

M N E M O N I C C A R T O G R A P H I E S

remembrance at the trans-pecos borderland

Mnemonic Cartographies
Remembrance at the Trans-Pecos Borderland

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A thesis
submitted in the partial fulfillment
of the requirements for the degree of

Master of Architecture

The University of Washington
2013

David Strauss, Chair
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Program authorized to offer degree:
Architecture



*For my parents,
who shared with me a great love of many things.*

One of these is Texas.

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P R E F A C E

on spirit

Presidio County is a place where time moves at half-speed. Here, blue-collar cowboys play Saturday sandlot baseball with a young generation of progressive artists. The best food around comes from a trailer, and the residents cannot seem to agree on the cause of the mysterious glowing orbs in the night. Despite the metropolitan draw that the region surrounding the city of Marfa has created in the years following sculptor Donald Judd's 1971 move to the desert town, the residents and frequent visitors comprise a humble crowd that has generally mastered a balance of family and hard work; time in nature and cultural values. Ask any resident of the concept of *mañana*, and one will find a response (spoken very slowly and likely over a Shiner beer or *Topo Chico* Mexican mineral water) similar to this:

“Mañana cannot generally be found in cities with more than one stoplight. Mañana doesn't care about email or normal hours of operation. Mañana recognizes that we can't all have everything we want at any given moment, like peaches in January or cell phone reception in West Texas. Mañana is the anticipation that it might happen today, and it might just as likely not, and really either way it's not that big of a deal. The key to Mañana lies somewhere in the unspecified future. It holds the great promise of hope... This is not to be understood as irreverence for timeliness and progress. We believe in those things too. But life gets busy. The way you thought things would go just aren't the way they end up. Maybe the pack rats have chewed the phone lines. Best intentions are waylaid. But it seems like sometimes the only way to make something really amazing is through a steady balance of kicking the dirt around and napping. This is what we do.”¹

As *mañana* nomenclature suggests, Mexican culture and the culture of west Texas are inseparable. In this singular location, such homogeneity has created a place with a spirit like nowhere else.

fig. 3 the vast west texas landscape
fig. 4 untitled works in concrete, donald judd, 1988, marfa texas
fig. 5 a grouping of west texas transplants at el cosmico in marfa

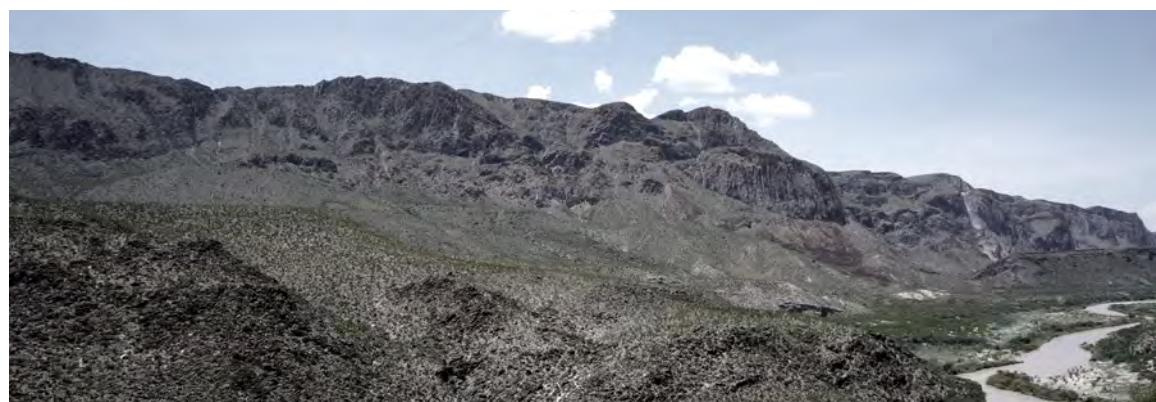
The essence of Americana throbs proudly through any visitor en route by automobile between the quirky art town of Marfa and the vast beauty of Big Bend. This stretch of Texas Highway 170 oscillates through narrow passages and tall ridges, as well as through seemingly unbounded stretches of ranch. The rare oncoming vehicle will extend a brief wave and a smile, a requisite mannerism of the region. After miles of taking in the picturesque scenery, the two-mile town of Presidio serves as a small benchmark on the way to Big Bend. Often overlooked, this humble town offers little more than a gas station and a border crossing to any non-resident. Highway 170 serves as a central axis through the town. A passerby drives past abandoned storefronts and modest single family housing. It is worth stopping for a homemade tamale for the road before continuing on the path to Big Bend, Fort Leighton National Historic Site, and eventually east towards San Antonio.

This in-between quality is one of great complexity and interest to this thesis. Much like the border itself, Presidio is an essential joining of two places- and thus a place of unique character, derived from its bookends and yet also of its own. In a nod to this spirit and a desire to contribute to this unusual place, this thesis will investigate the pragmatics of memory and the role of the body in experiencing space, as executed by the design of a memorial intervention to the fallen Mexican migrants in the desert of west Texas.



fig. 6 diagrammatic zoom-in of the study area
fig. 7 a stretch of west texas road looking southeast toward presidio





INTRODUCTION
a manifesto

The project begins with a place. The borderlands of the Trans-Pecos region of Texas and its people represent a vibrant culture that is part American, part Mexican, and yet entirely its own. The area must be examined at a larger scale than the city of Presidio alone in order to best understand the character of this place- one that is a spectacular hybrid of art town, quintessential American roadside attraction, vast desert, and close-knit familial community.

The land here, it is said, is as stubborn as the people who inhabit it. Text and image will always make flat the majesties and spirit of this place. Perhaps Byron Brown states it best, as:

“There is a reason that this territory has inspired so many pages of text and has filled so many galleries with its images. Every group of people that has traveled through has been branded with the same impression. If, like the hundreds of thousands of head of cattle that have been raised out here, we were all branded with the same insignia, surely that mark would resemble the emblem for eternity. We would be forever bound to an effort to return again and again. The emotionally magnetic pull of the region is strong, and upon leaving, there is typically a very palpable desire to head right back.”¹

This thesis is careful to consider a comprehensive study of place, much beyond that of just the building site. The means through which the thesis will be investigated is by a modest built memorial, set in the desert landscape on the west Texas side of the Texas-Mexico border.

The foremost problem of this thesis is one of a continuing humanitarian crisis as migrant deaths in this perilous region grow every year. Although the number of deaths can be estimated, they are largely underrepresented and under-reported. Most significantly, there lacks a place of ritual and mourning for the families and communities affected- a right to which all people should be entitled.

*fig. 8 a sign boasting the mysterious night lights at marfa
fig. 9 a typical west texas roadside motel, balmorhea
fig. 10 the spirit of the american roadside as seen in an rv park
fig. 11 the landscape that characterizes this part of texas*

Architecturally, the problem is one of designing for memory, interpretation, and reflection. This should be experienced with all of the senses for the individual and the collective alike. Physically, the problem is a linear, topographically flat site that demands tribute to its magnificent natural surroundings. An existing facade and foundation tells of a local history while also providing a set of interesting design parameters and challenges.

This thesis addresses the social issue of memorializing undocumented deaths amongst a history that is not yet over. The design of a built memorial must speak to the specifics of lost migrants and the community of Trans-Pecos, while maintaining a level of abstraction for which future generations may project new meaning in an ongoing act of collective memory. The primary conceptual means for achieving this is to employ the body as a greater tool for understanding and mourning than the eyes alone.

Utilizing qualitative methods, the thesis investigates the intricacies of memory and its relation to the body, the place of memorializing in modern context, the implications of migrant deaths and border policy, and the connotations of such a built work on the specific community of west Texas.

This thesis is an argument for the needs of a unique and specific community. The project has arisen from a response to strong sense of place and the remarkable inhabitants residing along the Texas-Mexico border. The design, growing out of this place, is a simple marking of remembrance. In a media-frenzied age saturated with tragedy and the subsequent act of memorializing, this thesis advocates for the relevancy of the memorial in the modern era, with emphasis on the place of this particular memorial within the cyclical process of establishing and maintaining the collective memory of a population. As Maya Lin stated regarding her design for the 1984 Vietnam Veteran's Memorial in Washington, D.C., it is "about the people not the politics."² Furthermore, the perspective of this research and design implementation holds strong to the ideal that this is for the present and the future, not the past. While crediting its predecessors and drawing from formative research, the built intervention is forward-looking and steadfast in an optimistic resolution of the border condition. It is neither a protest nor a solution. Rather, it illuminates a current and ongoing issue in an attempt to pay respect to a small but deserving population within a spectacular context: geographically and culturally. It rests on site not as an object, but as a framework for a narrative performed through the curated juxtaposition of landscape and the personal and collective experiences of the people of west Texas.

"So long as there shall exist, by reason of law and custom, a social condemnation, which, in the face of civilization, artificially creates hells on earth, and complicates a destiny that is divine, with human fatality; so long as the three problems of the age—the degradation of man by poverty; the ruin of women by starvation, and the dwarfing of childhood by physical and spiritual night—are not solved; so long as, in certain regions, social asphyxia shall be possible; in other words, and from a yet more extended point of view, so long as ignorance and misery remain on earth, books like this cannot be useless."

-Victor Hugo, preface to *Les Misérables*

T W O
the problem

Incongruous with the vast beauty and immense culture of the Presidio region, a major humanitarian crisis lingers every day. This is the rising number of migrant deaths at the Texas border.

In 1994, the federal government adopted a piece of legislation nicknamed “Operation Gatekeeper”, marking a tremendous shift in American-Mexican border policy. Among other items, Operation Gatekeeper allowed federal spending on border walls between Mexico and the Southwestern United States. This spending is increasing at an unprecedented rate, including \$18 billion spent in the fiscal year 2012 on walls and increased enforcement, costing an average of \$3 million per mile.¹ To allocate funds on such a large expenditure, walls were built only at the points of the border deemed easier to cross. The result of this is a wall 800 miles long at the time of this thesis, with few penetrations, open only at the most extreme and hazardous natural conditions (fig 14). The largest gap is seen in the Trans-Pecos region.

In the years following 1994, immigration slowed to some degree as intended. However, deaths at the border increased at an astounding rate- showing a 1700% increase from 1994 to 2012 (fig 13).²

These numbers are also significantly under-reported. Annually, an estimated number of border deaths is released by Mexico’s National Commission of Human Rights, as well as by the United States Border Control. And annually, the numbers from Mexico average 200-400% higher than the rates reported in the States. Even still, these numbers represent the bodies found and reported. It is a safe assumption held by many that at least one migrant dies every day in the border region.³

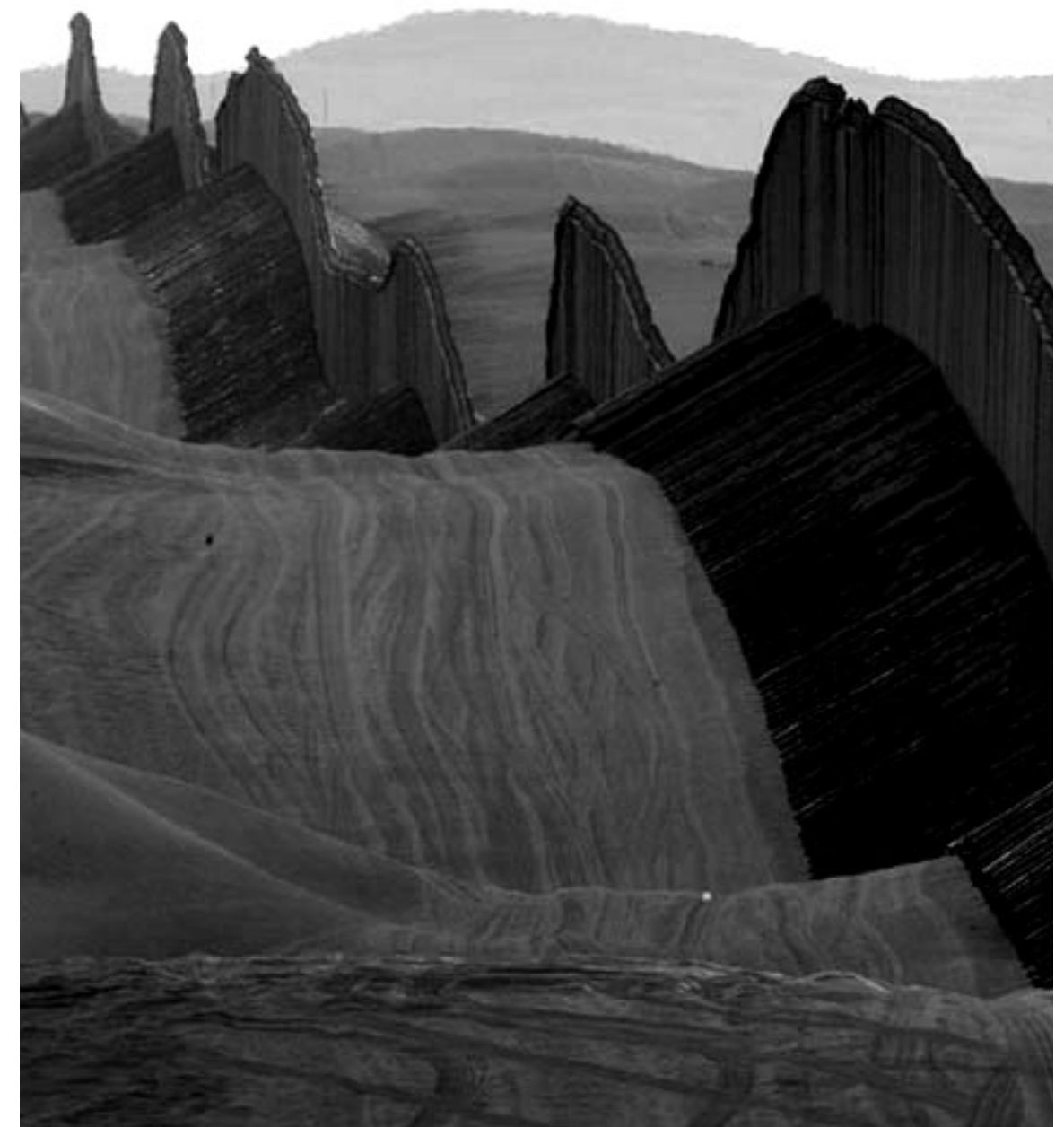


fig. 12 a recent portion of the border wall as it exists west of trans-pecos

Now, the issue of border deaths is more transparent than ever. The federal misallocation of funds is, for the first time, being questioned on a broad scale. This is largely due to the climbing federal debt, as well as a major increase in the volume and accessibility of published materials on the issue. Humanitarian rights groups in Mexico and the United States are beginning to work together to give voices to the voiceless, to create permeable and humane borders. For instance, 2012 marked the first calendar year in which the locations of each reported death were marked on a map and submitted in an official report by The American Civil Liberties Union. States are beginning to recognize the rights of the dead and the obligation of the state to the families of those passed. Finally, the evidence is becoming more understandable and widespread. There has been a clear shift in attitude from both sides of the border from passive or apathetic to active and hopeful.

DESCANSOS

For now, however, the traces of border deaths are common in west Texas. Roadside memorials, called *descansos* (“places of rest”) line the highways of the region. These markers are often experienced along a procession and lead from individual mourning sites to larger groupings. Most commonly, a small mound of stones, dirt, or a humble white cross are placed at random- simply representative of a lost friend and family member fallen in the vast unknown desert. The names read *John Doe* or *Hispanic Woman*, or most likely bear no name at all. Despite the anonymity of these sites, they are impeccably well cared for and oft-visited. The somber desert sites are full of flowers and letters, candles and Catholic saints, wooden crosses and rosaries. Many also have American flags, billowing in the breezes off the mountains. This image speaks strongly to the immediate needs of the west Texas community: a singular place to come and mourn.

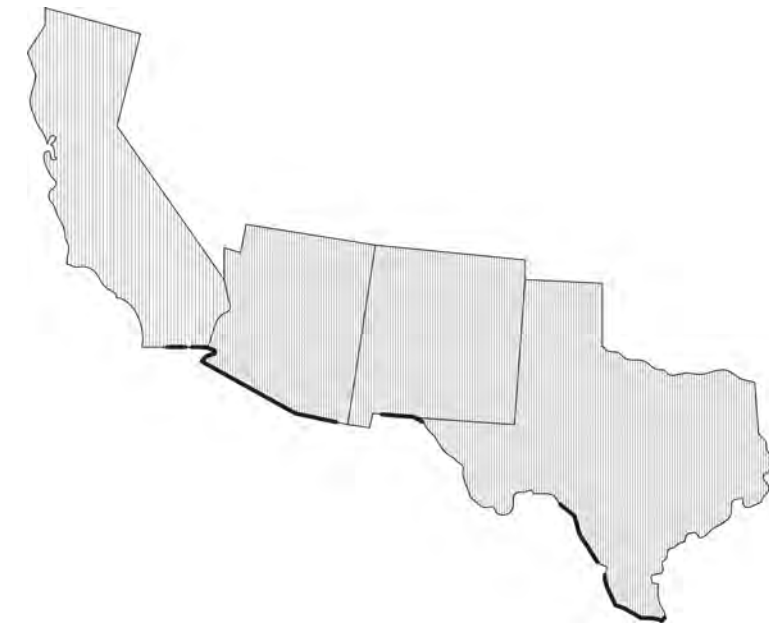
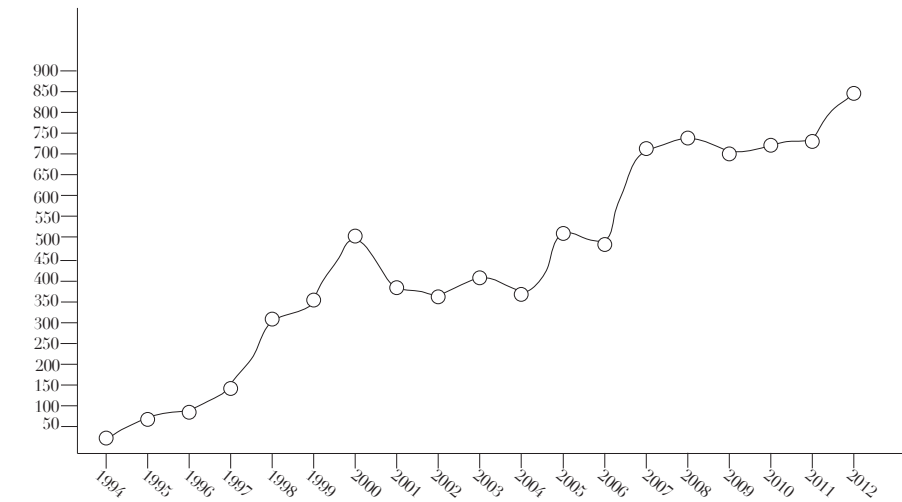
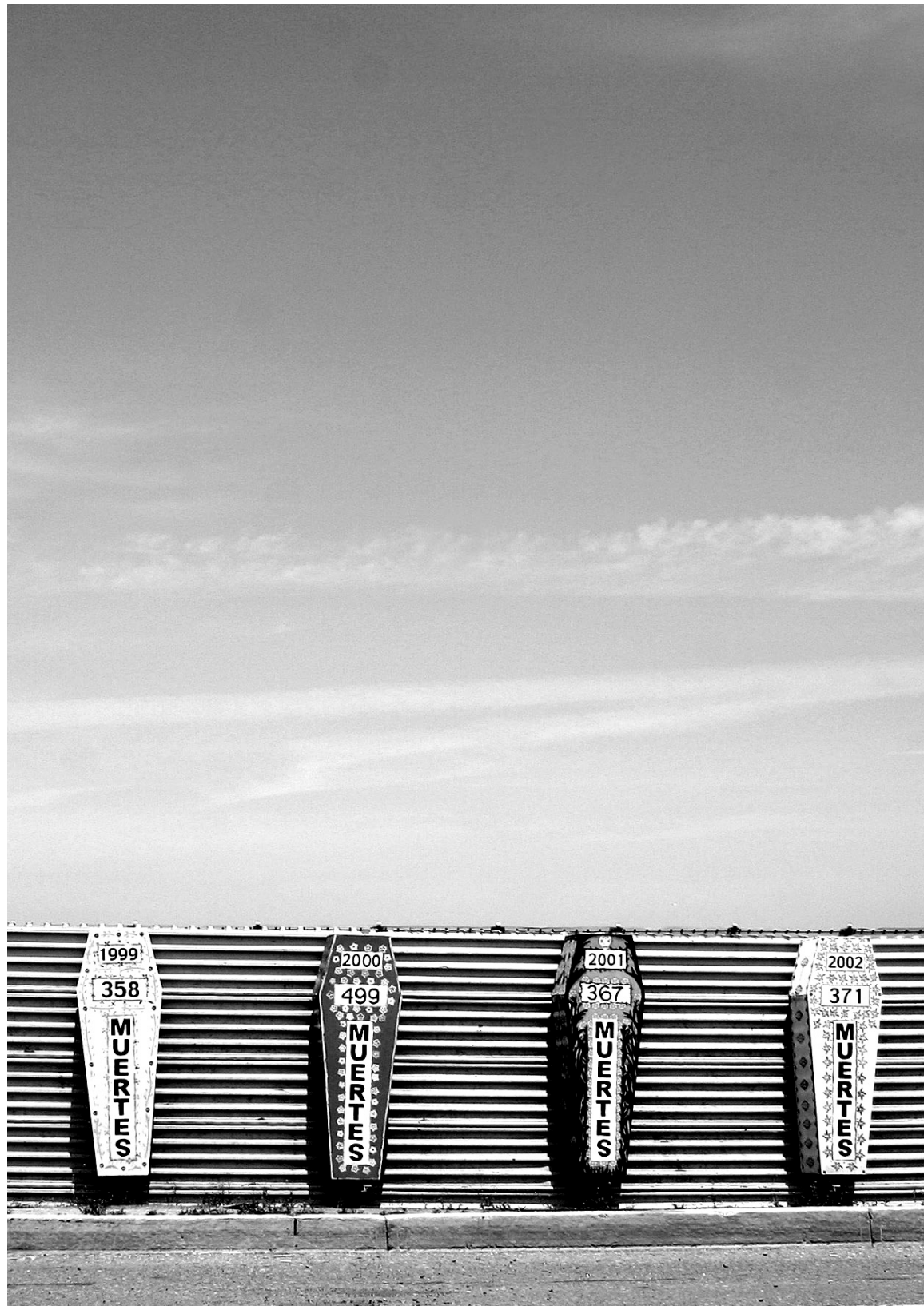


fig. 13 border deaths (total), 1994-2012
 fig. 14 current gaps in the border wall



THREE
the place of memory

A MODERN CRISIS OF MEMORIALS

Is memorializing an act of the past? Today, two significant factors have contributed to what is often referred to as memorial saturation. On an international scale, building is occurring at exceptional rates. More substantially, tragedy itself has become globalized. No longer a localized matter, tragedies are spread instantaneously via media sources, allowing the emotional wakes—however great or small— to resonate at national and global levels. This “trauma without borders”¹ represents an unprecedented time of public loss, paralleled by a lack of personal and cultural mechanisms for coping with the flood of information in a healthy manner. Out of necessity, the modern citizen has become numb. Distant and unrelated loss feels superficial. Conversely, establishments respond by recognizing tragedy in the form of a built monument or memorial. But are people being exchanged for institutions?² Built environments and calendars have become saturated with politically correct instances of remembering. To a large extent, these events have undermined the way in which a mnemonic should work in the first place.

While acknowledging this crisis of memorial saturation and the question of permanence, this thesis argues for a highly localized intervention— an artifact onto which to project personal memories and associations, and on which to build a collective memory in a place. The act of building is critical to bridge connections and link generations through permanence. Doing so will underline a sense of a culture rooted in a place and history, however grim. This thesis analyzes how a population remembers and draws conclusions on the design of an effective, timeless mnemonic. This investigation of the link between spatial experience and memory is to serve a greater purpose towards maintaining the relevancy of memorialization itself.

fig. 15 a memorial to fallen migrants at the southern california border

CONTAINING MEMORY

An inarguable connection between memory and architecture exists universally in the human mind; memories are always anchored in spatial frameworks. Architectural by nature, the mind works to model planes that contain three-dimensional spaces for which to ‘hook’ a fact, excerpt of prose, or personal memory. When reading fiction, the mind constructs spaces for the inhabitation of characters and events, and often these fictional constructs remain steadfast while the story itself may eventually fragment and erode within the mind. This is not a modern process. Predating the written word, orators relied on the mental construction of architectural spaces to store and sequence the components of an epic. Likewise today, professional memory competitors utilize a strategy named the “memory palace,” calling fourth a childhood home or vessel of great familiarity as a framework by which to link long lists of arbitrary numbers or patterns for rogue memorization. Something particular about a childhood home carries an instinctive sense of intimacy and familiarity; recalling smells, light, and enclosure. Even after decades, studies have shown that many people can recall the streets of a childhood town, the plan of a house, or the topographies of a yard in exacting detail. Peter Zumthor begins his writings in *Thinking Architecture* by recalling childhood memories of his Aunt’s garden, the meter by which his design process continually compares.³ These senses are potent and play a large role in the mnemonic subconscious.

Historically, a vernacular metaphor has been sought after to better communicate the processes of memory; to explain why the mind grasps some ideas, yet so quickly lets go of others. Plato once described the memory as birds flying in and out of a vessel. In recent science, cognitive researchers refer to memory as a reconstructive process, to describe how the brain goes about processing, storing, and retrieving memories. In plain language, these two metaphors are generally described as a container and a process within a container.⁴ The associations are three-dimensional and always contain space in some capacity.

Mental architecture lends a tangibility to abstract ideas. For instance, Marc Treib utilizes the concrete instance of the Egyptian pyramids to illustrate the concept of time. He states that the simple image of a pyramid “marks and concretizes” time, facilitating the human understanding of its depth.⁵ Built environments make visible the course of time. They provide a concrete scrim on which to project and contain memories and provide necessary stimulation for remembrance, reflection, and inspiration. This act occurs on planes both personal and cultural. While the act of recalling architecture in the mind is deeply personal, one is never without context of greater communal experiences as a family, town, or nation. This context is essential to shaping perception. It is paramount to consider a complex infrastructure of information and experiences, for which a singular memory or association is never in isolation. Often, these external factors

distort the memory in the vision of the mind. It has been argued that these distortions carry their own set of truths, that the spaces of memory are wonderfully elastic, likened to a film or still camera: “They can dilate and take in vast panoramas, or compress the focus to a close-up, a beloved room or window, when time itself seems to slow down and stand still.”⁶

WHOSE MEMORIES?

“Architecture is fundamentally the art form of emancipation that makes us understand and remember who we are” – Juhani Pallasmaa, *“Space, Place, Memory; and Imagination”*⁷

The United States in particular possesses a significant layer of issues surrounding the proposal of a memorial. In a nation whose sense of pride wholly rests on the idea of multiculturalism, the inevitable question will arise *for what collective?* In other words: whose memories? A successful built memorial will appeal to the memories of the individual, while providing a link by which to connect to a larger collective identity. Within a culture or community, physical instances of memory remain essential. As Milan Kundera notes in *The Book of Laughter and Forgetting*, “People without a past are people without a name.”⁸ Tangible built interventions provide a stable sanctuary, while associations applied to it may develop and evolve. They rest as a personal landmark upon which to return, layering a complex and varied set of emotions and interpretations. These interpretations are based on personal experience and the memory of one’s initial personal journey on the site. Inseparable from this is the shared experience of a built memorial as well as the distanced observations of the experiences of others.

In order to remember, a site must be visited at least twice. The design, then, must be capable of becoming reanimated with each visit; it must allow the flexibility of readings and support the reinvention of one’s relationship to the site. In the age of ‘armchair tourism’ and the instant internet recollection of facts concerning a place, all that remains as a motivator to visit a site is the experience itself. For this reason, the memory that counts more in shaping collective identity is personal memory and less the recall of historical facts recited by tour guides or written on plaques. This idea is crucial in the development of a modern memorial. It must be taken this extra step into the realm of the experiential in order to remain relevant.

In built work, there exists a direct connection between past and future and between place and material. The link is the participant, who keeps it alive. However, as a by-product of external mnemonic factors, nothing is truly personal or truly collective. There exists always some transaction between the two domains. Visitors come with a set of perceptions and experiences that provide a framework through which to view the memorial. For each user, this creates a new

map, linking to other sites and across borders and time.⁹ In tandem, a complex web of experiences is created that looks like a performance or ritual but feels like community. It is of great significance to note that architecture cannot create feelings, only reinforce emotions and interpretations. This thesis is approached in aim of communicating with the physical the following statement:

“... [The] dynamics of cultural memory; contested and buried histories, and ultimately; politicized space. They speak as architectural interventions in public places to complicate both the universal and the particular; and to challenge-and nourish- notions of citizenship, nationalism and civic responsibility. These projects memorialize through performative spaces where action to remember is guaranteed through built and imagined challenging any habituation of the past. Through that process they aim for a vitality in places that are not any other; places not unplaced, places where history and memory are continually active and tormented, plugged and tangled, where culture is tactile, where past and present covenants are questioned, where established forms of citizenship fall away to build anew and where geography matters”¹⁰

IN DEFENSE OF MEMORIALS

“Architecture is to be regarded by us with the most serious thought. We may live without her, and worship without her; but we cannot remember without her. How cold is all history; how lifeless all imagery; compared to that which the living nation writes, and the uncorrupted marble bears!”

John Ruskin

24 Despite global shifts in memorial thought, it is essential for this thesis to advocate for the continuation of memorial work. The spatial and material associations amid memory are inarguable. Built spaces give bounds to the psyche and relate it to the landscape. They focus attention and provide a common denominator for many to relate. Many critics question the issue of permanence in modern memorials. Perhaps they could exist in the digital realm, or be constructed of temporary materials- designed to erode in time. After all, in post-1919 Soviet Russia, Vladimir Lenin once erected statues of plaster, clay, and plywood with the intention that only “those acclaimed by the masses would find their way to bronze and marble”.¹¹ Ultimately, people are the singular factor that drives the short-term into the long-term memory. This implies the notion that a memorial is more of a construct in the mind than a tangible object in the landscape. However, in the mind the memorial is only personal, and eventually will fragment.

ON DEATH AND FORGETTING

It has been said that death is the taboo of the twenty-first century. However repressed, it is significant to come to terms with death on any scale as part of the healing process of a memorial experience. If memory is the cousin of death, there must be an honest acknowledgement of death and grief. While this thesis argues in favor of a memorial as an aid for memory, it must also then be a confrontational device: one that shines light on holes in memory- that which can no longer be recalled. For the healing process and experience of remembering, the issue of forgetting is equally as significant. There is a certain velocity of forgetting, yet a slowness to remembering. Today, memory is threatened by a general cultural amnesia where one can only perceive, not remember.

“[Architecture’s].. role is not to create strong foreground figures or feelings but to establish frames of perception and horizons of understanding.”¹²

In his book *How Societies Remember*, Paul Connerton argues that bodily memory is an essential aspect of social memory.¹³ As memories fade and social performances of grief grow scarce, the need for memorials is greater than ever. In a world where communities lack the rituals of generations past to grieve collectively, the performance along an architectural experience holds great importance.

“Our situation in the natural and constructed worlds needs to be frequently brought to mind- as well as our connections with our past; its glories as well as its missteps.”¹⁴

The greatest function of a memorial of permanence is to serve as a backdrop for cross-generational dialogue, to be visited together and apart, and to tell a people of who they are and where they come from. As Joseph Ryckwert writes, “It cannot teach us- history never can. But we can learn from it.”¹⁵ The memorial underlines a need for places to lodge memory hooks to secure a common ground. And finally, to portray suffering as not an experience of repression, but an endurance of a people. Memory is a potent social force that parallels history, but achieves greater depths in a localized and cultural sense. How, then, does one design manifest the externalized memory of a culture?



DESIGN PARAMETERS

“Architecture must transcend the dichotomy of form (“what it has”) and program (“what it does”) to aspire the levels of experience (“what you’ll feel”) and identification (“who you are and what you want to be)”¹⁶

The aim of the designer is only to create the resources to write history, not to author it himself. Within the context of an ongoing traumatic event, the author can only shape material in hopes of creating the conditions for a future history.

As contrasted with a monument, a memorial will summon corporeal experience; the body moving through carefully curated spaces, as a means of recalling. Memory in this sense is an act, a verb, which engages the entire body. Without the understanding and experience in full, memory is a cubist composition—fragments of the whole. The creation of patterns is a reasonable design objective, as the mind creates its own links, eager to compose a complete composition. Furthermore, patterns become recognizable and relatable by the collective, yet complex and varied when paired with personal expectations and interpretations. The built intervention mediates man and site, the site building and community, and the community man and tradition. In parallel to this, memories are to be viewed as collections, not units. One is continuously bonded to the layering of events that happen frequently and with great intensity, overlaid further with a history of place and community.

Perhaps most essential in the manifest of design parameters is the value of allowing one to “play their own game”. While a path is powerful in metaphorical meaning, it cannot be so designed as to be prescriptive. This will allow for varied experiences across multiple visits and different users. A few strategies for achieving this are creating spatial hierarchies, variation of scales, and shifting vanishing points against a constant such as they sky or land. Constant geometries are capable of contributing to a rich syncopation through a sequence of spaces, arrayed in such a way so one may connect with their own life while simultaneously relating to a communal memory via the performance of meandering and finding ones own meaning within the abstract. 27

fig. 16 cross standing in foothills north of presidio

While movement is key, there also must be orchestrated pauses for which to reflect and revisit. Such markers enable learning and connecting to one's own life at a specific point in time. This pieced-together approach allows the viewer to experience a landscape of memory through the re-assembly of pieces of the past.

As Donlyn Lyndon writes in *The Place of Memory*, "...differing itineraries may seem inconsequential; yet the sequences they establish fill the vessels of the mind with daily content. The diversity, complexity, and episodic quality of the experiences that they afford are like the intricate, unfolding paths that...sew the fabric of the city into a place of perpetual discovery."¹⁷ If the architecture is successful in having a richness of participation, it transcends the range of the physical. It instead becomes an offering of reflection and association in concurrence to a larger order of community, the lives and histories others, and that of the land itself. Through this process, a place is created that reflects back the recognition of one's own life.

*"For architecture to be appreciated, it must be able to build a relevant emotional experience at different points of contact with its users. In the experiential view of architecture, the relative success of design is measured in the sensation a person derives from it."*¹⁸

In a traditional architectural design process, plan and section come together with material and light within a landscape with the optimism that emotion will be a natural consequence. This thesis will challenge this methodology, instead exploring sensation as a driver of design, a conceptual scheme created by a storyboarding of moments, pauses, and experiences choreographed with the additional social dimensions of anticipated behavioral scenarios. The archetypal figure-ground diagram of edge and node, inside and outside, should be not set aside, but rather enhanced by the strategic addition of perception in design. The parts of the architectural whole should aim to create a "dynamic choreography based on oscillating interdependencies of the user and space rather than on the logic of pre-established form."¹⁹ The object will be considered as a field, the axis as more of a path, and the wall instead as a surface. As buildings are never experienced in the diagrammatic totality of plan, the designer should insert care to the establishment of meaningful frames that can be connected in the mind of the visitor, completing a coherent narrative.

FOUR

beyond sight

The postmodern era of architecture was defined by the visual senses. Inspired by semiotics, architectural design has become much like a lightweight facade as seen in a stage play. Intended to be read as a sign, a building had to do little more than suggest meaning, often having little inherent meaning in its spatial qualities. The body was left out. In observing contemporary design, the postmodern aesthetic is inarguably over. However, the underlying theme of visual predominance largely remains as a catalyst for design today.

In contemporary critique, this design for the visual is referred to as retinal architecture. In *An Architecture of the Seven Senses*, Juhani Pallasmaa describes this shift in perception, as architecture is quickly becoming flat and "losing its plasticity" via the camera lens and the image-driven nature of the design process. He laments, "As buildings lose their plasticity and their connection with the language and wisdom of the body, they become isolated in the cool and distant realm of vision".¹ They lack tactility of material, tectonics, and relatable scale. The materials are synthetic and communicate dishonest age and use. They do not account for the touch, smell, temperature and qualities that most profoundly impact the user's memory of an architectural experience. The eyes are quick to forget.

The body, however, is a captive and quiet medium. The body does not need lengthy explanation of intellectual critique to understand. Absolutely essential in a place of memory, the intentional design for the non-visual senses of the body are the driving conceptual approach of this thesis.

During the Renaissance, the senses were known in pairings with the earthen elements: vision with fire and light, hearing to air, smell to vapor, taste to water, and touch to earth. Why is it, then, when all elements are present and formational in an architectural design, that only the first sense is typically accounted for?² The design seeks to overcome this paradox via seven categories of the senses, each interrelated. These are: eye, ear, nose, tongue, skin, muscle, and bone.

ACOUSTICS

Sight is a sense of the solitary. One views alone, whereas hearing creates a connection. Pallasmaa gives the example of watching a circus performance.² One sees in the singular. It is not until the burst of applause from the crowd that one feels united with others, reaffirmed of where one is within time and space. Sound is a powerful mnemonic stimulator, and perhaps most powerful when the sound is of silence. Silence reinforces time and solitude, and paired with intentional architectural space, can create a self-awareness unlike little else. Silence can slow time and unite a community. The careful application of silence and noise can be a tool for a complex and meaningful memorial experience.

SCENT & TASTE

It is commonly known that scent is the sense most closely related to memory. Alone and when paired with spatial memory, scent will always be more memorable to a user than a purely visual experience. Smell is related to vapor, which ties with the senses of the skin. A childhood home or grandparent's house, the seasonal smell of a holiday dish, or a note of sea air in a breeze: these have strong imaginative associations and evoke a bodily feeling and mood. Similarly, taste is closely identified with the tactile. Use of smooth, polished materials evoke a metallic and cold sensation on the tongue, whereas soft materials have an imagined oral texture and earthen taste. Soil is a tool to accentuate this, as a softness and moisture are quite tactile qualities when experienced in and out of the land.

TOUCH

Touch is a consistent, shared experience along the life of a building. With proper materials, signs of use will tell a story and connect the user to generations that came before. This is essential for the development of a collective memory within a community. The skin knows temperature with absolute certainty, and most directly differentiates light from shadow. The skin knows the density and stability of earth and foundations, and connects man with the landscape. Touch also is a more intentional extension of vision, as often the eye must transverse that which cannot be touched. Touch is intimate and the most emotional of the senses. For this reason, touch is paramount in the design for knowing and healing alongside architecture, to be addressed at all scales.



*fig. 17 women embracing in reaction to memorial experience, may 2013
(memorial to homosexuals persecuted under nazism, elgreen & dragset, berlin)*

BODY

From the details of the door handle to the ceiling heights in primary spaces, the body is wholly engaged in any architectural experience. This thesis presents the argument that most contemporary architecture, however, is not as mindful of the bodily experiences of space. It must be more than retinal imagery in sequence, considered from a very initial encountering of the built work. For it is when the body discovers its resonance in space that one can fully experience all that an architectural palette can offer.

Pallasmaa states, “A building is not an end to itself; it frames, articulates, restructures, gives significance, relates, separates, and unites, facilitates and prohibits. Consequently, elements of an architectural experience seem to have a verb form rather than being nouns”³. This human-ness can be achieved in building via tectonic language, detail, and material. Bodily scale, furthermore, allows human identification with built work. As will be demonstrated with many of the precedent studies, designs using considered proportions and scales are able to communicate pleasure, comfort, and refuge as well as unease and discomfort.

“We behold, touch, listen, and measure the world with our entire bodily existence and the experiential world is organized and articulated around the center of the body. Our domicile is the refuge of our body, identity, and memory. We are in constant dialogue and interaction with the environment, to the degree that it is impossible to detach the image of the Self from its spatial and situational existence. ‘I am the space, where I am’, as poet Noel Arnaud established”

- Juani Pallasmaa

In an existential context, the place of architecture is to make material the place of man within his world. With commonplace design process beginning with the site, these intentions are often (and ironically) lost to the lay user after construction competition. In the case of a memorial, the design must communicate death and life, while relating strongly to place and land. While architecture will always be inherent with strong visual qualities, the utility of the remaining senses contribute greatly to sculpting a meaningful and memorable experience.

FIVE

inspiration

A primary objective of this thesis is to create a “living memorial”- a design that goes beyond sculpture or landscape to engage and contribute to the community. It must attract passersby and immerse in its natural settings. It must allow introspective reflection, but also serve as an opportunity for learning and growth.

Based on these community needs and the many roles the memorial shall play, the design must draw inspiration from three different typologies- the memorial, the earthwork, and the retreat. From this broad spectrum of precedents, a list of eighteen works were narrowed to seven: four memorials, two earthworks, and a spiritual retreat.

1. *Lightning Field, USA, 1977, Walter De Maria*
2. *Time Line and Time Pocket, USA/Canada, 1969, Dennis Oppenheim*
3. *Casa de Retiro Espiritual, Spain, 1975, Emilio Ambasz*
4. *Igualada Cemetery, Spain, 1994, Carme Pinos & Enric Miralles*
5. *Jewish Museum, Germany; 2001, Studio Daniel Libeskind*
6. *Steilneset Memorial, Norway; 2010, Peter Zumthor & Louise Bourgeois*
7. *Passages, Spain, 1994, Dani Karavan*

In narrowing this set of precedents for study, the following criteria were used: degree of user participation, engagement of site/landscape, opportunity for individual reflection, opportunity for collective reflection, effective mnemonics, and use of non-visual senses. The memorials represent experiences across four scales, presented in descending order: XL, L, M, and S. In a brief discussion of each work, emphasis is placed on the following: design principles, notable features, context, user experience, and critiques and insights towards developing this thesis.

LIGHTNING FIELD

Walter De Maria
Catron County, New Mexico, USA
1977

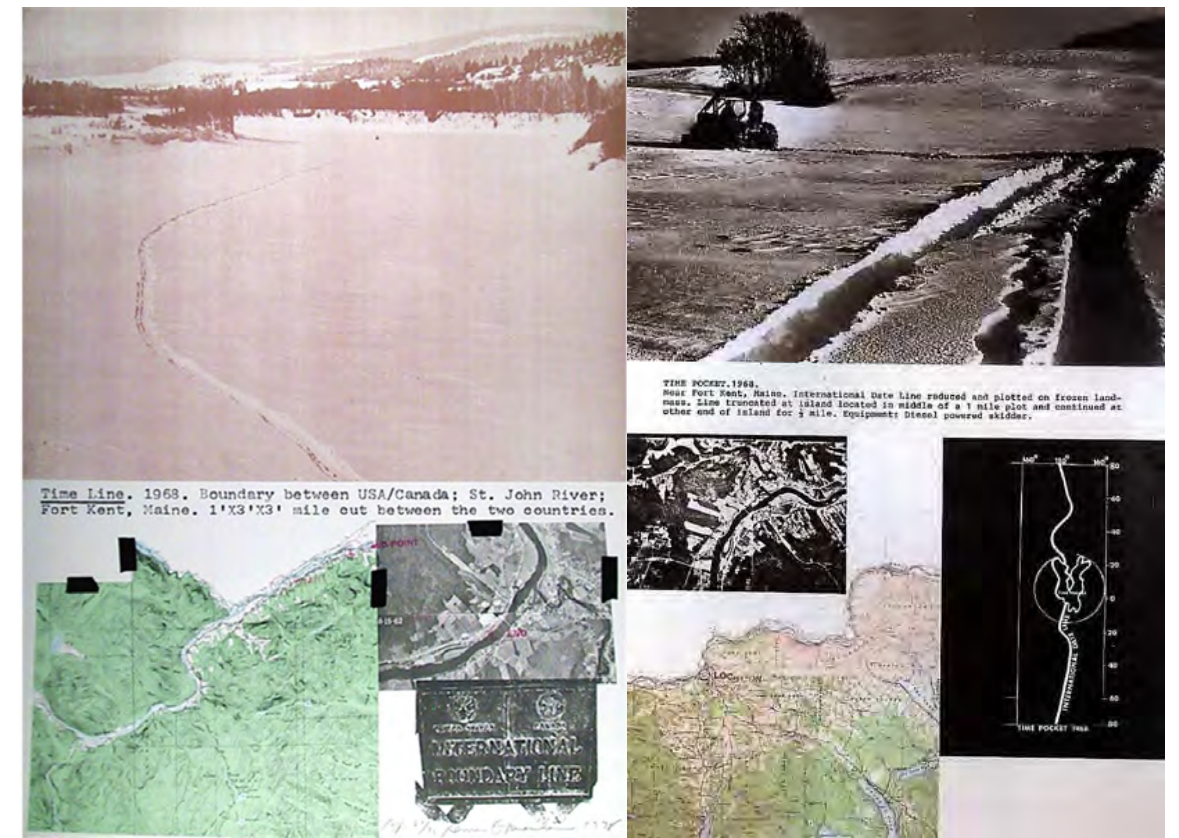
Dangerous, industrially perfect, and beautiful, Walter De Maria's *Lightning Field* was a milestone for minimal art and user experience within a landscape. For five years, land across the southwestern United States was surveyed for its vastness and remoteness. At last settled in remote New Mexico, the 400 sharpened stainless steel rods on a relentless grid boast an aesthetic mastery during the day and an in-the-moment anticipation at night.¹ In the day, the rods reflect sunlight before sunrise, and glow long after sunset. As designed, they catch the lightning during the region's frequent storms, giving man an unprecedented closeness between body and the land and its natural elements. Above all, De Maria's work is about the human scale and the user relationship to space. The rods tower over any visitor, at an average of six meters tall. This is a reminder of the minute scale of one man against the vastness of the land. Achieving absolute cartographic perfection, the field is an ever-changing experience of viewing angles and vanishing points. In order to ensure this experience, no more than six visitors may visit the field at once and they must remain for at least 24 hours, utilizing a small cabin on-site.



TIME LINE, TIME POCKET

Dennis Oppenheim
U.S./Canadian border near Fort Kent, Maine
1968

Two separate works created in sequence in 1968, both *Time Line* and *Time Pocket* speak to the American land art movement during this time by being both temporary and fully integrated into the landscape. *Time Line* consists of two lines, juxtaposed, cut three miles by snowmobile into the Saint John River near Fort Kent, Maine and Clear New Brunswick, Canada. Here, the time zone changes as well as the political boundary. Existing for only 70 hours before the next freeze, Oppenheim makes a clear comment on the materiality of territorial boundaries within an in-between zone of time and place. Similarly, *Time Pocket* also uses a snowmobile medium to trace a date line on the frozen ground at the same point on the U.S.-Canadian border. Here, the line is abstracted, and breaks in the center to create the "pocket" where, theoretically, there is no time. Together, the works speak to the perceived arbitrariness and inconsistency of political territorial borders. Date and time are abstract concepts, concretized by a fictional line that at times can seem to govern all. These works invite thought on the nature of human mapping systems as imposed on the natural environments, underlining the artificiality of man's mapping of space.



CASA DE RETIRO ESPIRITUAL

*Emilio Ambasz
Cordoba, Spain
1975*

Sited on a vast lake side, on land plentiful with olive trees, the home and spiritual retreat is tucked away from civilization. Marked by stark white vertical planes in the landscape, walls block the strong northern winds while marking the entrance through the thickened threshold. In keeping with Arabic traditions, the subterranean home is organized about a central patio- a cut in the landscape above. An ambulatory space surrounds the patio, allowing a place of consistent shade to transition from indoors to outdoors. The spaces of service are collected together, separate from the spaces of rest and transitions. This space is framed by the narrow steps lining the interior of the wall and the grand stairs connecting the wall and courtyard below, giving a strong orientation and sense of procession between the primary loci.

Due to the subterranean placement of the home itself, the design responds climactically to its surroundings, remaining cool and comfortable in the hot temperatures of Cordoba. This use of landscape speaks to local and historical building techniques in the region. This is reflected in the structural berms against the walls, the thick stucco walls themselves, and the layering of the existing landscape to create desirable light and temperature conditions.

The balcony at the blank facade has roots in traditional craft, and is formed of over 3,000 handmade wooden pieces.² It offers an unobstructed panorama view of the lake and surroundings, but arguably the journey to the balcony is the more unique experience. The two narrow stairways climb the stark walls as cantilevers, approaching a narrow threshold with the balcony out of sight beyond. Each stairway is proportioned differently, one for ascension and one for descent. Each is met with a small handrail, accompanied by flowing water cut deep into the surface. The water flows downwards, culminating in a flowing pool within the landscape plane. Here, the sound of the water's journey is magnified, then disperses into silence.

At first appearance, the casa seems to be a predated postmodern construction of flattened symbols and architectural forms. However, it immediately becomes apparent its rationale is rooted in experiential religious-like procession, from the broad cuts in the land to the handrail details. It goes far beyond the views- to the sound, temperature, light and winds. This is all created within a framework of tradition, and is carefully woven to produce that which is sculptural and elemental, yet sensible and profound.



IGUALADA CEMETERY

Carme Pinos & Enric Miralles
Igualada, Spain
1994

Though cemetery by typology, the Igualada Cemetery was designed primarily as a place for families to mourn amongst the dead. To be a place for the life of reflection and memories, Pinos and Miralles describe their objective as to awake the user to the cycle of life and the user's respective part of it. The cemetery is the physical linking between past, present, and future.

Derived of the Catalanian landscape, the cemetery design features a set of tiers that unfold gracefully and blend with natural surroundings. Often described as an earthwork itself, the burial spaces are carved from the hills. The primary burial space utilizes site-specific gabion walls to strategically frame the view of the visitor. Much like a work by artist James Turrell, the surroundings are silenced out of view and only the sky remains, curated by architectural form.

Primarily made of wood, concrete, and stone, the materials immediately tie to the existing landscape. Through this, a natural blending of tones is created which gives the work the appearance that it has always existed on this particular site.

As one enters, a set of cor-ten steel poles mark a threshold while referencing the crosses at Calvary. A path widens, bringing the user toward the burial-lined tiers and interior spaces. Throughout the site, traditional burial plots are mixed with denser mausoleum-style plots. An "unfinished" chapel and monastery offer voids for solitary solemnity, unburdened by any concrete information. This freedom and lack of prescription is an attractive feature to the site. Intentionally winding like a river, the path was designed to give an experience to each visitor beyond that of pure visitation. Users are free to meander the landscape and pause for reflection when it feels right.

38 The design is successful in its mix of shaping perception and allowing free interpretation. Each user is, like the materials, considered a part of the site and leaves with an experience and set of memories that far outweigh that of a typical cemetery.



JEWISH MUSEUM

*Studio Daniel Libeskind
Berlin, Germany
2001*

The Jewish Museum in central Berlin was commissioned prior to the fall of the Berlin Wall to recount the full histories of Jewish peoples in Germany. For the first time, the experience and influence of the Holocaust were to be integrated in a national effort to progress forward, based on a rich understanding of Jewish culture and the repercussions of the years of the second world war.

The museum's astounding 166,840 square feet include many notable features. The spaces are organized along three strong axes, accessed after an initial decent underground- below pre-existing building foundations. One axis leads to the "stair of continuity", to the exhibits that showcase the Jewish people and their history. A second axis leads to "the garden of exile and emigration", which calls upon the body by using large concrete pillars, slightly askew, to familiarize the user with a disorienting, out-of-place feeling that references exiled persons in a new place. The third axis, by design, leads to a dead end: "the Holocaust Void". Easily the most evocative space in the museum, the void is a tall, dark shaft with a small sliver of light at the top. Enclosed in concrete, the space is very cold, and sound echoes in a resonance of terror. A custom metal door with large handle engages the user at all bodily scales, and lets off a chilling slam with the entrance and exit of each user. The memory of this space is most clear in the minds of each visitor due to its scale and bodily engagement as well as its effect on every human sense. In a similar fashion, a second void space holds a permanent exhibition of metallic faces on the ground. Visitors are encouraged to walk on and fully interact with this exhibit, the metal gives a coldness and mechanical sound while feeling unstable under each step. Centrally, a small collection of stories and personal belongings from both Holocaust survivors and victims are on display. Here, the three axes deviate direction, each sloping slightly in order to fully engage each user en route to varying sectors.

40 The use of dominating axial design and void spaces that speak to the body while the mind interprets is much more successful than the famed "slices" of the museum skin. Seemingly arbitrary and superficial by comparison, the museum is a lesson in creating intentional, meaningful spaces and allowing that design to speak for itself.



STEILNESET MEMORIAL

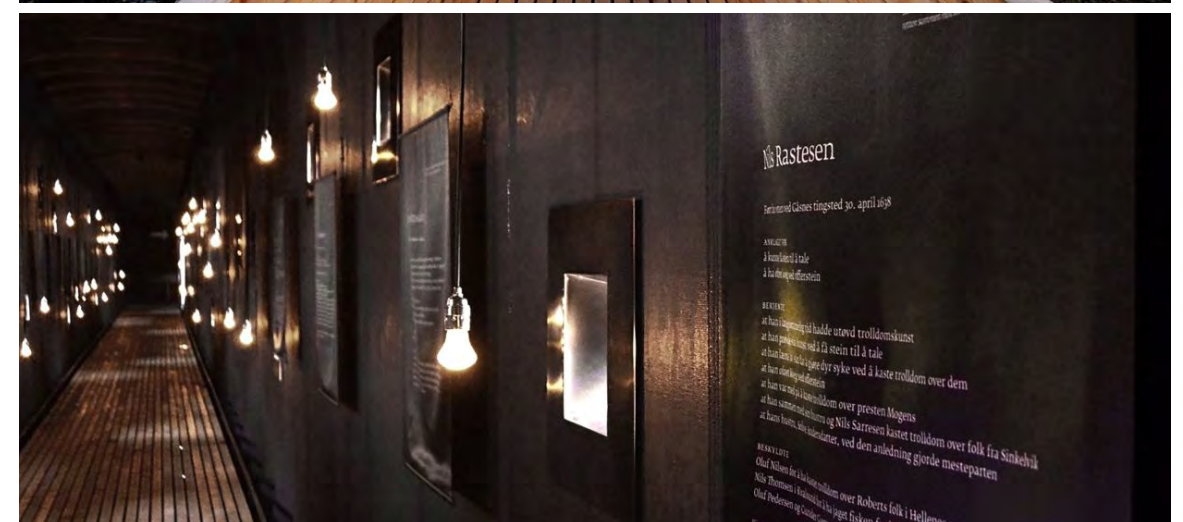
Peter Zumthor & Louise Bourgeois
Vardo, Norway
2011

The Steilneset Memorial was designed to commemorate those persecuted in the Finmark witchcraft trials in the region during the seventeenth century. The work is a collaboration between architect Peter Zumthor and the late contemporary artist Louise Bourgeois, and is sited on the majestic coast of the Barents Sea in Norway. Zumthor describes the parti of the memorial as “a line and a dot”³, the line belonging to his architectural intervention, and the dot to Bourgeois’ installation. Within the landscape, the shapes reference the land in the distance and the prominent horizon of the sea.

The user enters upon a narrow oak-planked path that seems to float just above the ground. An oft-referenced cocoon-like lightweight silk structure is suspended upon a lightweight timber structure that typifies the building traditions of the Nordic region. Through the singular entry, a 400 foot straight hallway greets the user and exhibits the stories of the 91 individuals who were accused of sorcery and burnt at the stake. Each of the 91 “windows” is illuminated by an exposed light, which ties clearly with the next installation.

The “dot” of the project is entitled “The Damned, The Possessed, and The Beloved.” It includes a steel chair, placed centrally in a round concrete vestibule. A flame burns continuously in memory of the persecuted and it is reflected by the surrounding surfaces of an array of round mirrors, as well as the smoky glass that encloses the installation.

42 The materials work in tandem to achieve a complex tension while simultaneously enhancing the landscape and natural beauty of the place. The intervention makes a simple and powerful statement by use of simplified program and elements of abstraction. It touches the ground lightly, and its form and material use are singular to this particular site. The body of the user experiences a tight, dark space for contemplation and a more transparent and light space for free interpretation. Both spaces are in stark contrast to the open and unbounded surroundings of the Norwegian coast. The user experience is greatly enhanced by the feel of the wood, the temperature and smell of the fire, and the echoing sounds of the primary hallway.



PASSAGES

Dani Karavan
Portbou, Spain
1994

Passages is a name given to the memorial to German philosopher and writer Walter Benjamin in commemoration of the fifty-year anniversary of his suicide. The name was chosen to honor Benjamin's fleeing from France to Portbou to escape fascist terror, and also references the title of the writer's unfinished last work. A simple memorial to one man, the artist Dani Karavan sculpted an experience to be activated by the landscape. The cliffs, sea, salt, and surrounding olive trees work as memory hooks, creating an experience that begins at first onset of approaching the sculptural intervention. Two routes exist all through the town of Portbou, with plaques along the way. A route through town and a five-hour cross-border route give two distinct approaches to the memorial. A website gives information and maps for both routes, as well as a live webcam for those who cannot visit.

The memorial design seeks to remedy a story of pain, memory, and exile of the past with a hopeful future of opportunity in a new place. With desire to allow for the creating of a user's own experience, three passages mark points on the rocky slopes of a cemetery edge and provide different experiences to be explored at will. In the artist's words, there is "no moral and no message." A small opening across the cemetery from afar looks too small for a human threshold. Coming upon it, a long, narrow set of 87 stairs descends straight towards Mediterranean waters below. Three-quarters of the way down, a single pane of glass makes inaccessible the water that appears just before the user. Etched into the glass is a passage from one of Benjamin's early works that reads:

*"It is a more arduous task to honour the memory of anonymous beings than that of famous persons. The construction of history is consecrated to the memory of those who have no name."*⁴

A path leads out of the stairway back towards the cemetery. In the section where non-Catholics are laid to rest, the second passage is a platform for meditation and introspection sited under an ancient olive tree. The old border crossing can be seen in the distance, and the olive tree is intended to symbolize reconciliation.

44

At last, the narrow and rocky path leads to a small clearing where a platform of just four meters square emerges. The humble platform is no more than an opportunity to pause. Here, the sea and horizon are open and inviting beyond. But the journey ends here as Benjamin's did (his remains are below in a common grave), and the inhospitable metal fence of the cemetery stands in the way.



45

SIX
place

Presidio, Texas, shares the border with Ojinaga, Mexico, in the state of Chihuahua. A nearly entirely Spanish-speaking community, Presidio is a modest, 2.4 square mile city whose population places highest values on family and church. On a map, Presidio is surrounded by ghost towns: Schafter, Lajitas, and most famously Terlingua. This place seems isolated from the United States by the rugged Chinati mountains. Likewise, Ojinaga is separated from Mexico by the 10,000 foot tall Sierrita de la Santa Cruz mountain ridge. Despite these geographical conditions, Presidio and Ojinaga together are a significant node in the landscape of the borderlands: a place where the earth and the people come together unlike anyplace else.

HISTORY

Presidio rests on a portion of the oldest cultivated land in the United States. The land was used for farming as early as 1500 B.C.E, and became home to a number of small Jumano Indian settlements by 1400 C.E. The first Spanish settlers arrived in Presidio under Álvaro Núñez Cabeza de Vaca's army in 1535, during which a cross was laid to claim the new land as *La Junta de las Cruces* (the union of the crosses). By 1681, the Presidio and Ojinaga region was widely known as *La Junta de los Ríos*, the union or junction of the rivers, as the Rio Conchos and the Rio Grande join at this location. It is here that the first Christian religious service was held west of the Pecos river, and the first record of a Christmas celebration comes from *La Junta*. Most significantly, it is through this region that the Mexican crops of corn and beans were first brought to North America. During the Mexican War, the region was established as a small penal colony and military settlement. Following the war's end in 1848, the first Anglo settlers moved to La Junta de los Rios with ambitions to ranch and build privatized forts. A Comanche raid in 1849 drove away most of the cattle and nearly destroyed the town.¹

Nearly a decade later, Presidio established a post office and opened its first public school. In 1930, the Kansas City, Mexico, and Orient Railway reached Presidio and the population grew from 96 in 1925 to 1,671 in 1988. However, the businesses in Presidio declined from seventy in



fig. 35, 36 historic images c. 1910-1915

1933 to 22 in 1988. The town incorporated in 1981. The major population boom during this time was largely attributed to previously undocumented aliens enrolling in an amnesty program. In 2012, the reported population was 4,266.

PEOPLE

The memorial to fallen migrants is for the families of those lost, but also for the community: Presidio, west Texas, and all Texas-Mexico borderlanders. An essential point of departure for this thesis is the notion that the people of this (and arguably any) border region are of a third classification: neither entirely of Texas nor entirely of Mexico. They inhabit and contribute to a culture of the in-between, a place all its own. It is this spirit and for these people that the memorial primarily serves.

Studies of this border region reveal three classifications of people: Mexicans, Mexican Americans, and Anglo Americans.² Mexican borderlanders residing on Mexican land, called *fronterizos*, are generally heavily influenced by the tastes and values of the United States. Often dependant on the U.S. economy, assimilation is often encouraged. Socially and culturally, however, *fronterizos* keep the spirit of Mexico alive within in the community and within each family. U.S.-born Mexicans on the Mexico side of the border are argued to fall into this classification, as birthplace is irrelevant in a cultural discussion. These people classify themselves as Mexicans, not Americans, and include those who reside permanently in Mexico as well as those who commute across the border or live trans-nationally. *Fronterizos* have an optimistic and hopeful approach to border policy, in favor of family unification and economic opportunities. Mainland Mexicans, by contrast, often fear the economic and cultural change in this region.

Mexican Americans residing in Texas continue to enjoy Mexican cultural norms and a strong maintenance of the Spanish language. Approximately 96.3% of the population speaks Spanish at home.³ This group works hard to maintain close ties with remaining family and the culture in their homelands. In the city of Presidio, many Mexican Americans are quite poor (the average household income in 2011 was \$20,570 and a mere 32.7% of the population has completed a high school education).⁴ This shows a direct correlation with a slower pace of assimilation. Although opportunities to learn English are available, the majority of the population does not have a command of the language. This contrasts greatly with the Texas-Mexico borderlands to the east, where most residents have greater wealth and are entirely bilingual. Language, however, is no barrier to capitalizing on opportunities on American soil. Many families operate small businesses, farm, ranch, or enlist in border patrol or military services. The region is greatly



influenced by its hard-working population, as the American dream of opportunity and a better life for families is the primary draw to migration to American land in the first place.

Anglo Americans on the border display a greater range of classifications. Some are heavily involved in the bicultural and binational worlds, while others maintain as hardly affected by the border condition. In contrast with Fronterizos and Mexican Americans, a very small number of Anglo Americans are transnational. In Presidio and surrounding towns, the small Anglo population is generally insulated and identifies primarily with the United States. This insularity is arguably attributed to the U.S. doing very little to facilitate any cultural interaction or international experiences. However, between Presidio and Ojinaga, this is changing at an exciting pace.

USER GROUPS

As the intent of this thesis is to make the invisible visible, two very different user groups must be properly identified. The first are those in mourning. The memorial must be a site suitable for memory, as there is no place else to mourn the anonymous migrant deaths. For these users, the memorial must tell a story, while also providing a level of abstraction on which to project one's own personal meaning and interpretation. Second, the memorial must encourage awareness of the issue. It must function with great intent for those who wish to come and learn, to recognize the deaths and the problem present in this region. For these various users, the built memorial is only a part of the experience; the journey of arriving at the site is also quite significant.

BORDER CROSSINGS

At the end of Highway 67 in Presidio lies the city's port of entry. This port is heavily used and is operated 24 hours a day, seven days a week. The port was built in 1987 and primarily serves as an inspection station. Although it is the primary structure that transitions between Ojinaga and Presidio, it is only one part of a large network of border patrol checkpoints in the immediate region.

The Presidio Port of Entry was originally built as a supplement to the Presidio-Ojinaga International Bridge. Built in the early twentieth century, the privately owned wooden bridge primarily served the railway, which formerly allowed a free commute for workers between the two cities. In 2008, the bridge was burned down by arson. At the time of this thesis, funding has been awarded for the reconstruction of the bridge for pedestrian and railroad uses.



As a post-9/11 security measure, the Boquillas crossing at the outskirts of Presidio was closed. Its recent 2012 reopening has created a resonance of celebration and a renewed optimism in the crossing's neighbors on both sides of the border. The 9:00 am opening saw the first wave of Americans crossing the border, Mexicans on horseback watching to see if the rumors were true, and U.S. border officials-not waiting for a boat- rolling up their pants and wading the shallow Rio Grande to shake hands with their Mexican government counterparts (fig. 41). The 2001 closing of the crossing happened at a time when 20,000 Americans a year were crossing into Boquillas del Carmen.⁵ Today, the economy has entirely collapsed as a result of the closure and just two businesses remain. Despite this, the reopening was symbolic for the future of both sides, who have been resuming full use of the crossing. Prior to the reopening, Americans could cross by paying a two-dollar fee to Mexican boat operators, who would then provide burros and mules for the ride into the town. Now, a million-dollar infrastructure has been put in place. Operated remotely, a kiosk scans passports from both sides and has been working optimally to promote legal tourism both ways. The reopening represents the beginnings of an optimistic resolution of the border condition and has become a model for other border permeations.

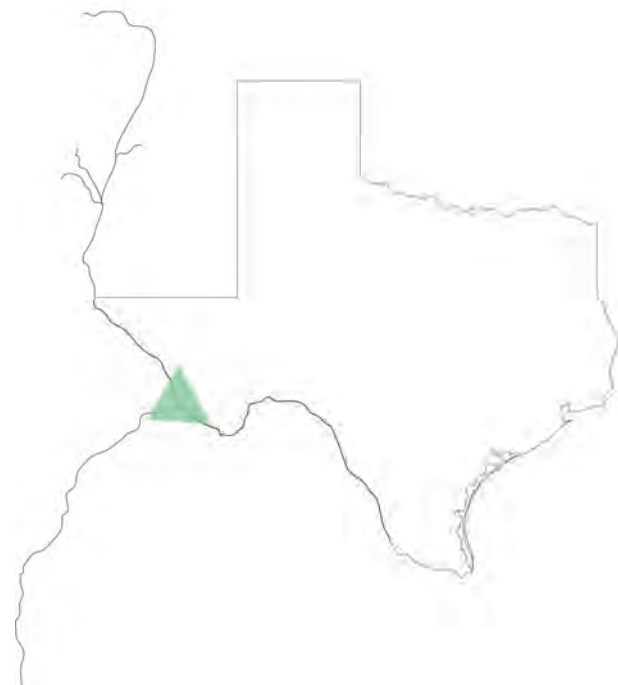


fig. 42 diagram illustrating la junta de los rios, where the rio conchos meets the rio grande



Two Site Approaches

fig. 43 trans-border path to site utilizing rebuilt pedestrian/railroad bridge

fig. 44 common highway route along TX 170

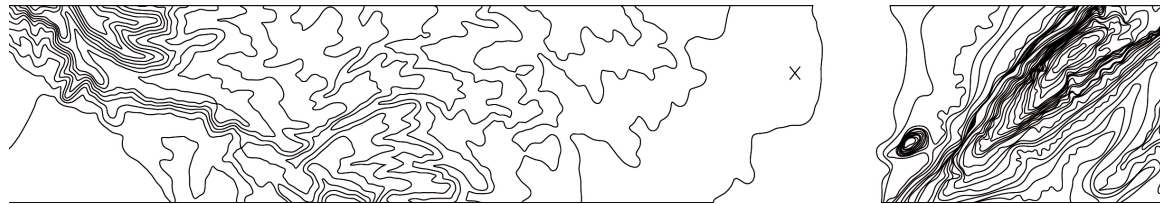
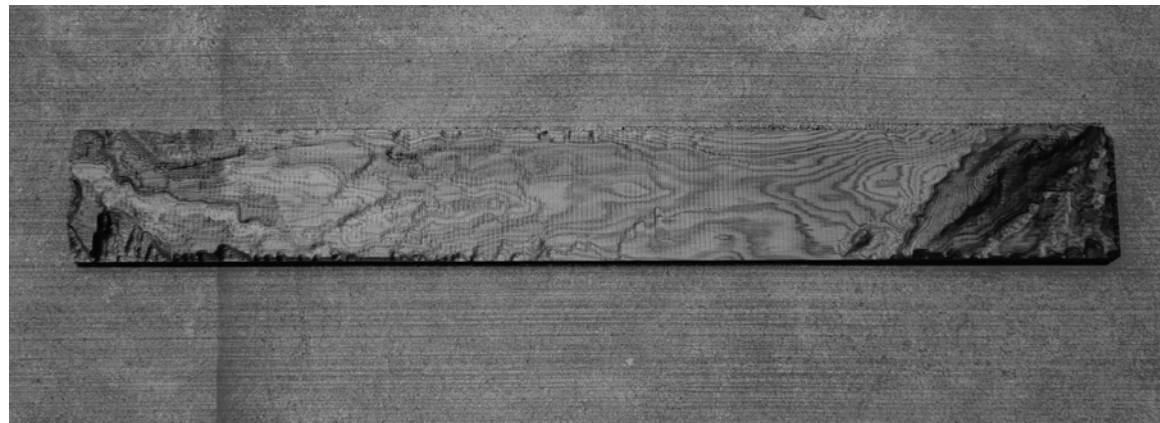


fig. 45,46,47 topographic context model

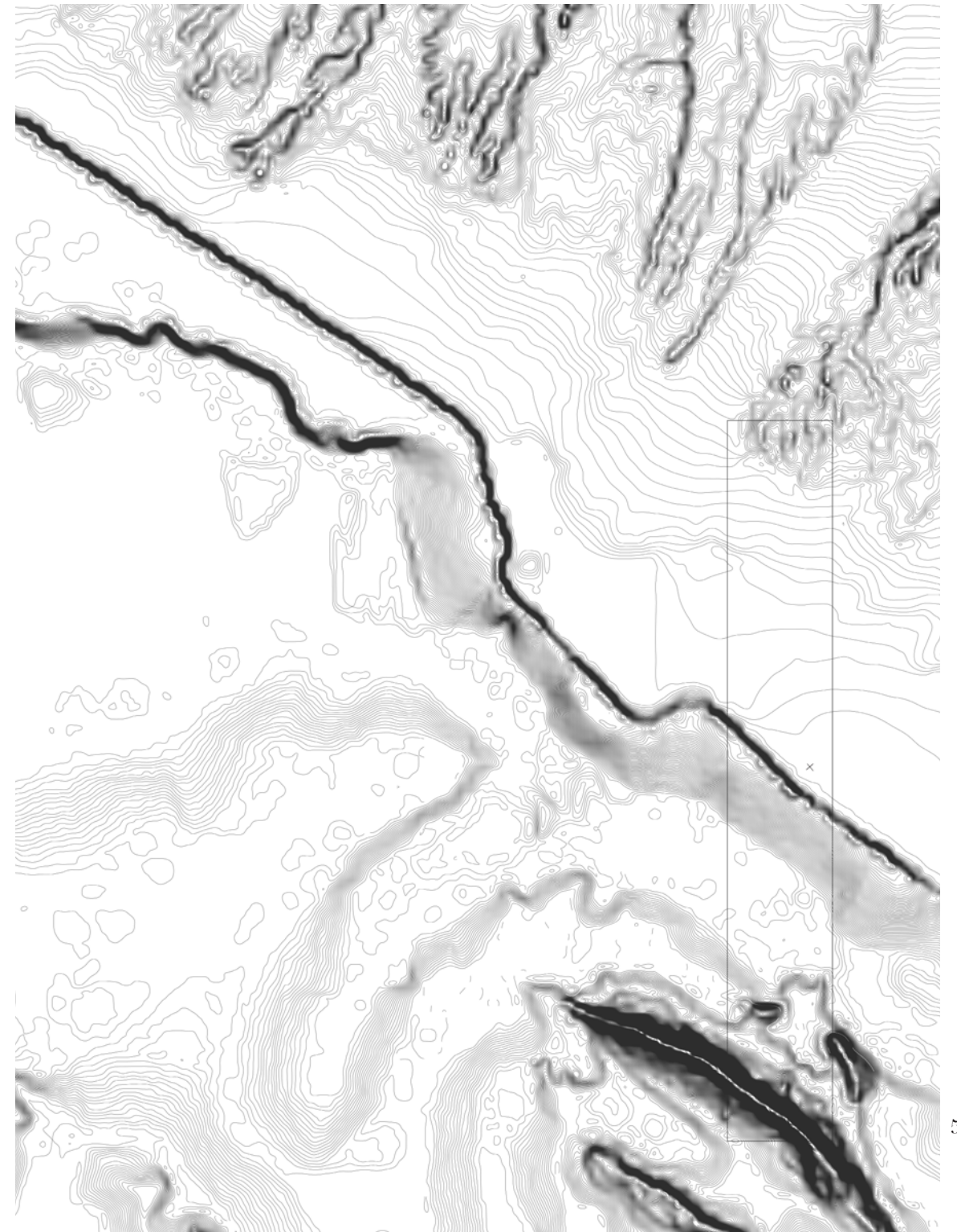


fig. 48 regional topographies: model selection & site defined



ENVIRONMENTAL CONDITIONS

The Trans-Pecos region is known for its erratic and mysterious weather patterns. Temperatures average around fifty degrees Fahrenheit in the winter months, and around ninety degrees Fahrenheit during the summers. Somewhat typical to a desert condition in the American southwest, day to night temperatures vary greatly, often dropping as much as thirty degrees Fahrenheit after sunset. Presidio receives an average of eleven inches of rain a year, which is much lower than the Texas and national averages. Often, this precipitation comes in the form of flash flooding, and the Rio Grande floods periodically in this area. The wind varies between nine and eleven miles an hour and comes primarily from the due north and northwest directions off of the Davis Mountains. Humidities range between 30-70% yearly, and the city only receives about one inch of snow in winter. Days of sun hover at a yearly average of 80%, and cloudy days respectively at 20%. In a year, Presidio receives an average of 54 days of precipitation. Presidio is not located in a seismic zone; reported earthquakes have been classified low-grade, and have existed at distances a minimum of 77 miles away. In the history of Presidio, there have been seven natural disasters: four fires and three hurricanes.⁷

The skies are typically clear, and the earth dry. As a result of these environmental conditions, the Trans-Pecos region is oft-cited for its diverse and unique cacti population, as well as its staggering geological formations. By night, black covers the sky and constellations arrive with great clarity. Due to its proximity to the McDonald Observatory to the north and Big Bend to the east, Presidio is a part of the largest federally-designated “dark sky zone” in the country (fig. 53, 54).

As Presidio marks the joining of the Rio Grande and the Rio Conchos, the typical arid conditions keep the water very still. For months, only sand at the river bed is stirred by winds, and for this the rivers’ juncture is shallow and muddy for hundreds of miles to the Gulf of Mexico.

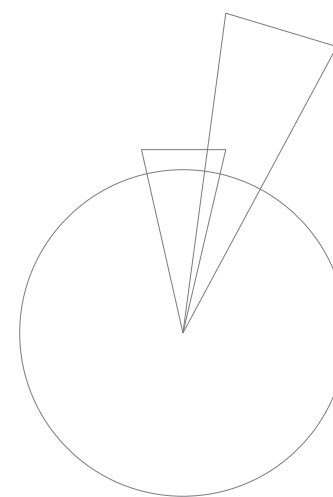
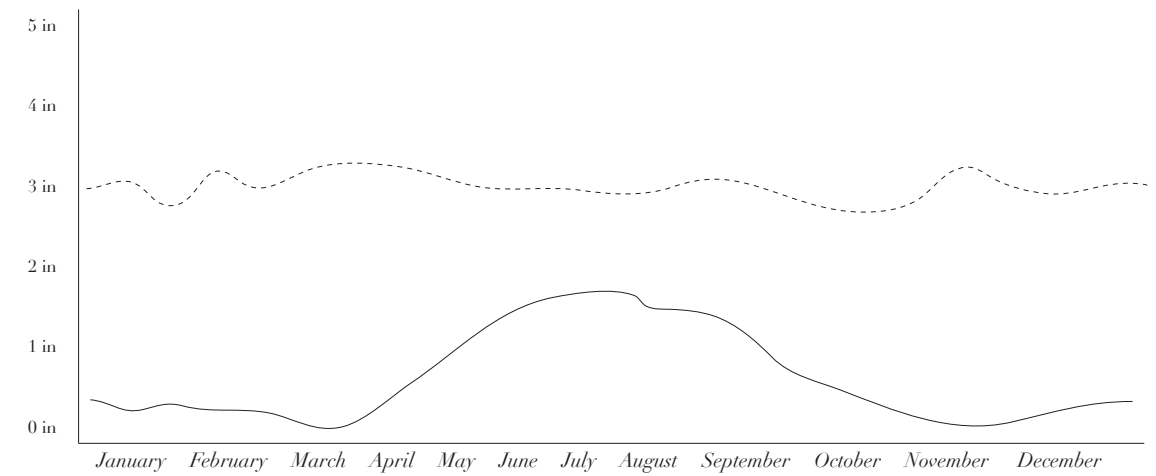
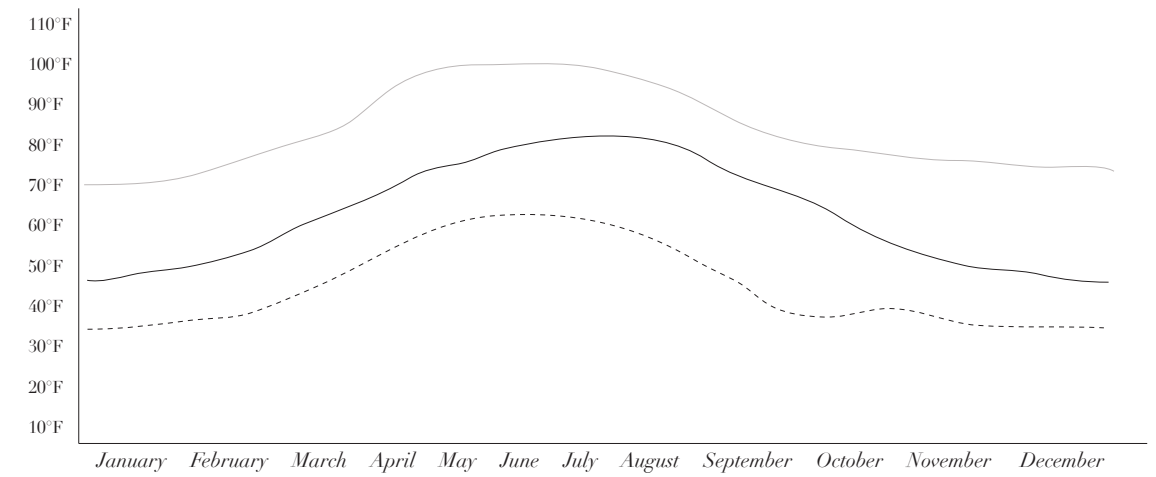


fig. 49 average annual temperatures shown against daily highs and lows

fig. 50 average annual precipitation shown against US average

fig. 51 wind rose diagram

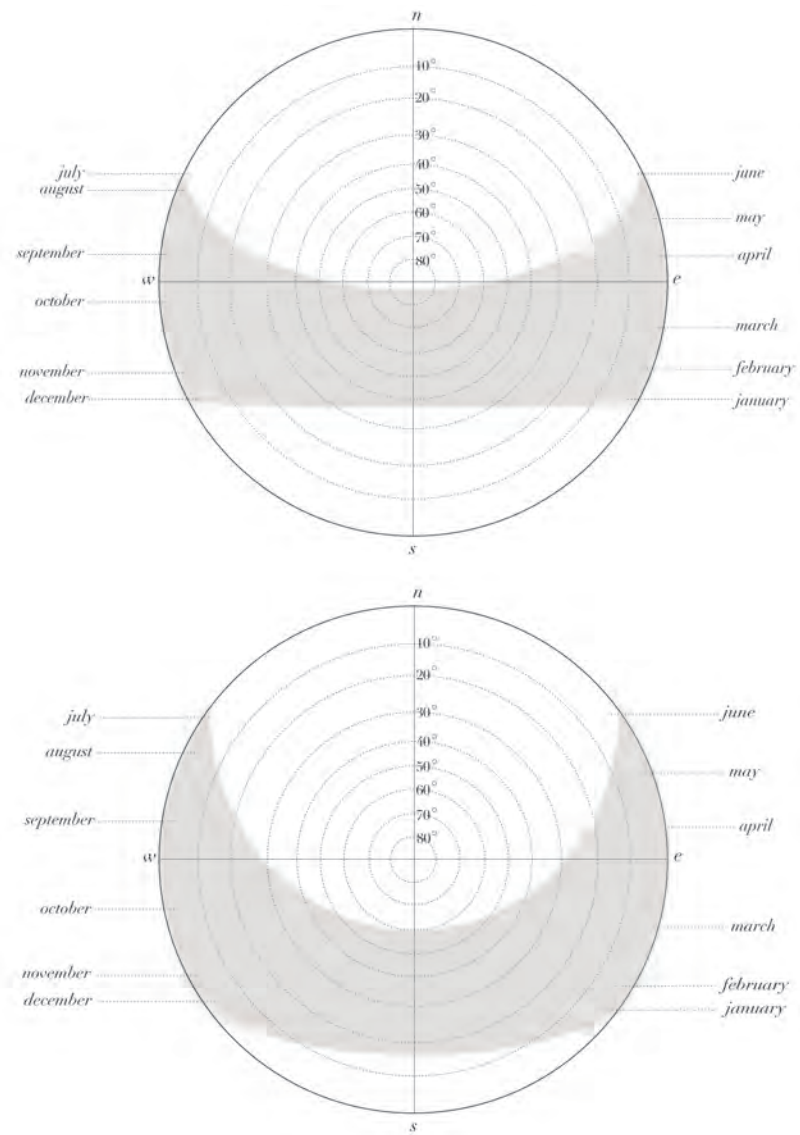


fig. 52 sun path diagram comparing presidio with seattle for reference

fig. 53, 54 night sky images illustrating the big bend "dark sky zone"



*fig. 55 view westbound on presidio's main street
fig. 56 existing "visitor's center" of presidio
fig. 57 a muddy and shallow rio grande at this
part of the border*

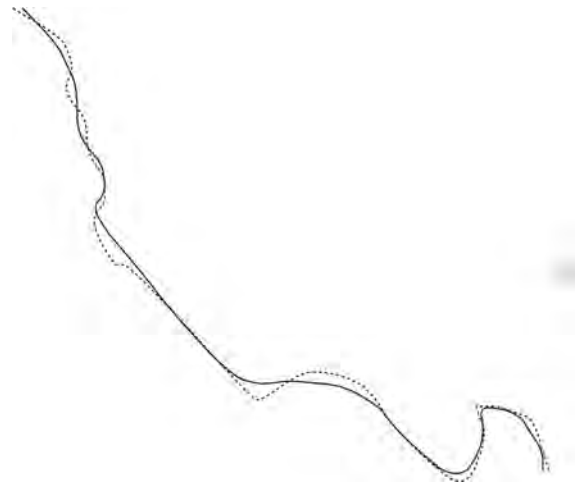


fig. 58 the political border and the rio grande do not align, site shown for proximity and context

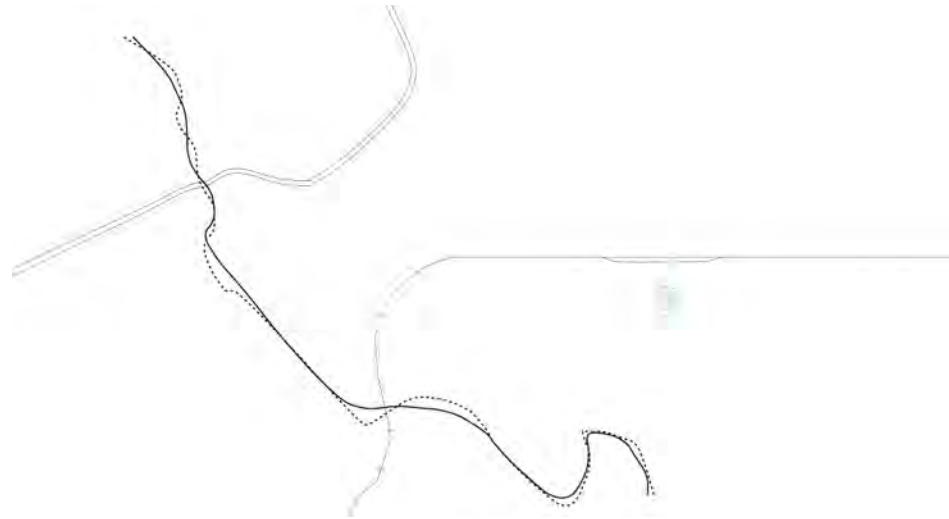


fig. 59 the two permeations of the border at presidio, in relation to building site

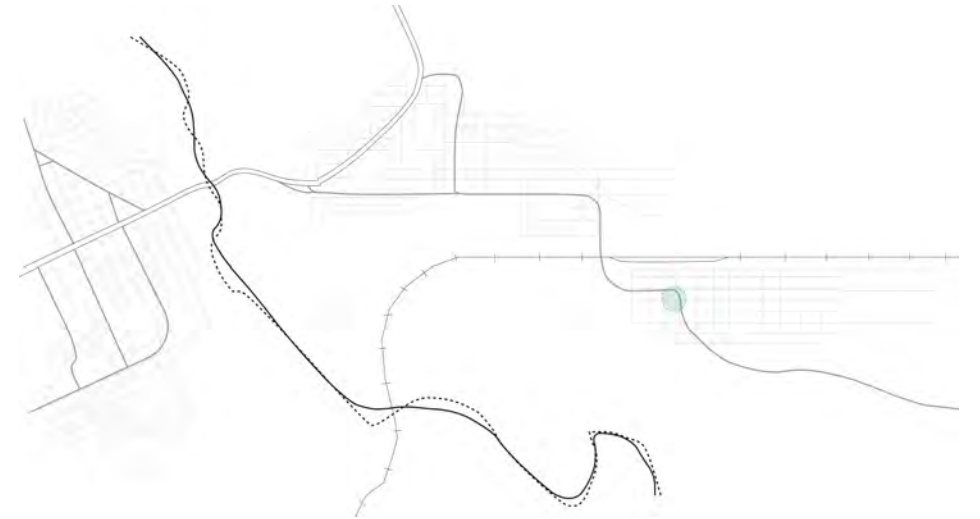


fig. 60 the two parts of presidio, divided by railway; and the city grid of ojinaga to the south for proximity



fig. 61 site section looking west

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SITE

The site is oriented north-south on a stretch of outlying city blocks along Texas State Highway 170. At a significant bend in the road, the site marks a transitional knuckle between Presidio's main commercial street and the open land to the southeast, reaching towards Big Bend. Tapering down to the rather flat building site, a series of finger-like ridges offer a rolling landscape to the north of the site. To the immediate west, an exclusively highway culture brings the visitor past a number of dilapidated strip-malls, filled with modest chain stores, roadside churches, or simply abandoned spaces. A community garden fills an empty industrial lot across from a Payless Shoe Source. An abandoned flower shop overgrown with weeds is illuminated by a neon sign for one of many *Our Virgin de Guadalupe* Catholic Churches. One mile east of the site is the border crossing, and a quarter mile down fourth street is Presidio High School. To the west is a demolition surplus lot on the route to Big Bend, by way of the Fort Leighton National Historic Site. Immediately surrounding the site are scattered residences. These are humble homes built with vernacular materials, some healthy and cared-for, others left long ago. The red wood home directly across from the site is the largest home within view, and appears to be in derelict structural condition. Nonetheless, there is an "under contract" sign out front, speaking to the hope that lingers in this part of the country. This home is to be saved, rather than town down.

This value of the past speaks volumes to the condition of the existing site, which is marked most clearly by an exiting facade and an accompanying *se vende* (for sale) sign offering both US and Mexican phone numbers. Like many buildings in west Texas, this wall is made of white stucco, and adorned with wood and tile. The tile, full of bullet holes, and the large openings tell a story of an automotive garage that once enjoyed the site.

The wall seems to frame the accompanying view to Mexico in a very intentional manner. Peering through the facade's openings, an extraordinary view of the Sierrita de la Santa Cruz mountain range is impossible to overlook, beckoning a southward movement towards the border. The Rio Grande marks the border just one-quarter mile south of the site. Between the river and mountains lies the city of Ojinaga, Mexico and the Chihuahuah Desert beyond.

fig. 62 site image looking due south at sierrita de la santa cruz mountain beyond

fig. 63 view from back of existing wall, looking northwest towards highway





The wall is fifteen feet tall and 109 feet wide on its northernmost facade, wrapping a corner to the south approximately sixteen feet. The northern wall has six openings to the north and one on the east that once housed garage doors, each ten feet wide with the exception of the easternmost opening on the front facade. This is sixteen feet, and tells of a cafe and reception area for the automotive shop. The wall stands upon a concrete foundation in relatively good condition, fourteen inches in depth and offering 5,609 square feet to be reused in the project.

Directly behind the existing built remains are several blocks of dirt that run along TX 170. This highway proximity is essential to the element of discovery that defines the spirit of the region, and will be useful in catching the eye of passersby.

The end of the foundation slab is fifty feet from the edge of block one, which terminates with a small gravel alley, ten feet in width. The next block to the south is 138x109 feet, then met by a twenty-foot paved road, Santa Fe Boulevard. The final block to the south is 303x109 and again terminates in a ten-foot gravel alley. In total, these blocks allow for a final lot size of 59,564 square feet- approximately 10,000 of which will be conditioned space.

fig. 64 drive-by stills of the site from north to south as experienced by automobile



SEVEN

methods

The methods of this thesis aim to communicate three significant processes: a conceptual approach, the procedures used for site selection, and the consideration behind program choices and development.

CONCEPTUAL APPROACH

The objective of this thesis is to instigate a conversation about what and when to remember. It is a tribute to the people in border regions, who inhabit a space unlike anyplace else. A theoretical project, the design is an opportunity to investigate the relationship of the senses to memory through the medium of architecture. This process calls upon extensive research on memory as a foundation. As outlined in the preceding chapters, the aggregated senses (not just vision) will act as formational concept in the development of a meaningful memorial experience. In juncture, the notion of individual and collective memory with designing for the senses will be used in the decision-making process of the more pragmatic final design intervention.

PROCEDURES FOR FINDING A SITE

The procedures for finding a site were largely ones of wanderlust and discovery. The initial study territory of the Trans-Pecos region was narrowed to Presidio County based on the spirit of the place and the amount of research information available. From there, a week-long road trip ensued to narrow site parameters by a means of conversations with locals, on-site findings, and pure gut instincts. Travels to Balmorhea and Marfa spoke highly of the spirit of the region, but ultimately pointed attention to the city of Presidio. Aside from its proximity to the border, Presidio has been a recent model for linking Mexico with Texas by the reopening of its border station. Historically, it was a region of coming together- La Junta de Los Rios- and host of a complex and rich culture between the prominent cities of Presidio and Ojinaga, Mexico.



70

*fig. 65 (previous) looking eastward from site
fig. 66 (previous) site panorama looking south
fig. 67 (previous) looking northward from site
fig. 68 view south across border*

71

While on American soil, Presidio is an entirely spanish-speaking city where life revolves around the family. Much like all travels in Trans-Pecos, the happened-upon site instantly spoke to both the objective criteria and subjective spirit of the project. The choice of Presidio was concretized by the following four criteria:

1. *Proximity to the border*
2. *Permeability*
3. *A relationship to the greater landscape*
4. *A particular set of constraints*

The site is ideally located one-quarter mile from the border. This is significant geographically, as the mountains of Mexico are prominently displayed, as if the site looks southward across the Rio Grande. Sociologically, a border location speaks to both Mexicans and Americans, attracting both to use and visit the memorial.

Essential to border proximity is the ability to freely cross the border. There are currently no border fences in this part of the region, as the harsh climate and geography make this region one of the most difficult to cross. However, the railroad and pedestrian bridges, along with the official border crossing make this area safe, dynamic, accessible, and symbolic for all border cities.

In addition to relating to Mexico, the site needed to exhibit the qualities of the Trans-Pecos region, including proximity to ridges and the interesting geographic and topographic features that exist in the Big Bend region. Originally imagined in a very isolated location, the memorial is best served at an apex of transportation in order to appeal to visitors and passersby, while catering to the singular means of transportation in the region: the automobile. The site rests along the outskirts of Presidio, on the only route connecting the bustling art town of Marfa with the natural beauty of Big Bend National and State Parks. A busy corner, the site warrants a pause and allows for an experience in passing as well as by stopping and entering.

It became quickly apparent that open land is not only one-hundred percent privatized in the region, but also was not suited for a set of architectural constraints. A site was sought that proposed some problems that would ultimately shape the memorial design, resulting in a project as rooted in place and circumstance as possible. These constraints could have been related to geography, climate, existing built interventions, or any combination of these elements. The existing facade on the site tells of Mexican heritage in America, and provides an opportunity to tell a story of past, present, and future. It offers an immediate restriction of square footage and begins to shape the memorial by its long, linear form that stretches southward towards Mexico. The

facade begs to be preserved and adapted instead of cleared to build anew. Finally, roads and alleys provide multiple starting points along the path of remembrance. By beginning with these design challenges, the memorial will be a more honest intervention and truly of the site, to be accepted by the people of Texas and Mexico alike.



fig. 69 historic aerial image of the town of presidio, the rio grande, and ojinaga and la sierrita de la santa cruz beyond



THREE VERBS

The program for this thesis is based on three modes of inquiry, 1. The issue of migration and its relationship with familial reconciliation and opportunity, 2. Memorial as an ongoing issue, and 3. Remembrance through spatial experience. These inquiries have been classified as three programmatic components, to occur in sequence from north to south on the site, as one moves towards the border.

TO ENCOUNTER

Archive
Archive Storage
Cataloguing Offices
Preparation Tables
Installation: 271 Lights

The existing historical facade serves as a billboard at the bend in Highway 170. The initial draw to this site was the way in which the facade openings frame the view of La Sierrita de la Santa Cruz, the mountain ridge just four miles south in Mexico. While sited in American soil, the wall orients the user for a procession straight southward towards the border. Like most attractions in the region, it has a modest, stumbled-upon appeal that both welcomes and entices. Entry through one of the “frames” is the beginning of an experiential path. Here, the user may receive information about the memorial and about Presidio County, meet up with family, or engage in conversation with accessible staff. Here, the user also experiences the story of the deaths via an installation of lights. The archival space itself is a public space to hold personal and familial relics, along with the background services needed to properly handle these items.

fig. 70 distant mountain silhouettes in the summer desert haze

TO INTERPRET

Chicano Art Gallery
Cinema
Local Exhibit
Staff Offices

After exiting the archive, the user continues to a bright, vibrant gallery of 1960's Chicano Art. Politically-charged, this particular genre speaks to a struggle against oppression of the Latino peoples- a point that is especially relevant here and now. As the only visitor's center in Presidio, information is abundant in both Spanish and English about the history of the region and useful information for residents and visitors alike, found on the lower level. Also, updates on border policy will be publicly posted here as many Presidio residents are without personal computers for such information. Finally, a small cinema showcases the numerous documentaries made of the border region, and can be rented out for community events. In all, the interpretive space is a pause in the procession to learn the information necessary to move forward with the remaining memorial experience.

TO REFLECT

Contemplation Space
Ambulatory

With acquired knowledge from the archives and interpretive program, the user comes upon a small, quiet space for prayer, reflection, or considering the information learned prior to exit. Here, a spiritual experience is offered for those who have come to heal. It allows a shared experience- if desired- and reconnects the user with the problem from which the project derived. In conjunction with the path, this final space calls upon the bodily senses. This contrasts with the more visual nature of the preceding spaces. Also more abstract in nature, nearly-cryptic numbers and a degree of blankness allow for various interpretations, which contributes to the relevancy of the memorial over time and across generations. Finally, the user exits at the southernmost point, overlooking the Rio Grande at the border, and the town of Ojinaga and La Sierra de la Santa Cruz mountain ridge beyond. At the point of most awareness of one's orientation toward Mexico, the project exhibits a glimmer of nostalgia- looking back towards what, for many, is home.

The Program

01. To Encounter

Living Archive Wall.....535 sf
Archive Storage.....1190 sf
Cataloguing Offices.....725 sf

02. To Interpret

Gallery.....3985 sf
Cinema.....670 sf
Information Center.....920 sf
Offices (2).....200 sf
Rest Rooms.....130 sf
Mechanical.....1260 sf

03. To Reflect

Ambulatory Space.....500 sf
Reflection Room.....400 sf

Path.....3000 sf

Total.....13,515 sf

DESIGN PROCESS

In keeping with the experiential character of this thesis, the design process mandated the curating of experiences as the primary point of departure. This was investigated through a number of media: charcoal, watercolor, collage, and finally models and photography in an effort to work through necessary light conditions, haptic values, and emotional qualities prior to the designing of formal spaces.

Following these emotional practices, a series of small models were developed at $1/32" = 1'-0"$ scale. These, alongside sketch investigations and hard-lined plan and sectional studies, worked to give formal distinction to each different experience, while working through place-making within the parameters of the site.

From here, the imagined material palette was one of rammed earth and concrete- both materials of robust, thickened walls and thresholds with a certain *of-the-earth* quality that is essential in the grounding of this project. The thermal qualities of these materials, both inherent in the desert, absorb the heat of the day to radiate back in the cold west Texas nights. While these substantial materials were defined for the “container” spaces, simple wood finishes came to characterize the interior spaces of the “contained”. Wood was chosen for its gradual evidence of wear, a small but telling reminder of generations past, exhibited with each human connection to a handrail, door handle, or piece of furniture.



fig. 71 conceptual image illustrating site and form along continuums of space and time

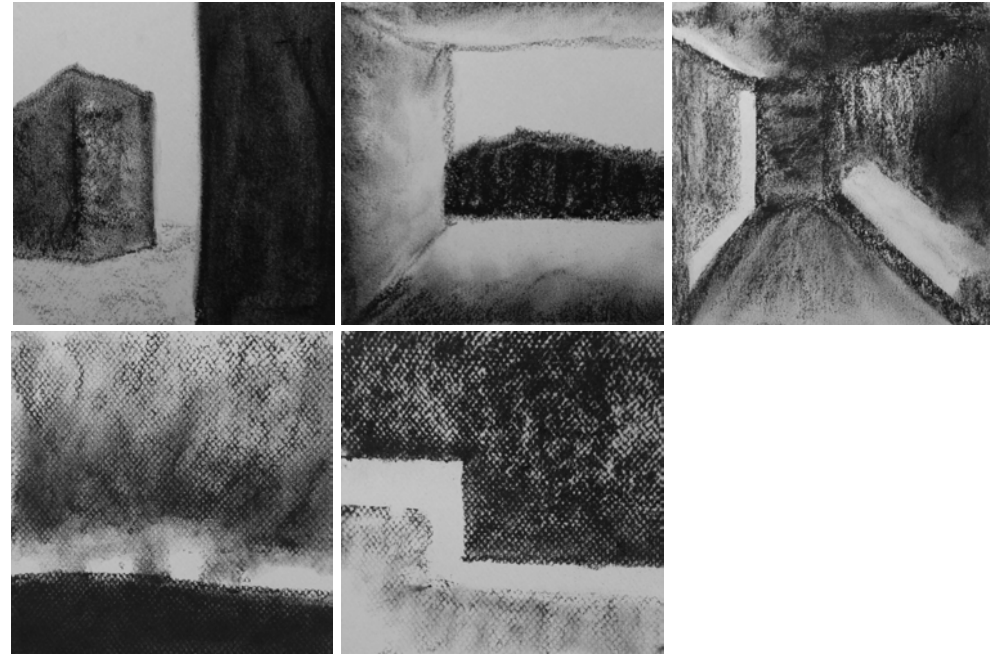
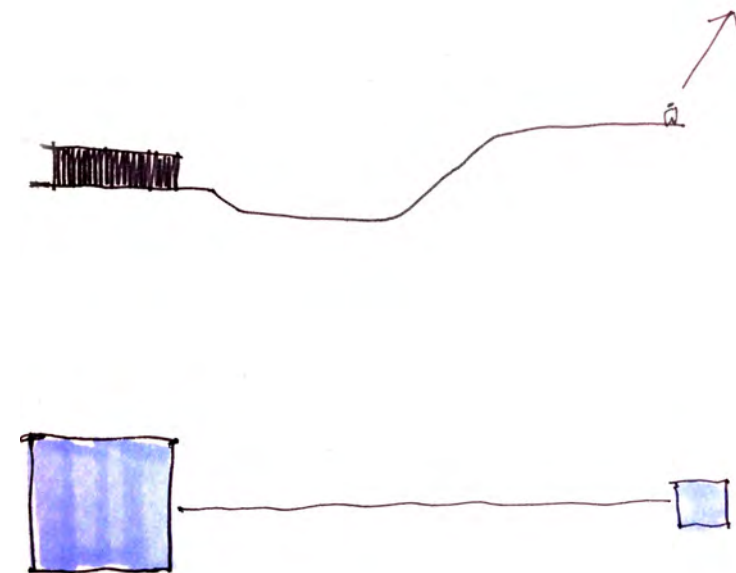
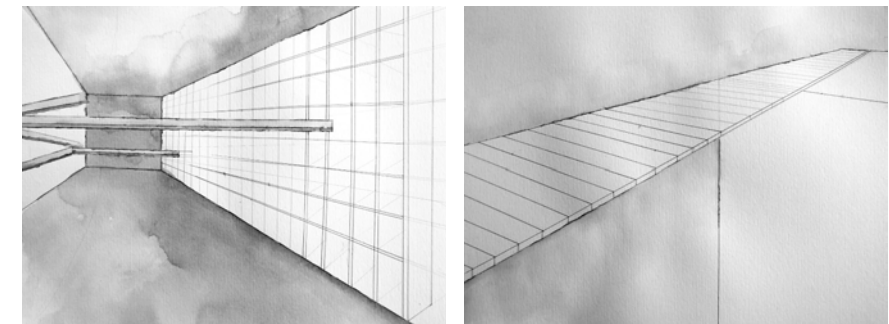


fig. 72 a series of charcoal studies illustrating edge conditions, forms on site, framing of views, light quality, and haptic details



*fig. 73 spaces and paths investigated via watercolor
fig. 74 simultaneous thinking in plan and section*



fig. 75 three investigations of installations to activate existing wall and foundation (collage)

*lights inset in foundation to create field
lights on vertical members, varied in height
use of water as reflecting pools, mirrored*

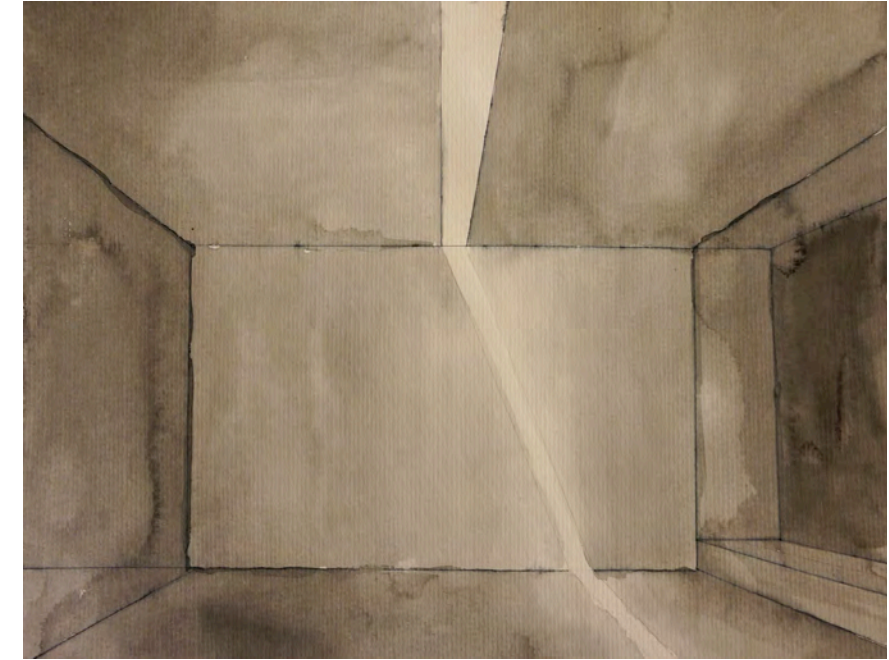
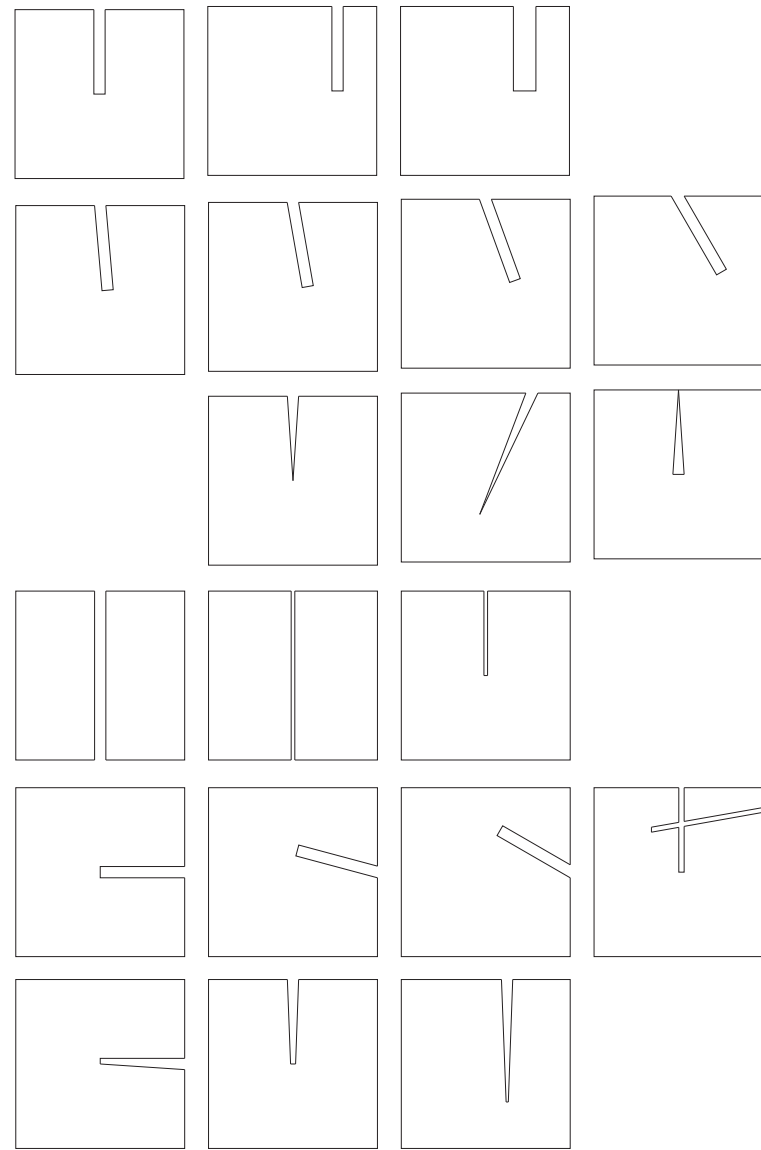


fig. 76 a watercolor rendering of a dream of a silent, empty room with a slice in the roof

the slice as an abstracted sundial was to speak of the passing of time without words

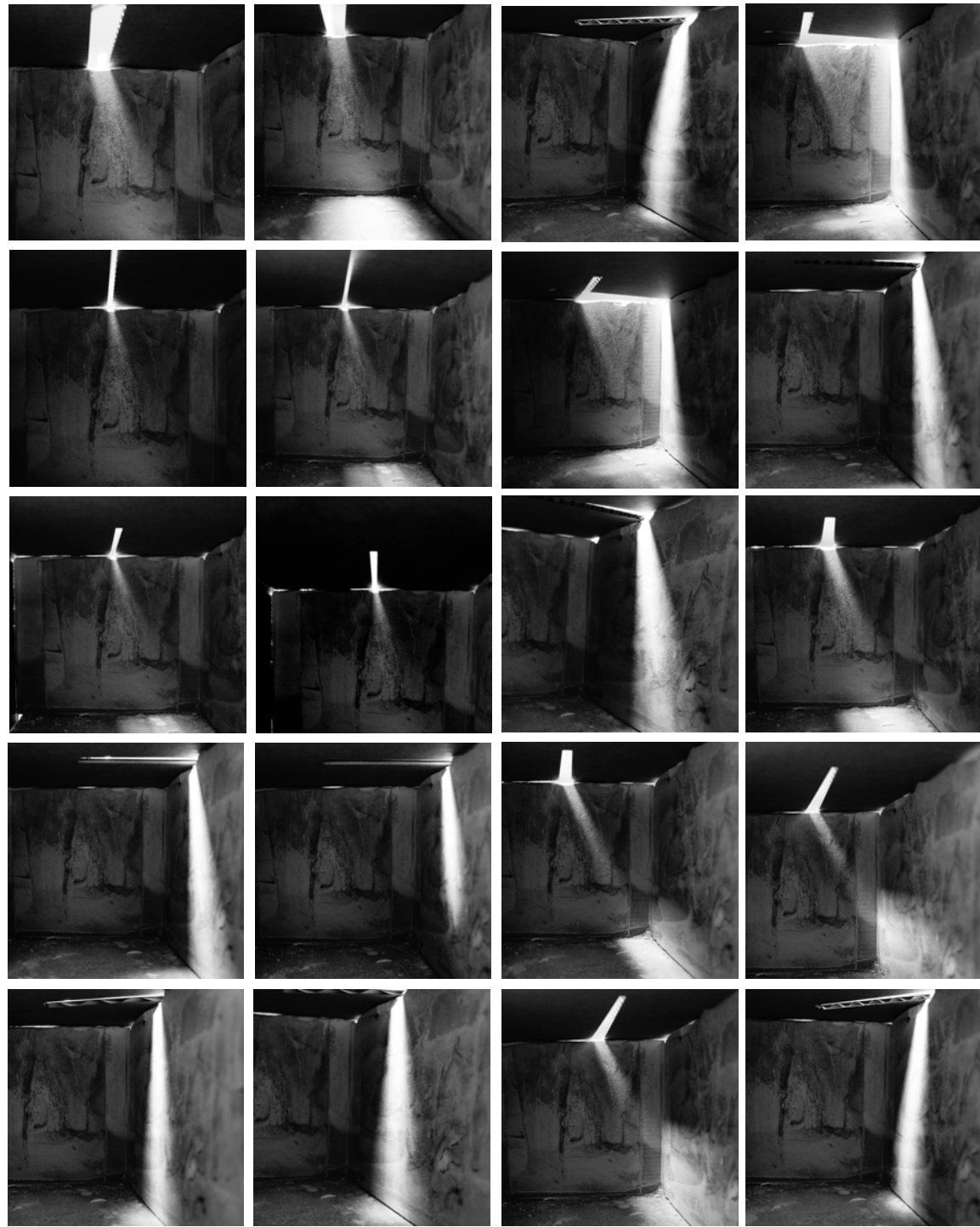


studies 001- 005

studies 006- 010

fig. 77 diagram illustrating eighteen roof studies for character of light within contemplation space

fig. 78, 79 photographs of roof studies in 1/4"=1'-0" concrete mockup of space



studies 011- 015

studies 016- 020

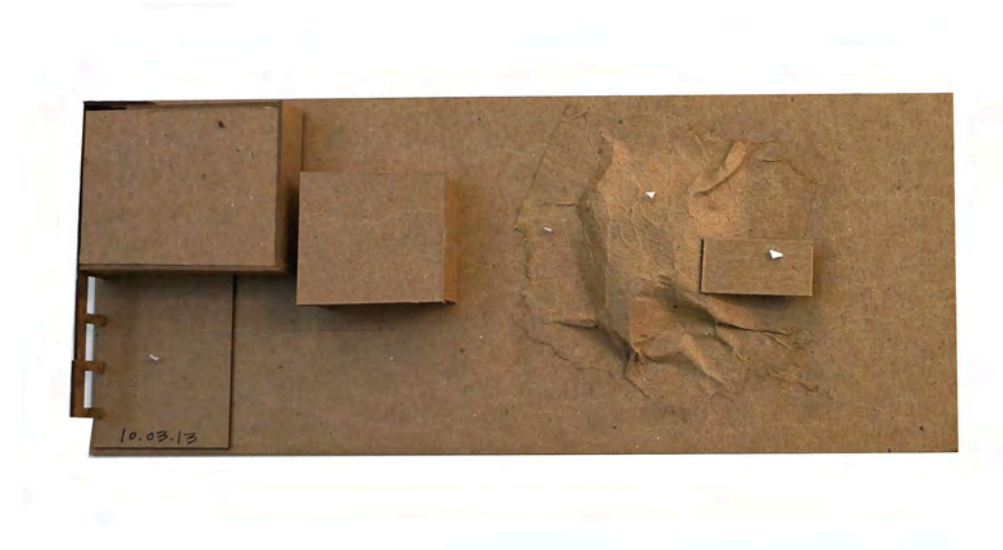


fig. 80 preliminary study model

In mediating disparate programmatic elements, the early schematics began around the creation of independent forms. In the earliest conceptual scheme, soil removed from a subterranean space was displaced above-grade to create a vantage point for observation.



fig. 81 model series I

Model Series I illustrates initial site moves at a broad scale utilizing only the southernmost block. In each iteration, one centralized form is mirrored by an equal cut in the earth, speaking to the coming together of two cultures at this place. In the earlier models, the building form becomes a ramp to allow for an experience of the above, the inside, and the below. As the design progressed, the ramp was simplified and internalized to allow for more pure, legible forms in the landscape. In the final model of this series, the two pieces overlap much like a Venn diagram. This created a substantial focal space of the project- a space for quiet contemplation and reflection.

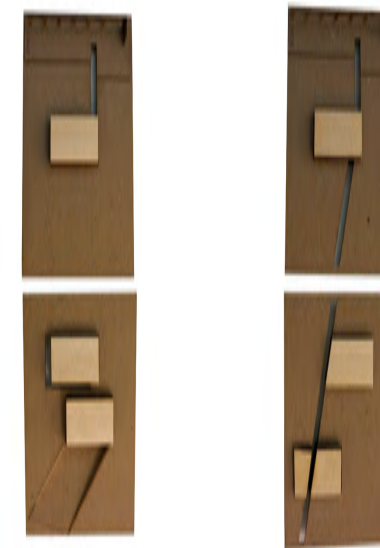


fig. 82 model series II

Model Series II represents a significant shift to three smaller formal interventions, each with a highly specialized piece of the program. In the first study, a below-grade slice in the land leads the user to the quiet space of contemplation, with the more program-loaded pieces housed in identical forms on the south block. In the next study, the path was elongated as the connective fabric between the three forms, interacting with each piece by diverting, slicing past, or fully dividing.

Here, the issue of the small road between blocks began to become a driving design force. Representing a border in itself, the issue of crossing was a point of critique, as well as the path and its relationship to each threshold.



fig. 83 model series III

Model Series III is representative of the break from three equal forms to three forms, each derived from the programmatic elements housed within. A path, now elongated by a ramp has shifted the northernmost contemplation space further back from the wall. Here, different building heights were entertained as a means of relating with the existing wall, as well as gaining heights for views and a contrast of experiences with the subterranean path.

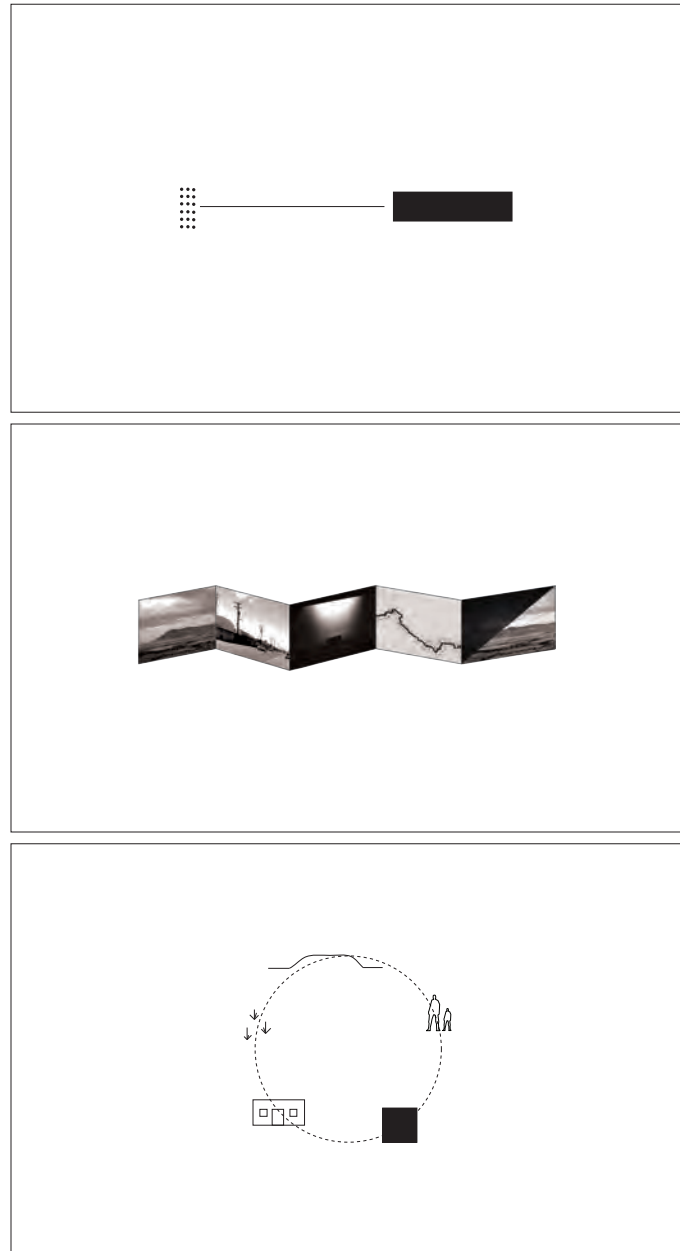
EIGHT

intervention

At this particular locus in Presidio, the fabric of the town clearly falls away. The landscape becomes overgrown, the buildings come apart, and it seems as if the entire city succumbs to the border just south at the Rio Grande. The memorial mediates this transition, marking a place that is visibly not town, and yet still not entirely natural. Like border people and border regions, this is a complex area of gray that deserves not to be overlooked. This challenging context and the staggering geographic qualities surrounding the building site necessitated understated, elemental forms that would highlight the contextual character instead of competing with it. Within this, it became a major design objective to create evocative, intimate experiences with only a few, simple moves.

As previously illustrated, the design process involved an careful balance of working between “hard” and “soft” media in an investigation of layering emotion with physical space. The final intervention, thus, is rendered in three distinct volumes differentiated by three programmatic components: *to encounter*, *to interpret*, and *to reflect*. The fourth element, a path, draws from a local tradition of land art as “scars” in the landscape, while commenting on the arbitrary condition of political borders. This path serves as the connective thread between volumes, and allows the user to choose an experience that encompasses the entirety of the site. However, as flexibility has been a key design consideration, each space also has an independent entry to be experienced in the singular.

Pulled away from the existing wall and foundation, the forms frame a plaza space and create an occupiable gasket between old and new. Subterranean elements exist to offer a variety of human relationships to the land as experienced sectionally, while maintaining an above-grade elevation that is immediately clear and relatable. Each form has a distinct internal character, offering to each user an emotional depth via a variety of experiences.



early conceptual diagrams

- fig. 84 parti with path relating two forms
 fig. 85 an unfolding of views and experiences
 fig. 86 flexibility of program sequence



fig. 87 site plan

$\frac{\Delta}{n}$ 0 25 75 125

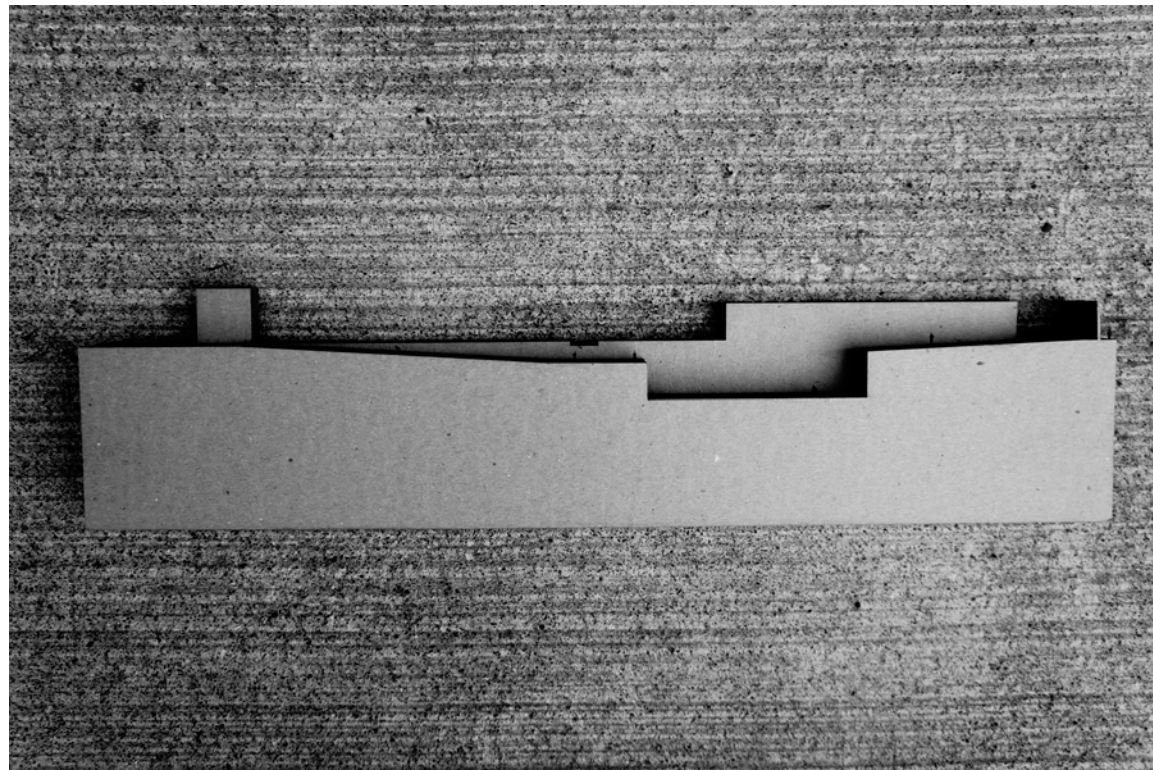


fig. 88 diagrammatic section model showing relationships of volumes with road, land, and wall

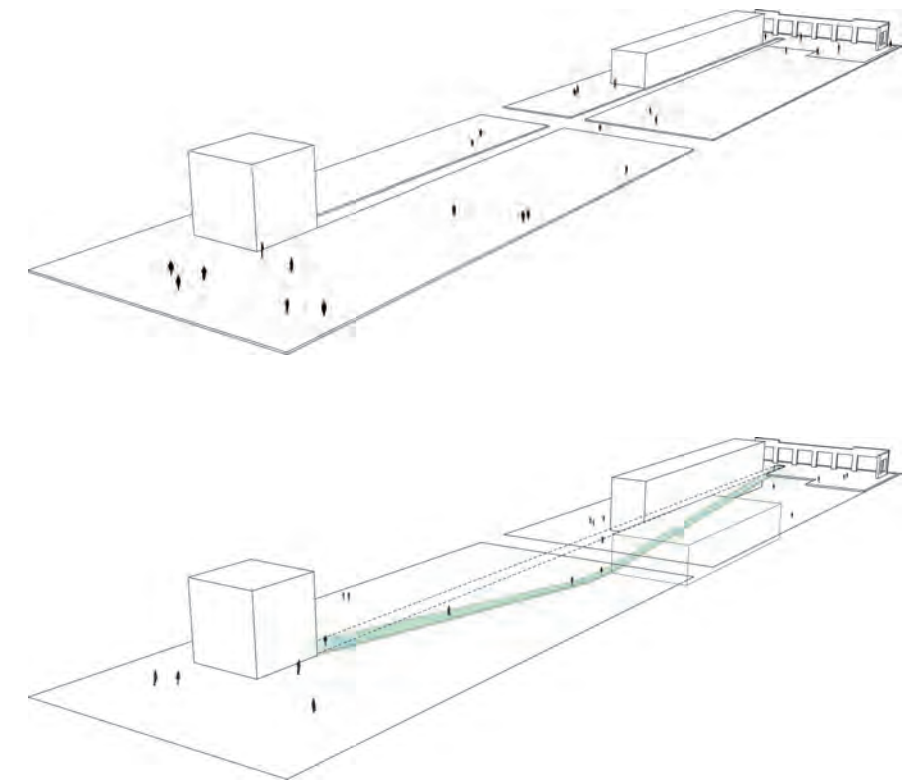


fig. 89 site relationship diagram

The facilities as observed from the southeast of the site. Forms shown in relationship with existing wall, interpretative space is below-grade and not seen.

fig. 90 path relationship diagram

Diagram of path connecting three volumes. The path begins as a cut in the existing foundation, and ends just to the south of the contemplation space, allowing one final pause towards the view of Mexico.

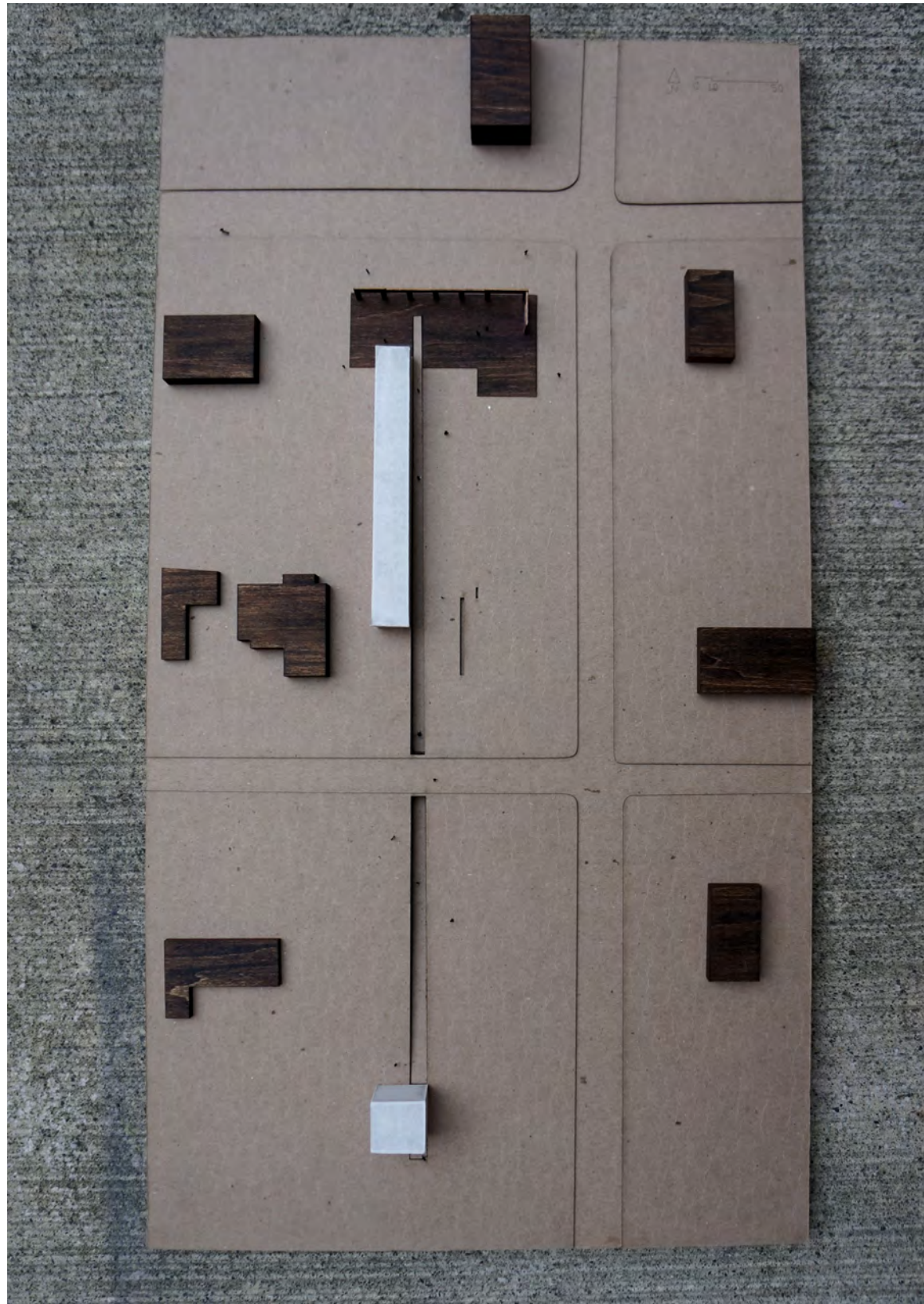
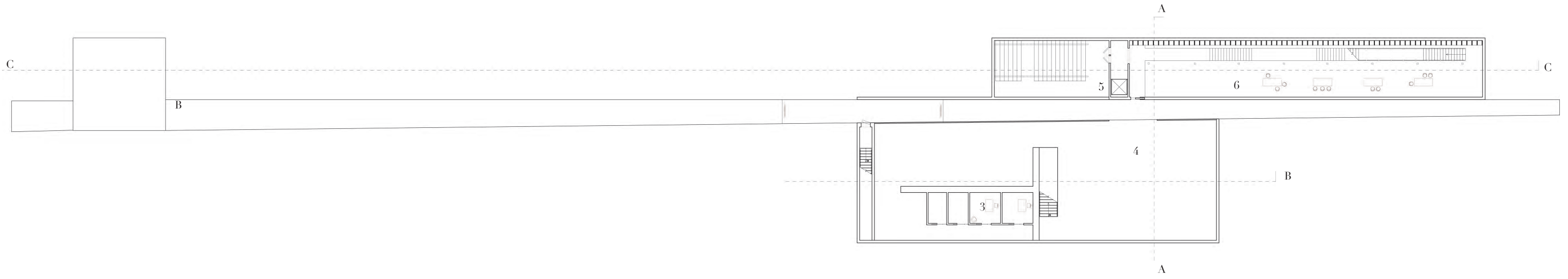
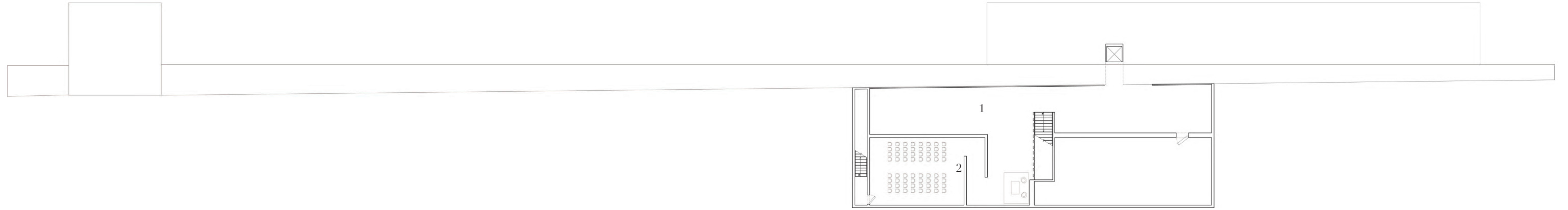
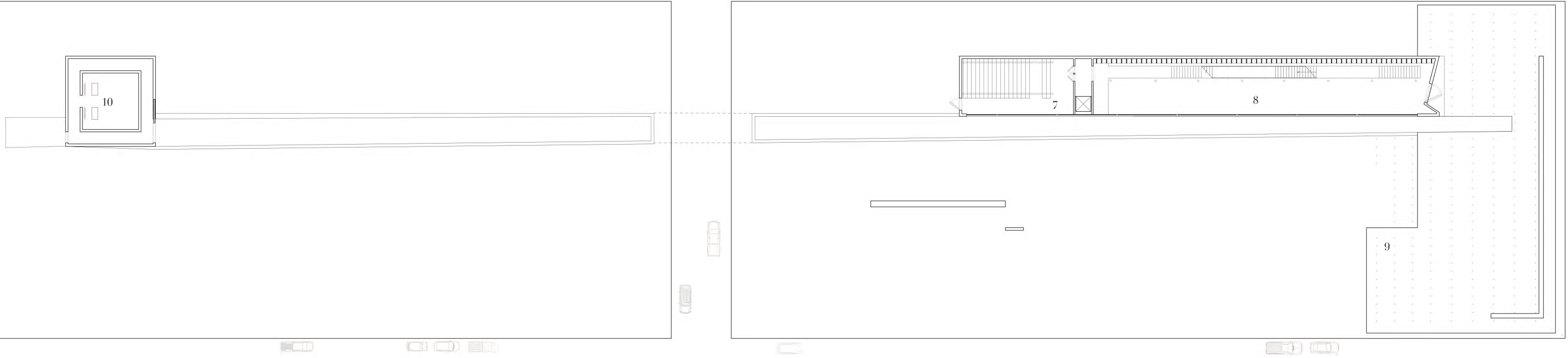


fig. 91, 92, 93 model photographs

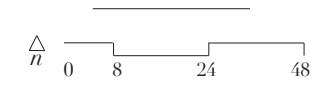


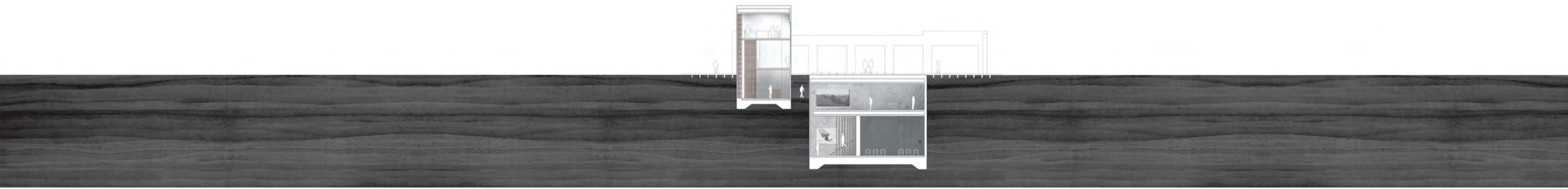
- 1. Information Center
- 2. Cinema
- 3. Staff Offices
- 4. Chicano Art Gallery
- 5. Archive Storage
- 6. Archive Preparation





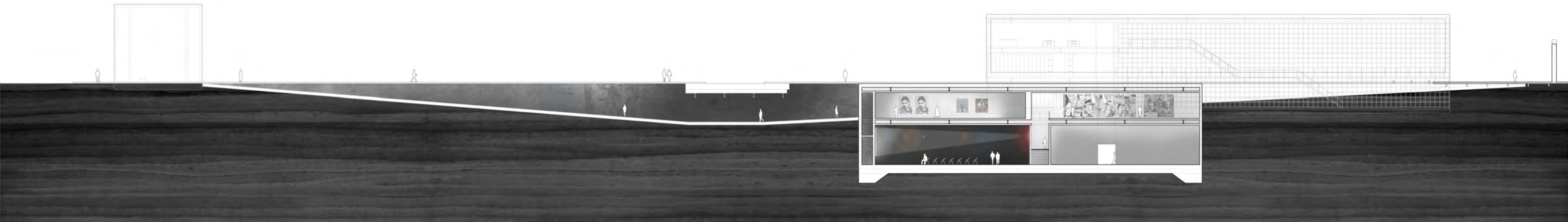
- 7. Archive Storage
- 8. Archive Main
- 9. Light Installation
- 10. Contemplation Space
- 11. Cataloguing Offices
- 12. Archive Mezzanine





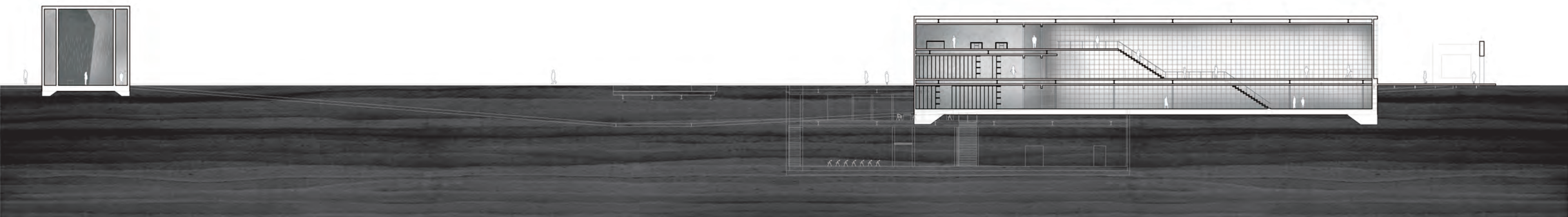
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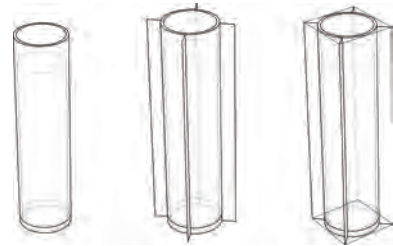
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Section C

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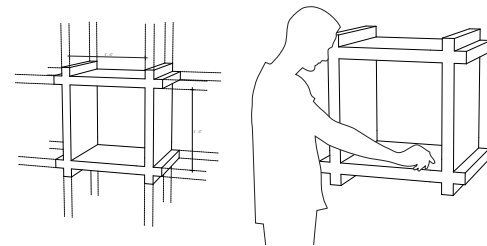
A FIELD OF LIGHTS

Many approaches to the existing wall and foundation were studied throughout the design process. This investigation included a building fitted within the negative space, the automotive garage openings as a variety of entry points, and the space as a plaza. Ultimately, this location is the focal beginning of the procession, and thus a natural space for gathering or processing individual thoughts prior to entering the memorial sequence.

Here, 271 holes are bored in the existing foundation, framed by the existing wall. Each hole is a snapshot of the year 2012 -a small dot on a long timeline- in which 271 migrants fell in the region. Each hole is dimensioned about a Catholic prayer candle, each fitted in an interchangeable metal casing and set in glass (fig 102). This gives the opportunity for visitors to light a candle in remembrance, while the installation casts a low glow that does not compete with the blanket of black night sky.

Pure and elemental in nature, the concrete forms rest in a landscape of high grass. The Cane Bluestem grass is native to this region of Texas and grows densely, creating a more hazardous- yet not forbidden- journey to transverse the site perpendicular to the path cut in the landscape. The smooth rectangular and cubic building elements contrast the natural surroundings, marking something different but not necessarily precious.

fig. 101 exterior view with plaza of candles
fig. 102 detail: candle fittings



GIVING SPACE TO MEMORY

The archival space is commonly the first element noticed on the path to the site. The long, rectangular form is stumbled upon unexpectedly at the fringe of town, peeking just over the existing site wall. There are two entries to this space: the first, via the path and entering at the lowest below-grade level, and the second, entering through a shaded, thickened threshold at the northernmost point of the site, cut into the existing foundation just beyond the wall.

A significant objective of this thesis is to provide a place for items to be left behind. As seen in countless instances, users desire to leave an item of personal significance or an object in memoriam. This notion is even more important at this site, as the families have no place of burial at which to leave items.

A three-level space, the archive is characterized by a triple-height continuous wall of storage niches. The floor plates and structural elements all revolve around this, allowing a staff ladder to be rolled freely along the wall in its entirety. Each niche is designed about an 18-inch cubical form, allowing the extended length of one human arm to reach comfortably inside (fig. 104). In order to serve the volume of items left behind, secondary space at the south end of each level accommodates storage and cataloguing offices for archive staff. Items are left for a prescribed length of time, then tagged and documented before moving to off-site storage.

fig. 103 living archive wall
fig. 104 detail: archive wall niche relative to human arm



PATH

The primary intent of the path is to allow the option to experience the three disparate forms and programs along an experiential continuum-- as one complete journey. Each building volume has its own entry and can be experienced singularly, as desired. The path, however, inserts a fourth experience all its own.

Much like the migrant experience, once the user chooses to enter the path it is relatively trapping. Open to the sky, the path only encloses as it passes under the road, smoothing a border condition that could otherwise be undesirable. Moving from north to south, the path widens from an initial 4.5 feet to a final 8 feet. This offers a multiplicity of spatial relationships with the human body (fig. 106). It forces the user to realize that the body is all that one has, and superficial things above the ground's surface begin to matter very little. The tapering path also has a foreshortening effect (fig 105), causing distant forms to appear much closer than they actually exist. Like a desert mirage, this is an intentional abstraction of the migrant experience in the mountainous landscapes of Chihuahua and west Texas.

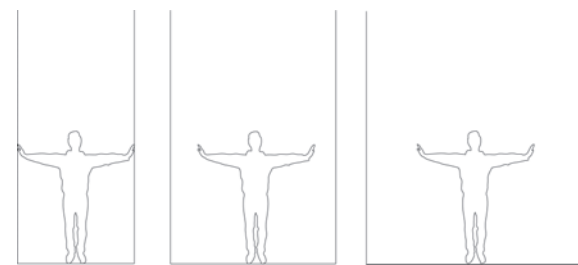
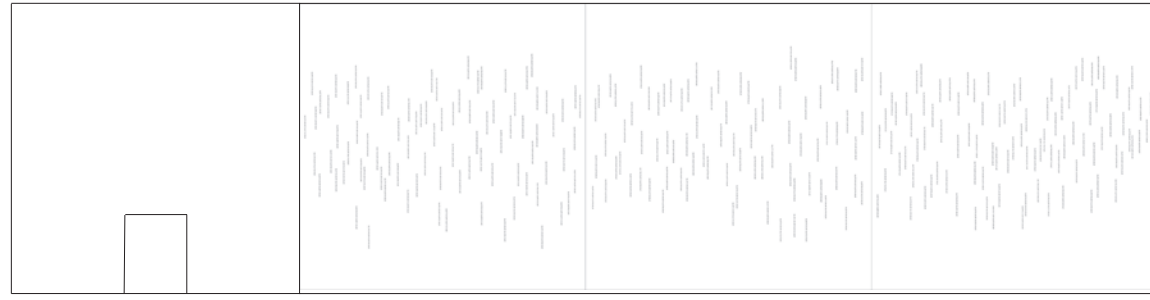
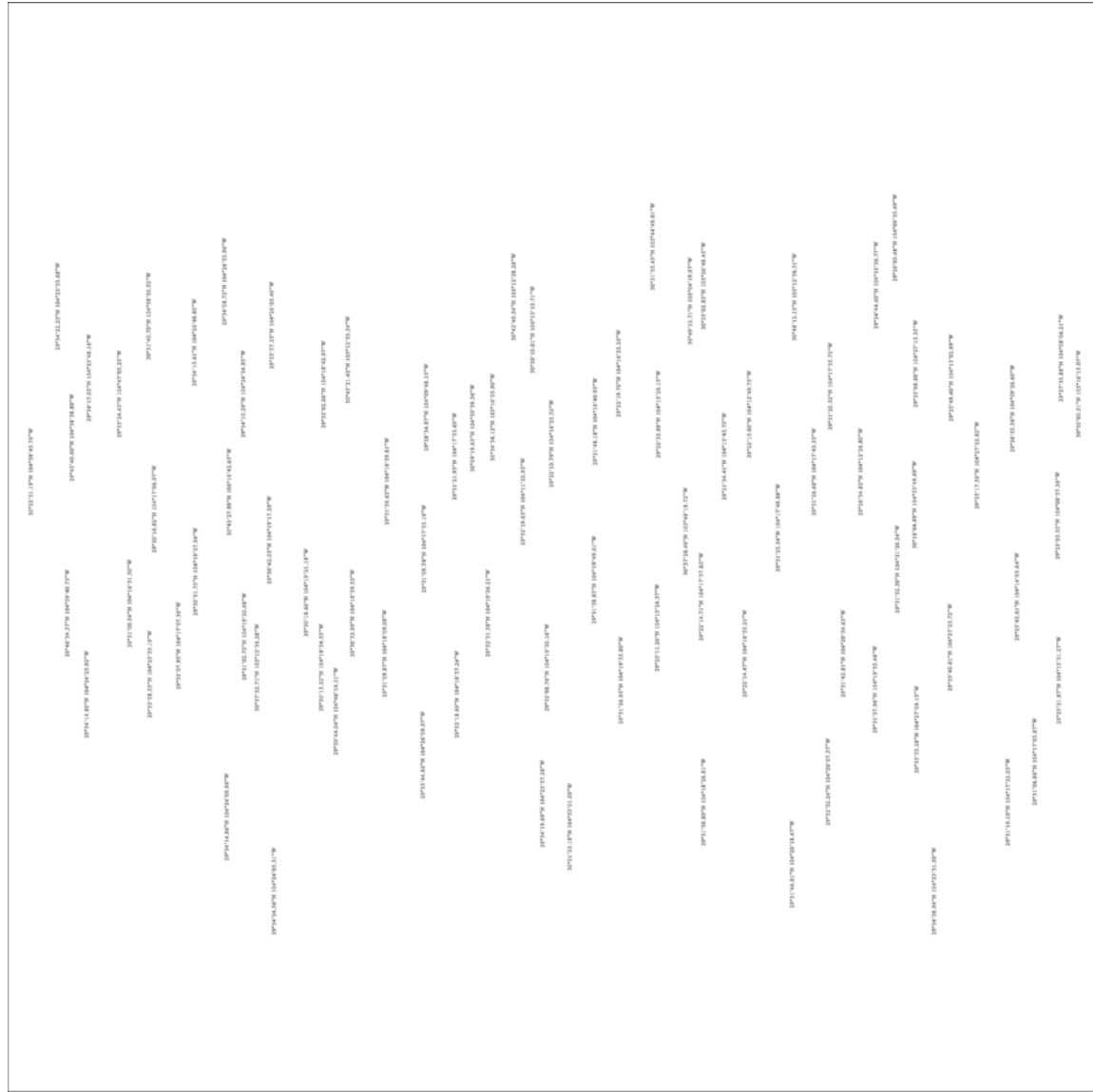


fig. 105 forced perspective view from path
fig. 106 detail: human relationship with tapering path widths



28°50'43.11"N 103°57'33.21"W

As this thesis outlines, migrants fall along an unthinkable desert journey.

Their names are unknown.

Their locations are random.

But no location is ever random, as any place can be tracked and mapped via a set of coordinates. This is what is known.

Each set of coordinates is as unique as the person represented, in a universal symbol to Spanish and English, yet too abstract to be immediately determined within the human mind.

Most importantly, they are nameless.

fig. 107 unfolded interior elevation : four walls
 fig. 108 one wall interior elevation
 fig. 109 detail: wall etching at larger scale



THREE WALLS AND A BLANK

And so, like ghosts, the number 271 appears again- etched as distinct sets of coordinates in three concrete walls of the final cubical contemplation space (fig 110) . The space is unconditioned, and only radiates a slow thermal warmth at night. The light, only natural, changes as the day and seasons progress, illuminating different coordinates along the way.

The space is surrounded by a narrow ambulatory, continuing the notion of compressing and releasing the human form to accentuate significant spaces. The ambulatory allows the eyes of the user to adjust to dim lighting, and buffers outdoor ambient sound. Quiet and solitary, the interior room is marked only by two small wooden benches, worn with indications of generations past.

The fourth wall, behind, stands blank. As an ongoing humanitarian crisis, this wall stands to all migrants lost prior to and following the chosen year of 2012.

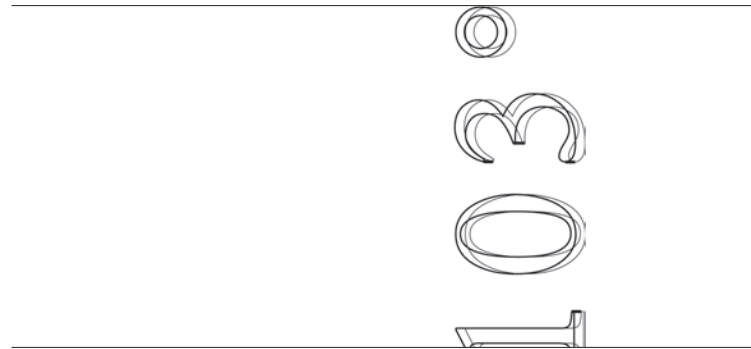


fig. 110 contemplation space
fig. 111 detail: piece of coordinate showing depth

N I N E

epilogue

The final design project and the process of arriving at a point of finality do not solve the ongoing humanitarian issue of migrant deaths in the border regions. Instead, this thesis is a means of creating awareness- rendering visible the issue in a manner of permanence.

The memorial grew organically out of the needs of the community itself. It is a response to the singularity of the unique place of Trans-Pecos, and has become an offering to engage and bring together the many different people of this border community through a shared experience.

Although the realities of the border deaths have become more transparent in recent years, there remains a key disconnect between people and statistics as read in journals and official government reports. Giving space to such a powerful problem allows for a more whole interpretation of the issue. The experience engages all of the senses, and will ensure the issue is lasting in the memory of each visitor.

For the families of those fallen, it is the first place of mourning- something considered a basic human right. The omission of names ensures the relevancy of the memorial across generations, while depicting the invisible visible.

While the clear repetition of the number 271 only marks the under-reported number of deaths in the year 2012, the memorial is left alone as a singular point along a continuum of time. The chosen materials will wear with the signs of generations of visitors, the grass may grow taller, and the permeations along the border may change. In a place characterized by the duality of a certain slowness and undeveloped landscape alongside susceptibility of a number of political changes, this one place erected in permanence is a reminder for all who pass by.

This thesis closes with an optimistic hope for the progress towards safe and humane border crossings for all. Presidio, as a primary location of this transition, is the nucleus of this change and represents a tangible sense of hope for the near future.



ACKNOWLEDGEMENTS

David Strauss

for devotion and support for this thesis, and for always asking the right questions

Jeffrey Karl Ochsner

for making me a strong writer and editor, as well as a critical designer through this project

Susan Jones

for feedback and support, and for helping me to continually step back and find / make beauty

Tess Schiavone

for offering an artful perspective on the landscape and keeping me mindful of the multiplicity of contexts

Louisa Iarocci

for initial conversations relating the body and space from which this project grew

Ron Rael

for an early spark of inspiration and a contagious passion for this place and its people

Jack Sanders

for a studio that both inspired me to continue my design education and introduced me to west texas

Judith Birdsong

for sharing an immense sense of this region during initial conceptual phases and the site selection process

Scan | Design Foundation

for funding my studies in Copenhagen, which offered a unique perspective during the drafting of this document

APPENDIX A

271 coordinates

28°25'12.89"N 103°46'00.54"W 30°19'10.15"N 105°27'04.66"W
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note: for the purpose of this thesis, coordinate data was interpolated from graphic source material, the coordinates represented are not true and are presented in a nonspecific ordering

NOTES

PREFACE

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