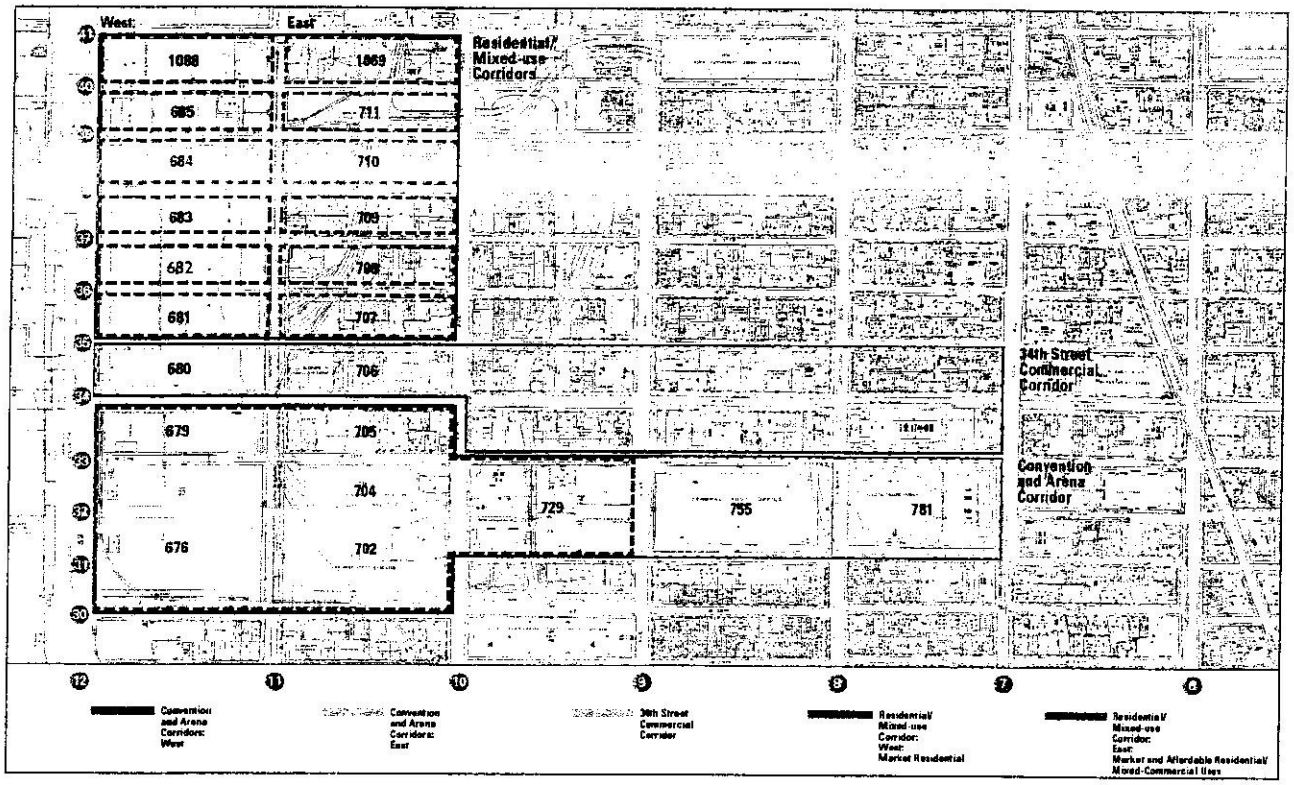
A Steven L. Newman Real Estate Institute Proposal:

1. The Designation and Rezoning of a Far-West Side Development District
2. The Creation of:
    A. The New York Convention and Arena Corridor
    B. The West 34th Street Commercial Corridor
    C. The Hudson River Residential/Mixed-Use Corridor.
3. The Formation of the Hudson/Far-West City Authority.



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The Steven L. Newman Real Estate Institute submits this proposal for the development of the far-west-side of Manhattan in support, with modification as indicated, of the goals of the Hudson Yards Plan developed by the City of New York and the Metropolitan Transportation Authority. The central premises of this proposal are:

1. Infrastructure
A new urban infrastructure system—termed in this proposal "LandBridge"—would be built over the present "Hudson Yards" rail-yards and -tracks to carry new civic and commercial development along with new vertical and horizontal public transportation facilities. Development within the five levels of the LandBridge and on its "SkyPark" constitutes Corridor 1—the "Convention Center and Arena Corridor"—of a new Far-West Side development district.

2. Public Development
The LandBridge carries public development:
- The Javits Convention Center is relocated within the LandBridge along a new east-west axis between 9th—12th Avenues/30th—to-34th Streets. The new Convention Center is, in aggregate, the largest in the United States. The existing Javits Convention Center remains open, without hiatus, until the new Convention Center is completed.
- A new automated rapid transit system, consisting of a twelve-station continuous loop between Penn Station and Twelfth Avenues and ancillary escalator and sidewalk moving systems, connects all of the development carried on the Landbridge;
- New public open spaces, as described in this proposal, are created throughout the district, including a major series of public spaces on the SkyPark level of the Landbridge

3. Private Development
The Landbridge is designed to be able to support, in addition to the public facilities, a variety of private development options:
- new commercial offices, retail facilities, and hotels
- a new arena
- a new stadium.

Four development alternatives— Options A-D— are described in this proposal. Additional private development of commercial office towers along a 34th street corridor and residential and mixed-use development in corridors north of 35th street are also described in this proposal.

4. Public Financing
Public dollars in this proposal are devoted only to the public infrastructure: providing the creation of "new" developable land, transportation, and new public open space.

5. Project Cost and Feasibility
The public acquisition, construction , and development expenses of the project for (1) the LandBridge, (2) the transportation systems, (3) a new convention center, and (4) public space is approximately $7.6 billion. This proposal calls for these costs to be financed by The State of New York, through its public bonding authority, over a thirty year amortization period. Tables for development costs and financing are provided in this proposal. The land values underlying the potential new LandBridge corridor combined with those underlying the Javits Convention Center enable this proposal to be financed. Agreements with the City of New York for the sharing of project revenues both during and following the amortization period would be crafted following precedents such as those established at Battery Park City.

6. Implementation Authority
An experienced Authority, existing or newly-created but closely similar to the Battery Park City Authority, would be charged with the implementation of the development plan.

The State of New York is a key participant in this proposal:
- New York State is the preponderant land ownership entity, through both the Metropolitan Transportation and the Javits Convention Center Authorities, of land within the three development corridors;
- New York State has proven its capacity to finance a development of this scale at the most favorable interest rates.

7. Critical Path
In the Institute's critical path, the Convention Center and Arena Corridor—both infrastructure systems and buildings—can be completed by June 2012, in-time for their use in association with a prospective 2012 Olympics presence in the City.

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Foreword

Between July and September 2004, The Steven L. Newman Real Estate Institute's Center for Applied Research and Public Planning prepared this proposal for the reconsideration of aspects of the City of New York's Preferred Plan for the Far-West Side of Midtown Manhattan. The Preferred Plan is described in detail in the Draft Generic Environmental Impact Statement issued jointly by the New York City Department of City Planning and the New York State Metropolitan Transit Authority in June 2004.

As described further in the introduction to this section, the Institute's initiative has been spurred in part by the yearlong program of studies and conferences sponsored jointly by the Newman Institute's Research Center and its Center for Public Programs. However the real impetus for this effort is the enormous contributions made by the Bloomberg Administration in bringing before the entire New York community a series of critical policy discussions and planning initiatives which collectively have given new energy to the role of municipal government in providing effective leadership to discussions concerning New York's 21st-century future.

In both 19th- and 20th-century New York the provision of such leadership has been an important role for municipal government, for example; the creation of the 1811 grid plan, the creation of Central Park, the creation of other major parks in neighboring municipalities which are now the City's "boroughs," the effective consolidation of these related municipalities into one city at the end of the nineteenth century, the first zoning resolution in 1916, the establishment of the New York City Housing Authority, the enormous infrastructure changes and parks we associate with the names Fiorello LaGuardia and Robert Moses, the broad wave of post-World-War II planning efforts on behalf of moderate- and low-income housing, and the creation, jointly with New York State, of a series of development authorities to both plan and implement large-scale publicly-engaged development. These are lessons in what municipal government can accomplish for the long-term good of the city and what should inspire every planning initiative.

It is now to the Bloomberg Administration that, viewing the span of the past quarter century in New York, we must look for renewed emphasis on broad-scale planning for the future of the City—and the City within the region. For this "campaign of urban development ideas"—and it is nothing short of a campaign—New York's citizenry owe a considerable debt of gratitude to the offices of Mayor Michael Bloomberg and Deputy Mayor for Reconstruction and Development Daniel Doctoroff, along with the chairperson of the New York City Planning Commission and Director of the Department of New York City Planning, Amanda Burden. Their combined focus, energy and determination in less than four years has produced the enormous effort represented by the New York City Hudson Yards Plan for the Far-West Side – and with it, a new sense of possibility for New York's 21st century future.

With this said, the following alternative should be viewed as a footnote to the City's effort, and in recognition that without their leadership none of the following could be set forth for discussion.

Introduction: The East-West Axis

The Newman Real Estate Institute [NREI], Baruch College/City University of New York in consort with Robert Geddes, dean inauguratum emeritus of the Princeton University School of Architecture, and in association with a distinguished group of planning, design and real estate professionals, have prepared this proposal for the development of the far-west side of midtown Manhattan. The catalyzing event for this proposal, and its context, is the preparation by the New York City Department of City Planning and the New York Metropolitan Transit Authority of the "Hudson Yards" development plan.

Both public and private discussion of the Hudson Yards Plan have, regrettably, crystallized around the possible construction— in part with public funds — of a sports stadium that would be geographically aligned with the existing Javits Convention Center--and therefore "marketed" as a kind of extension to it. While there may be many strong and informed opinions about building such a stadium facility, the Newman Real Estate Institute sees the focus on this aspect of the opportunities presented by the development prospects of the Far-West Side as misplaced. The Institute's position, instead, is that public debate should focus on the Javits Convention Center itself and the ways in which its present location and configuration sustain barriers and reduce the design choices available to the exemplary public and private planning team thoughtfully assembled by the City of New York.

The Convention Center's current north-south orientation not only blocks access to a solid sweep of the Hudson riverfront for five city blocks, but also serves as an impenetrable north-south barrier from 34th to 42nd street—a section of the city that is already severely constrained, on exactly these same cross-streets but further east, by the ramp systems from the Lincoln Tunnel and the Port Authority Bus Terminal.

These twin north-south constraints, to the west and east, only allow one stretch of blocks—those between Tenth and Eleventh Avenues/35th-to-41st streets—to be considered in the development plan for this pivotal area of Manhattan. The planners for the Department of City Planning proposal understood this immediately, and crafted an admirable urban design scheme for these blocks--within the given constraints. While the proposal is a worthy achievement, a more flexible framework would allow for additional design choices. Therefore the Institute is not engaged in the debate over the stadium but believes a confrontation of this set of constraining circumstances should be the central issue for public debate. The Institute's study takes the position, in fact, that the stadium is at worst neutral to the success of the development of the Far-West Side, and at best just one of the potentially positive development contributions within a new framework.

The Newman Institute alternative, therefore, raises a single but significant planning option for consideration: Instead of renovating and expanding the existing Jacob K. Javits Convention Center, demolish it and build a replacement with, perhaps most important, an east-west axis on the MTA's Hudson Yards site: A new set of on- and above-ground circumstances with which to launch the planning of the Far-West Side would thus be established.

This study presents our proposal from four perspectives: planning principles, architectural and engineering consequences, financing, and implementation schedule. In effect, the report addresses the relationships between the private and public sectors in three aspects: the balance between public and private financial forces for a project, the balance of responsibilities for building public infrastructure versus private development opportunities, and the type of public implementing authorities for a project of this scale that may accomplish significant conclusion to a project of this scale,

Because this area is critical to the future development of the Far-West Side and thus to all of Midtown, the Institute believes this alternative, along with other options that may be raised by a variety of community-based and civic entities should be considered by the City.

In many other respects, the Hudson Yards Plan is respected and incorporated into this alternative, including providing for significant new commercial and retail development, a hotel, the possibility for construction of a dedicated stadium, the provision of new open space for the community and the city-at-large, and the ultimate extension of the No. 7 line. Two of the four options presented here also include an arena carefully integrated into the convention center as a possible plenary hall.

Introduction: Demolishing Javits

The fabric of a city grows by increments and demolition is a natural part of the process.

The establishment of a Landmarks Preservation Commission in New York – with its enforcement capabilities — and the active role now played by the Municipal Art Society in giving voice to civic concerns are safeguards against demolition of important and architecturally unique (as well as continually functional) structures such as the old Pennsylvania Station.

Buildings no longer serving the purpose for which they were intended and not of landmark status are, in fact, demolished continually and if they were not, it would be difficult for any city to evolve. The demolition of the Coliseum building at the edge of Columbus Circle paved the way for new development of a significant mixed-use skyscraper and led to the general refurbishment of an almost forgotten Columbus Circle.

Similarly, the Javits Convention Center which also is essentially a shell – albeit a shell with a distinctive glass skin – which is deemed to be not large enough for the scope of 21st century conventions and which also has come to be seen as an obstacle lying between Manhattan residents and the scenic possibilities of the Hudson River, could reasonably be torn down – with the assumption that it leaves fertile territory for the city's current needs. Costs being essentially equal, it would not be antithetical to reasonable patterns of urban growth and development to demolish the current Javits Convention Center after its several decades of use and build a new one of a size and at a place that are consistent with current view of New York City.

The "Big Dig" in Boston, the construction and reconstruction of Boston's Interstate system is proof that anything is possible. Reuniting the city is the projects goal. A decade after it has begun neighborhoods, environmentalists, transit and highway proponents see common ground in one project for all. Overcoming three decades of political, engineering, and construction obstacles the Big Dig has prevailed as wonderment to the built environment, and as an example of large scale thinking for urban America. The Big Dig requires precision with almost no forgiveness as ten lane superhighway tunnels are built through a maze of new, old and abandoned utility lines, up and over subway tunnels, beneath the harbor, and through Boston's notoriously unpredictable blue-clay. The world's largest geotechnical investigation was launched. Over 4,500 workers in hard hats set out to build it. Today, lasers, satellite information, and computers drive the construction as much as hand signals and radios.

Greatness, however, does not come cheaply. The Big Dig cost is $14.6 Billion and after adjusting that number for inflation, it is nearly twice the value of the Panama Canal and twenty three times that of the Hoover Dam. But spending nearly one eighteenth of what some corporations gross in the course a year and spreading that annual figure over twenty years keeps the funding issue in perspective. More than a cost, Bostonians are more likely to view the project's funding as an investment in their city's future.

On a National scale, Boston is redefining the methods of replacing and expanding a bustling city's infrastructure while it continues to grow and prosper through out the project's life. In the end the Big Dig delivers over 300 acres of new streets, sidewalks, boardwalks and parks, reuniting a major capitol city torn asunder by an invasive project from half a century ago.

Background

Beginning in 2003, the Steven L. Newman Real Estate Institute at Baruch College/ City University of New York responded with enthusiasm to the New York City Department of City Planning's announced initiative to develop a plan for the future of the Far-West side of Manhattan.

The City's embrace of this issue suggested an atmosphere in which fresh ideas would be taken seriously and even celebrated. The Newman Institute initiated a series of long-term academic investigations that unfolded over the ensuing eighteen months, resulted in several public programs, and culminated in an exhibition inaugurating the Institute's new Pergolis Urban Gallery. This proposal represents, in some respects, ta logical conclusion to this academic process.

The work done over nearly a year by the academic teams from Harvard, Princeton, Columbia and CUNY, in cooperation with Pei Cobb Freed & Partners/Samuel Lindenbaum, esq./Michael Sillerman, esq., Agrest & Gandelsonas/Norman Marcus, esq., Polshek Partnership Architects/Robert S. Davis, esq./Margery Perlmutter, esq., and Davis Brody Bond/Howard Goldman, esq. respectively (as the teams were matched with associated professional practice offices and members of the city's land-use bar) contributed a series of very strong principles for future urban design.

The Harvard team isolated Clinton as a neighborhood with a very strong character that could be of benefit to developers and offered strategies for the identification of soft sights and the transfer of air rights that would protect the Clinton neighborhood from the intensity of change. Columbia stressed a stronger east-west orientation for Manhattan and placed great emphasis on water borne transportation as well as on more and enhanced piers and terminals. CUNY imagined a new loft district and enhanced green space from 34 to 41st streets and a people mover that would serve as an extension of the refurbished High Line. The Princeton team proposed that the Javits Center be demolished and a new convention center be built along an e-w axis along the MTA's Hudson Yards corridor, thereby opening up a large swath of riverfront for other uses – and creating with other important public buildings a new 21st century civic corridor farther south.

Increasing interest in the latter proposal – the subject of a public "gallery talk" shortly after the opening of he exhibition– spurred the Newman Institute, in collaboration with a strong consulting team to describe in further detail how this component of the Midwest- West investigations might be realized and to initiate an alternative way of considering land-use and urban design policies as our huge and complex and irresistible City of New York addresses its 21st-century future.

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Consultant Biographies

Albert F. Appleton is a Senior Fellow at the Regional Plan Association and the CUNY Institute for Urban Systems. Mr. Appleton is a former Commissioner of the New York City Department of Environmental Protection and the Director of the New York City Water and Sewer system. During his tenure, Mr. Appleton created the City's watershed protection program, the country's most comprehensive water conservation program and enacted critical budget reforms.

Andrew F. Borglum, PE, is a licensed professional engineer with over seventeen years of construction industry experience throughout the United States, with emphasis in the creation and use of CPM schedules on large, complex construction projects and the preparation and evaluation of construction claims. Project experience included: modern high-rise buildings, hotels, retail/entertainment, arenas, water/waste water treatment pants, power plants, and residential developments.

John F. Brengelman, CRE, MAI, with almost a quarter century of experience in consulting, began his career as an advisor to local governments and developers in Southern California. He worked his way east joining Decisionex, Inc., and then Grubb & Ellis. Now he holds the title of Senior Managing Director of the Consulting Group, and his consulting services and valuations on projects are of a combined annual value of approximately $10 billion.

Eduard Briskin, PE, is an Associate with Severud Associates. He has extensive professional experience in consulting for structural inspection, analysis, restoration, rehabilitation and alteration. He has worked on renovations for the Port Authority of NY & NJ, at facilities including La Guardia Airport, John F. Kennedy International airport, Newark International Airport, Lincoln Tunnel, World Trade Center and Journal Square Transportation Center. Mr. Briskin has also worked on projects for Tishman Speyer Properties, J.P. Morgan-Chase, and The New York Stock Exchange.

Howard Goldman is a land use attorney in New York City and a principal of Howard Goldman LLC. A former Deputy Counsel to the New York City Planning Commission, he has been a partner at the Manhattan law firms Patterson, Belknap, Webb & Tyler; and Winthrop, Stimson, Putnam & Roberts. Mr. Goldman is a professor at the New York University Real Estate Institute and a frequent contributor to the New York Law Journal on zoning matters.

Robert Geddes, FAIA, has been an educator, architect and urban designer for more than fifty years. He co-founded Geddes Breacher Qualls Cunningham, whose major works include the Institute for Advanced Study in Princeton. Mr. Geddes also designed the new Leaonard Stern School of Business at New York University. As an urban designer he is best known for the Center City Plan of Philadelphia and the original concept and master plan of Liberty State Park. He is Dean Emeritus of the Princeton University School of Architecture, the Henry Luce Professor of Architecture, Urbanism and History at NYU, and a Fellow of the New York Institute for the Humanities.

Robert A. Gerard is a currently working as a consultant for the Philadelphia Stock Exchange and a general partner and investment manager at GFP, L.P., a modest-size fund of funds. Over the past 30 years, Mr. Gerard has worked in numerous legal, government and investment banking positions, authored a book and several articles, as well as pursued a second career as a scholar and lecturer of art history. Mr. Gerard received a BA from Harvard, and a MA and JD from Columbia University.

Irving Fisher, with nearly 50 years experience in development and construction has worked on many projects in New York including: the Whitney Museum, the Citicorp Center, Jacob Javits Convention Center, AOL Time Warner Center at Columbus Circle, the Madison Square Garden Renovation, and Trump International Hotel and Tower. Currently, he serves as President of Aquarius Management Corporation, which manages Manhattan Plaza, Waterside Plaza, and Stevenson Commons. The three properties consist of 4,200 housing units, 2,000 parking spaces, retail and office space plus two tennis centers and health clubs, all of which were developed and built by a partnership of Richard Ravitch and Irving Fisher.

Evelyn Kalka, of CL Multimedia, was educated as an architect a the RWTH Aachen and the HDK Berlin, both schools in Germany. She has lived and worked in New York since 1999 and worked previously in architecture offices in Aachen, Duesseldord, Berlin and New Orleans.

Charles Lauster is president of both Lauster & Radu Architects and CL Multimedia, Inc. He has been practicing architecture in New York since 1979. Lauster & Radu does architectural and urban planning projects in the United States and Europe with offices in New York and Bucharest. CL Multimedia creates imaging, Web sites and digital analysis for projects related to real estate, architecture and planning.

Peter Kincl is a senior associate at Lauster & Radu Architects. Mr. Kincl's architecture and planning career spans over 25 years in New York City, and includes work on the Downtown Waterfront Redevelopment Project in 1980 and the Chung Pak building and Chinatown planning in 1991. Mr. Kincl received his architecture degree from Columbia University.

Girish Mehta is a highly experienced senior construction cost estimator with extensive knowledge in leading construction-bidding efforts. With 29 years of experience, he has familiarity with numerous facility types including transit, aviation, educational, hotel, medical, cultural, restaurants, retail, and commercial projects. He has estimated on numerous projects involving New York City and New Jersey schools, libraries, and similar municipal work. In addition, Girish has completed multiple station rehabilitation and restoration projects for MTA, LIRR and Metro North.

Norman Marcus, is a lawyer for the firm Swidler, Berlin, Shereff, Friedman. Mr. Marcus has taught at NYU Law School, NYU Wagner, Princeton School of Architecture, and Pratt Institute. He has served as general council for the New York City Planning Commission from1963-85. He continues to advise cities on planning and zoning matters including, Oklahoma City, and Charleston South Carolina.

Louis A. Occhicone, PE, is an Associate Principal with Severud Associates. With over 30 years of hands-on experience in the design and rehabilitation of buildings, he is familiar with a wide range of building types and brings a commitment of innovation and sound engineering to all projects. Mr. Occhicone has directed the structural design for such important civic places as the U.S. Holocaust Memorial Museum and the Ronald Reagan Building and International Trade Center. Throughout his career, Mr. Occhicone has also been involved with many major renovations and alterations for such long standing clients as the New York Stock Exchange, The Federal Reserve Bank and JP Morgan Chase.

Robert Olmstead is an expert on transportation and the history of civil engineering projects, especially in the New York Metropolitan area. He is a Civil Engineer with over 50 years experience in the planning, design and construction of transportation facilities in the United States, Canada, South and Central America and Africa. He has been published on numerous occasions, and holds awards from both the American Society of Civil Engineers and the Institute of Transportation Engineers Metropolitan Section. Currently, Mr. Olmstead acts as a transportation consultant for Parsons Brinkerhoff and DMJM + Harris.

Brainerd Taylor is a graduate of the Harvard School of Design with a Bachelor of Architecture degree. He has a professional background in urban design and transportation planning and design. More specifically in New York City, Mr. Taylor has worked on a people mover feasibility studies between Penn Station and JFK Airport and the people mover connecting the airline terminals at JFK, as well as the design of subway stations for the Second Avenue subway at both Grand Central Station and Penn Station. His design approach embodies the principal that city transportation systems should be efficient, while enhancing the city districts through which they pass.

Robert Von Ancken is Executive Managing Director of the Metropolitan Valuation Consulting Practice for Grubb & Ellis Consulting Services Company. A New York City expert with nearly 40 years experience in real estate business and appraisal, he has done valuations and market studies for mortgage, income tax, estate, acquisition, sales, urban renewal, and corporate purposes. Mr. Von Ancken has valued an exhaustive array of properties, including New York City landmarks such as Rockefeller Center, Madison Square Garden, Macy's, Bloomingdale's, and Battery Park City. Currently he serves as Chairman of the Appraisal Committee of the Real Estate Board of New York, and is a former president of the Appraisal Institute. In addition, he teaches at New York University's graduate program of Real Estate.

The Steven L. Newsman Real Estate Institute

The Steven L. Newsman Real Estate Institute is a component of the Newsman Programs in Real Estate at the Zicklin School of Business, Baruch College/City University of New York.

The Institute functions through four divisions or "centers" to bridge real estate, land-use, urban planning and metropolitan development concerns across business, government and academic communities in New York City and the metropolitan region:

- The Center for Public Education provides a wide-variety of continuing adult professional education opportunties, including the much-lauded Certificate Real Estate and a variety of related certificate interests;
- The Center for Applied Research and Planning serves as the Institute's research and consulting vehicle for investigating critical development issues facing the city and the region.
- The Center for Public Programs hosts Institute conference and seminars providing a neutral public forum for the leading real estate and planning issues confronting the city and the region;
- The Center for Communication issues a variety of publications, governs the Pergolis Urban Gallery—the only exhibition space in New York devoted to the exposition of the varieties of development and planning concerns that face the metropolitan New York region, and the Institute's web-site where these communication activities are gathered together with the Institute's archives of its public programs to serve as a record of contemporary real estate issues in New York.

All divisions of the Institute are linked in a shared aspiration of providing a forum enabling metropolitan New York citizens to achieve better understanding of the scope, stake and complexity of issues represented by real estate endeavors in this city, and the ensuing difficult decisions and compromises that must be taken by both the private and public sector communities that work in real estate. From the perspective of the future of the city and region, New York's real estate endeavors rank among the important arenas of activity for both study and public discussion.

The Steven L. Newsman Real Estate Institute

In all cases the opinions expressed in any of the Institute's centers and products remain those of the authors and the professional staff of the Institute. These opinions and work products, including this proposal, in no way reflect the individual or corporate views or opinions of the Institute's Advisory Board, or the professional leadership or governing boards of the Zicklin School of Business, Baruch College, or the City University of New York.

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Summary

Index:

a. Task

The far-west side is the most important development task facing New York for the next quarter-century. A master plan for the far-west side should be developed which complements the enormous work already undertaken by the City of New York and the Metropolitan Transportation Authority, but which focuses intently on the three significant far-west side planning circumstances:

- the immense civic advantages from relocating the Convention Center within the physical framework of the reclamation of the "Hudson Yards" tracks and railyards;
- the need to connect all new development, public and private, to Penn Station and the proximate City transportation grid;
- the long-term financial benefits from restoring access to the riverfront to the most appropriate and most valuable uses by unlocking the enormous land-values constrained by the present location of the Convention Center.

The Newman Real Estate Institute proposal addresses these three concerns, among others. If these circumstances can be addressed, significant levels of private commercial and residential development will be attracted to the far-west side development district.

b. Context

Beyond Penn Station, Eighth Avenue and the west 34th street corridor lies Hells Kitchen.

Hell's Kitchen, between 42nd Street and 34th Street, was once the home of dockworkers on the riverfront. During the twentieth century, railroads, tunnels and ramps sliced up the area, the docks died, and the neighborhood became a backwater. Finally in 1986 the Javits Convention Center opened, blocking the area off from the river. Meanwhile, the City has confronted the need for serious expansion of commercial and residential development during the next 30 years. With 30% of its land vacant, Hell's Kitchen has to be part of future development.

Hell's Kitchen is in transition. One alternative for its future is to continue walling off the Hudson riverfront with civic functions while establishing a large block of high density commercial development tethered back to 42nd Street. The Newman Institute, concerned that this alternative is not in the city's best interests, has investigated another alternative.

c. Checkers-not-chess

Private market development in New York is modeled on checkers, not chess: New York development is, typically, block-by-block: systematic *adjacent* development moves through private investment, building on land values inherent in and buttressed by the neighboring blocks. Chess moves in New York City are the responsibility of the pubic sector: long-term strategic shifts that establish a revised playing field for the checkers game of New York real estate development to continue..The important principle of the NREI is to recreate a checkers board through the construction of the LandBridge and its supporting transportation infrastructure to enable the completion of the development of the west 34th street corridor to the riverfront. The only chess move—the key strategic decision—is the "flip"of the Javits Convention Center from its current north-south orientation and rebuilt integrally along an east-west axis over the railyards.

d. The Far-West Side District

A new conception for a far-west development district may then emerge. This conception for envisions three corridors: 1) The New York Convention and Arena Corridor, a collection of major civic functions perpendicular to the river over the existing Hudson Yards rail tracks, 2) The 34th Street Commercial Corridor, high density commercial development along both sides of 34th Street connected back to the transit nodes at 6th, 7th and 8th Avenues, and 3) The Hudson River Residential/Mixed Use Corridor, a district from 35th Street to 41st Street, from the river to 9th Avenue for market and affordable housing in a mixed use environment with significantly expanded parks and open space appropriately integrated within a neighborhood reattached to its riverfront.

e. The flip

These corridors become possible if a new convention center is built over the Hudson Yards, from the River to Ninth Avenue, releasing extraordinary land-values within the convention center's present location to help pay for both the new infrastructure as well as the new center itself. Starting anew, the convention center would not be hampered by the problems emerging from the attachment of an extension into an existing building. The new center could be the largest convention facility in the United States. It would be a state-of-the-art intimately connected back to the heart of the City. The existing convention center would operate

without hiatus until the day the new center opens and then be demolished, opening seven contiguous full blocks of riverfront land already governmentally owned. There is precedent for abandoning a relatively new building for a better building and a greater city. Grand Central Terminal's predecessor was torn down after only thirteen years of use.

e. Public Development

Based on the premise of The Flip, the requirements for public investment and development emerge:

i. Infrastructure:

A new infrastructure system—termed in this proposal a "LandBridge"—is built over the present railyards/ tracks, In effect, the LandBridge creates new public development terrain for the far-west-side. It contains and carries new public and private development and new vertical and horizontal public transportation facilities. Development within and on the LandBridge constitutes Corridor 1 of the new far-west side development district. Corridor 1 development—both infrastructure and buildings—can be completed by June 2012, in-time for the 2012 Olympics.

Further, the LandBridge, coupled with the relocation to it of the convention Center resolves the present fundamental obstacle to the development of a rational plan for the far-west-side: The current City plan is now forced to place all new development into a north-south corridor (between 10th-11th Avenues) sandwiched between the Lincoln Tunnel exit ramps and the existing convention center and virtually isolated from nearby contiguous development and the existing transportation grids. The convention center's relocation opens up the entire far-west side to broader public planning and private development options, consistent with normal private investment patterns in mid-town Manhattan.

ii. A new convention center

The Javits Convention Center is relocated in a new facility within the LandBridge along a new east-west axis between 9 th—12th Avenues/30 th—to-34th Streets. This plan rebuilds the Javits Convention Center on a more appropriate site that makes effective use of its horizontal bulk, that does not bock the river front, and to a larger scale and contemporary functional plan than that which can be achieved through the rehabilitation of the present center.

iii. Transportation

The infrastructure includes an Automated Rapid Transit system loop from Seventh Avenue/Penn Station around the corridor. In addition to the ART, The LandBridge contains ten vertical transportation clusters to move people from public space at grade to public spaces on the SkyPark level., as well as moving sidewalks at both grade and SkyPark levels. These clusters can move up to 59,000 people in a half hour by the escalators alone. The project is integrated with a future No. 7 subway extension but the timing of construction may be reassessed, if desired, in the light of the ART system. The extension of some or all of Metro-North branch line trains, on a limited schedule, into a shared terminus with the No. 7 is also envisioned, and part of the construction for such a tunnel is provided for in the infrastructure budget.

iv. Public space

Parks and open space are part of the infrastructure framework, as they are elsewhere in the city. The SkyPark deck of the LandBridge stretching from Ninth Avenue to the Hudson River, is all open space with a Bryant Park-like planted area, paved "fairgrounds" and a sports complex. Park space on either side of a new avenue between Eleventh and Twelfth Avenues and over the approaches to the railyards and Metro-North tunnel complete the open space network.

g. Private development

A variety of private development options can be integrated into the LandBridge as if it were "a kit of parts". Over 28 million square feet of commercial space, privately developed as the market permits, can be supported by the LandBridge and the 34th Street Commercial Corridor. An arena such as Madison Square Garden could be plugged into the eastern end of the LandBridge at Ninth Avenue and a stadium could be built on the SkyPark level as well. The ART and the escalator clusters can disperse 70,000 persons in a half hour. A major new retail district with either big box stores or open market spaces would be developed at grade in the street grid under the convention center.

The area north of the 34th Street Commercial Corridor is open to residential development. Close to the river, the former Javits site could be privately developed in the manner of Riverside Drive. To the east of the park a mix of market and substantial amounts of affordable

housing could be built. Further to the east up to Ninth Avenue, mixed use infill would sustain the character of Hell's Kitchen.

All this public and private development would link the growing Hell's Kitchen community with its neighbor to the south, Chelsea. It would also link the rest of the city to the western edges of both neighborhoods.

h. Public funds

Public funds are devoted only to building public infrastructure:

- the new "land" infrastructure through a "landbridge" over the tracks and yards;
- new transportation connections between Sixth and Twelfth Avenues along 34th street integrated into the new infrastructure "LandBridge";
- public parks and open spaces integrated into the new development patterns;
- building a new convention center appropriately sized and designed to resolve the problems experienced with the present Javits Center;Principles for public financing

In this proposal no public dollars shall be used to finance pr subsidize commercial private development projects

i. Public financing

The entire project is proposed for financing with public bonds issued under the authority of New York State, similar in structure to the financing of Battery Park City. Revenue for the amortization of the bonds is modeled in Part 4 of this document. The structure of repayment is derived principally from a combination of ground leases for commercial development, air rights leases for commercial development, PILOT payments, and limited compensatory revenues from private development making use of direct infrastructure costs. No revenues have been taken from either the investment of unused interim bond proceeds or Convention center revenues. These revenue streams provide, upon amortization, a significant pool of annual revenues in excess of $1 billion per year (under current dollar values) for distribution to City and State government and authorities.

j. Implementation authority

Almost all of the project is on property controlled by the State of New York. The model agency for the implementation task is the Battery Park City Authority. It is completing its mandate at Battery Park City, it has experience in large-scale public development, it qualifies for exceptional bond ratings, and it has established a working relationship with City agencies.

k. Critical path: 2005—2012

By June 2012 the critical elements will be in place to hold the Olympics. The critical elements are: the "Bridge" and its transit clusters, the ART, the at grade retail and the stadium if that is decided upon. The convention center itself does not have to be finished since the existing Javits could be open for Olympic events.

The commercial towers and the residential development are privately developed and will follow the pressures of the market. To ensure completion of the Convention and Arena corridor by end-of-June 2012 the following critical path must be followed:

- 2005/2006: reconsideration of the master plan, the pubic approval process, and the development of design and construction documents;
- 2006: initial bond placement; dollars available in January 2007;
- 2007: construction begins on the infrastructure and certain private development components;
- 2008: construction begins on the Convention center;
- by June 2012: construction of the initial phases of the convention Center and Arena corridor is completed;
- Beyond 2012: construction on the Residential Corridors begins in 2013;
- 2030: all construction completed.

l. A new context for the Far-West Side

This proposal achieves the full potential of the New York City Hudson Yards goals for the far-west-side. By moving the convention center, the community can grow to the river, large amounts of affordable housing can be built, millions of square feet of commercial development can rationally connect with the city, the street grid can link Hell's Kitchen and Chelsea, a stadium can operate without choking the neighborhood, Madison Square Garden can renew itself, the community can enjoy major new open spaces, New Yorkers can move from midtown to the river with ease, New York can operate one of the largest convention centers in the U.S. and all of this can be done with sound, transparent financing.

1: Development principles

1. The far-west-side development district: Principles

The Development District

Hell's Kitchen has a unique past and an uncertain future. From the 1850s through the 1950s it was New York's Hudson River dock district. Railroads ran though it. Dockworkers lived there. Legendary gangs made it their base. It earned the name Hell's Kitchen.

The neighborhood is bordered on the south by 30th Street, on the north by 42nd Street, on the east by 8th Avenue and on the west by the Hudson River. Unlike Clinton, the larger and more defined neighborhood north of 42nd Street, Hell's Kitchen has been under pressure for decades. A hundred years ago the huge cut for the Hudson Yards was created for Penn Station. The Lincoln Tunnel approaches began cutting up the blocks between 9th and 10th Avenues in the 1930's. The Port Authority bus terminal chopped up yet more in the 50's. Population declined and today nearly 30% of the area is vacant.

In the late 1970's the Jacob K. Javits Convention Center was proposed for a site from 34th Street to 39th Street and between 11th and 12th Avenues. It was hoped that the convention center would bring new development. Despite the fact that Javits has the highest attendance of any convention center in the US, in over twenty years there has been virtually no new development in the area except on 34th Street.

Today Hell's Kitchen is a neighborhood that is thriving along 9th Avenue but thins out as it moves west. The area is a classic mixed use environment of businesses, apartments, artist studios and concerns that need space. Among the ramps there are old churches, stables and the built remains of its working class past. The decline in population has stopped and the community is growing again. How it will evolve depends on the development that is about to sweep through.

The existing Javits, and even more so the expanded Javits, is the main impediment to the area's future. It will not only block off seven blocks of riverfront from the city, it encourages an adjacent high density commercial district which will either expand east to link up with 8th Avenue or fail. In either case the Hell's Kitchen neighborhood will suffer.

The Steven L. Newman Institute's plan envisions a different future. It sees the Far-West Side in three simple parts: The New York Convention and Arena Corridor, The 34th Street Commercial Corridor and The Hudson River Residential/Mixed Use Corridor. All three corridors are east/west in axis and reach back to connect with the center of the island. This axis and the concentration of function in each corridor optimizes diverse development within the neighborhood and provides the density of people needed to make that development successful.

The New York Convention and Arena Corridor

The plan creates a multi-story corridor over the Hudson Yards from 12th Avenue to 9th Avenue, 30th Street to 34th Street. It will house one of, if not the, largest convention centers in the United States, an arena, perhaps a stadium, a large amount of commercial development and a major retail district. The corridor converts the wasteland of the yards into a link between Chelsea and Hell's Kitchen and between the river and 7th Avenue. Running along 34th Street it links up the string of major civic destinations from the current Penn Station to the Moynihan Station, to the Farley complex and on to the river.

The 34th Street Commercial Corridor

Thirty Fourth Street has always been designated as a major east/west commercial corridor. The Empire State Building sets a vivid example of what 34th Street is meant to be. In the Newman Institute plan, high density commercial development is concentrated along 34th Street, especially at its western end. This concentration permits more freedom for residential development and neighborhood retention in the area north of 34th Street. The building out of 34th Street is the "checkers" typical form of New York development in that progresses block by block. What is new is that the movement is east/west, not north/south.

The Hudson River Residential/Mixed-use Corridor.

The plan calls for the area north of 34th Street to 41st Street and from the river to 9th Avenue to become a major neighborhood with market housing, affordable housing, mixed uses, such artist studios, light manufacturing and retail, and new park space. The area would evolve from the well known character of 9th Avenue into a large new residential district with a unique pattern of parks and public spaces interspersed throughout. This park space would be built

over the cuts for train tracks and tunnel approaches. The riverfront is opened up all the way from Chelsea up to Clinton. Hell's Kitchen will again be a home to tens of thousands of New Yorkers.

The Newman Real Estate proposal envisions the organization of the far-west side development district into a sequence of three development corridors. These corridors enable the development forces, both public and private within the far-west side to be reasonably sequenced in accordance with private development forces.

The first of the three corridors is the Convention and Arena Corridor. This corridor leads the other two, and concentrates both commercial and civic uses along its east-west spine, linked to the new transportation resources brought to it.

The other corridors build in the energy and accomplishments of the convention and arena corridor: The 34th Street Commercial Corridor
Additional large-scale office space is developed along West 34the Street, now I linked, even as far as the Hudson, to sound transportation back to Penn Station and enormous populations both Long Island and New Jersey Transit, and ferry service from Hudson County at a new 34th Street dock. (The NREI plan also provides for a future Metro-North link to a new sattelite terminal in the Landbridge.)
The Hudson River Residential and Mixed Use Corridor
Following the razing of the existing Javits Center, which of course does not happen until the new Convention Center is open, the blocks along the Hudson are reopened to the west side and a new series of market residential towers are developed on the west corridor, between eleventh and twelfth Avenues, and a mixed use corridor, with a significant component of affordable housings developed on the corridor between eleventh and twelfth Avenues. Affordable housing can be incorporated into the new corridor, along with significant public funds to ensure long-term affordability of all affordable housing units.

3. Program scope compliance: Principles

The Environmental Impact Statement program scope can be met by fully developing the 34th Street Corridor and thereby reserving the area north of 35th Street to 41st Street and from the river to 9th Avenue as a mixed use residential neighborhood with significant affordable housing.

Commercial Development
The City calls for 28 million square feet of commercial space. The Newman project concentrates all of this development in its project footprint and on four sites on the north side of 34th Street opposite the project.

The eight sixty story towers supported by the infrastructure "Bridge" account for 19.2 million square feet. The four towers on the north side of 34th Street provide an additional 9.6 million square feet. Another 2.7 million square feet could be built on the site of the existing Madison Square Garden if it moved to 9th Avenue.

Tall buildings, sixty stories or more, are appropriate down the street from the Empire State Building. For more than seventy five years 34th Street has been understood to be a high density corridor. These new buildings, while large, are still twenty stories shorter than the great 1930 monument. By clustering them along the 34th Street corridor, as opposed to the area to the north, Hell's Kitchen can expand as a vital residential community.

Residential Development
The opening of the former Javits Center and Quill Garage sites creates twelve square blocks for residential and open space development. This is a far larger area than possible in the City's scheme. As the accompanying table and the zoning diagrams demonstrate, this strategy not only exceeds the 12.6 million residential square feet called for in the EIS, it makes a coherent residential community. Because intense commercial development is removed from this area, substantial affordable housing opportunities are much greater.

Under the City's plan, Hell's Kitchen, caught between the proposed north/south commercial development and the westward expansion of midtown, will disappear. Only by growing in territory and population can it takes its place, like Clinton to the north, among New York's communities.

Retail Space
The Newman project exceeds the required 700,000 square feet of retail space in the project footprint alone. It also creates a new market district at street level under the Convention Center with over 900,000 square feet of retail space. By extending 31st and 33rd Street to 11th Avenue, this new market district creates a link between Hell's Kitchen and Chelsea. This link enhances the urbanity of the developing Chelsea far west and the new residential quarter north of 35th Street. This link would foster a more continuous experience of the emerging waterfront and connect that experience back to the 34th Street east/west corridor.

Hotel
The inclusion of a 1000 room hotel in the replacement building planned for the 450 West 33rd Street site would be a perfect integration of the convention center, ballroom and sports venues. By positioning the hotel at the heart of the convention center both facilities can operate with maximum efficiency.

Open Space
The Newman project retains most of the open space initiatives used by the City and the Hell's Kitchen Neighborhood Association. In addition there is the neighborhood park extending from 35th Street to 41st Street on either side on 11th Avenue. The largest open space, however, is the deck top at Level 1 on the "Bridge." It is a park on the scale of the entire North River Recreation Area. In short, Hell's Kitchen/Chelsea will go from one of the least served areas of Manhattan for open space to one of the best.

#7 Subway Extension
The extended #7 subway line will have a station directly under the infrastructure "Bridge." A station at Level 5 in the new market area is included in the project.

The success of the project is not dependent on the subway extension, however. Since the project has its own ART system linking back to 7th Avenue and the subways, the immediate construction of the extension is not necessary. The extension can occur later on when funding, demand and MTA resources permit.

Quill Garage and Fed Ex
The Quill Garage sits in a prime location on the waterfront south of 41st Street. The City intends to move it to accommodate a growing Javits Center. The Newman

alternative provides larger new space under the LandBridge; below grade in the block from 12th Avenue to 11th Avenue, 34th Street to 33rd Street.

The Newman project has no impact on the many existing businesses north of 35th Street because it concentrates its development in the 34th Street corridor.

4. Public infrastructure: Principles

Typically, a city or state government provides the infrastructure—roads, sewers, bridges and other public works—to enable public and private development.

In the Newman Hudson Yards Project public infrastructure performs the same role but its form is more complex and three dimensional. If the entire project is viewed as kit of parts, the infrastructure is the framework into which all the parts are fitted. It is the "Bridge" which spans over the MTA railroad yards and, as a bridge might, has multiple levels. As a framework it is the minimum needed to support intense development of the space over the Yards and is thus a governmental expense. Everything else that will be built into the "Bridge" will be specific to individual users and will be paid for by them.

The LandBridge

The LandBridge is comprised of foundations, below grade levels, the deck over the yards, the columns up to Level 1 at the top and the trusses that carry Level 1. The trusses are 40 feet deep to allow the long 150 by 90 foot spans that permit exceptional flexibility of use on the levels below. The "Bridge" is conceptual in that in actual construction additional floors and elements would be built in proper sequence. Nevertheless, the financial responsibility for these added elements would be with the users, not government.

Open Space

The top of the "Bridge," the deck at Level 1, is a public open space. It will have a grassy planted area about the size of Bryant Park, a similarly sized harder surfaced "fairgrounds" for events, displays and other public activities, a sports area resembling the North River athletic facilities, cafes, restaurants and, since it is up in the air, remarkable views in all directions. This will be New York's most unique public park.

450 West 33rd Street

The proposal retains a building at 450 West 33rd Street. Along the lines of renovation that the building's owners explored, the Institute proposes that the LandBridge be extended through the lower twelve stories of the building and the additional stories be built. The building would be therefore replaced on-site, providing a 2,400,000sf office tower and a 600,000sf hotel/1000-room hotel.

Vertical Circulation

Because this "Bridge" is four very high stories and the top deck at Level 1 is a series of public spaces, there is the need for public transportation to the deck. Built into the bridge are ten clusters of cascading escalators. Each cluster has three wide escalators, two ADA elevators and a ten foot wide stair. Two escalators would run in the direction of heaviest travel and one would run in the opposite direction. The cascades originate above the midblock points on Level 1 and cascade down to each level ending at the avenues at grade. These escalator clusters can move large numbers of people between street level and the deck. Approximately 59,000 people can be moved one way in thirty minutes by the escalators alone.

In addition to the vertical movement of escalators there are horizontal moving walkways to assist in moving people over the considerable east/west distances in the project. It is over a half mile from 9th Avenue to 12th Avenue. Moving walkways at grade and on the Level 1 deck will help people cover that distance quickly and easily.

The vertical transportation clusters and horizontal people movers are dedicated to movement between public spaces. Like the Roosevelt Island tram, this system is a localized transit system within the public realm. While the public can use them to reach the various facilities in the project, they are not substitutes for the movement systems needed by each individual public and private facility. Those facilities will pay for and build their own movement systems.

High Line

The High Line connects with the "Bridge" at Level 4, the main exhibit level. The connection is at the escalator cluster at that level and thus provides access to the street at 10th Avenue and to the top deck above.

Automated Rapid Transit

Finally, the Newman Project recognizes that the corridor from the PATH Station at 6th Avenue to the subways at 7th and 8th Avenues, on to Moynihan Station and beyond to the west end of the project is nearly a mile. Public transit is absolutely necessary to make the functioning of the project successful and connection to the subways is critical. The public infrastructure, therefore, includes an automated rapid transit (ART) loop from 7th Avenue to the river and back. The

single loop would serve ten stations with ten two or three car trains each carrying up to 300 people. Approximately 15,000 people an hour could move from the river to 7th Avenue and the subways. The system would use fully automated, driverless technology and features linear induction motor propulsion and a moving block automatic train control system.

The loop would start out at approximately twenty five feet above the Seventh Avenue subway stops between 31st and 33rd Streets, swing west along an easement next to 31st Street and rise up to the deck top of Level 1 stopping at the Moynihan Station and the arena at the east end of the project. The train would continue to move west along the edge of Level 1 making two stops on the south side, turn north at 12th Avenue for a stop at the river and finally swing east for a similar set of stops, returning along 33rd Street.

Under the Newman alternative, the ART would be funded by revenues from the project, but would become part of the overall MTA system with free transfers and connections.

5. Private development options: Principles

The public infrastructure, the "Bridge," can support a variety of possible facilities. Running east/west along 34th Street it is capable of supporting high levels of building density. Connected as it is to its own transit system back to the city's subway system, it can supply the large numbers of people that give that density life. Given the scope of project envisioned in the EIS process, there are four general options for the project. The key principle is that the focus of development be moved from north of 34th street to the 34th Street corridor itself. Once that decision is taken, the selection of options becomes possible.

Jacob K. Javits Convention Center

All of the options include a new convention center relocated into the infrastructure over the Hudson Rail Yards. Options A and B permit the largest convention center in the United States. Options C and D permit the second largest. At its biggest the new Javits would have 2.08 million square feet of exhibit space, most of it on a grid of 150 by 90 feet. There are 1,371,260 million square feet of meeting rooms, a 274,830 square foot ballroom complex and a 20,000 seat plenary hall. In total program square feet this is larger than the McCormick Center in Chicago will be after its next expansion.

In comparison with the proposed expanded Javits Center, the relocated center would have 55% more exhibition area, four and a half times as much meeting space and over three times the ballroom area.

The service and support space is comparably large. The main exhibit floor, Level 4, can accommodate over 90 semi-trailers at the truck docks. A three hundred truck marshalling area is at grade at level 6. No truck or bus parking will occur outside of the center itself. Access will be from 12th Avenue, not the local streets.

Retail and Street Level Facilities

In all the options the north/south avenues continue to run unobstructed. The main exhibit floor, Level 4, is at least twenty feet above the street at 10th Avenue and nearly 55 feet above 12th Avenue. Unlike today, the avenues will be lined with retail facilities, convention exhibit space and a large market or big box stores. Also unlike today, 31st and 33rd Streets will be continued to 11th Avenue knitting together the neighborhoods of Chelsea and Hell's Kitchen within the street level services and facilities of the project. Rather than divide the neighborhoods, as the yards do now, the project will unite them.

The perimeter of the project is typical New York retail fronts and entries to building lobbies. The street level façade along 34th Street reestablishes the retail/commercial rhythm of 34th Street east of 7th Avenue. The frontage along 30th Street facing the Chelsea local neighborhood would be finer grained with retail, cafes, restaurants and tower lobbies. The 9th Avenue street level will be a large storefront and the entry to the arena above. The project extends over 12th Avenue. The east side of twelfth will be the point of truck and bus entry into the project for the convention center, Fed Ex and the MTA Quill Terminal. The river front side of twelfth will be treated as a park element and the point of descent into the park from the Level 1 deck above.

Option A

Plugging into the "Bridge" and extending up from the deck at Level 1 are eight 60 story towers. The towers are supported by a 30 by 30 foot column grid within the "Bridge" infrastructure. The developers of the towers would pay the Project for the cost of the 30 by 30 foot structural support grid provided in the "Bridge."

The tower footprints can be as large as 200 feet by 200 feet or 40,000 square feet. Each could be developed to 2.4 million square feet.

The towers would be developed by private developers over a timeframe driven by the market. The developers will determine the mix of residential and commercial uses and the actual size of their buildings up to their zoning limits. In short, the development will reflect traditional development patterns except that building entrances will be four stories above the street.

Option A is the simplest programmatically. By itself, this option creates over 19 million square feet of the 28 million square feet of commercial space required by the EIS scope. The four towers north of 34th Street, which occur in all options, provide another 9.6 million square feet. The park on Level 1 would be the most extensive of the four options.

Option B

Option B substitutes Madison Square Garden for the plenary hall at the eastern end of the "Bridge" at 9th Avenue. Given that the plenary hall and MSG are both arenas, that function remains the same. At street level on 9th Avenue there would be more vehicular drop off area and the retail and basement below would be part of the MSG area.

The Hudson Sports area on the deck at Level 1 would be combined with the "fairgrounds."

Option C

This option places a stadium for the Jets on the deck at Level 1 in place of the four towers at the west end of the project. The columnar structure dedicated to the four towers is comparable to that needed for the stadium. Meeting room space below the stadium would be lost because the truss system will become a denser two directional array. This space can be used for stadium support functions.

The Jet Stadium option is essentially the same stadium designed by Kohn Pederson Fox. Since there is no need for the stadium to function with the convention center, the movable roof is not needed unless the Jets wish to have it.

Between the escalator clusters and the ART loop, the stadium's 70,000 fans can be dispersed out of the neighborhood in approximately thirty minutes.

Option D

The final option combines Options B and D; both Madison Square Garden and the Jets Stadium are plugged into the infrastructure. The inclusion of these two sports venues would make the entire project a sports landmark.

Options B and D reduce the size of the convention center slightly to put it behind Chicago. Option D reduces the public park space on the deck top to about one third of its maximum size.

6. Cost/Income: Principles

For a project of this scale to succeed there must be complete clarity to its costs. The kit of parts concept provides a method for identifying responsibility for costs and their payment. The principle is transparency.

Public infrastructure that enables public and private development is an obligation of government. Bridges, parks, mass transit, roads and sewers allow developers to improve property in a coordinated and orderly manner but they are at governmental expense.

The project infrastructure, the "Bridge," the ART and the open spaces, is the equivalent of public infrastructure. It supports the parts that make up the project. The ART and parks are identical to similar other public works in New York and are a clear governmental responsibility.

The "Bridge" is more complex. Some aspects of it are equivalent to roads and bridges but others are dedicated to eventual specific uses. The foundations hold up everything. The deck over the yards makes the whole project possible. The columns that rise up to the trusses support a vast new public space. The deck itself is that public space. All of these are a public cost. The vertical transportation clusters move the people from public space to public space. Like mass transit, they are a public expense.

The columns that will support the office towers are not public. They will enable individual developers to build individual towers. These columns represent the foundations for the towers and as such their value is to be returned to the project by the developers. Similarly, the columns or other structure supporting a stadium or Madison Square Garden would be paid for by the Jets or MSG. Quantification of these foundation costs is straight forward and represent only what a developer would expect to pay for foundations on a normal site.

Likewise, a developer would expect to pay land acquisition costs. Developers would thus pay the project a site cost for the opportunity to build on the "Bridge." Between the foundation and acquisition payments, the developers of the towers, the stadium, Madison Square Garden, the convention center and the retail areas will be returning considerable sums to the project.

Because all the parts in the kit are individual and there is no commingling of function, responsibility for payment is clear.

20 Sep 04

HUDSON YARDS

Conceptual Design Cost Estimate

HANSCOMB Faithful&Gould

MASTER SUMMARY

BUILDING AREA

	DESCRIPTION		Total $	% of Total
1	BUILDING INFRASTRUCTURE		1,474,111,364	26%
2	CONVENTION CENTER		2,377,967,446	41%
3	RETAIL		177,887,283	3%
4	RAPID TRANSIT SYSTEM		546,247,734	10%
5	MOVINGWALK		20,831,360	0.36%
6	ESCALATORS		66,009,372	1.15%
7	DEMOLITION			
		Demo. Convention center & arena	23,958,000	0.42%
		Demo. Park strip	1,331,000	0.02%
		Demo Javits center	30,857,904	0.54%
		Demo. Bus terminal	33,081,751	0.58%
		Demo. Warehouse	9,449,293	0.16%
		Demo Park strip	4,658,500	0.08%
8	OPEN SPACE CONSTRUCTION - PARK CONSTRUCTION		28,236,258	0.49%
9	OPEN SPACE CONSTRUCTION - ROOF		161,117,550	2.80%
10	REMOVE & REPLACE EXISTING BUILDING -450W33RD.ST.		793,084,198	13.80%
	TOTAL CONSTRUCTION COST	$	5,748,829,012	100.00%

7. Finance: Principles

A.

The Newman Real Estate Institute proposal employs public bond financing to fund the cost of the principal public elements of the Plan, specifically land acquisition, demolition of existing structures, construction of an automated rapid transit loop and other transportation infrastructure, open space development and new construction (particularly the Javits Convention Center). Private development—primarily office and residential properties—will be financed separately by the individual developers.

The Plan contemplates that the financing vehicle will be a newly created State agency (or an affiliate of an existing State agency) with powers roughly comparable to those of the Battery Park City Authority (BPCA). This entity would issue long term (i.e., roughly 30 year) revenue bonds secured by project revenues.

Project revenues consist of three principal items: lease payments on sites leased for commercial and residential development, lease payments from the transfer of development rights on other sites within the project area and payments in lieu of taxes by the developers and owners.

It is contemplated that the agency would begin issuing bonds in 2006 and would issue annually amounts sufficient to pay anticipated project costs for the year in question, plus amounts required to fund required reserves and pay capitalized interest. Given current market conditions (with short term reinvestment rates below projected interest rates on the bonds), early funding of future years' project costs is not contemplated in the projections.

In our opinion, based on the revenue and cost projections in the proposal, the bonds should receive investment grade ratings and should be marketable in the amounts contemplated by the proposal. The bonds should be qualified for bond insurance, but whether insurance is in fact used for any given issue will be determined by market conditions at the time of sale.

B.

Grubb & Ellis was asked to contribute to this development plan in three major areas:

- to estimate acquisition costs for privately held properties
- to estimate the value of development rights
- to evaluate the project's ability to self-finance

In our model, the timing of revenue corresponds to a development timeline designed to accommodate the Olympics in 2012. Our analysis uses current dollar estimates–the value of development rights does not increase due to inflation, neighborhood effect, or for any other reason.

The three primary sources of revenue are ground rent leasing of air rights, and PILOT. We have assumed that as parcels are leased for development by private developers, ground rent becomes payable at 7% of the value of the development rights. PILOT becomes due at an average rate of $10 per square foot of development rights. This estimate anticipates that PILOT would be somewhat higher but that there would be tax incentives such as 421(a) and ICIP available. In addition, foundation rent of $2 million per year has been included as overall compensation for infrastructure contributions on the LandBridge to private development construction costs.

Based on best estimates today of cost, value, and timing, and assuming 90% of revenue is available for bond payments, the Alternate Hudson Yards development has the potential to self-fund and the bonds to fully repay within thirty years. After full development and repayment of the bonds, net cash flow will potentially be about one billion dollars. This applies equally to development scenarios with and without Madison Square Garden and the Stadium.

Grubb&Ellis.
Property Solutions Worldwide

October 4, 2004

Henry Wollman
Director
Newman Institute
137 East 22nd Street
Suite 120
New York, NY 10010

Re: Convention Center Realignment and Redevelopment of Land at Hudson Yards.

Dear Henry:

The Baruch Convention Center Alternative plan envisions development of a new convention center, peripheral pods for office, retail and residential, a new Madison Square Garden and possibly a new stadium, all situated on a 4-level bridge over the Hudson Yards tracks. To accomplish this goal, a number of parcels and buildings will have to be acquired, and considerable development rights will then be leased for development In order to estimate the net cash flow after debt service for this immense project, you have asked Grubb & Ellis to estimate the price levels and likely timing of revenues attendant to the Baruch Convention Center Alternative plan.

The project is characterized by a large plot of urban land, some of which is in private hands, a substantial infrastructure requirement, and a protracted development time line. Battery Park City presented a very similar set of challenges and opportunities, and the success of the Battery Park City Authority (BPCA) provides an excellent model for the current project.

Most of the land within the proposed alternative Hudson Yards special district is currently owned by either the State of New York or the Metropolitan Transportation Authority. Private parcels will be acquired by the state. We recommend the formation of an entity similar to the BPCA, perhaps the Hudson Yards Authority (HYA).

BPCA sold its lands to the city under a sale-leaseback agreement. By contrast, the HYA will immediately become the tenant under a master-operating lease agreement, bypassing the sale-leaseback step. The HYA, as master lease holder, will have the right and responsibility to secure bonded financing (estimated at $7 billion) and repay the bonds from revenue from the Hudson Yards special district.

Grubb & Ellis has contributed to this Hudson Yards development plan in three major areas:

- to estimate acquisition costs for privately held properties
- to estimate the value of development rights
- to evaluate the project's ability to self-finance

In our model, the timing of revenue corresponds to a development timeline designed to accommodate the Olympics in 2012. Our analysis uses current dollar estimates—the value of development rights does not increase due to inflation, neighborhood effect, or for any other reason.

The two primary sources of revenue are ground rent leasing of air rights and PILOT. We have assumed that as parcels are leased for development by private developers, ground rent becomes payable at 7% of the value of the development rights. PILOT becomes due at an average rate of $10 per square foot of development rights. This estimate anticipates that PILOT would be somewhat higher but that there would be tax incentives such as 421(a) and ICIP available. In addition, foundation rent of $2 million per year has been included.

Based on best estimates today of cost, value, and timing, and assuming 90% of revenue is available for bond payments, the Alternate Hudson Yards development has the potential to self-fund and the bonds to fully repay within thirty years. After full development and repayment of the bonds, net cash flow will potentially be about one billion dollars. This applies equally to development scenarios with and without Madison Square Garden and the Stadium. (Scenerio A without; Scenerio B with Madison Square Garden; Scenerio C with Madison Square Garden & Stadium).

John Brengelman assisted in this analysis. Thank you for giving us the opportunity to be of service.

Respectfully,

Valuation & Advisory Group
Grubb & Ellis Consulting Services Company

Robert Von Ancken, MAI, CRE
Executive Managing Director
NYS Certification # 46000001797

8. Implementation authority: Principles

It is important that an urban development program of the size, scope and diversity envisioned here not be merely an abstraction: the design and financing elements of the plan must be accompanied by concrete proposals for its implementation. Indeed, one element of concern about the City Administration's plan is that it does not include an implementation plan. All the proposal states is that the newly created Hudson Yards Infrastructure Corporation would exist "as financing entity *only*" (emphasis added). We understand that to mean that the HYIC would have no role in implementation and that, indeed, there would be no supervening authority to coordinate the various pieces of the City Plan. Presumably, individual parties in interest (such as the Jets football team) would be responsible for each element of the Plan.

We have considered the implementation issues at length and believe it critical that authority for implementation of the entire plan be centralized in a single entity possessing the statutory authority, personnel and experience to handle this complex and difficult task. Moreover, because virtually all of the critical areas of development are state-owned sites (particularly, the MTA rail yards and the existing Javits Convention Center site), it would seem appropriate that the implementation authority be a state authority. Because of the impact the project will have on the City, obviously the City should have significant impact upon the Authority's decision-making. At the same time, however, it is essential that the City not be given the authority to veto or otherwise block authority decisions. Otherwise, politically motivated stalemate becomes a material risk.[1]

It would be theoretically possible to establish from scratch a public authority to implement the Newman Institute Plan. But it is clear that utilization of existing entities would make political, managerial and economic sense. Specifically, we believe that the Hugh L. Carey Battery Park City Authority is ideally situated to manage the far West Side project.[2] It has considerable personnel and managerial resources in each of the areas of expertise requisite to implementation of the Newman Plan:

- Planning and design
- Dealing with private entities for commercial and residential real estate development
- Debt Financing
- Funds collection and management
- Development and management of public space
- Coordination with relevant NYC agencies

Moreover, it would appear that as development of the 92 acre Battery Park site nears completion, the Battery Park City organization may well be in a position to take on a major new challenge. We strongly encourage the City and State to consider utilization of this extraordinary resource, regardless of which development program is ultimately pursued.

Footnotes:

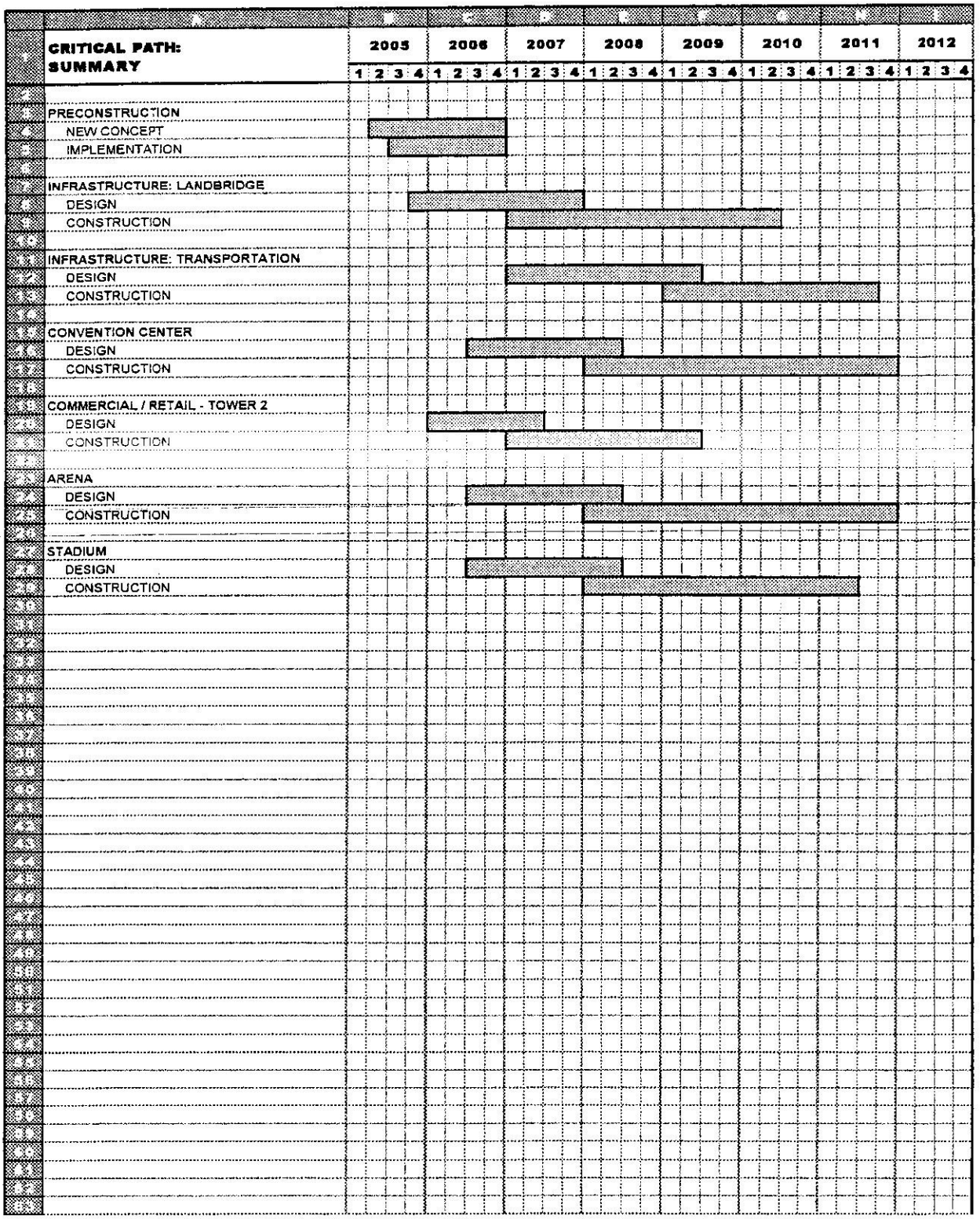
1 Indeed, the history of Battery Park City is a useful guide. When Battery Park City was first proposed by Governor Rockefeller, the Lindsay administration was strongly opposed. In order to obtain a legislative majority for the plan, Rockefeller conceded to the City the power in effect to veto development on the Battery Park site. It was not until Governor Carey placed BPCA under the Authority of UDC (now ESDC) and worked out an accommodation with the City allowing the BPCA to proceed with development without the risk of City intervention that the Battery Park City project began to prosper.

2 Since the Empire State Development Corporation (ESDC) is the agency with primary responsibility for establishing State policies regarding development (as well as for carrying out much development itself) it is contemplated that any grant of authority to BPCA would involve an appropriate role for ESDC as well. Clearly, BPCA should coordinate its activities with ESDC. Moreover, ESDC would be relied upon for exercise of condemnation authority to the extent necessary.

9. Critical path: Principles

The underlying principle of the project is that the State builds the public infrastructure now so that the various parts can be built when their time is right. The towers in the Convention and Arena Corridor, for instance, will go up as market pressures dictate. The timing is the responsibility of the developers. The "Bridge," however, must be ready.

The Olympics means that certain critical parts of the project be complete by June 2012.
The "Bridge" must be done. The ART must be fully operational. The stadium, if it is to be built, must be done. The enclosure of the convention center must be done. The center itself need not be complete since the Javits Center can continue to operate. The retail at grade must also be complete. In short, the venues for the games and the public space through which he athletes and the public move should be totally finished.


CRITICAL PATH: SUMMARY
2005
2006
2007
2008
2009
2010
2011
2012
1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4
PRECONSTRUCTION
NEW CONCEPT
IMPLEMENTATION
INFRASTRUCTURE: LANDBRIDGE
DESIGN
CONSTRUCTION
INFRASTRUCTURE: TRANSPORTATION
DESIGN
CONSTRUCTION
CONVENTION CENTER
DESIGN
CONSTRUCTION
COMMERCIAL / RETAIL - TOWER 2
DESIGN
CONSTRUCTION
ARENA
DESIGN
CONSTRUCTION
STADIUM
DESIGN
CONSTRUCTION

2: Design

2.1: Convention center key plan: Levels 1-6: Options A-D

Index: *image*

2.2: Sections: 1:10000

Index:

2.3: Architecture: Options A: 1:2500

Index:

2.4: Architecture: Options B: 1:2500

Index:

2.5: Architecture: Options C: 1:2500

Index:

2.6: Architecture: Options D: 1:2500

Index:

2.7: Infrastructure: Landbridge

Index:

2.8: Infrastructure: Automated Rapid Transit System

Index: *image*

New Solution for Urban Traffic: Small-type Monorail System

Takeo Kuwabara
Motomi Hiraishi
Kenjiro Goda
Seiichi Okamoto
Akira Ito
Yoichi Sugita

OVERVIEW: In Japan, the first urban straddle type monorail system, Tokyo Monorail, was put into operation in 1964. Since then, three more monorail systems have been constructed with the active participation of Hitachi in Kitakyushu, Osaka, and Tama. A monorail system is now being constructed in Okinawa; it is scheduled to start operation in 2003. The straddle type monorail can be constructed using the space above public roads without disturbing everyday traffic. Monorail trains with rubber tires are environmentally friendly and produce little noise and vibration. The straddle type monorail has become an important part of the urban public transportation system, chiefly because of its many advantages over other transportation means including the subway. These advantages include (1) improved environment, (2) a shorter construction period, and (3) lower costs. Thus, the monorail system in Japan is an effective solution to environmental problems and traffic congestion in urban cities, which also stimulates local economy. The demand for urban monorail systems has recently begun to come from smaller local cities where the daily ridership is much lower than that in Tokyo, Osaka, Kitakyushu, and other major cities in Japan. To enhance the financial viability of monorail construction in smaller cities and to construct smaller monorails, the Japan Monorail Association (JMA) set up a research committee to investigate the development of a small monorail. This committee, mainly headed by Hitachi, carried out comprehensive research of the market demand for monorail systems and initiated the development of a compact monorail. Hitachi developed a number of new design elements including an articulated bogie to enable trains to negotiate sharp curves. We also worked to design a compact and light monorail that makes use of next-generation signal systems. These basic elements can also be used for other people-mover systems in amusement parks, airports, and business complexes.

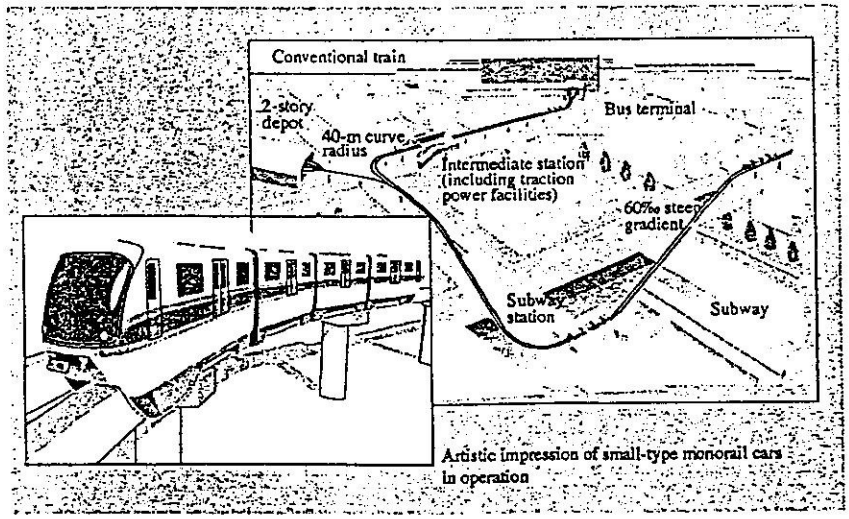


Fig. 1— Concept of New, Small-type Monorail System in Harmony with the Urban Amenity.
Based on monorail know-how obtained from past construction projects, we developed a straddle type small monorail system with compact, standard, and low-cost configuration that meets the transportation needs of medium- and small-size cities. This small-type monorail system has a number of features that make it flexible toward the requirements of various transportation agencies.

INTRODUCTION

HITACHI has already completed the development of a small-type monorail system that meets the needs for economical construction and smaller monorails in regional cities. This paper describes the main features of our small-type monorail system.

TECHNICAL FEATURES

A reduced axle load is one of the main features of the guideway structure of our monorail train. In our train, the load on axles is 8 tons per axle instead of 10 to 11 tons per axle as in large conventional monorail trains. The main features of the small-type monorail system are these:

(1) Small and light vehicles.

• We have improved our vehicle design technologies to produce an economical vehicle.

• The train models have been standardized (two models are currently available).

• The exterior of the trains can be decorated with colored films.

• Seats in the trains can be arranged based on customers' specifications.

(2) Greater passenger carrying capacity (see Fig. 2).

• The passenger carrying capacity of a 4-car vehicle is 200 passengers (based on 0.3-m^2/passenger standard occupancy) and passenger loading capacity in terms of pphpd (passenger per hour per direction) is 3,000 pphpd (for an operating headway of 4 min).

• The daily passenger volume is 25,000 to 30,000 passengers.

(3) The cost of our system is 50% that of large-type monorail system.

• The total construction cost has been reduced to half that of large-type monorail system.

(4) Right-of-way for small-type monorail systems

• The guideway structure and station building can be constructed above narrow streets.

• Routes can be flexibly designed along existing roads and streets with a 40-m curve radius and a 6% gradient.

(5) Smooth and seamless connection to other means of transportation

• We improved platform design to make transfers easier.

• The monorail can be built underground.

COST CONSIDERATIONS

(1) Optimization of technical specifications

• Our system features small and light vehicles, reduced train length, reduced number of passenger doors, which in turn reduces the guideway structure, station platform length, and the number of platform screen doors.

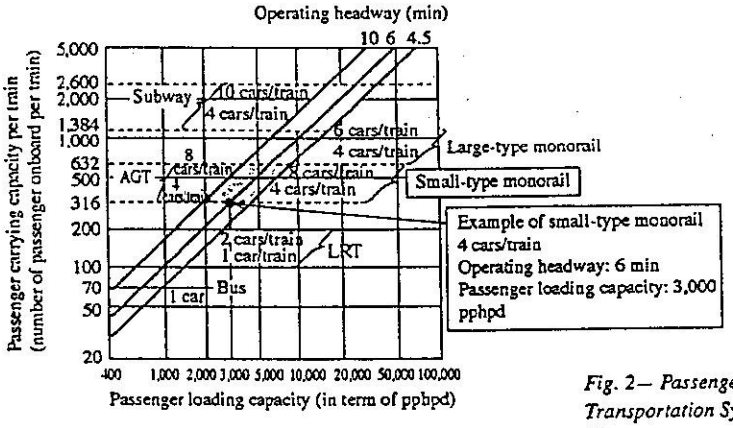
• Due to the use of traction power substations operating at 2,000 kW, we can use commercial incoming power lines at substations, which reduces the amount of space for substations.

• The signaling system is equipped with an electronic interlocking device, which eliminates unnecessary cables and wiring. New regenerative power absorbing facilities have been installed to replace the regenerative power facilities on the wayside of the tracks.

• To reduce the amount of required space for depots and train storage yards, train lines can be constructed on the 2nd floor and the operation control and maintenance center will be located on the ground floor.

(2) Compact station buildings

• Side-platform arrangement for intermediate



Note: Passenger carrying capacity per car (standee occupancy rate: 0.14 m^2/passenger)

Small-type monorail	79 passengers/car
Large-type monorail	173 passengers/car
Subway	260 passengers/car
Bus	70 passengers/car
AGT	80 passengers/car
LRT	100 passengers/car

AGT: automated guideway transit
LRT: light rail transit

Fig. 2— Passenger Carrying Capacity of Different Transportation Systems.
The passenger carrying capacity of small-type monorail is about the same as that of AGT.

stations eliminates the need for concourse floors and makes station buildings 2-story structures rather than 3-story structures.

• There are no escalators at intermediate stations, only elevators and stairs.

(3) Standardized design

• Train components have been standardized, except for passenger seating arrangement and vehicle exterior for which there are two standard models.

• Making the intermediate station a side-platform type, instead of an island-platform type, keeps the tracks straight and simplifies station structure.

(4) Other features

• Using commercial incoming lines to power station equipment eliminates the need for low-voltage distribution networks and additional cables.

• The prestressed concrete (PC) tracks and steel track girders were made rectangular to reduce the cost of constructing the guideway structure.

• The signal, operation control, and communication systems were integrated into one system to reduce costs.

• The trolley wire design of power feeder lines has been simplified.

SYSTEM CONFIGURATION

Comparing Our System with Conventional Large-type Monorails

Fig. 3 compares our small-type monorail with a conventional large-type monorail.

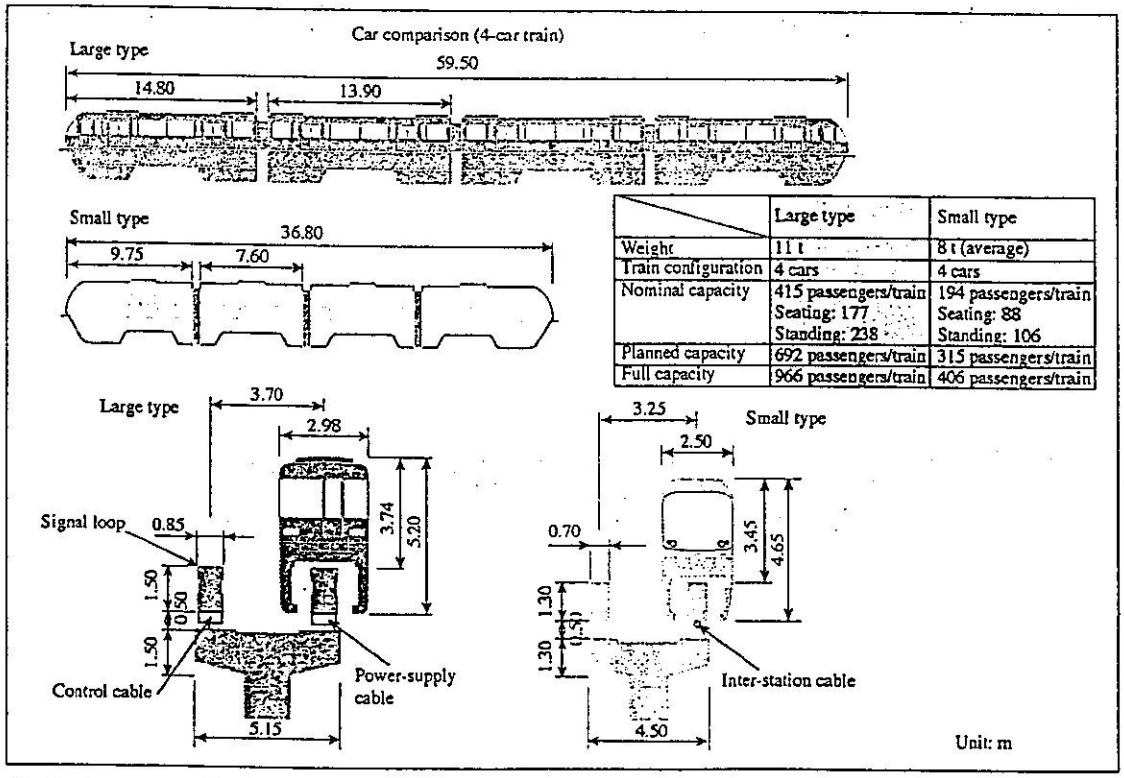
Monorail Trains

The goals in designing the small-type monorail were (1) to reduce the number of cars in a train and (2) to make train cars lighter and more compact. This reduction in size has a remarkable cost-saving effect since the loading impact on the guideway structure becomes smaller.

(1) Because there is not much space under the frame of a monorail car to install equipment, we used an articulated bogie for our train.

(2) To enable the train to negotiate sharp curves to follow narrow roads in local cities, the minimum curve radius was set at 40 m.

After we completed the design of the new bogie, we carried out a series of tests on a prototype bogie by



	Large type	Small type
Weight	11 t	8 t (average)
Train configuration	4 cars	4 cars
Nominal capacity	415 passengers/train Seating: 177 Standing: 238	194 passengers/train Seating: 88 Standing: 106
Planned capacity	692 passengers/train	315 passengers/train
Full capacity	966 passengers/train	406 passengers/train

Fig. 3— Large-type and Small-type Monorails.
Small-type monorail system reduces the cross section of guideway structure and stations, and simplifies cable laying between stations.

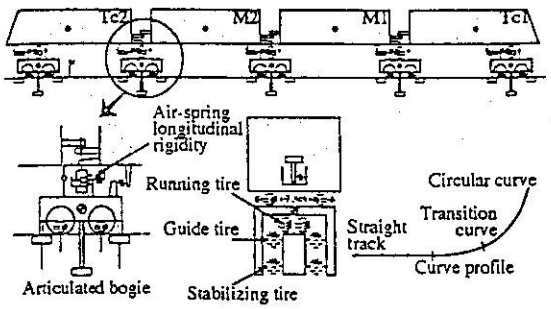


Fig. 4— Dynamic Simulation Model.
A design verification model was developed to examine the articulated-bogie system of the small-type monorail, and the riding comfort of passengers was evaluated when the train was passing a small curve with a 40-m radius.

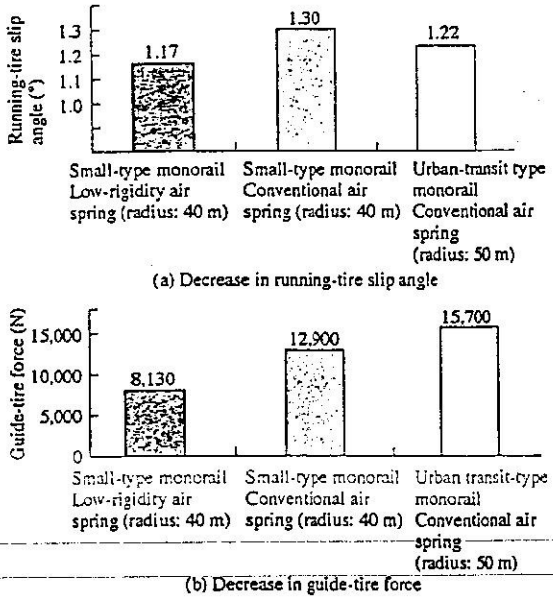


Fig. 5— Results of Dynamic Simulation.
Design elements affecting the lifetime of various tires in relation to the train's ability to pass small curves were analyzed, and an air-spring constant that can ensure the riding comfort equivalent to that of conventional systems was determined.

simulating actual operating conditions.

(1) To reduce the increased load on the axles due to a smaller number of axles supporting the overall weight of the train, the average axle load is controlled at 8 tons per axle.

(2) To increase passenger comfort, the wheel springs and damper systems of the bogies have been carefully re-designed based on dynamic simulation results (see Fig. 4).

(3) A finite element method (FEM) was used to design a light bogie frame that is 15% lighter than that of a conventional bogie.

Experiments were performed to ensure that the tire slip angle takes into account the guiding tire force that can become excessive when the train passes a small curve. The results showed (see Fig. 5) that due to reduced air-spring longitudinal rigidity, the lifetime of the tires was the same as that in conventional systems while our small-type train could also negotiate sharp curves.

Power Supply, Signal, Operation Control, and Communication Systems

(1) To make the train compatible with other small transportation means, we used DC 750 V as an incoming line voltage. Although AC 600 V would be effective in terms of reducing the weight of train, it would not be cost-effective on the whole due to an increase in number of traction power facilities on the wayside of the tracks.

(2) Instead of the conventional low-voltage distribution network system in which relevant cabling work is provided by the system supplier, we used a commercial network from a utility company to power facilities allocated to each station.

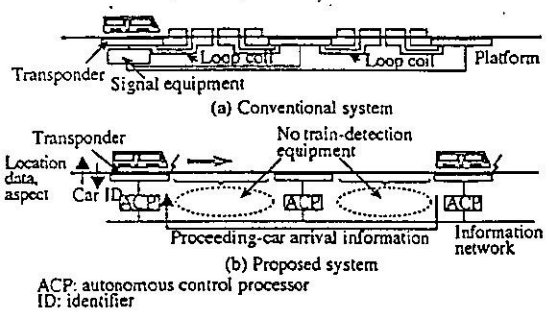


Fig. 6— Signal and Communication Systems.
The proposed system does not require the continuous loop and relevant cabling.

(3) The conventional method of installing trolley wires was replaced by the use of a saw tooth blade pattern to simplify installation to enable the power collecting shoe to be worn out evenly and to prevent tear.

(4) The conventional system employs fixed block signaling system in which multiple train-detection equipment are installed between any two stations allowing only one train to exist in one loop-coil interval. Our small-type monorail system has a simple train detection system based on the optimal allocation of transponder devices according to the train running performance, which enables cable-less work among stations (see Fig. 6).

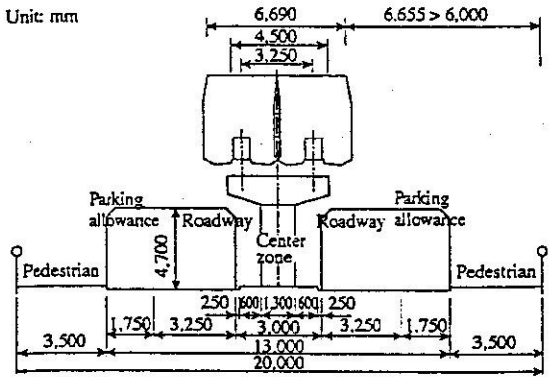


Fig. 7— Cross Section Layout of Guideway Structure in Small-type Monorail System.
Small-type monorail system can be used on 20-m-wide roads.

(5) The signal, operation control (including traffic control, power control, passenger information/fault/facilities management) and communication systems have been integrated into a single system by using IT-related technologies including the Internet protocol (IP) and data transmission by optical fiber. This results in reduced capital, maintenance, and operating costs.
(6) Right-of-way requirements for construction: Based on the results of these achievements described above, we are able to demonstrate the reduction in size and weight satisfying the structural requirements to construct above narrow streets and space (see Fig. 7).

CONCLUSIONS

This paper describes the development and features of small, straddle type monorail system. We at Hitachi are committed to developing straddle type monorails to meet our customers' requirements and objectives.

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(3) K. Iwasaki et al., "Research on Trucks for Small Straddle-type Monorails," Journal of Japan Monorail Association (JMA), No. 99, 44-47, April 2000 in Japanese.

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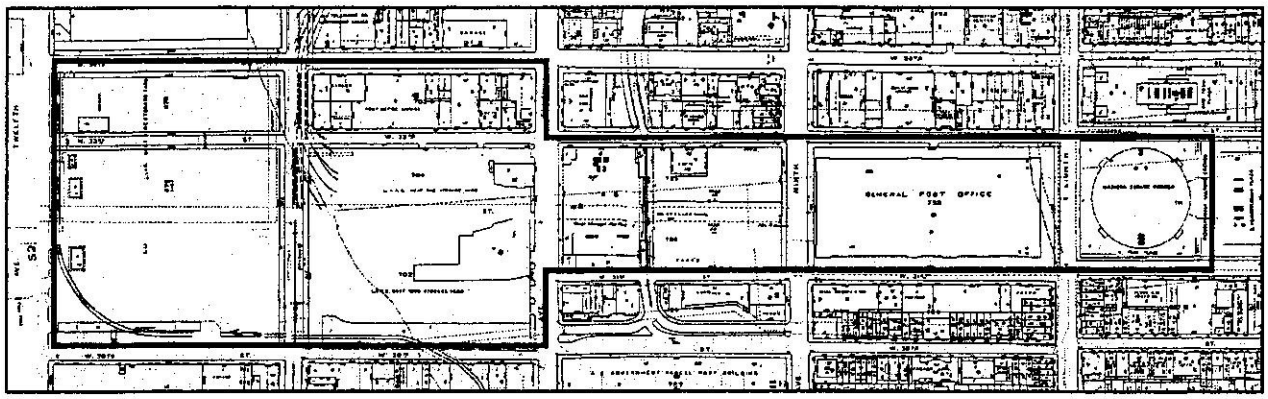
3: Development programs and construction schedule

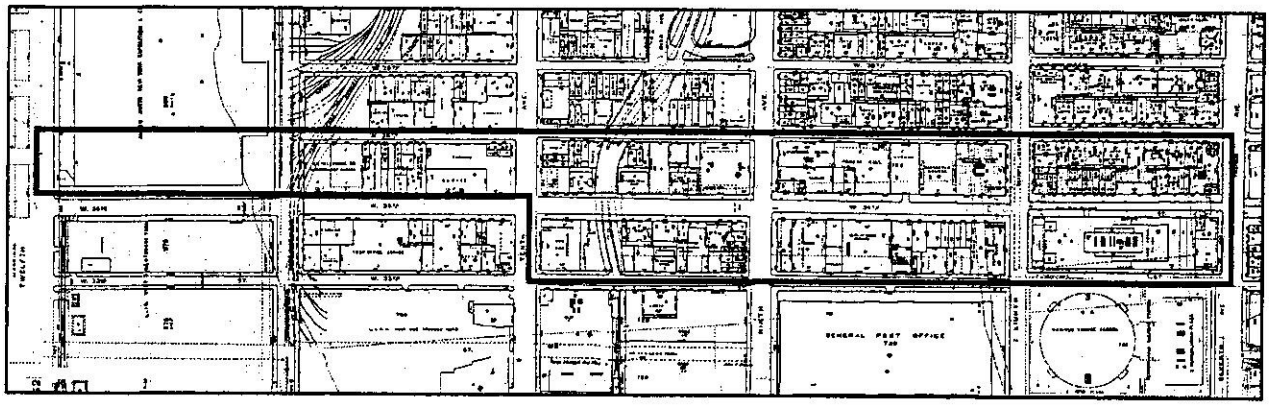
Index:

	A	B
	GROUND AREAS SUMMARY	
	BLOCK	**AREA AT GRADE (SF)**
1	**CONVENTION AND ARENA CORRIDOR**	
2	LAND BRIDGE SUB-TOTAL	1,840,000 SF
3	FARLEY BLOCK	368,000 SF
4	PENN SUB-TOTAL	368,000 SF
5	TOTAL	2,576,000 SF
6	**34TH STREET COMMERCIAL CORRIDOR**	
7	MAJOR NEW SITES SUB-TOTAL	266,500 SF
8	MID-BLOCK OPEN SPACE SUB-TOTAL	54,000 SF
9	INFILL SITES SUB-TOTAL	960,000 SF
10	TOTAL	1,226,500 SF
11	**REDIDENTIAL/MIXED-USE CORRIDOR**	
12	11TH AVENUE - 12TH AVENUE	1,152,000 SF
13	10TH AVENUE - 11TH AVENUE	732,000 SF
14	MID-BLOCK OPEN SPACE SUB-TOTAL	281,500 SF
15	TOTAL	2,165,500 SF
16	**DISTRICT TOTAL**	**5,968,000 SF**

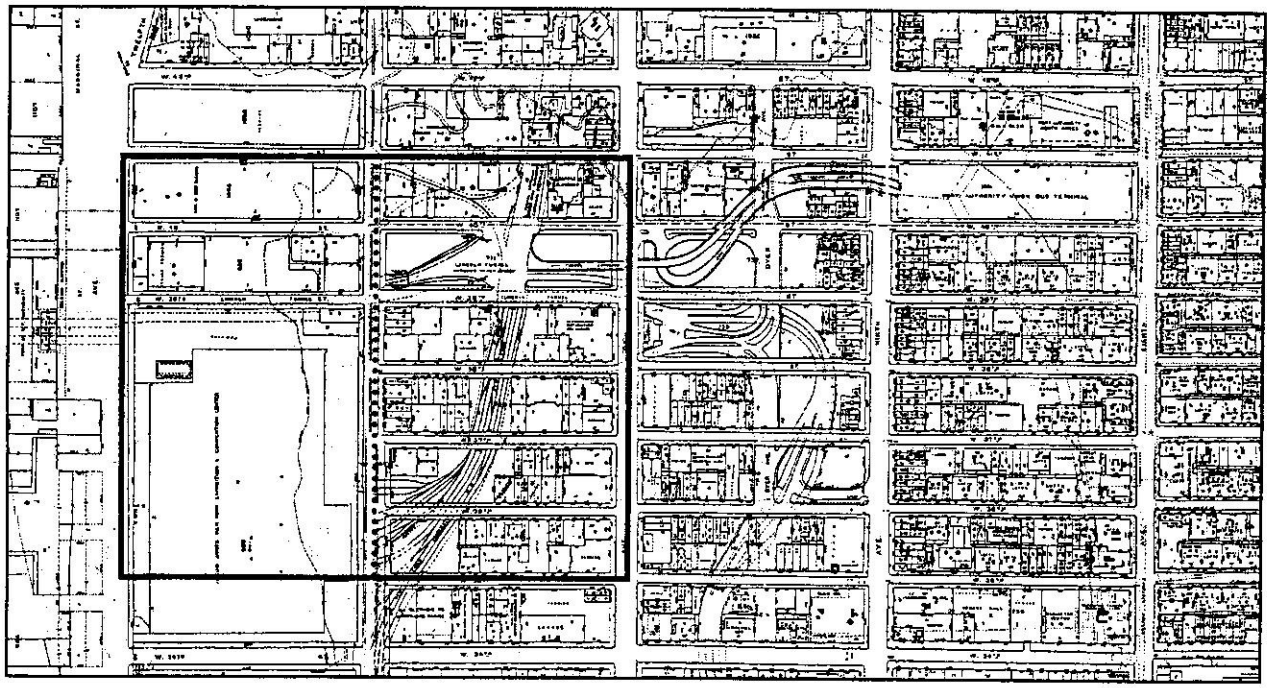
	A	B	C	D	E	F	G
1	**GROUND AREAS**						
2	BLOCK	BOUNDARIES				DIMENSIONS (SF)	AREA AT GRADE (SF)
		WEST	EAST	SOUTH	NORTH		
3	**CONVENTION AND ARENA CORRIDOR**						
4	LAND BRIDGE AREA						
5	676	12th Ave.	11th Ave.	W. 30th St.	W. 33rd St.	720 x 800 SF	576,000 SF
6	679	12th Ave.	11th Ave.	W. 33rd St.	W. 34th St.	200 x 800 SF	160,000 SF
7	702	11th Ave.	10th Ave.	W. 30th St.	W. 33rd St.	720 x 800 SF	576,000 SF
8	705	11th Ave.	10th Ave.	W. 33rd St.	W. 34th St.	200 x 800 SF	160,000 SF
9	729	10th Ave.	9th Ave.	W. 33st St.	W. 33rd St.	460 x 800 SF	368,000 SF
10	TOTAL LAND BRIDGE AREA						1,840,000 SF
11	POST OFFICE AND PENNSYLVANIA STATION						
12	755	9th Ave	8th Ave.	W. 31st St.	W. 33rd St.	460 x 800 SF	368,000 SF
13	781	8th Ave	7th Ave.	W. 31st St.	W. 33rd St.	460 x 800 SF	368,000 SF
14	TOTAL FARLEY BUILDING AND PENNSYLVANIA STATION						736,000 SF
15	**TOTAL CORRIDOR**						**2,576,000 SF**

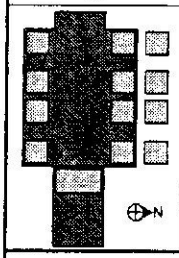
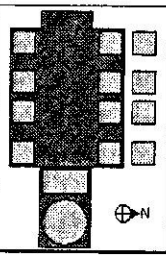
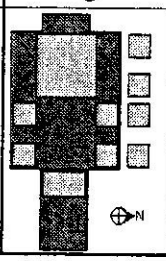
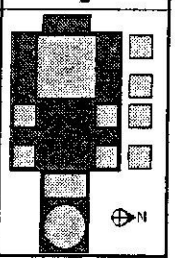


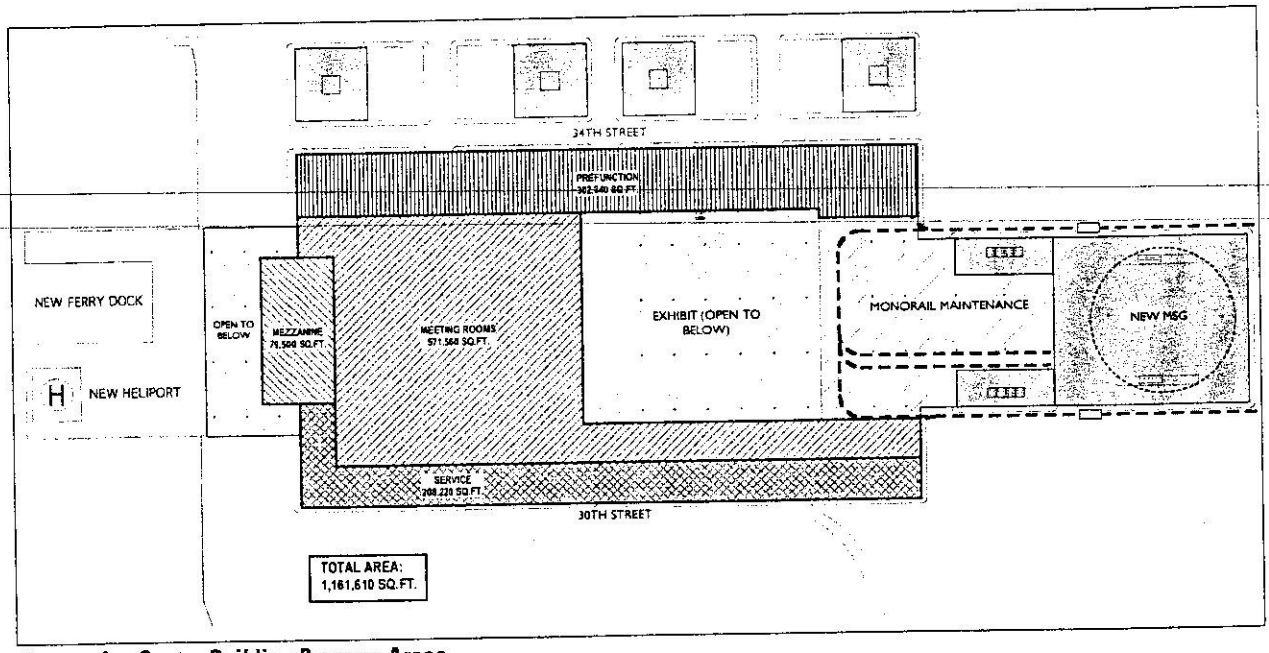
	A	B	C	D	E	F	G
1	**GROUND AREAS**						
2	**BLOCK**	**BOUNDARIES**				**DIMENSIONS (SF)**	**AREA AT GRADE (SF)**
		WEST	**EAST**	**SOUTH**	**NORTH**		
3	**34TH STREET COMMERCIAL CORRIDOR**						
4	MAJOR NEW SITES						
5	680–S	12th Ave.	11th Ave	W. 34st St.	W. 35st St.	200 x 800 SF	160,000 SF
6	706-E	11th Ave.	10th Ave	W. 34st St.	W. 35st St.	200 x 178 SF	35,500 SF
7	706-W	11th Ave.	10th Ave	W. 34st St.	W. 35st St.	200 x 355 SF	71,000 SF
8	TOTAL MAJOR NEW SITES						266,500 SF
9	INFILL SITES						
10	731	10th Ave.	9th Ave.	W. 33st St.	W. 34st St.	200 x 800 SF	160,000 SF
11	732	10th Ave.	9th Ave.	W. 34st St.	W. 35st St.	200 x 800 SF	160,000 SF
12	757	9th Ave.	8th Ave.	W. 33st St.	W. 34st St.	200 x 800 SF	160,000 SF
13	758	9th Ave.	8th Ave.	W. 34st St.	W. 35st St.	200 x 800 SF	160,000 SF
14	783	8th Ave.	7th Ave.	W. 33st St.	W. 34st St.	200 x 800 SF	160,000 SF
15	784	8th Ave.	7th Ave.	W. 34st St.	W. 35st St.	200 x 800 SF	160,000 SF
16	TOTAL INFILL SITES						960,000 SF
17	**SUB-TOTAL 34TH STREET CORRIDOR**						**1,226,500 SF**



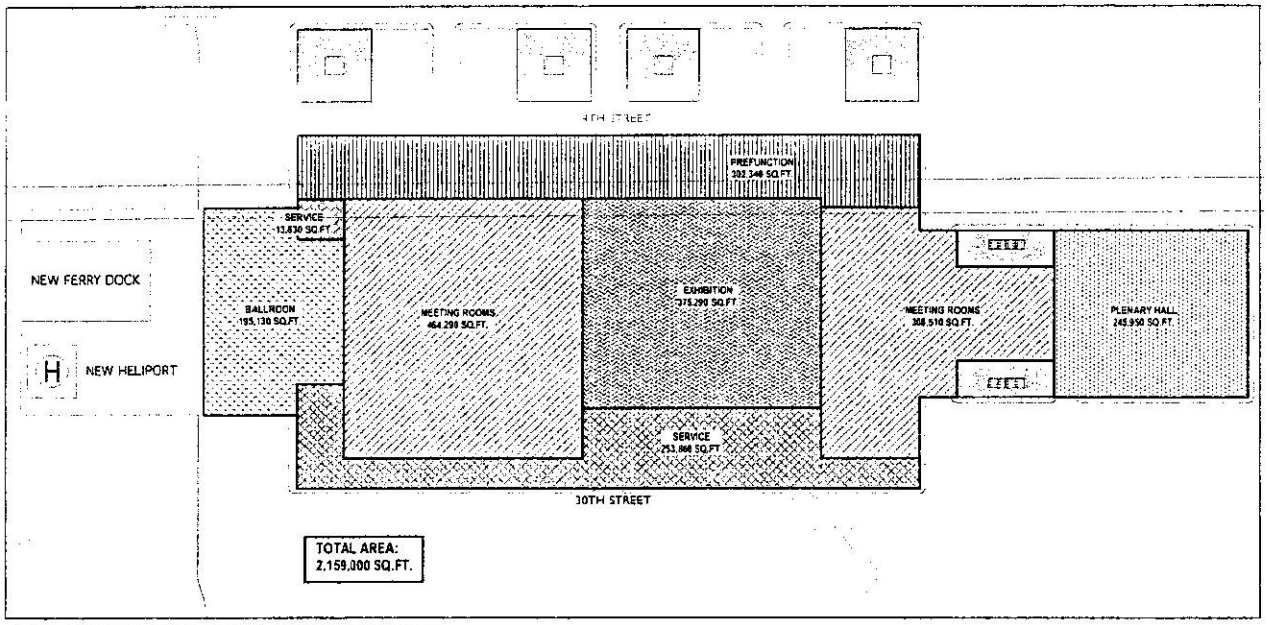
	A	B	C	D	E	F	G
1	**GROUND AREAS**						
2	BLOCK	BOUNDARIES				DIMENSIONS (SF)	AREA AT GRADE (SF)
		WEST	EAST	SOUTH	NORTH		
3	RESIDENTIAL/MIXED-USE CORRIDOR						
4	11TH AVENUE - 12TH AVENUE: 35TH-41ST STREETS						
5	680-N	12th Ave.	11th Ave.	W. 34th St.	W. 39th St.	1,040 x 800 SF	832,000 SF
6	685	12th Ave.	11th Ave.	W. 39th St.	W. 40th St.	200 x 800 SF	160,000 SF
7	1088	12th Ave.	11th Ave.	W. 40th St.	W. 41st St.	200 x 800 SF	160,000 SF
8	SUB-TOTAL						1,152,000 SF
9	10TH AVENUE - 11TH AVENUE: 35TH-41ST STREETS/WEST						
10	707-E	Park	10th Ave.	W. 35th St.	W. 36th St.	200 x 223 SF	44,500 SF
11	707-W	11th Ave.	Park	W. 35th St.	W. 36th St.	200 x 333 SF	66,500 SF
12	708-E	Park	10th Ave.	W. 36th St.	W. 37th St.	200 x 265 SF	53,000 SF
13	708-W	11th Ave.	Park	W. 36th St.	W. 37th St.	200 x 310 SF	62,000 SF
14	709-E	Park	10th Ave.	W. 37th St.	W. 38th St.	200 x 310 SF	62,000 SF
15	709-W	11th Ave.	Park	W. 37th St.	W. 38th St.	200 x 288 SF	57,500 SF
16	710-E	Park	10th Ave.	W. 38th St.	W. 39th St.	200 x 355 SF	71,000 SF
17	710-W	11th Ave.	Park	W. 38th St.	W. 39th St.	200 x 265 SF	53,000 SF
18	711-E	Park	10th Ave.	W. 39th St.	W. 40th St.	200 x 400 SF	80,000 SF
19	711-W	11th Ave.	Park	W. 39th St.	W. 40th St.	200 x 245 SF	49,000 SF
20	1069-E	Park	10th Ave.	W. 40th St.	W. 41st St.	200 x 445SF	89,000 SF
21	1069-W	11th Ave.	Park	W. 40th St.	W. 41st St.	200 x 223 SF	44,500 SF
22	Mid-Block	Mid-block	Mid-block	W. 34th St.	W. 41st St.	N/A	281,500 SF
23	SUB-TOTAL						1,013,000 SF
24	**TOTAL RESIDENTIAL/MIXED USE**						**2,165,500 SF**



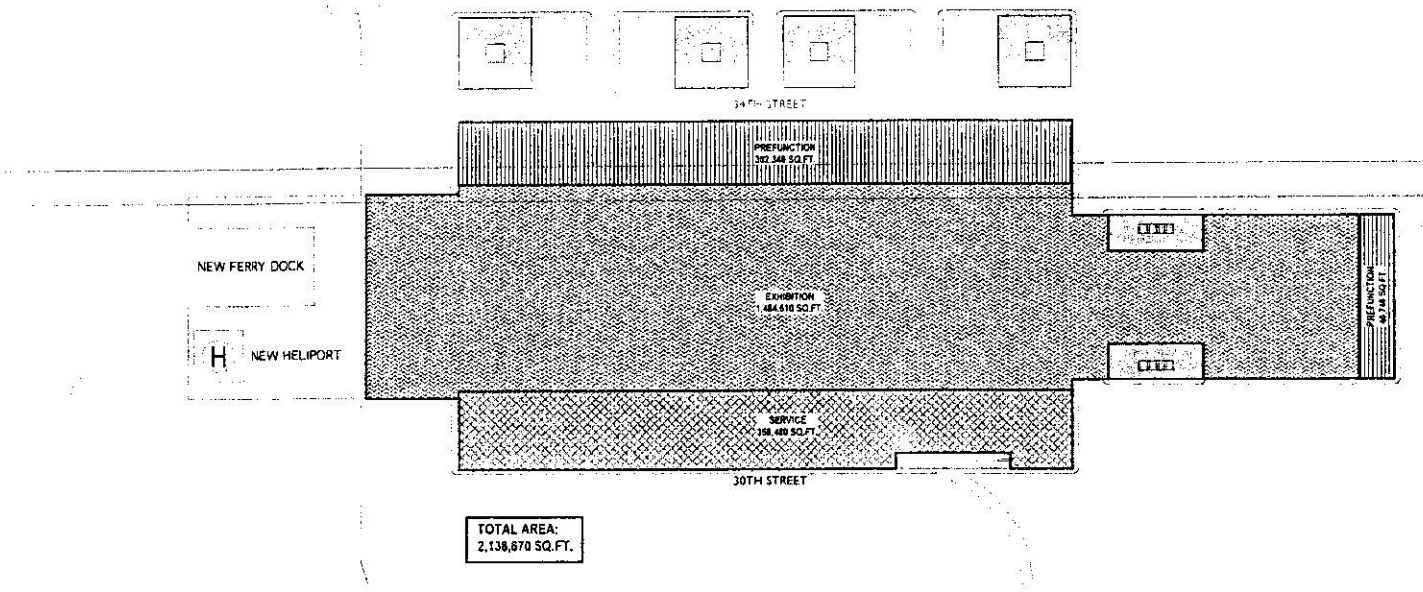
	A	B	C	D	E	F
		SCHEME	A	B	C	D
						
		Floor Area	Use Distribution			
1	**Levels 06 & 07 - Below Grade**	**1,335,560 SF**				
2	Service		435,930 SF	390,930 SF	390,930 SF	390,930 SF
3	Mechanical		112,440 SF	112,440 SF	112,440 SF	112,440 SF
4	Retail		242,500 SF	61,550 SF	61,550 SF	61,550 SF
5	Other		544,690 SF	544,690 SF	544,690 SF	544,690 SF
6	**Levels 05 - Below Grade**	**1,448,030 SF**				
7	Exhibition		145,090 SF	145,090 SF	145,090 SF	145,090 SF
8	Prefunction		43,000 SF	43,000 SF	43,000 SF	43,000 SF
9	Service		26,680 SF	26,680 SF	26,680 SF	26,680 SF
10	Retail - Small Scale		480,030 SF	480,030 SF	480,030 SF	480,030 SF
11	Retail - Large Scale		187,420 SF	0 SF	187,420 SF	0 SF
12	Retail - Market		257,100 SF	257,100 SF	257,100 SF	257,100 SF
13	Arena (MSG)		0 SF	167,420 SF	0 SF	167,420 SF
14	Hotel Lobby (Tower 1)		136,710 SF	136,710 SF	136,710 SF	136,710 SF
15	Tower Lobbies		112,000 SF	112,000 SF	56,000 SF	56,000 SF
16	Stadium Lobbies		0 SF	0 SF	56,000 SF	56,000 SF
17	Plazas		60,000 SF	80,000 SF	60,000 SF	80,000 SF
18	**Levels 04: + 20 Above Grade**	**2,218,770 SF**				
19	Exhibition (Contiguous)		1,484,610 SF	1,484,610 SF	1,484,610 SF	1,484,610 SF
20	Prefunction		349,080 SF	349,080 SF	349,080 SF	349,080 SF
21	Service		358,480 SF	358,480 SF	358,480 SF	358,480 SF
22	Tower 1		26,600 SF	26,600 SF	26,600 SF	26,600 SF
23	**Levels 03: + 60 Above Grade**	**2,185,600 SF**				
24	Exhibition (Contiguous)		375,290 SF	375,290 SF	375,290 SF	375,290 SF
25	Prefunction		302,340 SF	302,340 SF	302,340 SF	302,340 SF
26	Meeting Rooms		772,800 SF	772,800 SF	772,800 SF	772,800 SF
27	Ballroom		195,130 SF	195,130 SF	195,130 SF	195,130 SF
28	Plenary Hall		245,950 SF	0 SF	245,950 SF	0 SF
29	Madison Square Garden		0 SF	245,950 SF	0 SF	245,950 SF
30	Service		267,490 SF	267,490 SF	267,490 SF	267,490 SF
31	Tower 1		26,600 SF	26,600 SF	26,600 SF	26,600 SF
32	**Levels 02: + 75 Above Grade**	**1,452,680 SF**				
34	Prefunction		302,340 SF	302,340 SF	302,340 SF	302,340 SF
35	Meeting Rooms		571,560 SF	571,560 SF	571,560 SF	571,560 SF
36	Ballroom		79,500 SF	79,500 SF	79,500 SF	79,500 SF
37	Service		208,220 SF	208,220 SF	208,220 SF	208,220 SF
38	Monorail Maintenance		264,460 SF	264,460 SF	264,460 SF	264,460 SF
39	Tower 1		26,600 SF	26,600 SF	26,600 SF	26,600 SF
40	**Podium: +85 Above Grade**	**2,218,770 SF**				
41	Tower Footprints		431,000 SF	431,000 SF	271,050 SF	271,050 SF
42	Stadium Footprints		0 SF	0 SF	450,000 SF	450,000 SF
43	MSG Footprint		0 SF	115,725 SF	0 SF	115,725 SF
44	SkyPark		1,787,720 SF	1,671,995 SF	1,497,720 SF	1,381,995 SF
45	**TOTAL**	**10,859,410 SF**				



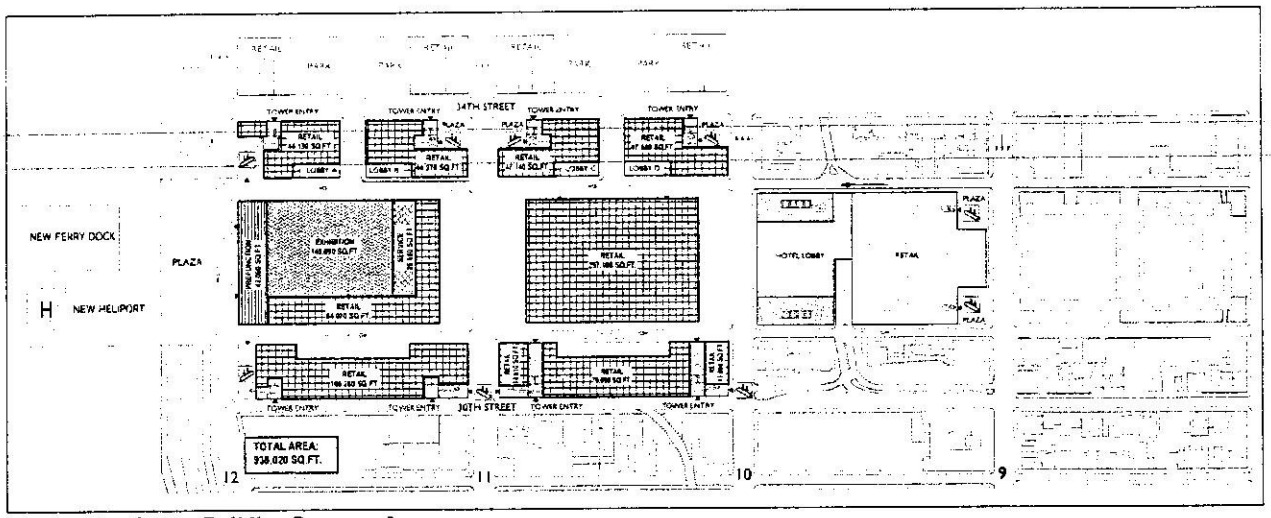
Convention Center Building Program Areas
Options B/D: Supplementary Exhibition Upper: Level 2



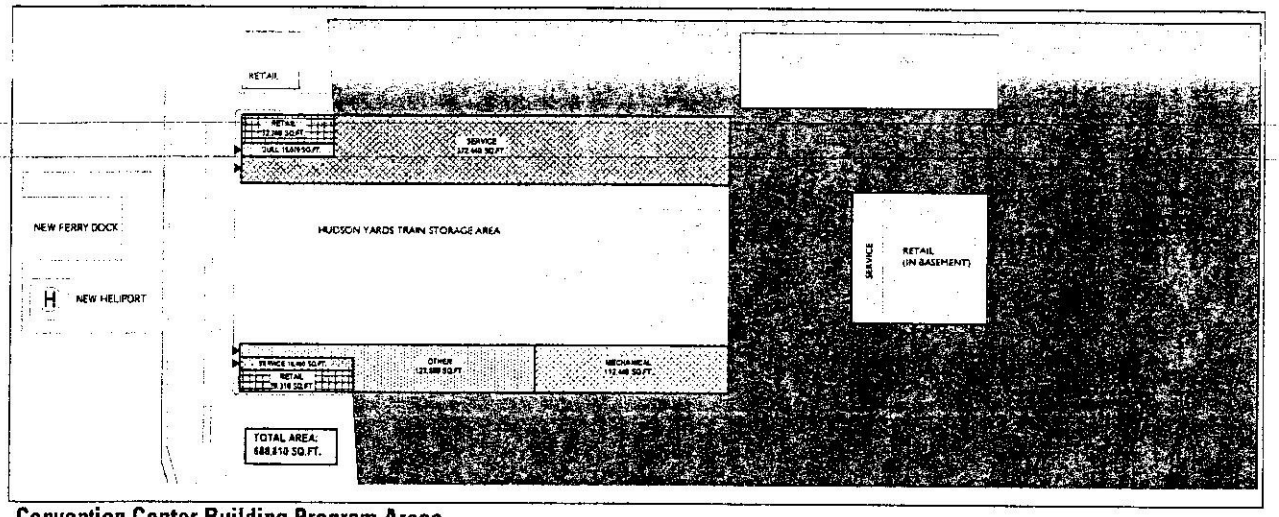
Convention Center Building Program Areas
Options A/C: Supplementary Exhibition Upper: Level 3



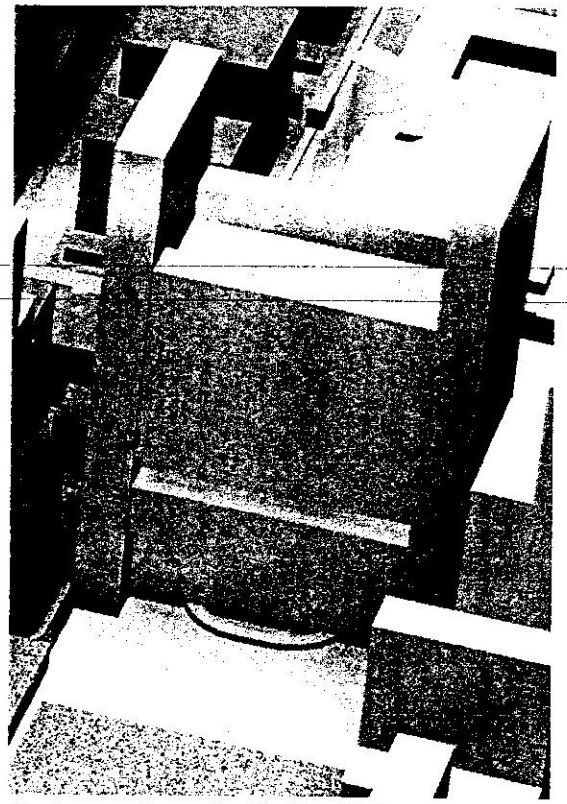
Convention Center Building Program Areas
Options A/C: Main Exhibition: Level 4



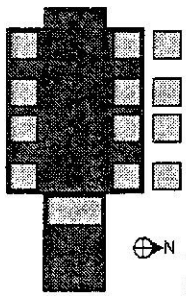
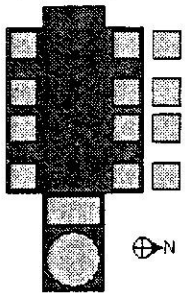
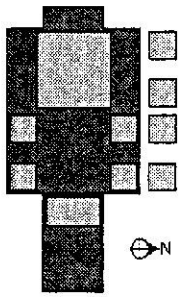
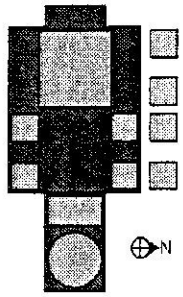
Convention Center Building Program Areas
Options A/C: Grade: Level 5

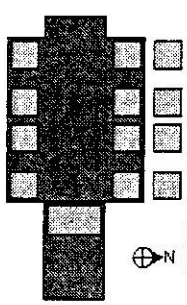
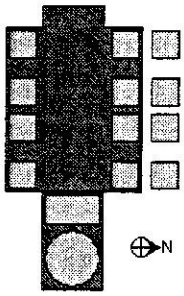
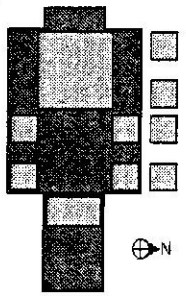
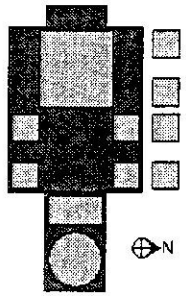


Convention Center Building Program Areas
Option A/B/C/D: Service: Level 6



Replacement tower for 450 West 33rd Street:
•2,400,000 sf: office
•600,000 sf hotel (1000 rooms)

	A	B	C	D	E
1	OPTION	A	B	C	D
2					
3	**USE**				
4	CIVIL FACILITIES				
5	Convention Center	6,275,930	6,029,980	6,275,930	6,029,980
6	Arena	0	750,000	0	750,000
7	Stadium	0	0	900,000	900,000
8	**TOTAL CIVIL FACILITIES**	**6,275,930**	**6,779,980**	**7,175,930**	**7,679,980**
9					
10	PUBLIC SPACE				
11	Park 10th-11th Ave	385,500	385,500	385,500	385,500
12	Park 11th-12th Ave	360,000	360,000	360,000	360,000
13	SkyPark	1,787,720	1,671,995	1,497,720	1,381,995
14	**TOTAL PUBLIC SPACE**	**2,533,220**	**2,417,495**	**2,243,220**	**2,127,495**
15					
16	PRIVATE USES				
17	Commercial: Office	26,000,000	30,000,000	22,000,000	26,000,000
18	Commercial: Hotel	1,500,000	1,500,000	1,500,000	1,500,000
19	Commercial: Retail	1,239,050	1,401,630	1,239,050	1,401,630
20	Commercial: Market	12,384,000	12,384,000	12,384,000	12,384,000
21	Commercial: Affordable	1,944,000	1,944,000	1,944,000	1,944,000
22	**TOTAL PRIVATE USES**	**43,067,050**	**47,229,630**	**39,067,050**	**43,229,630**

	A		B	C	D	E
	OPTION		A	B	C	D
						
	USE	KEY				
1	LandBridge	BR	✔	✔	✔	✔
2	Automated Rapid Transit	ART	✔	✔	✔	✔
3	Convention Center	CC	6,275,930	6,029,980	6,275,930	6,029,980
4	Arena (MSG)	A	0	750,000	0	750,000
5	Stadium	S	0	0	900,000	900,000
6	**Total Civic Facilities**		**6,275,930**	**6,779,980**	**7,175,930**	**7,679,980**
7	Tower 1	T1	3,500,000	3,500,000	3,500,000	3,500,000
8	Tower 2	T2	2,000,000	2,000,000	2,500,000	2,500,000
9	Tower 3	T3	2,000,000	2,000,000	2,500,000	2,500,000
10	Tower 4	T4	2,000,000	2,000,000	2,500,000	2,500,000
11	Tower 5	T5	2,000,000	2,000,000	2,500,000	2,500,000
12	Tower 6	T6	2,000,000	2,000,000	0	0
13	Tower 7	T7	2,000,000	2,000,000	0	0
14	Tower 8	T8	2,000,000	2,000,000	0	0
15	Tower 9	T9	2,000,000	2,000,000	0	0
16	Tower 10	T10	2,000,000	2,000,000	2,500,000	2,500,000
17	Tower 11	T11	2,000,000	2,000,000	2,500,000	2,500,000
18	Tower 12	T12	2,000,000	2,000,000	2,500,000	2,500,000
19	Tower 13	T13	2,000,000	2,000,000	2,500,000	2,500,000
20	**Total Commercial Towers**		**27,500,000**	**27,500,000**	**23,500,000**	**23,500,000**
21	Retail - Small Scale	RS	480,030	480,030	480,030	480,030
22	Retail - Large Scale	RL	429,920	242,500	429,920	242,500
23	Retail - Market	RM	257,100	257,100	257,100	257,100
24	**Total Retail**		**1,167,050**	**979,630**	**1,167,050**	**979,630**
22	Penn Station - Tower	RST	N/A	4,000,000	N/A	4,000,000
23	Penn Station - Retail	PSR	N/A	350,000	N/A	350,000
24	**Total Penn Station**		N/A	4,350,000	N/A	4,350,000
25	**TOTAL**		**34,942,980**	**39,609,610**	**31,842,980**	**36,509,610**

	A	B	C	D	E	F	G	H	I	J
		KEY	ZONE	FAR	GSF	MARKET UNITS	AFFORDABLE UNITS	MIXED COMMERICAL	RETAIL	TOTAL
1	Residential 1		R10	12	960,000 SF	680 Units	0 Units	0 SF	2,000 SF	680 Units
2	Residential 2		R10	12	960,000 SF	680 Units	0 Units	0 SF	2,000 SF	680 Units
3	Residential 3		R10	12	960,000 SF	680 Units	0 Units	0 SF	2,000 SF	680 Units
4	Residential 4		R10	12	960,000 SF	680 Units	0 Units	0 SF	2,000 SF	680 Units
5	Residential 5		R10	12	960,000 SF	680 Units	0 Units	0 SF	2,000 SF	680 Units
6	Residential 6		R10	12	960,000 SF	680 Units	0 Units	0 SF	2,000 SF	680 Units
7	Residential 7		R10	12	960,000 SF	680 Units	0 Units	0 SF	2,000 SF	680 Units
8	Residential 8		R10	12	960,000 SF	680 Units	0 Units	0 SF	2,000 SF	680 Units
9	Residential 9		R10	12	960,000 SF	680 Units	0 Units	0 SF	2,000 SF	680 Units
10	Residential 10		R10	12	960,000 SF	680 Units	0 Units	0 SF	2,000 SF	680 Units
11	Residential 11		R10	12	960,000 SF	680 Units	0 Units	0 SF	2,000 SF	680 Units
12	Residential 12		R10	12	960,000 SF	680 Units	0 Units	0 SF	2,000 SF	680 Units
13	TOTAL RESIDENTIAL				11,520,000 SF	8,160 Units	0 Units	0 SF	24,000 SF	8,160 Units
14										
14	Mixed-Use 1		MX	8	640,000 SF	180 Units	180 Units	162,180 SF	4,000 SF	360 Units
15	Mixed-Use 2		MX	8	640,000 SF	180 Units	180 Units	162,180 SF	4,000 SF	360 Units
16	Mixed-Use 3		MX	8	640,000 SF	180 Units	180 Units	162,180 SF	4,000 SF	360 Units
17	Mixed-Use 4		MX	8	640,000 SF	180 Units	180 Units	162,180 SF	4,000 SF	360 Units
18	Mixed-Use 5		MX	8	640,000 SF	180 Units	180 Units	162,180 SF	4,000 SF	360 Units
19	Mixed-Use 6		MX	8	640,000 SF	180 Units	180 Units	162,180 SF	4,000 SF	360 Units
20	Mixed-Use 7		MX	8	640,000 SF	180 Units	180 Units	162,180 SF	4,000 SF	360 Units
21	Mixed-Use 8		MX	8	640,000 SF	180 Units	180 Units	162,180 SF	4,000 SF	360 Units
22	Mixed-Use 9		MX	8	640,000 SF	180 Units	180 Units	162,180 SF	4,000 SF	360 Units
23	Mixed-Use 10		MX	8	640,000 SF	180 Units	180 Units	162,180 SF	4,000 SF	360 Units
24	Mixed-Use 11		MX	8	640,000 SF	180 Units	180 Units	162,180 SF	4,000 SF	360 Units
25	Mixed-Use 12		MX	8	640,000 SF	180 Units	180 Units	162,180 SF	4,000 SF	360 Units
26	TOTAL RESIDENTIAL				7,680,000 SF	2,160 Units	2,160 Units	1,946,160 SF	48,000 SF	4,320 Units
27	**GRAND TOTAL**				19,200,000 SF	10,320 Units	2,160 Units	1,946,160 SF	48,000 SF	12,480 Units

3: Development programs and construction schedule

2. Construction schedule:

Index:

4: Cost and financing schedules

Index:

4: Cost and financing schedules

1 Cost schedules

Index: *image* *table*

4: Cost and financing schedules

2. Financing

Index:

4. Economic and Financial Considerations

In assessing the economic considerations which bear upon the Newman Institute Alternative Plan, it is important to keep in mind the critical core differences between the Bloomberg Administration and Newman approaches. We believe the centerpiece should be a world-class convention facility, linking the Hudson riverfront and the midtown core through appropriate structures and efficient, high-speed modern transport, and supported by properly situated commercial and residential development.

By contrast, the centerpiece of the Administration's plan is construction of a professional football stadium on a newly built platform above the MTA Hudson Yards. The Administration's plan would not address the fundamental design flaws of the existing Javits Center(mainly inadequate distance between columns); the plan simply provides for a band-aid of 340-580,000 square feet of additional space. Moreover, the City's plan would disrupt the use of the Javits Center for a considerable period of time.

Clearly the Newman Institute plan is more ambitious and, in our view, far better attuned to the needs of the City and of the Community. But, as is often the case, sound and comprehensive solutions come at a price. The primary purpose of this section is to show that the economics underlying the Newman Plan are sound and affordable.

Elsewhere, we describe in detail, our infrastructure proposals and, in considerable detail, the components of the roughly $7 billion in project costs. It will be noted that the largest single item in the Administration's budget —the extension of the No. 7 subway line—is not part of our projections. We understand this project alone could cost $2.3-2.6 Billion, or nearly double what the Administration proposes to spend on the Convention Center itself.

While we would not rule out a later decision to extend the line to 34th St and 11th Ave, we believe the transportation infrastructure in our Plan, specifically the automated rapid transit loop, will provide state-of-the-art access to the 6th, 7th and 8th Avenue north-south subway corridors, the LIRR and AMTRAK at Penn Station, New Jersey Transit and PATH, thus seamlessly linking the project area (including a possible sports stadium) to the core of the City's transportation infrastructure. This project can be built for less than 25 percent of the multi-billion dollar cost of the No. 7 line project (roughly $500-600 million). Then, as is clearly more appropriate, the matter of the No. 7 line can be considered in the context of the MTA's capital planning process.

Comparing the alternative approaches from a macro perspective, the differences are signifcant. The Administration would preserve—indeed expand— the Javits Center as a monolithic barrier between midtown and the waterfront. The Jets Stadium would establish an equally forbidding "no mans land", basically establishing a westward border at 8th Avenue. On the 330 plus days the stadium was not in use, what incentive would there be to walk west past locked gates and shuttered stores on 30th or 34th Street?

By contrast, the Newman plan provides a vital 24/7 link between the river and Penn Station, *with or without a stadium on top of the new Convention Center.* And instead of the existing Javits walling off the river north off 34th Street, the waterfront would be open, developed with modest residential structures and parks. In short, what the Administration would maintain as a wasteland, this plan would convert into a traditional urban residential environment reminiscent of Battery Park City.

Financing Structure and Plan

The Newman Institute Plan would require State legislation, either creating a new State or City agency to finance and implement the Plan, or authorizing an existing agency to carry out these functions. An ideal model, both in terms of powers and of structure would be the Battery Park City Authority. Indeed, given the BPCA's 20 year track record of success in pursuing a project not dissimilar to that proposed here, perhaps the BPCA itself would be an ideal candidate to serve as lead agency both for the financing and development aspects of the Plan. In Section 6 of this document, we discuss implementation issues in greater detail.

The financing structure presented here is intended to provide an overview of how the project would be financed and confirm the feasibility of capitalizing the cash flow at the levels necessary to achieve the development goals. Obviously, it can only be based on

market conditions as they exist today; any effort to predict what the market might be like in 2006 and beyond would render our conclusions suspect. The only concession to the future (so to speak) is the assumption of a 5.5% interest rate. A financing being done today would command a lower rate.

We have also not factored in potentially useful financing cost saving devices such as short-term debt or commercial paper or other mechanisms to take advantage of yield curve conditions at a particular time. These are devices that should be in the agency's arsenal, available if market conditions dictate at any point. But it is important to emphasize that the feasibility of the Newman Plan does not depend upon savings potentially available from manipulation of short-term debt. It will work if financed strictly by "plain vanilla" long term fixed rate revenue bonds.

Principal Sources of Funds

As discussed in detail in the Grubb & Ellis report, there are two principal sources of funds available to secure bond financing:

1. Revenues from ground leases and air rights transfers on commercial and residential properties within the project; and
2. Payments in lieu of taxes.

An important threshold step in developing the financing plan was the decision whether to sell or lease the development sites. Under current market conditions, the case for leasing is compelling and accordingly, our financial projections assume the development sites will be leased.

The lease or sell analysis is quite simple. We first look at the rate of return on leasing. As shown in the Grubb & Ellis report, under current market conditions, the long-term lease rate for both residential and commercial is 7 percent. This means that leasing a hypothetical $1 million property would return $70,000/annum. Cash flow of $70,000 would pay interest at our assumed 5.5 percent rate on approximately $1,275,000 thus generating substantially more cash than a simple sale.[1] Therefore, by leasing the properties and using the proceeds to support debt, we are able to generate substantially more in funds for construction. By contrast, if the lease rate were to drop below the borrowing rate, selling property could then become a more viable option.

The following cash-flow financial feasibility model sets forth the timing of receipts from the principal revenue sources for the Project. As can be seen, the Project will not begin to generate sufficient cash to pay debt service on bonds until 2020, but in order to met the Project timetable, Bonds must be sold during the years 2006-2012. Absent a source of government funding, which will certainly not be available, it will be necessary to borrow the funds to pay debt service in the early years (this technique is known as "capitalized interest"). While this obviously will add to overall costs, it is a well recognized technique in project finance and the only feasible way to get a project of this nature started.[2]

It will be noted that there is no specific provision in the schedules for bond insurance. Clearly, using bond insurance could well be desirable option, and we would contemplate qualifying the agency's bonds with the major insurance providers. Then, at the time of each bond sale, the agency's finance staff will make the straightforward determination of whether the uninsured interest cost is higher or lower than the insured cost plus the insurance premium.

As the schedules reflect, the financing plan calls for the sale of roughly $7.7 billion of bonds over a six-year period. While this is obviously a large amount by any measure, maximum quarterly sales in the $500 million range are well within the capacity of the market to absorb. Moreover, as indicated above, depending upon prevailing market conditions, it may be desirable use shorter-term securities for a portion of the financing requirement and fund such securities out in later years.

Longer Term Economic Considerations

The projections in the financial feasibility model suggest that by 2020, annual revenues from the project will be substantially greater than debt service. At that point, as has proven to be the case with Battery Park City, the project will have become a freestanding economic engine, generating cash surpluses that can be used for further development within the geographic boundaries of the project, for supporting other development activities in the metropolitan area (along the lines of Battery Park's Housing New York initiative), or simply returned to the general funds or the City and/or State to be used in any way the government sees fit.

It is important not to lose sight of this critical difference between the City Administration's proposal and the Newman Institute Alternative Plan. Basically, the City's approach is designed to accomplish a primary near term objective—construction of a sports stadium—on the theory that the stadium itself and the related investments in MetroNorth and subway facilities will serve as a catalyst for large-scale development of this area of Manhattan. Meanwhile, the need for a competitive convention facility is ignored, except for a modest addition of space as poorly configured as the existing space.

The reality is that large sports stadiums have simply never fostered the kind of center city urban development that is appropriate and desirable for the project site. Accordingly, under the City plan, there is a very real risk that little will be accomplished except for the extension of the existing Javits Center zone of isolation north to 42nd Street and south as far as 30th Street. Meanwhile, $1.5 billion plus the City proposes to spend on Javits will produce nothing more than a slightly bigger facility still uncompetitive with facilities in other cities.

By contrast, what we have proposed is a plan that directly expands the midtown zone of prosperity to the project site. By connecting the river to midtown with a structure that provides at once a state of the art of convention center, carefully situated office sites and a 21st century approach to moving people in, out and around the site, the Newman plan taps the economic potential far more directly.[3] And by restoring the bulk of the precious waterfront to residential development and parks, the plan continues and enhances the trend—taking place up and down Manhattan—of bringing the river back into the daily lives of New Yorkers.

Last but not least, as the laws of economics might suggest, by providing for the development of the project site in the most desirable way, the Newman plan assures that the long-term prosperity of the area will be maximized, for the benefit of the public at large.

Footnotes

[1] The actual lease-sell analysis is considerably more complex, since it must take into account, among other things, amortization, residual values and reinvestment rates. But under current market conditions, it is clear that leasing is the preferred approach.

[2] Again, the history of Battery Park City provides useful guidance and precedent. There the original bond issue sold to finance the basic infrastructure (the landfill) including a substantial provision for capitalized interest.

[3] These resources also mean that locating a sports stadium in the project, while not critical to its overall success, is certainly feasible.

Financial Feasibility Analysis

The schedules which follow, prepared by Grubb & Ellis, demonstrate the financial feasibility of the Newman Institute proposal under each of the four development scenarios. In each case, we have made available for debt service 90% of total revenue, to provide a significant cushion in the event of unanticipated interruptions of any revenue source.

It is important to note that the purpose of this section is to demonstrate financial feasibility under all of the scenarios and not to propose a specific funding plan. Accordingly, conservative assumptions have been employed for key variables such as the timing of development expenditures (actual spending should stretch out far longer than the six years assumed here) and the interest rate (particularly that incurred in the early years for construction funding).

The analysis shows that financing is feasible for each of the four scenarios. The scenarios which involve relocation of Madison Square Garden to the project site (Scenarios B and D) and construction of the Stadium (C and D) are enhanced by substantial incremental ground rent and PILOT payments. The Garden relocation scenarios are further enhanced by the substantial revenue from the transfer of 3 million square feet of air rights from the project for development of a major office building on the existing Garden site.

Assumptions common to all scenarios:

- Office building 1 is 2.4 msf plus a 600,000 sf hotel
- Value per office FAR is $225
- Value per hotel FAR is $250
- Value per residential FAR is $250
- Value per retail FAR is $250
- There is no inflation
- Ground rent is 7% of value
- PILOT is $10 psf for office, residential, air rights, and retail, $12 for hotel
- Foundation rent is $2 million per year
- 1.5 msf of Tower 2 will be occupied by 450 West 33rd tenants
- Net absorption for office and residential is 1 million square feet per year
- Retail is leased in 2013, hotel in 2012
- Project cost is $7.7 billion
- Costs are spread as per "Development Uses" schedule Year 2007 includes $206 million for soft costs incurred in 2005 and 2006
- Interest rate on bonds is 5.5%
- 90% of cash flow goes to bonds
- Interest charged on current year draws at 50% outstanding balance

Scenario A:

- Buildings 2-11 are 2 msf
- Sites 12-13 are 2 msf leased air rights, priced at 100%
- Additional air rights of 1 msf priced at 60%
- Total office component is 26.5 msf, less 1.5 msf for prior Tower 1 tenants

Scenario B:

- Buildings 2-11 are 2 msf
- Sites 12-13 are 2 msf leased air rights, priced at 100%
- Madison Square Garden is 1 msf
- Value of MSG per FAR is $225
- PILOT for MSG is $10.80 psf
- Additional air rights of 3 msf priced at 60%
- Total office component is 26.5 msf, less 1.5 msf for prior Tower 1 tenants

Scenario C:

- Buildings 2-5 and 10-11 are 2.5 msf
- Sites 12-13 are 2.5 msf leased air rights, priced at 100%
- Stadium is 1,152,000 sf
- Value of Stadium per FAR is $225
- PILOT for Stadium is $10.90 psf
- Additional air rights of 1 msf priced at 60%
- Total office component is 20.9 msf, less 1.5 msf for prior Tower 1 tenants

Scenario D:

- Buildings 2-5 and 10-11 are 2.5 msf
- Sites 12-13 are 2.5 msf leased air rights, priced at 100%
- Madison Square Garden is 1 msf
- Stadium is 1,152,000 sf
- Value of MSG per FAR is $225
- Value of Stadium per FAR is $225
- PILOT for MSG and Stadium is $10.90 psf
- Additional air rights of 3 msf priced at 60%
- Total office component is 20.9 msf, less 1.5 msf for prior Tower 1 tenants

HUDSON YARDS

BUILDING INFRASTRUCTURE
CONVENTION CENTER
RETAIL
RAPID TRANSIT SYSTEM

Conceptual Design Cost Estimate

September 13, 2004

HI Project No: E81-01***.0

HANSCOMB
Faithful&Gould

International Construction Consultants

11 East 26th Street, 18th Floor, New York, NY 10010

MASTER SUMMARY

BUILDING AREA

	DESCRIPTION	Total $	% of Total
1	BUILDING INFRASTRUCTURE	1,474,111,364	26%
2	CONVENTION CENTER	2,377,967,446	41%
3	RETAIL	177,887,283	3%
4	RAPID TRANSIT SYSTEM	546,247,734	10%
5	MOVINGWALK	20,831,360	0.36%
6	ESCALATORS	66,009,372	1.15%
7	DEMOLITION	23,958,000	0.42%
	Demo. Convention center & arena	1,331,000	0.02%
	Demo. Park strip	30,857,904	0.54%
	Demo Javits center	33,081,751	0.58%
	Demo. Bus terminal	9,449,293	0.16%
	Demo. Warehouse	4,658,500	0.08%
	Demo Park strip		
8	OPEN SPACE CONSTRUCTION - PARK CONSTRUCTION	28,236,258	0.49%
9	OPEN SPACE CONSTRUCTION - ROOF	161,117,550	2.80%
10	REMOVE & REPLACE EXISTING BUILDING -450W33RD.ST.	793,084,198	13.80%
	TOTAL CONSTRUCTION COST	$ 5,748,829,012	100.00%

ESTIMATE SUMMARY

Conceptual Design Cost Estimate

HANSCOMB Faithful&Gould

BUILDING AREA			9,200,000 GSF		
Description		Sub-Total $	Total $	$/SF	% of Total
3.1	FOUNDATION		108,207,067		7.34%
3.1.1	Standard foundation	432,067			
3.1.2	Special foundation	99,375,000			
3.1.3	Slab on grade	8,400,000			
3.2	BASEMENT CONSTRUCTION		25,416,403		1.72%
3.2.1	Basement excavation	16,668,024			
3.2.2	Basement walls	8,748,379			
3.3	SUPERSTRUCTURE		933,605,000		63.33%
3.3.1	Floor construction	#########			
3.3.2	Roof construction	#########			
3.4	EXTERIOR CLOSURE		-		0.00%
3.4.1	Exterior walls	-			
3.4.2	Windows	-			
3.4.3	Exterior doors	-			
3.5	ROOFING		27,562,500		1.87%
3.5.1	Roof coverings	27,000,000			
3.5.2		562,500	-		
3.6	INTERIOR CONSTRUCTION		1,220,246		0.08%
3.6.1	Partitions	-			
3.6.2	Interior doors	-			
3.6.3	Specialties	1,220,246			
3.7	STAIRCASE		420,000		0.03%
3.7.1	Stair structure	420,000			
3.7.2	Stair finishes	-			
3.8	INTERIOR FINISHES		-		0.00%
3.8.1	Wall finishes	-			
3.8.2	Floor finishes	-			
3.8.3	Ceiling finishes	-			
3.9	CONVEYING SYSTEM		-		0.00%
3.9.1	Elevators	-			
3.9.2	Escalator & moving walks	-			
3.9.3	Material handling system	-			
3.10	PLUMBING		-		0.00%
3.10.1	Plumbing fixtures	-			
3.10.2	Domestic water	-			
3.10.3	Sanitary waste	-			
3.10.4	Rain water drainage	-			
3.10.5	Special plumbing system	-			
3.11	HVAC		-		0.00%
3.11.1	Energy supply	-			
3.11.2	Heat generating system	-			
3.11.3	Cooling generating system	-			

ESTIMATE SUMMARY

BUILDING AREA 9,200,000 GSF

	Description	Sub-Total $	Total $	$/SF	% of Total
3.11.4	Distribution system	-			
3.11.5	Terminal & package units	-			
3.11.6	Controls & Instrumentation	-			
3.11.7	Special HVAC systems & equipment	-			
3.11.8	Systems testing & balancing	-			
			-		0.00%
3.12	FIRE PROTECTION				
3.12.1	Sprinkler system	-			
3.12.2	Stand-Pipe system	-			
3.12.3	Fire extinguishers	-			
3.12.4	Special fire protection	-			
			-		0.00%
3.13	ELECTRICAL				
3.13.1	Service & distribution	-			
3.13.2	Light & branch wiring	-			
3.13.3	Communications & security systems	-			
3.13.4	Special electrical systems	-			
			1,000,000		0.07%
3.14	EQUIPMENT				
3.14	Equipment	1,000,000			
			-		0.00%
3.15	FURNISHINGS				
3.15	Furnishings	-			
			-		0.00%
3.16	SPECIAL CONSTRUCTION				
3.16	Special construction	-			
			794,160		0.05%
3.17	SELECTIVE BUILDING DEMOLITION				
3.17.1	Building elements	794,160			
3.17.2	Hazardous components	-			
			500,000		0.03%
4.1	SITE PREPARATION				
4.1.1	Site clearing	500,000			
4.1.2	Site demolition & relocations	-			
4.1.3	Site earthwork	-			
4.1.4	Hazardous waste remediation	-			
			30,749,396		2.09%
4.2	SITE IMPROVEMENT				
4.2.1	Roadways	2,700,000			
4.2.2	Parking lots	-			
4.2.3	Walks & terraces	27,599,396			
4.2.4	Site development	200,000			
4.2.5	Landscaping	250,000			
			2,000,000		0.14%
4.3	SITE CIVIL/MECHANICAL UTILITIES				
4.3.1	Water supply & distribution systems	500,000			
4.3.2	Sanitary sewer system	500,000			
4.3.3	Storm sewer systems	500,000			
4.4.4	Heat distribution	-			
4.3.5	Cooling distribution	-			
4.3.6	Gas distribution system	500,000			
4.3.7	Other Civil/Mechanical utilities	-			
			750,000		0.05%
4.4	SITE ELECTRICAL UTILITIES				

ESTIMATE SUMMARY

	BUILDING AREA		9,200,000 GSF		
	Description	Sub-Total $	Total $	$/SF	% of Total
4.4.1	Electrical distribution	750,000			
4.4.2	Exterior lighting	-			
4.4.3	Exterior communications & security	-			
4.4.4	Other electrical utility system	-			
4.5	OTHER SITE CONSTRUCTION		-		0.00%
4.5.1	Service tunnel	-			
4.5.2	Other site systems & equipment	-			
	SUBTOTAL DIRECT COST		##########		76.81%
	Deduct sales tax on material	8.50%	(27,173,395)		-1.84%
	Design Contingency	10%	113,222,477		7.68%
	HF&G at this point strogly recomends 20 % Contingency				
	HF&G directed by Architect & Client to use 10 % Contingency				
	Escalation (12 months @ 3.5% p.a.)	3.5%	Excluded		0.00%
	TOTAL DIRECT COST		##########		82.64%
	General Conditions, Overhead and Profit	21%	255,837,509		17.36%
	Construction Contingency	5%	Excluded		0.00%
	TOTAL CONSTRUCTION COST		##########		100.00%

HUDSON YARDS
BUILDING INFRASTRUCTURE

Conceptual Design Cost Estimate

HANSCOMB Faithful&Gould

ESTIMATE DETAIL

BUILDING AREA 9,200,000 GSF

DESCRIPTION	QTY	UNIT	UNIT COST $	ESTIMATED COST $	SUB-TOTALS $
3.1 FOUNDATION					
3.1.1 Standard foundation				-	
Concrete beam under exterior wall	553	CY	600.00	332,067	
Misc. footing	1	LS	100,000.00	100,000	
Subtotal Standard foundation					432,066.67
3.1.2 Special foundation				-	
6' dia. Drilled Caissons including rock drilling, dewatering as required complete (Total 2100 caissons -30' deep)	67,500	LF	1,450.00	97,875,000	
Modification in caissons drilling locations due to existing track lay out	1	LS	1,500,000.00	1,500,000	
Subtotal Special foundation					#########
3.1.3 Slab on grade					
Slab on grade - Level 6 (South side)	250,000	SF	12.00	3,000,000	
Slab on grade - Level 7 (North side)	450,000	SF	12.00	5,400,000	
Subtotal Slab on grade	Not required			-	8,400,000
SUBTOTAL FOUNDATION					#########
3.2 BASEMENT CONSTRUCTION					
3.2.1 Basement excavation					
Sheeting & shoring	81,624	SF	45.00	3,673,080	
Excavation for foundation wall including rock excavation, backfilling/disposal of surplus earth/rock	7,853	CY	75.00	588,944	
North side basement Excavation	165,413	CY	75.00	12,406,000	
Subtotal Basement excavation					16,668,024
3.2.2 Basement walls					
Foundation wall	9,940	CY	750.00	7,455,138.89	
Waterproofing @ foundation wall	129,324	SF	10.00	1,293,240.00	
Subtotal Basement walls					8,748,379
SUBTOTAL BASEMENT CONSTRUCTION					#########
3.3 SUPERSTRUCTURE					
3.3.1 Floor construction					
Structural steel (38.5/SF) - Level 5	45,350	TON	3,800.00	172,330,000	
Spray on fireproofing	#######	SF	2.25	25,509,375	
Floor slab - Level 6	450,000	SF	20.00	9,000,000	
Floor slab - Level 5	#######	SF	25.00	43,750,000	

			BUILDING AREA	9,200,000	GSF
DESCRIPTION	QTY	UNIT	UNIT COST $	ESTIMATED COST $	SUB-TOTALS $
Subtotal Floor construction				-	#########
				-	
3.3.2 Roof construction				-	
Structural steel, roof (140 #/SF) - Level 1	146,250	TON	3,800.00	555,750,000	
Roof slab	#######	SF	20.00	45,000,000	
Spray on fireproofing	#######	SF	2.25	82,265,625	
				-	
Subtotal Roof construction				-	#########
SUBTOTAL SUPER STRUCTURE					#########
3.4 EXTERIOR CLOSURE					
3.4.1 Exterior walls					
Incl. w/Convention Center & retail					
Subtotal Exterior walls					-
3.4.2 Windows					
Incl. w/Convention Center & retail				-	
				-	
Subtotal Windows				-	-
				-	
3.4.3 Exterior doors				-	
Incl. w/Convention Center & retail				-	
				-	
Subtotal Exterior doors					-
SUBTOTAL EXTERIOR CLOSURE					-
3.5 ROOFING					
3.5.1 Roof coverings					
Roofing	#######	SF	12.00	27,000,000	
Subtotal Roof coverings					27,000,000
3.5.2 _					
Roof openings	#######	SF	0.25	562,500	
				-	
Subtotal Roof openings					562,500
SUBTOTAL ROOF COVERINGS					#########
3.6 INTERIOR CONSTRUCTION					
3.6.1 Partitions					
Incl. w/Convention Center & retail					

ESTIMATE DETAIL

BUILDING AREA 9,200,000 GSF

DESCRIPTION	QTY	UNIT	UNIT COST $	ESTIMATED COST $	SUB-TOTALS $
Subtotal Partitions				-	-
3.6.2 Interior doors					
Incl. w/Convention Center & retail				-	
Subtotal Interior doors					-
3.6.3 Specialties					
Misc. specialties	#######	SF	.0.15	1,220,245.50	
Subtotal Specialties				-	1,220,246
SUBTOTAL INTERIOR CONSTRUCTION					1,220,246
3.7 STAIRCASE					
3.7.1 Stair structure					
Stair structure - 10' w. stair structure complete	14	EA	30,000.00	420,000.00	
Subtotal Stair Structure				-	420,000
3.7.2 Stair finishes				-	
Included w/stair				-	
Subtotal Stair finishes					-
SUBTOTAL STAIRCASES					420,000
3.8 INTERIOR FINISHES					
3.8.1 Wall finishes				-	
Incl. w/Convention Center & retail				-	
Subtotal Wall finishes					-
3.8.2 Floor finishes				-	
Incl. w/Convention Center & retail					
Subtotal Floor finishes					-
3.8.3 Ceiling finishes				-	
Incl. w/Convention Center & retail				-	
Subtotal Ceiling finishes					-

	BUILDING AREA			9,200,000	GSF
DESCRIPTION	QTY	UNIT	UNIT COST $	ESTIMATED COST $	SUB-TOTALS $
SUBTOTAL FINISHES					-
3.9 CONVEYING SYSTEM					
3.9.1 Elevators	-				
Elevators				-	
Subtotal Elevators					-
3.9.2 Escalator & moving walks					
Subtotal Escalators & moving walks					-
3.9.3 Material handling system					
Not req'd				-	
Subtotal Material handling system					-
SUBTOTAL CONVEYING SYSTEM					-
3.10 PLUMBING					
11130 Plumbing fixtures					
Incl. w/Convention Center & retail				-	
Subtotal Plumbing fixtures					-
3.10.2 Domestic water					
Incl. w/Convention Center & retail				-	
Subtotal Domestic water					-
3.10.3 Sanitary waste					
Incl. w/Convention Center & retail				-	
				-	
Subtotal Sanitary waste					-
3.10.4 Rain water drainage					
Incl. w/Convention Center & retail				-	
Subtotal Rainwater drainage					-
3.10.5 Special plumbing system					
Incl. w/Convention Center & retail				-	

DESCRIPTION	QTY	UNIT	UNIT COST $	ESTIMATED COST $	SUB-TOTALS $
Subtotal Special plumbing system					-
SUBTOTAL PLUMBING					-
3.11.1 Energy supply					-
Incl. w/Convention Center & retail				-	-
Subtotal Energy supply					
3.11.2 Heat generating system					-
Incl. w/Convention Center & retail					-
Subtotal Heat generating system					
3.11.3 Cooling generating system					-
Incl. w/Convention Center & retail				-	-
Subtotal Cooling generating system					
3.11.4 Distribution system					-
Incl. w/Convention Center & retail				-	-
Subtotal Distribution system					
3.11.5 Terminal & package units					-
Incl. w/Convention Center & retail				-	-
Subtotal Terminal & package units					
3.11.6 Controls & Instrumentation					-
Incl. w/Convention Center & retail				-	-
Subtotal Controls & Instrumentation					
3.11.7 Special HVAC systems & equipment					-
Incl. w/Convention Center & retail				-	-
Subtotal Special HVAC systems & equipment					
3.11.8 Systems testing & balancing					-
Incl. w/Convention Center & retail				-	
Subtotal Systems testing & balancing					
SUBTOTAL HVAC					-
3.12 FIRE PROTECTION					

	BUILDING AREA			9,200,000	GSF
DESCRIPTION	QTY	UNIT	UNIT COST $	ESTIMATED COST $	SUB-TOTALS $
3.12.1 Sprinkler system				-	
Incl. w/Convention Center & retail				-	
Subtotal Sprinkler system					-
3.12.2 Stand-Pipe system				-	
Incl. w/Convention Center & retail				-	
Subtotal Stand-Pipe system					-
3.12.3 Fire extinguishers				-	
Incl. w/Convention Center & retail				-	
Subtotal Fire extinguisher					-
3.12.4 Special fire protection				-	
Incl. w/Convention Center & retail				-	
Subtotal Special fire protection					-
SUBTOTAL FIRE PROTECTION					-
3.13 ELECTRICAL					
3.13.1 Service & distribution					
Incl. w/Convention Center & retail				-	
Subtotal Service & distribution					-
3.13.2 Light & branch wiring					
Incl. w/Convention Center & retail				-	
Subtotal Light & branch wiring					-
3.13.3 Communications & security systems					
Incl. w/Convention Center & retail				-	
Subtotal Communications & security systems					-
SUBTOTAL ELECTRICAL					-
3.14 EQUIPMENT					
3.14 Equipment					
Equipment including parking devices & dock equipm	1	LS	1,000,000.00	1,000,000	

DESCRIPTION	QTY	UNIT	UNIT COST $	ESTIMATED COST $	SUB-TOTALS $
Sub total equipment					1,000,000
SUB TOTAL EQUIPMENT					1,000,000
3.15 FURNISHINGS					
3.15 Furnishings					
Incl. w/Convention Center & retail				-	-
Subtotal Furnishings					-
SUBTOTAL FURNISHINGS					
3.16 SPECIAL CONSTRUCTION					
3.16 Special construction				-	
Not required					-
Subtotal Special construction					-
SUBTOTAL SPECIAL CONSTRUCTION					
3.17 SELECTIVE BUILDING DEMOLITION					
3.17.1 Building elements				544,160	
Remove existing retaining wall	68,020	SF	8.00	250,000	
Remove existing slab @ level 7	1	LS	250,000.00		794,160
Subtotal Building elements					
3.17.2 Hazardous components				-	
Not included					-
Subtotal Hazardous components					
SUBTOTAL SELECTIVE BUILDING DEMOLITION					794,160
4.1 SITE PREPARATION					
4.1.1 Site clearing				-	
Site clearing	1	LS	500,000.00	500,000	
Subtotal Site clearing					500,000

ESTIMATE DETAIL

BUILDING AREA 9,200,000 GSF

DESCRIPTION	QTY	UNIT	UNIT COST $	ESTIMATED COST $	SUB-TOTALS $
4.1.2 Site demolition & relocations				-	
Not included				-	
Subtotal site demolition & relocation					-
4.1.3 Site earthwork				-	
Included w/excavation				-	
Subtotal Site earthwork					-
4.1.4 Hazardous waste remediation				-	
Not included				-	
Subtotal Hazardous waster remediation					-
SUBTOTAL SITE PREPARATION					**500,000**
4.2 SITE IMPROVEMENT					
4.2.1 Roadways					
Asphalt paving (9, 10, 11 & 12 avenues)	300,000	SF	9.00	2,700,000.00	
Subtotal Roadways					2,700,000
4.2.2 Parking lots					
w/super structure				-	
Subtotal Parking lots					-
4.2.3 Walks & terraces					
Dropp off area & plaza over 12th. Avenue					
Structural steel (30 #/SF)	3,646	TON	3,800.00	13,855,218	
Slab	243,074	SF	30.00	7,292,220	
Concrete topping/finish	243,074	SF	12.00	2,916,888	
Guard rail	2,296	LF	75.00	172,200	
Steel face curb	1,236	LF	45.00	55,620	
Layoff area & plaza - 11th. Avenue				-	
Slab on grade complete w/paving	70,000	SF	25.00	1,750,000	
Steel face curb	1,060	LF	45.00	47,700	
Layoff area & plaza - 10th. Avenue				-	
Slab on grade complete w/paving	25,000	SF	25.00	625,000	
Steel face curb	450	LF	45.00	20,250	
Escalator lobby @ existing heliport & New ferry doc	2	EA	75,000.00	150,000	
Layoff area & plaza - 9th. Avenue				-	
Slab on grade complete w/paving	27,843	SF	25.00	696,075	
Steel face curb	405	LF	45.00	18,225	
Subtotal Walks & terraces					27,599,396
4.2.4 Site development					

ESTIMATE DETAIL — BUILDING AREA 9,200,000 GSF

DESCRIPTION	QTY	UNIT	UNIT COST $	ESTIMATED COST $	SUB-TOTALS $
Truck & service entrances complete	2	EA	100,000.00	200,000	
Subtotal Site development					200,000
4.2.5 Landscaping					
Landscaping	1	LS	250,000.00	250,000	
Subtotal Landscaping					250,000
SUBTOTAL SITE IMPROVEMENT					#########
4.3 SITE CIVIL/MECHANICAL UTILITIES					
4.3.1 Water supply & distribution systems					
New water service	1	LS	500,000.00	500,000	
Subtotal Water supply & distribution system				-	500,000
4.3.2 Sanitary sewer system					
Sanitary sewer system	1	LS	500,000.00	500,000	
Subtotal Sanitary sewer system				-	500,000
4.3.3 Storm sewer systems					
Storm sewer systems	1	LS	500,000.00	500,000	
Subtotal Storm sewer system				-	500,000
4.4.4 Heat distribution				-	
Included				-	-
Subtotal Heat distribution					
4.3.5 Cooling distribution				-	
Included				-	
Subtotal Cooling distribution					
4.3.6 Gas distribution system					
Gas distribution system	1	LS	500,000.00	500,000	
Subtotal Gas distribution				-	500,000
4.3.7 Other Civil/Mechanical utilities				-	
Included				-	-
Subtotal Other Civil/Mechanical utilities					
SUBTOTAL SITE CIVIL/MECHANICAL UTILITIES					2,000,000

ESTIMATE DETAIL

BUILDING AREA 9,200,000 GSF

DESCRIPTION	QTY	UNIT	UNIT COST $	ESTIMATED COST $	SUB-TOTALS $
4.4 SITE ELECTRICAL UTILITIES					
4.4.1 Electrical distribution				-	
Electrical distribution	1	LS	750,000.00	750,000	
Subtotal distribution					750,000
4.4.2 Exterior lighting				-	
Not included				-	
Subtotal Exterior lighting					-
4.4.3 Exterior communications & security				-	
Not included				-	
Subtotal Exterior communication & security					-
4.4.4 Other electrical utility system				-	
Not included				-	
Subtotal Other electrical utility system					-
SUBTOTAL ELECTRICAL UTILITY					750,000
4.5 OTHER SITE CONSTRUCTION					
4.5.1 Service tunnel					
Not included				-	
Subtotal Service tunnel					-
4.5.2 Other site systems & equipment				-	
Not included				-	
Subtotal Other site utilities & equipment					-
SUBTOTAL OTHER SITE CONSTRUCTION					-

ESTIMATE SUMMARY

	BUILDING AREA		8,100,000 GSF		
	Description	Sub-Total $	Total $	$/SF	% of Total
3.1	FOUNDATION		-		0.00%
3.1.1	Standard foundation	-			
3.1.2	Special foundation	-			
3.1.3	Slab on grade	-			
3.2	BASEMENT CONSTRUCTION		-		0.00%
3.2.1	Basement excavation	-			
3.2.2	Basement walls	-			
3.3	SUPERSTRUCTURE		632,587,500		26.60%
3.3.1	Floor construction	#########			
3.3.2	Roof construction	-			
3.4	EXTERIOR CLOSURE		91,809,500		3.86%
3.4.1	Exterior walls	91,809,500			
3.4.2	Windows	-			
3.4.3	Exterior doors	-			
3.5	ROOFING		-		0.00%
3.5.1	Roof coverings	-	-		
3.5.2		-			
3.6	INTERIOR CONSTRUCTION		166,050,000		6.98%
3.6.1	Partitions	64,800,000			
3.6.2	Interior doors	4,050,000			
3.6.3	Specialties	97,200,000			
3.7	STAIRCASE		2,835,000		0.12%
3.7.1	Stair structure	2,835,000			
3.7.2	Stair finishes	-			
3.8	INTERIOR FINISHES		178,200,000		7.49%
3.8.1	Wall finishes	40,500,000			
3.8.2	Floor finishes	64,800,000			
3.8.3	Ceiling finishes	72,900,000			
3.9	CONVEYING SYSTEM		4,100,000		0.17%
3.9.1	Elevators	1,600,000			
3.9.2	Escalator & moving walks	2,500,000			
3.9.3	Material handling system	-			
3.10	PLUMBING		32,400,000		1.36%
3.10.1	Plumbing fixtures	32,400,000			
3.10.2	Domestic water	-			
3.10.3	Sanitary waste	-			
3.10.4	Rain water drainage	-			
3.10.5	Special plumbing system	-			
3.11	HVAC		364,500,000		15.33%
3.11.1	Energy supply	#########			
3.11.2	Heat generating system	-			
3.11.3	Cooling generating system	-			
3.11.4	Distribution system	-			

BUILDING AREA			8,100,000 GSF		
	Description	Sub-Total $	Total $	$/SF	% of Total
3.11.5	Terminal & package units	-			
3.11.6	Controls & Instrumentation	-			
3.11.7	Special HVAC systems & equipment	-			
3.11.8	Systems testing & balancing	-			
3.12	**FIRE PROTECTION**		**28,350,000**		1.19%
3.12.1	Sprinkler system	28,350,000			
3.12.2	Stand-Pipe system	-			
3.12.3	Fire extinguishers	-			
3.12.4	Special fire protection	-			
3.13	**ELECTRICAL**		**324,000,000**		13.63%
3.13.1	Service & distribution	#########			
3.13.2	Light & branch wiring	-			
3.13.3	Communications & security systems	-			
3.13.4	Special electrical systems				
3.14	**EQUIPMENT**		**810,000**		0.03%
3.14	Equipment	810,000			
3.15	**FURNISHINGS**		**810,000**		0.03%
3.15	Furnishings	810,000			
3.16	**SPECIAL CONSTRUCTION**		**-**		0.00%
3.16	Special construction	-			
3.17	**SELECTIVE BUILDING DEMOLITION**		**-**		0.00%
3.17.1	Building elements	-			
3.17.2	Hazardous components	-			
4.1	**SITE PREPARATION**		**-**		0.00%
4.1.1	Site clearing	-			
4.1.2	Site demolition & relocations	-			
4.1.3	Site earthwork	-			
4.1.4	Hazardous waste remediation	-			
4.2	**SITE IMPROVEMENT**		**-**		0.00%
4.2.1	Roadways	-			
4.2.2	Parking lots	-			
4.2.3	Walks & terraces	-			
4.2.4	Site development	-			
4.2.5	Landscaping	-			
4.3	**SITE CIVIL/MECHANICAL UTILITIES**		**-**		0.00%
4.3.1	Water supply & distribution systems	-			
4.3.2	Sanitary sewer system	-			
4.3.3	Storm sewer systems	-			
4.4.4	Heat distribution	-			
4.3.5	Cooling distribution	-			
4.3.6	Gas distribution system	-			
4.3.7	Other Civil/Mechanical utilities	-			
4.4	**SITE ELECTRICAL UTILITIES**		**-**		0.00%

ESTIMATE SUMMARY

	Description	Sub-Total $	Total $	$/SF	% of Total
	BUILDING AREA		8,100,000	GSF	
4.4.1	Electrical distribution	-			
4.4.2	Exterior lighting	-			
4.4.3	Exterior communications & security	-			
4.4.4	Other electrical utility system	-			
4.5	OTHER SITE CONSTRUCTION		-		0.00%
4.5.1	Service tunnel	-			
4.5.2	Other site systems & equipment	-			
	SUBTOTAL DIRECT COST		##########		76.81%
	Deduct sales tax on material	8.50%	(43,834,848)		-1.84%
	Design Contingency	10%	182,645,200		7.68%
	HF&G at this point strogly recomends 20 % Contingency				
	HF&G directed by Architect & client to use 10 % Contingency				
	Escalation (12 months @ 3.5% p.a.)	3.5%	Excluded		0.00%
	TOTAL DIRECT COST		##########		82.64%
	General Conditions, Overhead and Profit	21%	412,705,094		17.36%
	Construction Contingency	5%	Excluded		0.00%
	TOTAL CONSTRUCTION COST		##########	$ 294	100.00%

HUDSON YARDS
CONVENTION CENTER

Conceptual Design Cost Estimate

HANSCOMB Faithful&Gould

BUILDING AREA - GSF

DESCRIPTION	QTY	UNIT	UNIT COST $	ESTIMATED COST $	SUB-TOTALS $
3.1 FOUNDATION					
3.1.1 Standard foundation				-	
Included w/Infrastructure				-	
				-	
Subtotal Standard foundation					-
3.1.2 Special foundation				-	
				-	
				-	
Subtotal Special foundation					-
3.1.3 Slab on grade					
Included w/Infrastructure				-	
				-	
Subtotal Slab on grade				-	-
SUBTOTAL FOUNDATION					-
3.2 BASEMENT CONSTRUCTION					
3.2.1 Basement excavation					
Included w/Infrastructure				-	
				-	
Subtotal Basement excavation					-
3.2.2 Basement walls					
Included w/Infrastructure				-	
Subtotal Basement walls					-
SUBTOTAL BASEMENT CONSTRUCTION					-
3.3 SUPERSTRUCTURE					
3.3.1 Floor construction					
Structural steel (38.5 #/SF) Level 4	43,313	TON	3,800.00	164,587,500	
Structural steel (35 #/SF) Level 3	39,375	TON	3,800.00	149,625,000	
Structural steel (35 #/SF) Level 2	39,375	TON	3,800.00	149,625,000	
Floor slab (Level 4,3 & 2)	########	SF	25.00	168,750,000	
				-	
Subtotal Floor construction				-	#########
				-	
3.3.2 Roof construction				-	
Included w/Infrastructure				-	
				-	
Subtotal Roof construction				-	-

BUILDING AREA - GSF

DESCRIPTION	QTY	UNIT	UNIT COST $	ESTIMATED COST $	SUB-TOTALS $
SUBTOTAL SUPER STRUCTURE					#########
3.4 EXTERIOR CLOSURE					
3.4.1 Exterior walls					
Exterior walls including windows & back up	734,476	SF	125.00	91,809,500.00	
Subtotal Exterior walls					91,809,500
3.4.2 Windows				-	
Included w/exterior walls				-	
Subtotal Windows				-	-
3.4.3 Exterior doors				-	
Included w/exterior walls				-	
Subtotal Exterior doors					-
SUBTOTAL EXTERIOR CLOSURE					#########
3.5 ROOFING					
3.5.1 Roof coverings				-	
Included w/Infrastructure					-
Subtotal Roof coverings					
3.5.2 -				-	
Included w/Infrastructure				-	
Subtotal Roof openings				-	-
SUBTOTAL ROOF COVERINGS					-
3.6 INTERIOR CONSTRUCTION					
3.6.1 Partitions				64,800,000.00	
Interior partitions	########	SF	8.00	-	
Subtotal Partitions				-	64,800,000
3.6.2 Interior doors				4,050,000.00	
Interior doors	########	SF	0.50	-	
Subtotal Interior doors					4,050,000

BUILDING AREA - GSF

	DESCRIPTION	QTY	UNIT	UNIT COST $	ESTIMATED COST $	SUB-TOTALS $
3.6.3	Specialties					
	Misc. specialties	########	SF	12.00	97,200,000.00	
					-	
	Subtotal Specialties					97,200,000
	SUBTOTAL INTERIOR CONSTRUCTION					#########
3.7	STAIRCASE					
3.7.1	Stair structure					
	Stair structure	########	SF	0.35	2,835,000.00	
	Subtotal Stair Structure					2,835,000
3.7.2	Stair finishes					
	Included w/stair				-	
					-	
	Subtotal Stair finishes					-
	SUBTOTAL STAIRCASES					2,835,000
3.8	INTERIOR FINISHES					
3.8.1	Wall finishes					
	Wall finishes	########	SF	5.00	40,500,000.00	
					-	
	Subtotal Wall finishes					40,500,000
3.8.2	Floor finishes					
	Floor finishes	########	SF	8.00	64,800,000.00	
					-	
	Subtotal Floor finishes					64,800,000
3.8.3	Ceiling finishes					
	Ceiling finishes	########	SF	9.00	72,900,000.00	
					-	
	Subtotal Ceiling finishes					72,900,000
	SUBTOTAL FINISHES					#########
3.9	CONVEYING SYSTEM					

BUILDING AREA - GSF

DESCRIPTION	QTY	UNIT	UNIT COST $	ESTIMATED COST $	SUB-TOTALS $
3.9.1 Elevators					
Elevators, Interior (40 run floor to floor)	40	RUNS	40,000.00	1,600,000.00	
				-	
Subtotal Elevators					1,600,000
3.9.2 Escalator & moving walks					
Escalators, Interior	10	EA	250,000.00	2,500,000.00	
Subtotal Escalators & moving walks					2,500,000
3.9.3 Material handling system					
Not req'd				-	
Subtotal Material handling system					-
SUBTOTAL CONVEYING SYSTEM					4,100,000
3.10 PLUMBING					
11130 Plumbing fixtures					
Plumbing system complete	########	SF	4.00	32,400,000.00	
Subtotal Plumbing fixtures					32,400,000
3.10.2 Domestic water				-	
Included					-
Subtotal Domestic water					
3.10.3 Sanitary waste				-	
Included				-	
Subtotal Sanitary waste					-
3.10.4 Rain water drainage				-	
Included					-
Subtotal Rainwater drainage					
3.10.5 Special plumbing system				-	
Included					-
Subtotal Special plumbing system					
SUBTOTAL PLUMBING					#########
3.11 HVAC					
3.11.1 Energy supply					

BUILDING AREA - GSF

	DESCRIPTION	QTY	UNIT	UNIT COST $	ESTIMATED COST $	SUB-TOTALS $
	HVAC system complete	########	SF	45.00	364,500,000.00	
	Subtotal Energy supply				-	#########
3.11.2	Heat generating system					
	Included				-	
	Subtotal Heat generating system				-	-
3.11.3	Cooling generating system					
	Included				-	
	Subtotal Cooling generating system				-	-
3.11.4	Distribution system					
	Included				-	
	Subtotal Distribution system				-	-
3.11.5	Terminal & package units					
	Included				-	
	Subtotal Terminal & package units				-	-
3.11.6	Controls & Instrumentation					
	Included				-	
	Subtotal Controls & Instrumentation				-	-
3.11.7	Special HVAC systems & equipment					
	Included				-	
	Subtotal Special HVAC systems & equipment				-	-
3.11.8	Systems testing & balancing					
	Included				-	
	Subtotal Systems testing & balancing				-	
	SUBTOTAL HVAC					#########
3.12	FIRE PROTECTION					
3.12.1	Sprinkler system				-	
	Fire protection complete	########	SF	3.50	28,350,000.00	
	Subtotal Sprinkler system					28,350,000
3.12.2	Stand-Pipe system				-	
	Included				-	
	Subtotal Stand-Pipe system					-

BUILDING AREA - GSF

DESCRIPTION	QTY	UNIT	UNIT COST $	ESTIMATED COST $	SUB-TOTALS $
3.12.3 Fire extinguishers				-	
Included				-	
Subtotal Fire extinguisher					-
3.12.4 Special fire protection				-	
Included				-	
Subtotal Special fire protection					-
SUBTOTAL FIRE PROTECTION					#########
3.13 ELECTRICAL					
3.13.1 Service & distribution					
Electrical system complete	########	SF	40.00	324,000,000.00	
Subtotal Service & distribution					#########
3.13.2 Light & branch wiring					
Included				-	
Subtotal Light & branch wiring					-
3.13.3 Communications & security systems					
Included				-	
Subtotal Communications & security systems					-
SUBTOTAL ELECTRICAL					#########
3.14 EQUIPMENT					
3.14 Equipment					
Equipment	########	SF	0.10	810,000	
Subtotal Equipment					810,000
SUBTOTAL EQUIPMENT					810,000
3.15 FURNISHINGS					
3.15 Furnishings					
Furnishing	########	SF	0.10	810,000	

BUILDING AREA - GSF

DESCRIPTION	QTY	UNIT	UNIT COST $	ESTIMATED COST $	SUB-TOTALS $
Subtotal Furnishings				-	810,000
SUBTOTAL FURNISHONGS					810,000
3.16 SPECIAL CONSTRUCTION					
3.16 Special construction					
Not required				-	
Subtotal Special construction					-
SUBTOTAL SPECIAL CONSTRUCTION					-
3.17 SELECTIVE BUILDING DEMOLITION					
3.17.1 Building elements					
Not included				-	
Subtotal Building elements					-
3.17.2 Hazardous components					
Not included				-	
Subtotal Hazardous components					-
SUBTOTAL SELECTIVE BUILDING DEMOLITION					-
4.1 SITE PREPARATION					
4.1.1 Site clearing				-	
Incl.w/Infrastructure				-	
Subtotal Site clearing					-
4.1.2 Site demolition & relocations				-	
Incl.w/Infrastructure				-	
Subtotal site demolition & relocation					-
4.1.3 Site earthwork				-	
Incl.w/Infrastructure				-	
Subtotal Site earthwork					-
4.1.4 Hazardous waste remediation				-	
Not included				-	

BUILDING AREA - GSF

DESCRIPTION	QTY	UNIT	UNIT COST $	ESTIMATED COST $	SUB-TOTALS $
Subtotal Hazardous waster remediation					-
SUBTOTAL SITE PREPARATION					-
4.2 SITE IMPROVEMENT					
4.2.1 Roadways				-	
Incl.w/Infrastructure					
Subtotal Roadways					-
4.2.2 Parking lots				-	
Incl.w/Infrastructure					
Subtotal Parking lots					-
4.2.3 Walks & terraces				-	
Incl.w/Infrastructure				-	
Subtotal Walks & terraces					-
4.2.4 Site development				-	
Incl.w/Infrastructure					
Subtotal Site development					-
4.2.5 Landscaping				-	
Incl.w/Infrastructure					
Subtotal Landscaping					-
SUBTOTAL SITE IMPROVEMENT					-
4.3 SITE CIVIL/MECHANICAL UTILITIES					
4.3.1 Water supply & distribution systems				-	
Incl.w/Infrastructure					
Subtotal Water supply & distribution system				-	-
4.3.2 Sanitary sewer system				-	
Incl.w/Infrastructure					
Subtotal Sanitary sewer system				-	-
4.3.3 Storm sewer systems				-	
Incl.w/Infrastructure					
Subtotal Storm sewer system				-	-

BUILDING AREA - GSF

DESCRIPTION	QTY	UNIT	UNIT COST $	ESTIMATED COST $	SUB-TOTALS $
4.4.4 Heat distribution					
Incl.w/Infrastructure				-	
Subtotal Heat distribution				-	-
4.3.5 Cooling distribution					
Incl.w/Infrastructure				-	
Subtotal Cooling distribution				-	
4.3.6 Gas distribution system					
Incl.w/Infrastructure				-	
Subtotal Gas distribution				-	-
4.3.7 Other Civil/Mechanical utilities					
Incl.w/Infrastructure				-	
Subtotal Other Civil/Mechanical utilities				-	-
SUBTOTAL SITE CIVIL/MECHANICAL UTILITIES					-
4.4 SITE ELECTRICAL UTILITIES					
4.4.1 Electrical distribution				-	
Incl.w/Infrastructure				-	
Subtotal distribution					-
4.4.2 Exterior lighting				-	
Incl.w/Infrastructure				-	
Subtotal Exterior lighting					-
4.4.3 Exterior communications & security				-	
Incl.w/Infrastructure				-	
Subtotal Exterior communication & security					-
4.4.4 Other electrical utility system				-	
Incl.w/Infrastructure				-	
Subtotal Other electrical utility system					-
SUBTOTAL ELECTRICAL UTILITY					-
4.5 OTHER SITE CONSTRUCTION					
4.5.1 Service tunnel				-	

BUILDING AREA - GSF

DESCRIPTION	QTY	UNIT	UNIT COST $	ESTIMATED COST $	SUB-TOTALS $
Not included				-	
Subtotal Service tunnel				-	-
4.5.2 Other site systems & equipment				-	
Incl.w/Infrastructure					-
Subtotal Other site utilities & equipment					-
SUBTOTAL OTHER SITE CONSTRUCTION				1,826,452,000	#########

Conceptual Design Cost Estimate

HANSCOMB Faithful&Gould

ESTIMATE SUMMARY

	BUILDING AREA			GSF	
	Description	Sub-Total $	Total $	$/SF	% of Total
3.1	FOUNDATION		-		0.00%
3.1.1	Standard foundation	-			
3.1.2	Special foundation	-			
3.1.3	Slab on grade	-			
3.2	BASEMENT CONSTRUCTION		-		0.00%
3.2.1	Basement excavation	-			
3.2.2	Basement walls	-			
3.3	SUPERSTRUCTURE		-		0.00%
3.3.1	Floor construction	-			
3.3.2	Roof construction	-			
3.4	EXTERIOR CLOSURE		18,510,375		10.41%
3.4.1	Exterior walls	18,510,375			
3.4.2	Windows	-			
3.4.3	Exterior doors	-			
3.5	ROOFING		-		0.00%
3.5.1	Roof coverings	-			
3.5.2		-	-		
3.6	INTERIOR CONSTRUCTION		16,200,000		9.11%
3.6.1	Partitions	8,100,000			
3.6.2	Interior doors	900,000			
3.6.3	Specialties	7,200,000			
3.7	STAIRCASE		1,125,000		0.63%
3.7.1	Stair structure	1,125,000			
3.7.2	Stair finishes	-			
3.8	INTERIOR FINISHES		15,300,000		8.60%
3.8.1	Wall finishes	2,700,000			
3.8.2	Floor finishes	4,500,000			
3.8.3	Ceiling finishes	8,100,000			
3.9	CONVEYING SYSTEM		1,300,000		0.73%
3.9.1	Elevators	800,000			
3.9.2	Escalator & moving walks	500,000			
3.9.3	Material handling system	-			
3.10	PLUMBING		4,500,000		2.53%
3.10.1	Plumbing fixtures	4,500,000			
3.10.2	Domestic water	-			
3.10.3	Sanitary waste	-			
3.10.4	Rain water drainage	-			
3.10.5	Special plumbing system	-			
3.11	HVAC		40,500,000		22.77%
3.11.1	Energy supply	40,500,000			
3.11.2	Heat generating system	-			
3.11.3	Cooling generating system	-			
3.11.4	Distribution system	-			
3.11.5	Terminal & package units	-			

ESTIMATE SUMMARY

BUILDING AREA — GSF

	Description	Sub-Total $	Total $	$/SF	% of Total
3.11.6	Controls & Instrumentation	-			
3.11.7	Special HVAC systems & equipment	-			
3.11.8	Systems testing & balancing	-			
3.12	**FIRE PROTECTION**		3,150,000		1.77%
3.12.1	Sprinkler system	3,150,000			
3.12.2	Stand-Pipe system	-			
3.12.3	Fire extinguishers	-			
3.12.4	Special fire protection	-			
3.13	**ELECTRICAL**		36,000,000		20.24%
3.13.1	Service & distribution	36,000,000			
3.13.2	Light & branch wiring	-			
3.13.3	Communications & security systems	-			
3.13.4	Special electrical systems				
3.14	**EQUIPMENT**		45,000		0.03%
3.14	Equipment	45,000			
3.15	**FURNISHINGS**		-		0.00%
3.15	Furnishings	-			
3.16	**SPECIAL CONSTRUCTION**		-		0.00%
3.16	Special construction	-			
3.17	**SELECTIVE BUILDING DEMOLITION**		-		0.00%
3.17.1	Building elements	-			
3.17.2	Hazardous components	-			
4.1	**SITE PREPARATION**		-		0.00%
4.1.1	Site clearing	-			
4.1.2	Site demolition & relocations	-			
4.1.3	Site earthwork	-			
4.1.4	Hazardous waste remediation	-			
4.2	**SITE IMPROVEMENT**		-		0.00%
4.2.1	Roadways	-			
4.2.2	Parking lots	-			
4.2.3	Walks & terraces	-			
4.2.4	Site development	-			
4.2.5	Landscaping	-			
4.3	**SITE CIVIL/MECHANICAL UTILITIES**		-		0.00%
4.3.1	Water supply & distribution systems	-			
4.3.2	Sanitary sewer system	-			
4.3.3	Storm sewer systems	-			
4.4.4	Heat distribution	-			
4.3.5	Cooling distribution	-			
4.3.6	Gas distribution system	-			
4.3.7	Other Civil/Mechanical utilities	-			
4.4	**SITE ELECTRICAL UTILITIES**		-		0.00%
4.4.1	Electrical distribution	-			
4.4.2	Exterior lighting	-			

ESTIMATE SUMMARY

	BUILDING AREA			GSF	
	Description	Sub-Total $	Total $	$/SF	% of Total
4.4.3	Exterior communications & security	-			
4.4.4	Other electrical utility system	-			
4.5	OTHER SITE CONSTRUCTION		-		0.00%
4.5.1	Service tunnel	-			
4.5.2	Other site systems & equipment	-			
	SUBTOTAL DIRECT COST		$ 136,630,375		76.81%
	Deduct sales tax on material	8.50%	(3,279,129)		#DIV/0!
	Design Contingency HF&G at this point strogly recomends 20 % Contingency HF&G directed by Architect & client to use 10 % Contingency	10%	13,663,038		7.68%
	Escalation (12 months @ 3.5% p.a.)	3.5%	Excluded		0.00%
	TOTAL DIRECT COST		$ 147,014,284		82.64%
	General Conditions, Overhead and Profit	21%	30,873,000		17.36%
	Construction Contingency	5%	Excluded		0.00%
	TOTAL CONSTRUCTION COST		$ 177,887,283		100.00%

ESTIMATE DETAIL

BUILDING AREA 900,000 GSF

DESCRIPTION	QTY	UNIT	UNIT COST $	ESTIMATED COST $	SUB-TOTALS $
3.1 FOUNDATION				-	
3.1.1 Standard foundation				-	
Incl.w/Infrastructure				-	
Subtotal Standard foundation				-	-
3.1.2 Special foundation				-	
Incl.w/Infrastructure				-	
Subtotal Special foundation				-	-
3.1.3 Slab on grade				-	
Incl.w/Infrastructure				-	
				-	
Subtotal Slab on grade				-	-
SUBTOTAL FOUNDATION					-
3.2 BASEMENT CONSTRUCTION					
3.2.1 Basement excavation				-	
Incl.w/Infrastructure				-	
Subtotal Basement excavation					-
3.2.2 Basement walls				-	
Incl.w/Infrastructure					
Subtotal Basement walls					-
SUBTOTAL BASEMENT CONSTRUCTION					-
3.3 SUPERSTRUCTURE					
3.3.1 Floor construction				-	
Incl.w/Infrastructure & Convention Center				-	
				-	-
Subtotal Floor construction				-	
				-	
3.3.2 Roof construction				-	
Incl.w/Infrastructure & Convention Center				-	
				-	-
Subtotal Roof construction					
SUBTOTAL SUPER STRUCTURE					-

BUILDING AREA 900,000 GSF

DESCRIPTION	QTY	UNIT	UNIT COST $	ESTIMATED COST $	SUB-TOTALS $
3.4 EXTERIOR CLOSURE					
3.4.1 Exterior walls					
Exterior walls/Storefronts	148,083	SF	125.00	18,510,375.00	
Subtotal Exterior walls					18,510,375
3.4.2 Windows					
Included w/exterior walls				-	
				-	
Subtotal Windows				-	-
				-	
3.4.3 Exterior doors				-	
Included w/exterior walls				-	
				-	
Subtotal Exterior doors					-
SUBTOTAL EXTERIOR CLOSURE					#########
3.5 ROOFING					
3.5.1 Roof coverings					
Incl.w/Infrastructure				-	
Subtotal Roof coverings					-
3.5.2					
Incl.w/Infrastructure				-	
				-	
Subtotal Roof openings				-	-
SUBTOTAL ROOF COVERINGS					-
3.6 INTERIOR CONSTRUCTION					
3.6.1 Partitions					
Interior partitions	900,000	SF	9.00	8,100,000.00	
				-	
Subtotal Partitions				-	8,100,000
3.6.2 Interior doors					
Interior doors	900,000	SF	1.00	900,000.00	
				-	
Subtotal Interior doors					900,000
3.6.3 Specialties					

BUILDING AREA 900,000 GSF

DESCRIPTION	QTY	UNIT	UNIT COST $	ESTIMATED COST $	SUB-TOTALS $
Misc. specialties	900,000	SF	8.00	7,200,000.00 -	
Subtotal Specialties					7,200,000
SUBTOTAL INTERIOR CONSTRUCTION					#########
3.7 STAIRCASE					
3.7.1 Stair structure					
Stair structure	900,000	SF	1.25	1,125,000.00 -	
Subtotal Stair Structure					1,125,000
3.7.2 Stair finishes				-	
Included w/stair				-	
Subtotal Stair finishes					-
SUBTOTAL STAIRCASES					1,125,000
3.8 INTERIOR FINISHES					
3.8.1 Wall finishes					
Wall finishes	900,000	SF	3.00	2,700,000.00 -	
Subtotal Wall finishes					2,700,000
3.8.2 Floor finishes					
Floor finishes	900,000	SF	5.00	4,500,000.00 -	
Subtotal Floor finishes					4,500,000
3.8.3 Ceiling finishes					
Ceiling finishes	900,000	SF	9.00	8,100,000.00 -	
Subtotal Ceiling finishes					8,100,000
SUBTOTAL FINISHES					#########
3.9 CONVEYING SYSTEM					
3.9.1 Elevators					
Elevators, Interior (20 run floor to floor)	20	RUNS	40,000.00	800,000.00 -	

BUILDING AREA 900,000 GSF

	DESCRIPTION	QTY	UNIT	UNIT COST $	ESTIMATED COST $	SUB-TOTALS $
	Subtotal Elevators					800,000
3.9.2	Escalator & moving walks					
	Escalators	2	EA	250,000.00	500,000.00	
	Subtotal Escalators & moving walks					500,000
3.9.3	Material handling system					
	Not included				-	
	Subtotal Material handling system					-
	SUBTOTAL CONVEYING SYSTEM					1,300,000
3.10	PLUMBING					
11130	Plumbing fixtures					
	Plumbing system complete	900,000	SF	5.00	4,500,000.00	
	Subtotal Plumbing fixtures					4,500,000
3.10.2	Domestic water					
	Included				-	
	Subtotal Domestic water					-
3.10.3	Sanitary waste					
	Included				-	
					-	
	Subtotal Sanitary waste					-
3.10.4	Rain water drainage					
	Included				-	
	Subtotal Rainwater drainage					-
3.10.5	Special plumbing system					
	Included				-	
	Subtotal Special plumbing system					-
	SUBTOTAL PLUMBING					4,500,000
3.11	HVAC					
3.11.1	Energy supply					
	HVAC system complete	900,000	SF	45.00	40,500,000.00	
	Subtotal Energy supply				-	40,500,000

BUILDING AREA 900,000 GSF

DESCRIPTION	QTY	UNIT	UNIT COST $	ESTIMATED COST $	SUB-TOTALS $
3.11.2 Heat generating system					
Subtotal Heat generating system				-	-
3.11.3 Cooling generating system					
Included				-	
Subtotal Cooling generating system				-	-
3.11.4 Distribution system					
Included				-	
Subtotal Distribution system				-	-
3.11.5 Terminal & package units					
Included				-	
Subtotal Terminal & package units				-	-
3.11.6 Controls & Instrumentation					
Included				-	
Subtotal Controls & Instrumentation				-	-
3.11.7 Special HVAC systems & equipment					
Included				-	
Subtotal Special HVAC systems & equipment				-	-
3.11.8 Systems testing & balancing					
Included				-	
Subtotal Systems testing & balancing				-	
SUBTOTAL HVAC					#########
3.12 FIRE PROTECTION					
3.12.1 Sprinkler system				-	
Fire protection complete	900,000	SF	3.50	3,150,000.00	
Subtotal Sprinkler system					3,150,000
3.12.2 Stand-Pipe system				-	
Included				-	
Subtotal Stand-Pipe system					-

		BUILDING AREA			900,000	GSF
	DESCRIPTION	QTY	UNIT	UNIT COST $	ESTIMATED COST $	SUB-TOTALS $
3.12.3	Fire extinguishers				-	
	Included				-	
	Subtotal Fire extinguisher					-
3.12.4	Special fire protection				-	
	Included				-	
	Subtotal Special fire protection					-
	SUBTOTAL FIRE PROTECTION					3,150,000
3.13	ELECTRICAL					
3.13.1	Service & distribution					
	Electrical system complete	900,000	SF	40.00	36,000,000.00	
	Subtotal Service & distribution					36,000,000
3.13.2	Light & branch wiring					
	Included				-	
	Subtotal Light & branch wiring					-
3.13.3	Communications & security systems					
	Included				-	
	Subtotal Communications & security systems					-
	SUBTOTAL ELECTRICAL					#########
3.14	EQUIPMENT					
3.14	Equipment					
	Equipment	900,000	SF	0.05	45,000	
	Subtotal Equipment					45,000
	SUBTOTAL EQUIPMENT					45,000
	Not included				-	
	Subtotal Furnishings				-	-

DESCRIPTION	QTY	UNIT	UNIT COST $	ESTIMATED COST $	SUB-TOTALS $
SUBTOTAL FURNISHONGS					-
3.16 SPECIAL CONSTRUCTION					
3.16 Special construction					-
Subtotal Special construction					
SUBTOTAL SPECIAL CONSTRUCTION					-
3.17 SELECTIVE BUILDING DEMOLITION					
3.17.1 Building elements				-	
Not included					-
Subtotal Building elements					
3.17.2 Hazardous components				-	
Not included					-
Subtotal Hazardous components					
SUBTOTAL SELECTIVE BUILDING DEMOLITION					-
4.1 SITE PREPARATION					
				-	
4.1.1 Site clearing				-	
Incl.w/Infrastructure					-
Subtotal Site clearing					
				-	
4.1.2 Site demolition & relocations				-	
Not included					-
Subtotal site demolition & relocation					
				-	
4.1.3 Site earthwork				-	
Incl.w/Infrastructure					-
Subtotal Site earthwork					
				-	
4.1.4 Hazardous waste remediation				-	
Not included					-
Subtotal Hazardous waster remediation					

BUILDING AREA 900,000 GSF

DESCRIPTION	QTY	UNIT	UNIT COST $	ESTIMATED COST $	SUB-TOTALS $
SUBTOTAL SITE PREPARATION					-
4.2 SITE IMPROVEMENT					
4.2.1 Roadways					
Incl.w/Infrastructure				-	
Subtotal Roadways					-
4.2.2 Parking lots					
Incl.w/Infrastructure				-	
Subtotal Parking lots					-
4.2.3 Walks & terraces					
Incl.w/Infrastructure				-	
				-	
Subtotal Walks & terraces					-
4.2.4 Site development					
Incl.w/Infrastructure				-	
Subtotal Site development					-
4.2.5 Landscaping					
Incl.w/Infrastructure				-	
Subtotal Landscaping					-
SUBTOTAL SITE IMPROVEMENT					-
4.3 SITE CIVIL/MECHANICAL UTILITIES					
4.3.1 Water supply & distribution systems					
Incl.w/Infrastructure				-	
Subtotal Water supply & distribution system				-	-
4.3.2 Sanitary sewer system					
Incl.w/Infrastructure				-	
Subtotal Sanitary sewer system				-	-
4.3.3 Storm sewer systems					
Incl.w/Infrastructure				-	
Subtotal Storm sewer system				-	-
4.4.4 Heat distribution					
Incl.w/Infrastructure				-	

DESCRIPTION	QTY	UNIT	UNIT COST $	ESTIMATED COST $	SUB-TOTALS $
Subtotal Heat distribution				-	-
4.3.5 Cooling distribution				-	
Incl.w/Infrastructure					
Subtotal Cooling distribution				-	
4.3.6 Gas distribution system				-	
Incl.w/Infrastructure					
Subtotal Gas distribution				-	-
4.3.7 Other Civil/Mechanical utilities				-	
Incl.w/Infrastructure					
Subtotal Other Civil/Mechanical utilities				-	-
SUBTOTAL SITE CIVIL/MECHANICAL UTILITIES					-
4.4 SITE ELECTRICAL UTILITIES					
4.4.1 Electrical distribution				-	
Incl.w/Infrastructure					
Subtotal distribution				-	-
4.4.2 Exterior lighting				-	
Incl.w/Infrastructure					
Subtotal Exterior lighting				-	-
4.4.3 Exterior communications & security				-	
Incl.w/Infrastructure					
Subtotal Exterior communication & security				-	-
4.4.4 Other electrical utility system				-	
Not included					
Subtotal Other electrical utility system				-	-
SUBTOTAL ELECTRICAL UTILITY					-
4.5 OTHER SITE CONSTRUCTION					
4.5.1 Service tunnel				-	
Incl.w/Infrastructure					
Subtotal Service tunnel				-	-

	BUILDING AREA			900,000	GSF
DESCRIPTION	QTY	UNIT	UNIT COST $	ESTIMATED COST $	SUB-TOTALS $
4.5.2 Other site systems & equipment				-	
Incl.w/Infrastructure				-	
Subtotal Other site utilities & equipment					-
SUBTOTAL OTHER SITE CONSTRUCTION					-
				136,630,375	########

13 Sep 04

HUDSON YARDS
RAPID TRANSIT SYSTEM

Conceptual Design Cost Estimate

HANSCOMB Faithful&Gould

ESTIMATE SUMMARY

BUILDING AREA	- GSF			
Description	Sub-Total $	Total $	$/SF	% of Total
3.9 CONVEYING SYSTEM		419,558,000		76.81%
3.9.1 Elevators	-			
3.9.2 Escalator	-			
3.9.2 Moving walks	-			
3.9.2 Rapid transit system	#########			
3.9.3 Material handling system	-			
SUBTOTAL DIRECT COST		$ 419,558,000		76.81%
Deduct sales tax on material	8.50%	(10,069,392)		-1.84%
Design Contingency	10%	41,955,800		7.68%
~~HF&G at this point strogly recomends 20 % Contingency~~				
~~HF&G directed by Architect & client to use 10 % Contingency~~				
Escalation (12 months @ 3.5% p.a.)	3.5%	Excluded		0.00%
TOTAL DIRECT COST		$ 451,444,408		82.64%
General Conditions, Overhead and Profit	21%	94,803,326		17.36%
Construction Contingency	5%	Excluded		0.00%
TOTAL CONSTRUCTION COST		$ 546,247,734		100.00%

DESCRIPTION	QTY	UNIT	UNIT COST $	ESTIMATED COST $	SUB-TOTALS $
3.9 CONVEYING SYSTEM					
3.9.1 Elevators	-				
				-	
Subtotal Elevators					-
3.9.2 Escalator					
Subtotal Escalators					-
3.9.2 Moving walks					
Subtotal Moving walks					-
3.9.2 Rapid transit system					
Monorail light wt system w/ 2.5 Mile loop, 10 stations, 10 trains w/2 cars, 5 years maintenance					
Structure	2.50	MILE	##########	112,500,000.00	
Special foundation - 6' dia. Caissons, 100' o/c. for OH structure	3,360.00	LF	1,550.00	5,208,000.00	
Tracks & electrical work	2.50	MILE	6,000,000.00	15,000,000.00	
Stations complete w/all general construction, Mechanical & electrical work	10.00	EA	##########	100,000,000.00	
Controls & signaling	1.00	LS	##########	45,000,000.00	
Maintenance shop	1.00	LS	##########	40,000,000.00	
Train - 2 cars unit	10.00	EA	##########	100,000,000.00	
Modification in building structural members to accommodate Monorail system	1.00	LS	500,000.00	500,000.00	
Support existing utilities during construction	1.00	LS	500,000.00	500,000.00	
Refurbish paving/sidewalk disturbed during construction	1.00	LS	450,000.00	450,000.00	
Temporary protection & Traffic management during street construction	1.00	LS	400,000.00	400,000.00	
				-	
Subtotal Monorail					#########
3.9.3 Material handling system					
Not req'd					
				-	
Subtotal Material handling system					-
SUBTOTAL CONVEYING SYSTEM					#########

MOVING WALK

Conceptual Design Cost Estimate

ESTIMATE SUMMARY

BUILDING AREA - GSF

Description		Sub-Total $	Total $	$/SF	% of Total
3.9	CONVEYING SYSTEM		16,000,000		76.81%
3.9.1	Elevators	-			
3.9.2	Escalator	-			
3.9.2	Moving walks	16,000,000			
3.9.2	Rapid transit system				
3.9.3	Material handling system	-			
	SUBTOTAL DIRECT COST		$ 16,000,000		76.81%
	Deduct sales tax on material	8.50%	(384,000)		-1.84%
	Design Contingency	10%	1,600,000		7.68%
	~~HF&G at this point strogly recomends 20 % Contingency~~				
	HF&G directed by Architect & client to use 10 % Contingency				
	Escalation (12 months @ 3.5% p.a.)	3.5%	Excluded		0.00%
	TOTAL DIRECT COST		$ 17,216,000		82.64%
	General Conditions, Overhead and Profit	21%	3,615,360		17.36%
	Construction Contingency	5%	Excluded		0.00%
	TOTAL CONSTRUCTION COST		$ 20,831,360		100.00%

DESCRIPTION	QTY	UNIT	UNIT COST $	ESTIMATED COST $	SUB-TOTALS $
3.9 CONVEYING SYSTEM					
3.9.1 Elevators					
Subtotal Elevators					-
3.9.2 Escalator					
Subtotal Escalators					-
3.9.2 Moving walks					
Moving walk					
Moving walk	3,200	LF	3,500.00	11,200,000.00	
Exterior enclosure @ moving walk	48,000	SF	100.00	4,800,000.00	
Subtotal Moving walks					16,000,000
3.9.2 Rapid transit system					
Subtotal Monorail					-
3.9.3 Material handling system					
Not req'd					
Subtotal Material handling system					-
SUBTOTAL CONVEYING SYSTEM					#########

ESTIMATE SUMMARY

BUILDING AREA			-	GSF	
	Description	Sub-Total $	Total $	$/SF	% of Total
3.9	CONVEYING SYSTEM		50,700,000		76.81%
3.9.1	Elevators	-			
3.9.2	Escalator	50,700,000			
3.9.2	Moving walks	-			
3.9.2	Rapid transit system				
3.9.3	Material handling system	-			
	SUBTOTAL DIRECT COST		$ 50,700,000		76.81%
	Deduct sales tax on material	8.50%	(1,216,800)		-1.84%
	Design Contingency	10%	5,070,000		7.68%
	~~HF&G at this point strogly recomends 20 % Contingency~~				
	HF&G directed by Architect & client to use 10 % Contingency				
	Escalation (12 months @ 3.5% p.a.)	3.5%	Excluded		0.00%
	TOTAL DIRECT COST		$ 54,553,200		82.64%
	General Conditions, Overhead and Profit	21%	11,456,172		17.36%
	Construction Contingency	5%	Excluded		0.00%
	TOTAL CONSTRUCTION COST		$ 66,009,372		100.00%

DESCRIPTION	QTY	UNIT	UNIT COST $	ESTIMATED COST $	SUB-TOTALS $
3.9 CONVEYING SYSTEM					
3.9.1 Elevators				-	
Subtotal Elevators				-	-
3.9.2 Escalator					
Escalator					
Escalator	126	EA	400,000.00	50,400,000.00	
Escalators @ existing heliport & new ferry dock	2	EA	150,000.00	300,000.00	
Subtotal Escalators					50,700,000
3.9.2 Moving walks				-	
Subtotal Moving walks				-	-
3.9.2 Rapid transit system				-	
Subtotal Monorail				-	-
3.9.3 Material handling system					
Not req'd				-	
Subtotal Material handling system				-	-
SUBTOTAL CONVEYING SYSTEM					#########

BUILDING AREA			GSF
	Description	Sub-Total $	Total $
4.1	SITE PREPARATION		
4.1.2	Demo. Convention center & arena	18,000,000	23,958,000
4.1.2	Demo. Park strip	1,000,000	1,331,000
4.1.2	Demo Javits center	23,184,000	30,857,904
4.1.2	Demo. Bus terminal	24,854,810	33,081,751
4.1.2	Demo. Warehouse	7,099,394	9,449,293
4.1.2	Demo Park strip	3,500,000	4,658,500

Total cost included 10 % Contingency & 21 % Gen.Con OH & Profit

HUDSON YARDS
DEMOLITION

Conceptual Design Cost Estimate

HANSCOMB Faithful&Gould

ESTIMATE DETAIL

	BUILDING AREA			9,200,000	GSF
DESCRIPTION	QTY	UNIT	UNIT COST $	ESTIMATED COST $	SUB-TOTALS $
4.1 SITE PREPARATION					
4.1.2 Demo. Convention center & arena				-	
Demolish existing buildings	#######	CFT	0.75	18,000,000	
Subtotal					18,000,000
				-	
				-	
4.1.2 Demo. Park strip				-	
Demolish existing building	1	LS	1,000,000.00	1,000,000	
Subtotal					1,000,000
4.1.2 Demo Javits center				-	
Demolish Javits center - 1,932,000 SF	#######	CFT	0.75	23,184,000	
Subtotal					23,184,000
4.1.2 Demo. Bus terminal				-	
Demolish Bus terminal - 613,699 SF	#######	CFT	2.25	24,854,810	
Subtotal					24,854,810
4.1.2 Demo. Warehouse				-	
Demolish Warehouse -525881 SF	#######	CFT	0.75	7,099,394	
Subtotal					7,099,394
4.1.2 Demo Park strip				-	
Demolish park strip	1	LS	3,500,000.00	3,500,000	
Subtotal					3,500,000

13 Sep 04

HUDSON YARDS
OPEN SPACE CONSTRUCTUION

Conceptual Design Cost Estimate

HANSCOMB Faithful&Gould

ESTIMATE SUMMARY

BUILDING AREA

	Description	Sub-Total $	Total $	$/SF	% of Total
4.1	SITE PREPARATION		575,000		2.04%
4.1.1	Site clearing	500,000			
4.1.3	Site earthwork	75,000			
4.1.4	Hazardous waste remediation				
4.2	SITE IMPROVEMENT		21,112,500		74.77%
4.2.4	Site development	21,112,500			
4.2.5	Landscaping	-			
	SUBTOTAL DIRECT COST		$ 21,687,500		76.81%
	Deduct sales tax on material	8.50%	(520,500)		-1.84%
	Design Contingency	10%	2,168,750		7.68%
	HF&G at this point strogly recomends 20 % Contingency				
	HF&G directed by Architect & client to use 10 % Contingency				
	Escalation (12 months @ 3.5% p.a.)	3.5%	Excluded		0.00%
	TOTAL DIRECT COST		$ 23,335,750		82.64%
	General Conditions, Overhead and Profit	21%	4,900,508		17.36%
	Construction Contingency	5%	Excluded		0.00%
	TOTAL CONSTRUCTION COST		$ 28,236,258		100.00%

13 Sep 04

HUDSON YARDS

OPEN SPACE CONSTRUCTUION- ROOF TOP

Conceptual Design Cost Estimate

HANSCOMB Faithful&Gould

ESTIMATE DETAIL

BUILDING AREA 9,200,000 GSF

DESCRIPTION	QTY	UNIT	UNIT COST $	ESTIMATED COST $	SUB-TOTALS $
4.1 SITE PREPARATION					
4.1.1 Site clearing				-	
Site clearing	1	LS	500,000.00	500,000	
Subtotal Site clearing					500,000
4.1.3 Site earthwork				-	
Misc. site work	1	LS	75,000.00	75,000	
Subtotal Site earthwork					75,000
4.1.4 Hazardous waste remediation				-	
Not included				-	
Subtotal Hazardous waster remediation					-
SUBTOTAL SITE PREPARATION					**575,000**
4.2 SITE IMPROVEMENT					
4.2.4 Site development					
Development of park	281,500	SF	75.00	21,112,500	
				-	
Subtotal Site development					21,112,500
4.2.5 Landscaping					
Incuded				-	
Subtotal Landscaping					-
SUBTOTAL SITE IMPROVEMENT					#########

HUDSON YARDS
OPEN SPACE CONSTRUCTUION - ROOF
Conceptual Design Cost Estimate

HANSCOMB Faithful&Gould

ESTIMATE SUMMARY

	Description	Sub-Total $	Total $	$/SF	% of Total
	BUILDING AREA		**9,200,000**	**GSF**	
4.2	SITE IMPROVEMENT		123,750,000		76.81%
	4.2.3 Walks & terraces	67,500,000			
	4.2.5 Landscaping	56,250,000			
	SUBTOTAL DIRECT COST		**$ 123,750,000**		**76.81%**
	Deduct sales tax on material	8.50%	(2,970,000)		-1.84%
	Design Contingency	10%	12,375,000		7.68%
	HF&G at this point strogly recomends 20 % Contingency				
	HF&G directed by Architect & client to use 10 % Contingency				
	Escalation (12 months @ 3.5% p.a.)	3.5%	Excluded		0.00%
	TOTAL DIRECT COST		**$ 133,155,000**		**82.64%**
	General Conditions, Overhead and Profit	21%	27,962,550		17.36%
	Construction Contingency	5%	Excluded		0.00%
	TOTAL CONSTRUCTION COST		**$ 161,117,550**		**100.00%**

HUDSON YARDS
OPEN SPACE CONSTRUCTUION- ROOF TOP

HANSCOMB
Faithful&Gould

Conceptual Design Cost Estimate

ESTIMATE DETAIL

			BUILDING AREA	9,200,000	GSF
DESCRIPTION	QTY	UNIT	UNIT COST $	ESTIMATED COST $	SUB-TOTALS $
4.2 SITE IMPROVEMENT					
4.2.3 Walks & terraces					
Paving @ roof level	########	SF	60.00	67,500,000	
Subtotal Walks & terraces					67,500,000
4.2.5 Landscaping					
Landscaping @ roof level	########	SF	50.00	56,250,000	
Subtotal Landscaping					56,250,000
SUBTOTAL SITE IMPROVEMENT					#########

ESTIMATE SUMMARY

BUILDING AREA			9,200,000 GSF		
	Description	Sub-Total $	Total $	$/SF	% of Total
3.1	FOUNDATION		17,684,800		2.23%
3.1.1	Standard foundation	284,800			
3.1.2	Special foundation	17,400,000			
3.1.3	Slab on grade	-			
3.2	BASEMENT CONSTRUCTION		-		0.00%
3.2.1	Basement excavation	-			
3.2.2	Basement walls	-			
3.3	SUPERSTRUCTURE		325,520,313		41.04%
3.3.1	Floor construction	#########			
3.3.2	Roof construction	10,970,313			
3.4	EXTERIOR CLOSURE		57,240,000		7.22%
3.4.1	Exterior walls	57,240,000			
3.4.2	Windows	-			
3.4.3	Exterior doors	-			
3.5	ROOFING		1,041,250		0.13%
3.5.1	Roof coverings	1,020,000			
3.5.2	Roof opening	21,250	-		
3.6	INTERIOR CONSTRUCTION		28,140,000		3.55%
3.6.1	Partitions	10,720,000			
3.6.2	Interior doors	1,340,000			
3.6.3	Specialties	16,080,000			
3.7	STAIRCASE		1,340,000		0.17%
3.7.1	Stair structure	1,340,000			
3.7.2	Stair finishes	-			
3.8	INTERIOR FINISHES		22,780,000		2.87%
3.8.1	Wall finishes	4,020,000			
3.8.2	Floor finishes	6,700,000			
3.8.3	Ceiling finishes	12,060,000			
3.9	CONVEYING SYSTEM		20,100,000		2.53%
3.9.1	Elevators	20,100,000			
3.9.2	Escalator & moving walks	-			
3.9.3	Material handling system	-			
3.10	PLUMBING		12,060,000		1.52%
3.10.1	Plumbing fixtures	12,060,000			
3.10.2	Domestic water	-			
3.10.3	Sanitary waste	-			
3.10.4	Rain water drainage	-			
3.10.5	Special plumbing system	-			
3.11	HVAC		60,300,000		7.60%
3.11.1	Energy supply	60,300,000			
3.11.2	Heat generating system	-			
3.11.3	Cooling generating system	-			

ESTIMATE SUMMARY

	BUILDING AREA		9,200,000 GSF		
	Description	Sub-Total $	Total $	$/SF	% of Total
3.11.4	Distribution system	-			
3.11.5	Terminal & package units	-			
3.11.6	Controls & Instrumentation	-			
3.11.7	Special HVAC systems & equipment	-			
3.11.8	Systems testing & balancing	-			
3.12	FIRE PROTECTION		4,690,000		0.59%
3.12.1	Sprinkler system	4,690,000			
3.12.2	Stand-Pipe system	-			
3.12.3	Fire extinguishers	-			
3.12.4	Special fire protection	-			
3.13	ELECTRICAL		50,920,000		6.42%
3.13.1	Service & distribution	50,920,000			
3.13.2	Light & branch wiring	-			
3.13.3	Communications & security systems	-			
3.13.4	Special electrical systems				
3.14	EQUIPMENT		1,340,000		0.17%
3.14	Equipment	1,340,000			
3.15	FURNISHINGS		1,340,000		0.17%
3.15	Furnishings	1,340,000			
3.16	SPECIAL CONSTRUCTION		-		0.00%
3.16	Special construction	-			
3.17	SELECTIVE BUILDING DEMOLITION		3,300,000		0.42%
3.17.1	Building elements	3,300,000			
3.17.2	Hazardous components	-			
4.1	SITE PREPARATION		500,000		0.06%
4.1.1	Site clearing	500,000			
4.1.2	Site demolition & relocations	-			
4.1.3	Site earthwork	-			
4.1.4	Hazardous waste remediation	-			
4.2	SITE IMPROVEMENT		250,000		0.03%
4.2.1	Roadways	-			
4.2.2	Parking lots	-			
4.2.3	Walks & terraces	-			
4.2.4	Site development	-			
4.2.5	Landscaping	250,000			
4.3	SITE CIVIL/MECHANICAL UTILITIES		400,000		0.05%
4.3.1	Water supply & distribution systems	100,000			
4.3.2	Sanitary sewer system	100,000			
4.3.3	Storm sewer systems	100,000			
4.4.4	Heat distribution	-			
4.3.5	Cooling distribution	-			
4.3.6	Gas distribution system	100,000			
4.3.7	Other Civil/Mechanical utilities	-			
4.4	SITE ELECTRICAL UTILITIES		200,000		0.03%

ESTIMATE SUMMARY

	BUILDING AREA		9,200,000 GSF		
	Description	Sub-Total $	Total $	$/SF	% of Total
4.4.1	Electrical distribution	200,000			
4.4.2	Exterior lighting	-			
4.4.3	Exterior communications & security	-			
4.4.4	Other electrical utility system	-			
4.5	OTHER SITE CONSTRUCTION		-		0.00%
4.5.1	Service tunnel	-			
4.5.2	Other site systems & equipment	-			
	SUBTOTAL DIRECT COST		$ 609,146,363		76.81%
	Deduct sales tax on material	8.50%	(14,619,513)		-1.84%
	Design Contingency	10%	60,914,636		7.68%
	~~HF&G at this point strogly recomends 20 % Contingency~~				
	HF&G directed by Architect & client to use 10 % Contingency				
	Escalation (12 months @ 3.5% p.a.)	3.5%	Excluded		0.00%
	TOTAL DIRECT COST		$ 655,441,486		82.64%
	General Conditions, Overhead and Profit	21%	137,642,712		17.36%
	Construction Contingency	5%	Excluded		0.00%
	TOTAL CONSTRUCTION COST		$ 793,084,198		100.00%

ESTIMATE DETAIL

BUILDING AREA 9,200,000 GSF

DESCRIPTION	QTY	UNIT	UNIT COST $	ESTIMATED COST $	SUB-TOTALS $
3.1 FOUNDATION					
3.1.1 Standard foundation				-	
Concrete beam under exterior wall	141	CY	600.00	84,800	
Misc. footing	1	LS	100,000.00	100,000	
Excavation	1	LS	100,000.00	100,000	
Subtotal Standard foundation					284,800.00
3.1.2 Special foundation				-	
6' dia. Drilled Caissons including rock drilling, dewatering as required complete (Total 2100 caissons -30' deep)	12,000	LF	1,450.00	17,400,000	
Subtotal Special foundation					#########
3.1.3 Slab on grade				-	
				-	
Subtotal Slab on grade	Not required			-	-
SUBTOTAL FOUNDATION					#########
3.2 BASEMENT CONSTRUCTION					
3.2.1 Basement excavation				-	
Subtotal Basement excavation					-
3.2.2 Basement walls				-	
Subtotal Basement walls					-
SUBTOTAL BASEMENT CONSTRUCTION					-
3.3 SUPERSTRUCTURE					
3.3.1 Floor construction					
Structural steel	16,250	TON	3,800.00	61,750,000	
Structural steel to hold 12 story construction	13,000	TON	10,000.00	130,000,000	
Tower framing (2 EA X 360,000 SF)	27,000	TON	3,800.00	102,600,000	
				-	
Floor slab	650,000	SF	20.00	13,000,000	
Floor slab, tower	360,000	SF	20.00	7,200,000	
				-	
Subtotal Floor construction				-	#########
3.3.2 Roof construction				-	

BUILDING AREA 9,200,000 GSF

DESCRIPTION	QTY	UNIT	UNIT COST $	ESTIMATED COST $	SUB-TOTALS $
Structural steel, roof	2,125	TON	3,800.00	8,075,000	
Roof slab	85,000	SF	20.00	1,700,000	
Spray on fireproofing	531,250	SF	2.25	1,195,313	
				-	
Subtotal Roof construction				-	10,970,313
SUBTOTAL SUPER STRUCTURE					#########
3.4 EXTERIOR CLOSURE					
3.4.1 Exterior walls					
Exterior wall, building	152,640	SF	125.00	19,080,000	
Exterior walls, tower	305,280	SF	125.00	38,160,000	
				-	
				-	
				-	
Subtotal Exterior walls				-	57,240,000
				-	
				-	
3.4.2 Windows				-	
Included w/exterior walls				-	
Subtotal Windows				-	-
				-	
				-	
3.4.3 Exterior doors				-	
Included w/exterior doors		SF		-	
				-	
Subtotal Exterior doors				-	-
SUBTOTAL EXTERIOR CLOSURE					#########
3.5 ROOFING					
3.5.1 Roof coverings					
Roofing	85,000	SF	12.00	1,020,000	
Subtotal Roof coverings					1,020,000
3.5.2					
Roof openings	85,000	SF	0.25	21,250	
				-	
Subtotal Roof openings					21,250
SUBTOTAL ROOF COVERINGS					1,041,250
3.6 INTERIOR CONSTRUCTION					
3.6.1 Partitions					
Partitions	#######	SF	8.00	10,720,000	
				-	

BUILDING AREA 9,200,000 GSF

	DESCRIPTION	QTY	UNIT	UNIT COST $	ESTIMATED COST $	SUB-TOTALS $
	Subtotal Partitions				-	10,720,000
3.6.2	Interior doors				-	
	Doors	#######	SF	1.00	1,340,000	
	Subtotal Interior doors				-	1,340,000
3.6.3	Specialties					
	Misc. specialties	#######	SF	12.00	16,080,000	
	Subtotal Specialties				-	16,080,000
	SUBTOTAL INTERIOR CONSTRUCTION					#########
3.7	STAIRCASE					
3.7.1	Stair structure					
	Stair structure - 10' w. stair structure complete	#######	SF	1.00	1,340,000	
	Subtotal Stair Structure				-	1,340,000
3.7.2	Stair finishes					
	Included w/stair				-	
	Subtotal Stair finishes				-	-
	SUBTOTAL STAIRCASES					1,340,000
3.8	INTERIOR FINISHES					
3.8.1	Wall finishes					
	Wall finishes	#######	SF	3.00	4,020,000	
	Subtotal Wall finishes				-	4,020,000
3.8.2	Floor finishes					
	Floor finishes	#######	SF	5.00	6,700,000	
	Subtotal Floor finishes					6,700,000
3.8.3	Ceiling finishes					
	Ceiling finishes	#######	SF	9.00	12,060,000	
	Subtotal Ceiling finishes				-	12,060,000
	SUBTOTAL FINISHES					#########

	BUILDING AREA			9,200,000	GSF
DESCRIPTION	QTY	UNIT	UNIT COST $	ESTIMATED COST $	SUB-TOTALS $
3.9 CONVEYING SYSTEM					
3.9.1 Elevators	#######	SF	15.00	20,100,000	
Elevators				-	
Subtotal Elevators					20,100,000
3.9.2 Escalator & moving walks					
Subtotal Escalators & moving walks					-
3.9.3 Material handling system					
Not req'd				-	
Subtotal Material handling system					-
SUBTOTAL CONVEYING SYSTEM					#########
3.10 PLUMBING					
11130 Plumbing fixtures					
Plumbing complete	#######	SF	9.00	12,060,000	
Subtotal Plumbing fixtures					12,060,000
3.10.2 Domestic water					
Incl. w/plumbing fixtures				-	
Subtotal Domestic water					-
3.10.3 Sanitary waste					
Incl. w/plumbing fixtures				-	
				-	
Subtotal Sanitary waste					-
3.10.4 Rain water drainage					
Incl. w/plumbing fixtures				-	
Subtotal Rainwater drainage					-
3.10.5 Special plumbing system					
Incl. w/plumbing fixtures				-	
Subtotal Special plumbing system					-
SUBTOTAL PLUMBING					#########
3.11 HVAC					
3.11.1 Energy supply					

ESTIMATE DETAIL — BUILDING AREA 9,200,000 GSF

DESCRIPTION	QTY	UNIT	UNIT COST $	ESTIMATED COST $	SUB-TOTALS $
Complete HVAC system	#######	SF	45.00	60,300,000.00	
Subtotal Energy supply				-	60,300,000
3.11.2 Heat generating system				-	
Incl. w/Energy supply					
Subtotal Heat generating system				-	-
3.11.3 Cooling generating system				-	
Incl. w/Energy supply					
Subtotal Cooling generating system				-	-
3.11.4 Distribution system				-	
Incl. w/Energy supply					
Subtotal Distribution system				-	-
3.11.5 Terminal & package units				-	
Incl. w/Energy supply					
Subtotal Terminal & package units				-	-
3.11.6 Controls & Instrumentation				-	
Incl. w/Energy supply					
Subtotal Controls & Instrumentation				-	-
3.11.7 Special HVAC systems & equipment				-	
Incl. w/Energy supply					
Subtotal Special HVAC systems & equipment				-	-
3.11.8 Systems testing & balancing				-	
Incl. w/Energy supply					
Subtotal Systems testing & balancing				-	
SUBTOTAL HVAC					#########
3.12 FIRE PROTECTION					
3.12.1 Sprinkler system				-	
Complete sprinkler system	#######	SF	3.50	4,690,000.00	
Subtotal Sprinkler system					4,690,000
3.12.2 Stand-Pipe system				-	
Incl. w/sprinkler system				-	

BUILDING AREA 9,200,000 GSF

DESCRIPTION	QTY	UNIT	UNIT COST $	ESTIMATED COST $	SUB-TOTALS $
Subtotal Stand-Pipe system				-	-
3.12.3 Fire extinguishers				-	
Incl. w/sprinkler system				-	
Subtotal Fire extinguisher					-
3.12.4 Special fire protection				-	
Incl. w/sprinkler system				-	
Subtotal Special fire protection					-
SUBTOTAL FIRE-PROTECTION					4,690,000
3.13 ELECTRICAL					
3.13.1 Service & distribution					
Complete electrical system	#######	SF	38.00	50,920,000.00	
Subtotal Service & distribution					50,920,000
3.13.2 Light & branch wiring				-	
Incl. w/Service & distribution					
Subtotal Light & branch wiring					-
3.13.3 Communications & security systems				-	
Incl. w/Service & distribution					
Subtotal Communications & security systems					-
SUBTOTAL ELECTRICAL					#########
3.14 EQUIPMENT					
3.14 Equipment					
Equipment	#######	SF	1.00	1,340,000	
Sub total equipment					1,340,000
SUB TOTAL EQUIPMENT					1,340,000
3.15 FURNISHINGS					
3.15 Furnishings					
Furnishing	#######	SF	1.00	1,340,000	

	BUILDING AREA			9,200,000	GSF
DESCRIPTION	QTY	UNIT	UNIT COST $	ESTIMATED COST $	SUB-TOTALS $
Subtotal Furnishings				-	1,340,000
SUBTOTAL FURNISHINGS					**1,340,000**
3.16 SPECIAL CONSTRUCTION					
3.16 Special construction					
Not required				-	
Subtotal Special construction					-
SUBTOTAL SPECIAL CONSTRUCTION					-
3.17 SELECTIVE BUILDING DEMOLITION					
3.17.1 Building elements					
Remove existing 12 story	660,000	SF	5.00	3,300,000	
Subtotal Building elements					3,300,000
3.17.2 Hazardous components					
Not included				-	
Subtotal Hazardous components					-
SUBTOTAL SELECTIVE BUILDING DEMOLITION					**3,300,000**
4.1 SITE PREPARATION					
4.1.1 Site clearing				-	
Site clearing	1	LS	500,000.00	500,000	
Subtotal Site clearing					500,000
4.1.2 Site demolition & relocations				-	
				-	
Subtotal site demolition & relocation					-
4.1.3 Site earthwork				-	
				-	
Subtotal Site earthwork					-
4.1.4 Hazardous waste remediation				-	

ESTIMATE DETAIL

BUILDING AREA 9,200,000 GSF

DESCRIPTION	QTY	UNIT	UNIT COST $	ESTIMATED COST $	SUB-TOTALS $
Not included				-	
Subtotal Hazardous waster remediation					-
SUBTOTAL SITE PREPARATION					**500,000**
4.2 SITE IMPROVEMENT					
4.2.1 Roadways				-	
Subtotal Roadways					-
4.2.2 Parking lots				-	
Subtotal Parking lots					-
4.2.3 Walks & terraces					
Dropp off area & plaza over 12th. Avenue				-	
				-	
Subtotal Walks & terraces					-
4.2.4 Site development				-	
Subtotal Site development					-
4.2.5 Landscaping					
Landscaping	1	LS	250,000.00	250,000	
Subtotal Landscaping					250,000
SUBTOTAL SITE IMPROVEMENT					**250,000**
4.3 SITE CIVIL/MECHANICAL UTILITIES					
4.3.1 Water supply & distribution systems					
New water service	1	LS	100,000.00	100,000	
Subtotal Water supply & distribution system				-	100,000
4.3.2 Sanitary sewer system					
Sanitary sewer system	1	LS	100,000.00	100,000	
Subtotal Sanitary sewer system				-	100,000
4.3.3 Storm sewer systems					

	DESCRIPTION	QTY	UNIT	UNIT COST $	ESTIMATED COST $	SUB-TOTALS $
	BUILDING AREA				9,200,000 GSF	
	Storm sewer systems	1	LS	100,000.00	100,000	
	Subtotal Storm sewer system				-	100,000
4.4.4	Heat distribution					
	Included				-	
	Subtotal Heat distribution				-	-
4.3.5	Cooling distribution					
	Included				-	
	Subtotal Cooling distribution				-	
4.3.6	Gas distribution system					
	Gas distribution system	1	LS	100,000.00	100,000	
	Subtotal Gas distribution				-	100,000
4.3.7	Other Civil/Mechanical utilities					
	Included				-	
	Subtotal Other Civil/Mechanical utilities				-	-
	SUBTOTAL SITE CIVIL/MECHANICAL UTILITIES					400,000
4.4	SITE ELECTRICAL UTILITIES					
4.4.1	Electrical distribution				-	
	Electrical distribution	1	LS	200,000.00	200,000	
	Subtotal distribution					200,000
4.4.2	Exterior lighting				-	
	Not included				-	
	Subtotal Exterior lighting					-
4.4.3	Exterior communications & security				-	
	Not included				-	
	Subtotal Exterior communication & security					-
4.4.4	Other electrical utility system				-	
	Not included				-	
	Subtotal Other electrical utility system					-

	BUILDING AREA	9,200,000	GSF

DESCRIPTION	QTY	UNIT	UNIT COST $	ESTIMATED COST $	SUB-TOTALS $
SUBTOTAL ELECTRICAL UTILITY					200,000
4.5 OTHER SITE CONSTRUCTION					
4.5.1 Service tunnel					
Not included				-	
Subtotal Service tunnel					-
4.5.2 Other site systems & equipment				-	
Not included				-	
Subtotal Other site utilities & equipment					-
SUBTOTAL OTHER SITE CONSTRUCTION					-

HF & G will include following trades in Conceptual cost estimate

Conceptual Cost Estimate Building Infrastructure Breakdown

Foundation & waterproofing
Pier & foundation wall
Slab on grade
Structural work - Foundation to roof
Roof deck & roofing
Structural deck over tracks
~~Interior construction - Partitions, doors etc.~~
~~Interior finishes~~
Escalators (Total 14 PODS x 3EA w/3 levels)
10' wide stair - 14 EA
~~Elevators (10 Cores x 10 EA)~~
~~Staircases (10 Cores x 10 EA)~~
~~MEP~~
Moving walkway system
Monorail system

Conceptual Cost Estimate Convention Center Breakdown

All slabs except SOG & Deck over track
Exterior enclosures (Not retail enclosure)
Interior construction - Partitions, doors etc.
Interior finishes
Internal escalators
Internal elevators
Staircases
MEP

Conceptual Cost Estimate Retail

Interior construction
MEP
Storefront

Conceptual Cost Estimate Stadium & MSG

By others

Area	Level 8	Level 7	Level 6	Level 5	Level 4	Level 3	Level 2
Retail		32,606.00	5,200.00	62,138.00			
		43,958.00	30,001.00	62,138.00			
			20,748.00	84,659.00			
			88,160.00	164,837.00			
			83,791.00	24,510.00			
			23,295.00				
			167,418.00				
Sub total	-	76,564.00	418,613.00	398,282.00	-	-	-
Total Retail	893,459.00	SF					
Infrastructure							
Truck marshalling		372,180.00					
Service		24,031.00		22,751.00			190,898.00
Lobby, escalator			4,800.00				
Lobby, escalator (2)			7,776.00				
Prefunction			25,000.00				169,500.00
Ball room lobby			22,000.00				
Plaza			4,390.00				
Service			59,059.00				
Exibition			300,426.00		#########	375,294.00	
Prefunction			49,095.00		338,426.00	295,567.00	
Speed axis			19,750.00				
Lobby				15,000.00			
Market			409,219.00				
Service			156,638.00		158,839.00	183,158.00	
Service			50,162.00				
Speed axis			19,750.00	19,750.00			
Lobby (4)			60,000.00				
Escalator lobby (2)			8,780.00	2,640.00			
Escalator lobby				3,522.00			
Escalator lobby				2,640.00			
Teruck dock					267,404.00	267,404.00	
Meetingrooms						416,842.00	126,067.00
Meetingrooms						673,463.00	372,407.00
Meetingrooms							181,365.00
Meetingrooms							291,271.00
Kitchen						40,000.00	
Ballroom						198,748.00	
Ballroom mezz.							40,000.00
Monorail storage & maintenance3 area							327,079.00
Tower lobby			2,600.00	2,600.00			
Tower lobby			2,600.00	3,706.00			
Tower lobby			3,706.00				
Tower lobby			3,706.00				
Exterior plaza				10,000.00			
Exterior lay-off area				25,000.00			
Sub total	-	396,211.00	#########	107,609.00	#########	#########	#########
Total Infrastucture	8,134,970.00						
Roof area	2,299,230.00						

Retail area	893,459.00	SF	Convention center area	#########	(For finishes) Infrastructure
Infrastructure	8,134,970.00	SF	Convention center area	#########	(For Structure) Infrastructure

Total area	9,028,429.00	SF		
		Length	Height	Total
Exterior wall - Total	Level 7	1,104.00	19.50	21,528.00
	Level 6	5,565.00	13.00	72,345.00
	Level 5	9,010.00	28.00	252,280.00
	Level 4	7,774.00	33.00	256,542.00
	Level 3	7,774.00	16.00	124,384.00
	Level 2	7,774.00	20.00	155,480.00
	Level 1			-
Total			**882,559.00**	**SF**

		Length	Height	Total
Exterior wall - Retail	Level 7	940.00	19.50	18,330.00
	Level 6	2,561.00	13.00	33,293.00
	Level 5	3,445.00	28.00	96,460.00
	Level 4	-	33.00	-
	Level 3	-	16.00	-
	Level 2	-	20.00	-
	Level 1			-
Total			**148,083.00**	**SF**

Exterior wall - Convention center **734,476.00**

	Length	Height	SF	
Foundation wall	6,802.00	13.00	88,426.00	
	1,855.00	21.50	39,882.50	
	1,944.00	15.00	29,160.00	
			-	
			-	
			-	
Total	**10,601.00**		**157,468.50**	**SF**

	Ht	No of floors 12' ht.	Floor area			
Tower -1	129.50	10.79	40,000.00	Slab on grade	4.00	40,000.00
Tower -2	110.00	9.17	40,000.00	Floors	35.00	40,000.00
Tower -3	110.00	9.17	40,000.00	Roof slab	4.00	40,000.00
Tower -4	97.00	8.08	40,000.00			
	Total floors	39.00	EA			
	Area of each fl.	40,000.00	SF			
	Total floor area	1,560,000.00	SF			

Tower exterior wall	39.00	400.00	12.00	187,200.00

Area	1-Sep
Level 6	
Level 5	1,750,000.00

Level 4	2,250,000.00	
Level 3	2,250,000.00	
Level 2	2,250,000.00	
Level 1	Roof	##########
Total	8,500,000.00	

Area	9-Sep	
Level 6	700,000.00	
Level 5	1,750,000.00	
Level 4	2,250,000.00	
Level 3	2,047,500.00	
Level 2	2,250,000.00	
Level 1	Roof	##########
Total	8,997,500.00	

Total area	9,000,000.00		
Retail	900,000.00		
Concention center	8,100,000.00		
Final Structurl steel			
Level 5	1,750,000.00	30.00	##########
	1,750,000.00	8.50	##########
Level 4	2,250,000.00	30.00	##########
Level 3	2,250,000.00	70.00	##########
Level 2	2,250,000.00	70.00	##########
Level 1	2,250,000.00	70.00	##########
			303,687.50

Monorail - Las Vegas		
Length	4.00	Miles
Stations	7.00	EA
Car - 9 EA, 4 car Train		
Total cost, 2004	650,000,000.00	$
Cost per mile (Las Vegas)	162,500,000.00	$
Cost per mile (NY)	162,500,000.00	
Add - 30 % Diff. in cost	48,750,000.00	
Add - 5 % Diffficulty factor	8,125,000.00	
Add 5 stations, 8M/station	40,000,000.00	
Foundation for street run 1.25 mile		
Two cassion per 100' - 140 EA		

6' dia., 140 Cassions 30' deep	
Total = 4200 LF @ $ 1500/I	6,500,000.00
Structural modification in build	1,500,000.00
Add for train 11 EA w/3 cars	22,000,000.00
	289,375,000.00
Total cost for 2.25 mile loop	651,093,750

Monorail - Air train JFK		
Length	8.60	Miles
Stations	10.00	EA
Car - 9 EA, 4 car Train		
Total cost, 2002	############	$
Cost per mile	151,162,790.70	$

Cost per mile (Similar system in Las Ve	162,500,000.00
Add - 30 % Diff. in cost	48,750,000.00
Add - 5 % Diffficulty factor	8,125,000.00
Add 5 stations, 8M/station	40,000,000.00
Foundation for street run 1.25 mile	
Two cassion per 100' - 140 EA	
6' dia., 140 Cassions 30' deep	
Total = 4200 LF @ $ 1500/LF	6,500,000.00
Structural modification in building	1,500,000.00
Add for train 11 EA w/3 cars	22,000,000.00

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Total = 4200 LF @ $ 1500/l	6,500,000.00
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Total = 4200 LF @ $ 1500/LF	6,500,000.00
Structural modification in building	1,500,000.00
Add for train 11 EA w/3 cars	22,000,000.00

5: Implementation authority

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Summary
Example: Battery Part City Authority Mission Statement

Implementation Authority

The successful implementation of a plan as complex as that propped here requires a careful determination of the appropriate public implementation authority to organize the public components of the endeavor, and to establish successful partnering relationships with private development entities. The State of New York will, by virtue of land-ownership issues alone in the far-west-side district play an important role, arguably the critical role in the Institute's proposal. The Battery Park City Authority, a State agency of renown, has demonstrated its capacities to implement a project of the scale discussed here. The attached descriptive narrative, in this case regarding the Battery park City Authority, enumerates some of the experience and skill requirements that would be mandatory in this project.

A Public Works Project:

Battery Park City

Groups from all over the country and the world come to study Battery Park City (BPC) and understand its model for development. A confluence of factors and circumstance have come together over time to make the BPC one of the successful public sector initiatives of all time. The Hugh L. Carey Battery Park City Authority's (BPCA) stated purposes or mission is as follows:

MISSION STATEMENT:

The Hugh L. Carey Battery Park City Authority is a New York State public benefit Corporation, whose mission is to plan, create, coordinate and maintain a balanced Community of commercial, residential, retail and park space within its designated 92-acre site on the lower East side of Manhattan.

The Mission will be accomplished by following these core values:

PUBLIC PRIVATE PARTNERSHIPS
Public-private partnerships will continue to be the model for private sector development utilizing a competitive public bid process to optimize value.

BALANCE AND ESTHETICS
New development will continue according to the approved Master Plan, utilizing adaptable and sustainable high quality design to create a model of mixed-use development which exemplifies excellence in architecture and urban planning.

PUBLIC BENEFIT
All decisions will reflect the public interest and support a public benefit in the development of properties, the creation of spaces and all other actions.

Many consider BPC a 'success' story. By any measure, BPC- some 35 years after its creation in 1968 has achieved great things.

Battery Park City Authority (BPCA), the New York State entity formed to build BPC, is a financially stable organization. BPCA has approximately $1.2 billion dollars outstanding debt (tax exempt bonds/notes) rated triple A by every major credit agency (that is AAA across the board, suma cum laude). The highest credit rating achievable is a rarity in the public sector and a hallmark of the Authority's management and fiscal prudence.
Moreover, the BPCA has provided to the City of New York over 1.2 billion dollars in excess cash profits and fueled the NYC economy and other collateral benefits derived from the construction of a mini city. Along the way, this enterprise has created thousands of construction jobs for workers – all contributing to the local economy by paying their taxes and fueling the retail, restaurants, and shops.

Battery Park City is one of the more desirable places to live and work in New York City. Approximately 40,000 people work each day and 9,000 people live in a well-managed community. Built on 92 acres of landfill as a pre-planned urban development BPC has received

world-wide acclaim as the prototype of urban water front development with a masterful mix of commercial, residential, retail space along with a park system and many other public amenities - including 8.5 million square feet of office space, 8,500 residential units, over 250,000 square feet of retail space, a marina, 2 hotels, 2 public schools, 2 museums, a library, several memorials, world class art work and one of the best maintained park systems in the world. All where rotting piers once stood.

BPCA has built one of the greatest park systems in the world, enjoyed by thousands of people including tourists from all over the world, as well as, residents from the Metropolitan area. The 35- acre park system includes numerous pieces of artwork and public service programs, which provide education, recreation, and entertainment for public consumption. By planning for encouraging and subsidizing- lower income housing (largely elsewhere), public museums, memorials, schools, public libraries and more recently, requiring developers to build green, self sustainable, energy efficient buildings as part of its required design guidelines- as part of its public amenities, BPCA has not lost sight of its public purpose mission notwithstanding its financial success.
There are numerous plaques and awards for planning, design, architecture and press clippings chronicling the development progress and milestones.
As Yogi said,
"You could look it up"

So how did this all come to be? And what are the primary elements of its success? The following factors are not mutually exclusive and worked in combination with one another to help BPCA build a mini city, advance the public benefits and amenities and build a profitable organization at the same time.

1. **Someone willing to fund the initial start-up capital or seed money**
   In the BPC case, the State of NY backed or guaranteed the payment of 200 million dollars of tax-exempt debt issued by the BPCA. It was known as moral obligation debt, which was supported, by the full faith and credit of NY State. BPCA had no source of income until the early 80's and the State of NY helped pay for the debt service on the initial borrowing, along with other refunds raised by the bond issue. BPCA used this money to knock down rotting piers, install landfill and begin to build public infrastructure like roads and civic facilities. Without these funds, the landfill, which is BPC, would have never gotten off the ground **(or rather become ground)**. By the mid – 80's the BPCA had enough revenues to fund its own operations and development, paid the State back with interest and was forever more fiscally independent. However, the public sector, primarily Governor Nelson Rockefeller, had the political will and vision launch this longer-term project and make the funding available. Such political vision, will and funding seems to be less prevalent today within the public sector environment of budget deficits, limited resources and short term mentality.

2. **Creation of a Special Purpose Entity**
   When NY creates an "Authority," it empowers that entity with specific, special powers. BPCA's legislated mandates are to create the 92-acre landfill; master plan the neighborhood; real estate develop the property; build out the roads, civic facilities and infrastructure; and maintain and manage the park system. The BPCA was empowered to make decisions and act quickly with minimal interference and the paralyzing bureaucracies of the City/State administrations while still requiring City/State oversight and approval of such matters as the financing of its capital expenditures and offering tax abatement and incentive programs to encourage commercial development.

Powers to collect real estate taxes, issue debt, invest funds, engage in contracts and take all necessary type actions to plan and develop property were included when the Authority was created.

The Authority is a public benefit corporation and it's three member Board and small staff can analyze and make decisions quickly within its focused mandates. The corporate structure and *governance* granted contribute to an efficient and effective operation.

3. **Public/Private Partnership**
   Another element of BPCA's success was that it knew where to draw the line in its partnership with the private sector. Although, BPCA owns, controls, and manages the land, it competitively bids parcels out long-term leaseholds to the private sector, obtaining the maximum value for the land. The development process is opened up to other major developers to propose the best market-driven alternatives. The financing, construction, and lease up risks are borne by the private sector, while protecting its investments in the infrastructure. BCPA was also able to maximize the value of the land by staging its development and competitively letting parcels out commensurate with market demand. At the same time, encouraging development by keeping its plan and commitment to build out infrastructure.

4. **Very Marketable Product**
   The land fill the initial investment helped create was some of the most valuable real estate in the world - Waterfront property in lower Manhattan on the Hudson river overlooking New York Harbor, on the outskirts of the 3rd largest metropolitan areas in the country (behind midtown and Chicago). In the business of real estate an oft-repeated adage for successful real estate ventures is "location, location, location." Certainly, the landfill created one of the most valued 'locales' in the world, a very valuable commodity. Even in the cyclic tic real estate market, BPC's destiny was a guaranteed success.

5. **Authority Collects, Maintains and Reinvests funds Generated**
   The BPCA Board unilaterally sets the operating budget each year. On a priority basis, without any claims or encumbrances, is able to maintain funds collected to support the operations and debt service. The major source of revenues (approximately 75%) collected comes from real estate taxes (PILOT).
   The knowledge and assurance within the development community that BPCA was always structured to have a reliable source of funding has always been a great boost to its development. Private developers had confidence that the public sector would have the financial resources to keep its side of the bargain it this public private partnership. As the project became fiscally independent in 1986, the decision making authority to reinvest money, as needed, within the project site to plan operate, maintain, build out infrastructure and public amenities and to fund other capital improvements, in turn created more value ('value added') to the real estate. All interested parties agreed to share Profits (excess revenues) to the extent available on a percentage basis only after monies were expended for operations and debt service on capital investments. Although the Authority needed certain oversight approvals from City/State governments, it was operating similar to a private real estate company.
   The fact that the Authority was fiscally independent and not vying for City or State budget allocations coupled with the fact that the BPC business plan was producing more and more excess revenues for the benefit of the City as monies were reinvested, kept the Authority operationally independent, off the political radar to a large extent and able to carry out its plan.

6. The Master Plan

Complementing all other essential factors in BPC's development was *a good business plan.*

The chances for success would be greatly diminished or retarded without BPC's business plan known as the Master Plan. The Master Plan is the plan for development of a 92-acre project site and neighborhood, which brought with it several beneficial elements. BPCA's master plan went through several transformations over a long period of time before the current plan was adopted.

The Master Plan was a good one. The design provided for *a mix of residential, commercial and retail space along with more than one third of the 92 acre site, over 35 acres, for parkland.* The plan integrated the streetscape into lower Manhattan as if it had always been there and used the best of *old New York in its design and architecture.* The "plan" for the most part is a comprehensive layout for the entire 92-acre project site encompassing the locations, heights, size, shapes (bulk) of commercial and residential buildings along with roads, parks, and civic facilities. This planned community was approved by the City as meeting the planning and zoning requirements *allowing development to be expedited on an "as of right basis"* without the need to have every building go through the labyrinthine NYC approval process. Developers begin building right away on without the uncertainty or unseemliness of City approvals. [Building on landfill less than 25 years old was also an added comfort regarding environmental concerns]

Developers are also required to adhere to "design guidelines" for color, materials used, finishes, etc. assuring a known high level of quality community development. The Master Plan allows for speedy development in high quality, well planned neighborhood were the public sector has the monetary resources and decision making autonomy to make decisions, all of which are attractive to developers.

In addition the master plan *allows for a phased –in or staged development of a segment or neighborhood at a time.* One of the original master plans called for a multi-leveled infrastructure requiring a huge upfront capital investment to facilitate development. Not only did it not fit into the City streetscape but also the plan was costly and impractical. The master plan *reserves approximately one third of the project site or 35 acres public parks*, which is a major attraction and value added for the project site. The balance of park and open spaces with commercial, residential and retail made BPC an attractive places to live and work. The park-system uses high-end quality design, landscape, and building materials, which are also highly maintained. The investment and maintenance in parks yields high returns in real estate value and taxes.

Summary

As the City and State plan and contemplate how to develop the future major developments and economic engines of its day – such as Governor's Island, West-side rail yards/expansion of the Javits Center/new Stadium, and ground zero- the public sector officials may want to look to this formula and take from it what works. (As well as, other State and local municipalities around the country) Groups that come to study learn that the reasons for BPC's success are founded in good "back -to- basic" business principles which is contrary to the traditional mindset of the public sector.

In retrospect, the elements that evolved to make BPC one of the most successful public works projects ever are simply what every good business school teaches in its entrepreneur curriculum. You need a creative idea, funding and the "will" to make it happen. Certainly this shining city on the Hudson was fortunate enough to have that effort lead by the Rockefellers and the State of New York's initial funding. An organization empowered with specific well-defined mandates and independent governance to execute efficiently and effectively (with oversight by City/State). These were complemented with a product that was some of the best land in the world on the edge of one of the greatest harbors in the world, which was further enhanced, by a business or master plan. BPC was able to strike the right balance with the private sector, creating a symbiotic, synergistic partnership. As the old song goes "the fundamentals still apply, as time goes by."

In summary, some may conclude Battery Park City was a prudent investment by the public sector, which is reaping huge dividends and a wide array of public interests and amenities. **BPCA has been able to earn substantial monetary dividends while not losing sight of its public benefit purposes.**

6: Critical path

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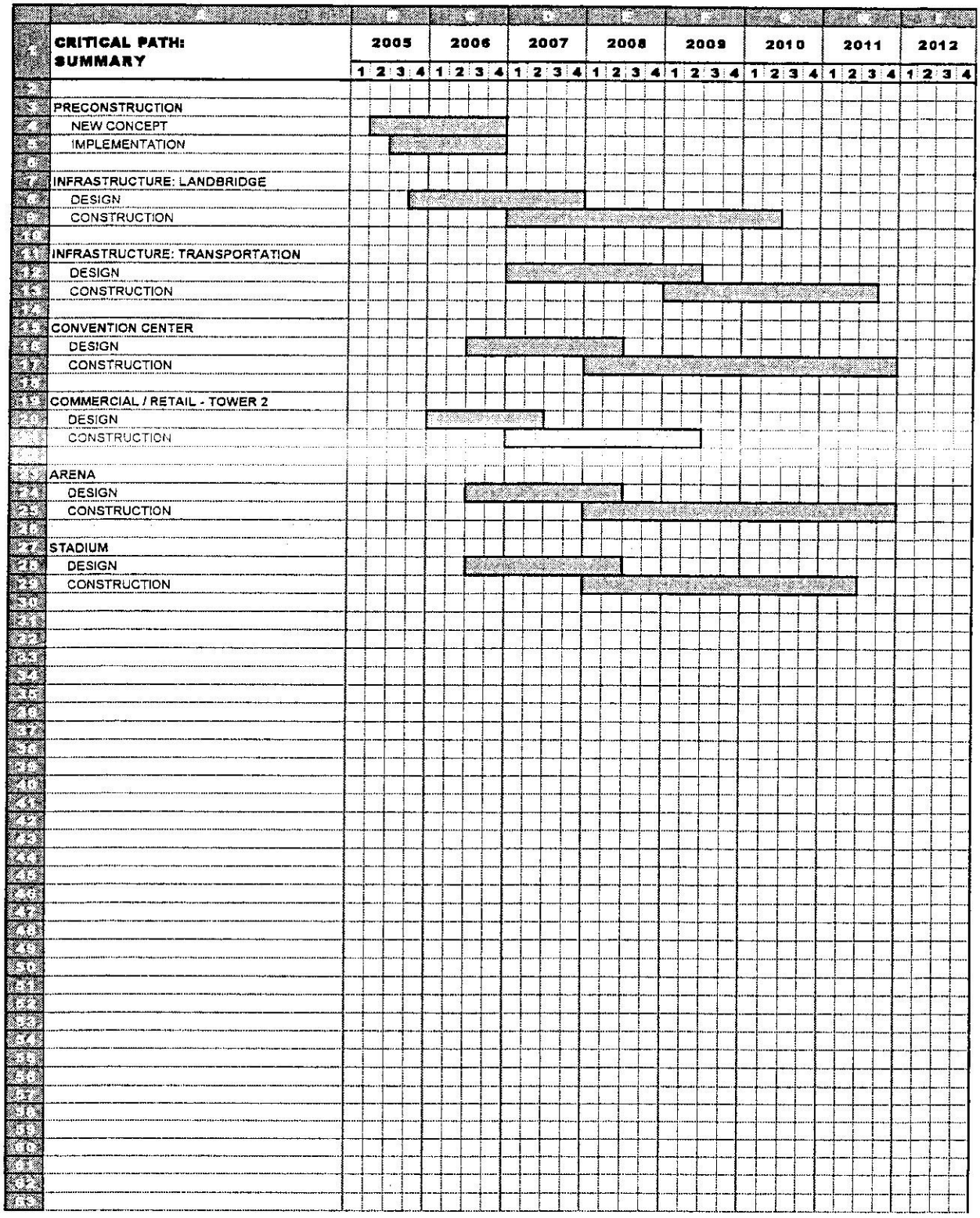
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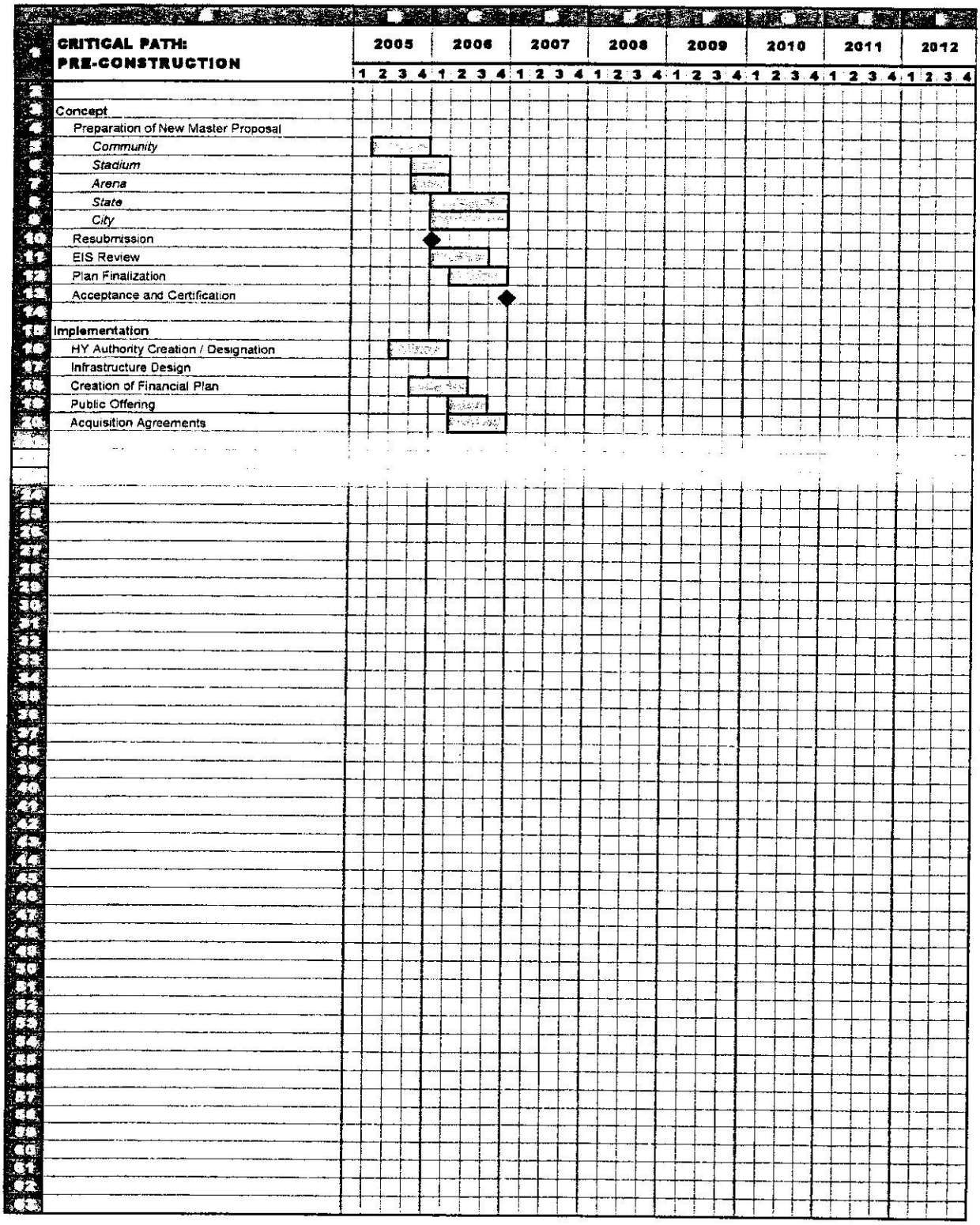
CONSTRUCTION
STADIUM
DESIGN
CONSTRUCTION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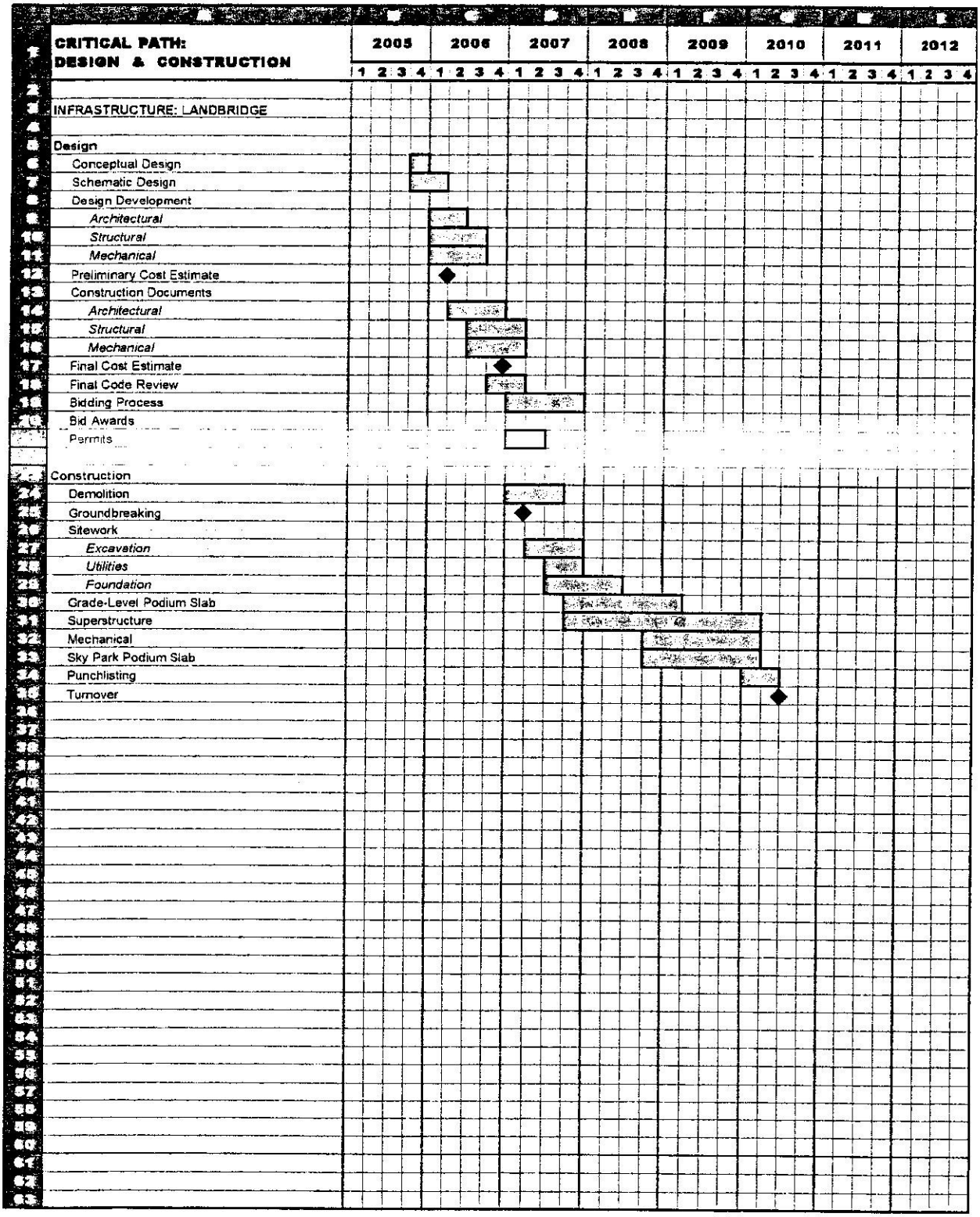
Public Offering
Acquisition Agreements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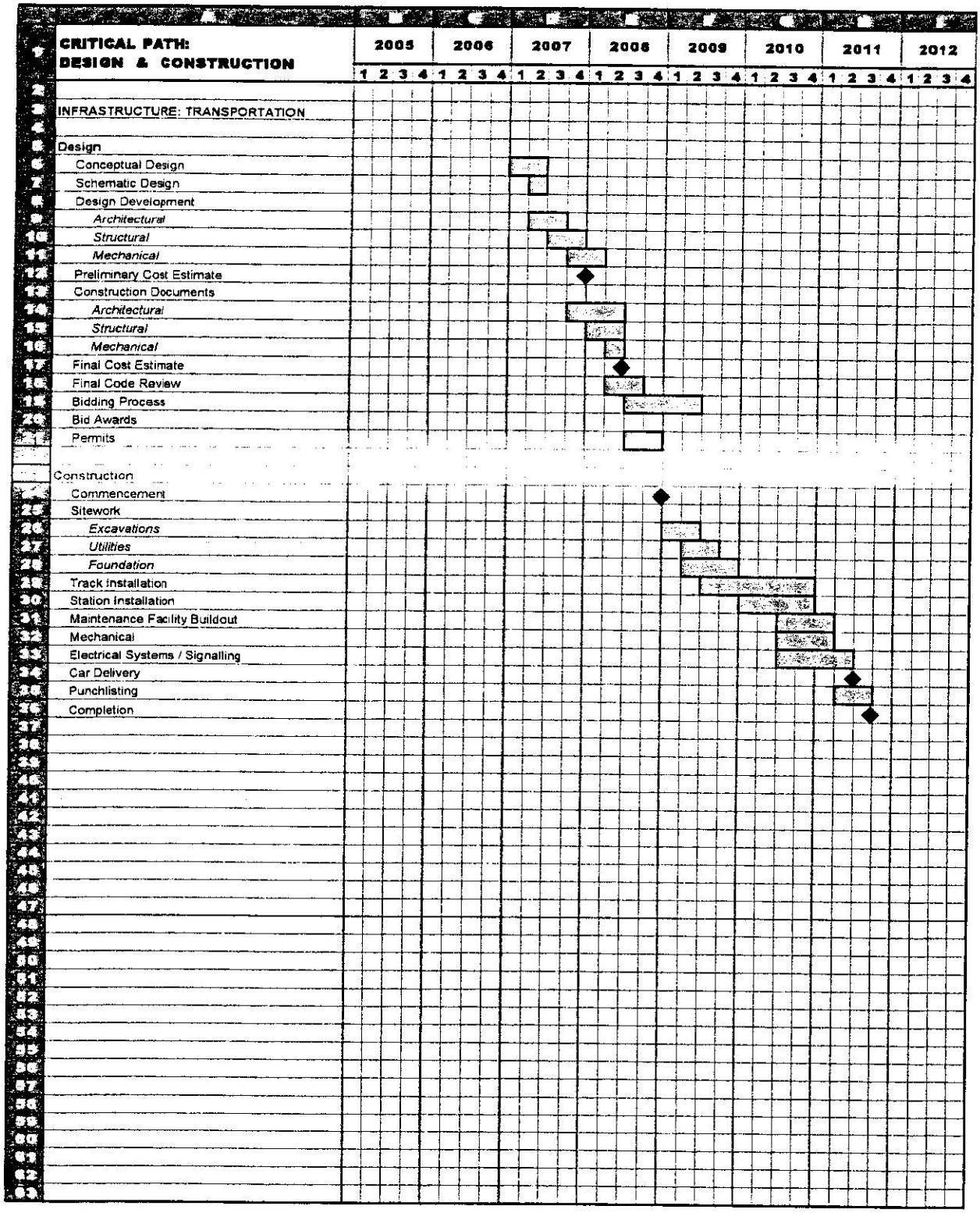
Mechanical
Sky Park Podium Slab
Punchlisting
Turnover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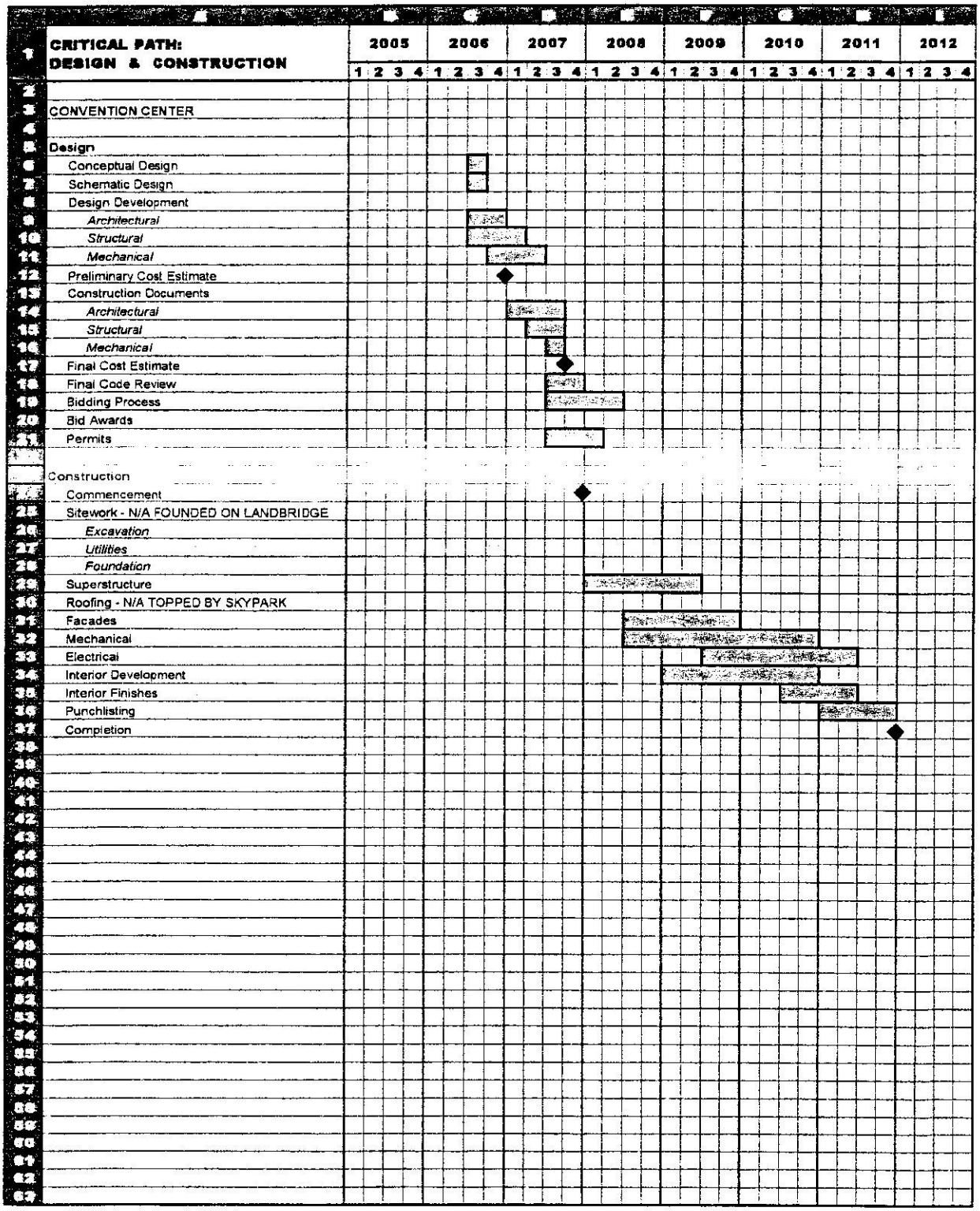
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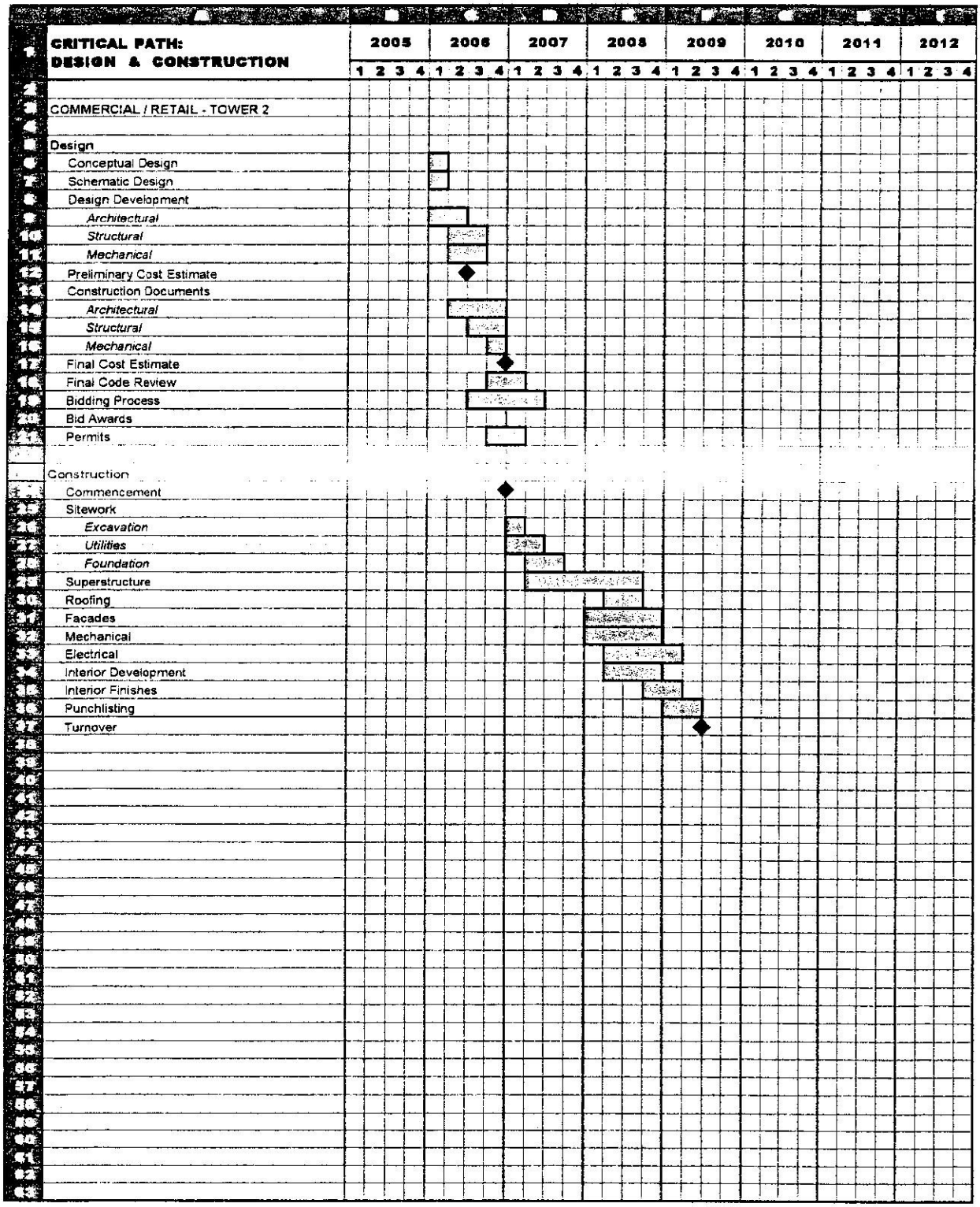
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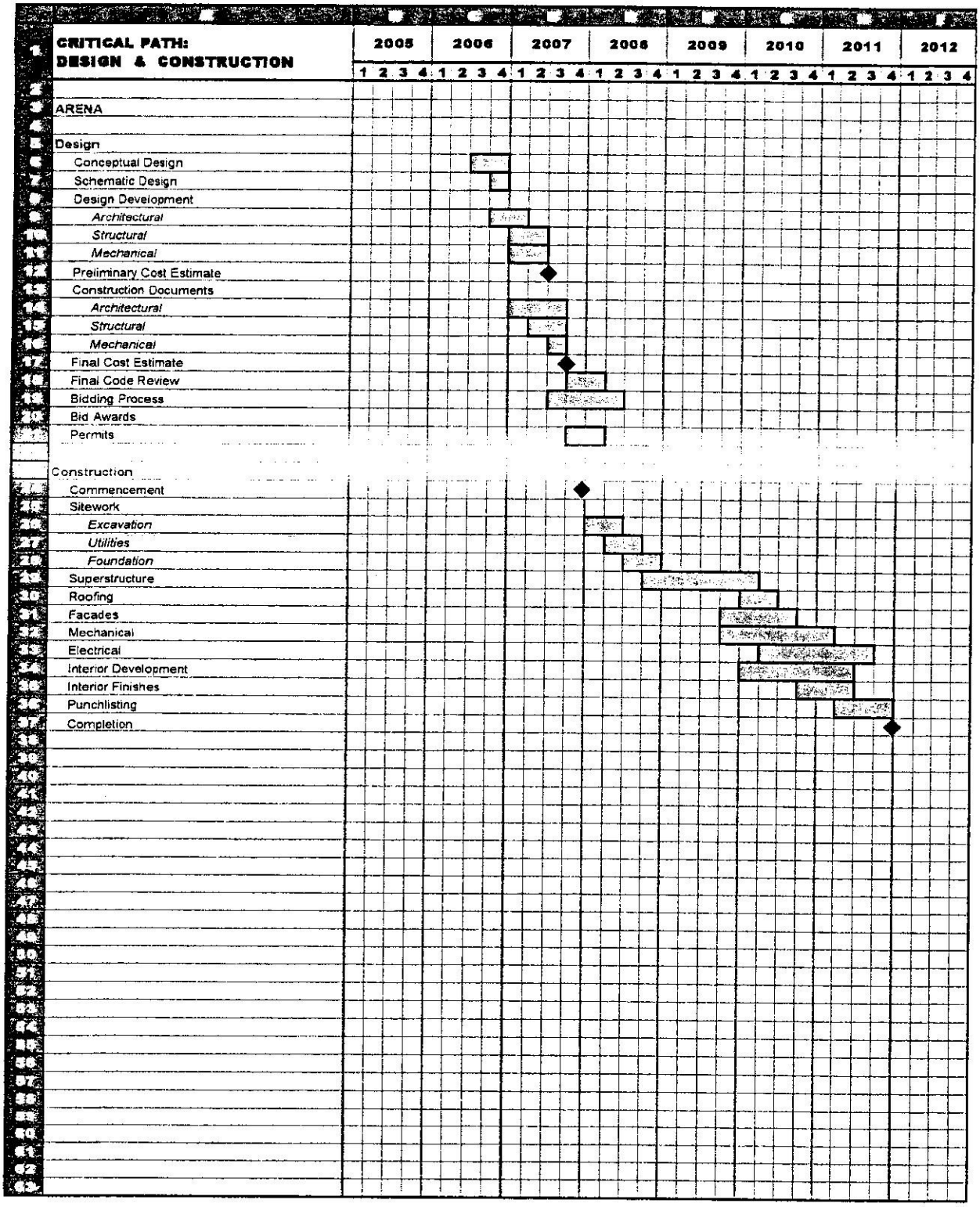
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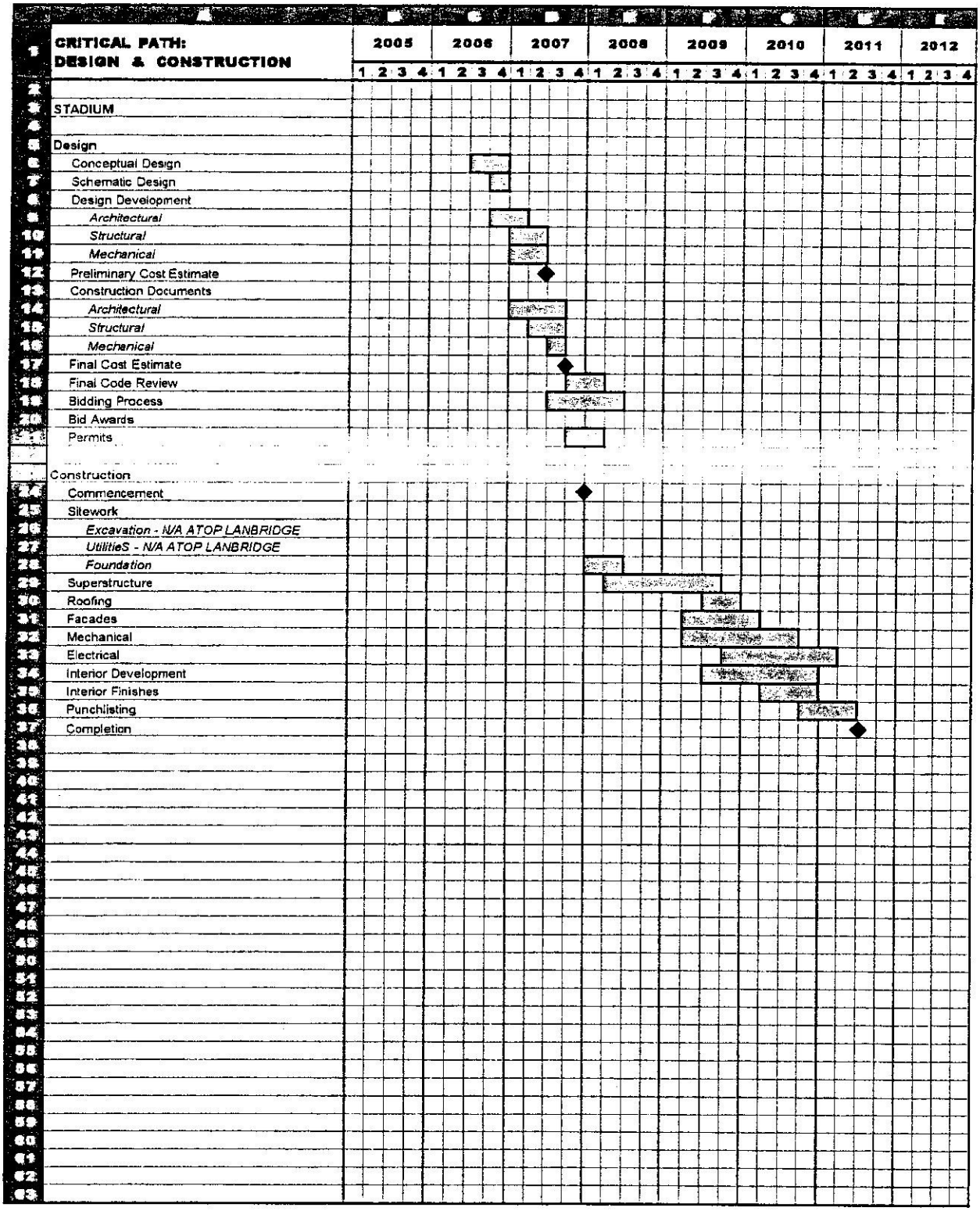
Punchlisting
Completion


CRITICAL PATH:
DESIGN & CONSTRUCTION
2005
2006
2007
2008
2009
2010
2011
2012
1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4
STADIUM
Design
Conceptual Design
Schematic Design
Design Development
Architectural
Structural
Mechanical
Preliminary Cost Estimate
Construction Documents
Architectural
Structural
Mechanical
Final Cost Estimate
Final Code Review
Bidding Process
Bid Awards
Permits
Construction
Commencement
Sitework
Excavation - N/A ATOP LANBRIDGE
UtilitieS - N/A ATOP LANBRIDGE
Foundation
Superstructure
Roofing
Facades
Mechanical
Electrical
Interior Development
Interior Finishes
Punchlisting
Completion

4: Cost and financing schedules

3 Cost Estimate