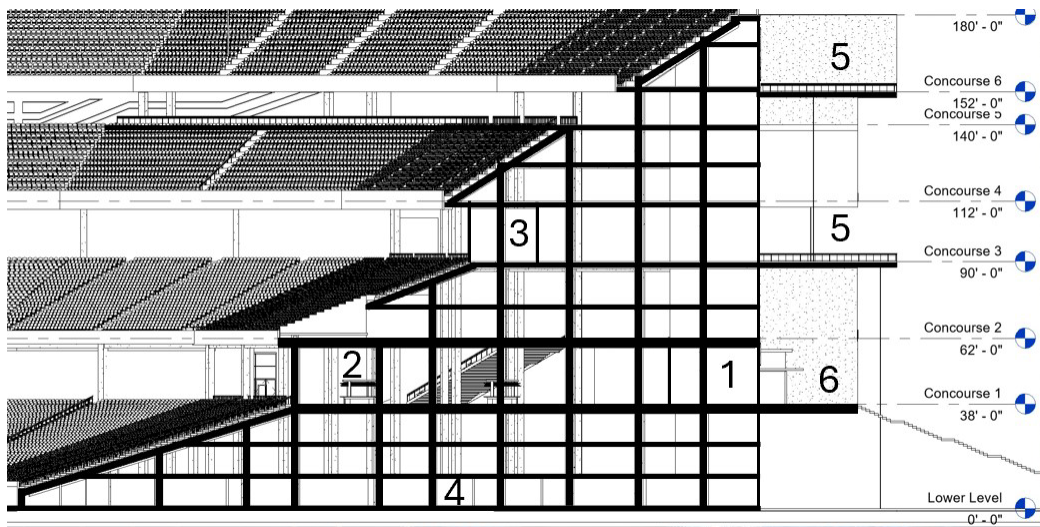
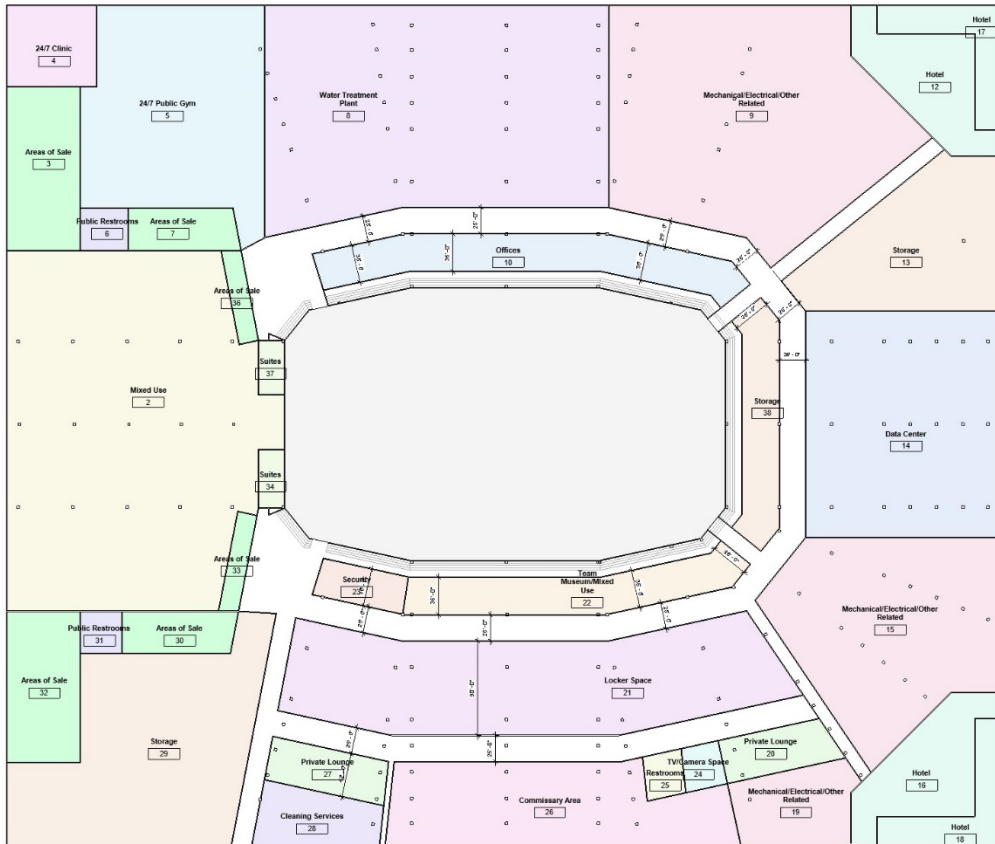


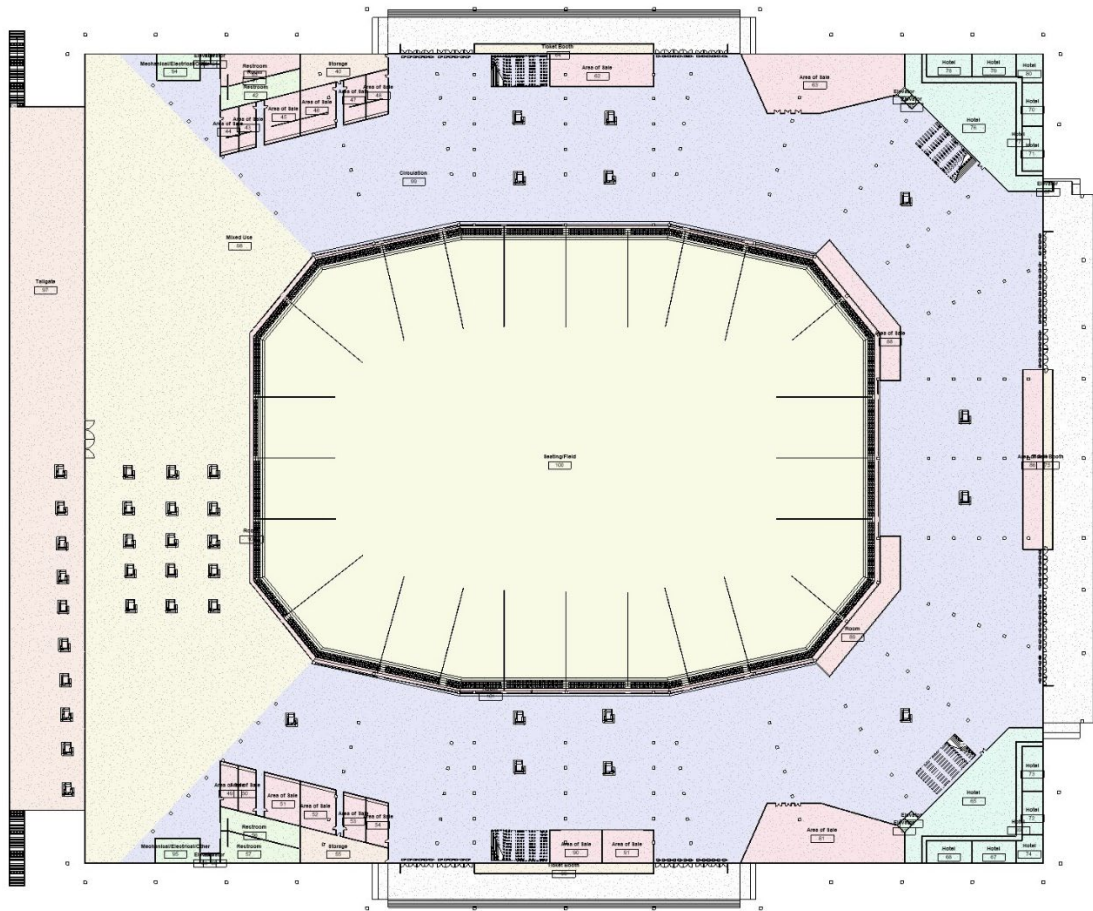
Figure 46. Section Cut



Figure 47. Field Level Floor Plan



**Figure 48. Concourse 1 Floor Plan**



## **Conclusions**

The design of the new Nissan Stadium accomplishes everything a typical NFL stadium would but with even more advancements with the 24/7 aspects. The design connects the NFL team and their stadium with the surrounding community physically, visually, and financially. With community and 24/7 aspects being such a large part of the project, making many spaces available for sure and working together was key for the final design.

The stadium works to allow the community to always interact with the spaces but keeping the stadium design inviting to the locals and featuring a new urban development surrounding it. Stadiums often include aspects that focus on the fans, which adapting those aspects and incorporating them into the 24/7 aspects can make any stadium work well for the

community. 24/7 aspects, however, are key to them succeeding as the added benefits from such truly make the stadium thrive.

Including sustainable aspects as well such as a water collection system, solar panels, wind credits, water treatment plant, and green walls. All of these aspects featured in the project allow for the stadium to work towards a strong sustainable design, improving the environment for the community.

Community and 24/7 aspects have led the project to becoming something truly revolutionary. All the aspects included and mentioned lead to this design becoming a possible design norm for stadiums of the future. The community is strong and without one, the stadium will fail. Providing for the community via the stadium brings those people together similar to the Roman Empire mentioned earlier as a social hub. Utilizing the 24/7 spaces can add more benefit than not to the design and all in all, benefit the community visually, physically, and financially.

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