

SEND MY LOVE TO TIJUANA | TIJUANA SENDS HER LOVE
the transcendental tijuanaense telecommunications bridge to everywhere

by: Mary E. Hale
A. B. Urban Studies
Brown University 2002

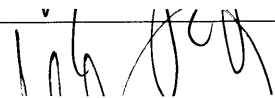
Submitted to the Department of Architecture
In Partial Fulfillment of the Requirements for the Degree of

MASTER OF ARCHITECTURE
at the
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Mary E. Hale
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January 14, 2009

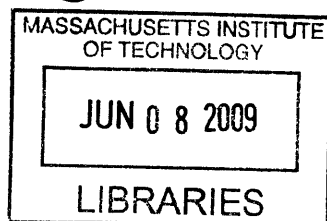
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BIOGRAPHICAL NOTE:

Mary Hale is originally from Brownsville, Texas, the southernmost and easternmost town along the 2000 mile stretch that defines the present-day border between the United States and Mexico. Her experiences there, as well as her experiences traveling through Central America, have directly influenced an interest in the social issues addressed by this thesis topic.

ACKNOWLEDGMENTS:

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This thesis is dedicated to the many people whose lives have been affected by the present-day political situation on the border between the United States and Mexico.

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ABSTRACT

Send My Love to Tijuana | Tijuana Sends Her Love replaces an existing pedestrian bridge that connects two vibrant neighborhoods in Tijuana, Mexico. The bridge is strategically situated to integrate itself into the city's urban fabric, while maintaining visibility from the United States Border and the San Ysidro Border crossing, the most heavily trafficked border crossing in the world. There, passage is tightly controlled, extending wait-times to unbearable lengths for even those permitted to cross legally. Nearby, my project provides an alternative portal that is universally accessible to those who wish to reconnect with their loved ones by way of another, virtual means: free videoconferencing within dedicated spaces. These spaces range in scale, beginning with the precedent of the phone booth for private, intimate conversations and ending with large-scale public projection zones for families. In either case, families and loved ones are reconnected on opposite sides of the border in a communion whose significance is witnessed by the monumental scale and form of the architectural composition.

Not only is the building's form significant, its details also contribute to its monumental character. While the façade facing the United States is a severe 900 foot-long, 40 foot-high, rectangular, corrugated steel, reflection of the existing border "fence", its symbolic severity is subtly subverted by an array of millions of end lit fiber optic cables. These cables are translucent hairs that blow in the breeze and that channel in from the façade through the building's folded steel structure, and out into rooms, out beside walkways, and out through ceilings. When light activates one end of the optical cable, it illuminates on the opposite end as well. Therefore, the cable channeling system allows for daylight to penetrate the interior spaces, whereas at night, the façade is illuminated by the internally lit building. The illumination on the façade is an eery, abstract depiction of the activities inside, as shadows from pedestrians deactivate the cables they pass, and the family-conferencing projections activate cables that portray content on the façade. Finally, individual lights within the personal telecommunications rooms, when in use, can also be mapped to their own zones. Thus, form and fiber optics enhance the symbolic value of the bridge, which anyway represents the human desire to connect, and directly opposes the ever impassible border wall, which is an embodiment of military might and the distinctly human desire to separate.

This thesis project was inspired by my personal experiences with the family members left behind in Central and South America by their dearest relatives—children, husbands, wives—who journeyed illegally to United States in order to garner a financial foothold to support their loved ones back home.

Thesis Supervisor: Marl Gouthorpe
Title: Associate Professor of Design

“Only to humanity, in contrast to nature, has the right to connect and separate been granted, and in the distinctive manner that one of these activities is always the pre-supposition of the other.”

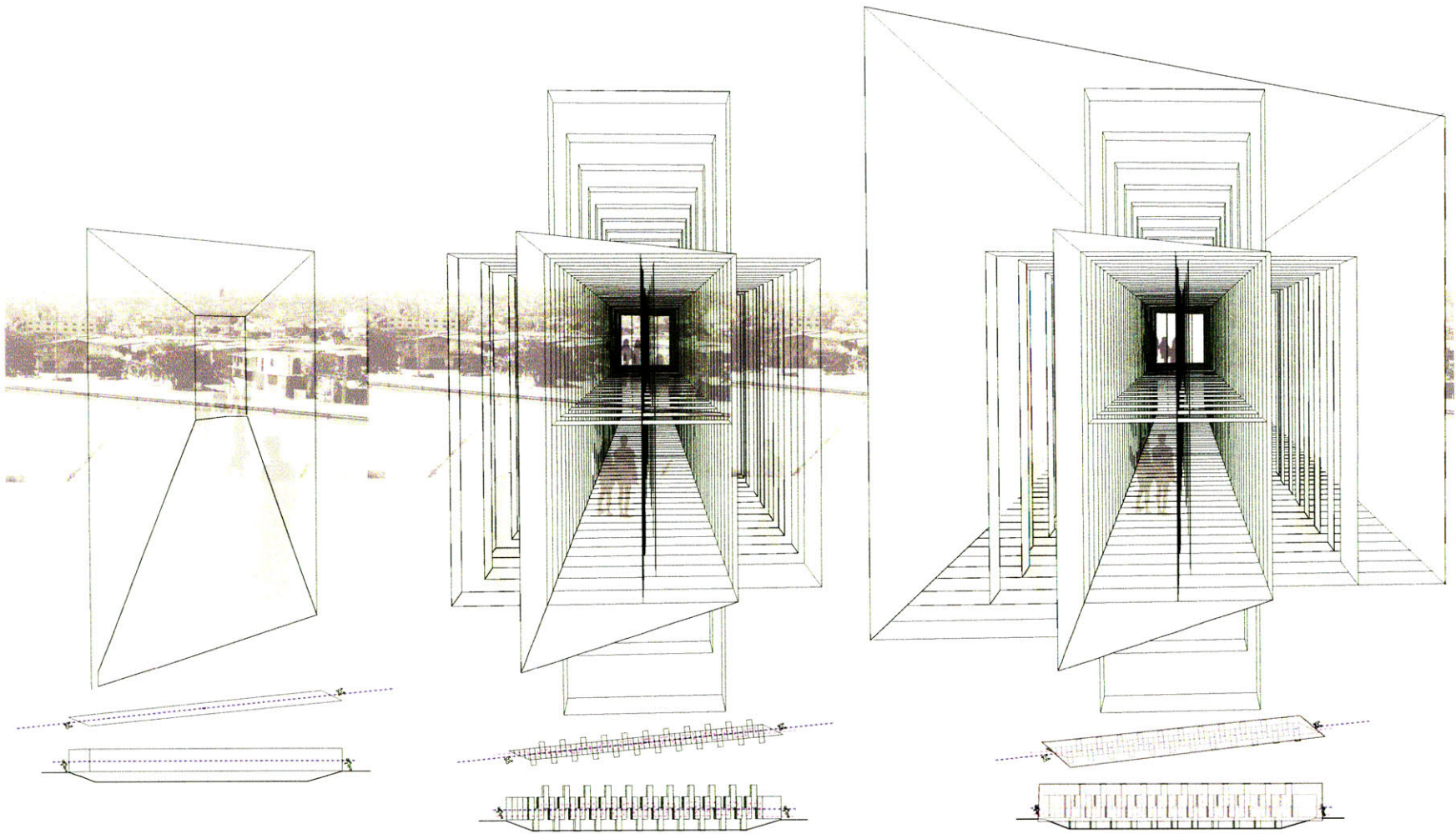
- Georg Simmel

“Walls are the martial declaration of the intent to repel all delinquent perception and all illicit communion. They are not simple barriers to energy transfer, but barricades that prevent entropy of meaning and preserve the holistic and unitary concept of our dream world, be it personal or a universal dream, by eliminating that part of the other more disparate world which fails to conform to it.”

– Robin Evans

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Early studies for a fragmented yet cohesive architectural composition.

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This is Maria Vargas and her daughter Consuela. I met them while participating on a trip organized by MIT's Special Interest Group in Urban Settlements (SIGUS) in January 2008. While the trip was, in its entirety, life-changing, one particularly notable experience occurred while conducting a survey through the World Bank-funded development called La Presita, in San Miguel, El Salvador. La Presita is an incredible neighborhood, minimally designed to contain pockets for all different income levels, from the most indigent to the most affluent. The latter live in architect-designed pre-fabricated homes on cul-de-sacs, but the former live in houses they built for themselves, on either side of narrow thoroughfares. These houses make up a neighborhood of human-scale buildings, all unique, all interesting, and all created by untrained designers. We walked with wonder through the sunny one-lane streets, stopping occasionally to conduct an interview with a homeowner. Usually there was a visual cue that would summon our curiosity, for instance, a wacky façade or an informal storefront. In this case, it was a single mass-produced window proudly built into the front façade of an otherwise humble, hand-crafted house. I knocked on the door and was greeted by Maria, who graciously extended an invitation to enter and talk for a little while. Not long into the conversation, I asked her about the window that had piqued my interest, and she began to speak about her son, Manuel. Manuel left for the United States seven years ago, fleeing Salvadorian street gang violence. He works construction in Houston and sends the remittances that paid for a window that one would most likely find on an American suburban tract home. I asked her when the last time she had seen her son was, and she fell into my arms weeping. "It was seven years ago", she said.

prelude



Like many illegal immigrants who successfully land and find work in the United States, Maria's son can not leave. His inability to return is largely due to the increasing security that defines the present-day border between the United States and Mexico. Beginning with the establishment of the border control in 1978 and bolstered by post 9/11 security this border can be likened to a war zone... the implications of which reach far beyond the border into any ethnic enclave easily penetrated by INS forces.

The border itself is the most frightening manifestation of the United States government's many post-9/11 measures to obtain "operational control". Migrants must spend up to a year's salary in their native land to hire a guide, known as a coyote, who may or may not guarantee his clients' safe arrival in the United States. After all, the obstacles are vast and include thousands of additional Border Patrol Agents; "high intensity stadium type lighting; ten-foot-high steel fencing constructed by welding together Vietnam War surplus corrugated steel landing mats; permanently mounted and mobile infrared night scopes or thermal imaging devices, which detect migrants by their body heat and enable the border patrol to dispatch its agents and vehicles precisely to those places where illegal entries have been made; large numbers of motion-detecting sensors buried in the ground near the border; remote video surveillance systems linked to in-ground sensors, so that as soon as a sensor is tripped a nearby video camera automatically pivots to survey the area; new road construction along the border, to give the border patrol greater access and mobility; and a computerized system of biometric scanning called "IDENT".** Finally, INS's efforts include the construction of a US – Mexico Border Fence.

**Wayne A. Cornelius. "Death at the Border: Efficacy and Unintended Consequences of US Immigration Control Policy." (Population and Development Review, 2001) p 665

plight



by rail



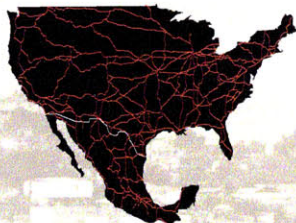
by air



by sea



inside shipping container



international trucking routes



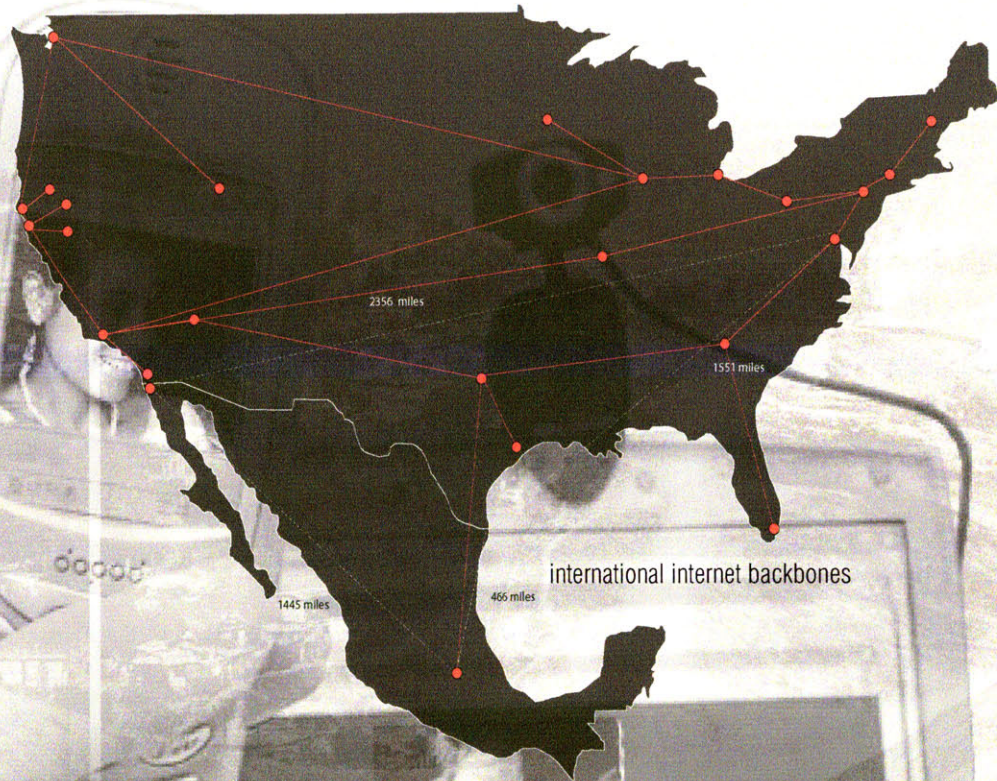
international rail lines



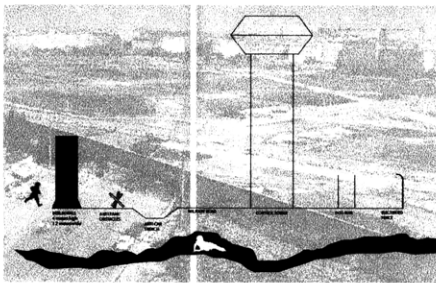
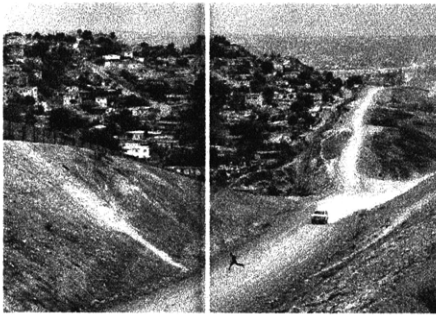
international airports



international ports



international internet backbones



"Looking at the [Berlin] Wall as architecture, it was inevitable to transpose the despair, hatred frustration it inspired to the field of architecture... The Berlin wall was a very graphic demonstration of the power of architecture and some of its unpleasant consequences."

- Rem Koolhaas

This fence, or more pointedly, wall, demarcating the border between the United States and Mexico serves a practical function for those who have instated it. Its purpose is to dam the flow of humans across the border. However, unlike water which obeys its physical properties and whose behavior can be speculated upon with a certain degree of success, human innovation and ingenuity are not as predictable.

Countless examples exist to describe the ineffectiveness of military border walls, which are perhaps the most literal and banal interpretation of political boundaries. They find ancient as well as contemporary precedents, from Hadrian's Wall to the Berlin Wall, whose marginal success at blockading foretells the inevitable failures of the border wall between the United States and Mexico. What's more, advances in transportation technology, specifically airplanes, have displaced the border to cities that are distant from the geographical line that separates the two countries. Thus, today, the border should be considered as a more dispersed entity whose satellites include airports, seaports, and locations where migrants exist around the country.

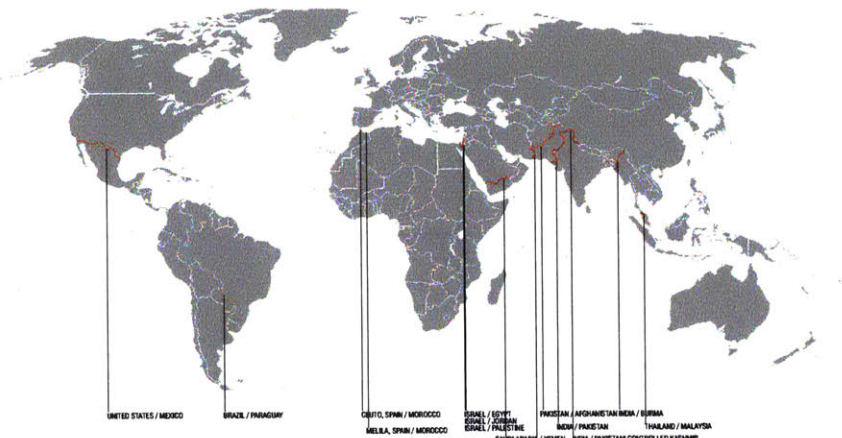
Of course, this dispersed border has not escaped the government's attention, and its response can be seen in airports, train stations and seaports where international travelers enter the United States. Programs such as "US Visit" use digital fingerprinting, RFID technology, and digital photos to track international visitors' stays in the US. While fingerprinting and photographing seems an ominous introduction for many foreign tourists, statistical evidence shows that nearly half of illegal immigrants primarily entered the country legally as tourists, and then remained there illegally on account of nonexistent tracking technology.

crossing



In spite of the border's dispersed nature, the most tangible evidence of border enforcement exists along the line itself, whose physical articulation (opposite) began during the Clinton administration. Then, articulation was the imposition of a corrugated steel wall that enjoyed only marginal success as a barrier. Its primary purpose is symbolic, and the meaning of this symbolism is well stated by Robin Evans, "Walls are the martial declaration of the intent to repel all delinquent perception and all illicit communion. They are not simple barriers to energy transfer, but barricades that prevent entropy of meaning and preserve the holistic and unitary concept of our dream world, be it personal or a universal dream, by eliminating that part of the other more disparate world which fails to conform to it. Walls are the armoury that preserves our personal integrity against the inroads of humanity and nature."

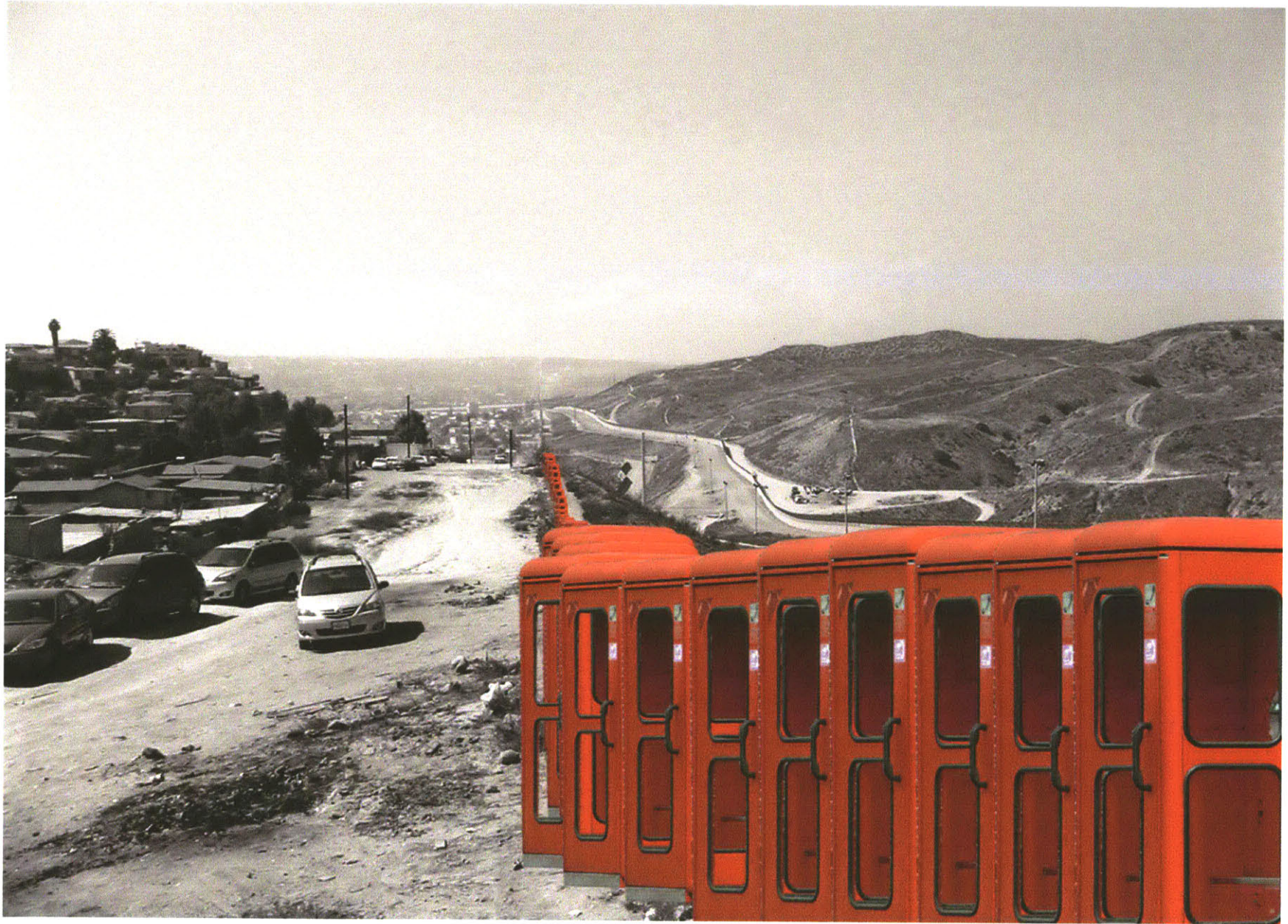
This symbolism has, in recent years, been employed all over the world, well beyond the United States Mexican border. Many have linked this trend to globalization because it, according to Stephen Castles, "leads to increases in all kinds of cross-border flows, including movements of people. In recent years international migration has grown in volume, and is now an important factor of social transformation in all regions of the world. States classify migrants into certain categories, and seek to encourage certain types of mobility while restricting others."



the wall

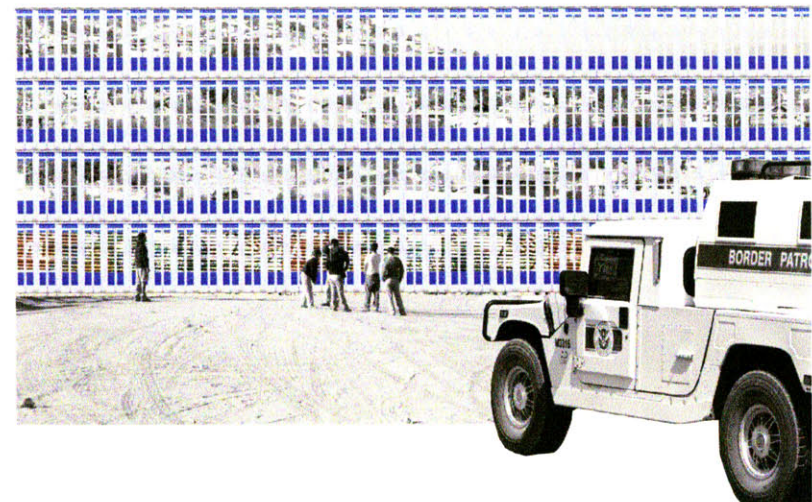
Image of the border fence in Tijuana, 2007 (opposite)

Map of the political border walls emerging as a part of the new global economy (right)



Hence, a border wall is a significant symbolic statement whose import is understood the world-round. Its universal symbolism betrays a distinctly human characteristic: the desire to separate. However, it is the distinctly human counterpoint, the desire to connect, that overwhelms the program and architectural composition of this thesis.

Enabled by today's high speed telecommunications technology, which is ubiquitous in the United States but largely nonexistent for those without the financial means to obtain it in Mexico, the project is a real-time, undirected communication space for reconnecting loved ones severed from one another by economic realities and by today's political situation. This reconnection happens within a single monumental infrastructure, what could be termed "a monument to living ghosts", in Tijuana, within view of the United States. Architecture provides, in a grand symbolic gesture, shelter for a therapeutic place of healing that would not be possible on the US side of the border. This is because those living illegally in the United States have a need to maintain anonymity. Therefore, they interact with the monument by using their cell phones and internet cafes, which are easily accessible in the United States.



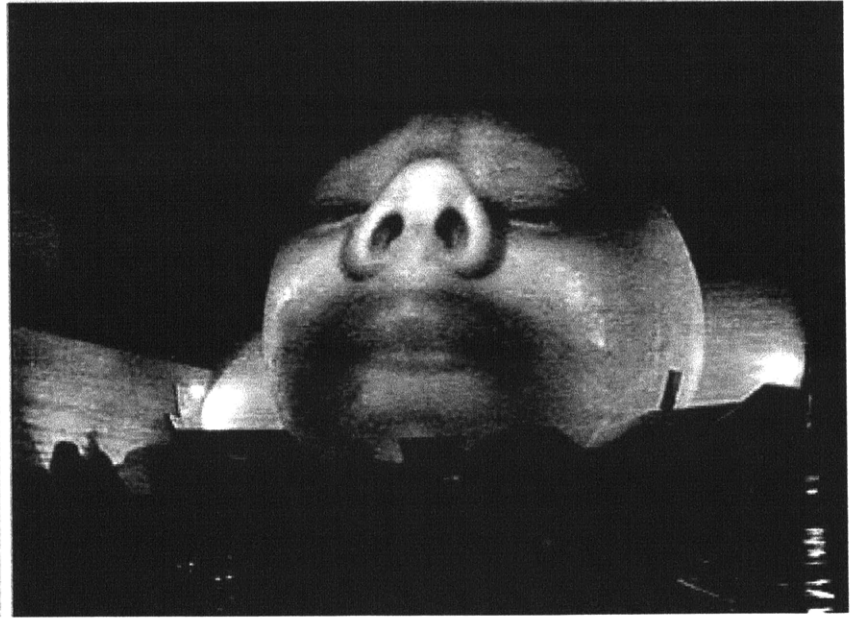
transcendence & architectural composition

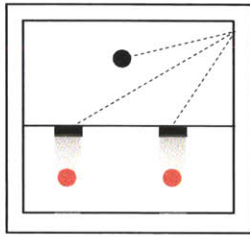


Thus, this thesis takes the position that monumental composition, which has historically belonged to governments and to the wealthy, is an important aspect of giving voice to the downtrodden. It also pays homage, through the integration of cinematic live-action projections, to Sergei Eisenstein's theoretical ideas about architecture and film as relatives within a genre of time based media. Elaborating on this point, in his essay, "Montage and Architecture", Eisenstein cites the Acropolis as an example of one of the first films. Although he believes that "only the film camera has solved the problem of [fixing the total representation of a phenomenon in its full visual multidimensionality] on a flat surface," he concedes that "its undoubted ancestor in this capability is architecture." He asserts that "the Greeks have left us the most perfect examples of shot design, change of shot, and shot length (that is, the duration of a particular impression)," and he even goes so far as to describe the Acropolis of Athens as the "perfect example of one of the most ancient films". (117) He supports his argument with a description lifted from Choisy's *Histoire d'architecture*, in which the complex of the Acropolis is related in terms of "panoramas that unfold" (118) for the spectator traveling by foot. These panoramas are created out of stunning architectural compositions that take advantage of forced perspectives, "picturesque... oblique views" and more "majestic... frontal views" (119) of buildings on the site. Moving through these buildings, one encounters "a series of pictures that... are all calculated on the first impression that they make". This is where Eisenstein links between Choisy's description of an architectural composition and his own theory on film. He states that "the calculation of a film shot effect is obvious, for there too the effect of the first impression from each new, emerging shot is enormous. Equally strong however is the calculation of montage effect, that is, the sequential juxtaposition of these shots." (121)

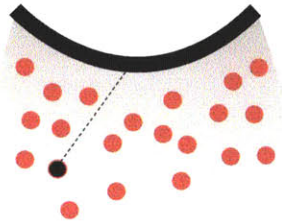
Georg Semprich "The Bridge and the Door" (pt in *Reflections on Architecture: an aesthetic and theory* edited by Neil Leach (London: New York: Routledge, 1997) pp. 117-121

time based media

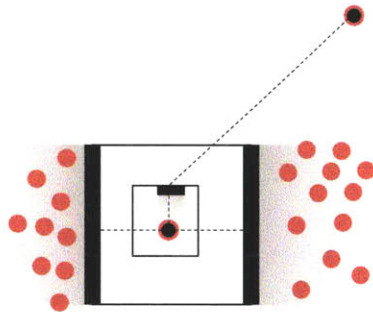




TIME DELAY ROOM (1974)
 Enclosed within a tightly controlled space the performers actions are directed to a separate room where they are perceived by the audience. Depending upon the layout of the installation, the performer may or not be aware that he is being watched.



TIJUANA PROJECTION (2001)
 Here, the performer, is a part of the audience, and she is fully aware that her image is being projected in a public space. She wears the performance equipment and sees the distorted/empowered reflection of her words and actions.



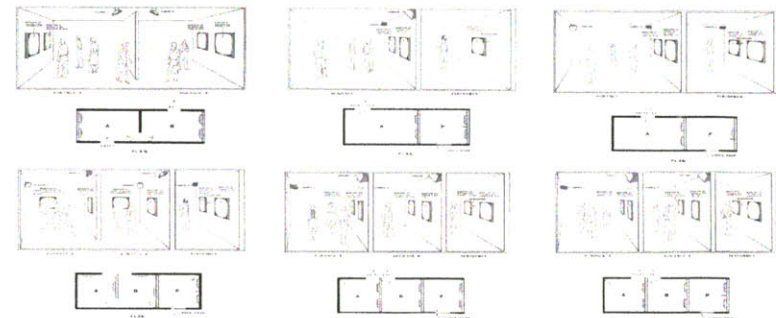
SEND MY LOVE TO TIJUANA (2009)
 Here performances take place in two scales. One is the exchange between remote performers. The other is the projection of these interactions on the project's exterior. Actions are projected in two directions: to the United States and also into Tijuana. Before entering the building, performers are aware that their interactions will be visually revealed to some extent.

● PERFORMER ■ PERFORMANCE ● AUDIENCE ● HYBRID

Taking an inspirational cue from Eisenstein, the contemporary projects that most directly influence the scope of this thesis integrate architecture and film into a singular artistic composition whose powerful integration shed light on important social concerns. These precedents include Krystof Wodiczko's *The Tijuana Projection* (2001) and Dan Graham's *Time Delay Room* (1974).

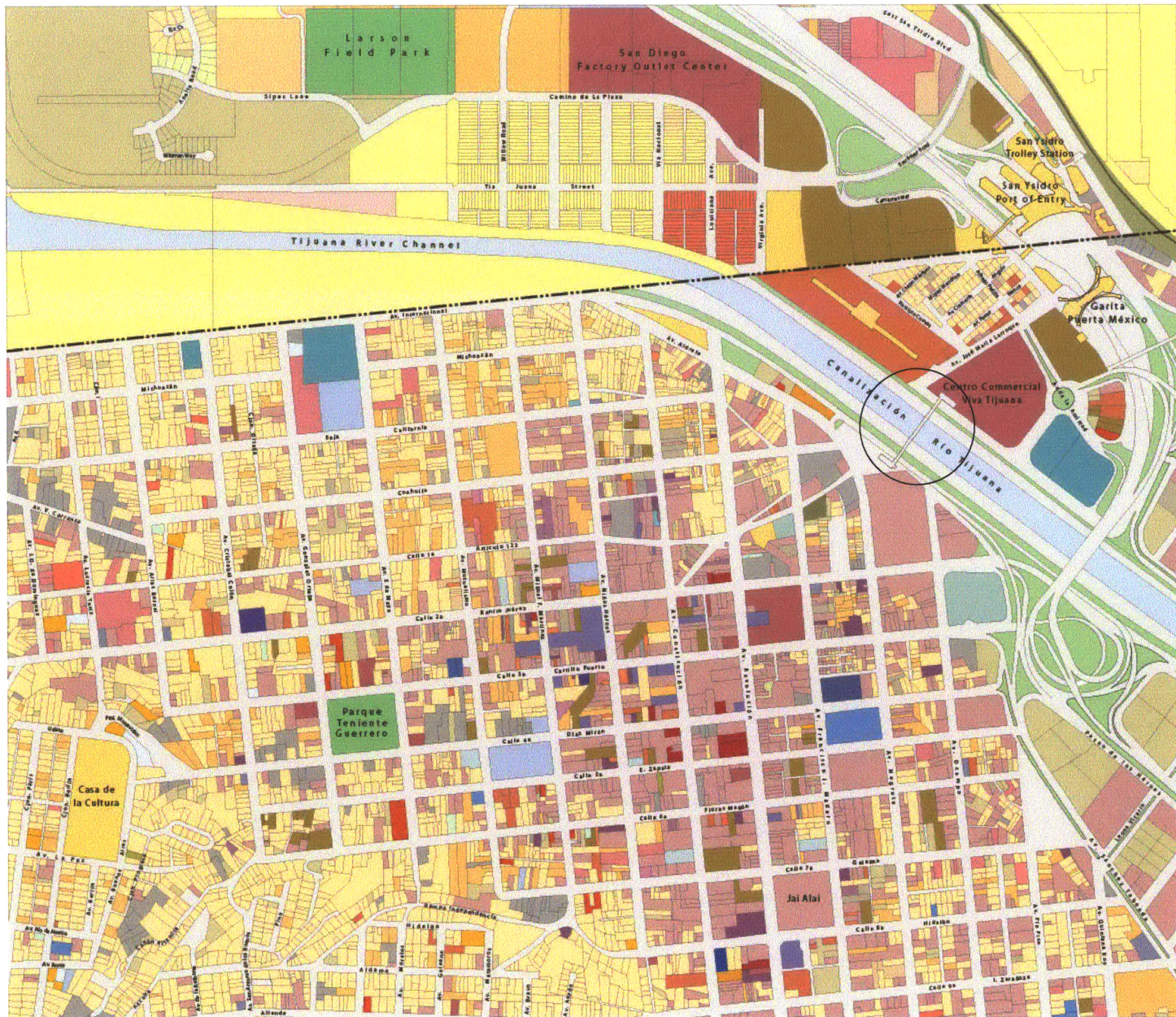
Wodiczko's *Projection* is an incredibly moving success in terms of empowering and giving voice to the silent, disenfranchised women of Tijuana. Wodiczko projects the faces of these women, all maquiladora workers, on the monumental globe outside the Tijuana cultural center, giving a life-like notwithstanding massive and distorted visage to each storyteller. He reclaims these buildings as symbols of power and puts the power in the hands of those who would otherwise not have it. His work utilizes technology to create a massive, albeit ephemeral public artwork that trumps the power of even the most successful mural. Its ephemeral nature ensures that when viewed it will create an impact, and its impact will not be lost through the anesthetizing effects of time that victimizes any static work of art.

Although Graham's project does not relate specifically to Tijuana, it explores notions of performance and surveillance as well as the integration of once-new technology and architecture. These are aspects that the thesis project grapples with, in an effort to record and demonstrate the emotional impact of the exchanges taking place within the building.

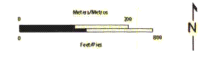


The Tijuana Projection by Krystof Wodiczko. Realized as a part of InSITE 2000, Tijuana (opposite)
 Time Delay Room by Dan Graham (above)

precedents | time based media



- | | |
|----------------------------------------------------------------------------------------------|--------------------------------------------------------------------|
| Living Quarters
Habitacional | Public Services
Servicios Públicos |
| Residential
Habitacional | Public Installation
Instalación Pública |
| Apartment Building
Apartamento | Library
Biblioteca |
| Mobile Home Park
Parque de Casas Móviles | Fire Station
Estación de Bomberos |
| Hotel | Hospital |
| Motel | Health Clinic
Clínica de Salud |
| Motel | Church/Temple
Iglesia/Templo |
| | Police Station
Estación de Policía |
| Schools
Escuelas | Commercial/Office
Comercios/Oficinas |
| Kindergarten/Day Care
Kinder/Guardería | Local Commercial
Comercio Local |
| Elementary School
Primaria | Restaurant |
| Junior High School
Secundaria | Bar |
| High School
Preparatoria | Bank
Banco |
| Parks/Commercial Recreation
Parques/Comercios Recreativos | Shopping Center
Centro Comercial |
| Active Park
Parque Activo | Super Market
Supermercado |
| Landscaping
Jardín | Gasoline Station
Gasolinera |
| Sports Facility
Instalación Deportiva | Funeral Home
Funeraria |
| Billiards
Billar | Department Store
Tienda Departamental |
| Museum | Auto Dealership
Agencia de Autos |
| Movie Theater
Cine | Office
Oficina |
| Gymnasium
Gimnasio | |
| Social Club
Club Social | |
| | |
| Transportation/Communication Facilities
Transporte/Instalaciones de Comunicaciones | Industrial/Warehouse/Expos
Industria/Bodega/Expos |
| Bus Terminal
Terminal de Autobuses | Industrial Building
Nave Industrial |
| Telephone Office
Oficina Telefónica | Assembly Plant
Almacén de Armado |
| Parking Lot
Estacionamiento | Warehouse
Bodega/Almacén |
| Radio Station
Estación de Radio | Auto Dealership
Deposito de Chatarra |
| Automobile Right of Way
Vialidad | |
| Railroad Right of Way
Vía Férrea | Vacant/Underdeveloped Land
Baldío/Suelos sin Desarrollar |
| Railroad | Vacant, Not Graded
Baldío No Nivelado |
| Via Férrea | Vacant, Graded Land
Terreno Nivelado |
| Light Rail
Tren Ligero | Under Construction
En Construcción |
| No Data Available
No Hay Información Disponible | Residential/Und. Con.
Habitacional en Const. |
| Unknown
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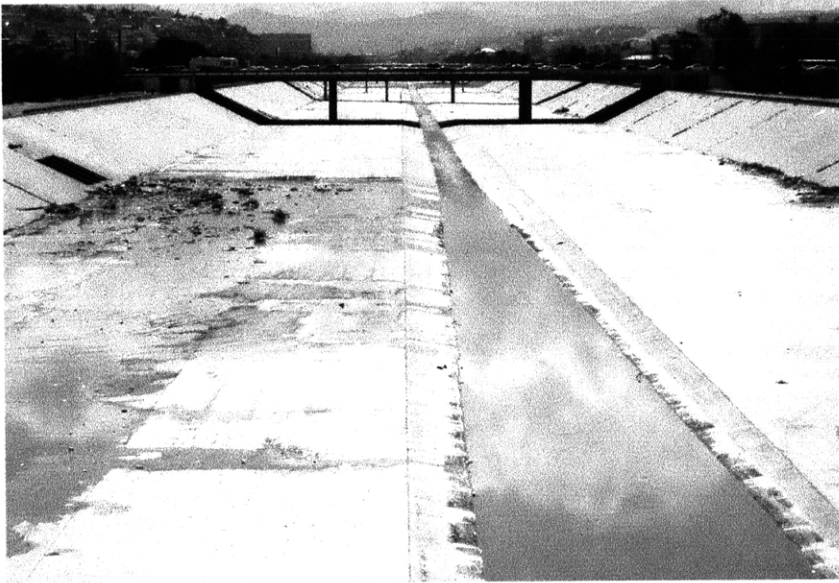




The project is situated near the San Ysidro border crossing in Tijuana. This is the most heavily trafficked border crossing in the world. It links directly to the existing border fence, is situated beside informal housing settlements and is proximate to Tijuana's major commercial centers.

More specifically, it is the site of an existing pedestrian bridge that is on the route to and from the border crossing to Tijuana. To me, the bridge is a powerful symbol of human ingenuity to create connections, and stands as a direct counterpoint to the wall before it.

As Georg Simmel, points out in his essay "The Bridge and the Door", "Only to humanity, in contrast to nature, has the right to connect and separate been granted, and in the distinctive manner that one of these activities is always the presupposition of the other." Thus, a bridge and a wall begin to manifest themselves as polar opposites within the same family of physical manifestations of humanity's desire to both connect and separate.

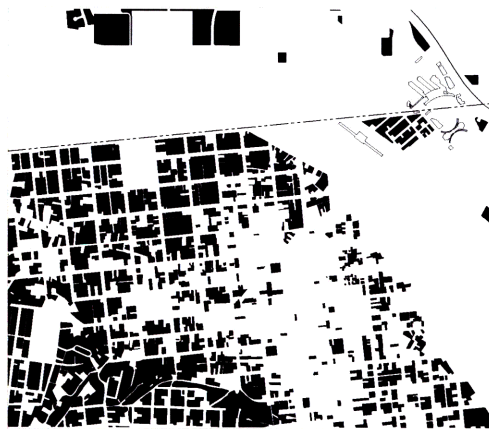
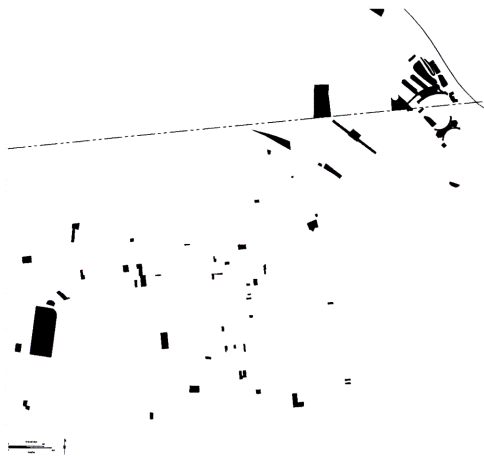
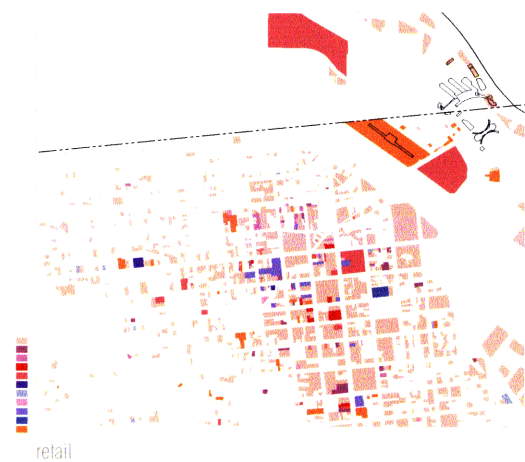
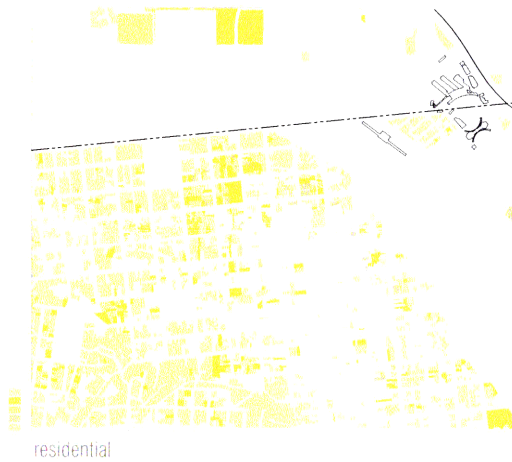
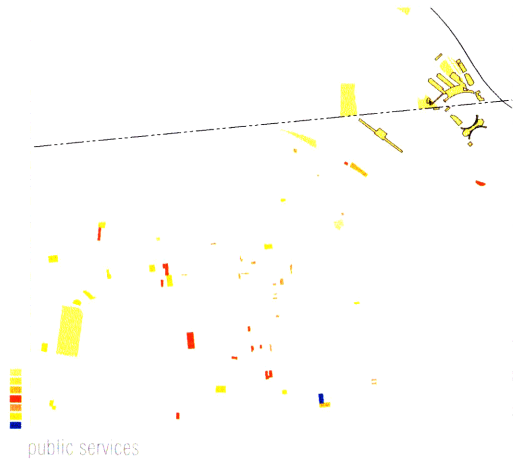


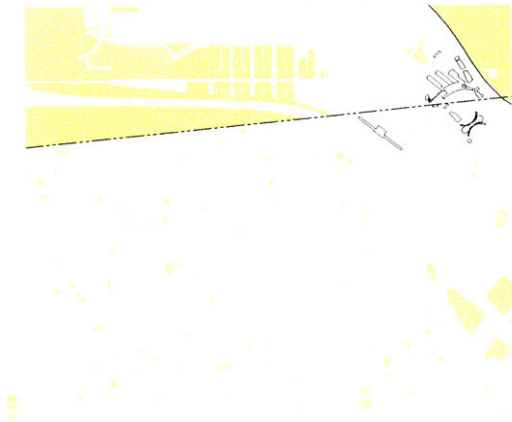
Land use map near the San Ysidro Border Crossing in Tijuana, from the *San Diego / Tijuana International Transborder Planning Atlas* (opposite)

Arial view of the Tijuana River in the urban context. (above left)

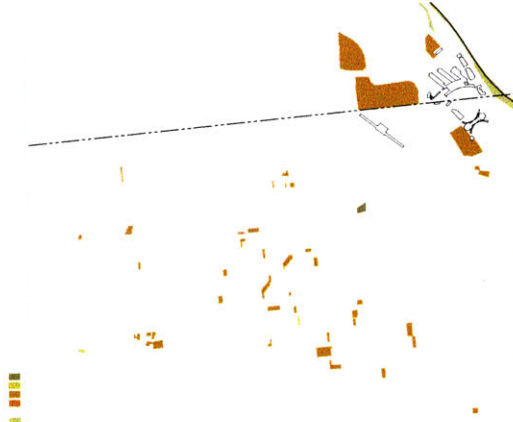
View of the Tijuana River, taken from the project site, a pedestrian bridge over the Tijuana River.

site | the tijuana river

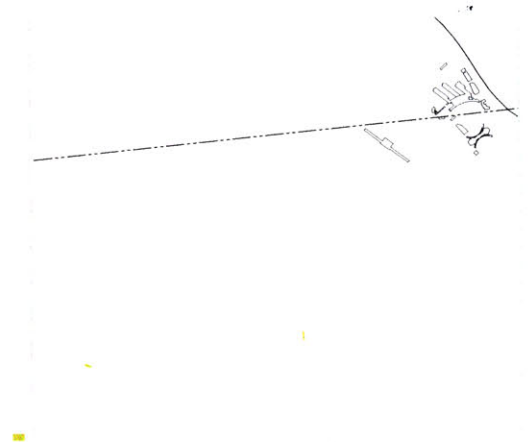




vacant / undeveloped land



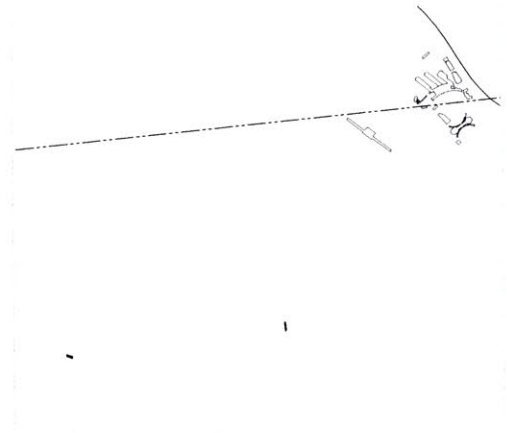
transportation / communication facilities



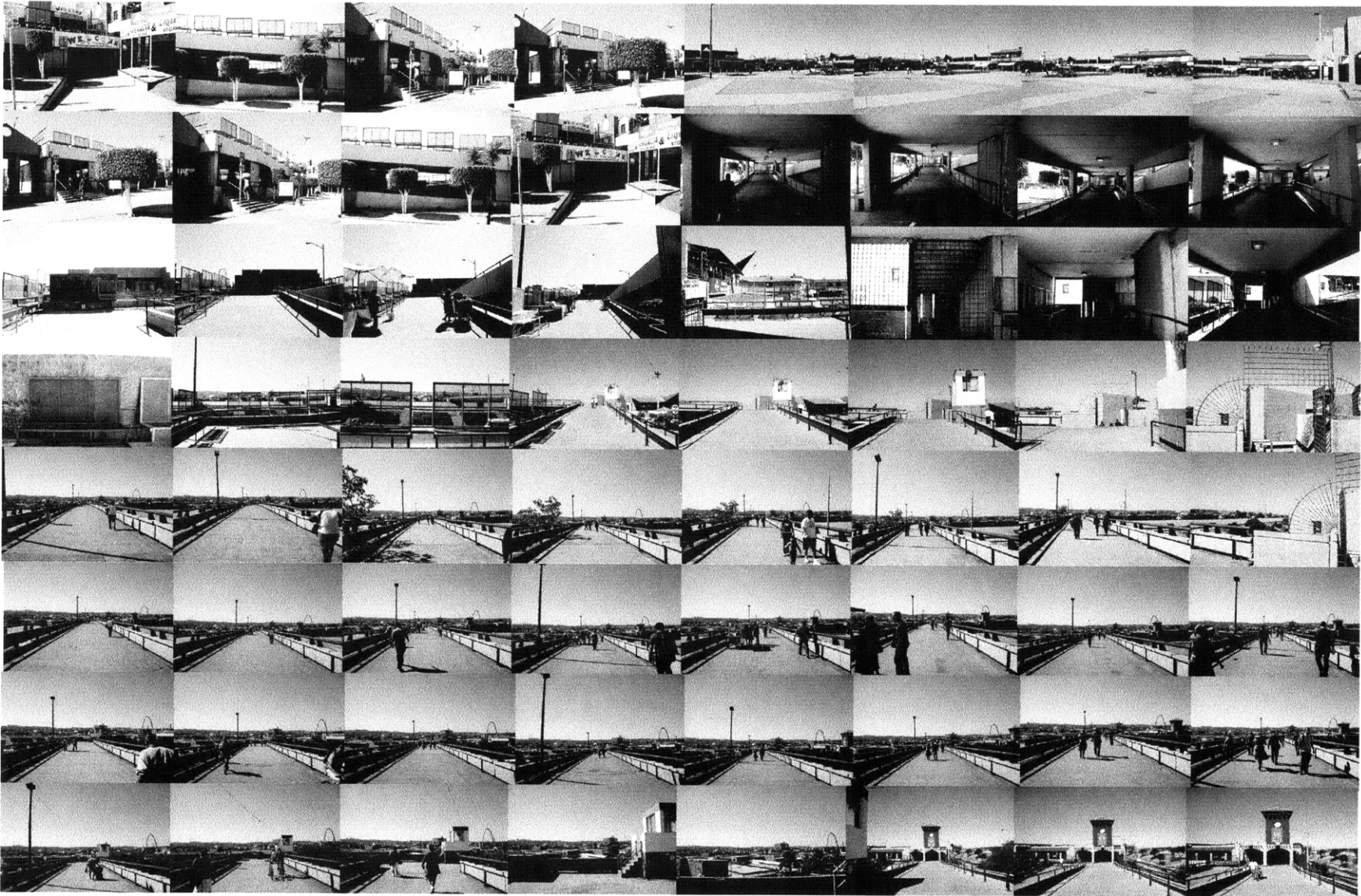
telecommunications facilities



building footprints



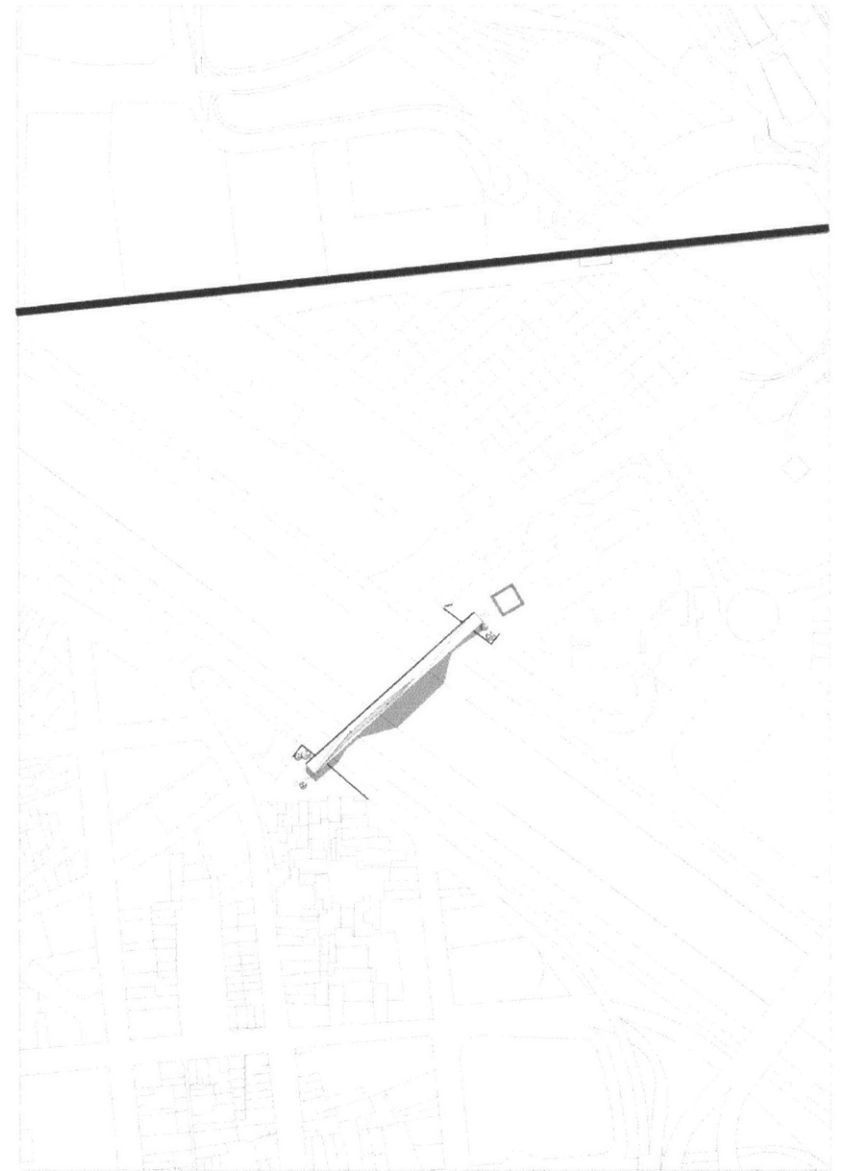
site | the tijuana river



conditions on the existing pedestrian bridge

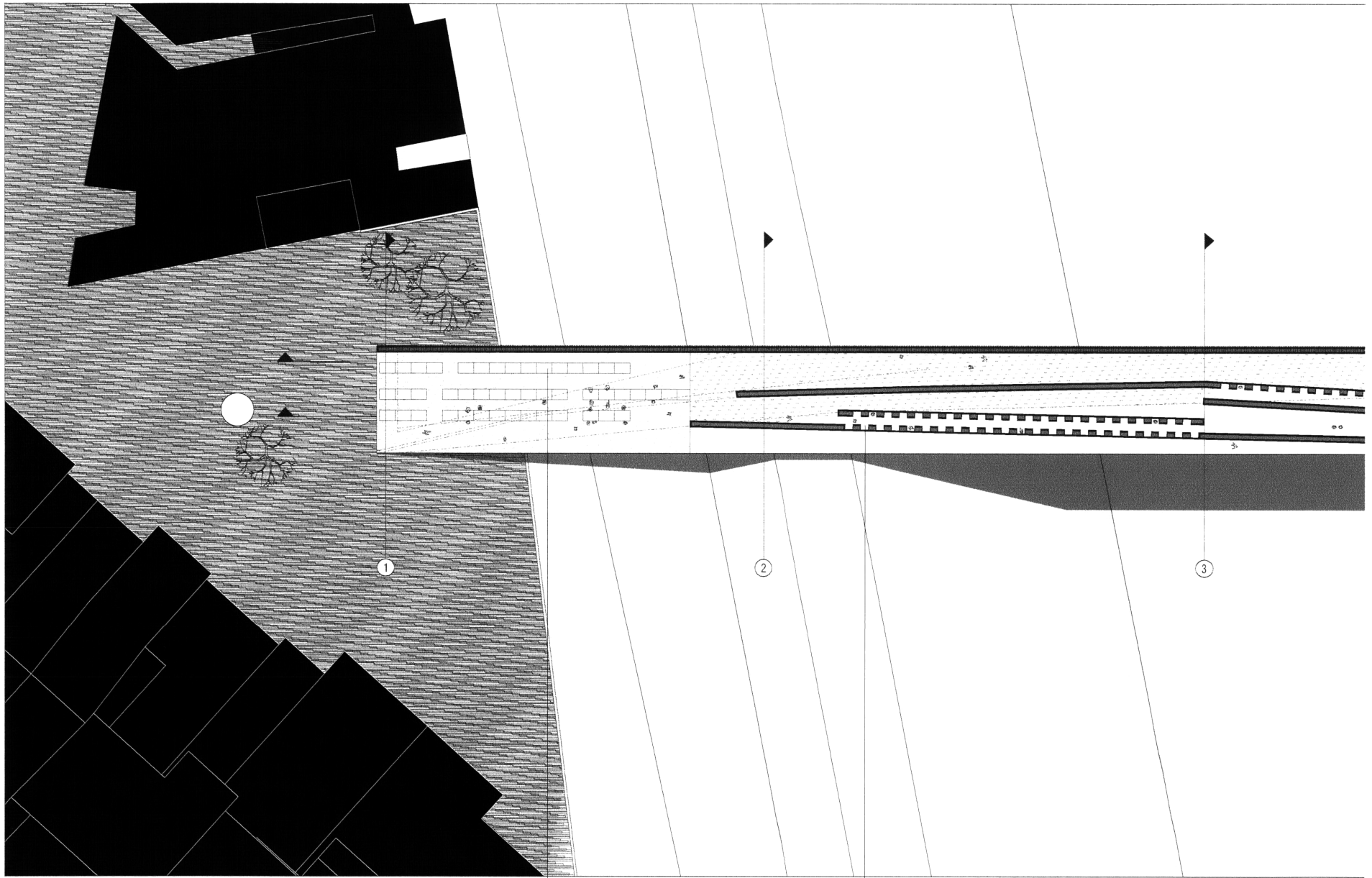


existing conditions



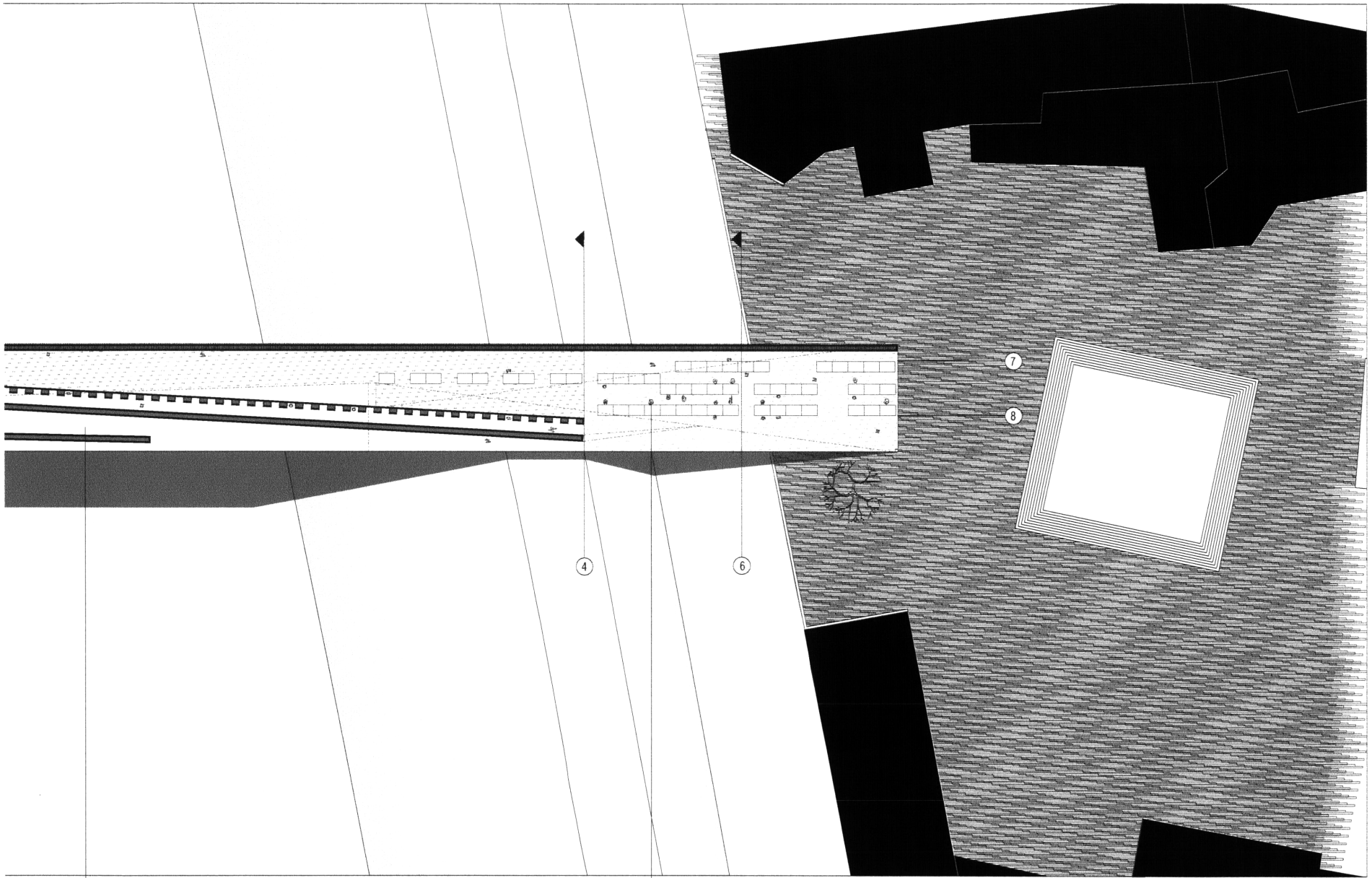
proposal for a new pedestrian bridge | site plan

site plan



market

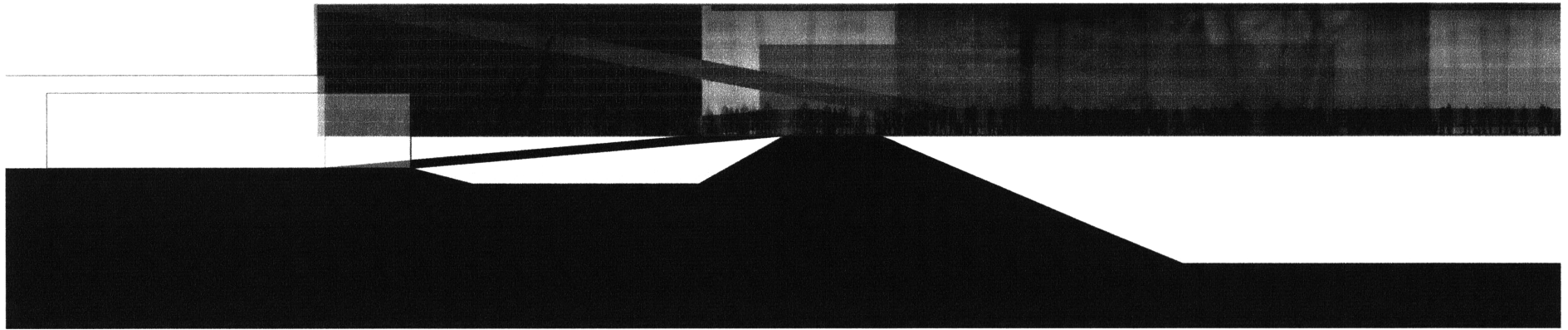
private skype conferencing spaces

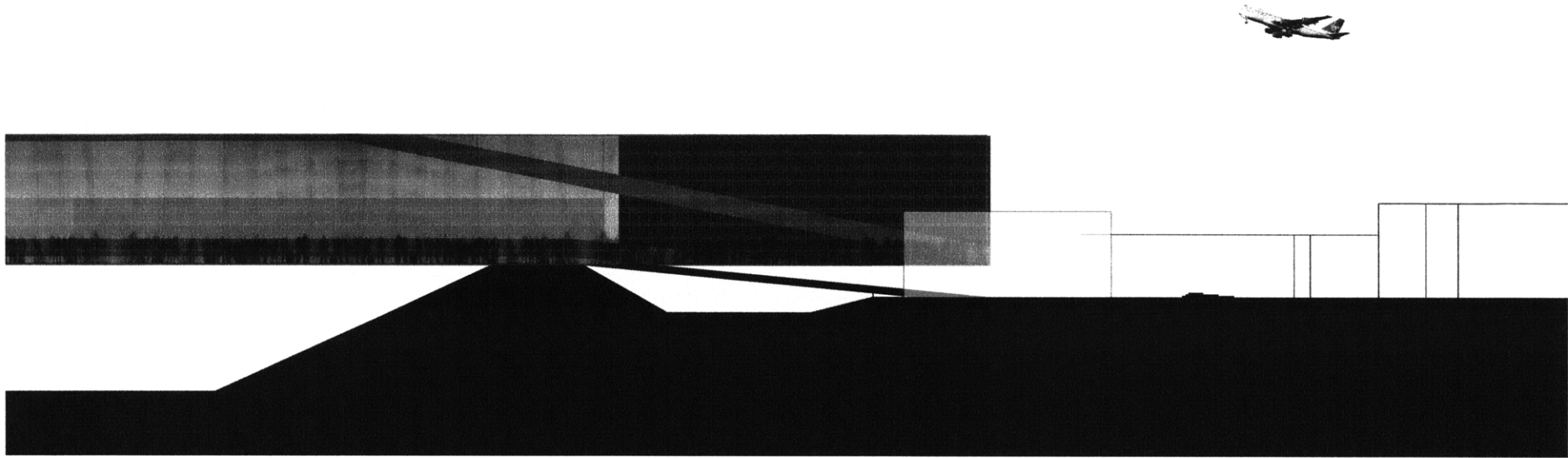


family projection area

market

plan





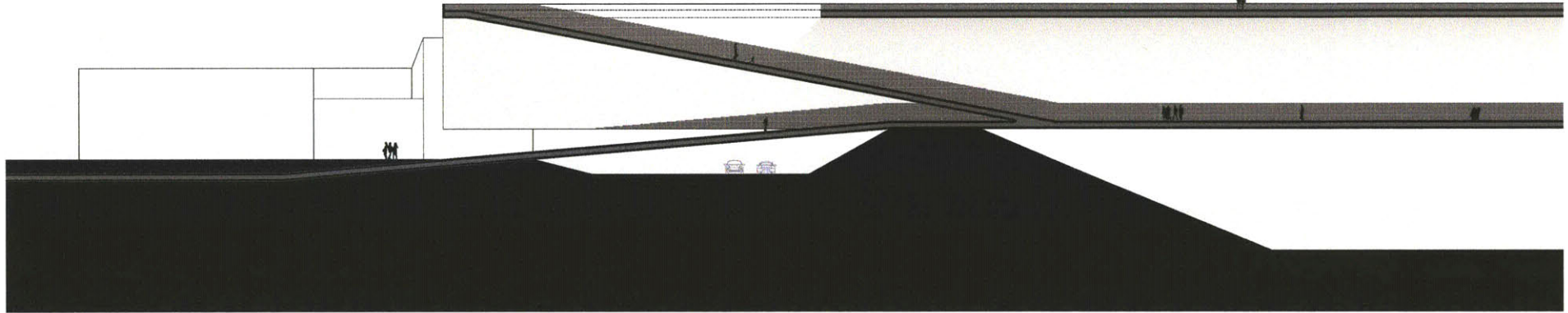
While the façade facing the United States is a severe 900 foot-long, 40 foot-high, rectangular, corrugated steel, reflection of the existing border “fence”, its symbolic severity is subtly subverted by an array of millions of end lit fiber optic cables. These cables are translucent hairs that blow in the breeze and that channel in from the façade through the building’s folded steel structure, and out into rooms, out beside walkways, and out through ceilings. When light activates one end of the optical cable, it illuminates on the opposite end as well. Therefore, the cable channeling system allows for daylight to

penetrate the interior spaces, whereas at night, the façade is illuminated by the internally lit building. The illumination on the façade is an eerie, abstract depiction of the activities inside, as shadows from pedestrians deactivate the cables they pass, and the family-conferencing projections activate cables that portray content on the façade. Finally, individual lights within the personal telecommunications rooms, when in use, can also be mapped to their own zones. The cables integration into the structure of the building is explained by the cross sections appearing on pages 38 - 43.

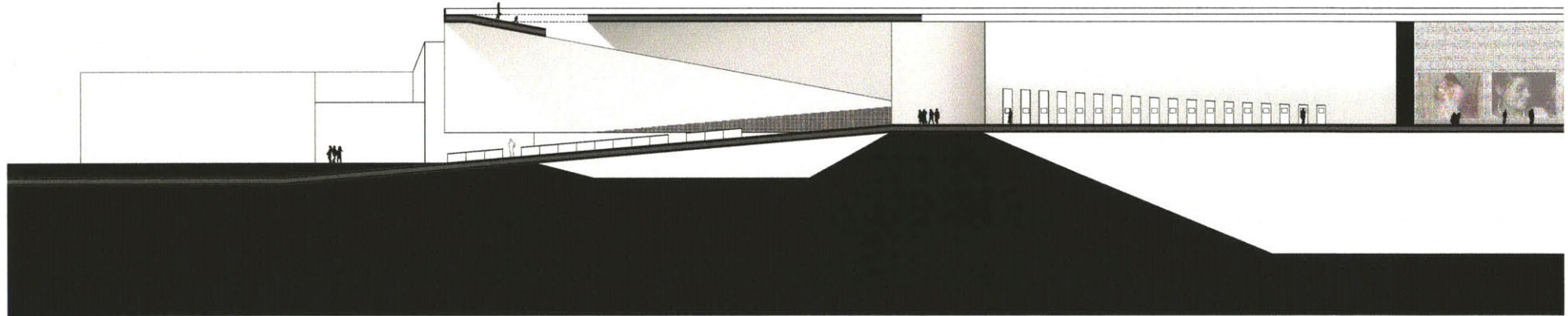
elevation



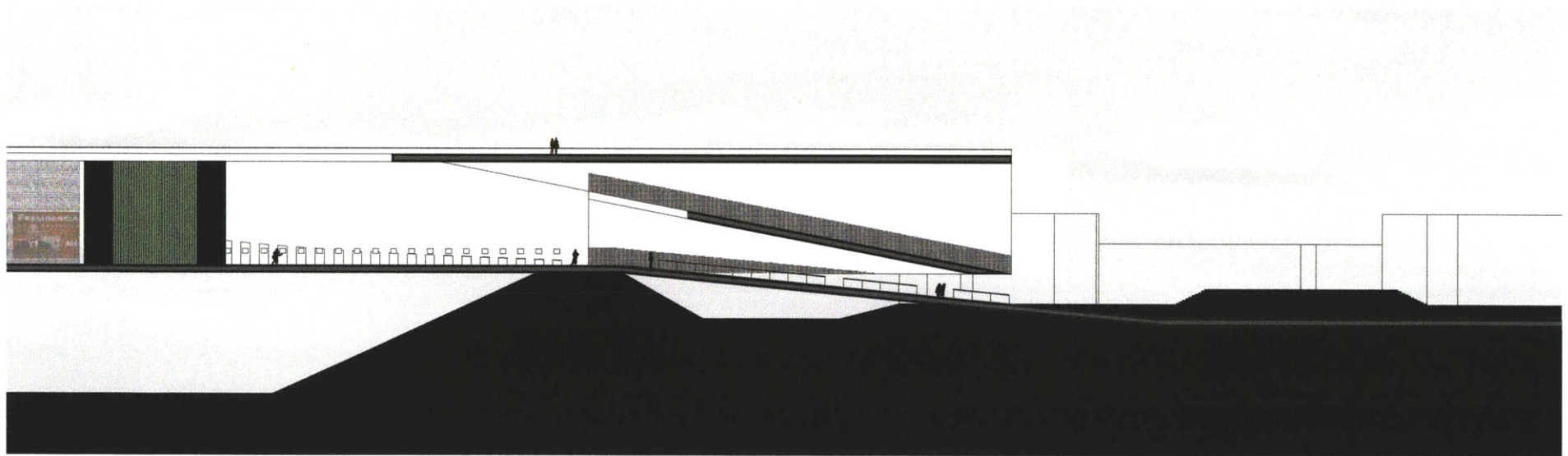
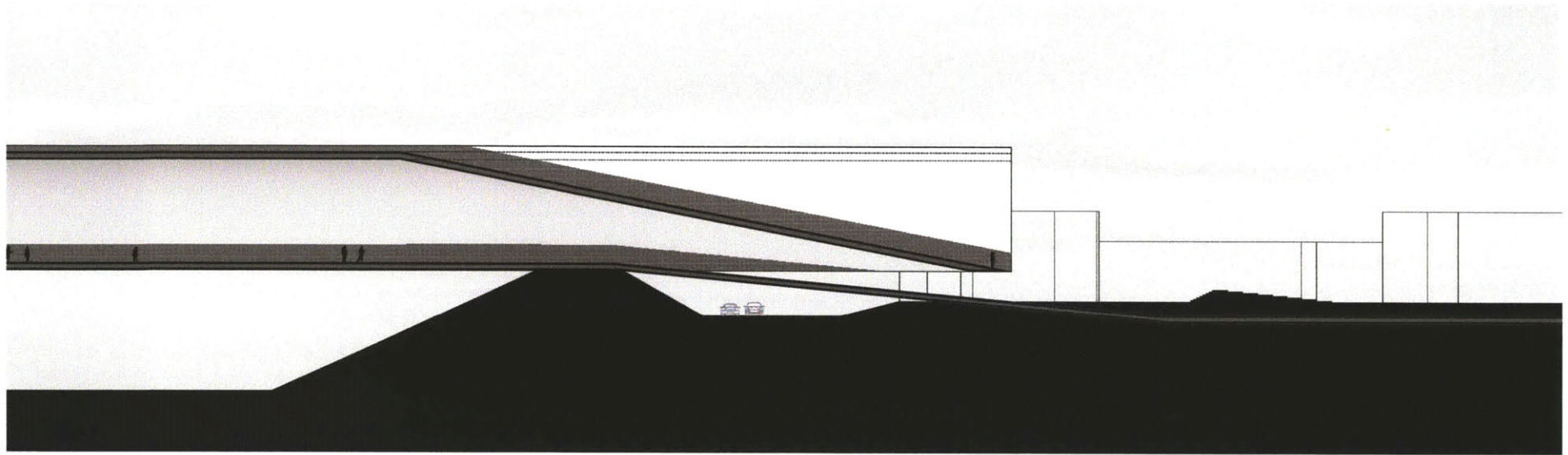




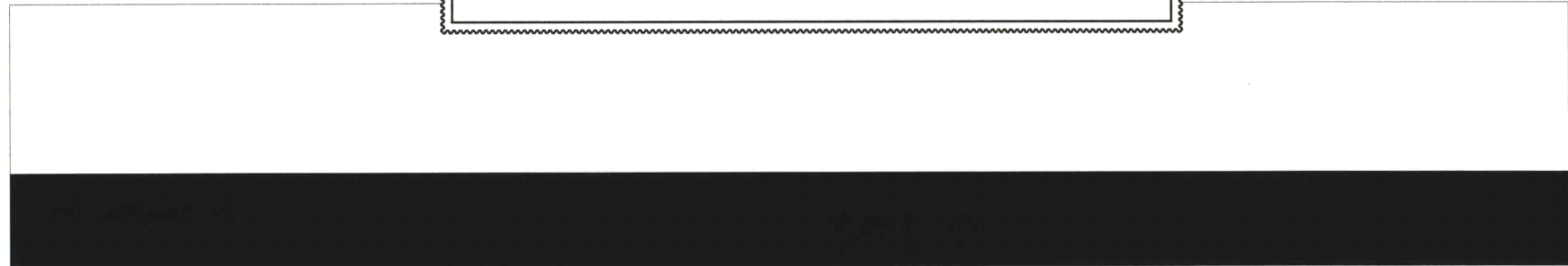
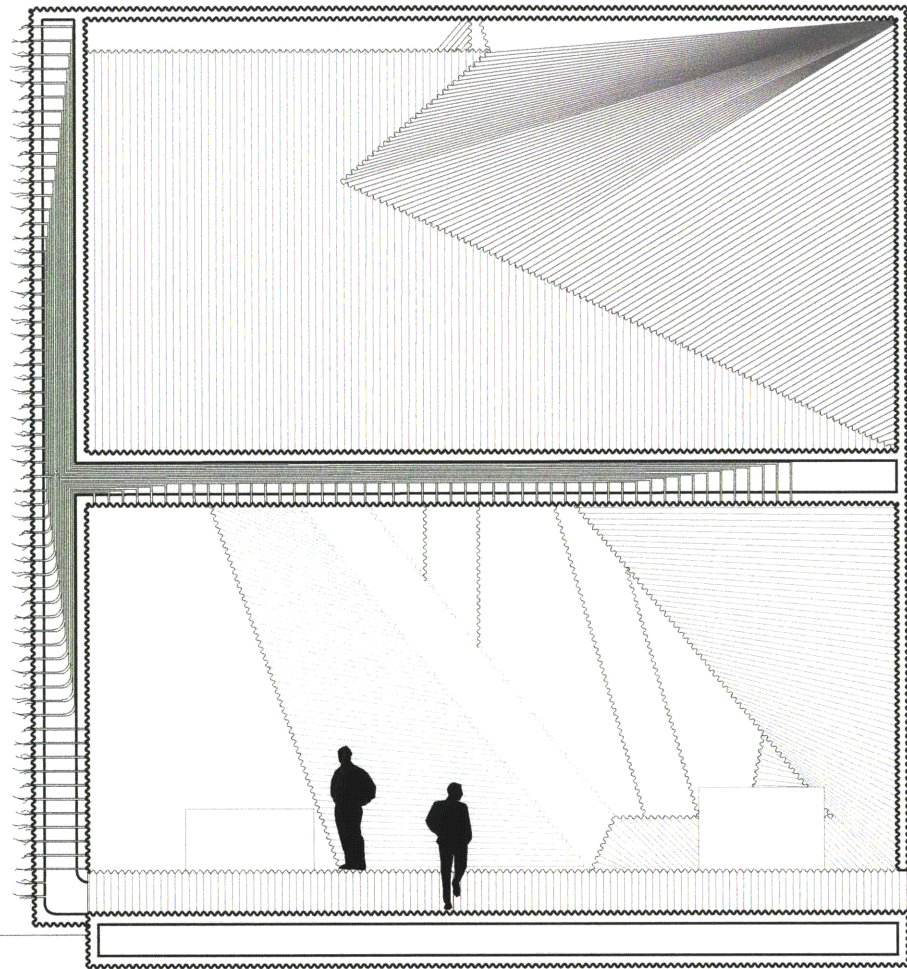
section 7



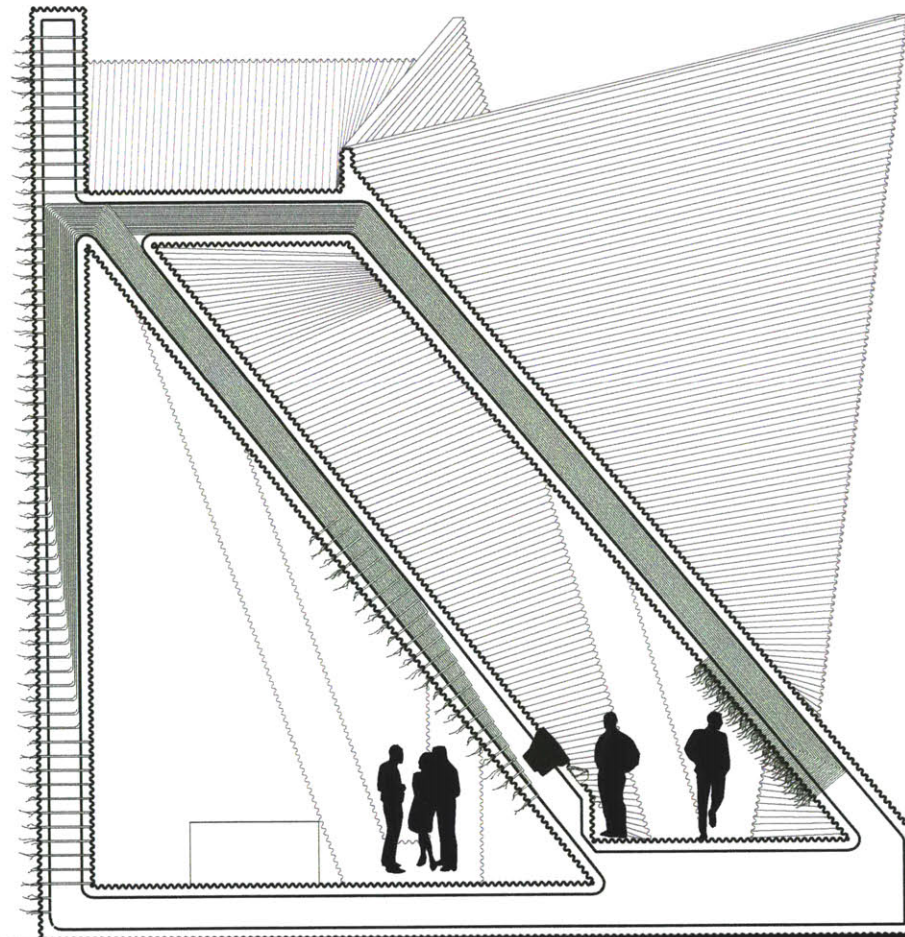
section 6



longitudinal sections



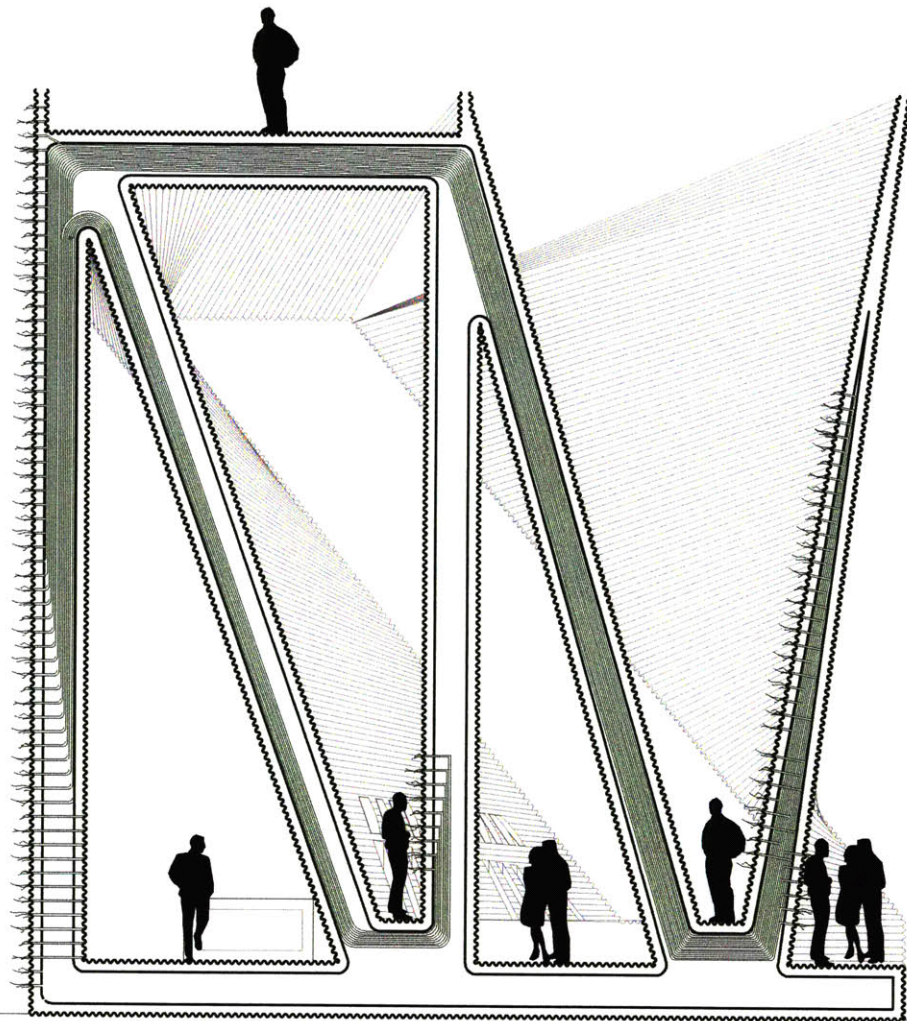
section 5



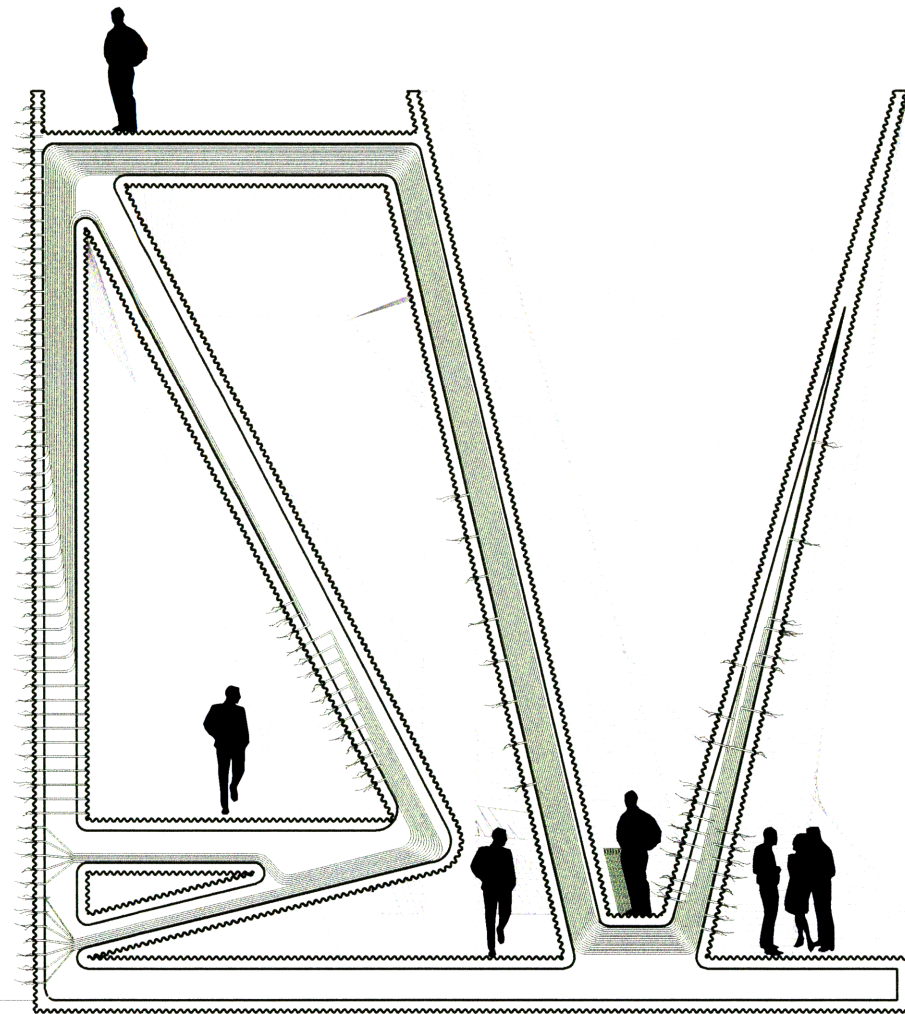
section 4

Embedded CRT monitors provide the interface
for private skype conferencing

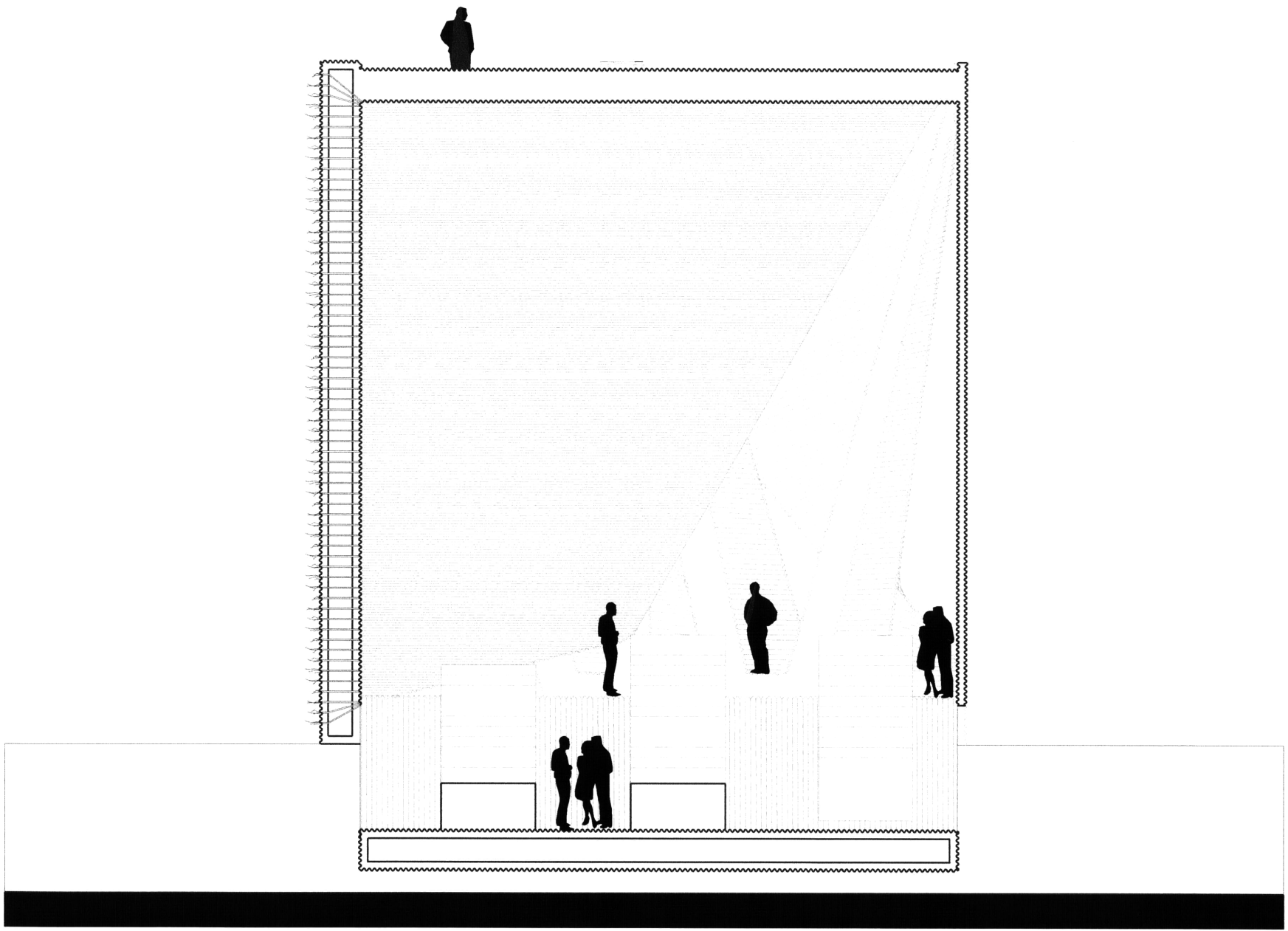
cross sections



section 3



section 2



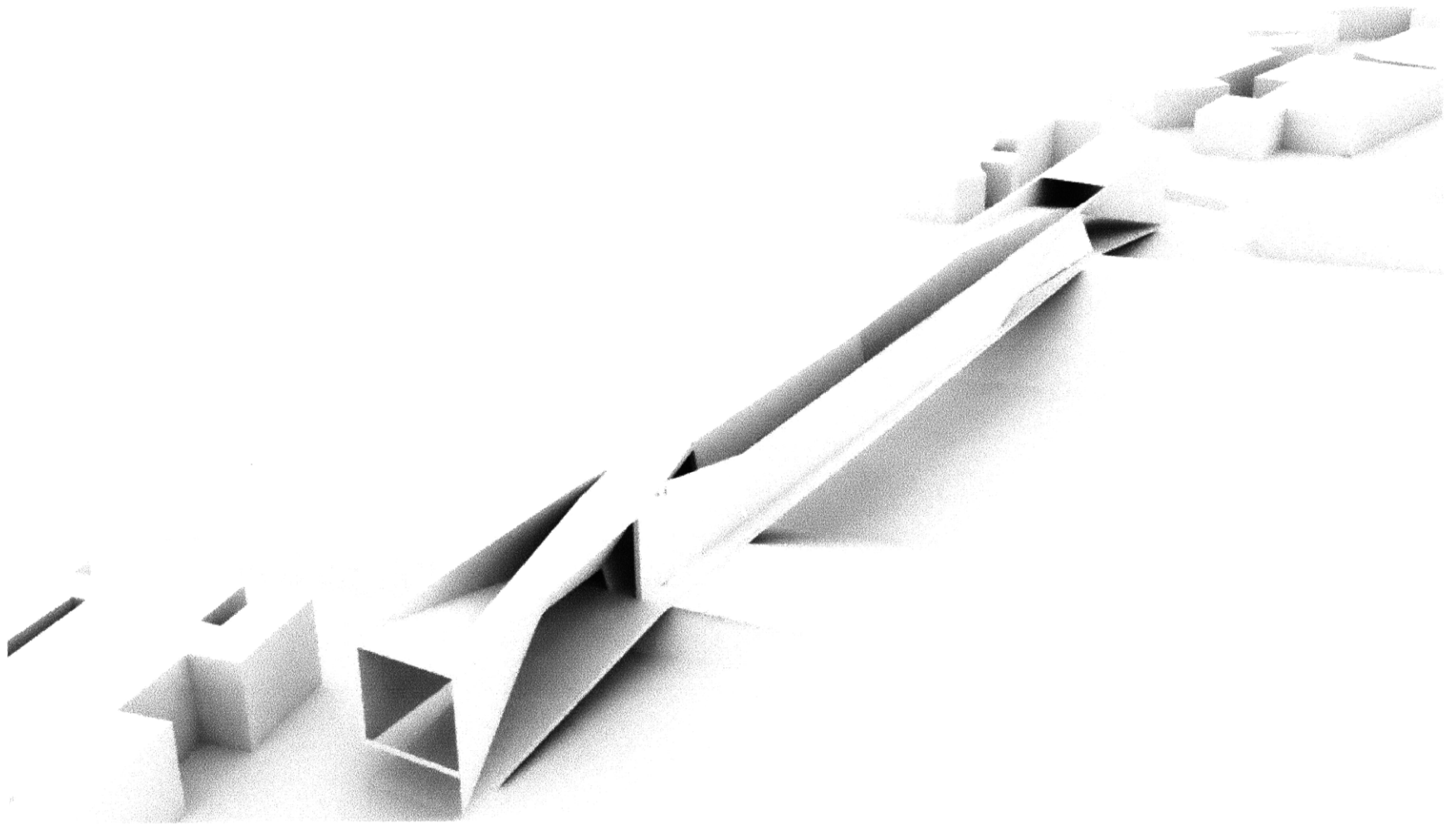
section 1



collapsed sections

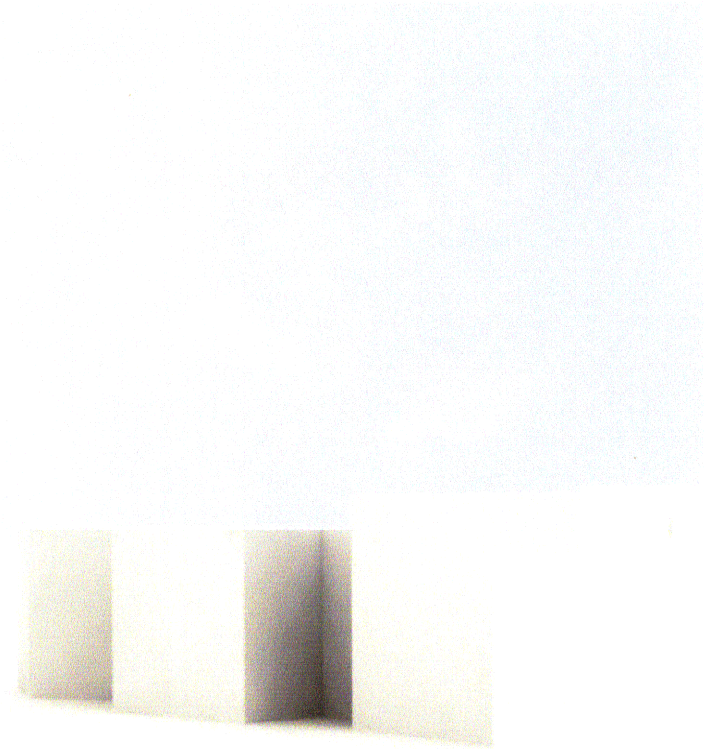
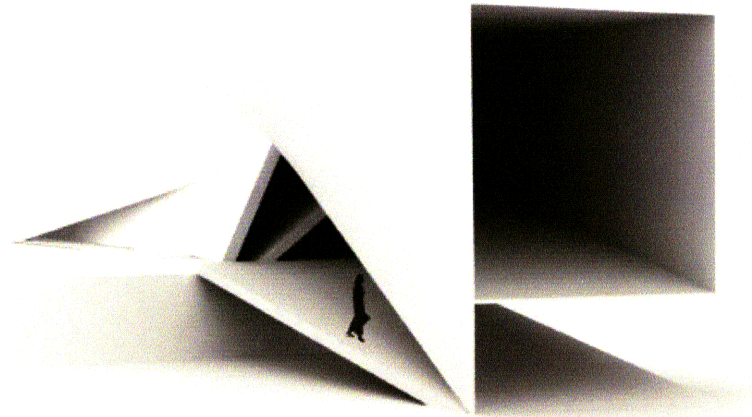


View from the United States Border.

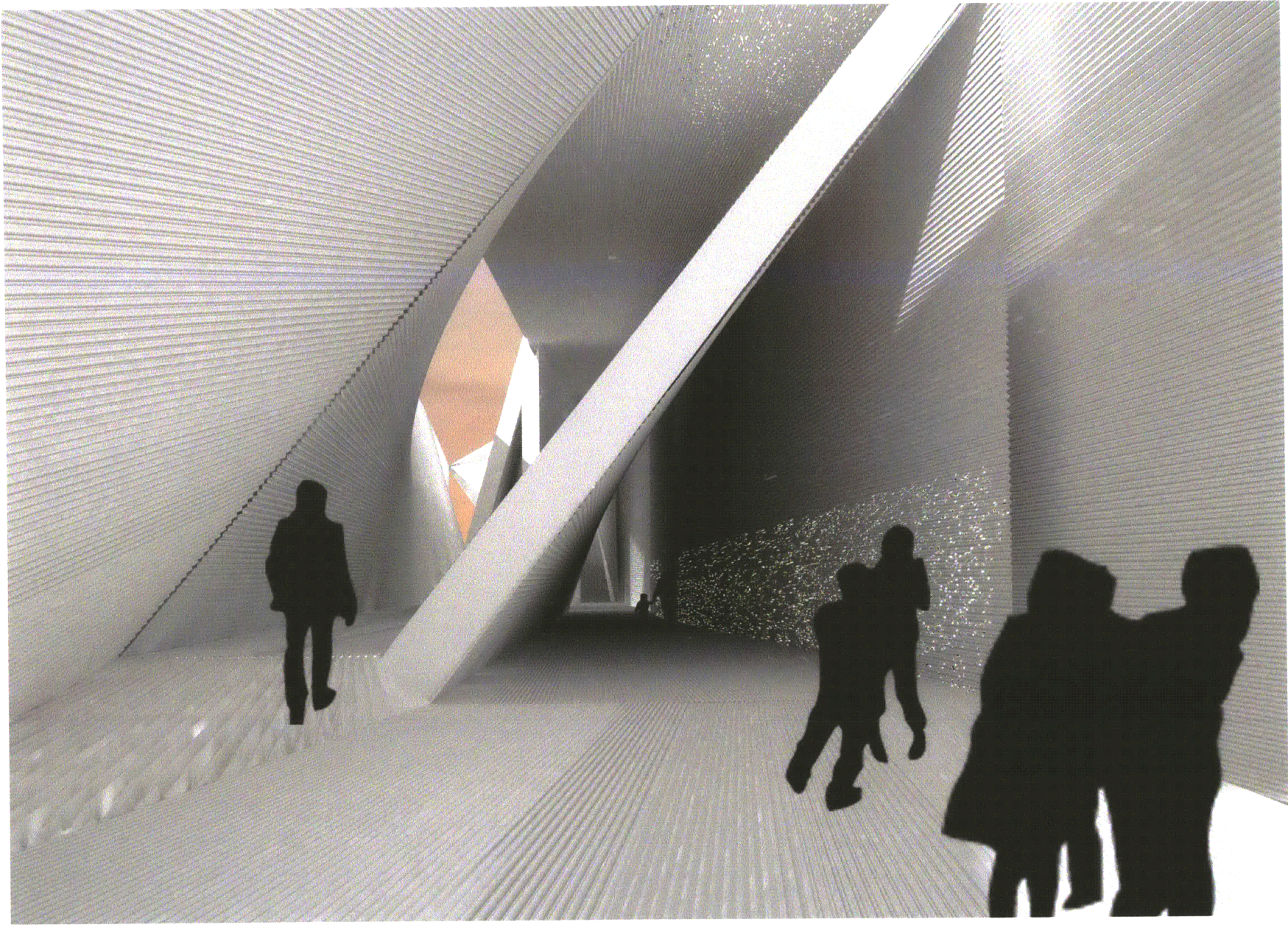


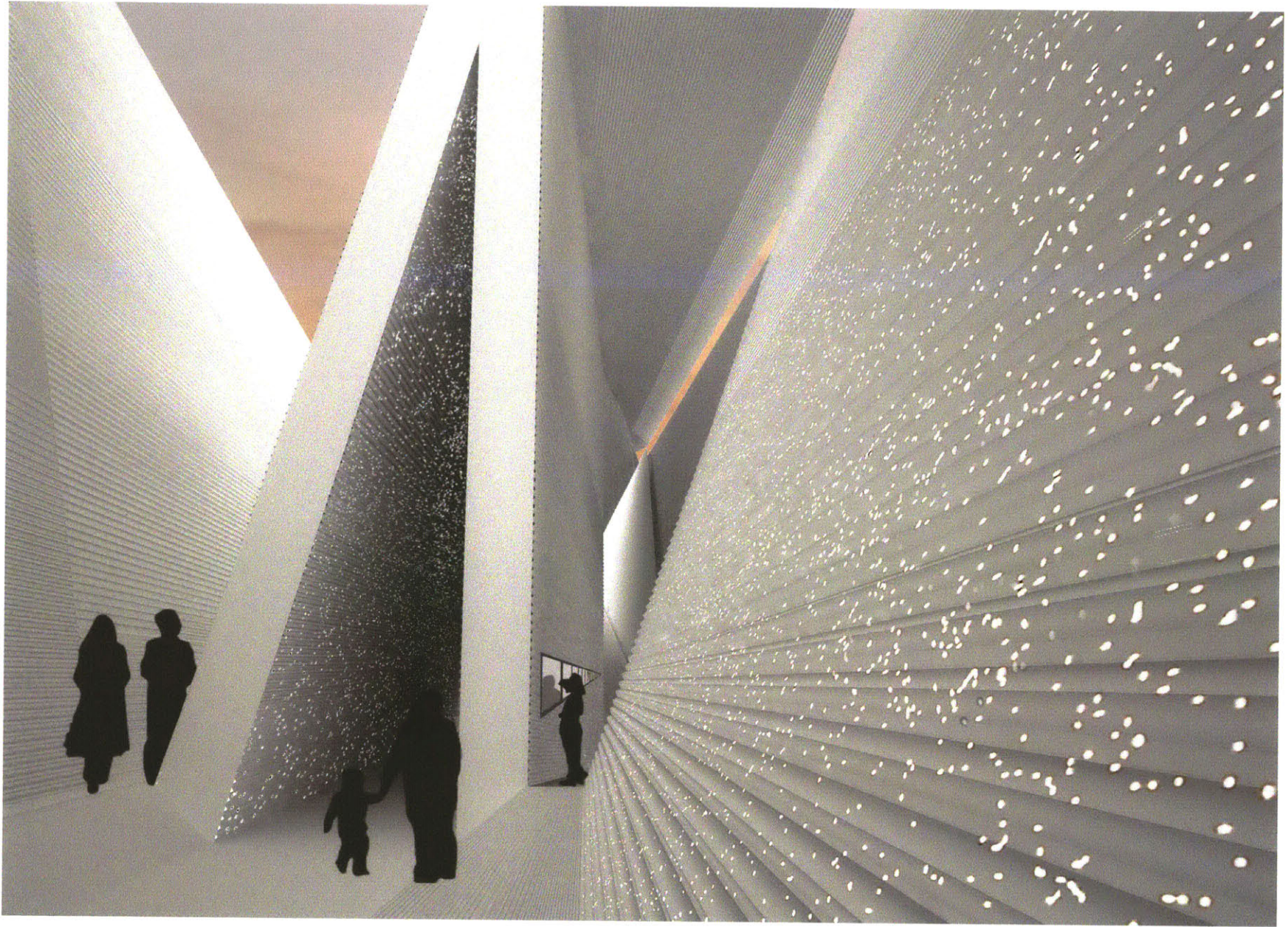
Aerial perspective showing the elevation facing Tijuana.

views

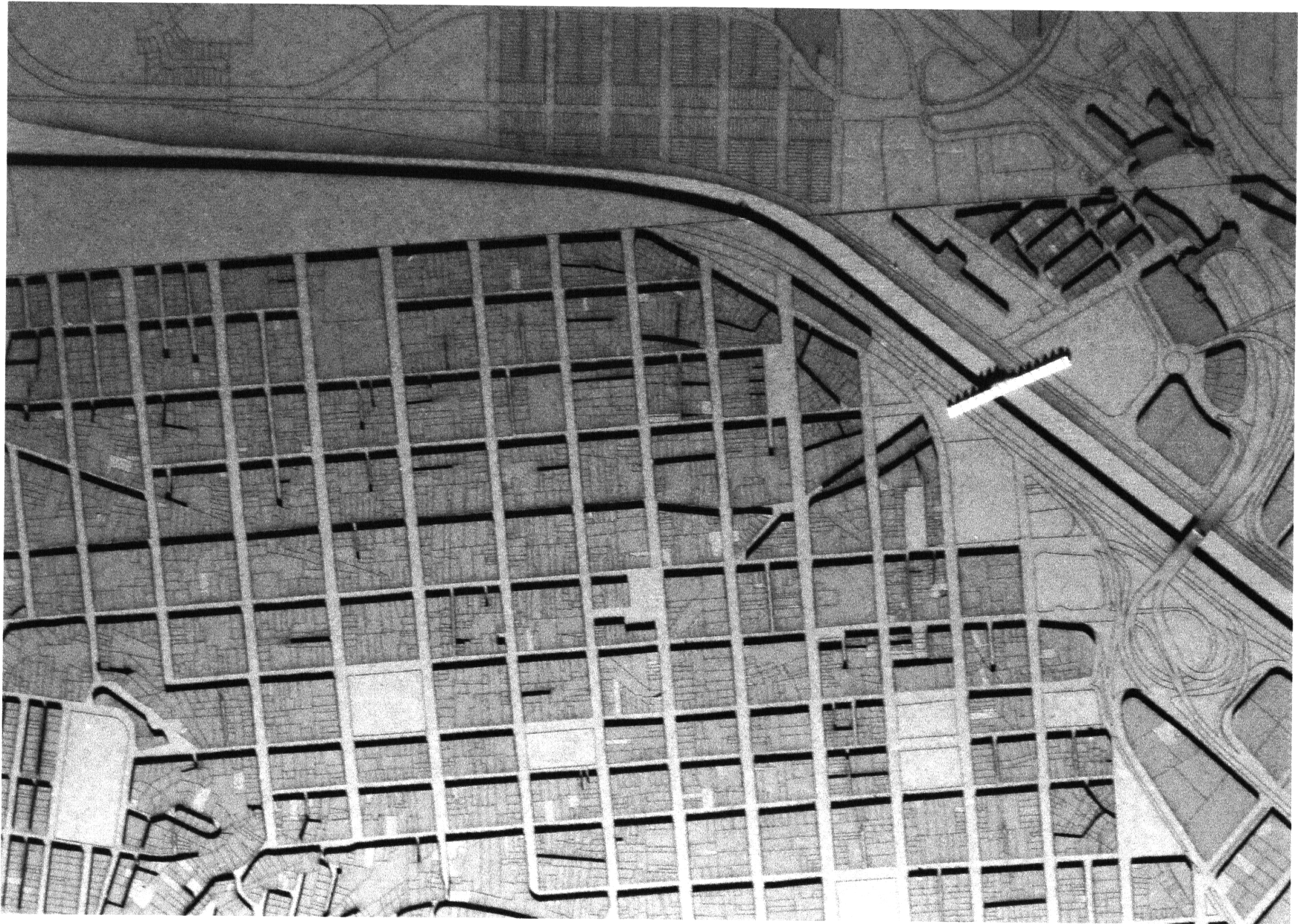


View from the western plaza.

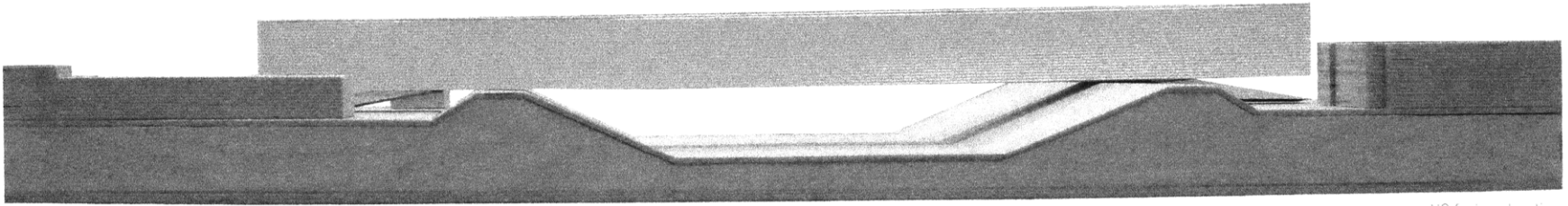




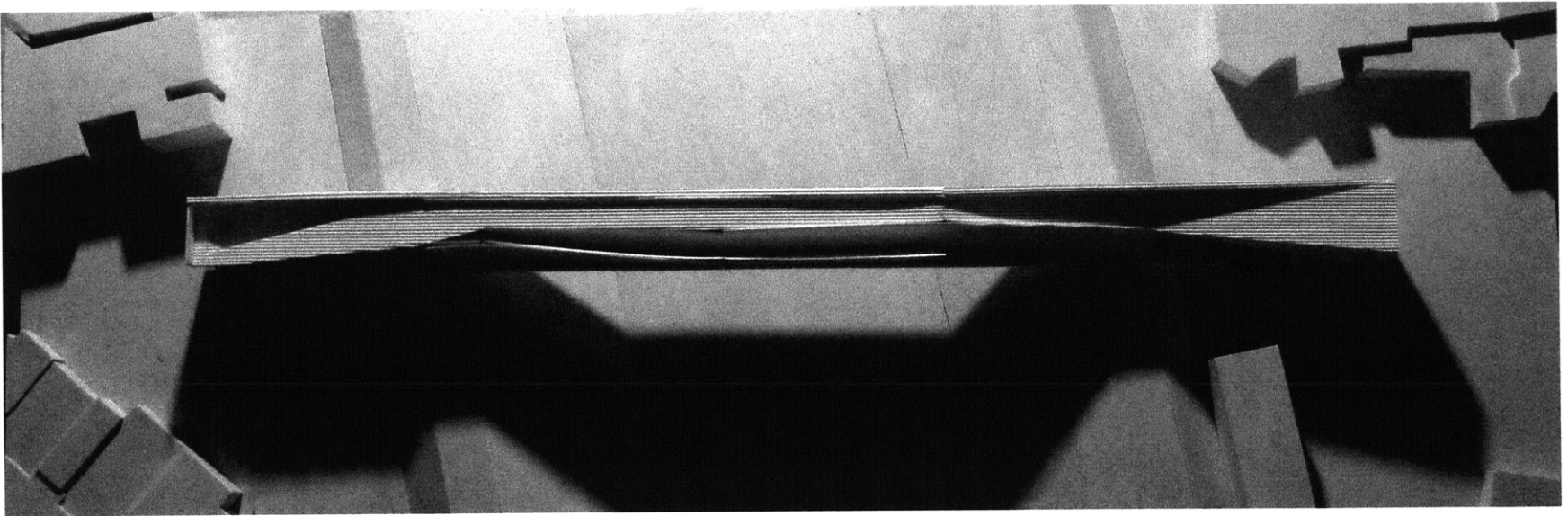




Small site model

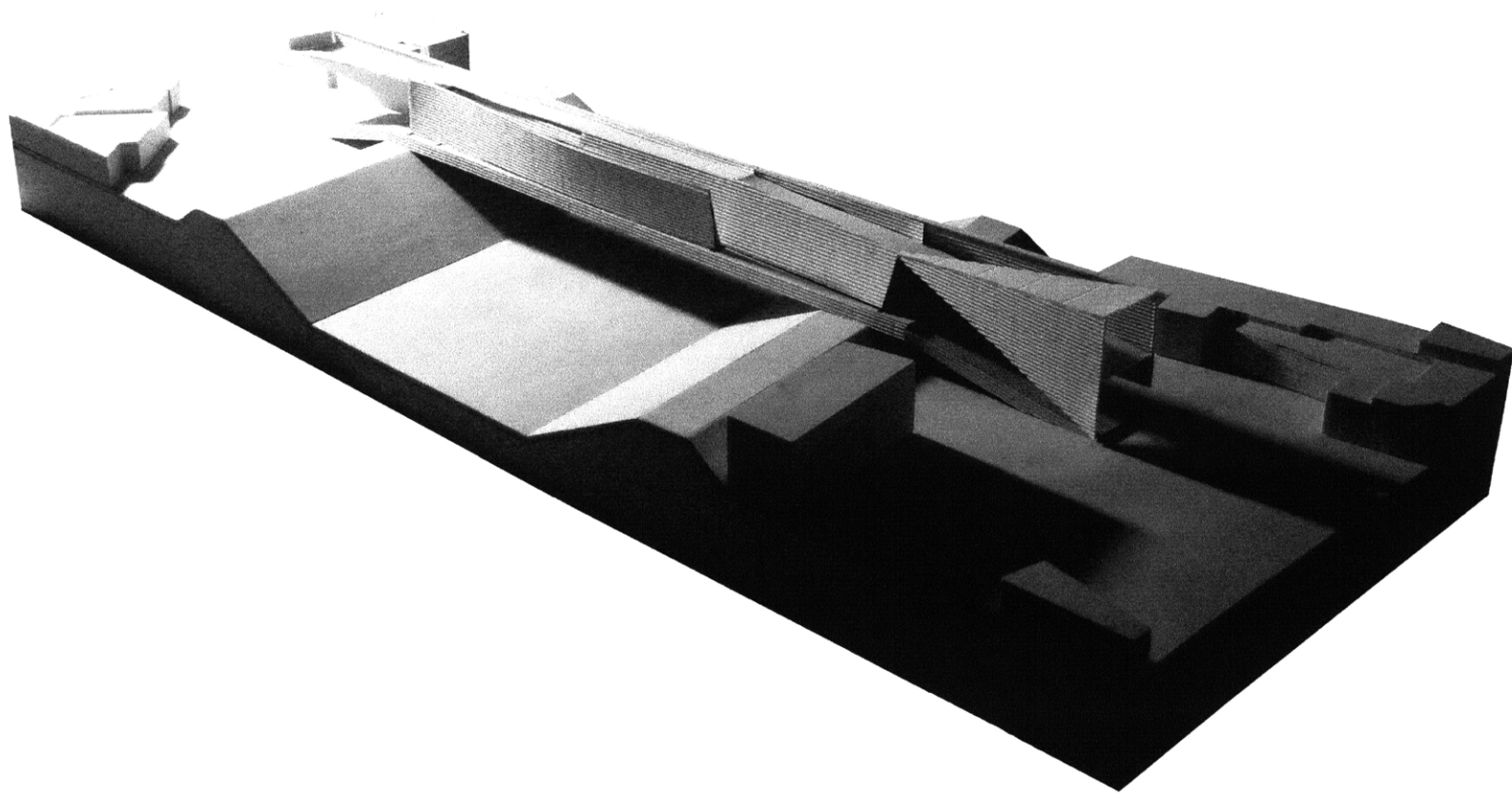


US facing elevation.

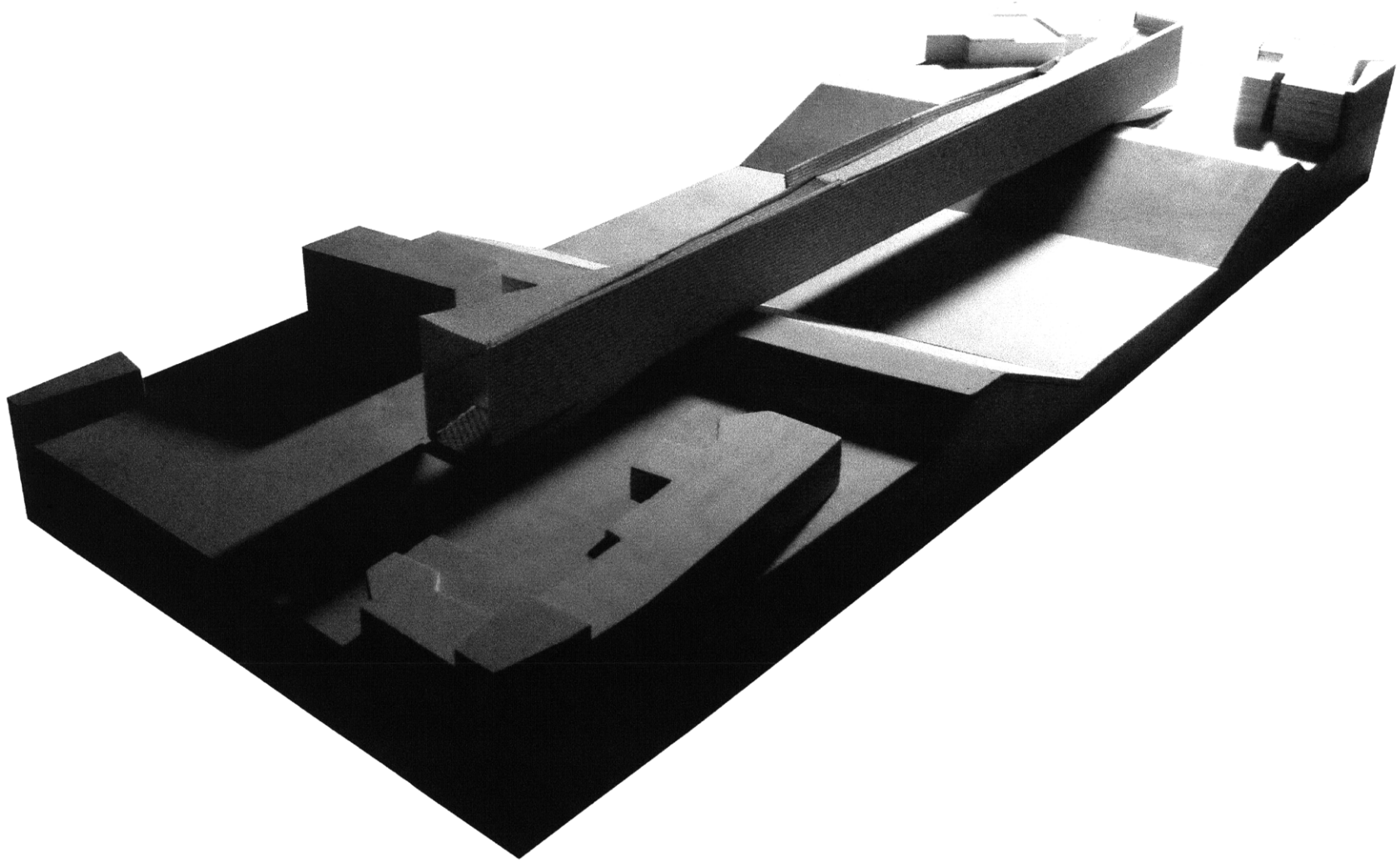


Aerial view.

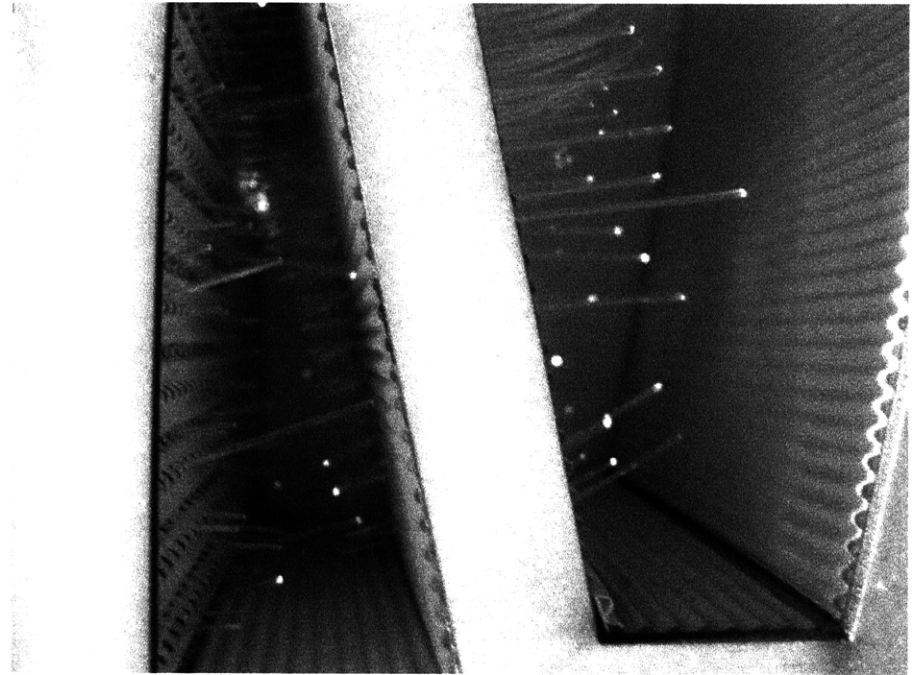
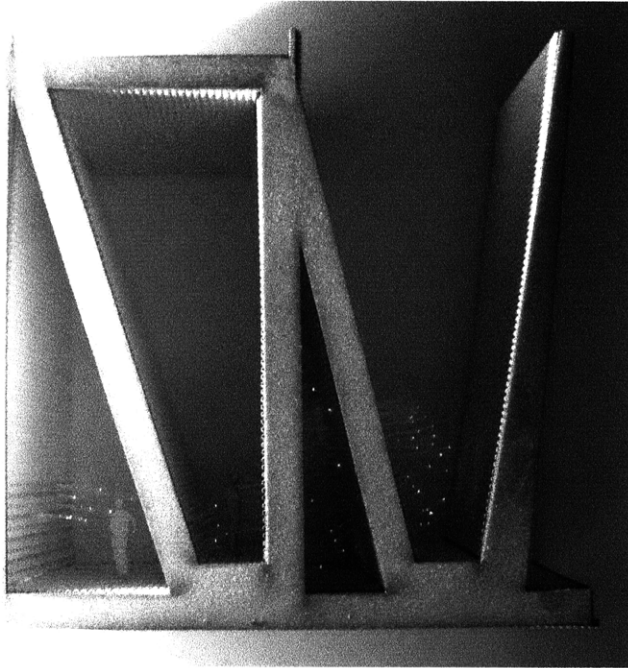
models



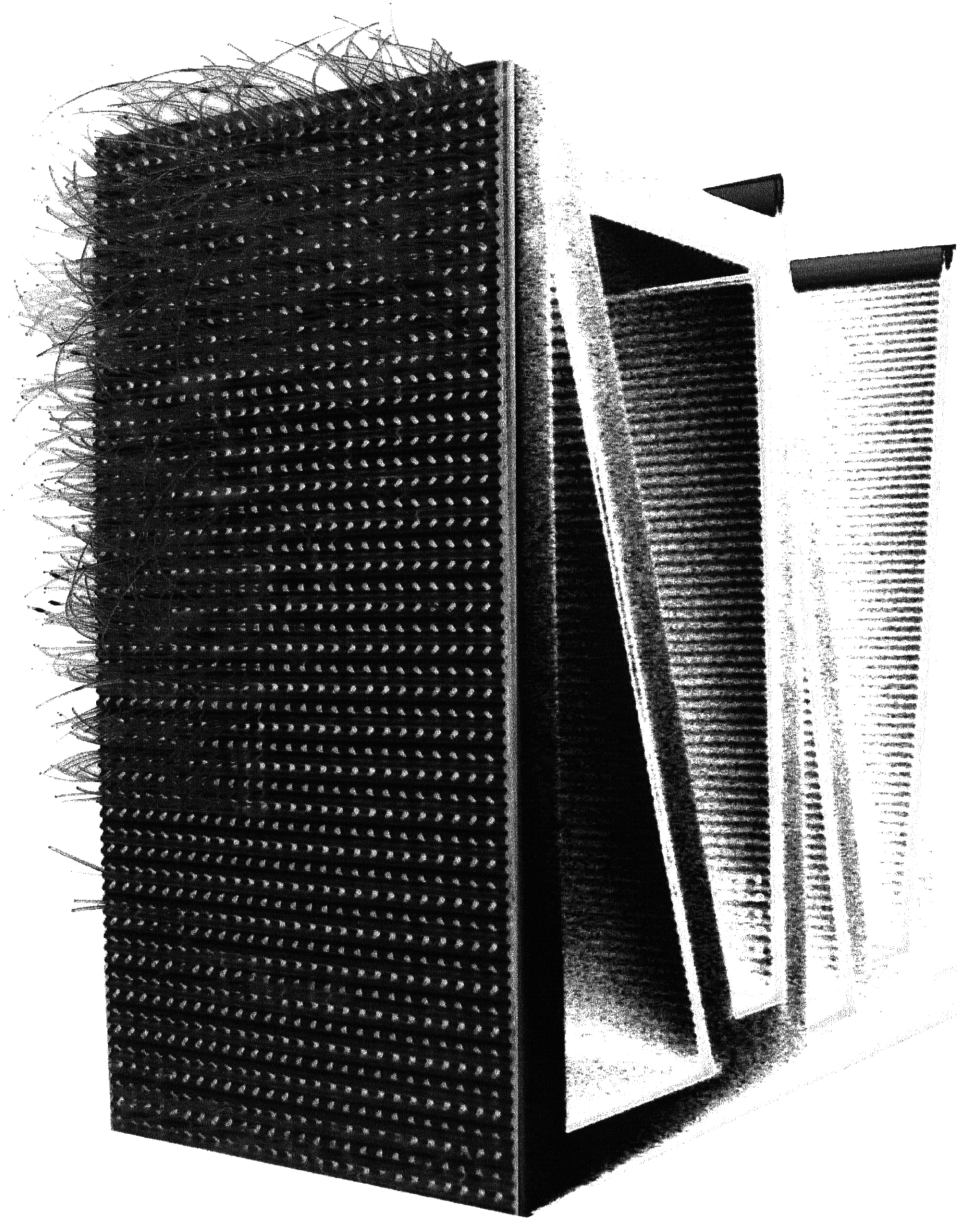
Aerial view of the elevation facing Tijuana from the side of the western plaza.



Aerial view of the elevation facing the United States from the side of the western plaza.



Views of a sectional model, made to describe the integration of optical cables into the structure of the bridge. Optical cables are presented here at an exaggerated scale.



sectional model

Barthes, Roland. *The Pleasure of the Text*. New York: Hill and Wang, 1975.

Borges, Jorge L. *Collected Fictions*. New York: Penguin Books, 1998.

Buckley, William F. (William Frank), *The fall of the Berlin Wall*. Hoboken : John Wiley & Sons, 2004.

Colomina, Beatriz. *Privacy and Publicity: Modern Architecture as Mass Media*. Cambridge: MIT Press, 1994.

Cornelius, Wayne A. "Death at the Border: Efficacy and Unintended Consequences of US Immigration Control Policy" *Population and Development Review* : 2001.

Evans, Robin. "The Rights of Retreat and the Rites of Exclusion: notes toward the definition of wall" 1971.

Finkelpearl, Tom. *Dialogues in public art : interviews / with Vito Acconci*. Cambridge: MIT Press, 2000.

Fox, Jonathan. *Decentralization and rural development in Mexico : community participation in Oaxaca's municipal funds program*. La Jolla: Center for U.S.-Mexican Studies, University of California, San Diego, 1996.

Gasca Zamora, José. *Espacios transnacionales : interacción, integración y fragmentación en la frontera México-Estados Unidos*. México, D.F.: Instituto de Investigaciones Económicas, Universidad Nacional Autónoma de México : Miguel Angel Porrúa Grupo Editorial, 2002.

Hall, Douglas Kent. *The border : life on the line*. New York: Abbeville Press, 1988.

Herzog, Lawrence A. (Lawrence Arthur) *Return to the center : culture, public space, and city building in a global era* . Austin : University of Texas Press, 2006.

Herzog, Lawrence A. (Lawrence Arthur) *From Aztec to high tech : architecture and landscape across the Mexico-United States border*. Baltimore, Md.: Johns Hopkins University Press, 1999.

Herzog, Lawrence A. (Lawrence Arthur) *Where North Meets South*. Austin, TX. : Center for Mexican American Studies at the University of Texas, Austin, 1990.

Huyssen, Andreas, *Present Pasts: urban palimpsests and the politics of memory*, Stanford: Stanford Press, 2003.

Kafka, Franz, 1883-1924. *Description of a struggle and The Great Wall of China*. Translated by Willa and Edwin Muir and Tania and James Stern. London, Secker & Warburg, 1960.

Over here : international perspectives on art and culture / edited by Gerardo Mosquera and Jean Fisher ; artist project by Francis Alÿs. New York, N.Y. : New Museum of Contemporary Art; Cambridge, Mass.: MIT Press, c2004.

Romero, Fernando, *Hyperborder: the contemporary U.S.-Mexico border and its future*. New York : Princeton Architectural Press, 2008.

Rose, Brian, *The lost border : the landscape of the Iron Curtain*. New York : Princeton Architectural Press, 2005.

On both sides of the wall : preserving monuments and sites of the Cold War era = Auf beiden Seiten der Mauer : Denkmalpflege an Objekten aus der Zeit des Kalten Krieges / [edited by] Leo Schmidt, Henriette von Preuschen ; [translation, Ralf Jaeger]. Berlin: Westkreuz-Verlag, 2005.

Selby, Henry A. *The Mexican urban household and the decision to migrate to the United States*. Philadelphia : Institute for the Study of Human Issues, 1982.

Semmel, Georg, "The Bridge and the Door", *Rethinking architecture: a reader in cultural theory* / edited by Neil Leach. London; New York: Routledge, 1997.

Against the wall : Israel's barrier to peace / edited by Michael Sorokin. New York: New Press: Distributed by W.W. Norton, 2005.

Vernon, Raymond, *The dilemma of Mexico's development; the roles of the private and public sectors*. Cambridge: Harvard University Press, 1963.

México en la región de América del Norte : problemas y perspectivas / Gregorio Vidal, coordinador ; Víctor M. Soria ... [et al.]. México, D.F. : Universidad Autónoma Metropolitana, Programa Universitario de Investigación Integración en las Américas (INTAM): Miguel Angel Porrúa, 2004.

Whitworth, Alan Michael. *Hadrian's Wall: some aspects of its post-Roman influence on the landscape*. Oxford: Archaeopress, 2000.