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The Design Integration of an Animal Shelter into Martin Luther King Middle School

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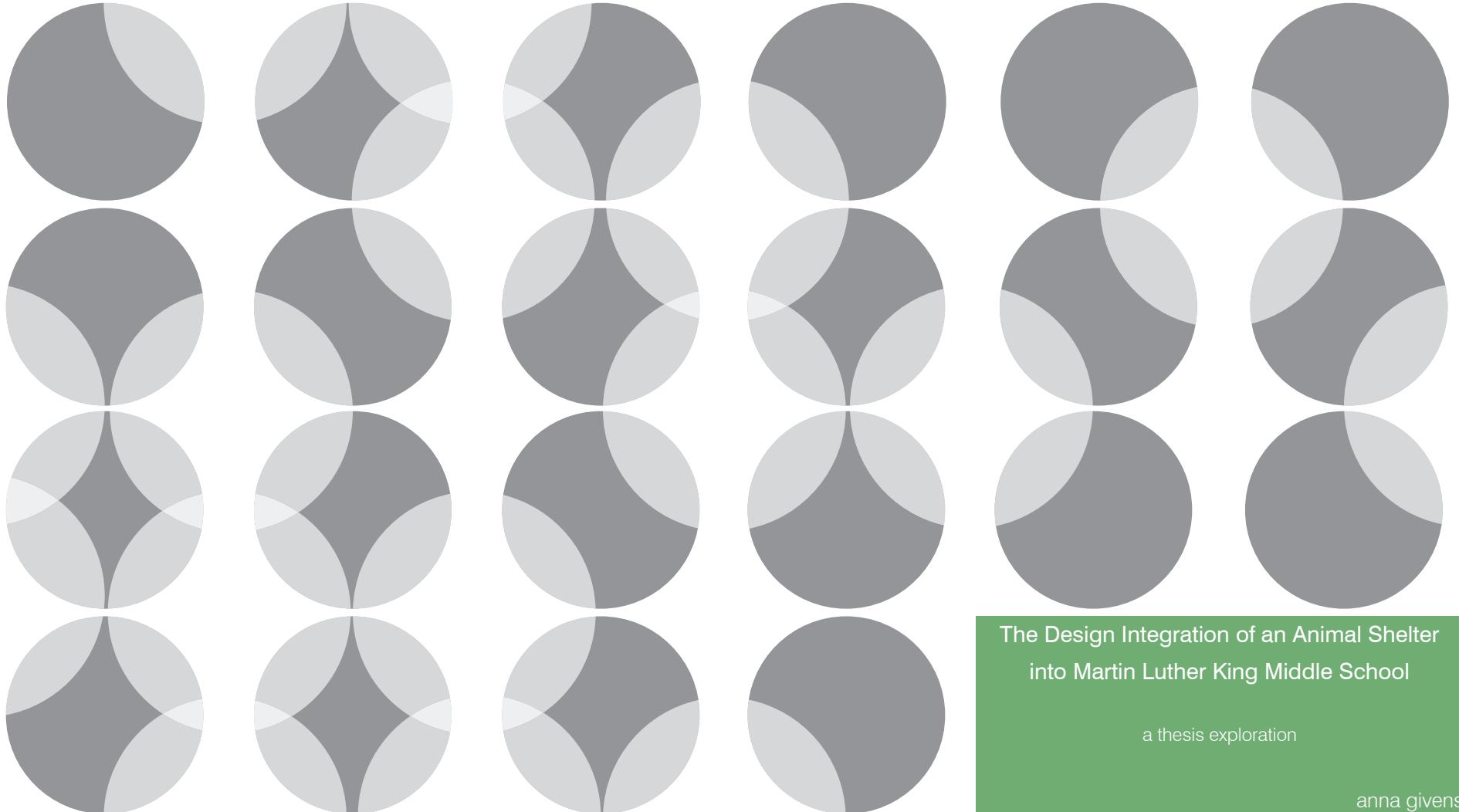
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The Design Integration of an Animal Shelter
into Martin Luther King Middle School

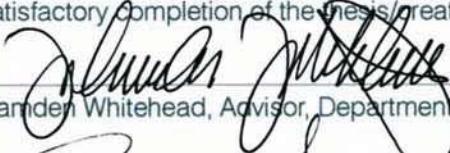
a thesis exploration

anna givens

sign off sheet

School of the Arts
Virginia Commonwealth University

This is to certify that the thesis/creative project prepared by Anna Givens entitled "Martin Luther King Animal Shelter" has been approved by her committee as satisfactory completion of the thesis/creative project requirement for the degree of Master of Fine Arts.



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Dr. F. Douglas Boudinot, Dean of Graduate School

April 29, 2010
Date

acknowledgements

I give thanks to the many people who have helped give me support and guidance during this project:

Camden Whitehead, for challenging me and pushing my ideas to the next level
Christiana Lafazani, for your practical advice and expertise

Nathan, for continuing to keep me balanced
Mom & Amanda, for being a listener and cheerleader

Bacon Group Architects, for sharing your shelter specific knowledge & being a mentor

My Classmates, for the laughter, advice & friendship

abstract

This thesis explores the design integration of an animal shelter into an existing school in an at-risk neighborhood. The connection between at-risk students and homeless animals is valuable to the design. A large central courtyard located within Martin Luther King Middle School serves as a connection between both students and animals. Because the animal shelter is located in a central location within the school, students and animals have a greater ability to form a connection necessary for the program to work. This thesis is about the interaction between both animals and students through the process of design.

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manifesto

I value honesty. I believe honesty is essential to human character and design. Honesty is the basis for dependability, reliability, authenticity and fairness. Honesty in design, applies to spatial relationships, connections and purpose.

Designers who create honest designs, choose also to make functional designs. Dieter Rams, a German industrial designer who started his career in the early 50s and is famous for his work with Braun, incorporates honesty among nine other values in his "Principles to Good Design." His principles include: good design is innovative, makes a product useful, is aesthetic, makes a product understandable, is unobtrusive, is honest, is long-lasting, is thorough down to the last detail, is environmentally friendly, and is as little design as possible.

Dieter Rams was a pioneer in functionality, simplicity and honesty in design. His universal shelving system for Vitsoe is a classic example of honest design. The system is a wall-mounted shelving unit that consists of shelves and storage sections that are attached to the mounting materials. It is easy to add on additional shelves and can be altered at any time. Honest design does not manipulate the user or try to be something it is not. I believe that simplicity in design is always honest; however honesty in design does not always reveal simplicity. Much of Dieter Rams work encompasses both simplicity and honesty. On the other hand, John Lautner, an architect and follower of Frank Lloyd Wright, shared the value of honesty in design. Lautner's designs, while honest, do not reveal the level of simplicity of Rams work. His design on the Elrod House in Palm Springs is

an example of honest design that has more complexity. The house is connected to the site in the same manner that Frank Lloyd Wright established a connection to the structure's surroundings. However, the radial roof detail in the main living space is a more complex detail. The Elrod House is not intended to manipulate the user, but connect to the specific site, and therefore can be considered honest. Not all honest design is simple and predictable. I believe, we as designers, should seek to create honest design that is both complex and well understood.

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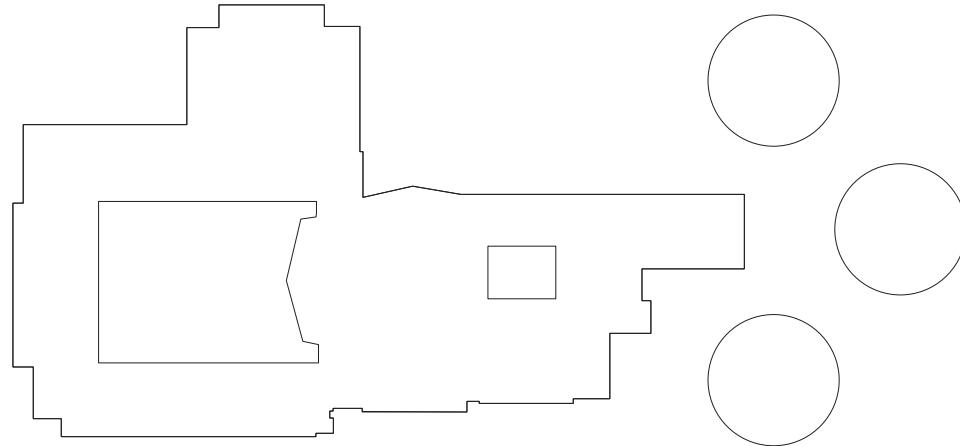
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site introduction

martin luther king middle school
macilroy, mccullough, budina & freeman
1000 mosby st. richmond, va 23223
1962

about

originally named "mosby middle school"
built to handle 1500 middle school students and
1,000 elementary school students



design

2 courtyards

1 large courtyard (aprox. 31,000 sf 781' linear ft.)

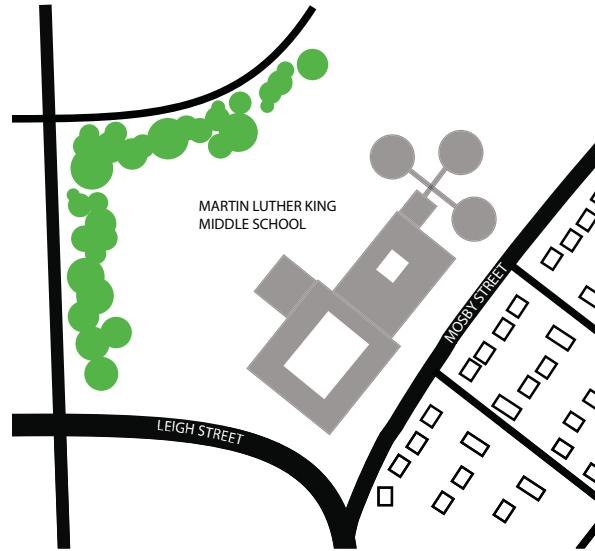
brick/CMU construction

porcelain enamel panels around gym

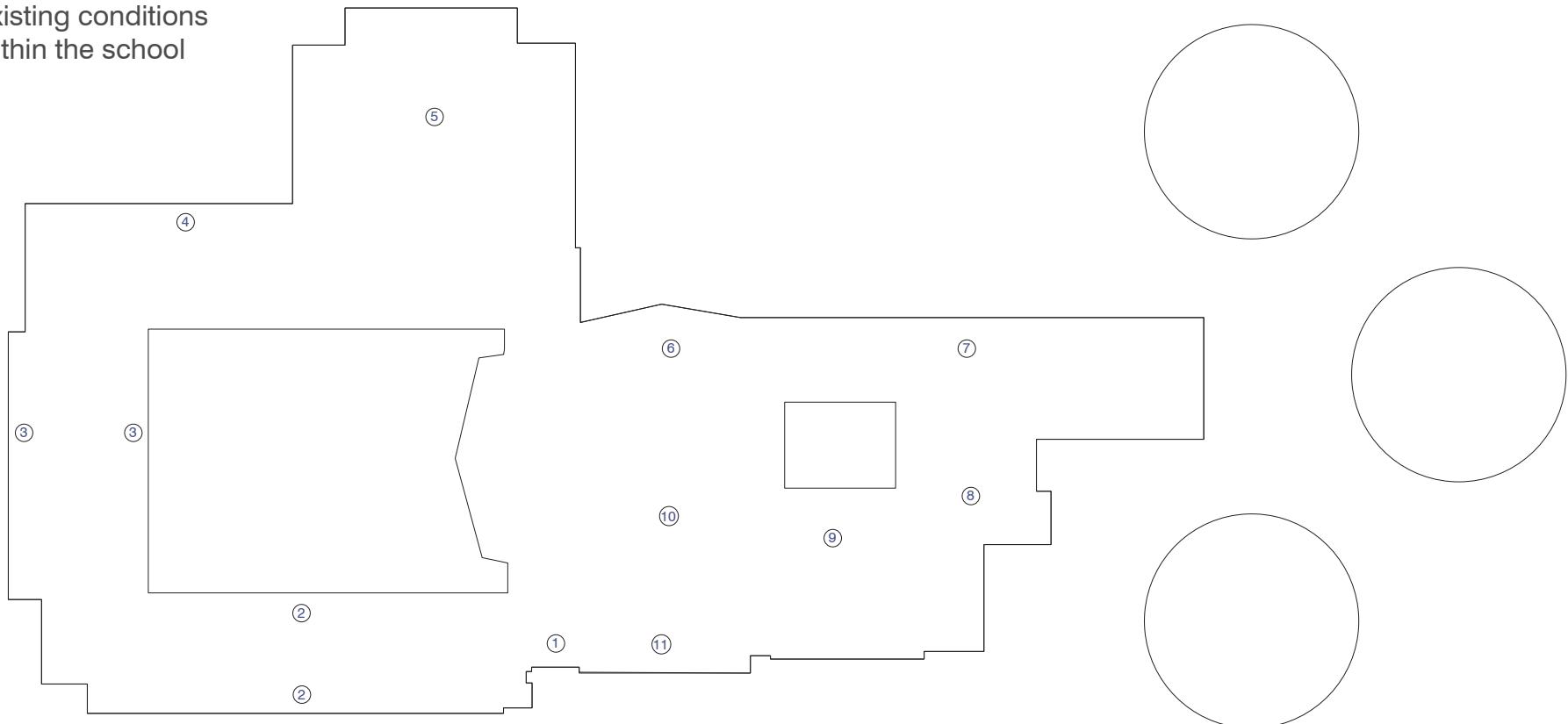
exposed aggregate concrete panels

building is 732'x429' (widest points)

round annexes are 131' in diameter



existing conditions
within the school



1 main entrance
2 6th-7th grade classrooms
3 8th-9th grade classrooms
4 specialty classrooms

5 gym facilities/locker rooms
6 music facilities
7 special needs classrooms
8 kitchen

9 cafeteria
10 auditorium
11 offices/administration

construction

Martin Luther King Middle is constructed of both brick and cmu walls (12" thick) and concrete and exposed aggregate panels (6" thick). Most windows are located within the exposed aggregate panels. There is aluminum framing around the windows. One recognizable feature of MLK middle is the turquoise colored porcelain enamel roof.



concrete and exposed aggregate panels



brick and cmu walls

natural light

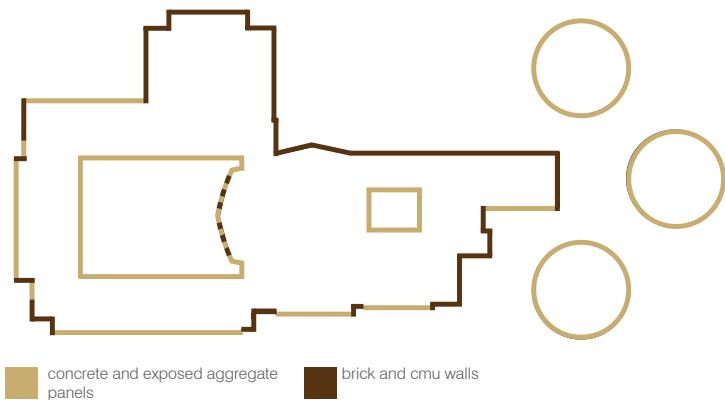
Martin Luther King Middle could have potential for a great amount of natural light. Unfortunately, most of the windows are very narrow with high placement not allowing much light into the space. The ceilings are fairly low throughout the building and need more natural light to counter balance the low ceilings.



high windows of current library



narrow classroom windows in larger courtyard



concrete and exposed aggregate panels

brick and cmu walls



areas of natural light through windows and doors

context case study

early roman housing

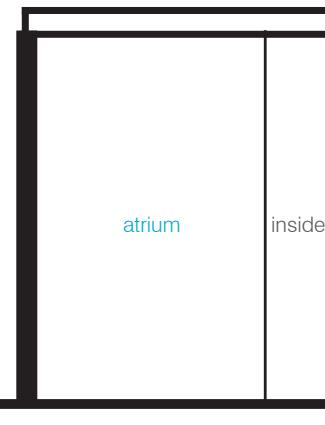
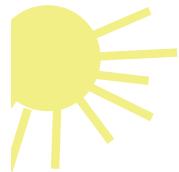
house of pansa

pompeii

2nd century BCE

about

Early Roman housing is a critical example of some of the first courtyards. The atrium-peristyle house is from the mid-2nd century. This original Italian building type incorporates main living spaces opening to a central courtyard for the use of natural light and air circulation. The purpose of the courtyard allowed residents to enjoy the outside from within their home instead of outside close to the street.

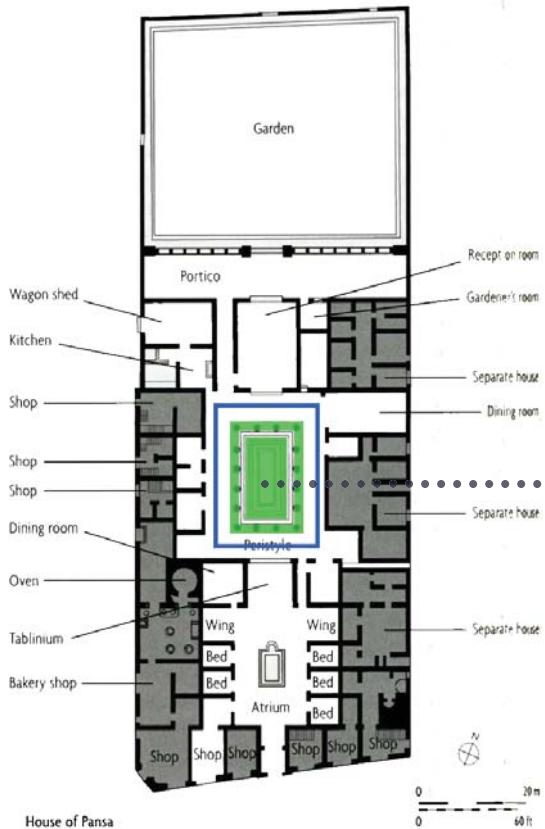


Section to understand transition from the courtyard to interior



view of the courtyard to understand how the columns line the courtyard and set apart the courtyard from the atrium and the interior

The peristyle court (courtyard) is featured in green. The space surrounding the courtyard by columns is an open air space allowing for a smooth transition between interior and exterior. The blue marks the main pathway surrounding the courtyard.



The atrium in the peristyle court (courtyard) of the House of Venus in the Shell includes a step into the courtyard surrounded by columns and a covered atrium above.

context case study

amsterdam municipal orphanage

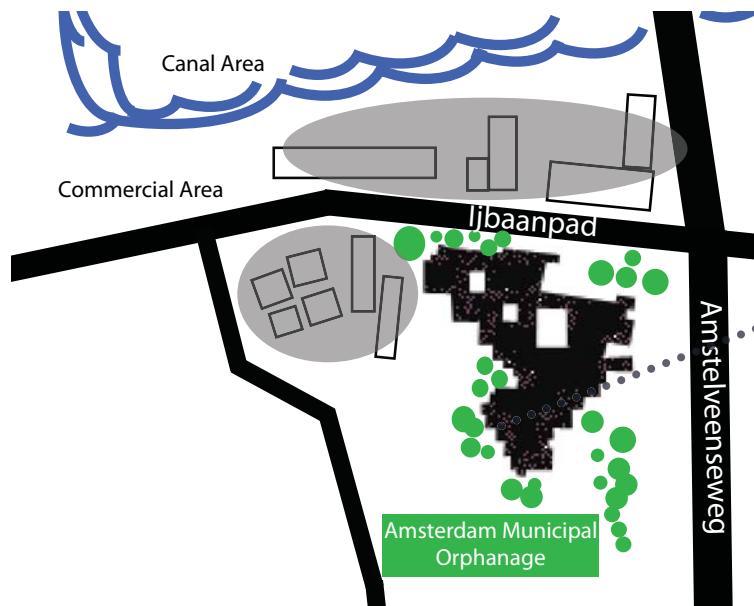
aldo van eyck

amsterdam

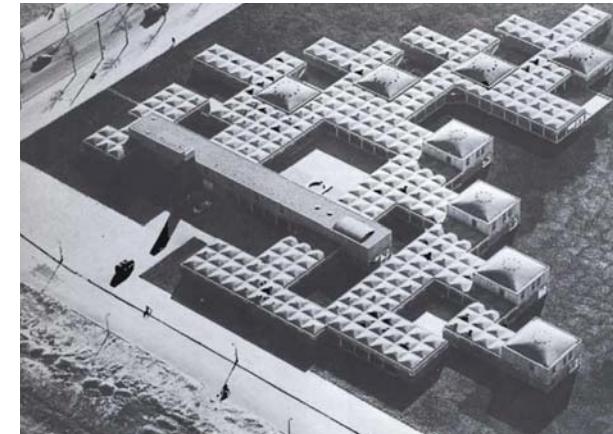
1955 completed in 1960

about

The orphanage is home to 125 children

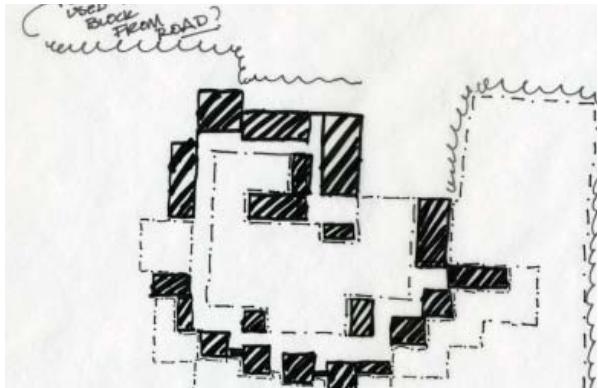


“to **create** a place for
children that allowed smooth
transitions between
spaces”

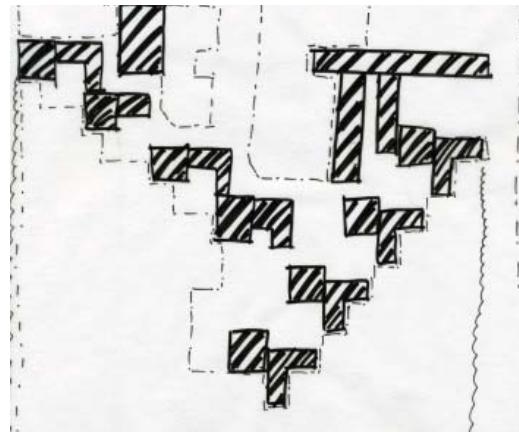


The aerial view to the right demonstrates the use of the many courtyards and staggering connection between living (private) spaces and open (public) spaces. The linear structure at the front of the building is the entrance which is also surrounded by an entry courtyard.

understanding van eycks process to create outside & inside



A diagram sketch on top of Van Eyck's first preliminary sketch of the orphanage. The hatched areas are the residences and the dashed lines represent his intention for exterior spaces. The courtyard is the first thing the user would see and the interior spaces form a "U" around it.



A diagram traced over one of Van Eyck's later sketches for the orphanage is very similar to the way the building was later constructed. The courtyards are seen in the front "in between" the residences and outside the residences. He used the buildings as a way of transitioning between the courtyard and the interior. His "inner street" is a covered atrium that surrounds the courtyards and links together the buildings.

use of the courtyard and its connection to the outside



To the left is an example of the courtyard area seating around one of the atrium columns.

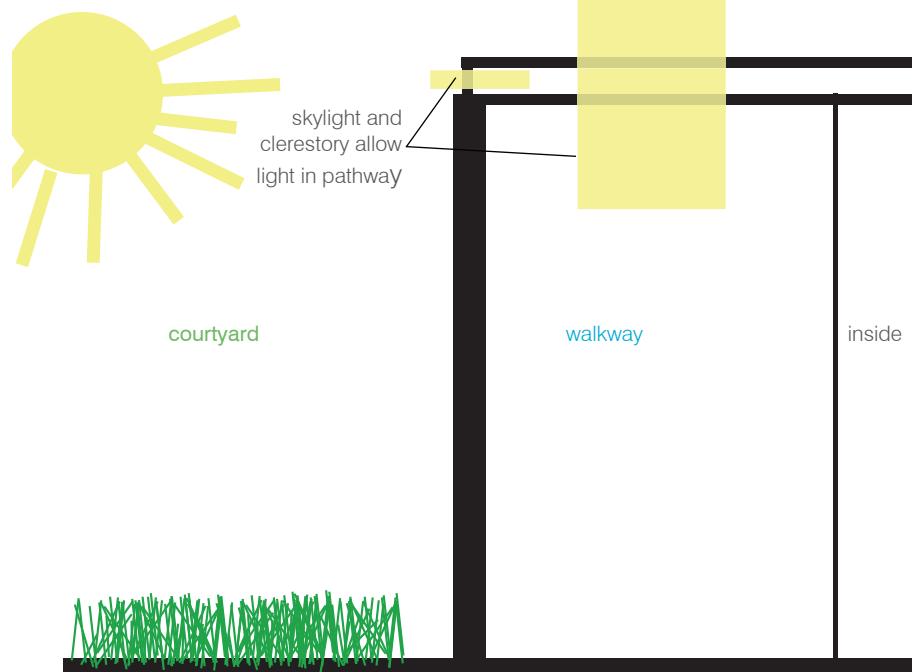


View from inside the atrium looking out on the courtyard. Windows surround the courtyard to allow more light into the building. The full windows counter balance the effect that the low ceilings create.



View from outside the orphanage looking onto the sides of the residences

transition between interior & exterior



The above image shows the way Van Eyck created the transition between exterior and interior. He applies this same method to his connection of exterior and interior as well.

context case study

pacific garden mission

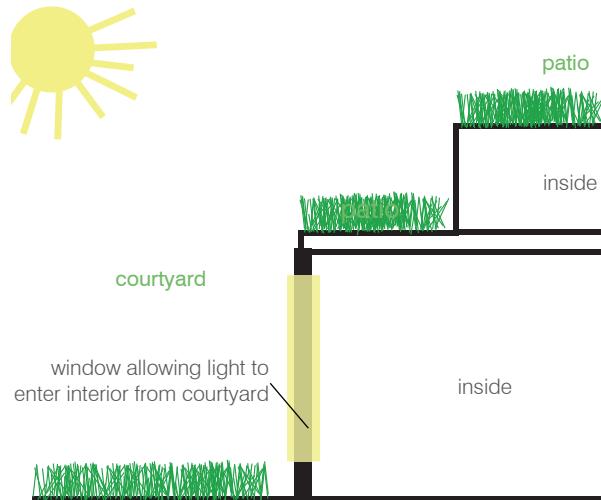
stanley tigerman

tigerman mccurry architects

completed in 2007

about

Pacific Garden Mission is a homeless shelter located in an industrial area in Chicago, IL. Railroad tracks sit in front of the shelter with a large interstate the back. Parking lots to house UPS trucks surround the location as well.



The courtyard in the Pacific Garden Mission is surrounded by four walls of windows and 2 tiers of outdoor patios above. The section demonstrates the courtyard and surrounding windows.





first floor

First floor includes public spaces; meeting rooms, dining areas, barber shop & medical care, laundry & clothing facilities, gym, chapel & greenhouse.

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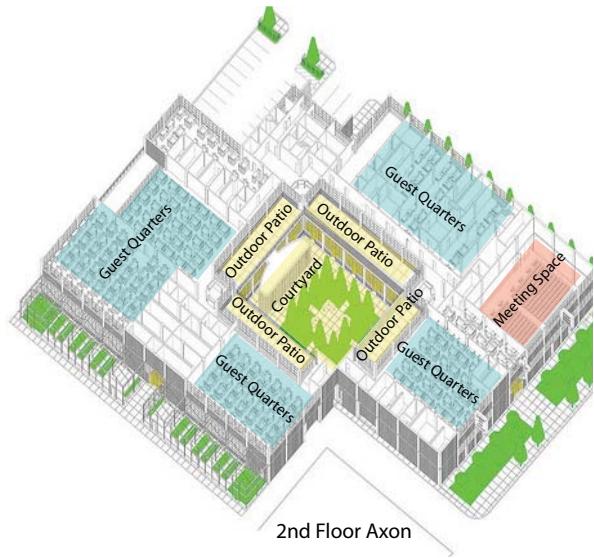
10



11

L shape corridor surrounding courtyard, "Yellow Brick Road" has streetlights, outdoor benches, street signs and trash receptacles. Tigerman tried to use elements that were familiar to the homeless.

Greenhouse is used to grow food to serve guests. Organic compost is also made and sold at local markets.



second floor

Second floor includes more private spaces. Bunk Beds are in the sleeping areas. Guests are asked to place clothes in "hotboxes" after arrival so that their clothes can be sterilized in the separate 180 degree metal lined rooms.



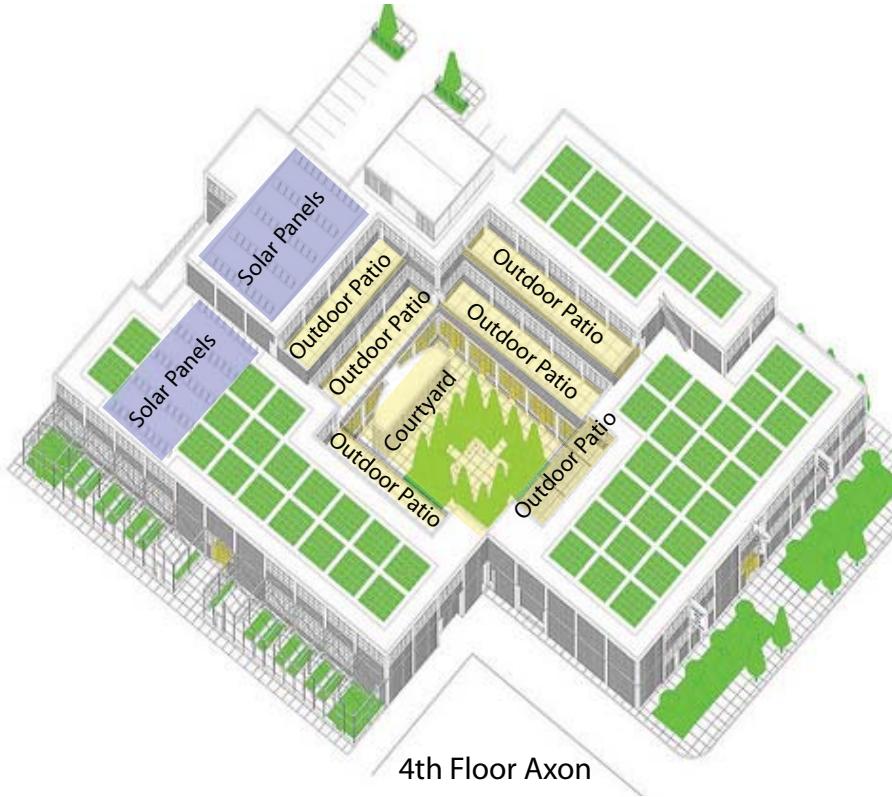
third floor

Third floor has more sleeping space and outdoor patio areas overlooking the courtyard. The "hotboxes" are located out of the sleeping rooms to clean guests clothes.



Sleeping Quarters have metal divider screens between the rows of beds. They can sleep 1,000 people in bunks and can accommodate an extra 400 people on severely cold evenings.

View from within courtyard is surrounded by windows, park benches and includes the cross symbolizing the shelter's religious affiliation.



fourth floor

Fourth floor houses the green roofs. Since the project went for LEED silver the green roofs reduce storm water run-off. Solar thermal panels help with energy efficiency.

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Exterior Model shows the green roof and greenhouses along the side. It is located outside of Chicago and west of Lake Michigan.

program case study

richmond spca

richmond, virginia

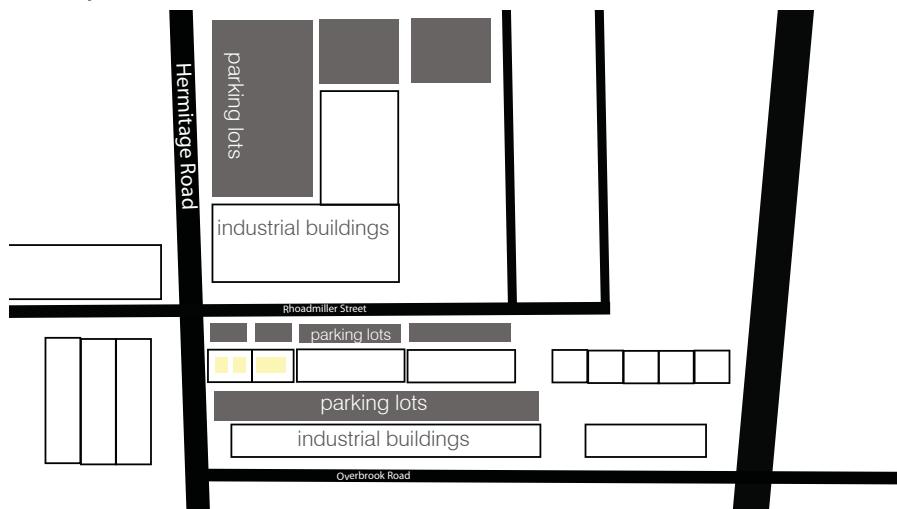
baskerville

2000

64,000 sf

about

The Richmond SPCA is located at 2519 hermitage road in Richmond, VA. There are 2 large warehouses surrounded by parking lots and other industrial buildings. The exterior is brick and interior is a timber frame construction. A small vestibule with natural light defines the entry in the front.



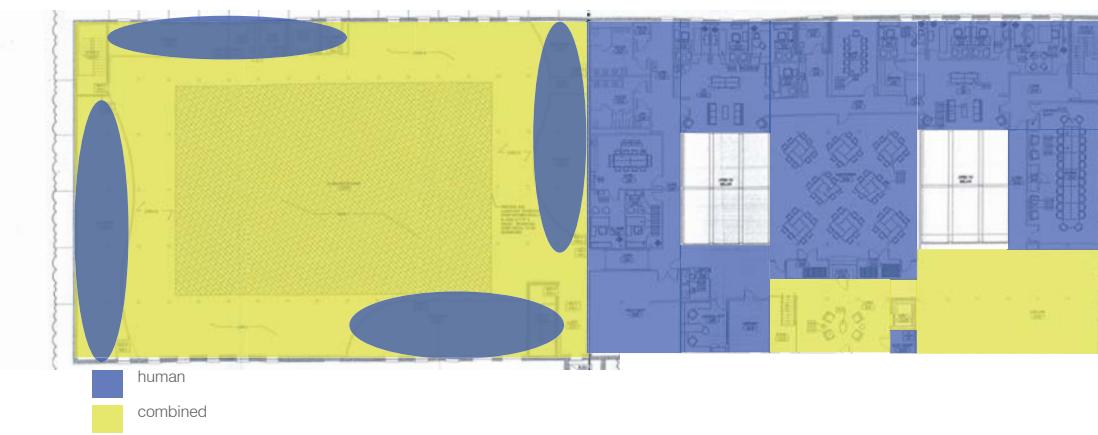
The Richmond SPCA is in an old renovated tobacco warehouse in an industrial area of Richmond, VA. It houses over 350 animals including both dogs and cats. There are 2 large skylights in the central part of the building that organize the space. The shelter includes veterinary facilities, storage, training, holding spaces, retail, training areas, meeting spaces and offices.



analysis of human & animal spaces

level 1

animal, human and combined areas are allotted equal square footage on this floor
combined areas join both separate dog and cat holding areas



level 2

no space for exclusive animal area
50/50 for combined and exclusive human space
large training space for animal exercise

analysis of public & private spaces

level 1

the entry and main adoption space are the only public spaces on this floor
overhead skylights define public space
private space encompasses 3/4 of level 1

level 2

50/50 public and private space on level 2
private spaces are defined by offices & storage
public spaces are defined by meeting spaces and training facilities



large training facility with clerestory window allows natural light in the space



types of animal holding areas

red zones

dogs/cats with behavioral/temperament problems
will be treated to move to green zones

orange zone

sick animals (typically parvo cases)

need to be isolated

special considerations for disease control

green zones (light and dark)

light green - ready for adoption

dark green - marketed for quick adoption



sample of main dog "run" for
adoptable dogs



adoptable cat individual cat
holding



program case study

winnipeg humane society

winnipeg, canada

number 10 architects & george miers

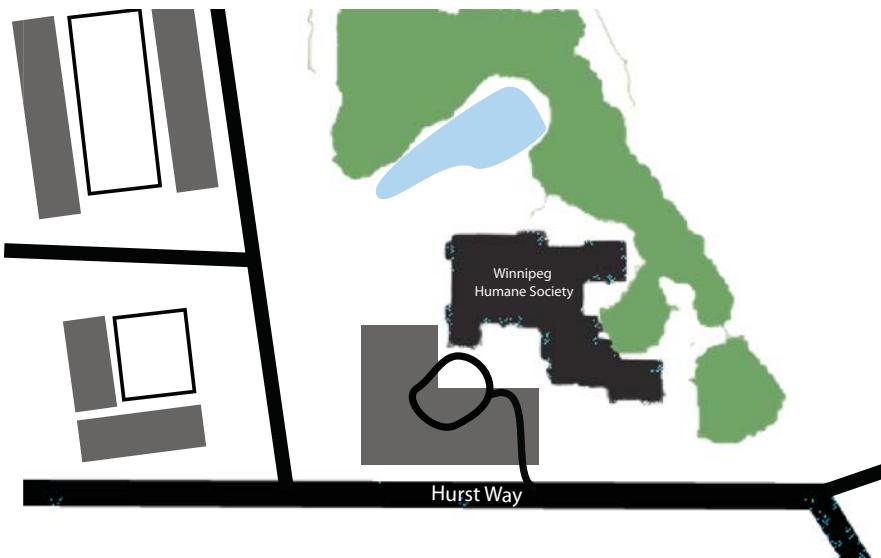
group

2007

40,000 sf

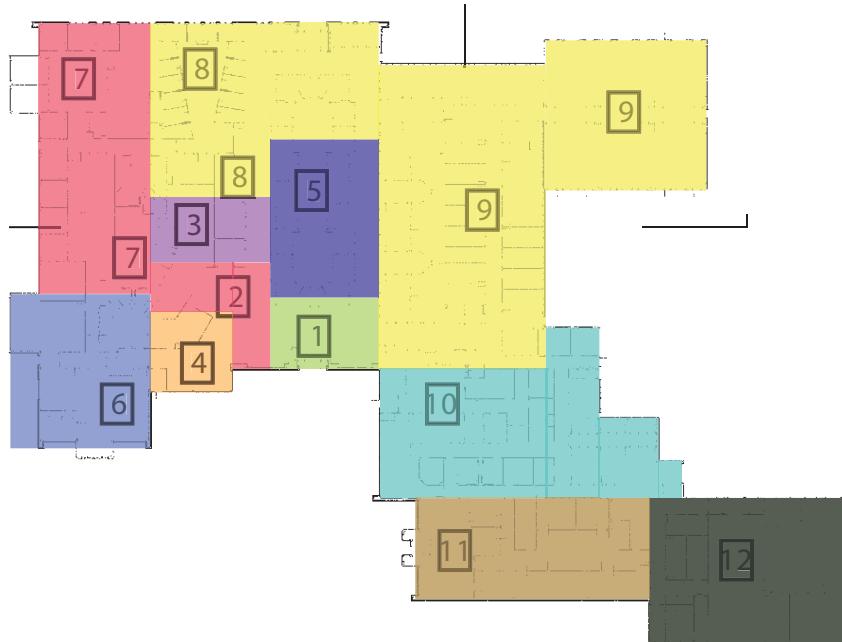
about

The Winnipeg Humane Society is the first Canadian LEED accredited animal shelter. It was built to handle more than 10,000 animals annually.



18

The focus of the Winnipeg Humane Society was on natural light. The large windows with clerestory details allow natural light into the holding areas for the animals. This helps to keep the animals on a regular schedule and also reduces energy costs.



Floor plan

- | | | |
|-------------|--------------------|----------------------|
| 1 Vestibule | 5 Adoption Gallery | 9 Animal Holding |
| 2 Reception | 6 Classroom | 10 Animal Receiving |
| 3 Boutique | 7 Administration | 11 Veterinary Clinic |
| 4 Cafe | 8 Cat Habitat | 12 Shipping |

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20

interior adoption gallery with clerestory window above

program

The shelter is designed to enhance the connection to the community. Their services include: veterinary, education, counseling. The connection to surrounding neighborhood is very important for the shelter and the adoption gallery acts as the central hub. The most important relationship is the connection to the exterior through clerestory windows and surrounding windows.

spacial breakdown

public/private

slightly more private space

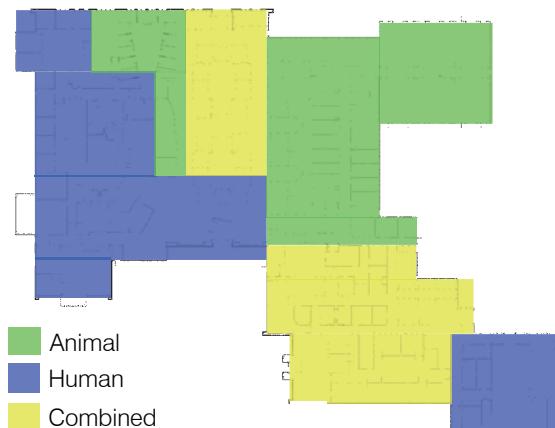
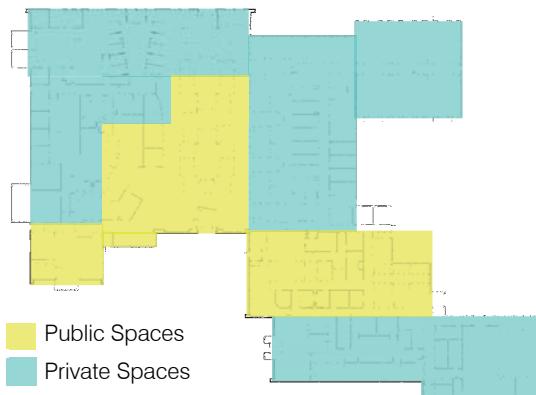
public spaces found in connection and close proximity to entrance

public spaces create core

animal/human

33/33/33 animal, human & combined spaces

animal only spaces are surrounded by the combined and human only spaces



natural light

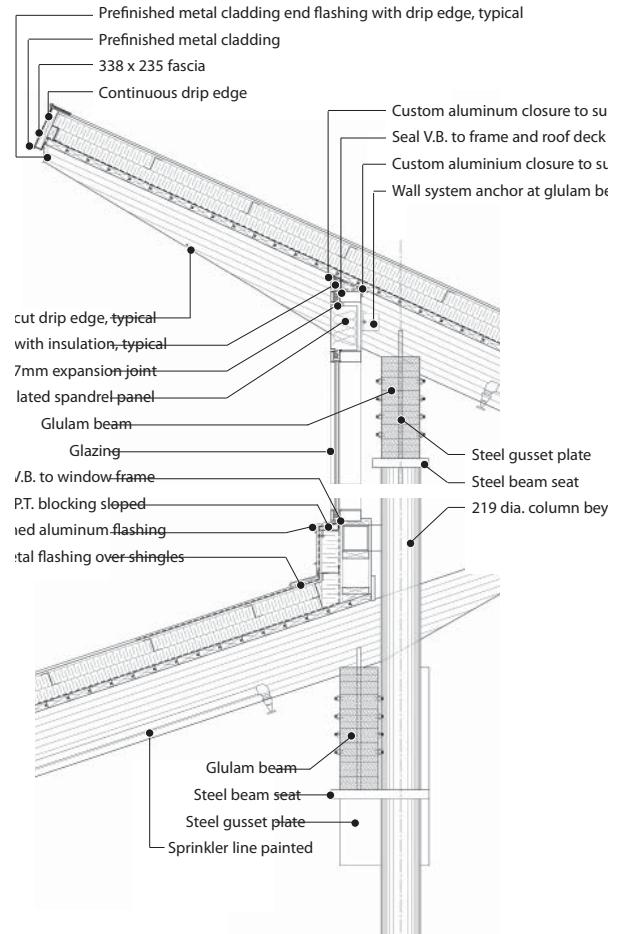
The Winnipeg Humane Society focuses on the natural light in the space for the well-being of workers and animals and reduced energy needed for heating and cooling. The clerestory detail is one of the most notable components of the adoption space. Below is a diagram showing the light and how it is filtered into the space through windows and doors.



clerestory section detail
showing directional overhang
that forces the natural light in
the main adoption area of the
shelter



above image of the clerestory detail



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program case study

hale county animal shelter

greensboro, alabama

the rural studio - auburn university

2006

about

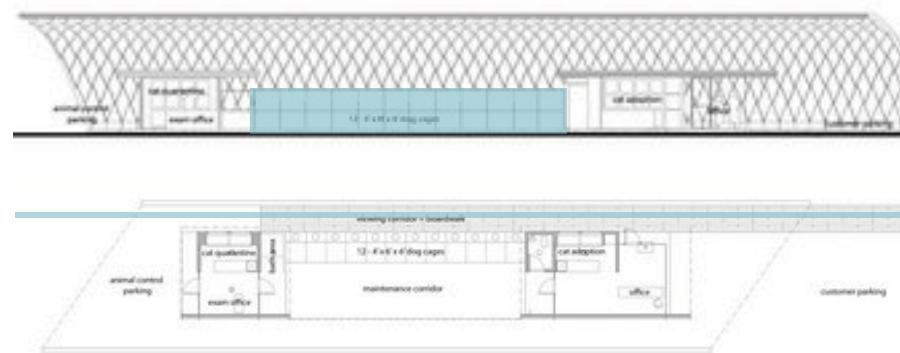
This project was completed on an \$80,000 budget and designed and built by rural studio (group of 4 architecture students). It is located alongside a major highway and next to the county correctional center.



28



29



exterior view of the hale county animal shelter at night - simple design, exterior clad in aluminum

program

The shelter has 16 kennels for the dogs (shown in plan to the left). The modular design allows the shelter to change easily with growth. The front office has a vet facility and a quarantine space in the back of the shelter.



construction

The roof is a lamella type of construction. The lamella is an organic platelike structure seen in biology and nature that was used to create the iconic design for the shelter. Natural ventilation is used to pass air through the length of the shelter. The front office has a/c units to save on heating and air costs. There are radiant heated floors for dog holding zone to be used during cold winters. The narrow strips of windows allows a connection to the outside and helps to keep dogs on a daytime schedule.

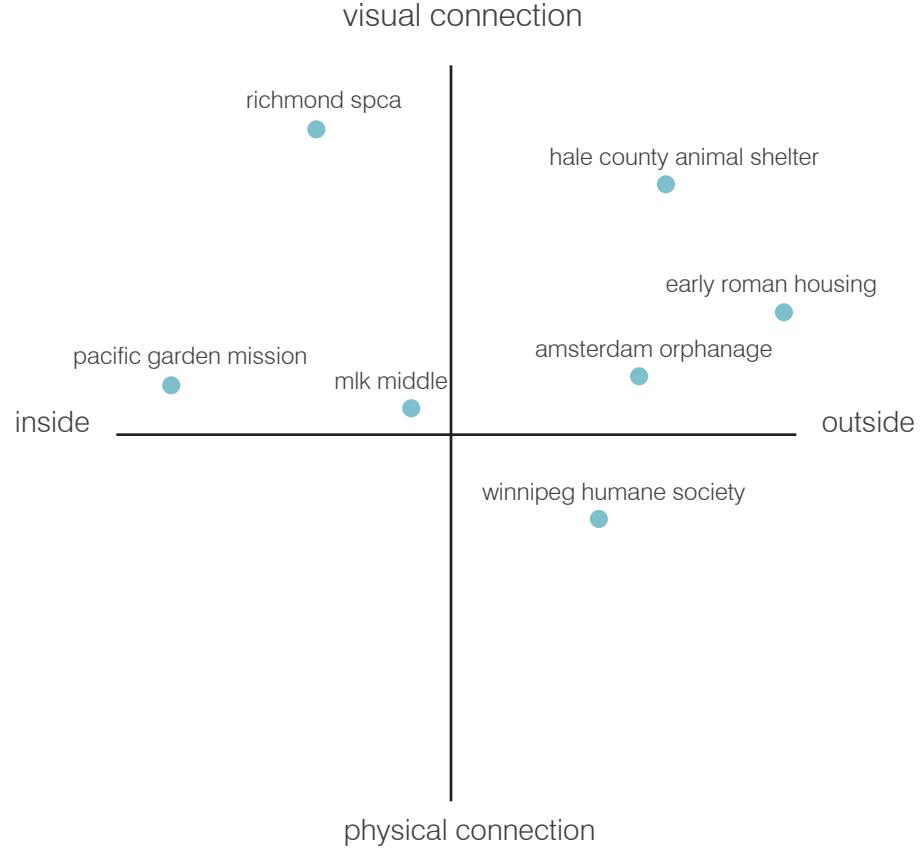


connection to exterior

There is no direct daylight on animals in the shelter. Natural light comes into the space through a narrow strip of windows so that animals stay on schedule. There is a direct axis through the structure provides ventilation and natural light.

connection to exterior

This diagram explains the type of connections throughout various case studies. Each case study was analyzed on their connection to their exterior space, if a courtyard was present that was analyzed as well. The measurement was taken on whether the connection was physical or visual. The physical aspect would be how much the space incorporated the use of the outside within the interior - was that part of their design? The visual idea was the ability to connect to the outside, typically through natural light (windows & doors). The next measurement was how much the space was either inside or outside on a spectrum.



process case study

lewis.tsurumaki.lewis architects

ltl architects

new york, new york

about

"Tactics for Opportunistic Architecture"

catalyzing constraints
alchemical assemblies
paradoxical pleasures
over drawing
invention sprawl

catalyzing constraints & alchemical assemblies

The idea of catalyzing constraints & alchemical assemblies is based on typical efficiencies vs. elective efficiencies. One example of this is restaurants in larger buildings that then present spatial constraints because of the existing structure. LTL believe you should use repetition & unpredictable ways of assembly to enhance the design.



Fluff Bakery

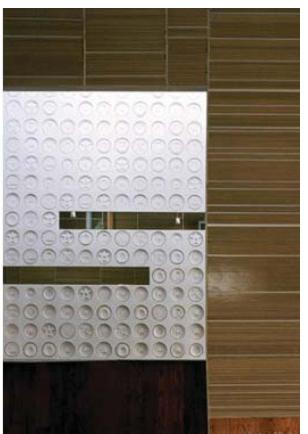
The restaurant design is composed of 3 types of industrial felt. The linear pattern helps to direct traffic to the counter. The storefront is recessed 2 feet to intersect with the sidewalk.

Tides Restaurant

The wave is created with bamboo skewers by the thousands. The bamboo skewers are glued in place into ceiling panels each with a specific spot based on depth to create the motion filled pattern.

Ini Ani

The coffee shop Ini Ani's walls are created from compressed cardboard and steel. The relief wall is cast from plaster coffee cup lids.



paradoxical pleasures

LTL's idea of paradoxical pleasures is about a play with opposites. They try to bring attention to the transition instead of minimizing the transition between spaces or varied ideas/forms.

Lozoo Restaurant

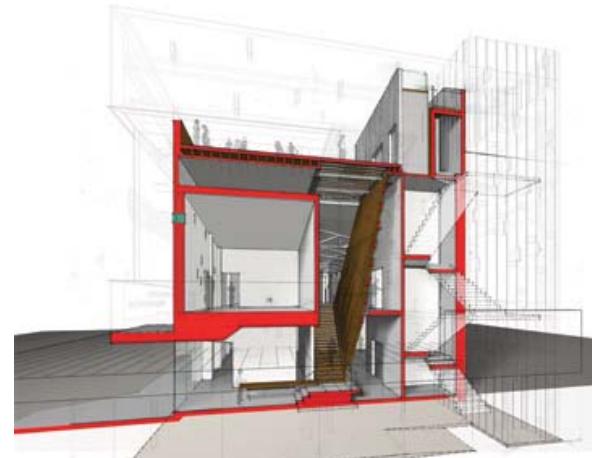
The Lozoo Restaurant shows their idea of paradoxical pleasures with no light in ceiling. The light is only on the floors, banquette & walls. There is a datum line around the restaurant showing the dark vs. light. The transitions between floor/wall and wall/ceiling are the transitions LTL is highlighting.



35



36



37

over drawing

LTL's idea of over drawing shows that 3D digital technology can be realistic. They emphasize the marriage of manual/digital work. Their drawings focus on digital renderings, lines/edges and details from 3H lead on mylar.

West Avenue Lofts

This drawing shows a mixed use urban development. LTL layers their digital and hand rendered skills.

Arthouse Museum

This drawing shows a renovation/expansion of theater and department store. The digital model appears to be a working drawing with the subtle hand drawings layered on top.

process case study

matali crasset

matali crasset productions

paris, france

about

Matali was born in Champagne, France in a small farm town. To begin her career she worked with Phillippe Starck. Her background education is in industrial design. After her work with Starck, she started her own design studio in 1998. She focuses on commercial, residential & hospitality design. Most of her design ideas include modularity, flexibility, & functionality.

product design

When designing products, Matali does not think about the material or technology, but primarily the function of the object itself. She states, "When I work on an object, I'm already thinking of the space around it. I try not to work object by object; I prefer to make networks of things, because I like to conceive of an object as a life scenario."



Instant Seat
designed for Moustache Furniture
made out of birch wood
concept of portability
will fold up to save space
back has a hook for a bag



Cut-out Tree Wastebasket
focus on nature
designed for domestic
focus on positive and negative space



Origami Paper Basket
designed for Regenesi
made out of regenerated leather
folded together in 2 pieces to produce its form



Danese Pendant Light
focus on changing the 2D to 3D
constructed out of maple wood



Decompression Space Chair
reflection of big leather chair
invites you to relax
hollowed out spaces for hands and elbows



Meta Pendant Light
102 different angles
internal lamp has similar angles
process to cast form out of wax to determine angles

hi hotel nice, france

Matali's first complete interior design project, the Hi Hotel in Nice, France exemplifies Matali's style and process in every aspect of the design. The rooms are designed to be modular and change with activities/events in the space.



Exterior view of the Hi Hotel changes with the day. Traditional exterior with an innovative and experimental interior.

The bar (above) was designed to resemble a gondola and can transform into multiple types of meeting spaces dependent on the user's needs. The bar public meeting area shown with a different furniture arrangement. At night, this space can transform into a more "club-like" atmosphere.

The concept of "white & white" where the table in the center becomes a bed and a four-post bed becomes a bathtub. The experience of everything located in the center of the room opens the user's mind to new ideas.

The hotel rooms are designed based on nine different concepts. Here the idea of "indoor terrace" is used. All furniture is arranged in a central area and a plant screen provides privacy for the shower.

presentation case study

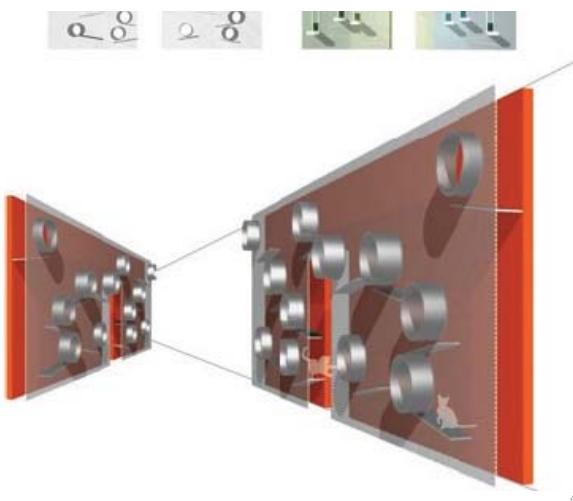
tracy stone architects

tracy a. stone

los angeles, california

about

Tracy is the principal architect for TAS (tracy a. stone). She specializes in residential, commercial, animals & community. She is a LEED accredited professional and an adjunct professor at Woodbury University in the interiors department.



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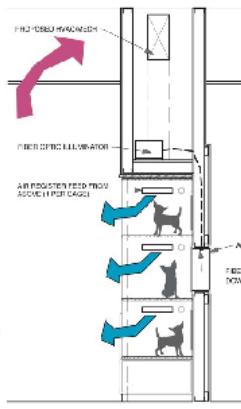
49

renderings - the feline homestead

For her renderings Tracy uses archicad models along with photoshop and illustrator. She says typically she is trying to convince the neighborhood to allow a facility that is proposed. She usually showcases animals but also likes to include the human interaction in a space. The diagrams as shown to the right help to further convey an idea to a client.

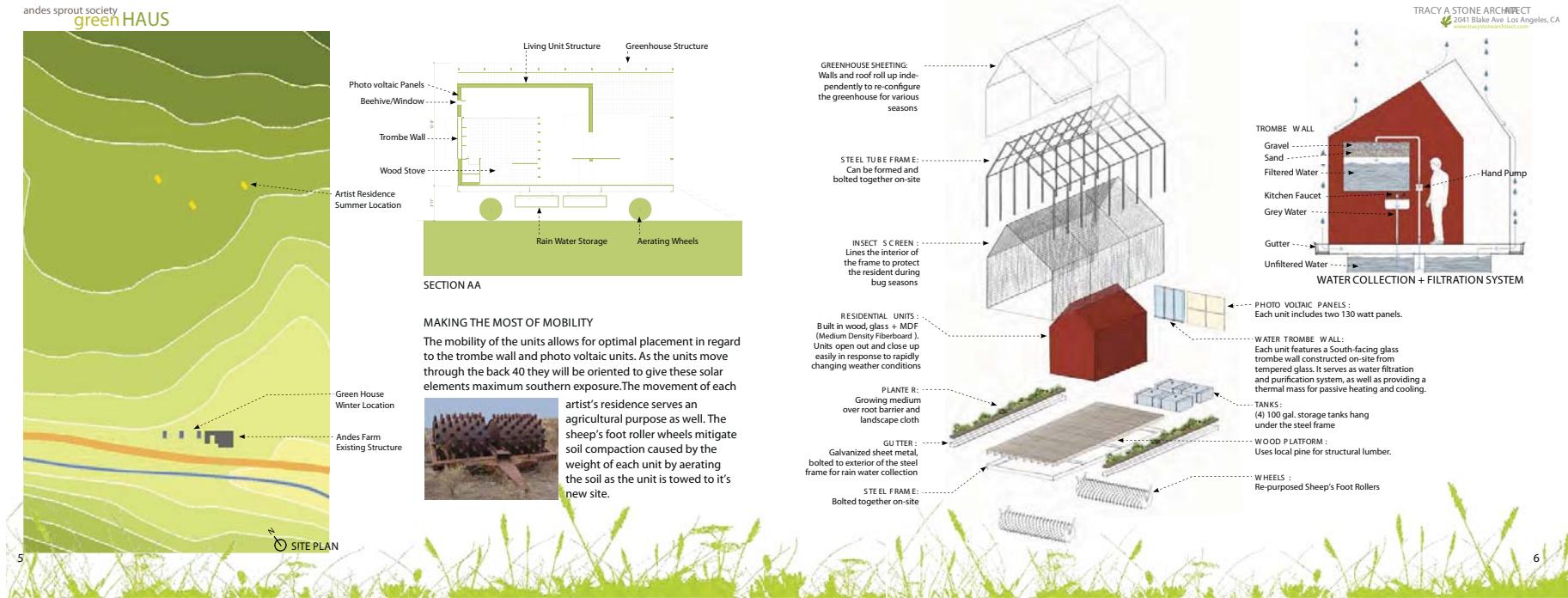
diagrams- t-cup couture

Tracy often uses photoshop to diagram her ideas to her clients in the custom approaches to her design. The section to the below demonstrates how the wall will serve as a display area for the dogs. The far left is the rendering of how the wall will look to the viewer and the detail diagram further explains the illustration to convey an idea to a client.



competition presentation - andes sprout artist residence

Tracy submitted the andes sprout residence for a design competition. Her presentation boards are diagrammatic in their approach of making the user understand the idea behind the residence.



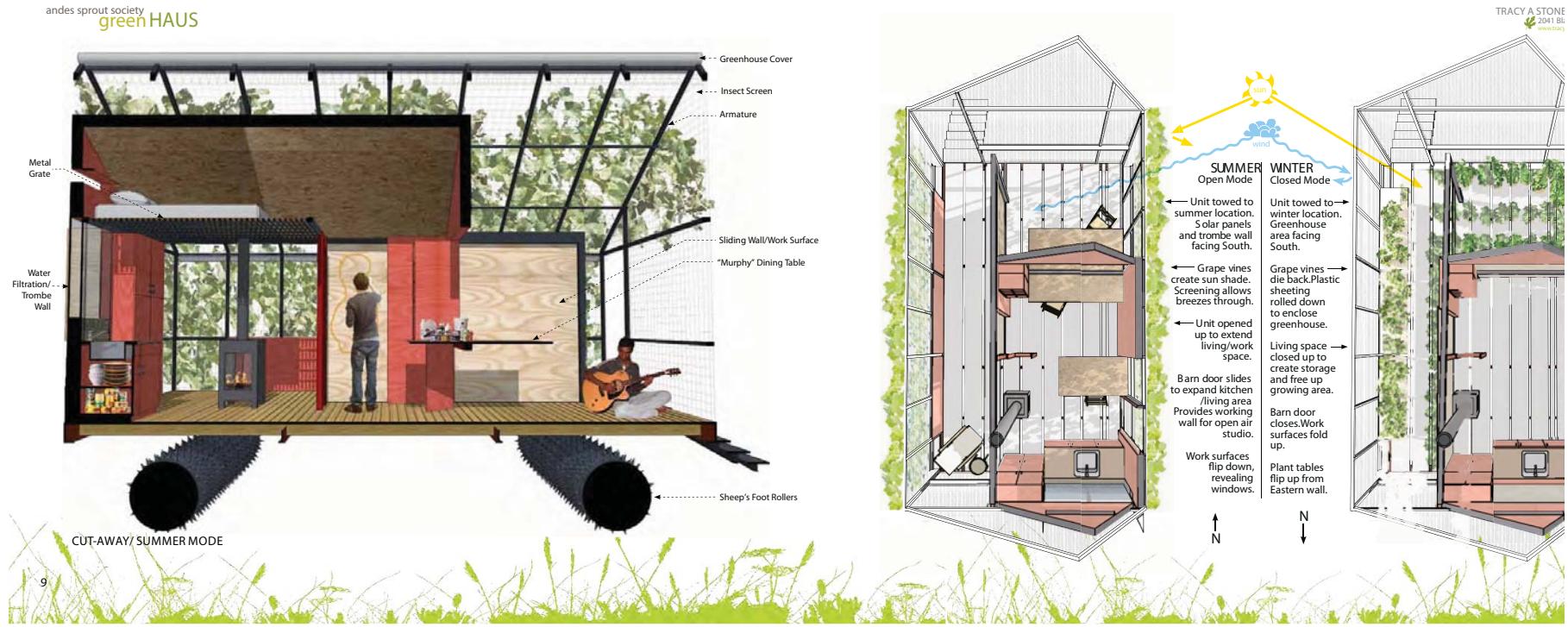
summer/winter plan presentation

In the posters below the text is secondary to explain the drawings. The graphic presentation is important but does not overpower the drawings themselves.



summer/winter presentation board

The shaded diagrams below are not too busy to allow the user to understand the diagram and how the user can change the residence to accommodate the weather. The rendered view to the left is easy to understand.



program introduction

The Richmond, VA School board is working to develop programs within their school systems that will help create a better future for their most-at-risk students. The board has identified three main goals for the programs: to teach responsibility and patience, to provide a safe and enriching after school activity, and to help students develop a sense of pride in themselves. Martin Luther King Middle School's student population includes some of the highest-risk students in Richmond and for these reasons was selected to charter these new programs.

Save our Shelters, a nonprofit organization focusing on rescuing unwanted animals within the city of Richmond, will work with the Martin Luther King Middle School to house a satellite shelter in the school. Research suggests that the animal/human connection can help these students to achieve the goals set forth by the school board. This initiative will also help the current over-population of pets in our community.
How can design specifically unify both the existing school and new proposed shelter into a cohesive

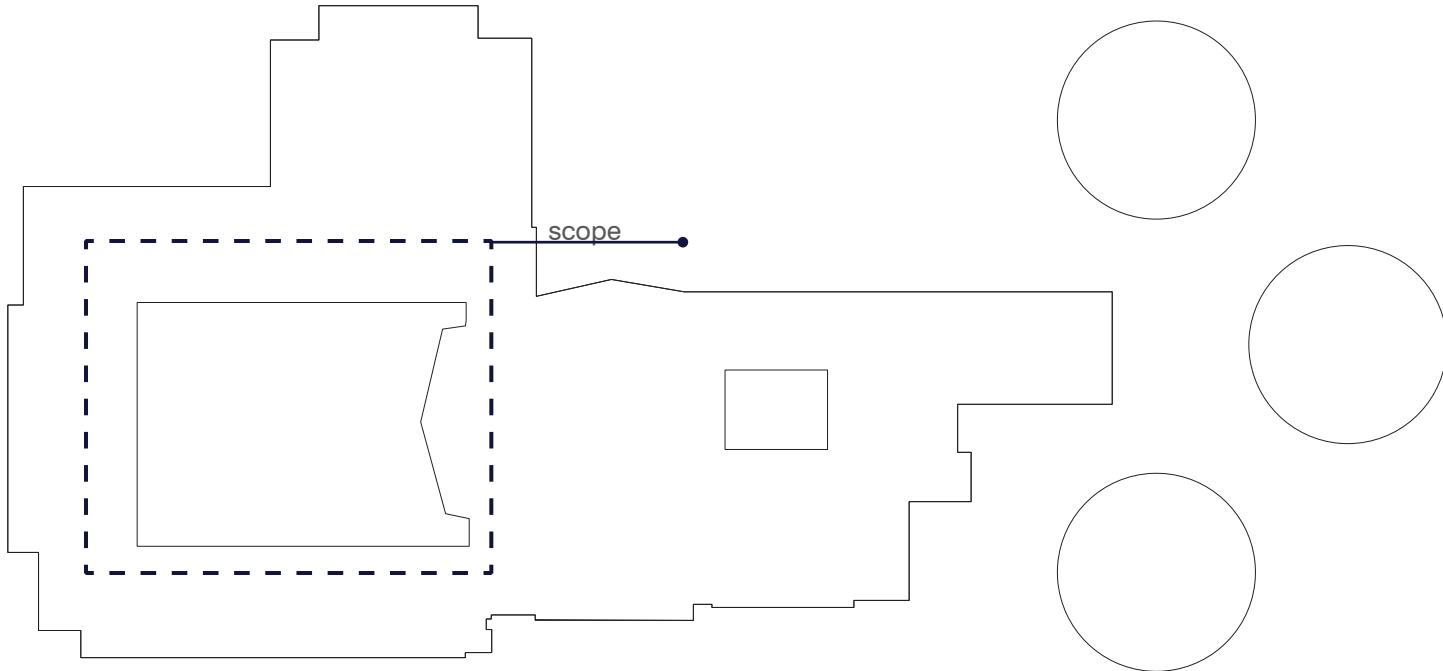
environment that will foster a mutually rewarding relationship? I believe this provides an opportunity to create design that is based on transparency and integration of both inside and outside.

space requirements

Lobby	Medical & Grooming Spaces	Main Cat room with multiple kennels
Reception & Waiting Area	Exam and Grooming Room	Cat Observation Room
Copy Room & Data Storage	Exam Area near Surrender Space	Cat Isolation Room
Interview Rooms		Holding Room for Cats outside of Surrender
Get Acquainted Room		
Unisex Bathroom	Dog Areas Puppy Room	
Volunteer Spaces	High Adoption Rooms in Front	Storage & Cleaning Spaces
Community conference room	Main Adoptable Holding Area	Food Storage
Break Room	Isolated Dog Area	Laundry Room
Volunteer Workstations	Observational Dog Area	Mechanical
Offices/Admin Spaces	Dog "Holding" outside of Surrender or exam rooms	Main Storage
Program Director's Office	Puppy Isolation Area	Food Prep Room
Staff Offices	Individual Training Rooms for Students and Animals	Bowl Cleaning Room
Surrender Area		
Office with separate entrance		
Separate consult room off office	Cat Areas Cat Rooms for adoptable cats	

considerations

Quiet/Noise
Interactive/Solitude
Students/Animals
Community/Workers
Direct/Indirect Relationship to courtyard

**scope parameters**

north side of large courtyard (est. 8,500 sf)
west side of large courtyard (est. 11,000 sf)
large courtyard (est 31,000 sf)

square footage

19,500 sf total
includes 5,000 sf of corridors to remain
~14,500 sf of usable space + courtyard

occupancy

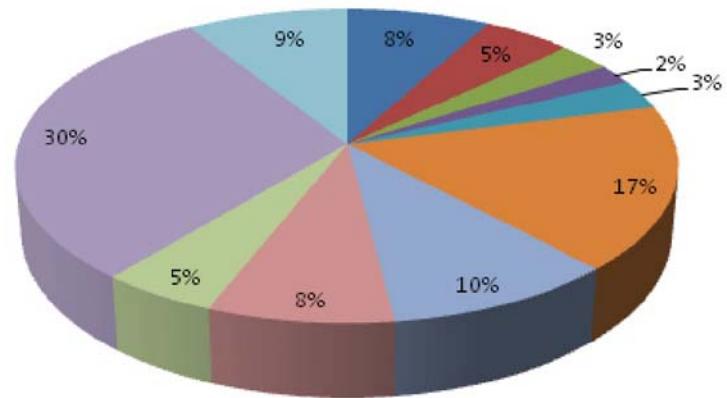
daily dog: 80 dogs
daily cat: 90 cats
daily operation: 30 people maximum

**square footage
typicals**

staff offices: 150 sf/office
dog kennels: ~30 sf/animal

space (type & qty)	%	sf	notes/assumptions
lobby/waiting (1) interview rooms (2) copy room	8%	1300 sf	public restroom for staff 1-2 staff @ reception
staff conference room break room (1) volunteer workstations (3)	5%	690 sf	
director office (1) staff offices (2)	3%	500 sf	director's office small table for impromtu meetings
surrender office (1) consult room (1)	2%	245 sf	close holding areas for owner surrender animals
exam rooms (2)	3%	400 sf	both rooms to accommodate grooming
puppy room (1) highly adoptable rooms (3) main dog holding (1) isolated dog holding(1) observational dog holding (1) surrender dog holding (1) isolated puppy holding (1)	17%	2490 sf	
assessed cat rooms (2) main cat holding (1) observational cat holding (1) isolated cat holding (1) surrender cat holding (1)	10%	1490 sf	
food storage (1) laundry room (1) mechanical/data (1) food prep & bowl clean (1)	8%	1170 sf	includes extra storage room
individual training rooms (3)	5%	540 sf	room can be 1 or 3 rooms

Program Percentage Breakdown



- | | | |
|-------------------|--------------------|-------------------|
| lobby | volunteer spaces | offices/admin |
| owner surrender | medical/exam | dog holding areas |
| cat holding areas | storage & cleaning | training rooms |
| shelter corridors | existing corridor | |

purpose/need of animal shelters

9.6 million animals are euthanized in the United States every year

60% of dogs and 70% of the cats entering shelters are euthanized because there are not enough homes

only 10% of animals received by animal shelters are already spayed/neutered

approximately 8-12 million animals enter animal shelters every year. And this does not take into count the ones entering humane societies and the SPCA.

it is estimated that in the US alone there are approximately 70 million stray cats

20% of people who adopt their dogs from animal shelters later bring them back to a shelter

Number of cats and dogs entering shelters each year:

6-8 million (HSUS estimate)

Number of cats and dogs euthanized by shelters each year:

3-4 million (HSUS estimate)

Number of cats and dogs adopted from shelters each year:

3-4 million (HSUS estimate)

Number of cats and dogs reclaimed by owners from shelters each year:

Between 600,000 and 750,000—30 percent of dogs and 2-5 percent of cats entering shelters (HSUS estimate)

Number of animal shelters in the United States:

Between 4,000 and 6,000 (HSUS estimate)

shelter design considerations

Programmatic

animals need to be independent of each other to prevent disease
cat community areas help with adoption (not good for disease control)
puppies need to be housed separately (no stacked cages)

Major Considerations

noise

disease control

smell

Specifics of Kennels

kennel wall to be 4' high

quarantine area needs full wall (to ceiling)

kennels to be corrosion free material and visible from front

natural light required in kennel space

smallest size 4'x6'

Sound Control

separate kennels from administrative areas

animal areas need more frequent air movement (separate HVAC)

Odor Control

drainage required in kennel space

separate waste water drainage

material for flooring easy to clean and slip resistant

Lighting

natural light important for animals

can aid in adoptability

adjacency matrix for animal shelter

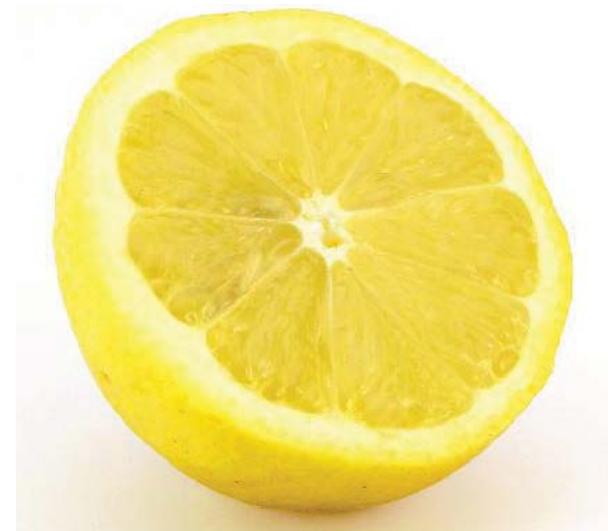
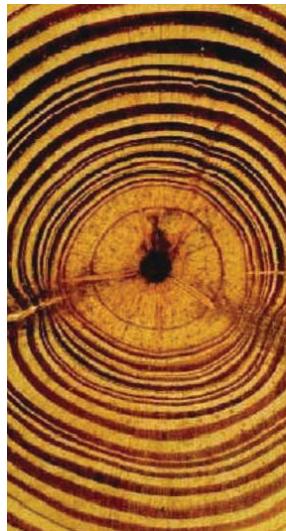
Adjacencies		lobby	consult rooms	adoption rooms	rehab areas	animal holding	food storage	laundry	mechanical	conference room	support staff	break room	volunteer room	training room	individual training rooms
		lobby	consult rooms	adoption rooms	rehab areas	animal holding	food storage	laundry	mechanical	conference room	support staff	break room	volunteer room	training room	individual training rooms
lobby			●	●	○	○					○	○	○	○	○
consult rooms		●		●							○	○			
adoption rooms		●	●		○	○					○	○			
rehab areas		○	○	○		○					○		●	●	
animal holding		○	○	○			●	●	○			○	○	●	●
food storage					●		○	○	○		○		○	○	○
laundry					○	○	○	○	○		●	○	●		
mechanical					○	○	○								
conference room										●	●	●			
support staff		○	○	○	○		○	●		●		●	●	○	○
break room		○	○		○		○	○	●	●		●	●	○	○
volunteer room		○	○		○		●	●		●		●	●	●	●
training room		○	○		●	●	○			○	○	○	●		●
individual training rooms		○		●	●	○			○	○	○	●	●	●	

- immediate adjacency
- close relationship

concept development

Because of the importance of the valuable relationship between the students of Martin Luther King Middle and the homeless animals within the shelter, interaction is critical in the design concept to help foster this relationship. Martin Luther King Middle School was selected for this project because of the large central courtyard located within the building. The idea that both students and animals could use this courtyard together became an important aspect of the project.

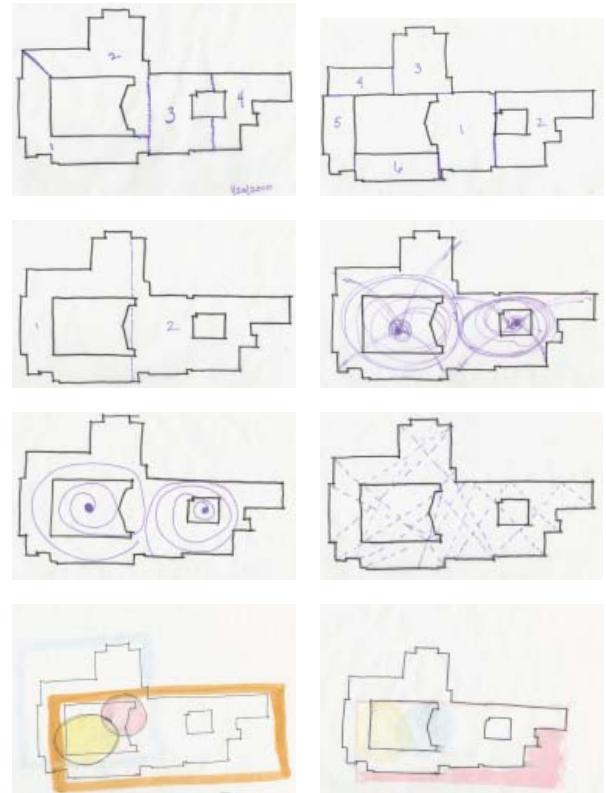
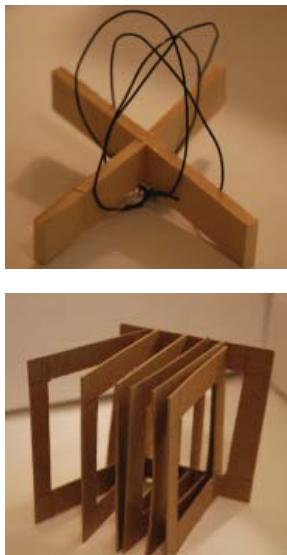
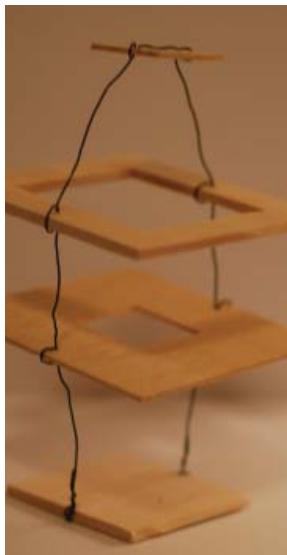
In order to reinforce the idea of interaction through relationship growth, the radial pattern became a design organizer for the project. Based on many objects in nature, the radial pattern organizes surrounding space around a central core.





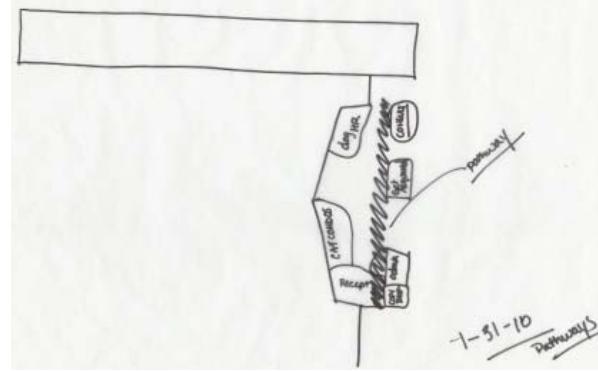
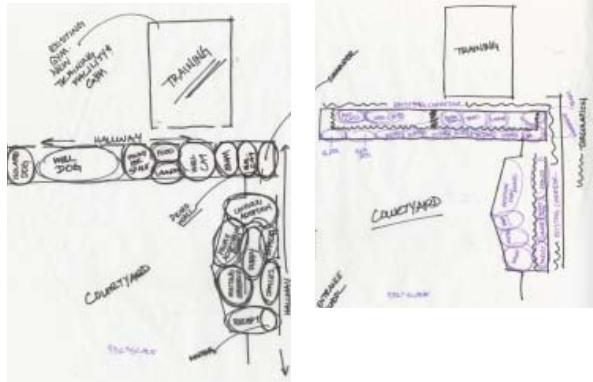
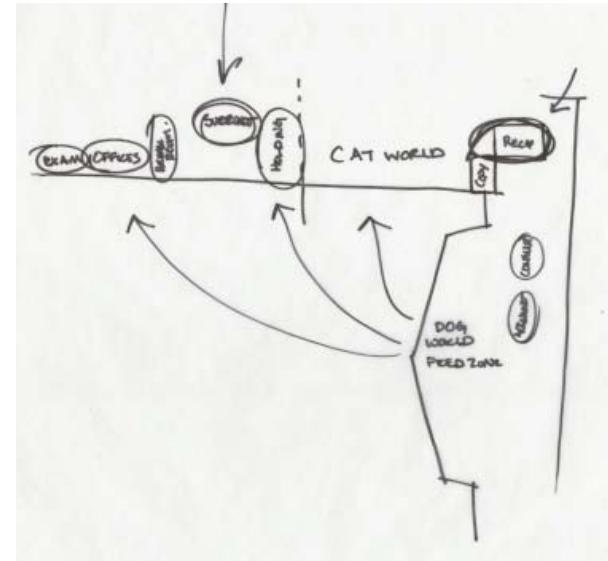
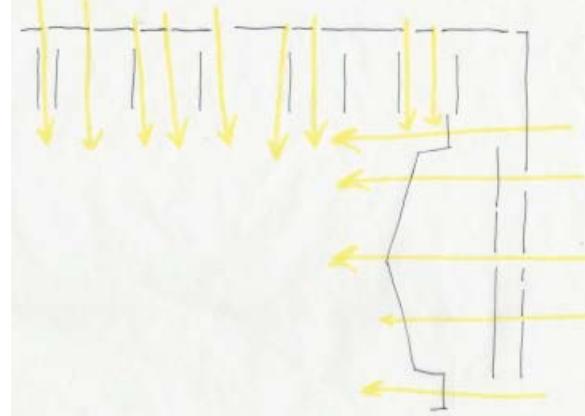
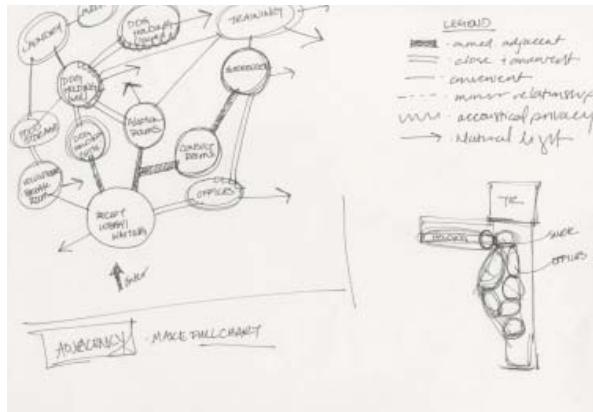
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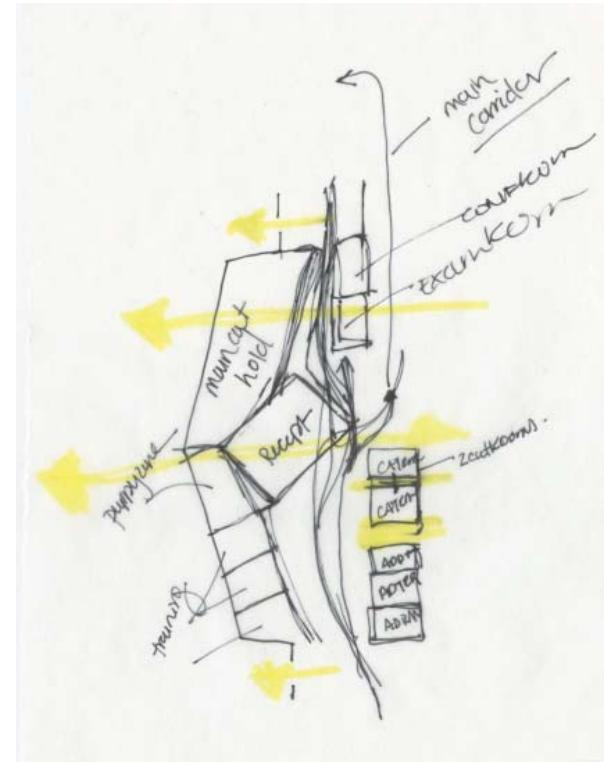
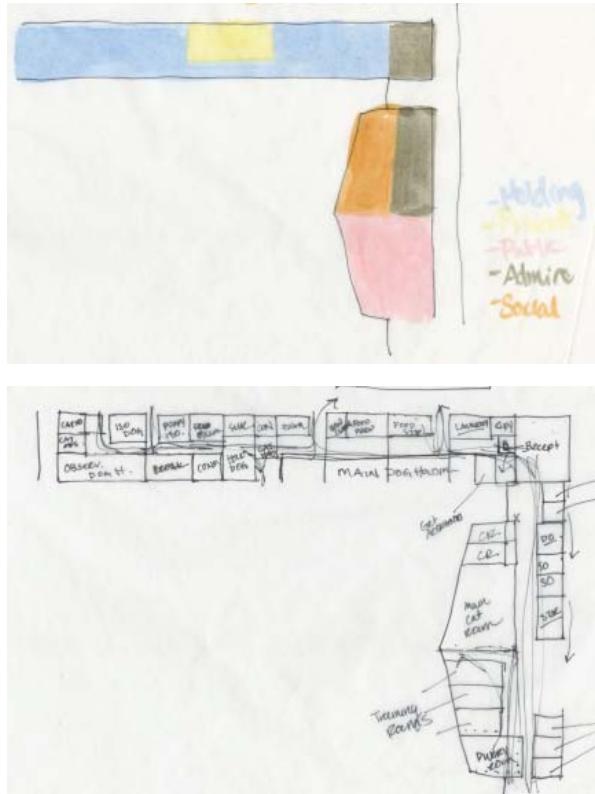


schematic design

initial bubble diagrams and space planning for entire shelter



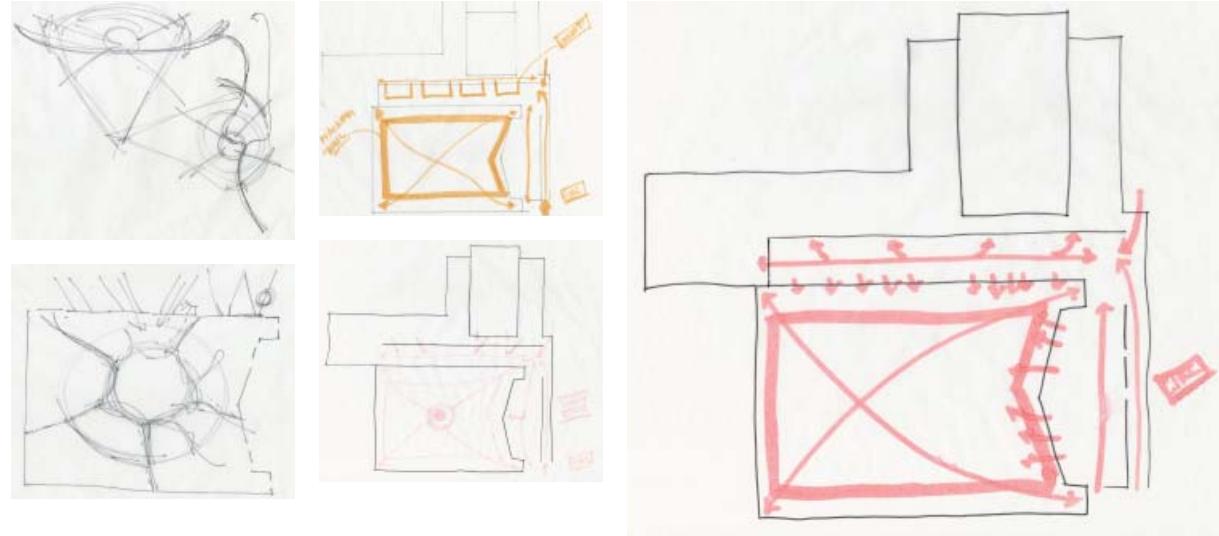
Initially, bubble diagrams helped to place adjacencies and figure out the placement of various areas within the shelter. The consideration of existing conditions in the school was important in placement.



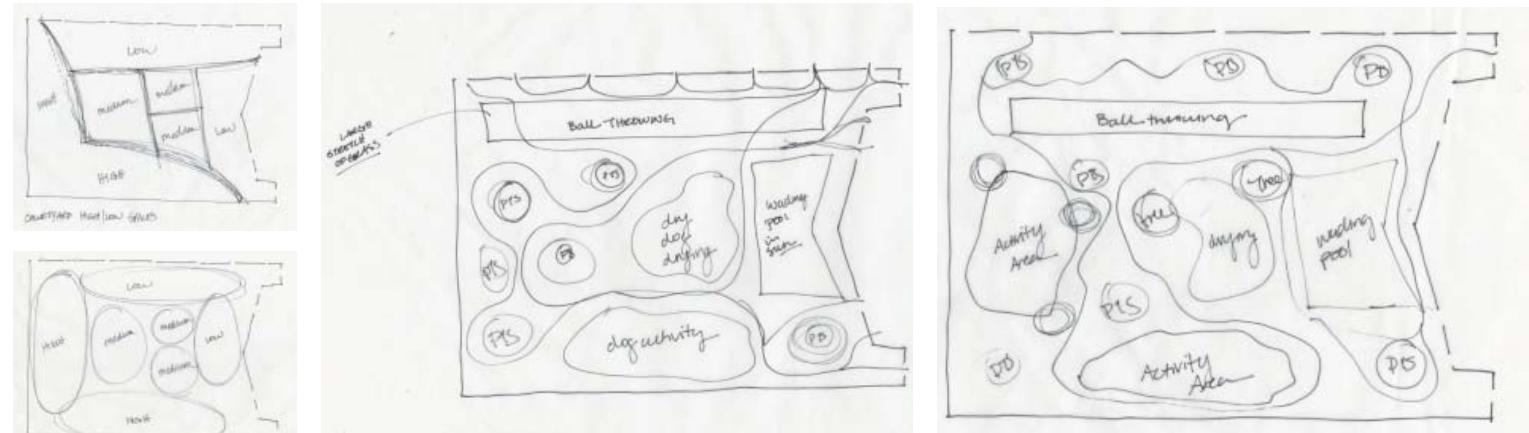
After a series of bubbles, block diagrams were used to further explain space planning. Block diagrams were also used to determine actually square footages.

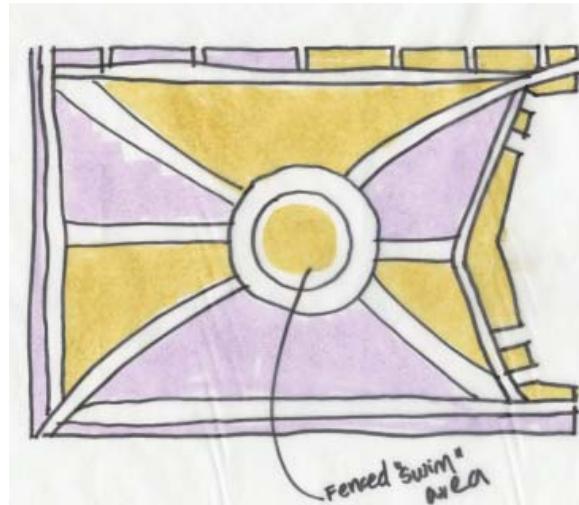
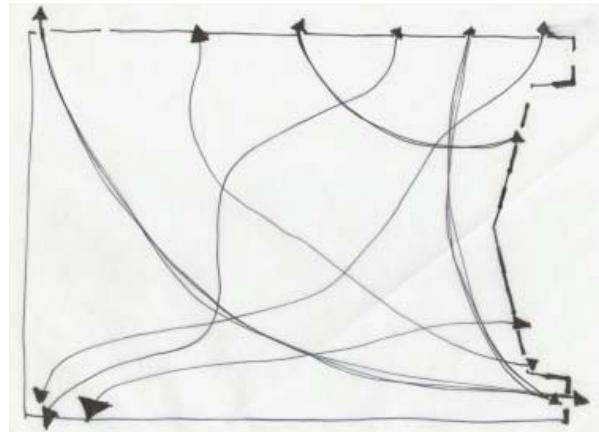
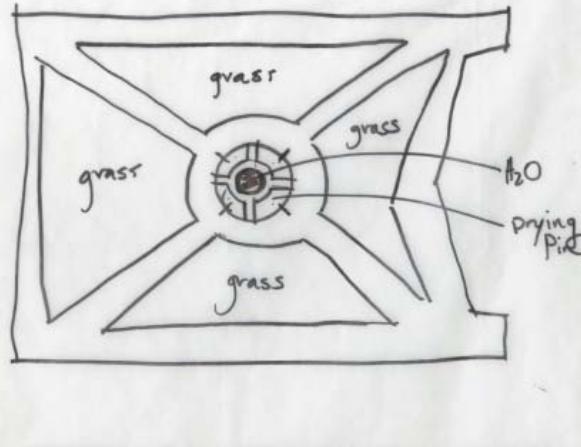
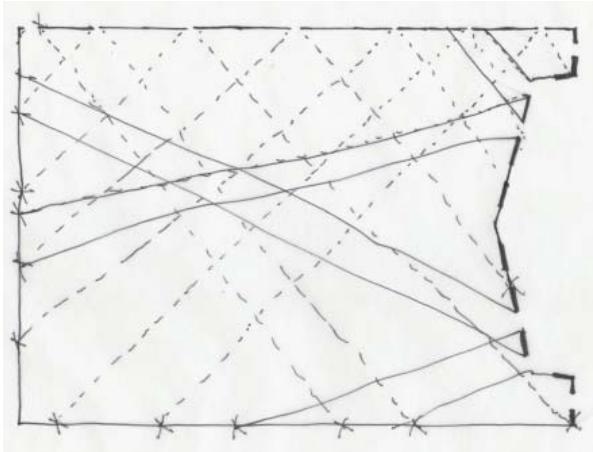
schematic design

initial diagrams of ideas for the courtyard between animal shelter and existing school

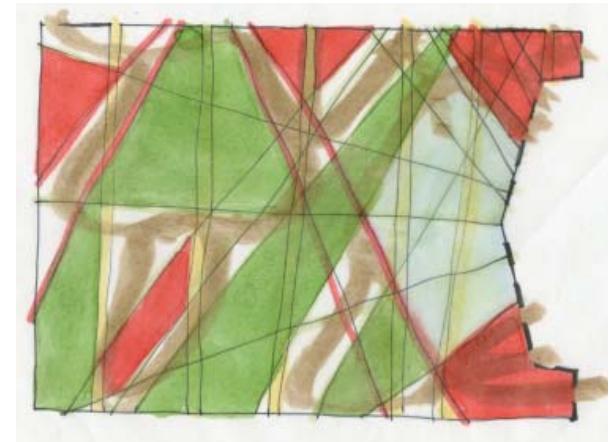


After attempts to have the courtyard mimic the space planning of the shelter, a "central park" type approach was diagrammed with winding pathways.





These diagrams were used by starting to develop a grid system based on several different approaches to create spaces within the courtyard.



design development

animal shelter plan

legend

public spaces

- 1 dog adoption suites
- 2 cat adoption suites
- 3 training/education room
- 4 director's office
- 5 staff offices
- 6 public exam room
- 7 reception area
- 8 cat feature wall
- 9 main cat holding
- 10 food storage
- 11 interview rooms
- 12 "get acquainted"/dog holding
- 13 food prep/dog holding
- 14 laundry/dog holding

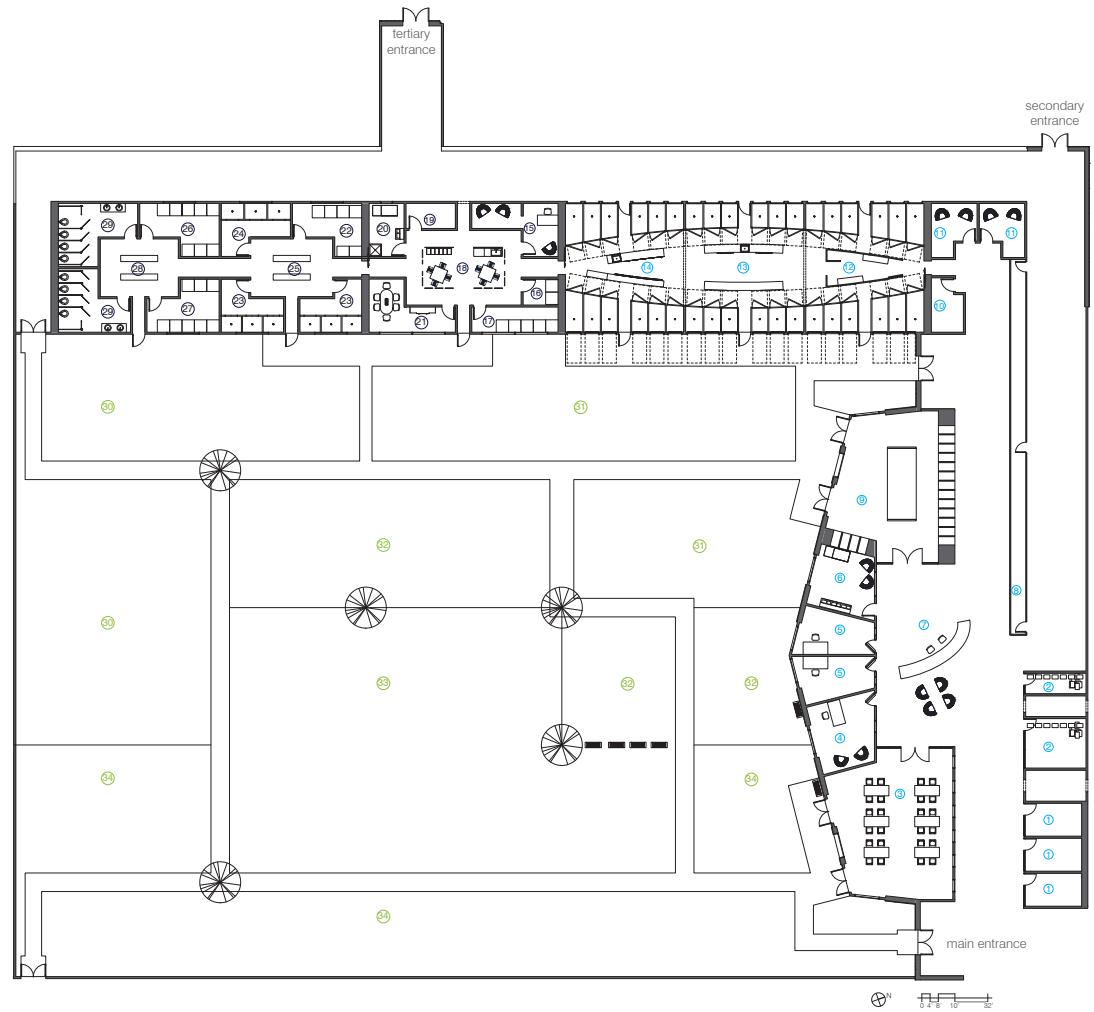
private spaces

- 15 owner surrender
- 16 owner surrender cat holding
- 17 owner surrender dog holding

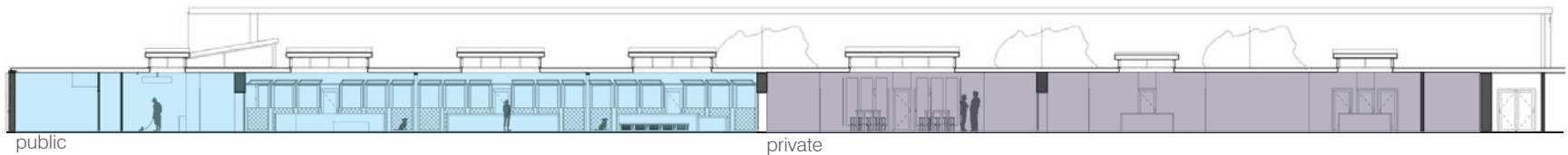
- 18 break room
- 19 mechanical
- 20 exam/grooming room
- 21 conference room
- 22 cat observational holding
- 23 dog observational holding
- 24 observational animal food prep
- 25 puppy observational holding
- 26 cat isolation holding
- 27 dog isolation holding
- 28 isolated animal holding
- 29 restrooms

courtyard zones

- 30 quiet zone
- 31 multi-dog play
- 32 dog/student play
- 33 student only play
- 34 ball throwing area



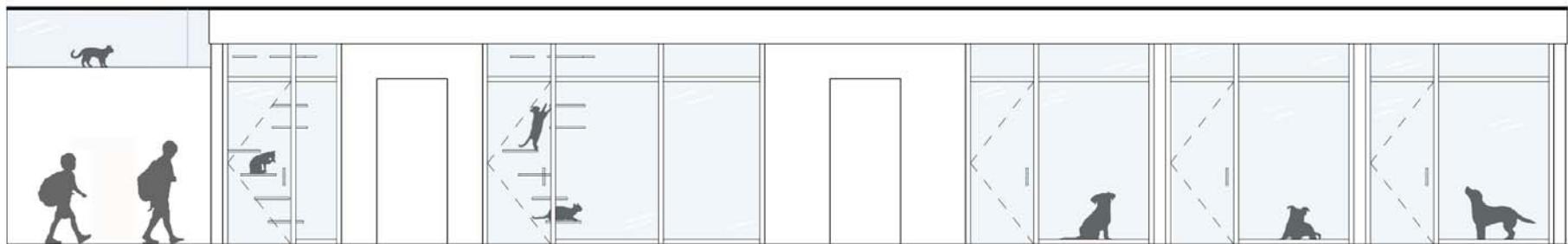
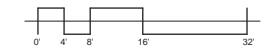
sections + elevations



Section pictured above shows the back section of the shelter facing the courtyard. The clerestory windows have been added to allow natural light into each activity zone throughout the length of the shelter. The raised section in the roof reinforces the idea of the "courtyard within a courtyard" and defines each activity zone.

Guests of the shelter and students are always welcome to tour and observe the public spaces of the shelter, which are defined by more natural light from the courtyard and the openness of the kennel design. The private spaces are defined by more regular rooms, walls and smaller spaces. The private section of the shelter is located on the southwest end of the long section

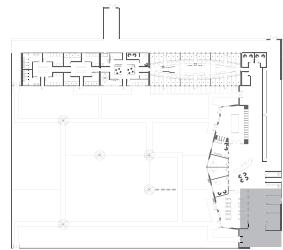
and contains the breakroom and conference space for workers and the private owner surrender office with meeting room. The isolated and observational animals are also housed in the private section.



Featured dogs and cats that are considered "highly adoptable" are displayed in the front to welcome guests in the adoption gallery. The gallery features 3 dog suites and 2 cat rooms. A series of stairs connects the cat areas allowing cats to roam both rooms and the "cat feature wall".

design development

shelter entrance



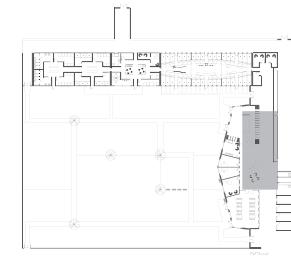
Keeping with the main entrance to the school, the new shelter's entrance greets students, workers and community members and directs them through the lobby of the shelter into either the shelter or the main school corridor.



cat feature wall



Because the new shelter's lobby will be such a heavily trafficked area for students, workers and community members, the cat tunnel and cat feature wall both allow for interaction between students and animals. The openness of the space helps lessen any traffic jams and allows spectators the opportunity to view cats wandering throughout the adoption suites and cat wall.



design development

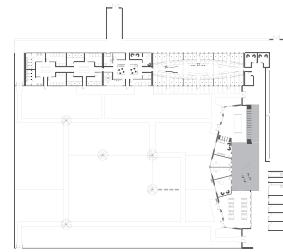
reception area + cat holding area





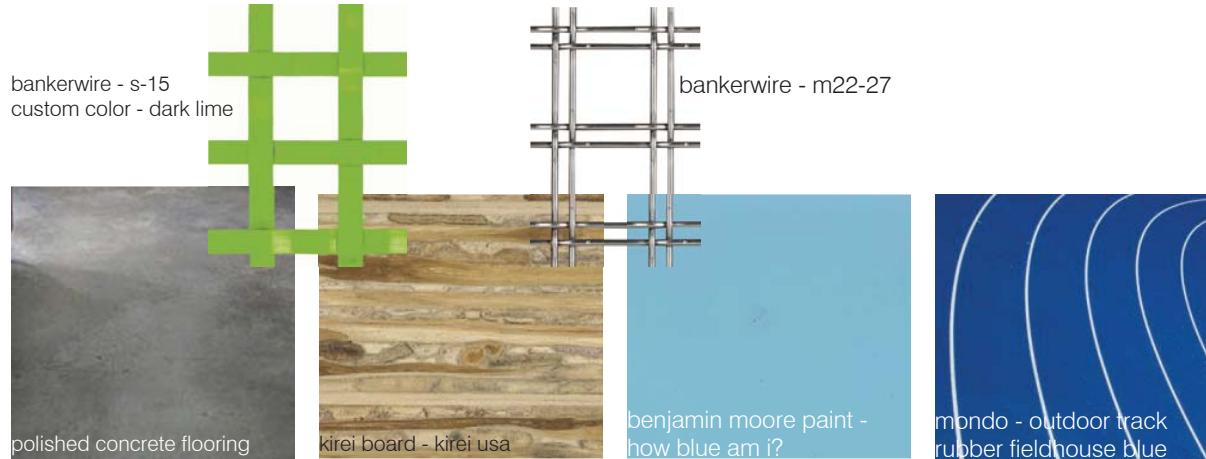
The main cat holding area services 36 kennels. The wall above is the main cat holding space. Cat kennels are built into the wall allowing easy cleaning from inside the cat holding room and a gallery-style viewing area along the exterior portion of the room.

The view of the reception desk shows the new clerestory windows allowing for additional natural light from the courtyard. To further the idea of interaction through the radial forms, the reception desk serves as support to the surrounding offices, training room, exam room and cat holding space.



design development

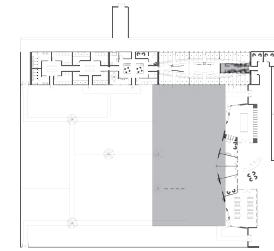
get acquainted activity zone + dog's view of courtyard



The main dog holding areas are broken into 3 zones (get acquainted, food prep and laundry) initially determined by existing load bearing walls. However, with a support beam over the cased openings between the zones, the almond-shaped radial kennel pattern allows the dog kennels to support the activity zones within each division. The above image shows the get acquainted area where community members and students have the opportunity to meet with a dog for an individual session.

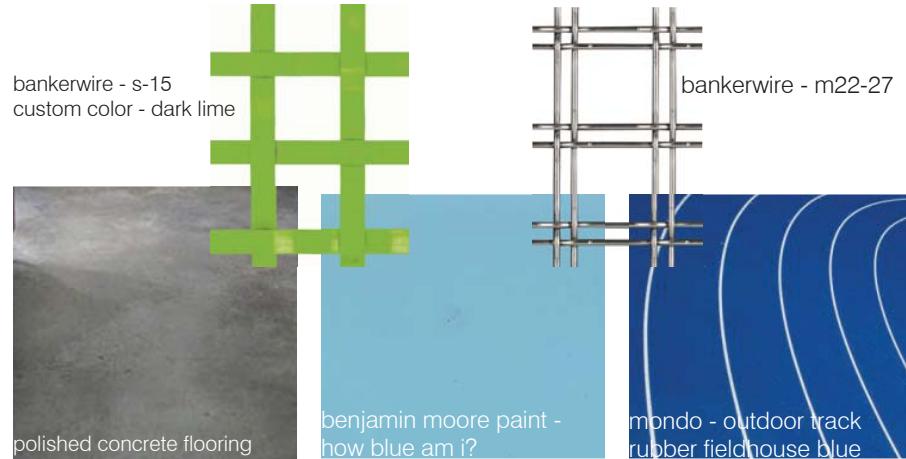


Pictured to the left is the "dog's view" from within the kennel. In order to further the connection of the shelter to the courtyard and existing school, the kennels were placed so that half of the dogs would have a view and direct connection to courtyard, while the other half have a view of the daily hustle of the main corridor throughout the school.

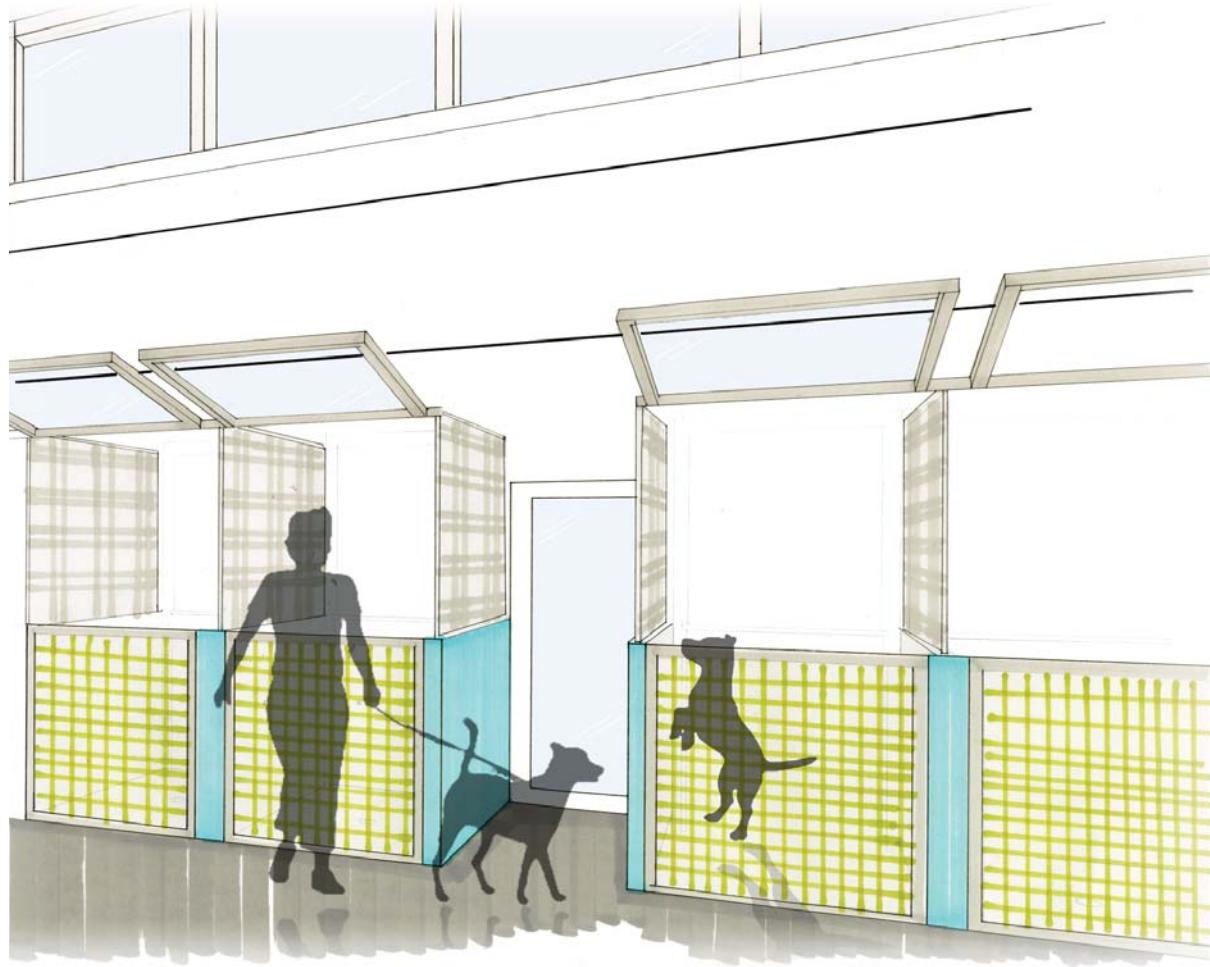


design development

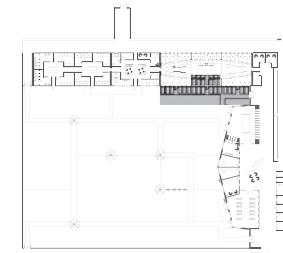
main dog holding area + courtyard view of dog holding



The dog kennels in the main holding area are designed to be pleasing to the animals using the kennels, the guests and workers of the shelter, and students volunteering in the shelter. Lime colored metal wire makes up the main door the dog uses to access the kennel. Glass doors that open up create interior awnings opening up the kennels during the day for a stronger interaction between students or workers and animals.

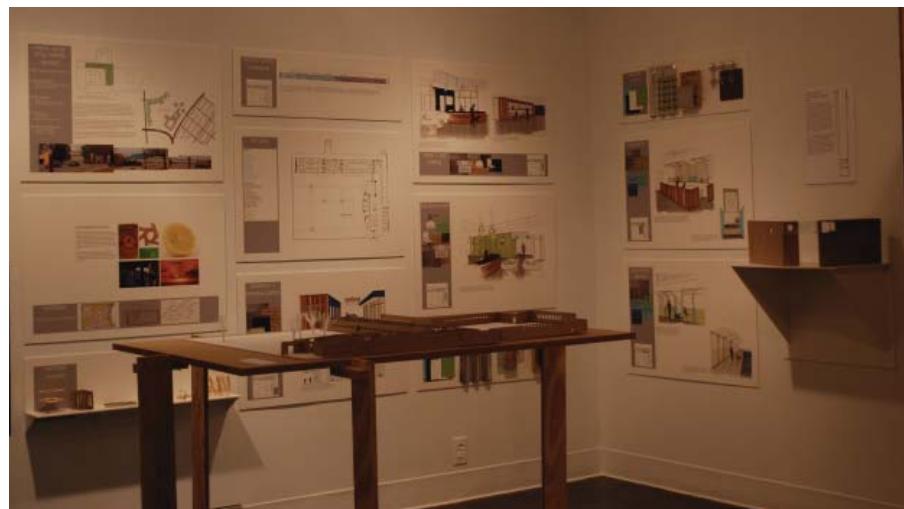


The exterior portion of the kennel that faces the courtyard is very similar to the interior. The same colored wire material is used in front of a tall glass window to keep dogs within the kennel. The window serves to both capture a view of the courtyard for the dogs and opens up to create an exterior awning over that portion of the courtyard.

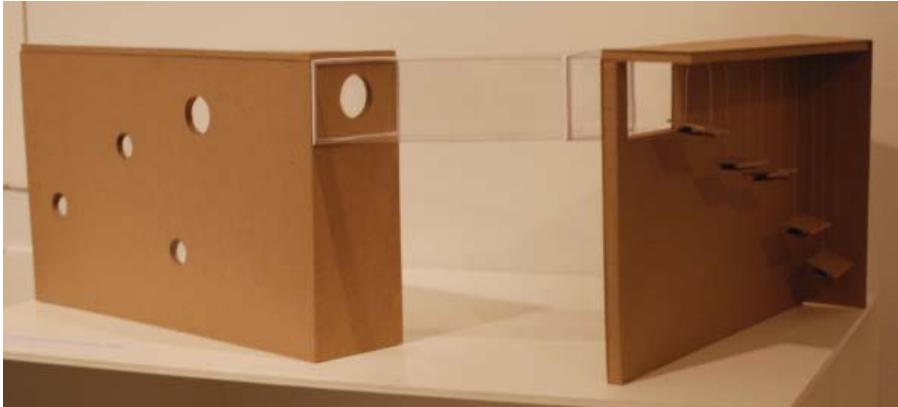


final presentation

anderson gallery thesis presentation



Anderson Gallery presentation including site model, posters, concept models and large model of animal shelter portion of MLK middle at $1/8" = 1'0"$



Detail images of posters as well as detail model of the cat feature wall.

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image credits

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2 Fazio, Michael, Moffett, Marian & Wodehouse, Lawrence. *Buildings Across Time: An Introduction to World Architecture*. Singapore, McGraw- Hill, 2007.

4 Strauven, Francis. Aldo Van Eyck - Shaping the New Reality from the In-between to the Aesthetics of Number. *CCA Mellon Lectures*. Vol. 12 (May 24, 2007). 1-20.

5 http://www.cleandesign05.co.uk/Architectural%20Solutions%20for%20Urban%20Housing_files/image023.jpg

6 <http://www.flickr.com/photos/49503078599@N01/231217566>

7 http://www.mimoa.eu/images/6429_l.jpg

8 <http://www.flickr.com/photos/scarmaee/4018455998/>

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17 <http://www.greenbeanchicago.com/wp-content/uploads/pacific-garden-mission.jpg>

18 <http://modernottawa.blogspot.com/2009/08/modern-animal-shelter-coming-in-ottawa.html>

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