



## THE VISION OF A GUGGENHEIM MUSEUM IN BILBAO

In a March 31, 1999 article, the Washington Post<sup>1</sup> posed the following question: "Can a single building bring a whole city back to life? More precisely, can a single modern building designed for an abandoned shipyard by a laid-back California architect breath new economic and cultural life into a decaying industrial city in the Spanish rust belt?" Still, the issues addressed by the article illustrate only a small part of the multifaceted Guggenheim Museum of Bilbao. A thorough study of how this building was conceived and made reveals equally significant aspects such as getting the best from the design architect, the master handling of the project by an inexperienced owner, the pivotal role of the executive architect-project manager, the dependence on local expertise for construction, the transformation of the architectural profession by information technology, the budgeting and scheduling of an unprecedented project without sufficient information. By studying these issues, the greater question can be asked: "Can the success of the Guggenheim museum be repeated?"

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<sup>1</sup> Museum Puts Bilbao Back on Spain's Economic and Cultural Maps T.R. Reid; The Washington Post; Mar 31, 1999; pg. A.16

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Graduate student Stefanos Skylakakis prepared this case under the supervision of Professor Spiro N. Pollalis as the basis for class discussion rather to illustrate effective or ineffective handling of an administrative situation, a design process or a design itself.

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## **BILBAO**

Bilbao is an urban region of approximately 41-square-kilometers located on the Atlantic coast of Northern Spain. It is the principal city of Spain's Basque minority with a population of 400,000 but encompassing a metropolitan area of about 1 million people. Its population is distributed between thirty municipalities of widely disparate populations. Only six of these municipalities exceed 50,000 inhabitants: Bilbao, Barakaldo, Getxo, Portugalete, Santurtzi and Basauri. The Metropolitan Bilbao area is the fifth most populous, behind Madrid, Barcelona, Valencia and Sevilla. It is the 36th largest city in Europe, similar in size to Dublin, Liverpool and Florence. The city dates back to 1300. According to the London Financial Times<sup>1</sup>, it is one of Spain's major ports and has been the entry point for heavy manufacturing into Spain for 100 years. Fishing and other industries, including chemicals and metallurgy are also important. Up to the 1970s Bilbao was still the wealthiest part of the country, until it suffered a major blow in the late 1980s when its big downtown shipyard closed because of low-wage competition from Eastern Europe and Asia. A city which has pockets of 35% unemployment and which has grown used to seeing riot police, was hardly known as a center of the leisure industry, except perhaps by merchant seamen. The new Guggenheim Museum has boosted the local economy, helping to create 3,800 jobs and new tourism revenue.

The Guggenheim Museum Bilbao was a key component of the Revitalization Plan for Metropolitan Bilbao<sup>2</sup>, a huge renewal strategy in the heart of a region whose economic support had become outdated. The Revitalization Plan for Metropolitan Bilbao aimed to transform the city into a service metropolis within a modern industrial region in the European arena.

Bilbao's economy placed a modest 56th among European cities in 1973<sup>3</sup>. In 1992, Bilbao missed being part of the Spanish regeneration wave, when Barcelona hosted the Olympics, Seville the World Exposition, and Madrid became the European Capital of Culture. Considered one of the least glamorous amongst the 15 Spanish regional capitals, the economy of the region was severely depressed in the eighties by the decline of the steel industry and the emerging competition in heavy manufacturing from 'tiger economies' of Southeast Asia.

Bilbao Metropoli 30 was formed in 1989 as a public and private institution, in order to prepare Bilbao Metropolitan Revitalization Plan. The plan included eight critical strategies: Invest in Human Resources of the Region, Create a Service Metropolis in a Modern Industrial Region, Improve Mobility and Accessibility, Regenerate the Environmental, initiate Urban Regeneration, Develop Cultural Centrality, promote Coordinated Management by the Public Administration and Private Sectors, and promote Social Action.

The plan represented a unique combination of efforts. José Antonio Garrido, Chairman of the Association for the Revitalization of Metropolitan Bilbao (Metropoli -30) explains: "When I accepted the Chairmanship of the Association for the Revitalization of Metropolitan Bilbao, I was inspired by the scope and content of

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1 "Financial Times (London)"; May 27, 1997.

2 More information about the Revitalization Plan for Metropolitan Bilbao can be found on the upcoming book "Processes, the making of the Guggenheim Museum in Bilbao".

3 Techniques et Architecture. Dec. 1997-Jan. 1998. n435.p 19-25

its mission: to bring together public institutions and private enterprises who wanted to realize a common objective - the revitalization of Metropolitan Bilbao."

There were more construction projects in the revitalization plan beyond the Museum. Among the most visible are the new Bilbao Metro railway, designed by Foster and Partners; a new terminal for the airport and the new "Zubi Zuri" (white bridge) footbridge over the Nervion at a short distance upstream from the museum, both by Santiago Calatrava; a railway station, the "Abando Passenger Interchange," designed by Michael Wilford (not built); and a 25,000 m<sup>2</sup> music hall, the "Euskalduna Juaregia Bilbao," by Dolores Palacios and Federico Soriano. Precisely because of its scale and ambitions though, the revitalization plan was met with local excitement, but critical skepticism too as the costs involved were high by any measure. The new museum alone required an investment of over 10,000 million pesetas (\$95.24 million USD)<sup>1</sup>.

It is important to mention that the Basque region is responsible for raising its own taxes, and the Basque National Party (PNV) had a controlling majority in the Basque Parliament at that time. These two political factors alone facilitated rapid decision-making, at least in the case of the museum. The revitalization plan raised 20 billion pesetas of public investment without using Spanish central government funds from Madrid, with all the money coming from the province of Vizcaya, known in the Basque language as "Bizkaia" where the city of Bilbao is located.

### ***THE BASQUE ADMINISTRATION' S COMMITMENT***

The new Museum symbolizes the Basque Administration's commitment to enhancing Bilbao's economic standing and visibility as a cultural center in the European Community. The Guggenheim Museum Bilbao is the result of a unique collaboration between the Basque Administration and the Solomon R. Guggenheim Foundation. The Basque Administration had substantial funds at its disposal: \$1.5 billion for a revitalization plan intended to replace its old industrial orientation with a service economy. It was willing to pay \$20 million up-front for the Guggenheim name and expertise, \$100 million for the building, \$50 million for its own acquisitions and a promise of \$12 million annually to run it. Further, urban redevelopment of greater Bilbao, (145 hectares of industrial ruins), is backed by a lobby group, Bilbao Metropoli-30, with more than 120 institutions and companies.

In the October 18, 1997, issue of The Gazette (Montreal), the day before the Guggenheim Museum Bilbao officially opened its doors, Thomas Krens, Director of the Guggenheim Foundation is quoted as saying: "It was commerce, pure and simple, that brought together the Guggenheim and Bilbao.

This is not a cultural project, it's an economic development project". Plans for a new cultural institution for Bilbao date to the late 1980's when the Basque Administration began formulating a redevelopment program for the region. The City of Bilbao and the Basque regional government stepped forward and contact-

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<sup>1</sup> Peseta-Dollar exchange rate in 1992: 110.00pesetas=\$1.00 USD

ed the Solomon R. Guggenheim Foundation in 1991. In December of that year a preliminary agreement was reached to establish the Fundaciòn Del Museo Guggenheim Bilbao to manage the independent institution for a period that could stretch 75 years.

The partnership between the Basque Administration and the Solomon R. Guggenheim Foundation is based upon complimentary strengths. The Basque Administration brings to the relationship its political and cultural authority and financial resources for both capital investments and capital operating support. The Solomon R. Guggenheim Foundation manages the museum under the supervision of the Fundaciòn Del Museo Guggenheim Bilbao. It also offers guidance on the Guggenheim Museum Bilbao's acquisitions based on the Foundation's curatorial expertise.

### ***THE SOLOMON R. GUGGENHEIM FOUNDATION***

As the twentieth century drew to a close the Solomon R. Guggenheim Foundation was singularly positioned to assemble, analyze and present the key aesthetic achievements of the 20th century. Founded in 1937 with a collection that spanned the period from the late 19th century to what was then the most current and radical experiments in abstraction, the Solomon R. Guggenheim Foundation dedicated itself to the task of continuing and preserving the avant-garde movement. Since its inception it has continually expanded its collections as well as its programming activities, always remaining true to its founding character - that "art, in its most expansive form, can truly effect change in the world".

In the late 1980s, the Solomon R. Guggenheim Foundation (SRGF) was facing serious financial difficulties. The construction of the annex for the Guggenheim Museum on Fifth Avenue in Manhattan, New York City, had largely exceeded budget, and the Guggenheim's second home in nearby SoHo had not yet returned its initial investment. The recent acquisition of the Panza Collection of minimalist art collection for 32 million dollars had left the Foundation with limited cash flow, and its debts were rising.

Thomas Krens, Guggenheim's Museum Director, knew that 95% of the Guggenheim's art collection was sitting, un-displayed, in the basement of the museum's famous Frank Lloyd Wright building on Fifth Avenue. Krens wanted to take advantage of these tremendous assets, and that is precisely when he decided to introduce a system whereby the foundation's art collection would be circulated and displayed in a series of museums in various locations. Krens is credited with developing the idea of an international "franchising" system for major museums like the Guggenheim. In such a system, various cities worldwide would be authorized to build -entirely at their own expense- satellite museums under the direction of the parent institution, in this case, the Solomon R. Guggenheim Foundation.

"We are defining ourselves in terms of strengths, and architecture is one of our strengths"<sup>1</sup> Krens recalled. For 20 million dollars, the SRGF would lend its brand name and collection to foreign institutions while

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<sup>1</sup> New York Times, December 1991

retaining overall museum management. The new museum would host five or six exhibitions of Guggenheim art collections a year, while being able to mount its own, locally curated, shows.

With this expansion in mind, Carmen Gonzalez, an SRGF curator for Spanish Art in New York, contacted the Banco Bilbao Vizcaya (BBV), a private financial institution based in Bilbao regarding the possibility of financing the museum. The management at BBV felt that the project was beyond their institution's logistical capabilities and redirected it to the Gobierno Vasco. Krens and the representatives of the Gobierno Vasco first met in Madrid during February 1991. At the time, Krens doubted the group's ability to make a substantial offer to fund the construction of a museum in Bilbao.

**Excerpt from the interview with Mr. Juan Luis Laskurain, Minister of Finance of Diputacion of Biscay at the time of the Museum's conception. (Oct. 1st, 2001)**

*Mr. Laskurain is commenting on the general question of how it all started.*

Of course, the question "Why Bilbao?" surfaced fairly quickly. A possible answer was that perhaps the other possibilities that the Guggenheim Foundation had analyzed had proved impossible. They had tried both Massachusetts and Salzburg, and for different reasons they had not been able to reach an agreement.

Inside Spain, Barcelona and Seville were deeply in the process of preparing for the 1992 Olympic Games and for the Expo'92 respectively. Madrid had been nominated European Cultural Capital for the year.

Furthermore, the Guggenheim people said that they did not want to have "just another museum" in places like Paris or London. They preferred to be the only star in a place where they will not need to compete with an "Eiffel tower." And probably, they also soon realized that the local autonomy, both political and fiscal, and the capacity to make decisions locally were very important.

After two months of negotiation, Krens agreed to visit Bilbao. During his visit, he planned to make a decision to proceed with the project or terminate the relationship. In Bilbao, he realized that the Basque authorities were seriously committed to the museum project. In fact after some additional discussion, both the SRGF and the Gobierno Vasco concluded that they didn't want to waste any more time, and that the project should move ahead quickly. Twenty million dollars were advanced to license Guggenheim's brand name, while the initial agreement permitted the start of two parallel processes, a feasibility study to evaluate the project and the search for an architect. The deadline to complete these first two steps was December 1991.

Krens returned to New York in May of 1991 with a memorandum specifying that the design of the museum must be entrusted to an internationally renowned architect. Two weeks later, he returned to Bilbao with the Pritzker prize-winning architect Frank Gehry, whom he retained as a consulting expert on site selection.

## **THE DEAL OF THE CENTURY**

The July, 1997 issue of *Art in America* outlines what some people in the art world call "the deal of the century". The new Guggenheim Museum formed part of a remarkably bold urban renewal scheme, conceived by the Basques in 1989. It was intended to transform this deteriorated port, gravely afflicted by accumulated debts, a 25% unemployment rate, industrial pollution and outmoded steel and iron trades, into a center of clean industries (service, financial and high tech) with important tourist and cultural offerings.

Much of the redevelopment's financing had yet to be secured (funding sources included the Basque regional and Biscay provincial governments, the Spanish state, the European Community and local and private investors). Granted, local financial resources did exist, (Basque per capita income remains 11% higher than Spain's national average). In addition, Basque officials were planning to secure special tax breaks from the central government to lure companies to their region.

As 1991 drew to a close, the museum "deal of the century" was clinched. According to a binding 20-year contract (extendable to 75 years), the Basques would finance the construction and operation of a new Guggenheim Museum to the tune of 100%, even down to the fees incurred by the Solomon R. Guggenheim Foundation to draw up that very agreement. Expenses would be borne 50-50 by the governments of the Basque region and Biscay province, (unlike other new Spanish museum projects, the GMB would receive no funding from the Spanish state) and Town Hall would contribute the site. Costs included building construction (\$ 100 million) plus to-be-determined operational expenses (physical plant maintenance, utilities overhead and salaries). To these were added curatorial and administrative services to be provided by the Guggenheim Foundation. In addition, Basque administrations pledged \$50 million for the new Spanish and Basque art collection (a sum to be spent over a four-year period, starting in 1994). When asked about the rationale for the new collection, Krens claimed the Guggenheim Foundation, "proposed it as an integral part of the original agreement because we think that a museum of this size and scope needs an infusion of fresh vitality". According to Gail Harrity (GMB's project director until recently), its purpose was also, "to distinguish the museum from other newly built museums in Europe which are primarily kunsthalls".

The Consorcio Guggenheim Bilbao's (CMG) preliminary investment plan for the Museum was 9,800 M pesetas (\$93.3 million USD) for the building's construction. This amount included the Executive Architect's fee estimated at 1,600 M pesetas (\$15.24 million USD); plus 2,600 M pesetas (\$24.76 million USD) for parking and infrastructure, 5,000 M pesetas (\$47.6 million USD) to acquire the art collection and an operational cost of 1,350 M pesetas (\$12.86 million USD) per year<sup>1</sup>. (Appendix A, Exhibit B)

But by far the most striking aspect of this unique agreement was the deal - a \$20 million donation the Basques would pay the SRGF, free and clear of taxes and withholding, in two consecutive yearly installments (in February 1992 and 1993), well before the museum would be up and running. Much to the chagrin of Guggenheim representatives, in Spain this payment was quickly - and accurately - dubbed the "rental fee" in reference to the future use of the Guggenheim 's collection and "brand name". Harrity insists it was instead, "a contribution made in support of the partnership". Indeed, since all other services the Guggenheim Foundation provided would be paid for by the Basques, the gift was certainly a measure of the Basques' conviction that the Guggenheim's presence in Bilbao would generate substantial reward. In return, the Guggenheim Foundation would exhibit its collection in Bilbao on a rotating basis for the length of the contract. Theoretically, all of the SRGF's estimated 6,000 works would be available for display, with the exception of the Thannhauser collection and other restricted gift and/or artworks deemed too fragile to

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<sup>1</sup> Peseta-Dollar exchange rate in 1992: 110.00pesetas=\$1.00 USD

travel.

It was arranged from the outset that the SRGF would "operate and manage" the museum. The contract also affirmed that, "Solomon R. Guggenheim Foundation's involvement is in an advisory capacity only. It includes the following disclaimer, which renders the entire arrangement similar to a standard franchise. "SRGF shall have no obligations, legal, financial or otherwise in respect to the ownership of the site, design or construction of the museum, or ownership, lease or operation of the museum except for obligations to provide services pursuant to this agreement and liabilities that cannot be waived by law".

Guggenheim Museum Bilbao's study (commissioned by the Guggenheim, paid for by the Basque government and conducted by Gestec, IBS and Peat Marwick) projected an annual income of 1.4 billion pesetas (\$14 million at that time). This was based on generous private support and in expectation of healthy attendance, consisting of 24% from the province, 32% from nearby regions and the remaining 44% Spanish and foreign. The GMB's estimated that a multiplying effect on the Basque economy would raise annual spending in the region by \$35 million, plus generate \$4 million in taxes.

Nevertheless, Spain's history of meager private giving and relatively low museum attendance pointed to a possible overestimation of these figures. Moreover, given that private patronage of theaters had been slow to develop in the Basque Country (and in Spain overall), fears were that the government (hence Basque taxpayers) might be stuck with the bill. Continued flak over the GMB and the terms of the agreement apparently induced Basque politicians to negotiate important cautionary clauses in the management contract on December 21, 1994. In an attempt to ensure the exclusivity of Bilbao's museum, the agreement put the brakes on Guggenheim expansion in Europe by requiring Basque consent on any satellite.

To guarantee that Bilbao would enjoy sufficiently high-quality programming, the contract asks that the Solomon R. Guggenheim Foundation supply Bilbao with at least three exhibitions per year of equal caliber to those taking place in its New York venues. This arrangement prevents it from substantially altering the "scope, quality, objectives or equilibrium" of its own collection. Other Basque-pleasing measures include: a strengthened collaborative relationship with the Guggenheim Venice branch, exclusive rights to Guggenheim Museum Bilbao's operating profits from ticket sales and retail operations (including the sale of Guggenheim products such as postcards, T-shirts, totebags, etc., throughout Spain). Included to the above are assurances that the Guggenheim Bilbao would be properly featured in the Guggenheim PR campaigns. Finally, to safeguard against hidden expenses, the agreement requires SRGF to submit detailed budgets free from additional charges, such as rental fees or royalties.

In addition, to maintain sufficient control over the project, the Basques obtained majority-voting rights via a new foundation, which replaced the museum's original consortium in 1996. It's powerful, 10-member executive committee (two representatives each appointed by the province, region and SRGF currently serve; four slots remain open) would approve the annual exhibition program and budgets and oversee executive staff appointments. In the end, it seemed, as Krens stated to the Basques' great satisfaction, the GMB was "now a Basque institution".

## **SITE SELECTION**

The site originally proposed by the Basque authorities did not satisfy Krens' expectations. It was the former location of Alhóndiga, a 28,000-square-meter wine storage warehouse in Indautxu, Bilbao's historic center. Krens believed that the site was unsuitable for the Museum and persuaded the Basque authorities to abandon the proposed site. Krens argued that Bilbao needed a building that helped define its city image, and cited the Sidney Opera House in Australia as a comparable example. However, the location for such a building remained elusive.

One evening, Krens was jogging before dinner when he came upon a block of land on the West bank of the Nervión River that was in accord with his vision for the museum<sup>1</sup>. Coincidentally, Frank Gehry had also noticed the Nervión site while he was looking at the city from the top of the Artxanda hill. Amazingly, the site had been abandoned and was owned by the City of Bilbao, which quickly agreed with Krens' and Gehry's choice. The 32,000-square-meter site had been chosen. (Appendix B, Exhibit A)

## **THE COMPETITION PROCESS**

During spring 1992, SRGF called an invitation-only competition for the design of the new museum. Having defined the program in detail, SRGF participated in the selection of the competitors and the evaluation committee. Thomas Krens asked Heinrich Klotz, who had worked on the Salzburg Museum by architect Hans Hollein, to help determine the selection criteria for the Design Architect. Arata Isozaki & Associates of Tokyo, Coop Himmelblau of Vienna, and Frank O. Gehry & Associates of Los Angeles were the three firms invited to submit proposals.

**Excerpt from the interview with Mr. Thomas Krens, Director Guggenheim Foundation. (Nov. 20th 2001)**

*Can you elaborate on the competition process?*

It was quite an unusual competition. According to the agreement with the Bilbao people, I chose 3 architects and we gave them \$10,000 each with a deadline to submit a concept within 3 weeks. I would have been very comfortable with any of those getting the project. At the end of the 3 weeks, the committee met in Frankfurt to decide who would build the project. We had a really good discussion and the final choice was between Gehry's and Himmelblau's. At the end, Gehry won, as he provided the most unusual project, juxtaposing the rectangular buildings of Bilbao.

The firms, each under a \$10,000 retaining fee, were required to submit their schematic design for the Guggenheim Museum Bilbao within three weeks. The selection criteria focused on adherence to the program for the museum, as defined by Klotz and the SRGF, while addressing some formal issues such as the relationship of the new building to a nearby bridge called "El Puente de la Salve."

By July 20, 1992, the architectural proposals had been submitted by each firm and delivered to the

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<sup>1</sup> Techniques et Architecture. Dec. 1991-Jan. 1998, n.5435, p19-25



Frankfurterhof Hotel in Frankfurt, Germany. Isozaki sent ten sketches depicting a four-story, elliptical building (Appendix B, Exhibit B). Coop Himmelblau's scheme consisted of a group of internally illuminated, translucent, boxes whose glowing effect illuminated the skin of the structures at night. (Appendix B, Exhibit B). Coop Himmelblau and Frank O. Gehry and Associates provided sketches and physical scale models of their proposed designs.

Minister of Culture Juan Ignacio Vidarte represented Gobierno Vasco on the selection committee, while the rest of the committee comprised economic consultants Arregui and Laskurain, and the SRGF. The goal of the selection committee was to choose a building with a strong iconic identity, a building that seemed greater than the sum of its parts. The building would inevitably be compared with Wright's Museum on Fifth Avenue.

The Guggenheim Museum Bilbao selection committee made the final decision in late July 1992. After what Krens described as "two arduous days of deliberation," the selection committee announced that Frank O. Gehry and Associates was the winning firm. Gehry had proposed a sculptural design with a strong riverfront presence. (Appendix B, Exhibit B) "He was chosen for the strength of his vision," Krens recalled.

## ***FRANK O. GEHRY AND ASSOCIATES***

Just before and during the Guggenheim Bilbao competition, FOG/A had received some severe criticism as to whether its designs were buildable. In addition, the firm had participated in and lost three recent major competitions: those for the La Sagrera, the Thames Bridge and Saint Pancras Station. The same firm - Foster and Partners, won each of these competitions.

Furthermore, FOG/A was struggling with its client over the Walt Disney Concert Hall project in Los Angeles. The construction of this \$200 million dollar building had been delayed because the construction bids had been much higher than anticipated. Disney, too, was looking for an Executive Architect for its project, claiming "Gehry does not know how to build it."<sup>1</sup>

When Frank Gehry again visited Bilbao on July 5, 1991, he was not there as Krens' advisor, but as a competitor. On the morning of the 7th, he returned to the Hotel Lopez de Haro after touring the site and began to sketch. According to the Bilbao Revitalization Plan, the natural slope running down to the riverfront was to be transformed into a green valley, but Gehry did not want to lose the industrial feel of the existing water-

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<sup>1</sup> *Arquitectura Viva* 55, July-August 1997, Frank Gehry quotes a declaration of the Dean of the University of Southern California.

<sup>2</sup> Van Bruggen, Coosje. Frank O. Gehry, Guggenheim Museum Bilbao. Guggenheim Publications, 1997, p.31

front<sup>2</sup>.

During Gehry's absence, a schematic model that roughly matched the preliminary program specified by the SRGF was being fabricated at his Los Angeles office. At Gehry's request, Project Designer Edwin Chan brought the model to New York, Gehry's next stop upon leaving Bilbao. Here, Gehry designed a new schematic model using additional program information. By July 15, the model was sufficiently developed to show the direction Gehry would take with the museum. The basswood pieces of the model indicated the elements to be constructed in Spanish limestone, while silver-painted components represented metal.

FOG/A's design had virtually abolished right angles and flat walls. In the past, the firm's scale models had often dismayed construction companies. FOG/A's design housed the Museum in 'containers' and relegated aesthetic impact to the sculptural quality of the walls and roofing elements. Years later, Gehry recalled that "The Guggenheim Bilbao does not have a single straight line...It is not artistry, it is precision."

### **THE ORGANIZATION OF THE CONTRACT**

Within a month, Gobierno Vasco established the Consorcio Guggenheim Bilbao (CMG) to oversee the planning and construction of the Museum, and was appointed as its Director. By mid-September the feasibility study was completed. The study concluded that the site and the business plan made sense. The Gobierno Vasco ratified the agreement two months later, and the contract was signed in December at Bilbao's Palacio Foral, the regional government's headquarters, between Salomon R. Guggenheim Foundation and Consorcio Guggenheim Bilbao.

The contract was organized as follows: Client was the Consorcio Guggenheim Bilbao (CMG), which consisted of the Gobierno Autónomo Vasco (Basque Government), the Diputación Foral de Bizkaia (Vizcaya deputy representatives) and the Ayuntamiento de Bilbao (Municipality of Bilbao). Program Consultant was the Salomon R. Guggenheim Foundation (SRGF) and Design

**Excerpt from the interview with Mr. Juan Ignacio Vidarte, Director of the Guggenheim Museum Bilbao. (Oct. 1st, 2001)**

*What were the risks and your main concerns at the beginning of the project?*

The project presented challenges from the very beginning. There were a lot of people thinking that it was an unbuildable project. So, my higher priority was to form a team to build the project and set very clear rules for the team. The rules included that the role of each member of the team should be clearly defined and enforced: FOG would be responsible for everything related with design, IDOM would be responsible for the budget, schedule, quality of construction and the adjustment to local technology, SRGM would be responsible for all the aspects related to the program and the operation as a Museum. Finding the right people and integrating them in a team was a challenge. At the same time, knowing the complexity of the project, I cultivated a learning process, in a positive environment, able to confront the challenges of FOGA's design. So, when critical problems appeared, the team was already integrated and knew how to respond properly.

Management independence from the three institutions that formed the owner was also a very important issue for me. During the project, the order of command at the owner's level was clear: the Consortium gave all the directions to me and all the members of the team were receiving orders from me. There were not confusions or misunderstandings about it.

Furthermore, nothing was approved unless it was checked that it

was possible to be built with local know-how and fitted inside the budget and schedule, so all FOGA's designs had to be checked by the executive architect.  
I have no doubt that our "naive" vision of the project was essential to approach it with innocence and a fresh air attitude, helping to push the limits and meet the project's challenges and risks.

Architect was Frank O. Gehry & Associates (FOG/A)

The next step was to hire an Executive Architect and project manager. CMG would hold another invitational competition amongst local firms, and FOG/A would participate in the final selection.

(Appendix A, Exhibit A)

**Excerpt from the interview with Mr. Thomas Krens, Director Guggenheim Foundation. (Nov. 20th 2001)**

*What was your role during the design process?*

After the signature of the final contract, the project became an "orphan." Only Gehry, myself and Vidarte continued to work on it. No one else, from the local political side, was interested, in those early days. From the end of 1992 until 1997, IDOM was our only contact to Bilbao. This condition lasted until the opening night, when the entire world knew about it and became in love with the Bilbao Guggenheim Museum.

During the design period, it was clear that, in addition to providing the program requirements, I was the client on all design issues. Vidarte was in charge of the budget and the schedule, Gehry was the architect, and IDOM the construction manager. Everything worked well because there was a clear definition of our roles.

During those days I was the designer's echo. I was reviewing Frank's design, giving feedback and suggestions on the design. Knowing Frank well, it made such a task easy and natural. I still remember when Frank presented me a simple rectangular plan for the museum's atrium. I responded that such a plan did not represent his architecture to its full extent and I suggested something more daring, more "Gehry." I even draw on a piece of paper what I had in mind. Through this process, Frank eventually gave us an atrium that is one of the most beautiful spaces in the world. And this was not the only incident in our design relationship.

I was visiting Bilbao twice a year during design and construction, and at the end everything was executed according to the plans. Nothing happened accidentally, it was all part of well orchestrated process. And a large part of the success comes from the great pride of the Basque country. I have learned that Basque people do what they say they will do.

## **THE SELECTION AND ROLE OF IDOM**

For the selection process of the Executive Architect, CMG invited several local architectural practices and two large engineering firms, SENER and IDOM, to present their ability manage the construction of the Bilbao Guggenheim. It quickly became clear that the architectural firms were too small to undertake the project.

SENER was the largest Bilbao-based engineering firm. The company's major field of expertise was in high technology projects. SENER met all of the competition's size and economic requirements and had partic-

ipated in the feasibility study phase. Nevertheless, since it had previously focused on aerospace, naval and industrial projects, SENER did not have relevant experience in architectural projects of such monumental scale.

The second local firm, IDOM, was multidisciplinary and had a portfolio of previous engineering projects along with some experience managing architectural projects. IDOM seemed to be a better candidate for the project as the company's profile with the timely addition of César Caicoya better suited the role of the Executive Architect. César Caicoya a renown and experienced local architect would provide IDOM with the architectural expertise required for the role, while the fact that IDOM as a company had not been involved in the past with architectural projects of this magnitude; would guarantee that they would not act with antagonism towards the design of Frank Gehry, but instead try to make it feasible gaining the most out of it. Surprisingly, the people at IDOM were themselves skeptical about the project; although they had undertaken developments in the past whose risk factor surpassed those of the Guggenheim Bilbao, those projects had been primarily industrial. Finally, despite their initial hesitation, IDOM's management soon realized that the project was crucial for their company, as it could develop their expertise and bring new business opportunities. (Appendix A, Exhibit C)

CMG arranged a preliminary meeting to present IDOM's capabilities in terms of team, infrastructure and resources. Juan Ignacio Vidarte and Carlos Iturriaga representing CMG and Randy Jefferson and Bob Hale from FOG/A visited IDOM's offices and had the opportunity to interview a large number of professional personnel, with the discussions focusing on whether IDOM had the size and technical abilities necessary to execute the project. At the end of the meeting Vidarte requested a Formal Economic Offering (budget). Two weeks before

**Excerpt from the interview with Mr. César Caicoya, Architect of IDOM. (Oct. 1st, 2001)**

***What was IDOM's architectural responsibility?***

IDOM's architectural responsibility was:

1. to respect the aesthetics of FOG/A and to interpret it correctly on site,
2. to make the construction of this architecture possible in Bilbao.

Most of the construction details of the museum were drawn in California. However, the available technology in California is quite different than in Bilbao. So, before the FOG/A details were incorporated in the construction drawings for bidding, IDOM studied them to check if it was possible to be done easily in Spain and if that would not be possible, IDOM suggested changes to FOG/A that would not alter the appearance of the building.

Just a few examples:

" FOG/A conceived the stone cladding to be supported by a steel structure. However, there is no tradition in Bilbao for holding stone with a steel structure, and it would be unnecessarily complicated. So, we suggested to follow the local tradition and support the stone cladding on a concrete block wall.

" FOG/A specified bronze valves for the plumbing system, which is the standard high quality approach in the USA. However, stainless steel valves in the European market offer the same if not higher quality and they cost less.

" FOG/A suggested to hold the titanium with plywood. This system could have worked in California's weather, but it was considered to be a cheap and vulnerable solution in Bilbao. So, we opted for the more durable, albeit more expensive, galvanized sheet metal holding the titanium.

Confronted to these changes, FOG/A always reacted in a similar pattern: initially with a resistance but eventually they were quite receptive to our suggestions.

***Your architecture has a very different from that FOG/A/s. How did you deal with such a conflict of architectural styles?***

As you pointed out, the FOG/A architecture is very different than mine, so I accepted it as an external element, like working in the "Guernica" of Picasso. I immediately understood that it was a very special and distinct work, so I put on all the necessary effort to make it work.

***How has your architecture changed after the collaboration with Frank O. Gehry?***

Essentially it has changed my way to approach a problem. It has not changed my shapes. It taught me to have an open mind to all options. My architecture is European and has the weight of Europe.

***Has FOG/A influenced Spain's architecture?***

No, Gehry is very much admired but he is not imitated. Spanish architects have not followed his path.

Christmas, IDOM was selected as Executive Architect. Their first assignment was to obtain permits to comply with governmental regulations.

When IDOM was hired for the GMB project, they were aware that Frank Gehry had been selected because of his design ability, and that they were responsible for making his designs a reality. Since this realization would require much team collaboration between FOG/A and IDOM, FOG/A attended the interviews held in order to select the executive architect to ensure that the team would work well together. As the contracts had established, IDOM was responsible for 20% of the design while FOG/A would be responsible for the other 80%. However, IDOM was legally totally responsible for the construction administration

phase of the building, and was in charge of 80% of the construction administration. This arrangement generated an overlap of architectural duties and responsibilities and triggered a unique, rather informal relationship between IDOM and FOG/A that was not necessarily bound together contractually.

Throughout the project, IDOM's contractual responsibilities evolved to include both those traditionally attributed to and Executive Architect and those assigned to the Project Manager; although IDOM themselves did not separate the types of responsibilities within their company. Rather, they continued to work as an integral group. Their responsibilities included site supervision, set up and management of the bidding process, construction management as well as budget and schedule control. Furthermore these responsibilities required them to act as the site coordinator in charge of the day-to-day site operations, with no contractual relationship between them and the various General Contractors or Subcontractors. The General Contractors were contracted directly to the CMG, yet reported to and were directed by IDOM.

During design and design development phases, a 'real-time'<sup>1</sup> cost control model was used in order to ensure each new design remained on budget. As the cost control responsibilities remained primarily

**Excerpt from the interview with Mr. Carlos Iturriaga, Architect of the Diputacion of Biscay. (Oct. 2nd, 2001)**

***What was the approach to select the local companies?***

Before contacting local firms, we studied FOG/A's schematic design for 2 or 3 weeks. Then, we asked FOG/A what they needed in a local firm. They responded that they wanted an architectural studio of about 30 or 40 people, capable of acting as the local architect, have local contacts and adapt the drawings to meet the local codes.

However, very soon it was evident that the local architecture studios did not have enough experience and capacity to approach this project correctly. So, we started considering local engineering firms. Only two of those firms could confront the challenge: IDOM and SENER. Although they did not have significant experience in architectural projects, they had an enormous experience in project management and in delivering complex, large projects.

At that time, architect Cesar Caicoya, a well known local architect and desirable to be involved in this project, joined IDOM. This was perfect for us, because the Diputacion wanted to contract an architectural studio with an engineering firm, combining the roles of the executive architect and the project manager in a single firm.

Before choosing the executive architect, FOG/A asked us to interview the different firms that we had considered. From this process, IDOM was selected and contracted by us directly. In the selected scheme of the design architect and the executive architect/project manager, FOG/A did not have any legal responsibility for the building.

The relationships did not always work perfectly, as it would be expected in such an innovative building that both the design architect and the executive architect/project manager have been hired by the owner. Part of my work consisted in improving these working relationships and maintaining a balance. Another of my tasks was to check FOG/A's design and detailing and make sure that it met our architectural expectations.

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<sup>1</sup> the system didn't always operate in 'real-time' and design development had to be stopped on three different occasions for the project to be completely re-estimated

with IDOM, IDOM and FOG/A developed an interesting relationship. Throughout design development, IDOM would re-price any item that FOG/A notified them had changed, and would check to make sure the cost was within the budget assumptions.

In this unique arrangement of sharing architectural roles, FOG/A passed all of the legal obligations to IDOM. After document completion, FOG/A transferred the drawings to IDOM who checked the drawings and then stamped them. This transfer of the documents from FOG/A to IDOM put much risk on IDOM, as they were now responsible for the project, without having designed it. Beyond extensive and accurate review processes, it was the close informal ties that had developed through collaboration and the development of common goals that made this unorthodox method of collaboration work.

José María Asumendi, a top executive with vast experience in complex architectural, engineering and industrial developments, led IDOM in the initial stages of the Guggenheim Bilbao project. With the operations strategy determined, it was now time to assemble the team that would carry on the logistics. IDOM established a dual, complementary leadership position to guide the project. Luis Rodriguez, -PhD and MBA- a young and enthusiastic engineer with management experience, and César Caicoya, a well known, Bilbao-based, highly respected architect that had successfully collaborated with IDOM in several important projects were assigned to accomplish the project. Complementing managerial and design skills, Rodriguez and Caicoya were chosen to lead a team of 150 professionals that encompassed experience and innovation.

Teams were organized according to meet the requirements that would be imposed by the selection of the trade contractors:

Amando Castroviejo, a 46-year-old engineer with long experience in building and expert in concrete and metal structures became in charge of both Foundations and Structure. Castroviejo recalled that "as soon as I saw the project I knew I was facing the biggest challenge of my career."

Fernando Perez Fraile was barely 29 years old when he was made responsible of Exteriors. With just one year of experience he had shown to have capabilities to undertake such an assignment. During an internship at FOG/A, during the design development phase, he became familiar with the project. Perez Fraile aimed at "preserving Frank Gehry's aesthetic approach by all means."

The Interior and Installations package was the responsibility of Javier Aja and Javier Arostegui. In his short but remarkable career, Javier Aja had demonstrated to be the resourceful and inventive professional needed to supervise the Interiors of the building. Aja recollected that "80% of the construction systems and materials used in the Guggenheim Bilbao project were totally innovative in the building industry."

Rogelio Díez and Javier Arostegui were in charge of Installations. An electrical engineer with 15 years of experience, he was dedicated to put into context the Installations project elaborated by Cosentini, as consultant to FOG/A: "European and American regulations are very different, and even more different are the material selection habits." Rogelio Díez, who left IDOM before the completion of the project, also worked

on Installations.

Anton Amann, a young architect and professor at the Universidad de Navarra, was in charge of coordinating fixtures, furniture and equipment (FF&E) that were subdivided into 16 areas, from lighting fixtures to computers. He also assisted César Caicoya in coordinating architectural issues. Amann remembers that "the main risk was the high number of parties involved, with the consequent risk of budget overrun."

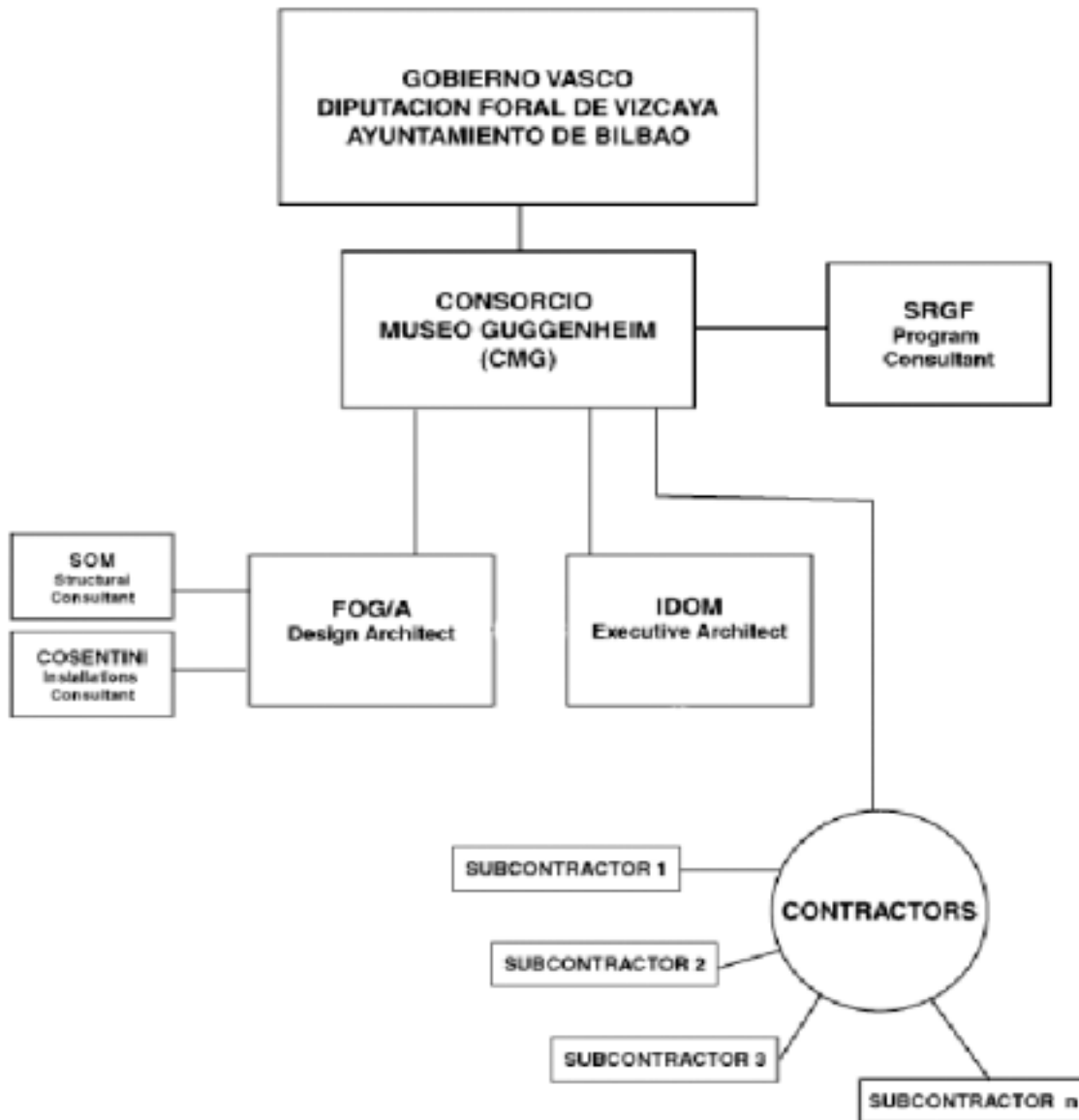
Another important player was José Manuel Uribarri, the 'Jefe de Obra' (Construction Manager). An engineer with over 30 years of experience, Uribarri was permanently on site as the main representative of IDOM to coordinate contractors, subcontractors and daily visits of the professionals in charge of each part of the building.

Throughout the project the time dedication of these professionals varied according to construction phases. (Appendix A, Exhibit D)

### APPENDIX A -DIAGRAMS AND TABLES-

- EXHIBIT A -PROJECT MAJOR PLAYER ORGANIZATION-
- EXHIBIT B -RECONSTRUCTION OF THE GUGGENHEIM MUSEUM BUSINESS PLAN-
- EXHIBIT C -IDOM CORPORATE ORGANIZATION-
- EXHIBIT D -PERSONNEL-

#### EXHIBIT A -PROJECT MAJOR PLAYER ORGANIZATION-





**EXHIBIT B -RECONSTRUCTION OF THE GUGGENHEIM MUSEUM BUSINESS PLAN-**

**Guggenheim Bilbao Business Plan**

Expenses

Fixed Assets

Building Construction	8,200
Urbanization	2,600
Executive Architect	1,600

Total 12,400

Art Collection 5,000

Operating Expenses 1,350

Total Expenses 18,750

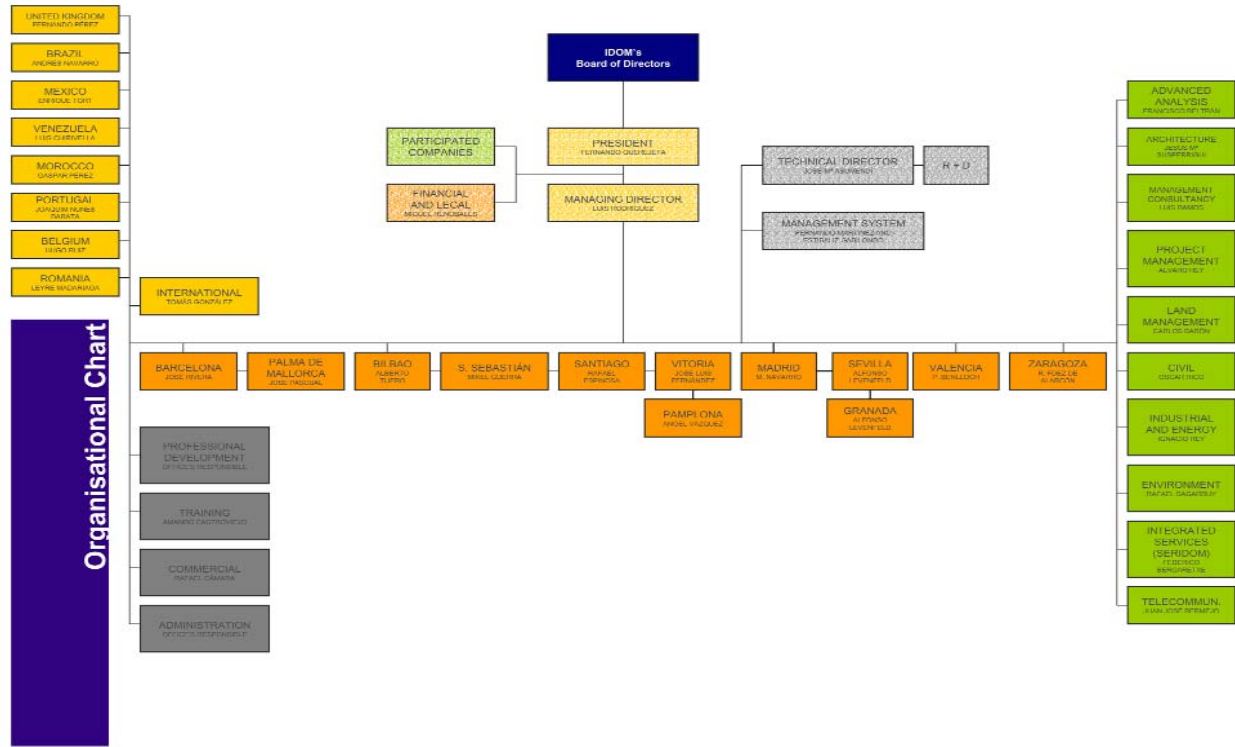
Income

Tickets	281
Merchandising	303
Private Patronage	694
Public Patronage	1,200
Other	33

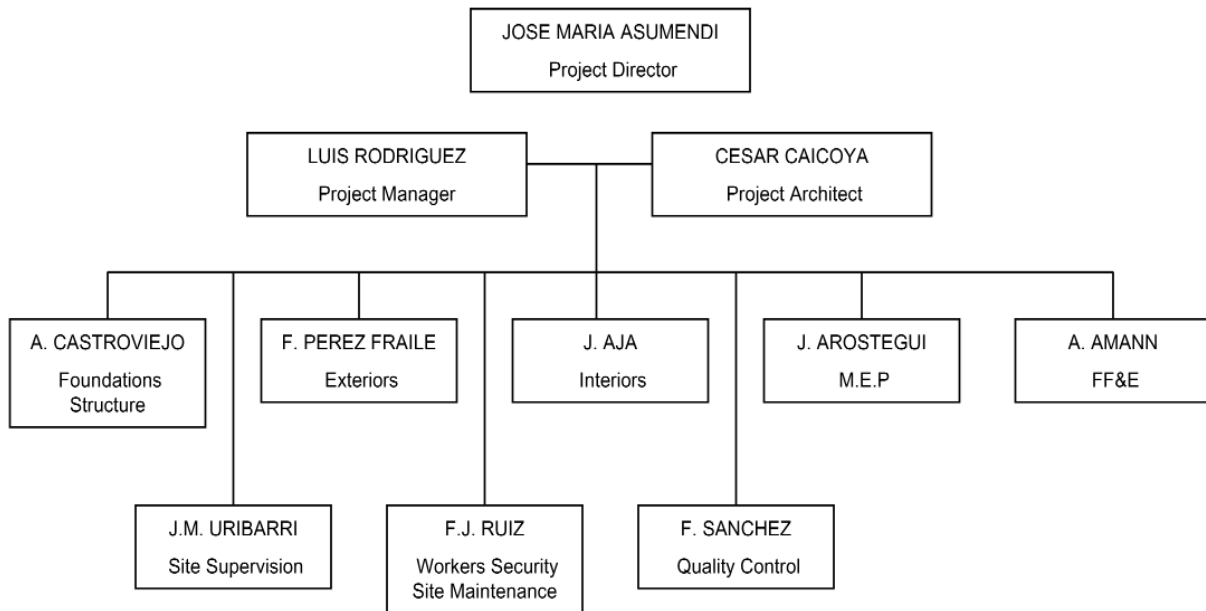
Total Income 2,511

All numbers indicate amounts in million pesetas. Peseta-Dollar exchange rate in 1992: 110.00pesetas=\$1.00 USD

**EXHIBIT C -IDOM CORPORATE ORGANIZATION-**

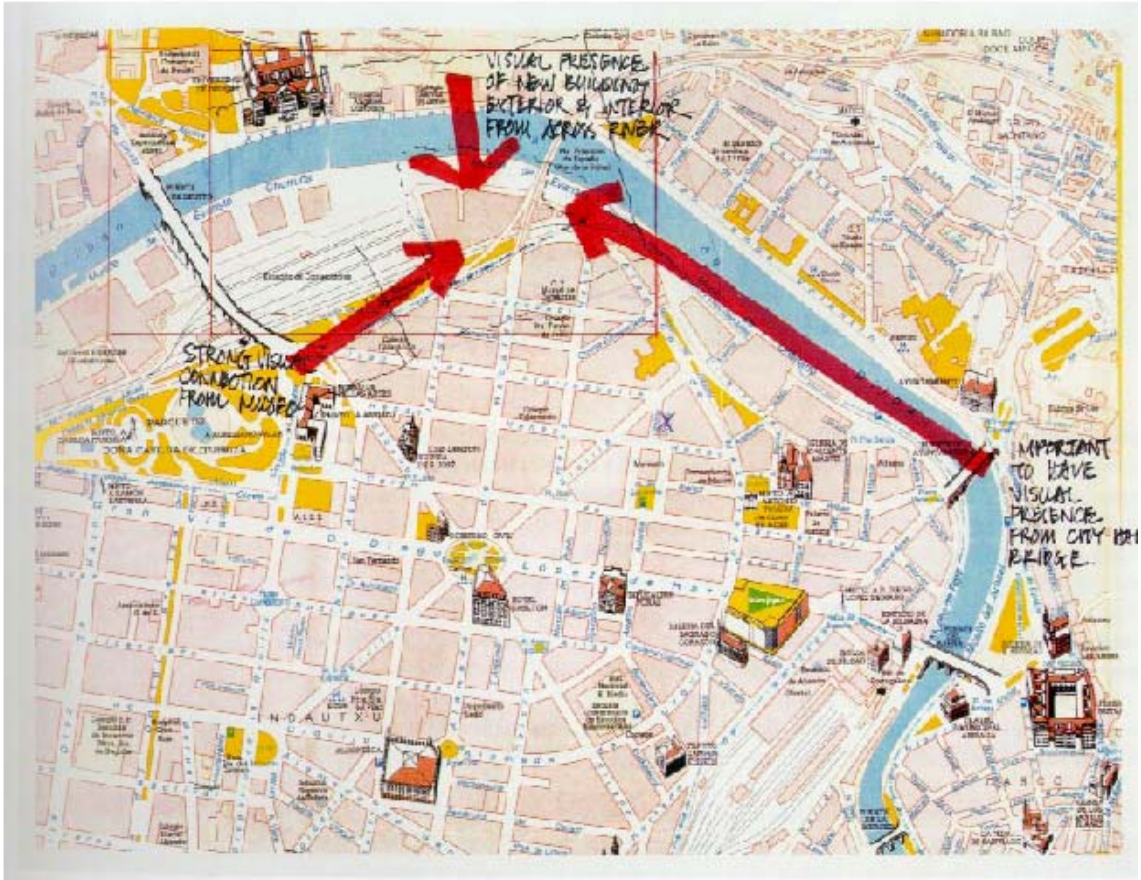


**EXHIBIT D-PERSONNEL-**

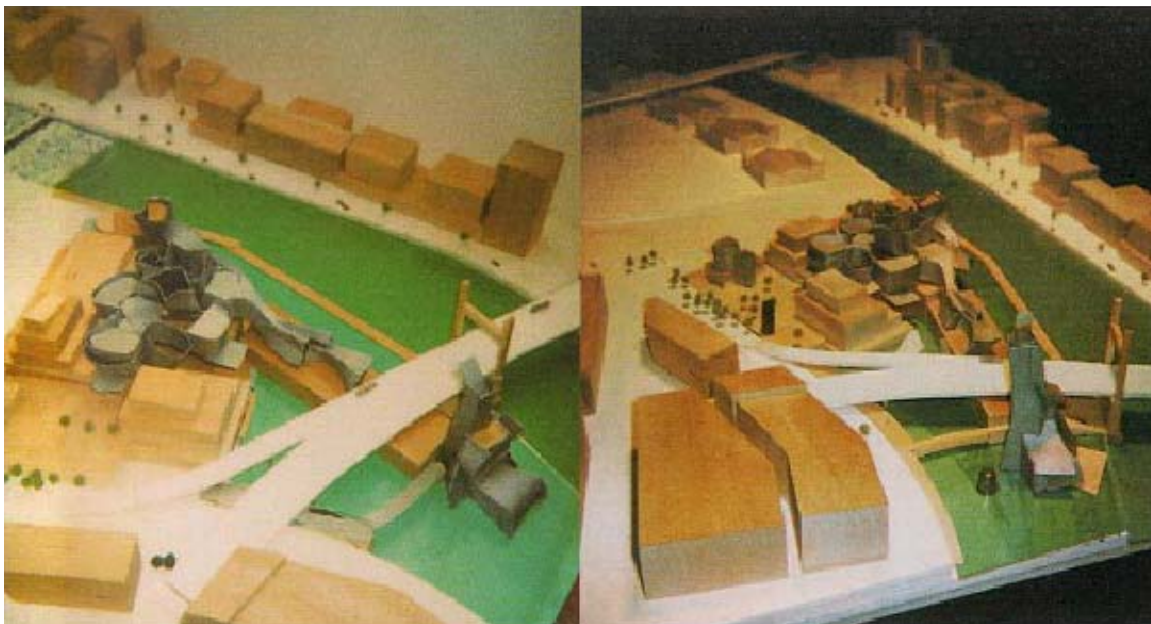


**APPENDIX B -PICTURES-**

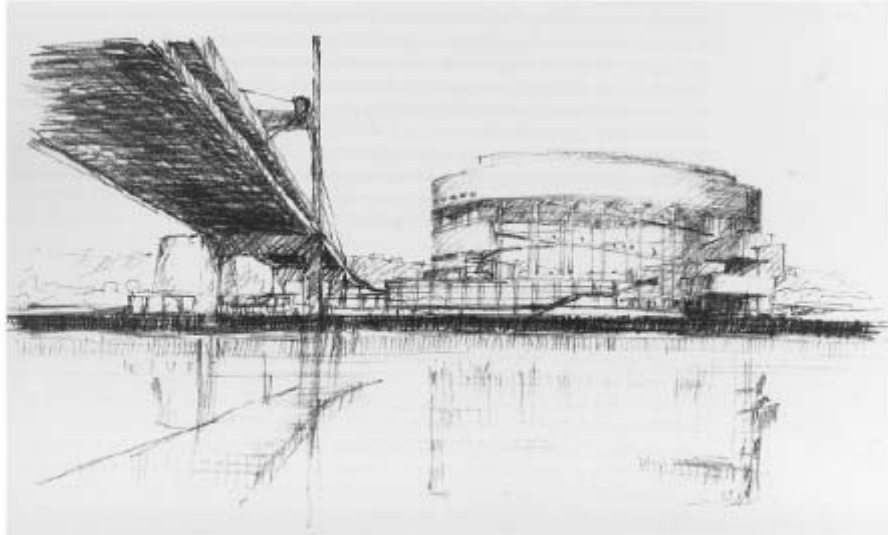
**EXHIBIT A -THE SELECTION SITE INCLUDING F. GEHRY ANNOTATIONS-**



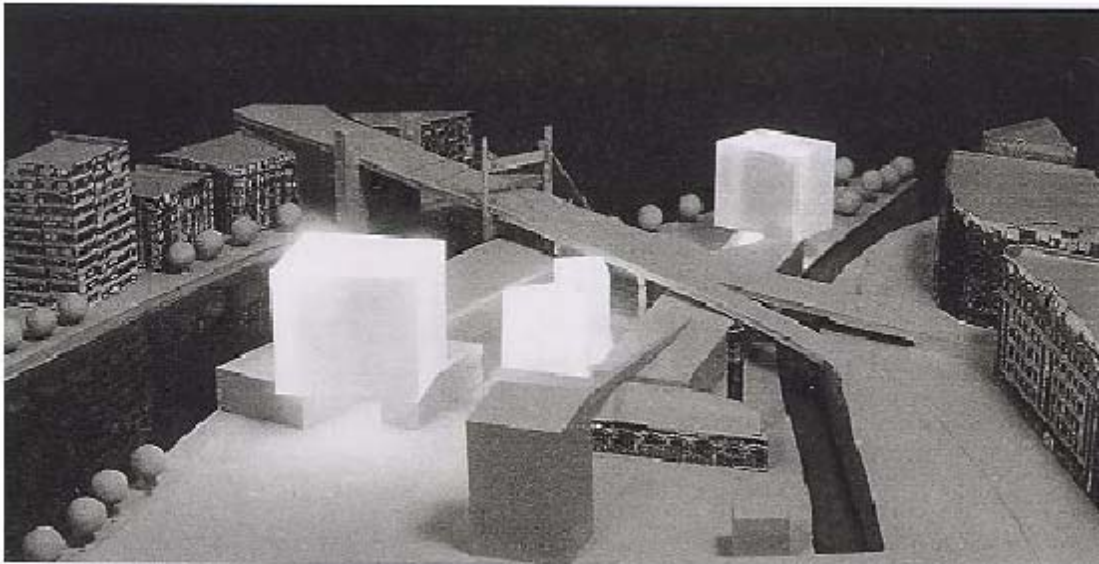
**EXHIBIT B -GUGGENHEIM BILBAO DESIGN COMPETITION FOG/A ENTRY-**



**EXHIBIT B -GUGGENHEIM BILBAO DESIGN COMPETITION ARATA ISOZAKI & ASSOCIATES ENTRY-**



**EXHIBIT B -GUGGENHEIM BILBAO DESIGN COMPETITION COOP HIMMELBLAU ENTRY-**



**EXHIBIT C -PHOTOGRAPHS OF THE BILBAO GUGGENHEIM MUSEUM-**

