

PITTSBURGH ARENA MASTER DEVELOPMENT PLAN:

Pittsburgh, Pennsylvania URBAN DESIGN ASSOCIATES

NOVEMBER 2007



Pittsburgh Arena Master Development Plan

PREPARED FOR

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Parking

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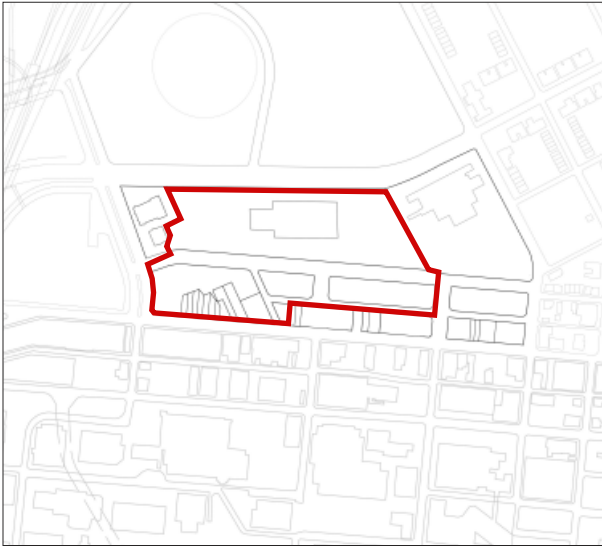
Background

THE OPENING SECTION of the Master Development Plan provides the background for the Development Plan and Urban Design Guidelines that follow. This section has four sub sections:

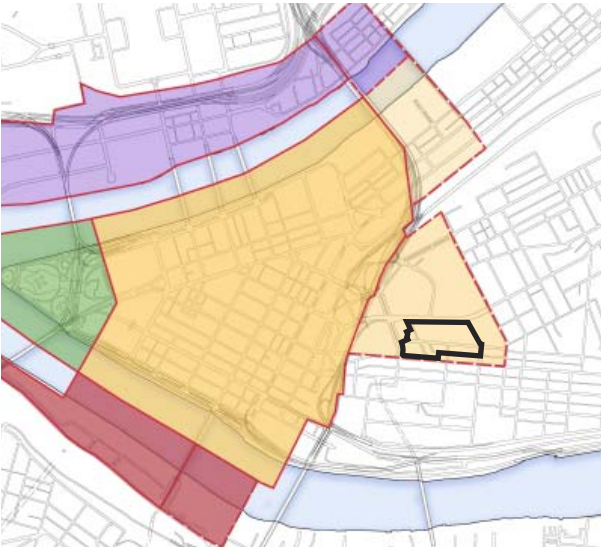
- Site History
- Zoning
- Ownership
- Transportation



Site History



Ownership



Zoning



Transportation

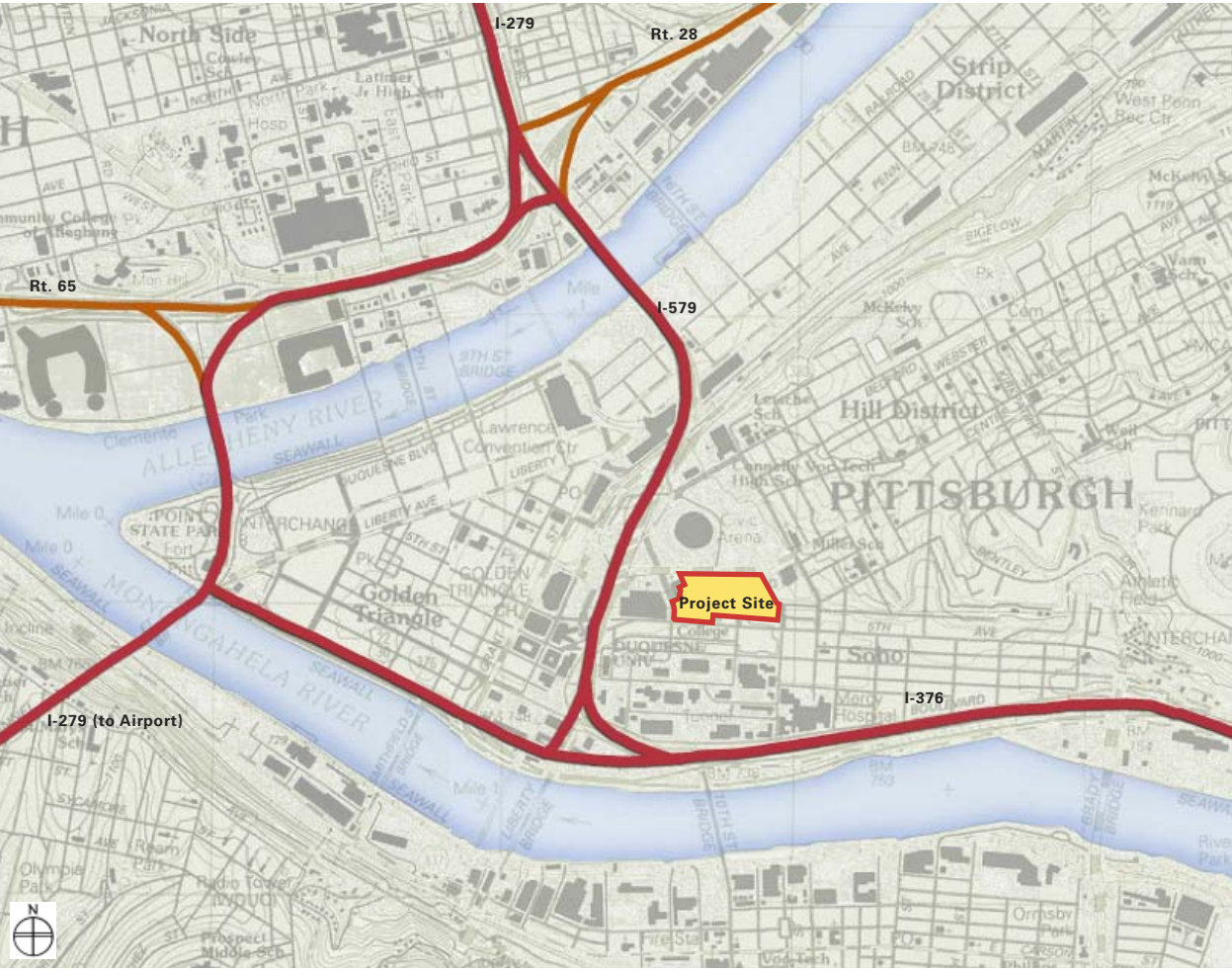
Site History

The new arena site is located in the Lower Hill District. Pittsburgh’s Hill District began on a piece of land owned by William Penn’s grandson. In the late 1840s, Thomas Mellon bought a tract of farm-land on the slope nearest to the city. He subdivided the tract into smaller plots and sold them for a profit. Thus began the Hill’s development as a settled community.

The Hill is actually composed of several smaller hills, which were inhabited by three communities. Haiti was on the lower hill, inhabited by runaway slaves. The middle portion was called Lacyville, while the upper hill was called Minersville. The latter two areas were populated predominately by Germans and Scotch-Irish until the 1880s when central and eastern Europeans began to settle there.

African-Americans began arriving from the South between 1880 and 1910. During the years leading to World War I, African-Americans were urged to come by industry recruiters who promised relief from the segregation laws of the South. New arrivals swelled the area and the Hill became an ethnic and racial melting pot of Russians, Slovaks, Irish, Armenians, Syrians, Italians, Greeks, Poles, Chinese and Jews. The races wove a rich and vibrant tapestry for Pittsburgh city life.

The ethnic diversity of the Hill produced a bustling business community. Wylie and Bedford Avenues and Logan Street were lined with neighborhood stores. Their vibrancy lasted through the hard times of the Depression. It was in these difficult times that the Hill became a place for music. The Hill was one of the prime stops



LOCATOR The site is located in the Lower Hill District, east of the Golden Triangle



Fifth Avenue, looking west, ca.1950



Photograph with Civic Arena and new streets overlaid, looking west



Civic Arena 1960s, looking east

on the National Jazz Circuit with places like the Crawford Grill, Hurricane Lounge, Savoy Ballroom and Musicians Club. Celebrities like Rudy Vallee and Paul Whiteman came to the Hill after performing at Downtown theatres and clubs to hear and perform with African American musicians. In the 1940s and '50s, the Hill was brimming with interracial bars and clubs.

Although the Hill District continued to be a vibrant, politically active community, a deteriorating neighborhood infrastructure began to take hold after World War II.

In September 1955 the federal government approved the Lower Hill Redevelopment Plan, making available \$17.4 million in loans and grants. Ninety-five acres were slated for clearing, and eventually, redevelopment displaced more than 8,000 residents.

A cultural district known as the Center for the Arts was originally proposed to replace Lower Hill homes and businesses. The ambitious plan failed, as it was perceived as too far from the Downtown core. The construction of the Civic Arena (1961), although an engineering wonder, met with limited success, and was abandoned by the anchor organizations which originally were supposed to thrive under its dome.

The Hill's fortunes struck bottom during the riots following the assassination of Dr. Martin Luther King in 1968. The riots began on April 5, 1968 and lasted until April 12. That week of rage saw 505 fires and extensive property damage.

The Hill District was severely damaged by redevelopment and riots, but it has survived and has begun to transcend those dark days. The Crawford Square development has returned residential homes to the area and is a symbol of rebirth. There are plans for retail development along the traditional retail corridors.



(TOP) Building coverage of the Lower Hill District, ca.1940
(MIDDLE) Building coverage of the Lower Hill District in 2001
(BOTTOM) Proposed building coverage



(TOP) Photograph of the Lower Hill District prior to the construction of the Civic Area and the Crosstown Expressway (Looking east)
(BOTTOM) The Lower Hill District with the completed Civic Arena, and the initial construction of the Crosstown Expressway (Looking west)

Zoning

The Pittsburgh Arena Development Plan contemplates the redevelopment of more than 12 acres of land within the GT-E Subdistrict, which has been designed to be a transitional area between the Golden Triangle and Crawford Square.

Permitted Uses

As detailed in the Use Table of the Zoning Code of the City of Pittsburgh (“Code”) Section 911.02, a multitude of uses are permitted within the GT-E Subdistrict. These include Residential, Retail, Office, Hotel, Recreation, and, as a result of November 2005 amendments, Gaming Enterprises.

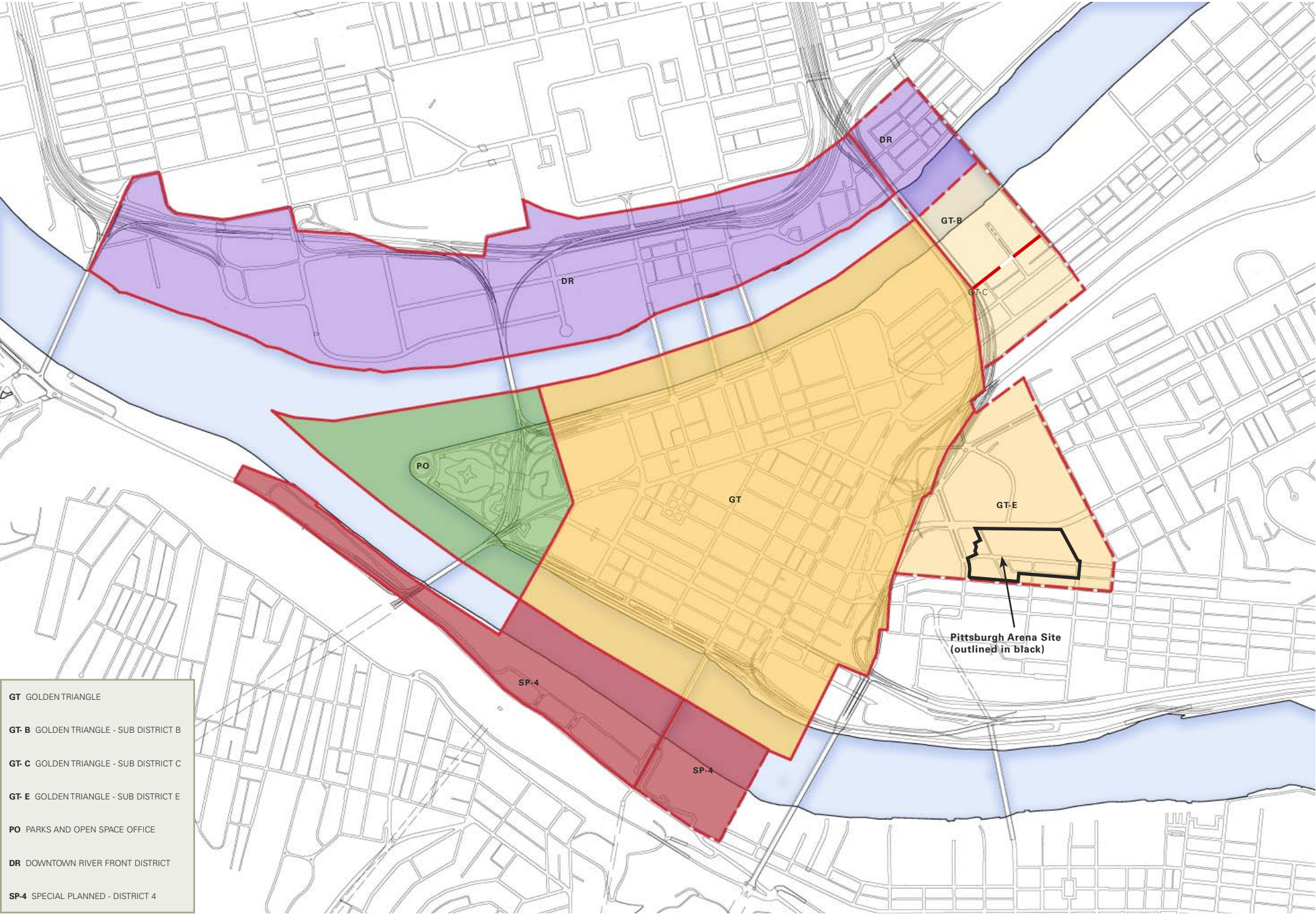
Transportation and Parking

Amendments to the Code have eliminated fixed parking requirements in favor of transportation and parking demand studies. A traffic study (Trans Associates) and a parking study (Walker Parking Consultants) have been submitted in accordance with the Code.

Section 914.02.C Structured Parking Required

All principal and accessory off-street parking uses in the GT Districts, where more than 150 number of spaces are provided, shall comply with the following requirements:

- (a) Surface parking shall be permitted for no more than 150 spaces;
- (b) All parking in excess of 150 spaces shall be structured;
- (c) In no case shall an accessory parking area or structure occupy more than half the lot area of the lot containing the principal use that the parking area or structure serves.



Landscape and Screening Standards

The landscaping and screening standards of Chapter 918 shall be applied to this Master Development Plan in accordance with the Code.

Required Master Development Plan; Review Criteria

922.10.D.2 Development on sites of three or more acres

Any development of a building or buildings that require Project Development Plan review on a site of three or more acres is required to submit a Master Development Plan prior to the application for individual building or buildings review.

A complete application for a Master Development Plan shall be submitted to the Zoning Administrator in a form established by the Zoning Administrator. Upon determining that the Master Development Plan application is complete, the Zoning Administrator shall schedule a review by the Planning Commission

The Planning Commission shall approve a Master Development Plan application only if it finds that the proposal meets all of the following criteria:

- (a) That the proposed development shall create an efficient, functional and attractive urban area which incorporates a high level of amenities;
- (b) That the proposed development shall create a favorable environmental, social and economic impact on the City;
- (c) That the proposed development shall not be injurious to other property in the immediate vicinity, nor substantially diminish or impair property values within adjacent zoning districts;
- (d) That adequate utilities, road, drainage and other necessary facilities have been or shall be provided;

- (e) That adequate measures have been or shall be taken to provide ingress and egress designated so as to minimize traffic congestion in the public streets; and
- (f) That the proposed development complies with plans and policy documents adopted from time to time by the City.

Development Standards/Building Heights/Open Space

Section 910.01.J.2 Site Development Standards

Each site in the GT-E District shall be subject to the following site development standards:

- (a) Minimum lot area per Dwelling: No more than one (1) dwelling unit or suite shall be permitted per one hundred ten (110) square feet of lot area in the GT-E Subdistrict.
- (b) Floor Area Ratio
 - (1) Nonresidential: The maximum floor area ratio for structures that do not contain residential or hotel units shall be six (6).
 - (2) Residential and Hotel/Motel: The maximum floor area ratio for structures that contain residential dwelling units or hotel/motel uses shall be six (6), provided that a maximum floor area ratio of up to seven and one-half (7.5) may be allowed by the Planning Commission when the total amount of residential or hotel/motel floor area equals or exceeds twice the amount of the bonus floor area.
- (c) Urban Open Space
 - Urban Open Space shall be provided at ground level on lots of 20,000 sq. feet or more in an amount at least equal to 10 percent of the lot area.

(d) Height

Structures or portions of structures, shall not penetrate an inclined plane determined by straight lines connecting points one hundred (100) feet above established grade, one hundred (100) feet west of Crawford Street, and four hundred (400) feet above established grade at Fifth Avenue and the Crosstown Expressway.

Contextual Height

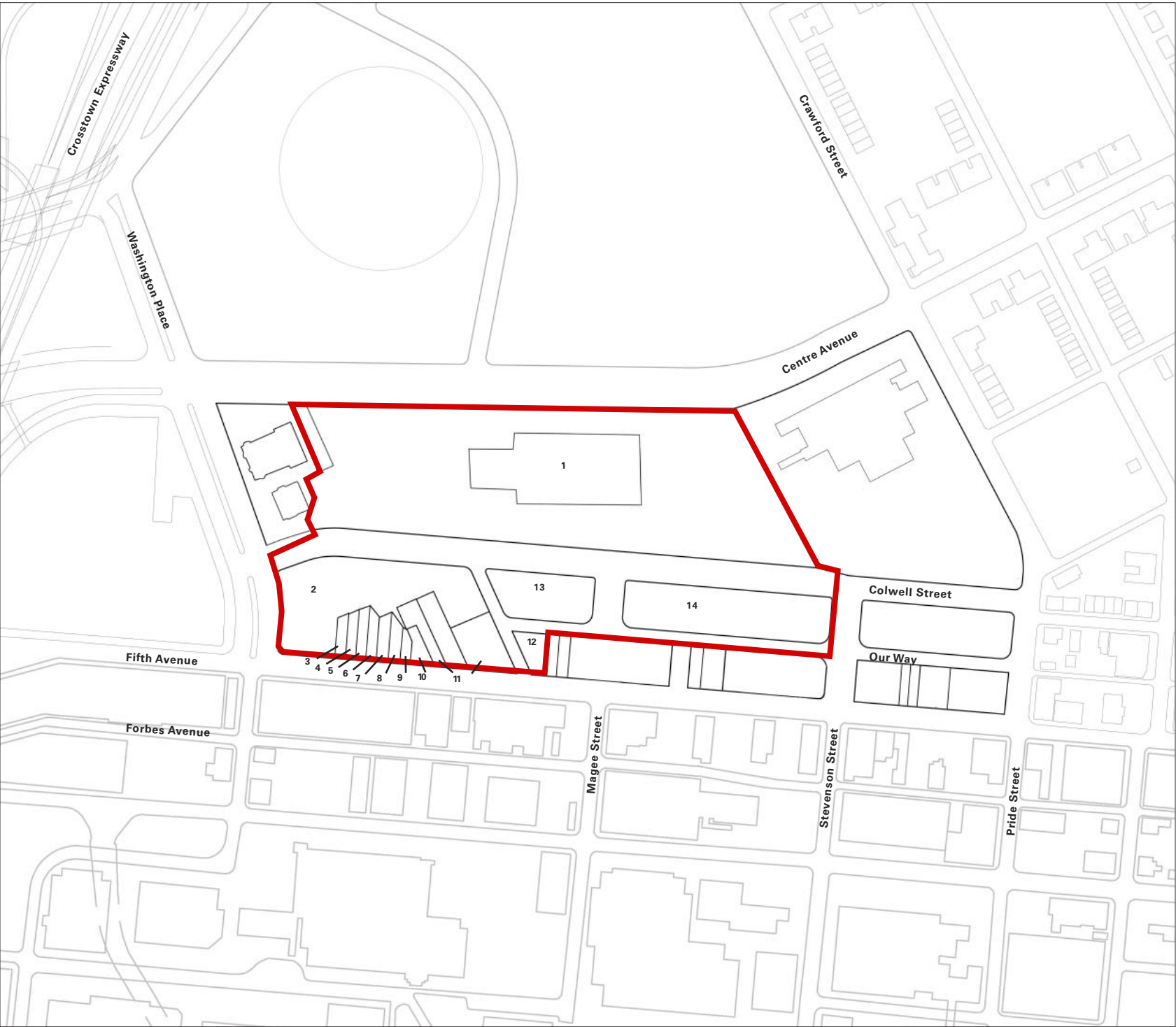
Section 925.07.D

Regardless of the maximum height limit imposed by the zoning district standards of this Code applicants shall be allowed to use a contextual height limit. The allowed contextual height may fall at any point between the zoning district maximum height limit and the height of a building that exists on a lot that is adjacent to the subject lot.

Ownership

Individual Parcel Ownership

- 1–12 Sports and Exhibition Authority
- 13 Beth Hamedrash HaGodal Congregation
- 14 Urban Redevelopment Authority



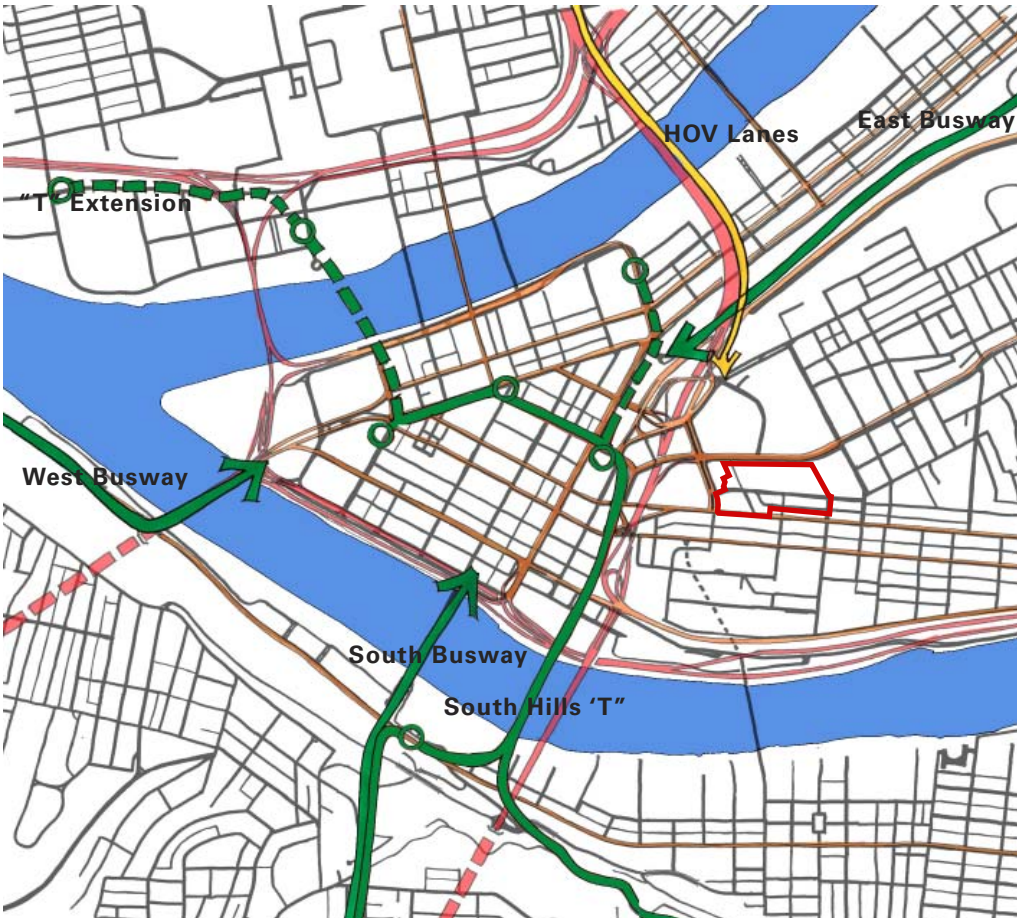
Transportation

Existing Auto Access

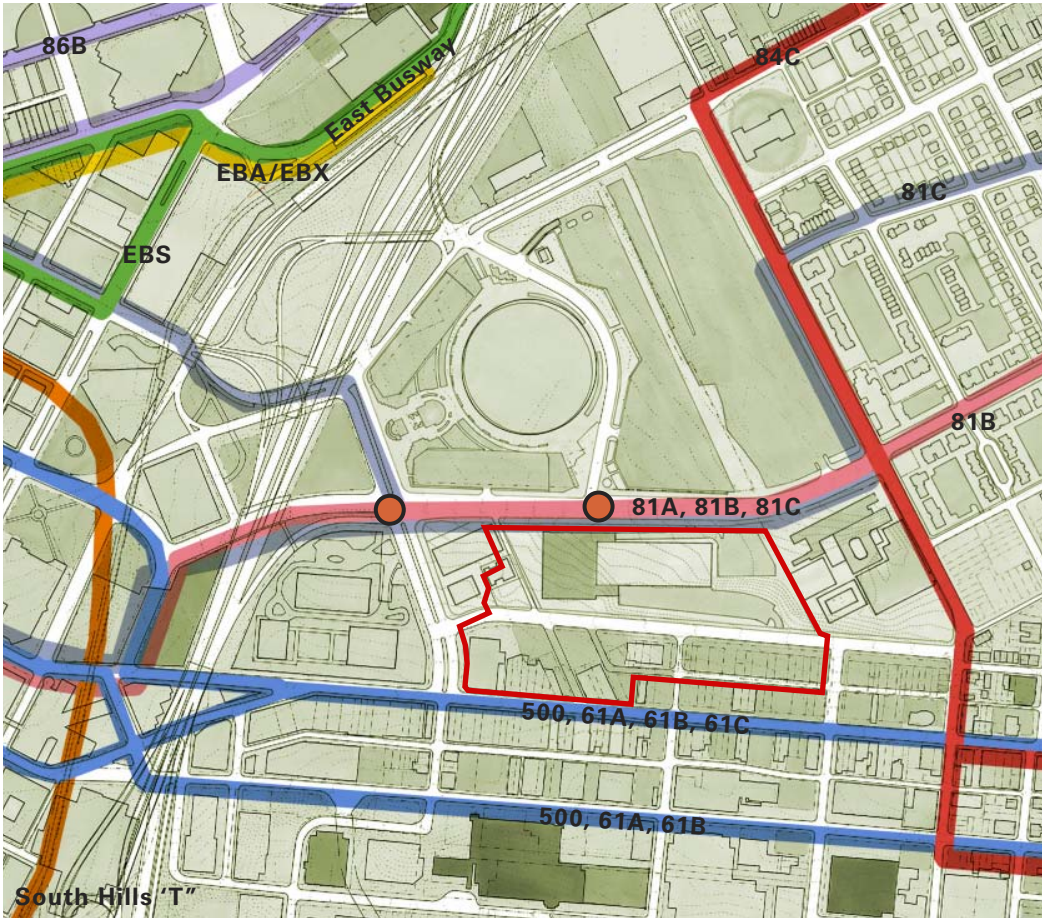
The project area is now served by local streets, arterials and the Crosstown Expressway. The primary regional automobile access is directly from the Crosstown Expressway, which connects to the Interstate Highway System. Centre Avenue and the one way pair of Fifth Avenue and Forbes Avenue connect the project area to Downtown and to the east end of Pittsburgh.

Existing Public Transit Access

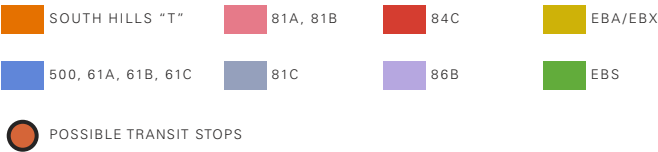
In the past the Lower Hill District, the Uptown, and the Mellon Arena had excellent east/west streetcar service to Downtown and to the eastern neighborhoods (Oakland, Shadyside, East Liberty) to the east. Today, buses on those same streets (Centre Avenue, Bedford Avenue, Fifth Avenue, and Forbes Avenue) provide similar frequent and convenient service. In addition, the T – the light rail service which loops underground through the Golden Triangle and serves city neighborhoods and suburbs to the south – has its main station at One Mellon Bank Center, two blocks from Washington Place. Bus lines using the three exclusive right-of-way busways (East, West, and South) are also within walking distance of the development.



The site is well served by regional highways, arterials, and public transit.



Transit Diagram



Master Development Plan

THE MASTER DEVELOPMENT PLAN SECTION describes the overall plan including the planning process and the phasing for the project. This section has six subsections:

- Planning Process
- Urban Design Principles
- Master Development Plan
- Project Description
- Phasing Plan
- Transportation Enhancements



Planning Process



Urban Design Principles



Master Development Plan



Project Description



Phasing Plan



Transportation Enhancements

Planning Process

The official Planning Commission approval process for a master development plan includes:

- Meetings with the Department of City Planning staff
- Meetings with the Contextual Design Advisory Panel (CDAP)
- Planning Commission Briefing
- Planning Commission Hearing
- Planning Commission Hearing and Action

A public participation process conducted by the applicant must precede the Planning Commission Briefing to gather community input to the master development plan.

Community Participation Process Overview

The Penguins invited 15,000 residents, property owners, and business owners of the Hill District, Uptown, and Downtown to participate in the public process. The community participation process for the Pittsburgh Arena Master Development Plan was extensive and included three phases:

- Initial public meeting (June 2007)
- Site tour and seven focus groups (August 2007)
- Concluding public meeting (August 2007)

The two public meetings and one focus group meeting were held at the Mellon Arena. The other six focus group meetings were held in various locations in the Hill District, Uptown, and Downtown. The public meetings, focus group meetings, and briefings were facilitated by Urban Design Associates and assisted by the Department of City Planning. The process was covered by the media.

Initial Public Meeting (4 June 2007)

The initial public meeting at the Mellon Arena included residents, businesses, and institutions of the Hill District, Uptown, and Downtown. Over 250 people attended.

The agenda for the meeting was:

- Welcome
- Outline and schedule of the City Approval Process
- Outline and schedule of the Community Participation Process
- The Project Area
- Preliminary Site Diagram of the new arena
- Questions About the Process
- Sign up for Focus Groups

Focus Groups (August 2007)

Following the public meeting (and after the Traffic and Parking Studies were made available on the City website), seven focus group meetings were held involving persons who signed up at the Initial Public Meeting, persons invited by City Planning, and others who signed up via the City website. A site tour was held on Saturday, 4 August 2007, prior to the focus group meetings to view the proposed location of the new arena between Centre Avenue and Fifth Avenue. Sixty people participated in the tour.



Existing Conditions

RESIDENTIAL	COMMERCIAL	INSTITUTIONAL
INDUSTRIAL	VACANT	INSTITUTIONAL

STUDY AREA BOUNDARY

Six of the focus groups were designed as affinity groups of persons with similar interests and concerns, although anyone could attend any meeting. The seventh and last focus group was a catch-all for anyone who had missed the previous meetings. The focus groups ranged in size from twenty to eighty attendees. The focus groups included (locations in parentheses):

- Residents (Hill House)
- Churches and social service organizations (St. Benedict the Moor Church)
- Community organizations and neighborhood groups (Duquesne University)
- City and public agencies (Urban Design Associates)
- Business owners, developers, and major land owners (Marriott Hotel)
- Sustainability, accessibility, and historic preservation groups (Mellon Arena)
- Open focus group (Hill House)

The agenda for each focus group was:

- Welcome and introductions
- Overview of the Process
- Presentation of Arena Sketch Designs
- Summary of Traffic and Parking Studies
- Facilitated Discussion: Likes; Dislikes; and Visions

Concluding Public Meeting (28 August 2007)

The concluding public meeting included focus group participants as well as other residents, businesses, and institutions of the Hill District, Uptown, and Downtown. Over 200 people attended. The agenda for the meeting was:

- Welcome
- Overview of the Process
- Presentation of Arena Sketch Designs
- Summary of Traffic and Parking Studies
- Summary of Focus Group Discussions
- Questions and comments (in break out groups)

Documentation

Minutes and summaries of the two public meetings and the seven focus group meetings were previously posted on the City website.



Photos from Focus Groups and public meetings

Urban Design Principles

The Pittsburgh Penguins began studying the site of the new arena in 2000. Several master plans have been developed since then. Each iteration of the design has affirmed the following urban design principles for the new arena building between Centre Avenue and Fifth Avenue:

- 1 Build a world-class multi-purpose arena
- 2 Be compatible with and complementary in scale to existing adjacent uses, such as the Church of the Epiphany, Washington Plaza Apartments, and the historic retail and office fabric of Fifth Avenue
- 3 Support the revitalization of the Lower Hill District and Uptown
- 4 Provide multi-use parking facilities for commuters, event attendees, and employees
- 5 Respect and celebrate the history of the Lower Hill District and Uptown
- 6 Preserve and enhance view corridors
- 7 Maintain and strengthen transit connections
- 8 Mitigate traffic congestion before and after arena events
- 9 Provide plazas and sidewalks to handle large crowds but that are also pedestrian friendly on non-event days
- 10 Provide art that depicts the history, present, and future of Pittsburgh, the Hill District, Uptown, and the Pittsburgh Penguins



Aerial view of Crawford Square, Mellon Arena, and Downtown Pittsburgh

Illustrative Master Plan

The Pittsburgh Arena Development Plan has the following elements illustrated on the drawing to the right:

- 18,500 seat multi-purpose arena
- Retail uses along Fifth Avenue
- 500 car four story parking garage (with capacity for one additional floor)
- 150 car surface parking lot and event staging area
- Site for future development
- 2.5 acres of open space

The arena will have three public entrances: corner of Fifth Avenue and Washington Place; Centre Avenue next to the Church of the Epiphany; and Centre Avenue between Church of the Epiphany and the future development site.

Servicing and truck entrance to the arena will be on the eastern side of the building and shielded from view from Fifth Avenue.

The parking garage can be entered and exited from Centre Avenue on the north at the top level of the garage or from Colwell Street on the south at the lowest level of the garage. The garage will connect to the arena for the use of suite and club seat holders during events.



Project Description

As can be seen in the renderings below, the new arena nestles into a sloping site between Fifth Avenue and Centre Avenue. It sits back from the Church of the Epiphany providing a showcase site for the historic church building. The scale of the arena relates well east to the high-rise Washington Plaza Apartments and west to the Chatham Center buildings. To the south, the building facade steps back and is designed to be in scale with the four and five story buildings across Fifth Avenue.

The design of the arena is urban, with the facade of the masonry clad building touching the property lines on both Fifth Avenue and Centre Avenue. Ground floor uses (retail, event ticketing, and the Penguins store) on both streets animate the facades and provide activity on event and non-event days. Penguins administrative offices



View of the proposed Arena at the corner of Fifth Avenue and Washington Place

will be on the upper floor of the Fifth Avenue facade. The height of the arena (176 feet above Fifth Avenue and 114 feet above Centre Avenue) is within the zoning envelope of the GT-E sub-district.

Three significant public plazas are located at the three principal entrances to the arena, providing safe crowd control for persons attending arena events and also for outdoor gatherings and community celebrations. Paving materials, lighting, and landscaping will meet Downtown streetscape standards.



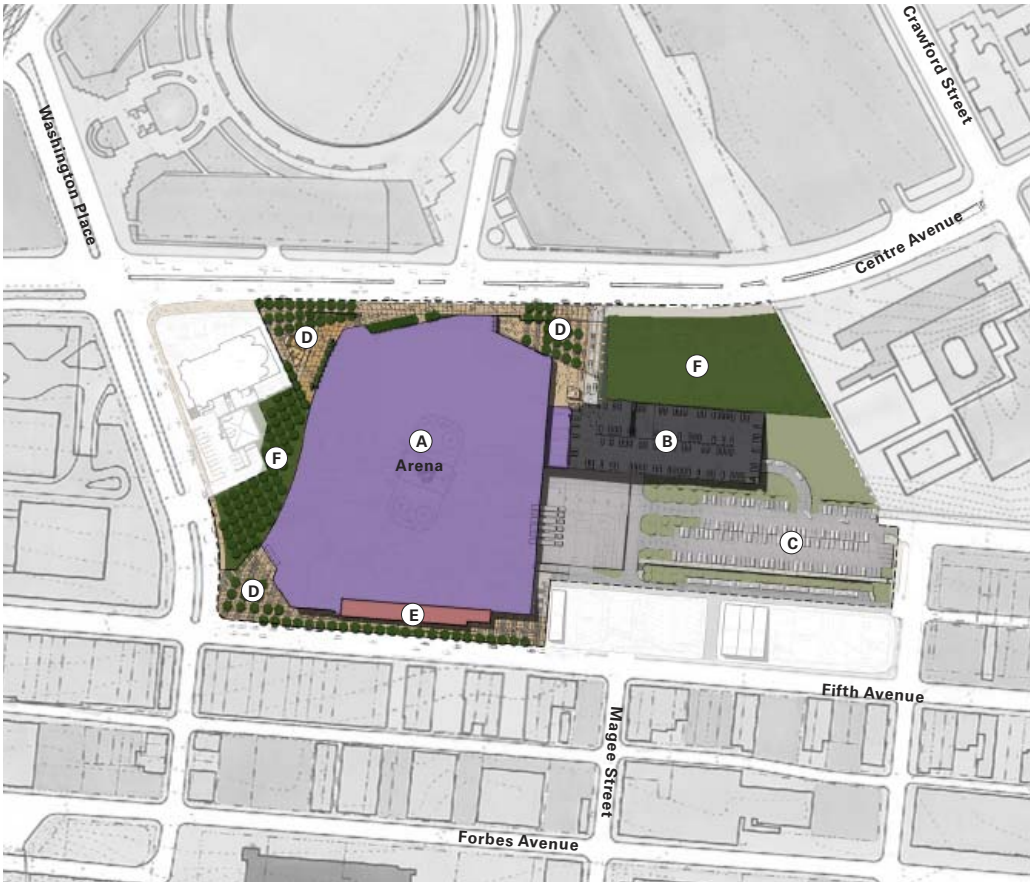
View of the proposed Arena looking east on Centre Avenue

The parking garage is located in the center of the site where it is shielded from view from Fifth Avenue, Washington Place, and Centre Avenue, but is still conveniently accessible from Colwell Street and Centre Avenue.

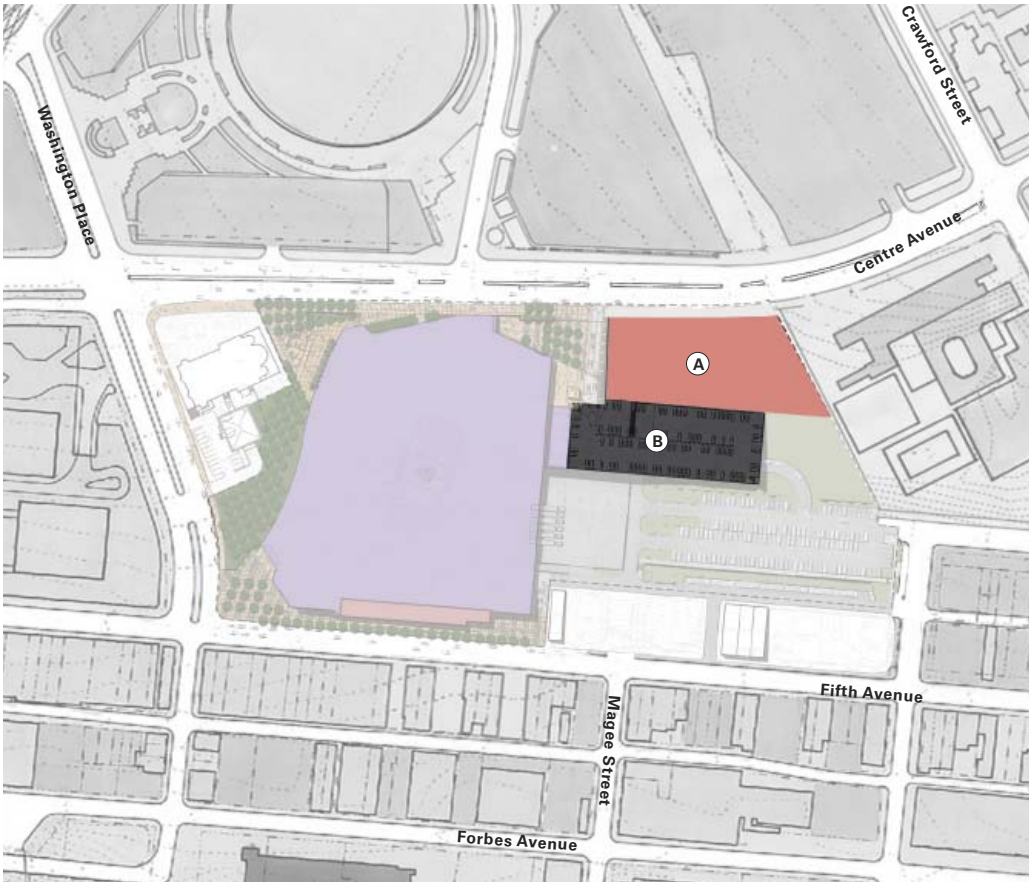
A future development parcel will be sited close to Centre Avenue to continue the urban edge of the project. This development may share an entrance with the parking garage. Guest parking could be accommodated by a future expansion of the parking garage.

Phasing Plan

- Phase 1
- A 18,500 seat multipurpose arena
 - B 500 car parking garage
 - C 150 car surface parking lot and staging area
 - D Three public plazas
 - E Retail uses along Fifth Avenue
 - F Landscaped slopes
- Phase 2
- A Site for future development
 - B Potential of one additional floor on the parking garage



PHASE 1 Arena (A), parking garage (B), parking lot (C), public plazas (D), retail (E), and landscape slopes (F)



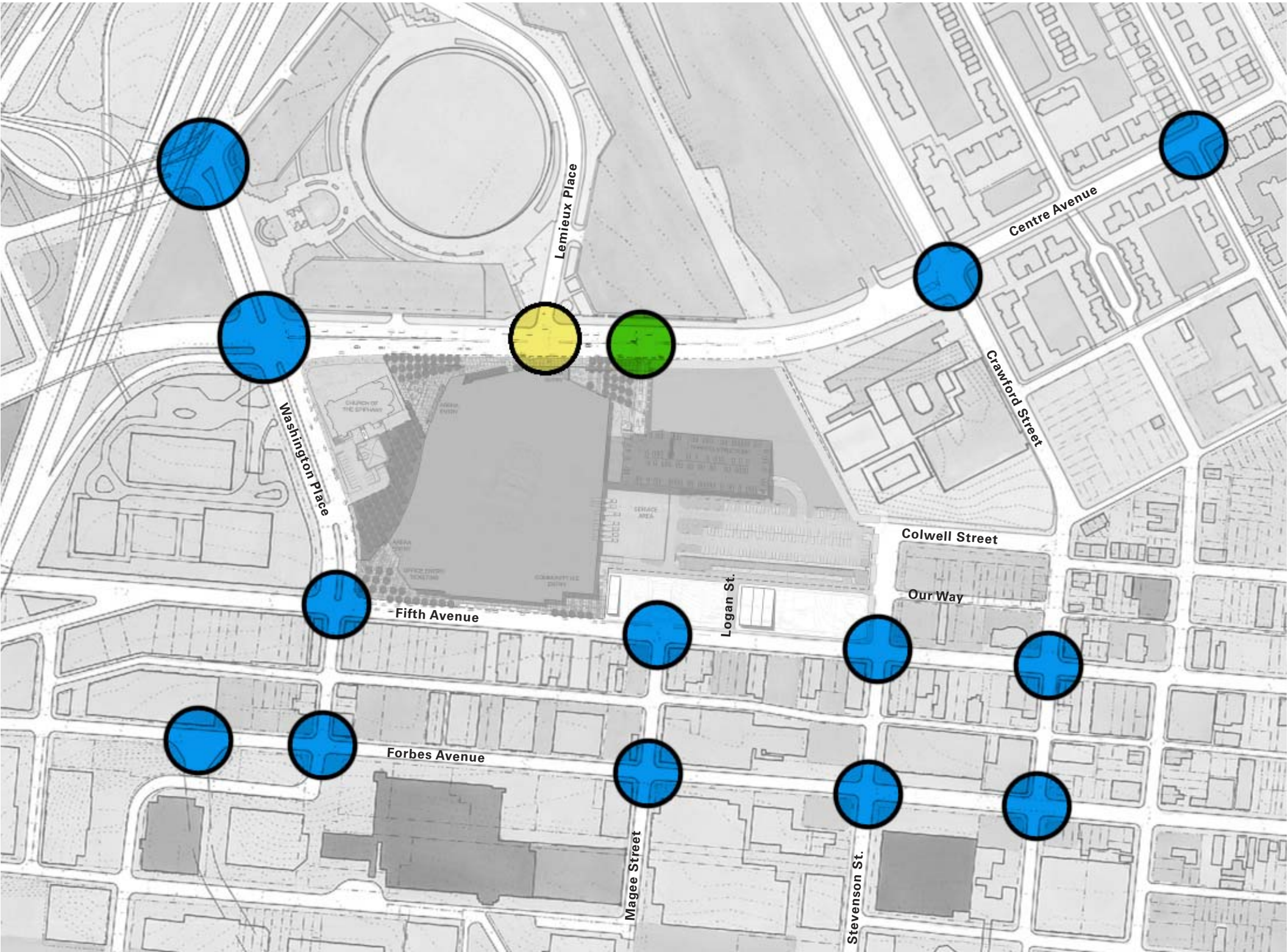
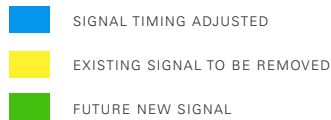
PHASE 2 Future development (A) and one additional floor on parking garage (B)

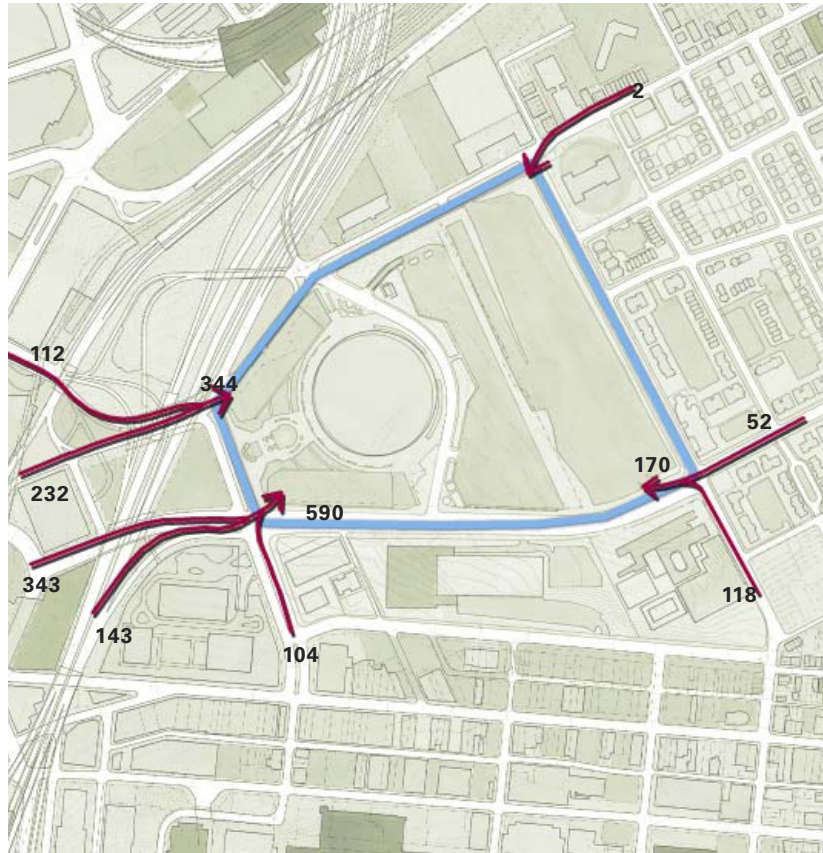
Transportation Enhancements

A traffic study was commissioned by the Penguins for the master development plan submission. The field work was completed in the summer of 2007 and the final reports issued in November 2007.

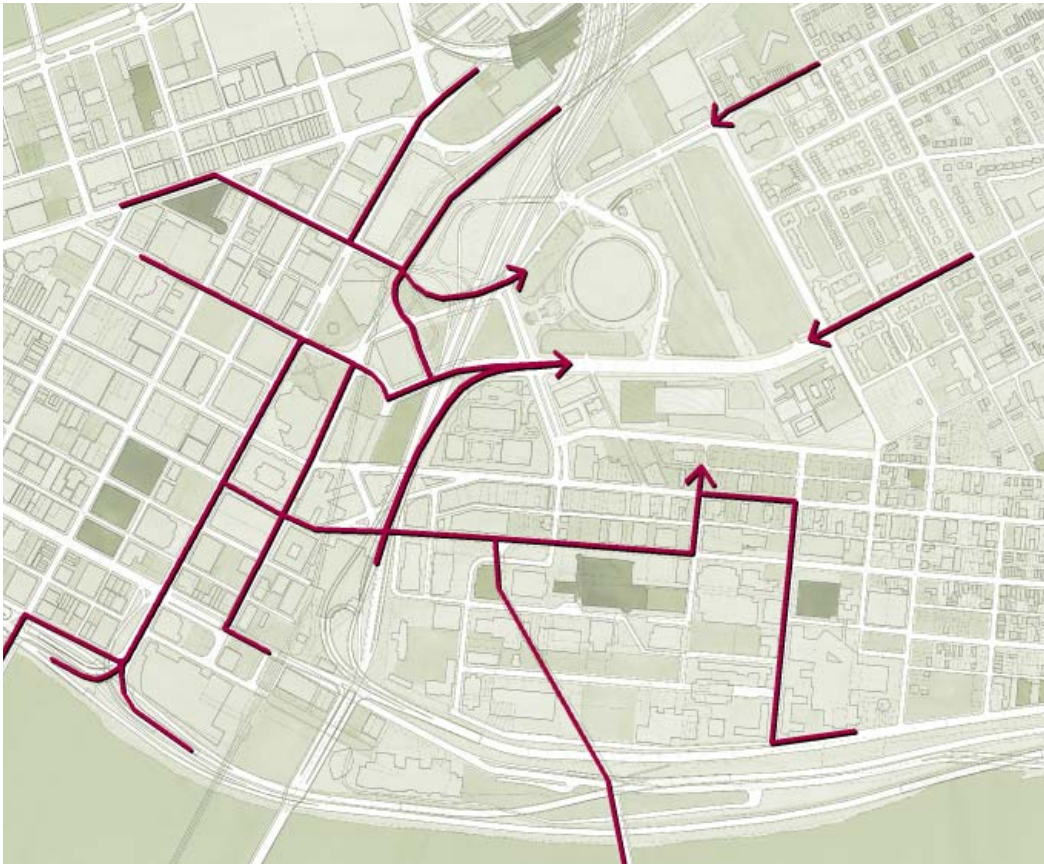
Two principal recommendations were made:

- 1 Reconfigure and re-time existing traffic signals at the intersections marked in blue. Adjustments will include modified wait times, additional cycles for left turns, and/or pedestrian-activated movements.
- 2 Provide a new traffic signal on Centre Avenue at the entrance to the new parking garage (shown in green). This new signal will not be installed until traffic warrants are met. At that time the existing signal at Lemieux Place will be removed (shown in yellow). This traffic signal would also serve a new entrance road to the existing Mellon Arena site when it is redeveloped. Until completion of the new signal, traffic to and from the new arena garage will be right-turn in and out only.





MELLON ARENA GENERATED TRAFFIC (CURRENT)
 Peak Hour Vehicles – Prior to event at Mellon Arena (distribution of trips through Downtown not analyzed)



ARRIVAL ROUTES TO ARENA SITE
 Peak Hour Vehicles routes approaching project area prior to event at the New Arena



APPROVED AND PROPOSED TRUCK ACCESS ROUTES
 City approves (red) and proposed truck access routes (blue) to New Arena

Urban Design Guidelines

THE URBAN DESIGN GUIDELINES establish standards for:

- Building Use
- Parks and Open Space
- Streets
- Parking
- Access and Service
- Building Heights
- Architectural Character
- Signage, Lighting, and Streetscape
- Project Art
- Landmarks, Focal Points, and View Corridors
- Stormwater Management
- Sustainable Design Principles

Each are illustrated with appropriate drawings, sections, and/or diagrams.



Building Use



Parks and Open Space



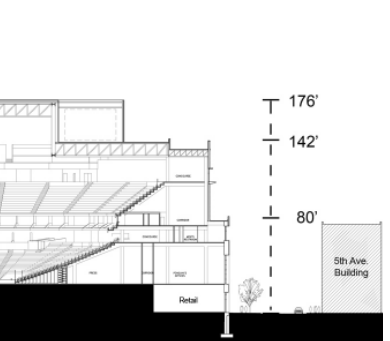
Streets



Parking



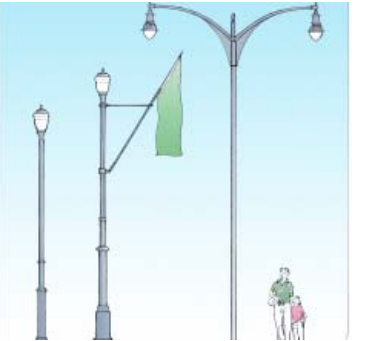
Access and Service



Building Heights



Architectural Character



Signage, Lighting, and Streetscape



Project Art



Landmarks, Focal Points, & View Corridors

Building Use

The plan proposes three primary building uses:

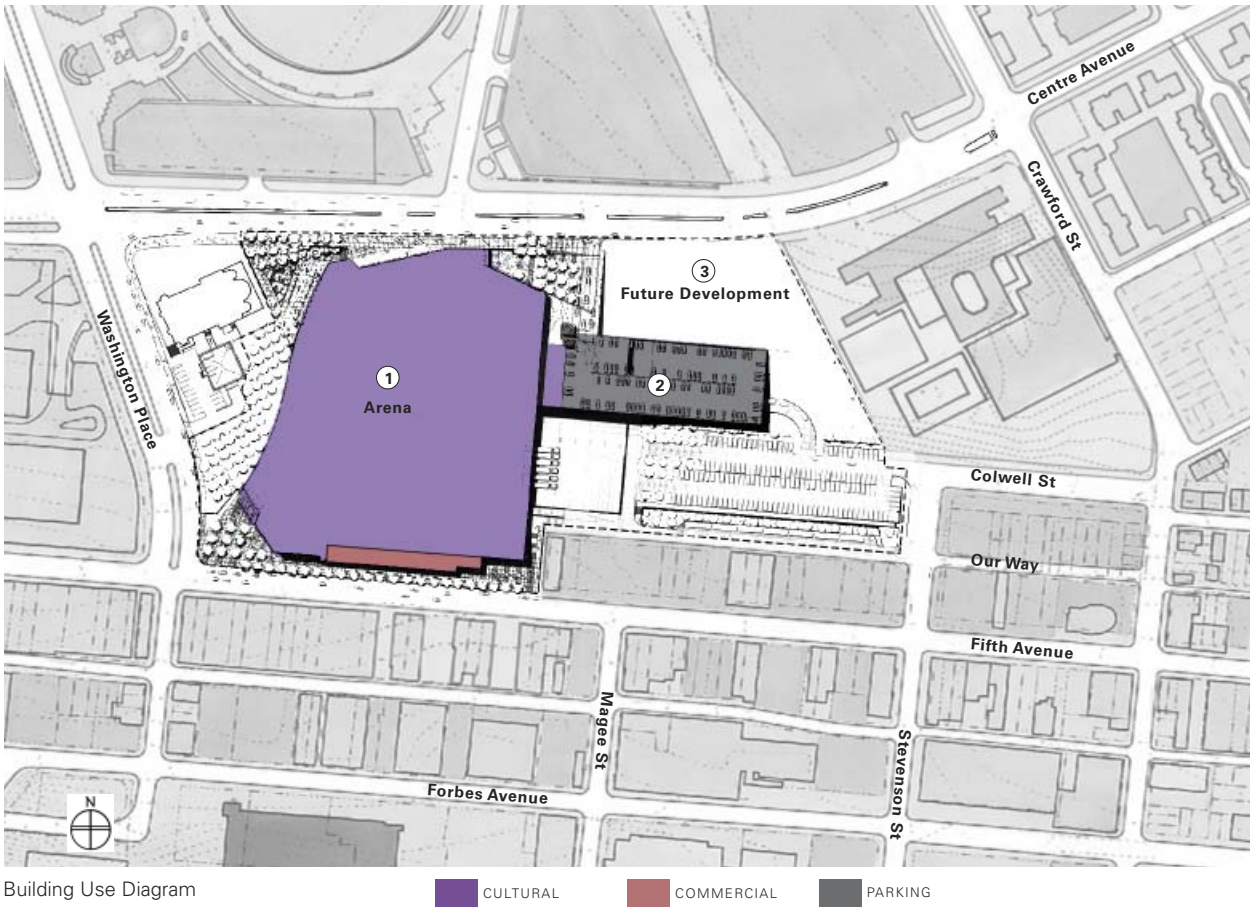
- 1 18,500 seat multi-purpose arena with ancillary retail
- 2 500 car four story parking garage with capacity to expand by one floor
- 3 Future development

The arena will contain retail uses along the Fifth Avenue side of the building. Access to the box office and Penguins retail store will be from Centre Avenue. The club areas and restaurants inside the arena will be available for rental by community and business users.

The parking garage will be available for daytime Downtown commuters during the week and will serve suite and club seat holders during events.



Church of the Epiphany



Proposed Arena, looking along Washington Place toward Centre Avenue



Proposed Arena at the intersection of Fifth Avenue and Washington Place

Open Space

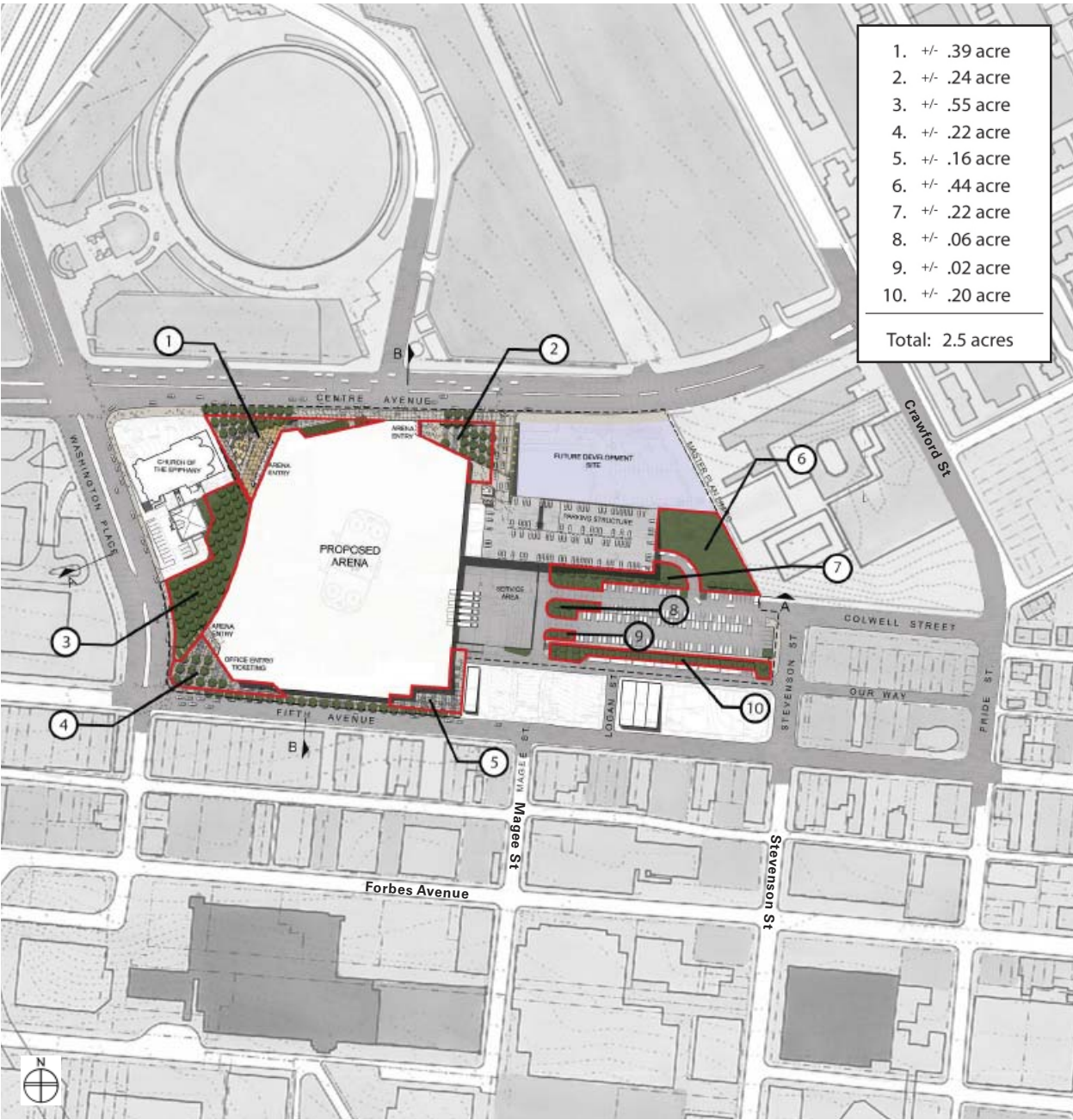
The plan has three major outdoor entrance plazas providing not only pre-function gathering areas for the arena, but also public amenity space for the community. Each of the three plazas relates to a direction of travel for pedestrians destined for arena events.

The entry plaza at Fifth Avenue and Washington Place will serve patrons arriving from transit stops and parking lots/garages in the Fifth and Forbes corridors of Uptown and Downtown. Inside the entrance escalators, elevators, and stairs lead up to the main ticketing lobby.

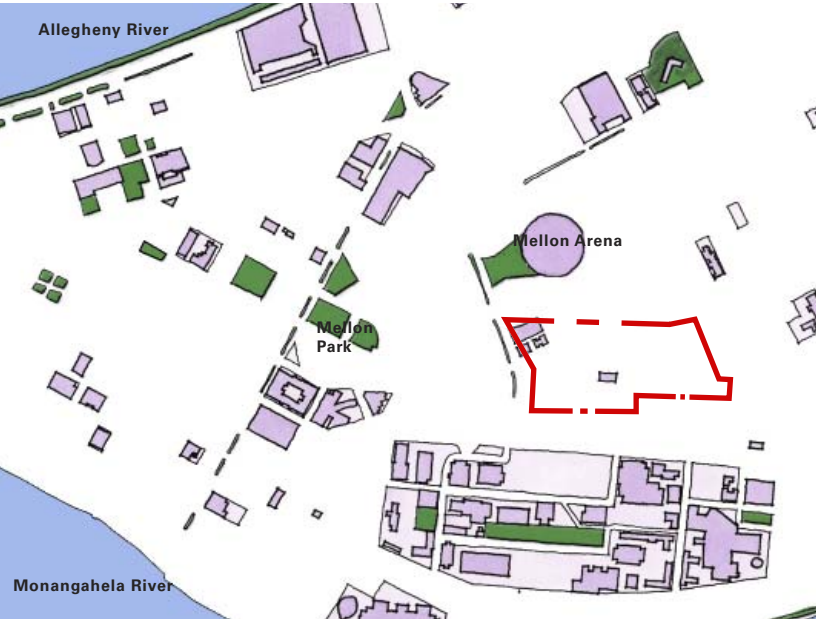
The entry plaza on Centre Avenue next to the Church of the Epiphany is the main entrance to the arena and will serve patrons arriving from Downtown transit stops and parking lots/garages along the Centre Avenue corridor and also from the parking facilities on the 28-acre Mellon Arena site. At this level of the arena are located the main box office and the Penguins store.

The entry plaza further up Centre Avenue will serve patrons arriving from the Hill District and from the parking facilities on the 28-acre Mellon Arena site. This entrance leads to the main concourse level of the arena.

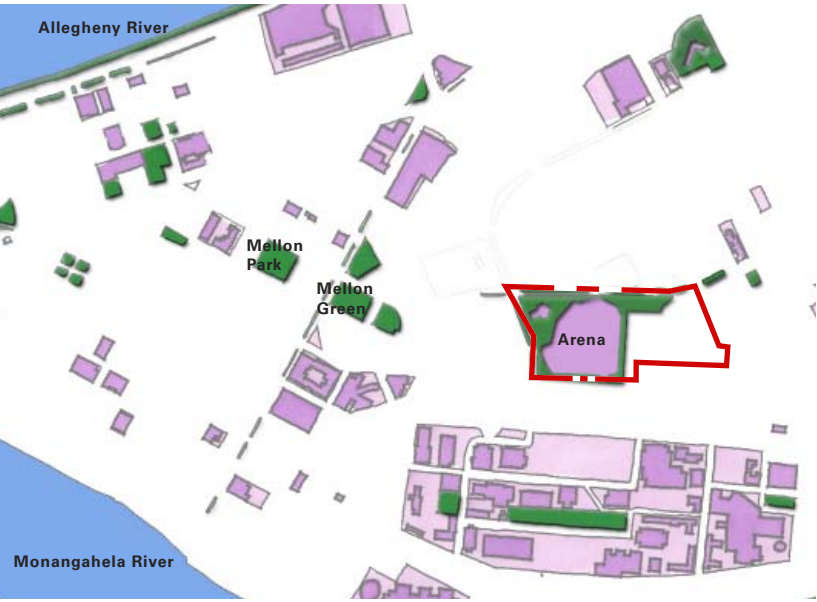
A landscaped slope with trees and ground cover between the Church of the Epiphany and Rectory and the new arena will provide a quiet green buffer between the two uses.



Open Space Diagram



Existing Parks and Institutions



Proposed Parks and Institutions

PARKS AND PUBLIC PLAZAS
INSTITUTIONS

Streets

The new arena site is bounded on three sides by major city arterial streets: Fifth Avenue (one-way westbound); Washington Place (two-way); and Centre Avenue (two-way). They have capacity to handle both Downtown commuter traffic during the week and event traffic in the evenings and weekends.

In order to accommodate the construction of the new arena Colwell Street will be vacated from the entrance to the new parking lot to Washington Place. Our Way will remain as a public street for servicing the arena. Magee Street will be totally vacated from Our Way to Colwell Street.

Stevenson Street will be the primary route off Fifth Avenue for trucks servicing the arena on a daily basis and also for special event trucks and tour buses.

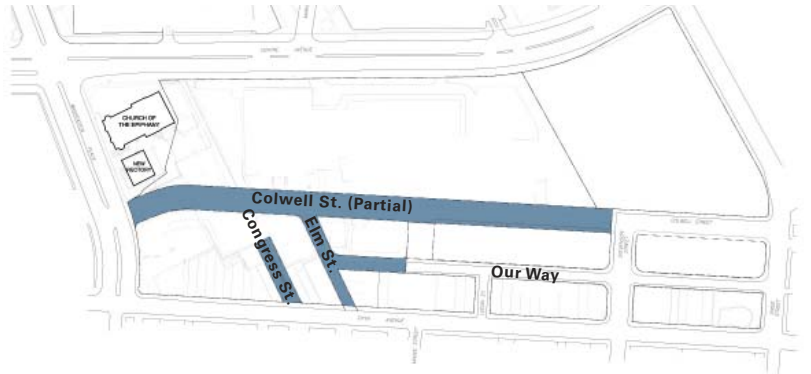
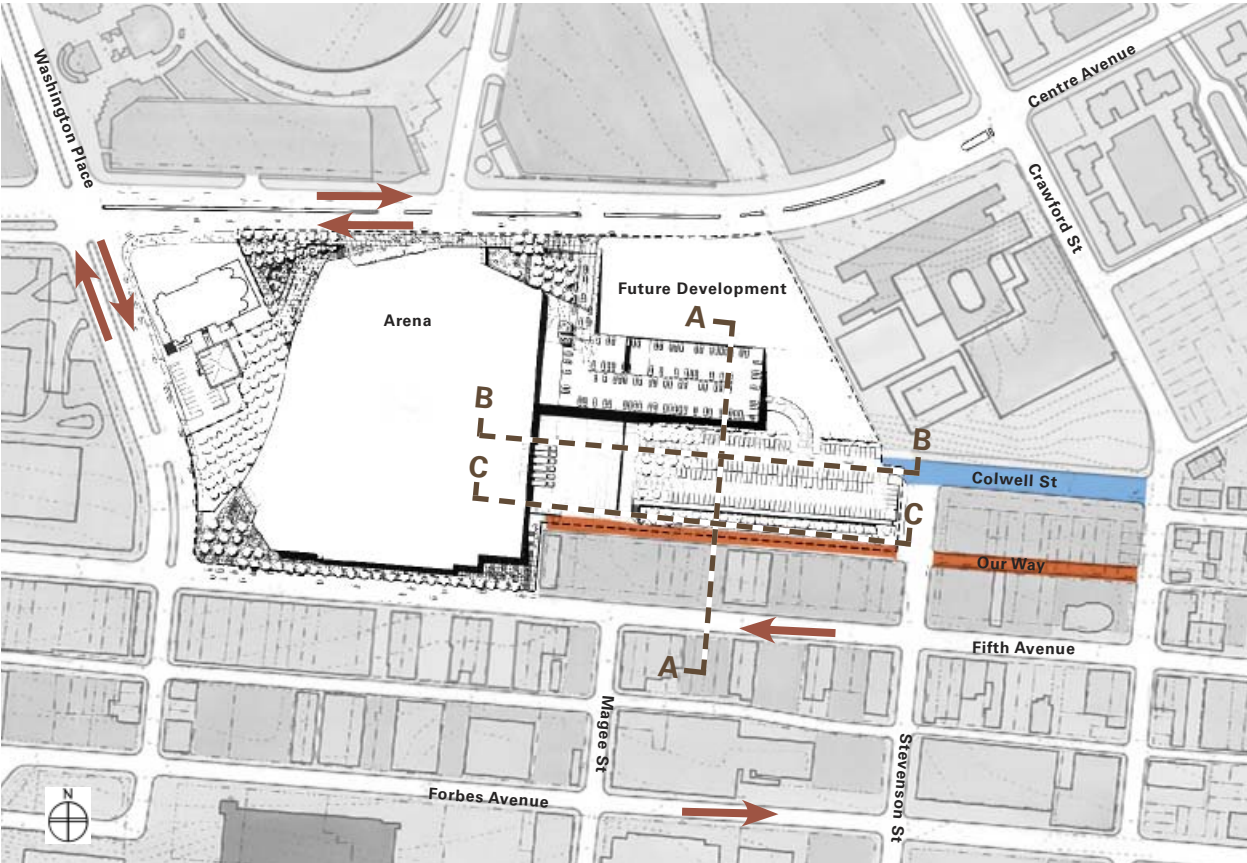
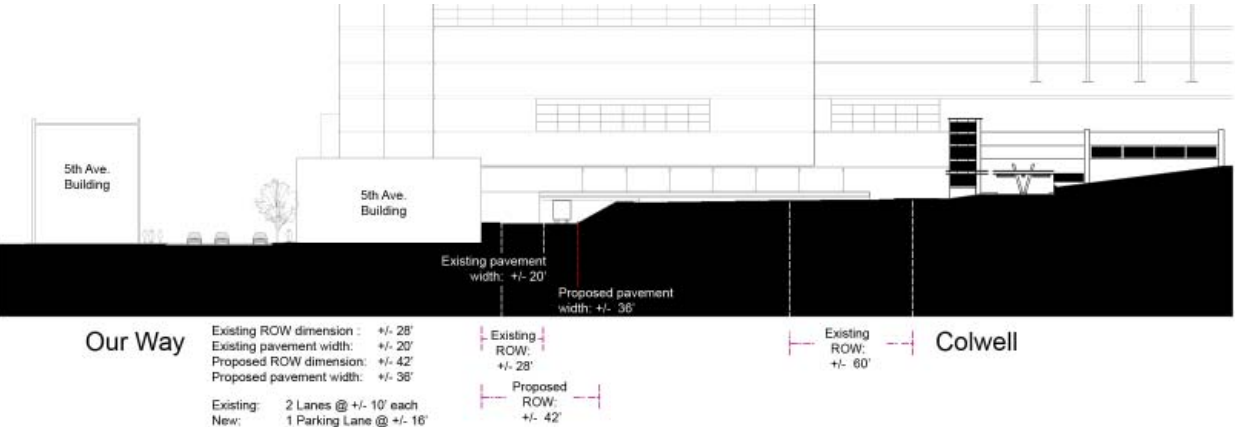


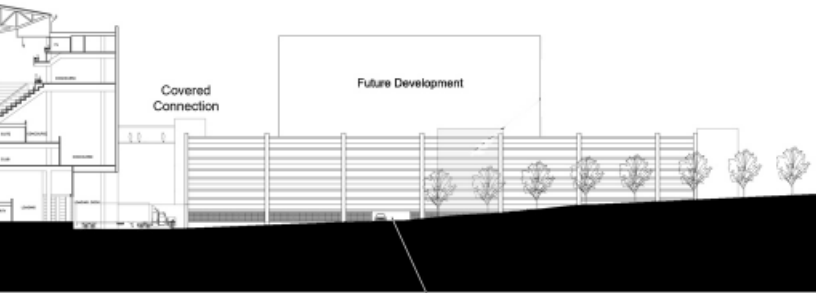
Diagram of vacated streets (in blue)



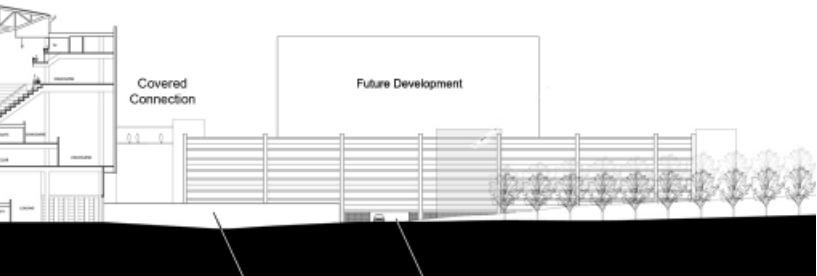
Street Types Diagram



Section AA: Site Cross-Section



Section BB: Cowell Street



Section CC: Our Way

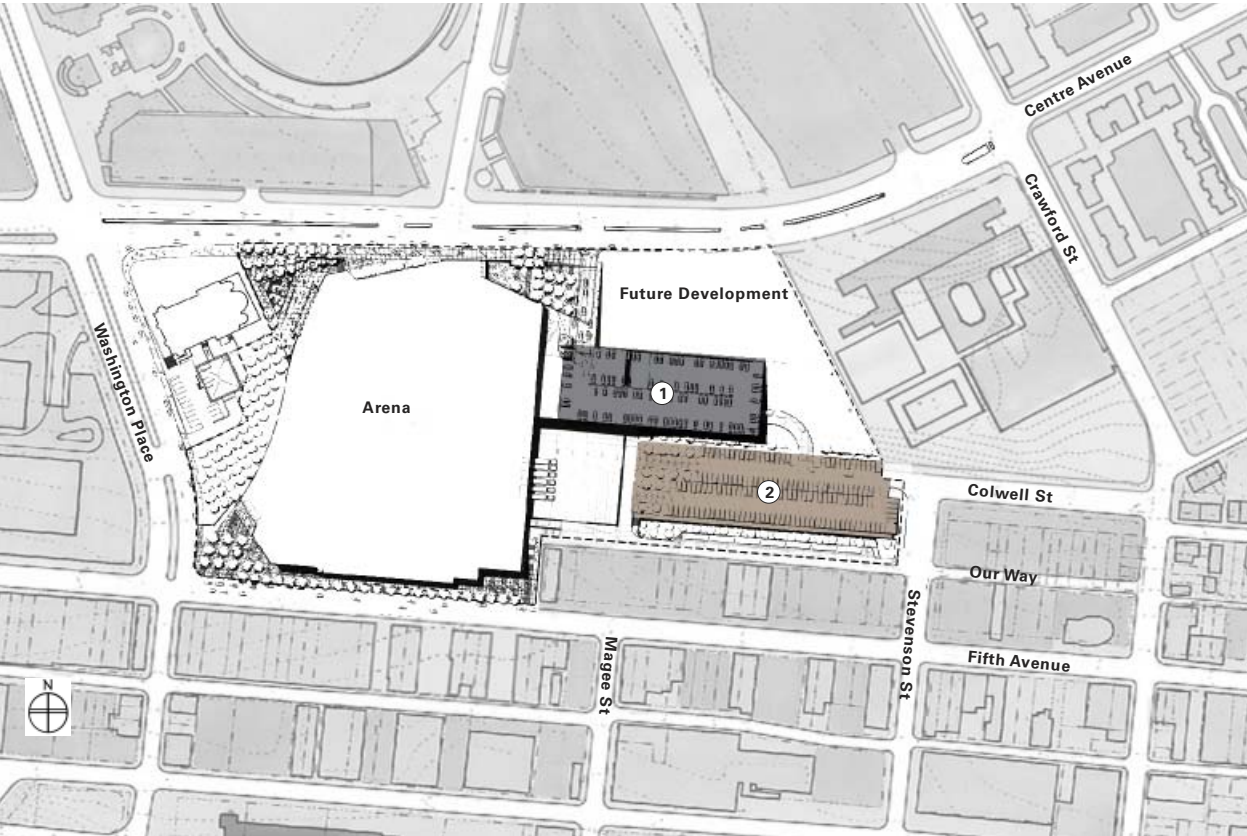
Parking

A parking study was commissioned by the Penguins. Field work was completed in the summer and fall of 2007. The final report was issued in November 2007.

The conclusion was that sufficient parking resources exist in the Downtown, Lower Hill, and Uptown areas to serve weekly Downtown commuter demand supplemented by new parking provided on the arena site for arena events.

On site parking includes:

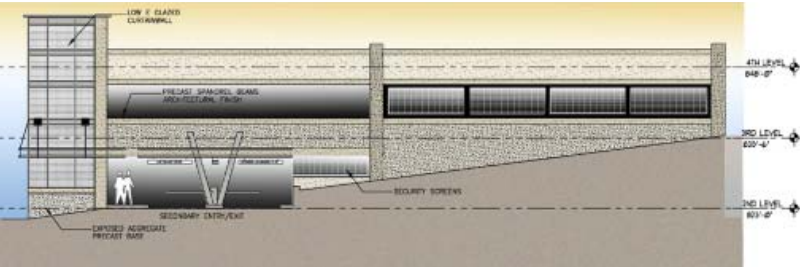
- 1 A 500-car, four-story parking garage with the capacity to add one additional floor. Fifty spaces are reserved for Penguins staff and players. Four hundred and fifty spaces are public spaces for commuters on non-event days, but are reserved for suite and club seat holders during events.
- 2 A 150-car surface public parking lot for commuters and event patrons. This lot also serves as a staging and parking area for special event trucks and tour buses. Surface parking will meet City zoning standards for landscaping and screening of parking.



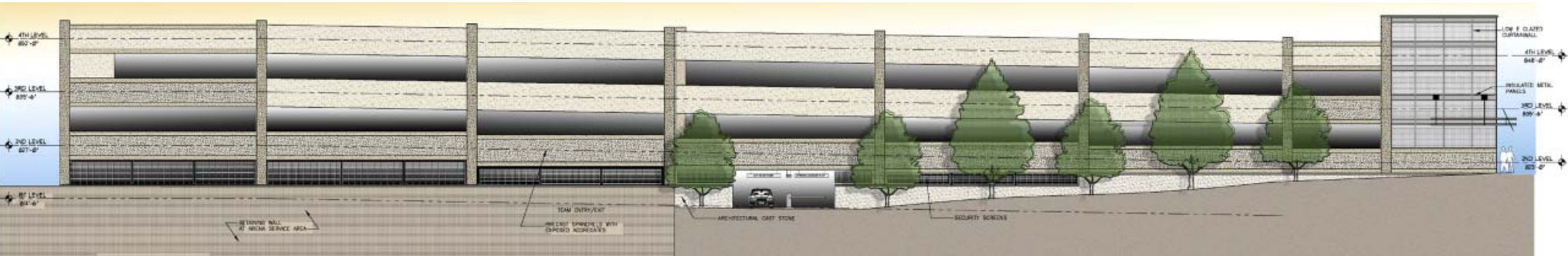
Parking Diagram

PARKING GARAGE SURFACE PARKING LOT

CONCEPTUAL PARKING PROGRAM	
1 FOUR LEVEL PARKING GARAGE	500 spaces
2 SURFACE PARKING	150 spaces
TOTAL	650 spaces
*POTENTIAL FOR ONE ADDITIONAL FLOOR ON PARKING GARAGE	125 spaces



East Elevation



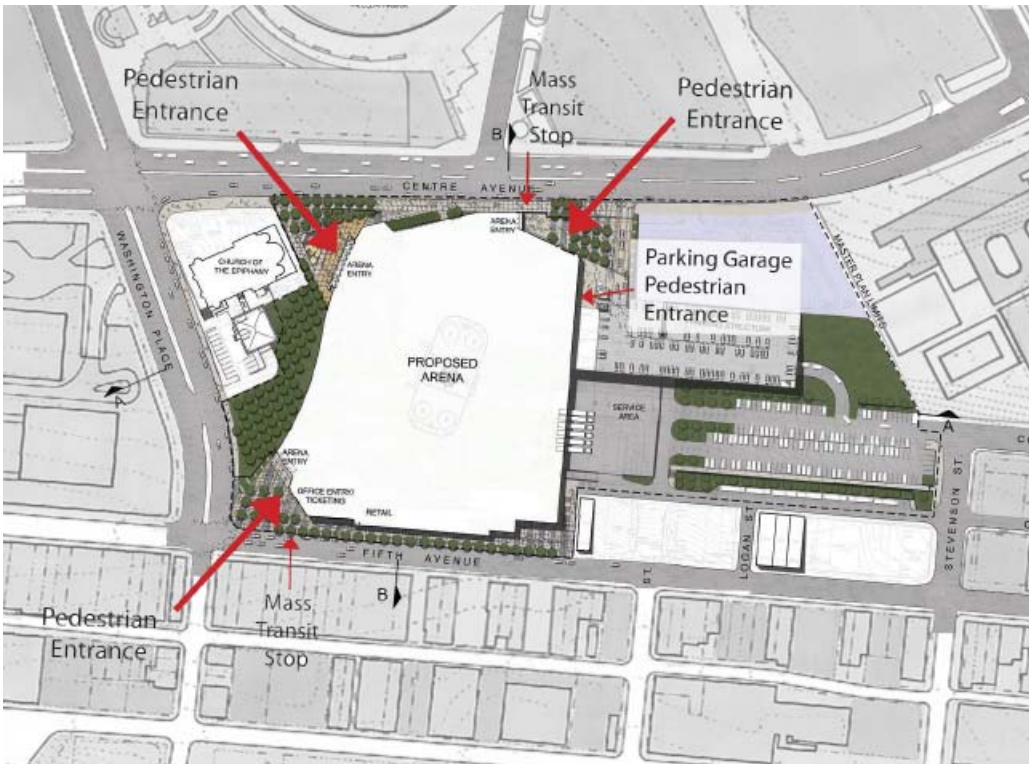
South Elevation

Access and Service

Pedestrian access to the arena will be from the three public plazas on Fifth Avenue and Centre Avenue.

All arena servicing will be off street on the east side of the arena. Refuse trucks and trucks making deliveries to the arena will arrive in a service area at the end of Our Way. Event trucks will be able to drive onto the arena floor from this service area. The service yard is designed for trailer truck turnarounds and staging.

Truck routing will be accommodated along Fifth and Forbes Avenues, and Stevenson Street. A detailed loading management plan will be provided with the project development plan.



Pedestrian Access

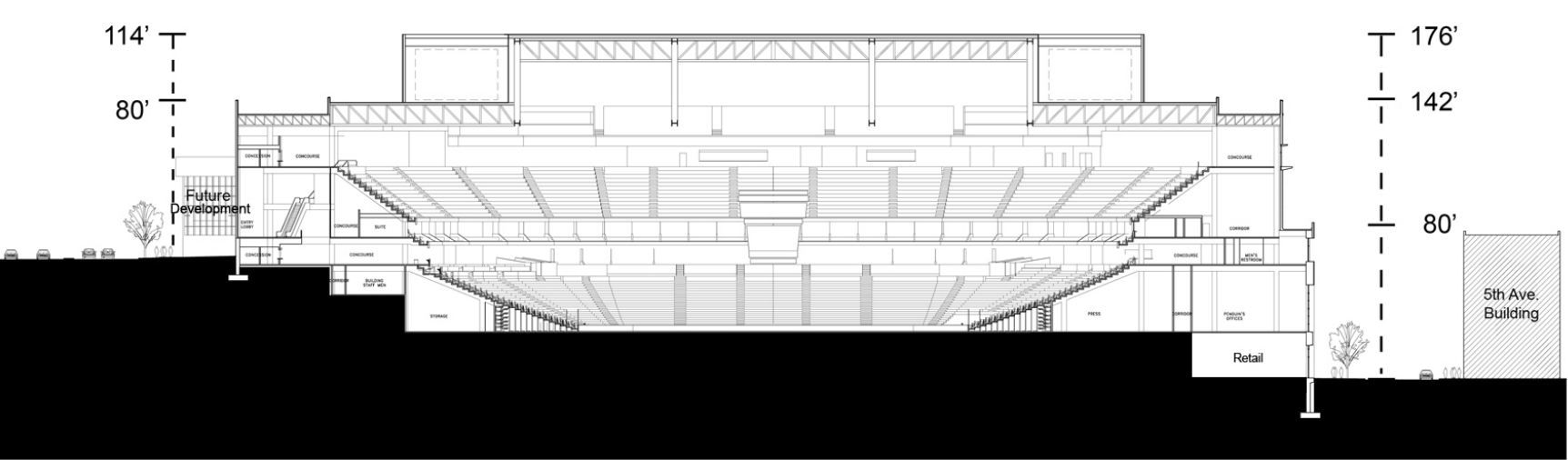
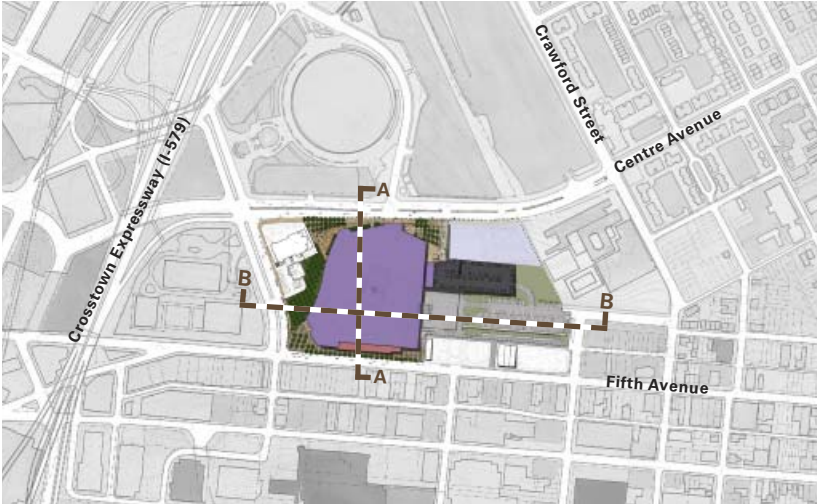


Vehicular Access

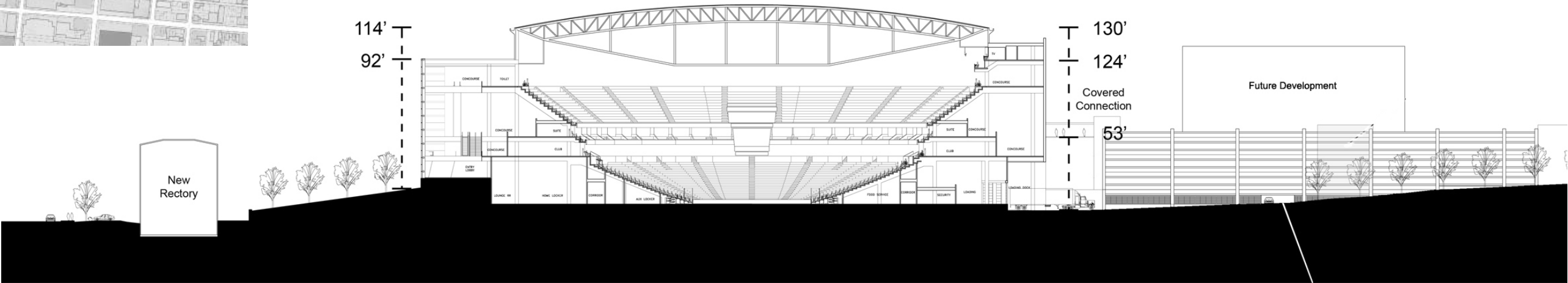
Building Heights

The arena is 176 feet above Fifth Avenue and 114 feet above Centre Avenue. These heights are within the allowable zoning envelope of the GT-E sub-district.

The four-story parking garage is 37 feet above Colwell Street. If increased to five stories, the height will increase to 47.5 feet above Colwell Street.



Section AA



Section BB

Architectural Character

The Site

The site is to the south of and across Centre Avenue from the existing Mellon Arena. The site is bounded on three sides by the existing street grid – to the north Centre Avenue, to the west Washington Place and to the south Fifth Avenue. The east edge of the site is bounded by the associated structured parking and surface parking.

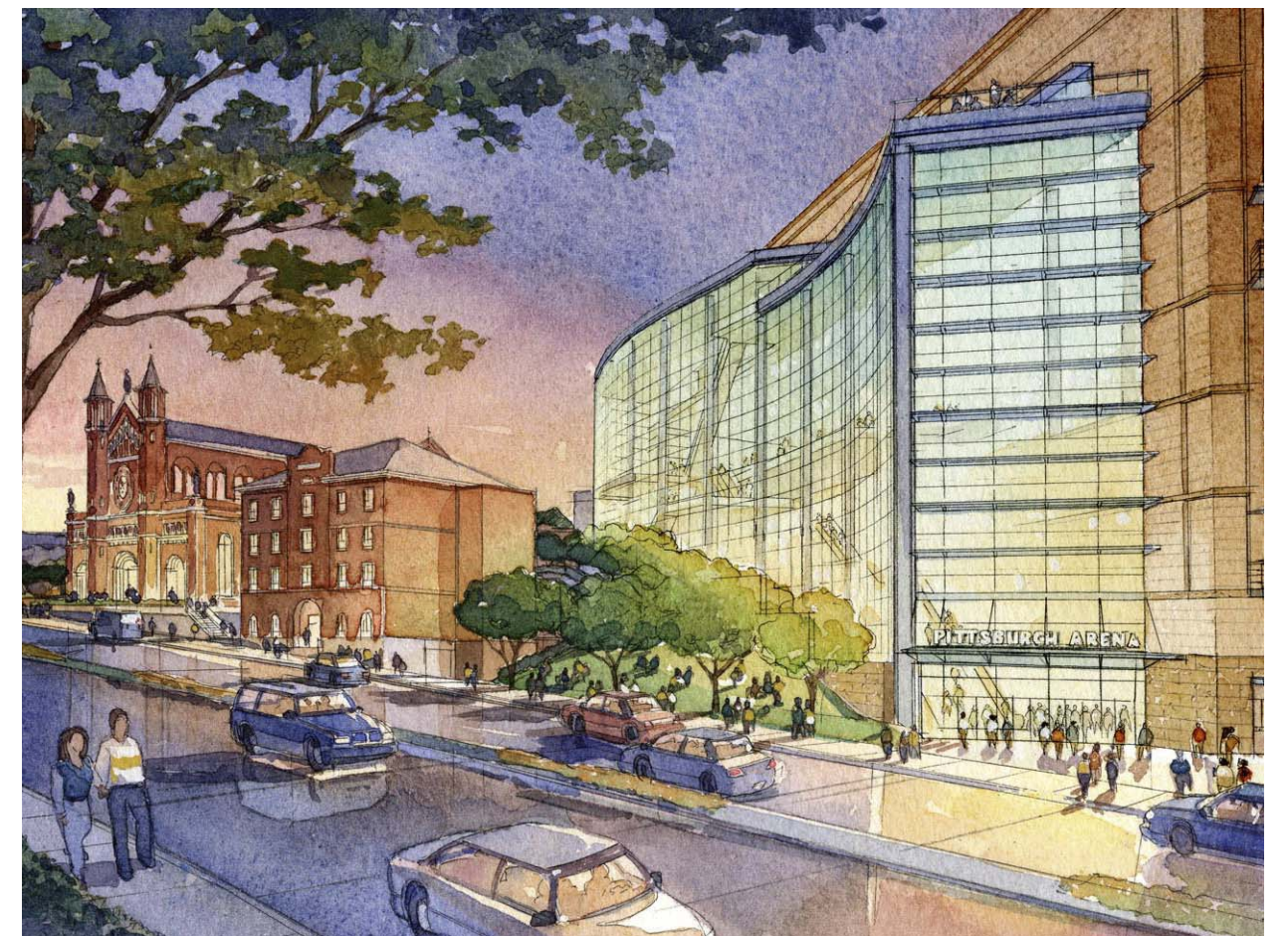
Within the limits of the site is Epiphany Roman Catholic Church and future rectory. Because of its architectural significance, the church will be maintained in its current location on the corner of Centre Avenue and Washington Place. Several factors make the site a compelling choice:

- Because the site is generally bounded by existing streets, the capability to create a project which feels finished on all edges is enhanced. Future adjacent construction has less potential to adversely affect the area in regard to aesthetics and function.
- Site allows a civic-minded approach, where the arena promotes revitalization of Fifth Avenue and insures the existing church remains.
- The opportunity exists to link the project into the city's mass transit infrastructure.
- Site location allows a more urban oriented solution where the scale of downtown can continue along Centre Avenue up to the high-rise Washington Plaza Apartments.

- The site is down the hill somewhat from the existing Mellon Arena, and as such, has friendlier pedestrian access from Downtown. This is especially true from the Fifth Avenue side of the site.
- New parking garage can be directly linked to the arena while providing public parking on non-event days.
- Proximity of the site to Duquesne University.
- Site offers views to Downtown skyline.
- Juxtaposition with adjacent church can help create a memorable architectural experience/presence.

Arena

The design of the new Pittsburgh Arena is influenced and shaped by many different factors, not the least being the site itself. Bounded on three sides by the existing street grid and possessing a significant amount of grade change across its limits, the site and its surrounding environs very much shaped the physical response of the building. Building edges are generally carried out to street edges to reinforce the adjacent urban condition and respond to the limited site area. Along Fifth Avenue, the scale of the arena mass is dropped to correspond to the height of the adjacent historical buildings. The Fifth Avenue façade of the arena also could incorporate retail and/or recre-



View of arena looking towards Centre Avenue along Washington Place

Architectural Character (continued)

ational facilities to assist in the revitalization effort along this important corridor. To the east of the new arena a new structured parking garage will serve both the arena and the public.

On the Centre Avenue side of the site adjacent to the existing church, an entry plaza both shaped and highlighted by the church has been created. The plaza is intended to be a microcosm of the Pittsburgh urban condition. Pittsburgh's downtown grid, shaped by the intersection of three rivers and significant changes in elevation, is very European in nature, making for wonderful spaces and buildings. The arena plaza is designed to have similar edges, while simultaneously allowing for a transitional space between the architecture of the arena and the architecture of the church. The intent is that the Centre Avenue entry be the perceived 'main entry' of the arena because of views to the downtown skyline, proximity to the iconic church and the potential for linkages to any future development at the existing Mellon Arena site.

Of particular challenge is the resolution of movement between the Centre Avenue and Fifth Avenue entries. Since both entries accommodate a similar number of patrons, creating a shared experience or linking them, if possible, was a goal. Toward that end, a glazed circulation spine on the Washington Place facade is introduced. This spine becomes an architectural element which links the entries in a strong direct fashion. The spine also offers the opportunity to create a signature space for the arena while simultaneously providing a dramatic marker in the skyline at night. Patrons entering the Fifth Avenue entry (forty feet below the Centre Avenue entry) would experience a dynamic spatial metamorphosis as they move up escalators to the Centre Avenue Entry. Once in the Centre Avenue entry, all patrons would enjoy views of the plaza, church and Downtown

skyline as they move up stairs/escalators to the arena concourses. The intent is that the spine be alive with people, movement and activity. The spine would also provide a framework for display of memorabilia.

While the edges of the arena respond to the street grid, the seating bowl has been allowed to float, its orientation determined by programmatic elements, view opportunities and circulation linkages. The seating bowl has been designed to accommodate a multitude of event types, while at the same time being specific to hockey. All seats are accessed from concourses above (download) creating a condition where vomitories and associated view obstructions (railings) are eliminated. This condition also allows patrons to view the event from concourses. Sightlines are improved over those at Mellon Arena and club seating/suites are located in both the center ice and double attack zone to offer fans a myriad of premium seating options. Behind each club seating section are lounges which allow for event viewing. Amenities for the general patron would also be greatly improved over Mellon Arena with higher ratios of toilets and concessions, and specialty restaurant/food opportunities being made available. The seating bowl would also incorporate state of the art sound systems, matrix boards/scoreboards and acoustics to create a dynamic atmosphere for hockey.

The superstructure of the bowl roof is comprised of steel trusses forming a shallow barrel vault roof form. The simple barrel shape is meant to reference back to the diagonalized wood lamella structures often found in old hockey rinks/gymnasiums. The exterior roof form is non-aggressive in deference to the spine, plaza, church and street edge architecture.



View of arena looking uphill along Centre Avenue



View of entrance on Fifth Avenue

Architectural Character (continued)

The palette of exterior material utilized in the building would likely be indigenous to the Pennsylvania region, but consciously different than the brick of the existing church. To match the brick of the church on the arena would be difficult at best and only dilute the architectural presence of the church. Some materials being considered are brick, cast stone, architectural precast, glass and steel, all of which have contextual connection to the Pittsburgh region.

The Romanesque nature of the church design, with its intricate ornamentation, is a powerful foil to play against the architecture of the arena. The arena is designed to be a building of its own time, a facility responding specifically to its function, site, and Pittsburgh. It is influenced by and sensitive to Pittsburgh's past yet shaped by the needs of the present and an evolving future.

Parking Garage

The 500-car, four-story Parking Garage, situated east of the Arena and south of Centre Avenue, is designed both to support Arena functions and commuters. As a support facility the garage is designed as a background building without a dominant design theme. A connecting walkway will allow direct pedestrian movement between the garage and the Arena.

The exterior finish will be pre-cast concrete to match the color/texture of the exterior materials of the Arena.

Design will also focus on promoting safety and a user-friendly environment via an 'open' garage. The main stair adjacent to the connector walkway will be glass, affording a high degree of transparency, for both safety and architectural expression.

The main entrance drive to the garage will be east of the Arena's Centre Avenue entrance. There will be two secondary entrances off of Colwell Street to the south. A total of three entrances offers patrons the ability to access the garage at three levels.

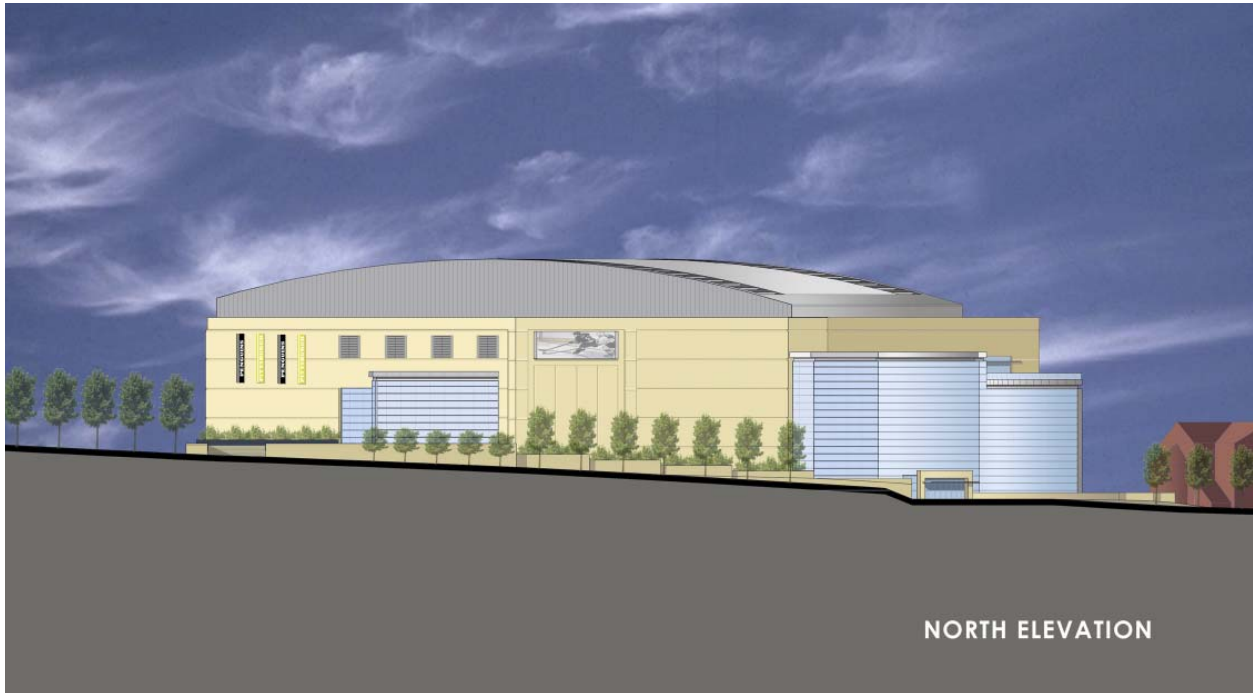
The slope area between the north side of the garage and Centre Avenue will be graded to support vegetation.



View of arena looking along Fifth Avenue looking west



Elevation along Fifth Avenue



Elevation along Centre Avenue



Signage, Lighting, and Streetscape

The environmental graphics for the new Pittsburgh Arena on the exterior will reinforce the building's identity within the context of the downtown character, which will lead to comprehensive visual graphics on the interior celebrating the rich historical, cultural, and geographical attributes of the Pittsburgh region. The environmental graphics, when combined with an improved streetscape consisting of new paving and street trees will provide a homogeneous design solution and set standards for future neighborhood development.

Development of a comprehensive design and content theme will be unique to the Pittsburgh Arena. The building's form, with its transparent spine, and materials both timeless and contextual to Pittsburgh, will establish direction for materials and detailing of the graphics program. Organized throughout the building will be a progression, or layering of the attributes that are unique to Pittsburgh. These attributes will combine to establish an identity of repetitive icons that will be graphically recognizable throughout the facility. This will carry over to all informational, promotional and advertising items.

Transition from the large scale of exterior components on and around the building to elements within the building more appropriately scaled to the human form, but still allowing for the framing of the interior volumes, will continue to reinforce the dynamic interaction with the building.

Accessing and navigating the facility will be of the highest priority in the development of the environmental graphics program. Clarity of entry points, whether it be pedestrian or vehicular, staff, teams, public or deliveries, will be key to a seamless integration

within the city fabric. The graphics program will be comprehensive in its inclusion of identification, directional, and way finding signage. Layered within the program will also be tenant signage, advertising/ sponsorship signs and other feature destinations.

The new arena will accommodate a large number of visitors each year. The environmental graphics/sign program, streetscape improvements, and site lighting set the theme for arena visitors. The design end product will successfully guide and inform the thousands of visitors to a diversity of services and facilities while enhancing the architectural elements of this dynamic structure and embedding the passionate dedication towards hockey.

All signage, lighting, and streetscape will adhere to the City of Pittsburgh Downtown Standards.

Arena signage will be integrated into the building facades. No free standing signs will be included. Signage for retail stores along Fifth Avenue will be limited to storefronts, awnings, and panels above the display windows.

A way finding system directing travelers to the Mellon Arena site already exists on the interstate highway network outside of the City and within the City on light poles. These systems may have to be slightly modified to account for the new location of the arena across the street from the old arena site.

Street trees, shrubs, and ground cover will be native species and drought resistant.



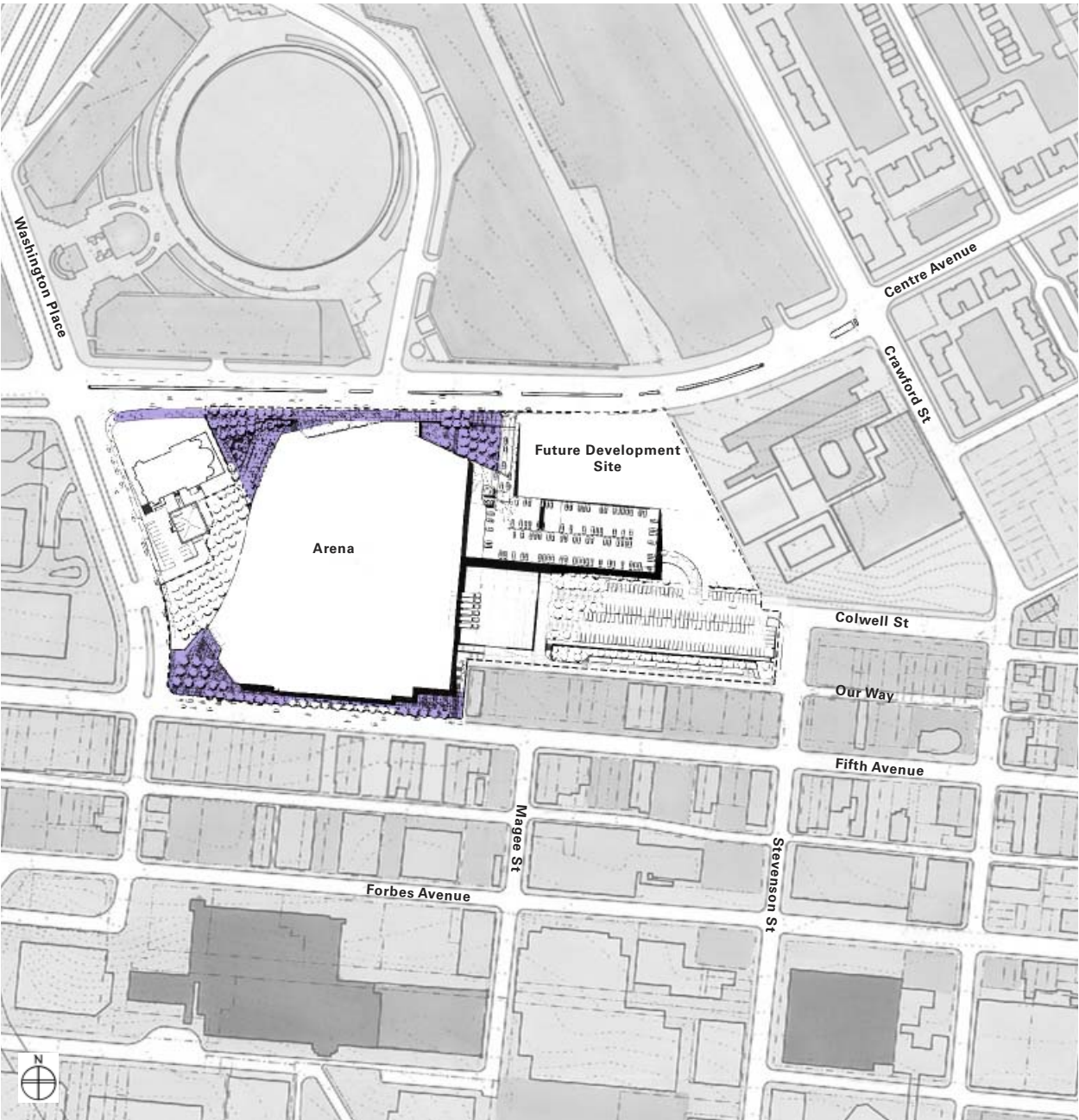
Precedent photo of signage along PNC park



Example of interior signage

Project Art

Pittsburgh has a rich heritage of art, not only commissioned sculptures in public parks and in front of significant buildings, but also incorporated into building facades and bridge piers, plus fountains and light sculptures. The intention of the art program for the new arena will be to commission or purchase pieces that will be integrated into the exterior and interior building and site design. The art will celebrate Pittsburgh, the Hill District, the Mellon Arena, and will honor legendary Pittsburgh sports, community, business, and entertainment persons.



Possible exterior locations for project art (shown in purple)

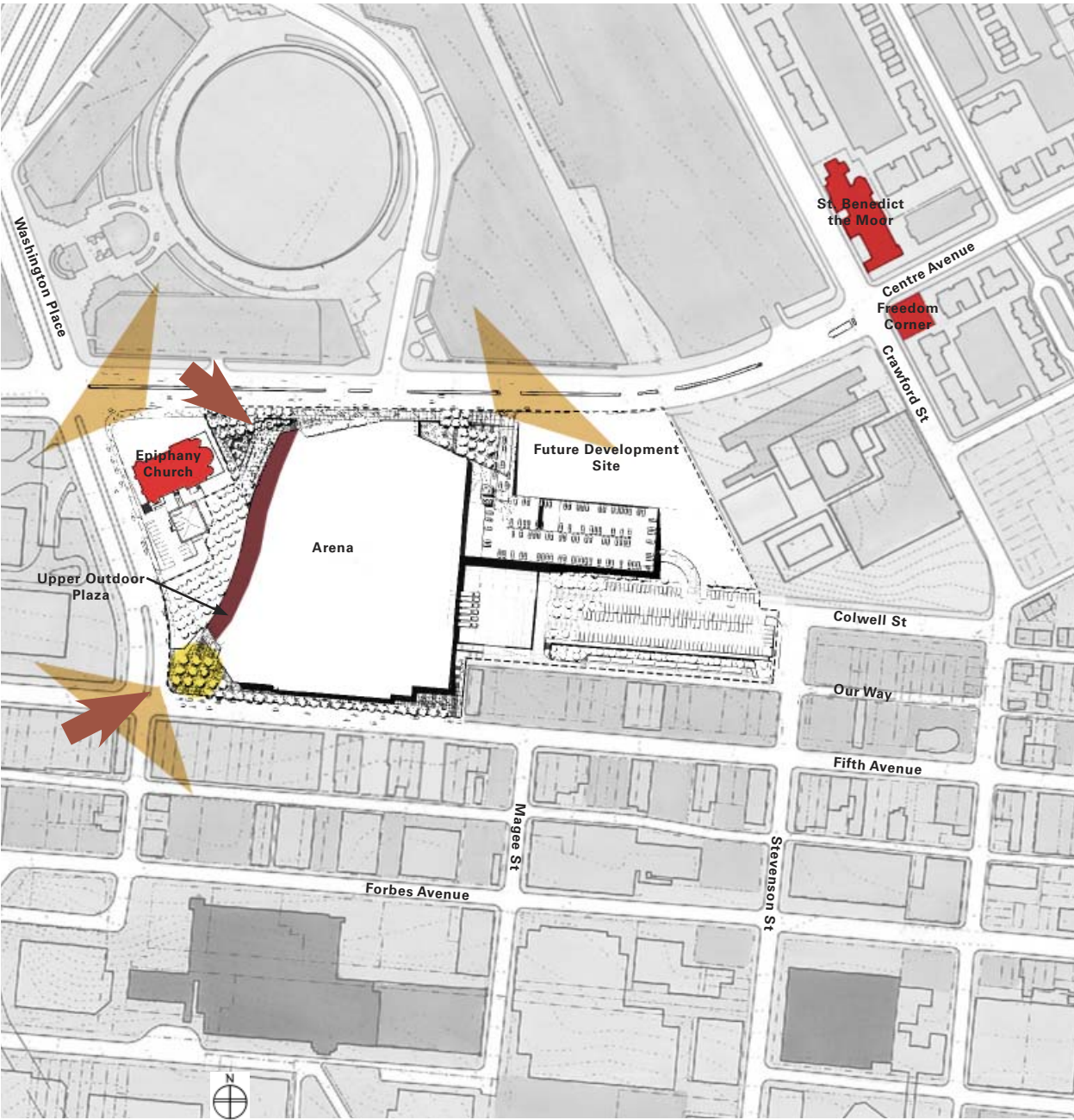
Landmarks, Focal Points, and View Corridors

The new arena is planned to take advantage of the topography of the site and views to and from Downtown, Uptown, and the Hill District. The western end of the arena is a multi-story glass atrium with spectacular views of the Downtown skyline. This atrium can be seen from Downtown and will be a night time beacon for patrons. An upper outdoor plaza off the main concourse of the arena on the west side of the building will offer views of Downtown, Uptown, and Duquesne University.

The landmark Church of the Epiphany and its new rectory will be featured in the foreground of the arena as approached from Downtown. The arena will be set back from the church and behind a landscape buffer between the church and the arena.



Primary Facade



Landmark: St. Benedict the Moor Church



Landmark: Freedom Corner



Views the southwest corner of the new Arena



Landmark: Freedom Corner

Stormwater Management

A stormwater management plan will be implemented for the entire project to accommodate for the Best Management Practices (BMPs), stormwater detention, water quality requirements, and a conveyance system that utilizes new and existing combined stormwater/sewer infrastructure. Stormwater will be conveyed with yard, and road-way inlet drains located throughout the proposed project area. We will provide new taps to the existing sewer lines located in Magee Street and Fifth Avenue to convey stormwater from the site to the Pittsburgh Water and Sewer Authority (PWSA) combination sewer system. The pre- and post-development impervious surface areas are estimated to be similar. BMPs will be implemented to detain stormwater runoff and improve water quality to local and state criteria. Therefore, no increase (or impact) in storm water runoff is projected to existing conveyance systems and decreased peak rates of stormwater runoff discharge are anticipated.

New sanitary sewer connections will be required to convey the sanitary sewage from the new buildings. A detailed analysis of the sanitary sewer-sheds will be performed to determine if there is adequate conveyance capacity. We estimate that the arena and associated development sewage flows will be equal to or less than the existing sewage flows. This estimate is based upon the demolition of the St. Francis Hospital and Garage, the Epiphany Church buildings, and the various buildings located along Fifth Avenue. The arena and associated development sewage flows would be offset by the removal of these sewage flows from the existing system. The sewage flow for the project will tie into the existing combined sewers

located on Magee Street and Fifth Avenue. Video inspection of all PWSA-owned sewers in the immediate vicinity has been completed as required. The capacity of the existing sewers will be evaluated and coordination with the PWSA and the Pennsylvania Department of Environmental Protection (PADEP) as required during the planning module process.

The water supply will come from Centre Avenue and Fifth Avenue for the new buildings. The Bedford Avenue Reservoir sits high above this site and provides good water pressure and flow to the entire area. Several existing waterlines located within the perimeter and vacated streets will afford ample opportunity to supply water to the new buildings.

Fire hydrants will be provided in accordance with PWSA requirements. Since the new buildings will be fully sprinklered, a combination of new and existing fire hydrants will be spaced around the building exteriors to not exceed 500 lineal feet of running fire hose between hydrants.

Approvals by the City of Pittsburgh, the Pittsburgh Water and Sewer Authority (PWSA), the PA DEP, the Allegheny County Department of Health and the Allegheny County Conservation District will be obtained prior to start of construction work. An Erosion and Sedimentation (E&S) Control Plan, a National Pollutant Discharge Elimination System (NPDES) general permit for stormwater discharge from a construction activity and a Post Construction Storm Water Management Plan (PCSMP) will be required for a construction permit. A sewage facilities planning module will be required in accordance with Pennsylvania Act 537.

Sustainable Design Principles

Opportunities to optimize the sustainable design of the Pittsburgh Arena can be divided into these general categories: sustainable sites; water efficiency; energy optimization and atmosphere protection; materials and resources conservation; and indoor environmental quality and health. The SEA and Penguins will seek LEED certification for the new arena.

Sustainable Sites

As a LEED certification prerequisite, the contractor shall take measures to control air and water pollution during construction activity. Additional opportunities for a sustainable site include integration of the project within the surrounding community to take advantage of public transportation and share surface parking and structured parking with neighboring businesses. The building and site will mitigate the urban heat island effect of the development by means of light-colored roofing material and open green space and vegetated plaza areas.

Water Efficiency

Strategies for water efficiency will extend the life of the local water and wastewater infrastructure by reducing the use of potable water for inappropriate uses such as irrigation and sewage conveyance. The project landscape will feature drought-tolerant or native or adapted vegetation to reduce potable water use for irrigation. Low flow plumbing fixtures and a high-efficiency irrigation system will also contribute to potable water use reduction.

Energy Optimization and Atmosphere Protection

As a building type, an arena poses challenges for energy-efficiency due to its fluctuations in occupancy, sheer volume of assembly space, and aggressive budget. The project team will strive to achieve energy efficiency within the parameters of the project budget by focusing on the systems that are most effective in reducing energy use. As LEED certification prerequisites, the building must achieve compliance with ASHRAE Standard 90.1-2004 for energy performance. Furthermore building systems must be commissioned to optimize their operation and no CFC-based refrigerants can be used. In addition to these prerequisites, energy performance will be optimized through thoughtful building envelope design, selection of energy-efficient HVAC equipment and hot water systems, energy recovery systems within the HVAC and refrigeration system, low-energy interior lighting, and the use of a building automation system to optimize equipment operating sequences. Enhanced commissioning is being considered to help ensure the optimization of integrated building systems.

Materials and Resources Conservation

The design and construction of the project will offer many opportunities for materials conservation and recycling and purchase of environmentally preferred materials and resources. As a LEED requirement, the project will plan for occupant recycling with collection storage areas. In addition, the project team will work with the contractor to set a goal for diverting construction waste from landfills by recycling or donating materials. As a matter of best practice, we will

select materials with longevity and durability to avoid the need for premature replacement and design to avoid product waste. Material selections and specifications will emphasize products with high-recycled content, preferable post-consumer content, and materials that are recyclable at the end of lifetime. Designers will research materials and resources that are sourced or extracted and manufactured from within 500 miles of the project site.

Indoor Environmental Quality and Health

As LEED certification prerequisites, the building will be designed to meet ASHRAE Standard 62.1-2004 for ventilation systems and will also be designated as a non-smoking building. An opportunity to further impact the indoor environmental quality is through protection of the building systems during and after construction in order to deliver a healthy building at occupancy. Increased ventilation rates, increased filtration, and pre-occupancy flush out procedures are being considered to help optimize the interior environment. Selection and specification of low-emitting interior materials, such as paints, insulation, carpet systems, sealants and adhesives and sequencing installation of absorptive materials until after emissive materials are installed and off-gassed will further enhance the quality of the indoor environment. Maximizing daylight and views in public areas will provide a connection between the building interior and its exterior, as well as to the neighboring community.