Oikos Rehabilitation Center:

A new treatment center design using space syntax analysis

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Prof. Chad Schwartz

Oikos: ancient Greek; equivalent of a
household, house, or family

Holding cell or spa, is there a better way to design a detention center? Can we reign in these polarities? As society moves forward in the psychology of how to handle "wayward" youths, so to should the architecture. By using a unique set of rules and benchmarks, the following research thesis will examine a new approach to the design of a juvenile female detention center for southern Illinois.

For this thesis, protection, community, rehabilitation, courtyard, and education became the keywords defining this center. A typical medieval monastery is structured as a "Cloister" of buildings, self-contained and protected. All of the inhabitants were part of the community. Concurrently, each inhabitant strove to find his own path to spiritual awareness and personal growth. A daily routine helped pass the time as well as foster usefulness among the monks. Similarly, the youth occupying a juvenile detention facility need to feel they are part of a larger community while developing through personal growth.

Through the design of space and "Meaningful Wandering" (Cohen & Weisman, 1991), the detention center is more than just a holding cell. This strategy has been explored in spaces designed to care for the elderly with Alzheimer's or dementia. Could this

... it can provide residents with a degree of stimulation and challenge and can become a meaningful activity... treat wandering behavior as an opportunity rather than a problem, with responsive programs and an accommodating physical environment...

Holding On to Home, Designing Environments for People with Dementia

strategy of meaningful wandering also be effective when applied to a female juvenile detention facility? Centering this design on the "negative" space - the walking paths – could allow it to become an exercise in personal growth and self efficacy for the youth. Thus, providing a program space for physical activity and behavior modifications, allows for rehabilitation rather than tribulation. The assemblage of buildings needs to have a sense of compassion because of the ages and the circumstances of its occupants.

Through the integration of cloisters, negative space, and meaningful wandering, an architectural form arose. A cloister of buildings creating and surrounding a central courtyard, allowed for safety and security of the occupants. Within this perimeter of buildings, the visual "line of sight" of the authority figures influenced their placement at the primary level rather than secondary. There was the need to rid the courtyard of "blind spots" so too limit the possibility of incidents between detainees, just having the "thought of someone may be watching, will help mitigate bad intentions" (Roth, 2013). As a result, the landscape plan purposely places trees on the far end of the courtyard so not to block views to key areas. This idea of "sight lines" influenced the building angles and setbacks off the main courtyard, as well. Moreover, the layout of the residence

... the courtyards are well landscaped and inviting, and each contains its own series of raised planters, lawn furniture, or garden feature... the introduction of natural light and ease of access to outdoor spaces...

Design for Aging, International Case Studies of Building and Program

tpods was held to the same standard and research utilizing Isovist field, "the set of all points visible from a given vantage point in space and with respect to an environment" (Benedikt, 1979; Benedikt and Burnham, 1984). This theory was the driving force behind the "dayroom" plan and sleeping room configuration.

Although the initial design concept focused on the "walking paths", it moved to the secondary level since the need for safety and security of the occupants took precedence. Consequently, the paths of travel and the nodes of intersections further revised the placement of various elements in the courtyard. As the covered walkway took shape around the courtyard, the connections between buildings, the idea of "meaningful wandering", came back into the design to tie various program configurations together.
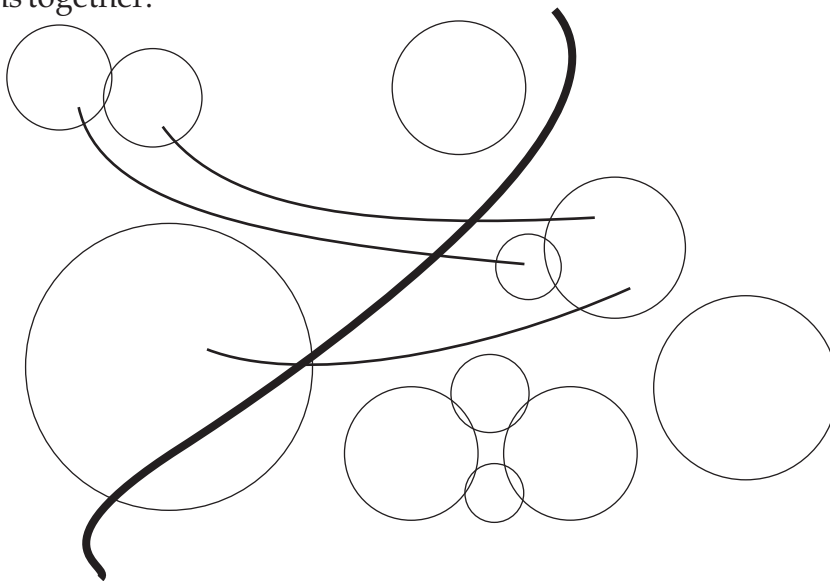
[Walls] do not claim superiority; they claim only difference.

Peter Marcuse, 1997

I.
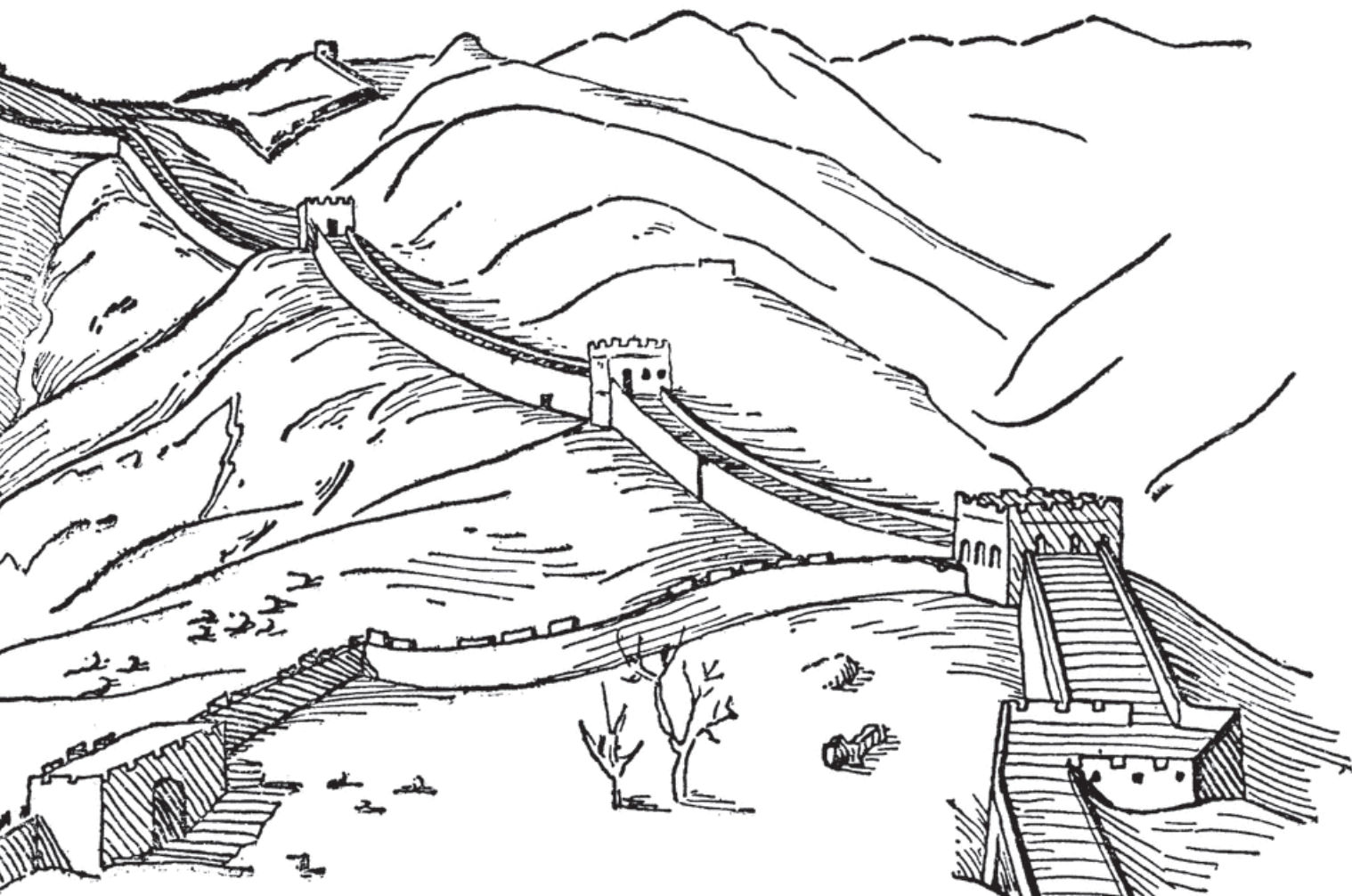
Do walls give a sense of security or a sense of imprisonment? To loosely define a wall as a boundary, it has both. In relationship to this project, I feel that there are many layers of boundaries. One can work from the outside-in. A perimeter wall, which is the main security fence, represents, as it should, the boundary to the outside world, protecting those on the outside from those within. It should be a reminder to those within of the consequences of their previous actions.

As this article summarizes, boundaries and "their meaning shifts with the social circumstances of their use" (Marcuse 1997, 102). Throughout history, walls defined social interactions, defense of city-states, for the protection of property, to a finally a more fluid perpetually moving boundary which "do not claim superioty; they claim only difference" (Marcuse 1997, 113).

With the project at hand, the boundaries within, need to give both a sense of security and inclusion. We need to develop a sense of community in which the juvenile can find support and growth amongst their peers, but also the security, to feel safe from harm, to be able to reflect on their situation and better themselves and finally to be back in the society at large.

II.

How can the spatiality of the space be relaxed yet at the same time keep order? Even through a design, "spatial configuration generates social functions beyond those that are explicitly programmed"(Peatross 2001, 530). There must be a balance between too restrictive of environments and those which allow for disruptive behaviors to get out of hand. How is the small space of one's room applied to the reality of the larger communal spaces with multiple interactions?

This article involves the case studies of three Alzheimer's and three junivile detention centers. It was written by Frieda Peatross at Embry-Riddle Aeronautical University, Daytona, FL in 2000 and published in the peer reviewed *Journal of Environment and Planning B: Planning and Design* 2001. The arthur reports, (as of 2001, I do not know if this is true today), that all detention centers in the US have to meet requirement of the American Correctional Association's *Standards for Juvenile Detention Facilities* (1998). The detention centers comprised of D1-radial and cluster plan, D2-irregular pavilion plan and D3-compact gridded mass with separate housing pods (Peatross 2001,533).

The research identified two outliers as well as a midway point in the roles of space, all dealing in relationship

with the communal central space. One was restrictive and the other structured yet peaceful, with the middle ground being an ebb and flow of disruption and general oversight. The author goes on to use, as defined by (Benedikt, 1979; Benedikt and Burnham, 1984) "Isovist Field –the set of all points visible from a given vantage point in space and with respect to an environment", to gather conclusions of the surveillance spaces. The author goes on to compare the spatial feature of layout and lookouts to determine the functionality of the space.

This article relates to 'Walls of Fear….." article in so much as applying the boundaries made within the central communal space. There are the spaces that the juveniles feel and experience from their small sleeping quarters to the large open communal core that

needs to be shared with people from various backgrounds and states of incarceration. Not only are the guard's interactions and surveillance overshadowing the interactions, but the specific sight lines, as stated by the isovist method, allow for small interplays that may or may not happen in the view of the guards.

The boundaries become blurred in the communal spaces since there are interactions seen and unseen. The surveillance room tries to hide in the background to allow for relaxed and productive happenings, yet there may be a sense of "someone watching over me" that inhibits the bad behaviors. This then helps in the rehabilitation of the juvenile's there and, hopefully, the inner restraint we released back into society.
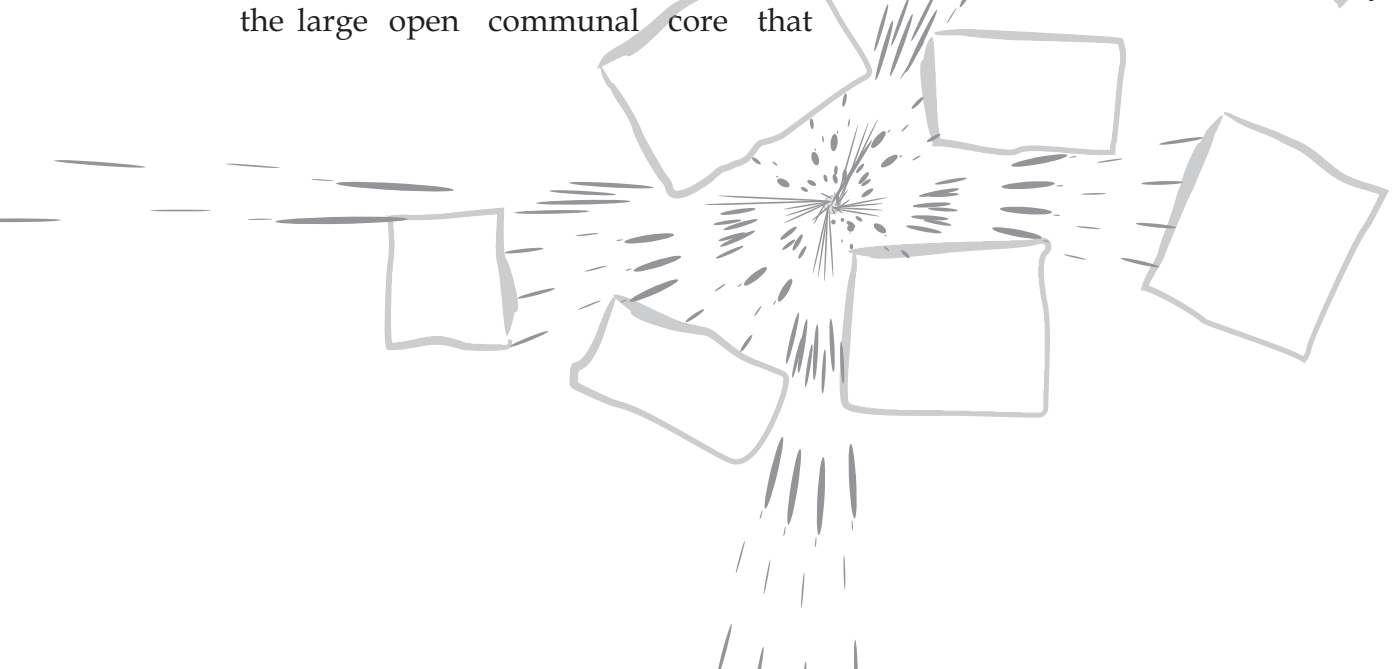
III.

With this article, one may take away the sense that not only are we designing a facility for the juvenile's but also the people who work there as well. The idea that all kids are bad, are, in the case of this article, not only set by the training methods of its guards, but by the design of the space. Could the cells not be as small as to not foster disruptive behavior when they are sent to their cells or "give you hours"? Does the space also affect the guards and in turn effect and reinforce the negative attitudes towards the kids? "Everything about the institution--from physical structure of the buildings to the way guards are trained, to the rules and punishments they are expected to enforce, to the culture of guards--pressures guards to adopt punitive approaches to working with the detained children, an approach that ultimately confirms how guards think about the youth" (Bickel 2010, 47).

As with any space, the psychology of the inhabitants needs to be addressed as well. The physical interactions and interchanges from one room to the next. If these connections allow for better communication and social interaction, rather than the feeling of a stockyard moving cattle form one shoot to the next, will that improve relations between detainee and guard? "…the confinement of thousands of children [is] heartbreaking, not only for those condemned to captivity, but also for those detention guards, who must ultimately come to terms with the fact that their jobs do little to help children they deal with an a daily basis" (Bickel 2010, 48). We have to remember that the people working there feel, wrong or otherwise, "in captivity" just as much as the detainees for the shift.

IV.

The article deals with the spatial density of a classroom and its affect on children's learning. Notwithstanding the numbers of students, but the actual square footage each student has with that classroom. "Prior research in school settings has primarily examined density in the context of school size and class size" (Maxwell 2003, 567). Will the affect of density also reach across to the juvenile setting? How can group sessions be better utilized in their area rather than in how many are in one group?

Small class size can help in better students, yet coupling that with a general rule for square footage may increase performance even more. "decreasing the amount of space per child from 25 to 15 square feet was accompanied by increase aggressive behavior, more parallel play in large groups, and less group play" (Maxwell 2003, 568). This study, since most female juvenile detention centers are hand-me-downs from the male juvenile detention centers, can relate to how the old space is renovated and refurbished to the meet the needs of the new female detainees.

Even though this study was dealing with elementary school students, I feel the data collected can apply to this demographic since some attitudes and basic discipline issues are somewhat the same. The boys and girls of the sample group were given reading test before and after. "Scores on reading decreased for girls as classroom square footage per child decreased. There was a main effect for gender…Boys outperformed girls on this measure in all density conditions." (Maxwell 2003, 572)

However when it came to behavioral problems, boys had an increase as space decreased. These findings can be passed on to male juvenile centers as they get more crowded and more problems arise. The density of space is as much an issue as the density in numbers.

In relating this to Reading #3, this can show how the guards apply discipline to the detainees can have the negative impact. As they confine the kids into smaller and smaller spaces, from an outdoor recreation area, to a communal indoor area, from a group session to the isolation cell, the juveniles show more aggression or acting out as the spaces get smaller. "In the present study, girls and boys essentially performed the same in lower spatially dense classrooms, but as less space became available only girls' performance suffered. It is important to note that boys' ratings of behavioral disturbance increased in the higher density conditions" (Maxwell 2003, 574).

Does it have something to do with the actual physical proximity to be able to damage property? Or just that they feel like caged animals and are being treated

Does it have something to do with the actual physical proximity to be able to damage property? Or just that they feel like caged animals and are being treated as such? I am sure the guards have a tough job, being on high alert at all times.

"Scores on reading decreased for girls as classroom square footage per child decreased.

Lorraine E. Maxwell, 2003

TIER THREE

Intensive Individual
Intervention

Specific individual targets

1-5 % of
students

Individual counseling
Intervention Plan
Behavioral Assessment
Child Study Teams
Check In/Check Out

TIER TWO

Targeted group
Intervention

Teacher rapid response

5-15 % of
students

Group Counseling
Peer Mediation
Mentor
Check In/Check Out

TIER ONE

Intervention in classroom
by Teacher

80-90 % of
students

Expatiations
Incentives
Rewards

I.

Elementary and Middle School Tiers

II.

High School Classifications

CLASSIFICATION #1

Subject to immediate suspension and/or expulsion

Most severe disciplinary action

May be reported to Carbondale Police

1-8 items

CLASSIFICATION #2

Subject to immediate suspension and/or expulsion

Disciplinary action less severe than Class. #1

1-14 items

CLASSIFICATION #3

Subject to disciplinary actions ranging from verbal reprimand to expulsion

Continued infractions have a cumulative effect per term

1-40 items

PAWSE:
Positive Alternative with Social Education
opportunity to receive social and behavioral instruction group or individual canceling

SUSPENSION:
students can give the side of the story if implemented, parent/guardian may request review report letter sent
home outlining reasons and length of time as well as the rights of student

3rd offense

Removed from classroom
for remainder of year and
receives an F
May be suspended

2nd offense

Removed from classroom
attend PAWSE for 3 days for
that period
Parent/Teacher conference

1st offense

Removed from classroom
and remaining period in
PAWSE

LOBBY

Public entry area to main facility. This will be the first impression for the visitor to feel comfortable and reassured. The area will also house the waiting rooms for accessing the secure area, as well as public restroom.

MENS

WOMENS

VESTIBULE

JANITOR

GENERAL
WAITING

CONFERENCE

SENIOR
CASE

VISITING
WAITING

DIRECTOR
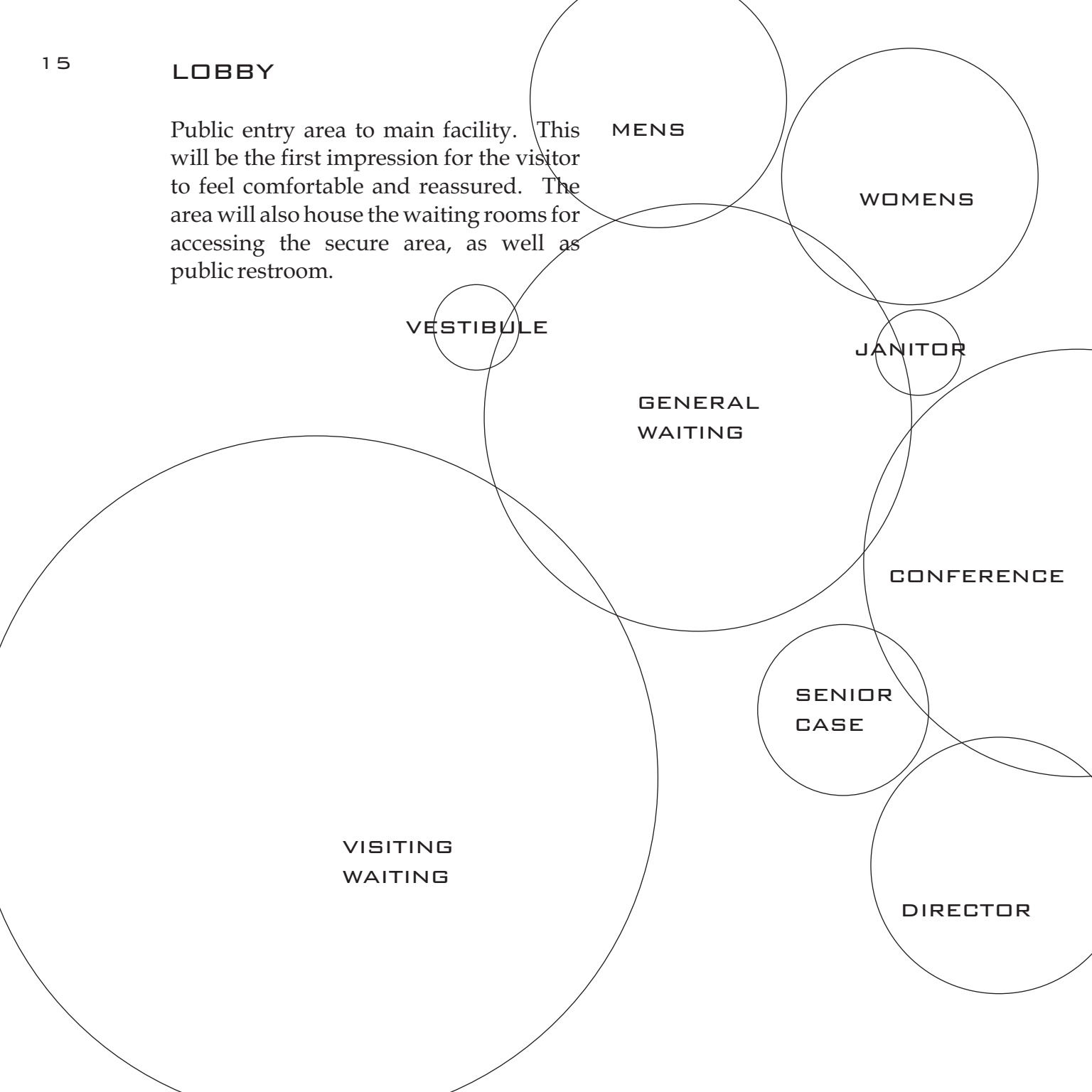
Lobby: 1812 sf
Adminstration 2317 sf
Secure Care | Core 1699 sf
Secure Care | Visit 1131 sf
Residential Pod (x3) 2305 sf
Therapy Center 1348 sf
Education 3178 sf
Physical Ed. 1015 sf
Outdoor PE 2000 sf
Central Support Core 4953 sf

Total: 26,368 sf

DEPUTY
DIRECTOR

WORKSTATIONS

BREAKROOM

FILE
STORAGE

JANITOR

STAFF
RESTROOM

ADMINISTRATION
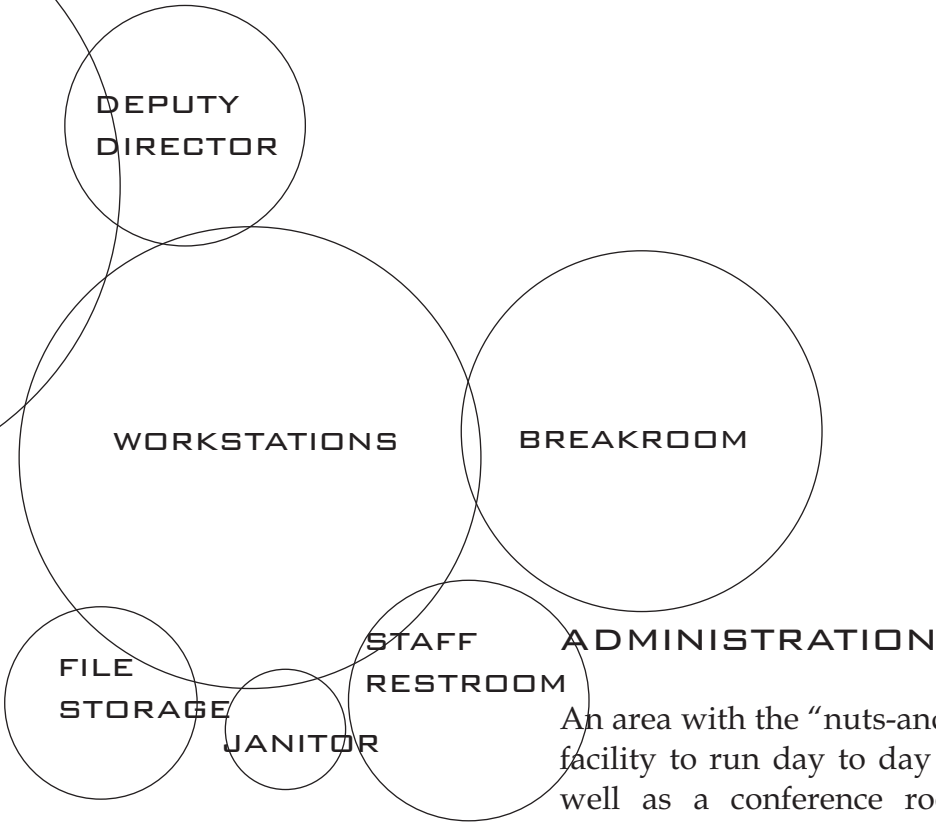
An area with the "nuts-and-bolts" of the facility to run day to day operations as well as a conference room to house workshops for the staff and the public at large.

CENTRAL SUPPORT

The largest portion of the entire center will be here. The major storage area, laundry and receiving docks, as well as maintenance shop and staff lunchroom will be mixed among the kitchen and dining hall areas. The Dining hall area would be within the secure area for the detainees. A secondary secure access point for staff and or detainees may entry and then exit to the Secure Care Core. This building must be functional.

SECURE STAFF ENTRY

STAFF LUNCHROOM/BREAKROOM

CUSTODIAL OFFICE

JANITOR

STORAGE SHED

TRASH AREA

RECEIVING DOCK

MAINTANCE SUITE

COMMODITY STORAGE

LAUNDRY

FACILITY KITCHEN

DINING HALL
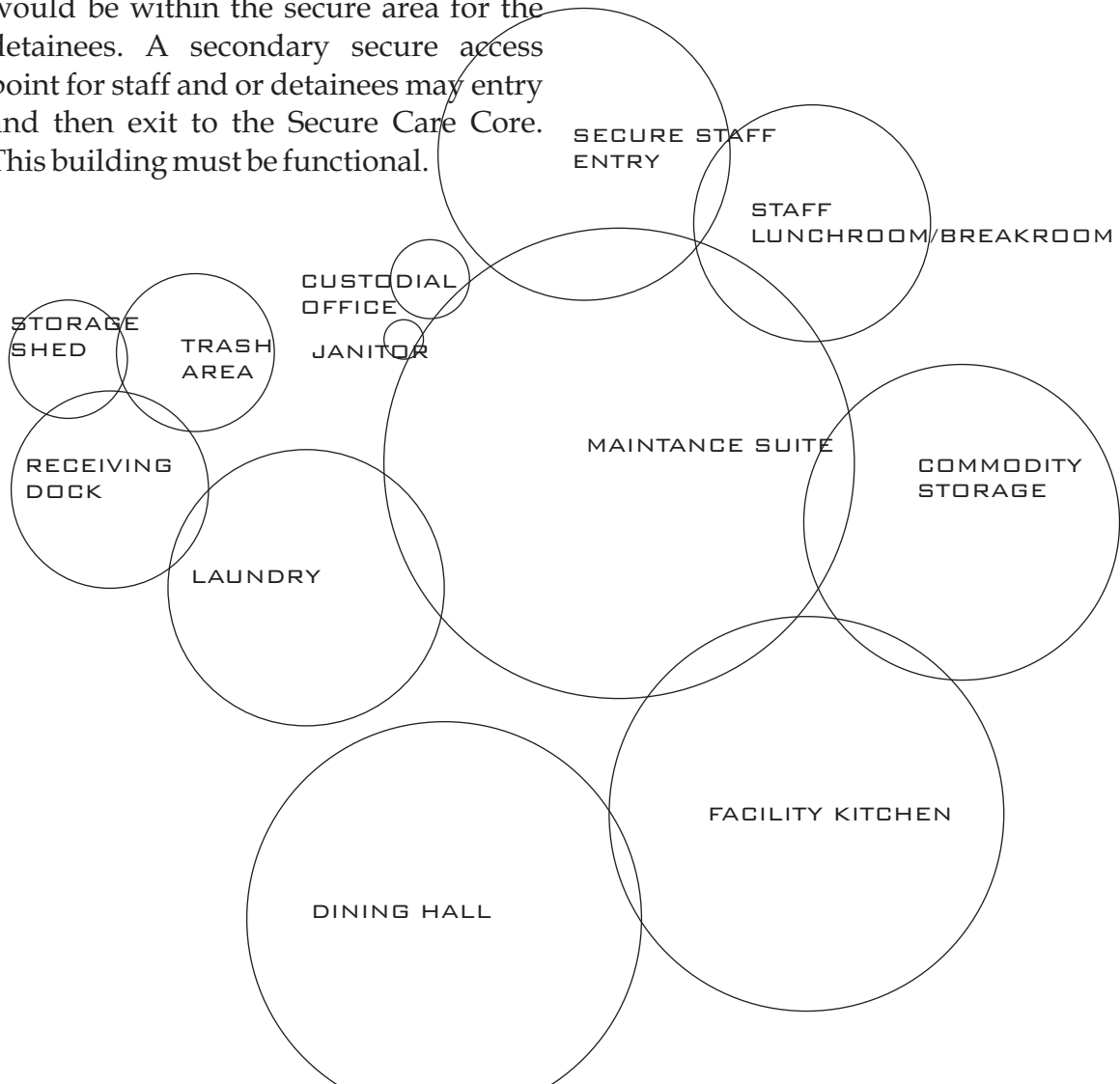
This area will be setup as much as possible as a school house. There will be a large classroom for group functions, two smaller classrooms setup for the different levels of majority and skills, a library and finally an educational staff preparation and lounge room.

CLASSROOM #1

LIBRARY

CLASSROOM #2

YOUTH RESTROOM

STAFF RESTROOM

CLASSROOM COMMONS

STAFF WORK ALCOVE

INTERVIEW/ TESTING ROOM

WORKROOM

WORKSTATIONS

STORAGE

JANITOR

STAFF RESTROOM
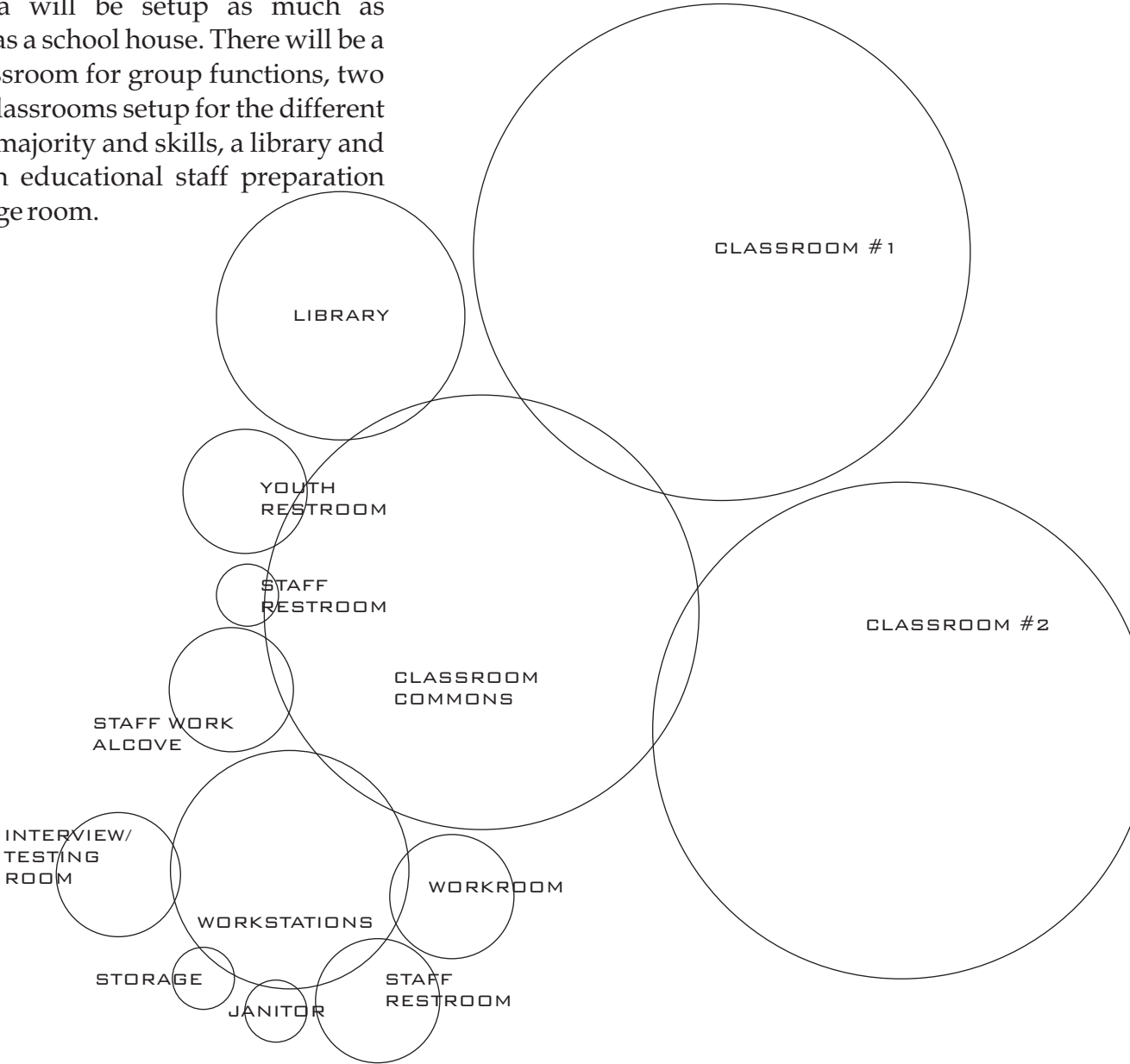
RESIDENTIAL PODS (X3)

Within these two pods, the 25 detainees will interact in a communal Dayroom and double occupancy bedrooms. One pod may consist of 4-Doubles and 1-Single. The other pod may consist of 2-Doubles and 5-Singles, this pod being for those whom are showing good behavior, older detainees and somewhat close to the end of the stay. This pod may also have communal laundry for greater autonomy and responsibility. Both of these pods will be separate, stand alone buildings, yet accessing an indoor Physical Fitness center and Treatment center.

DOUBLE BEDROOM

DOUBLE BEDROOM

SINGLE BEDROOM

STORAGE

DAYROOM

SHOWER

VANITIES

SHOWER

JANITOR

LAUNDRY

SINGLE BEDROOM

DOUBLE BEDROOM

DOUBLE BEDROOM
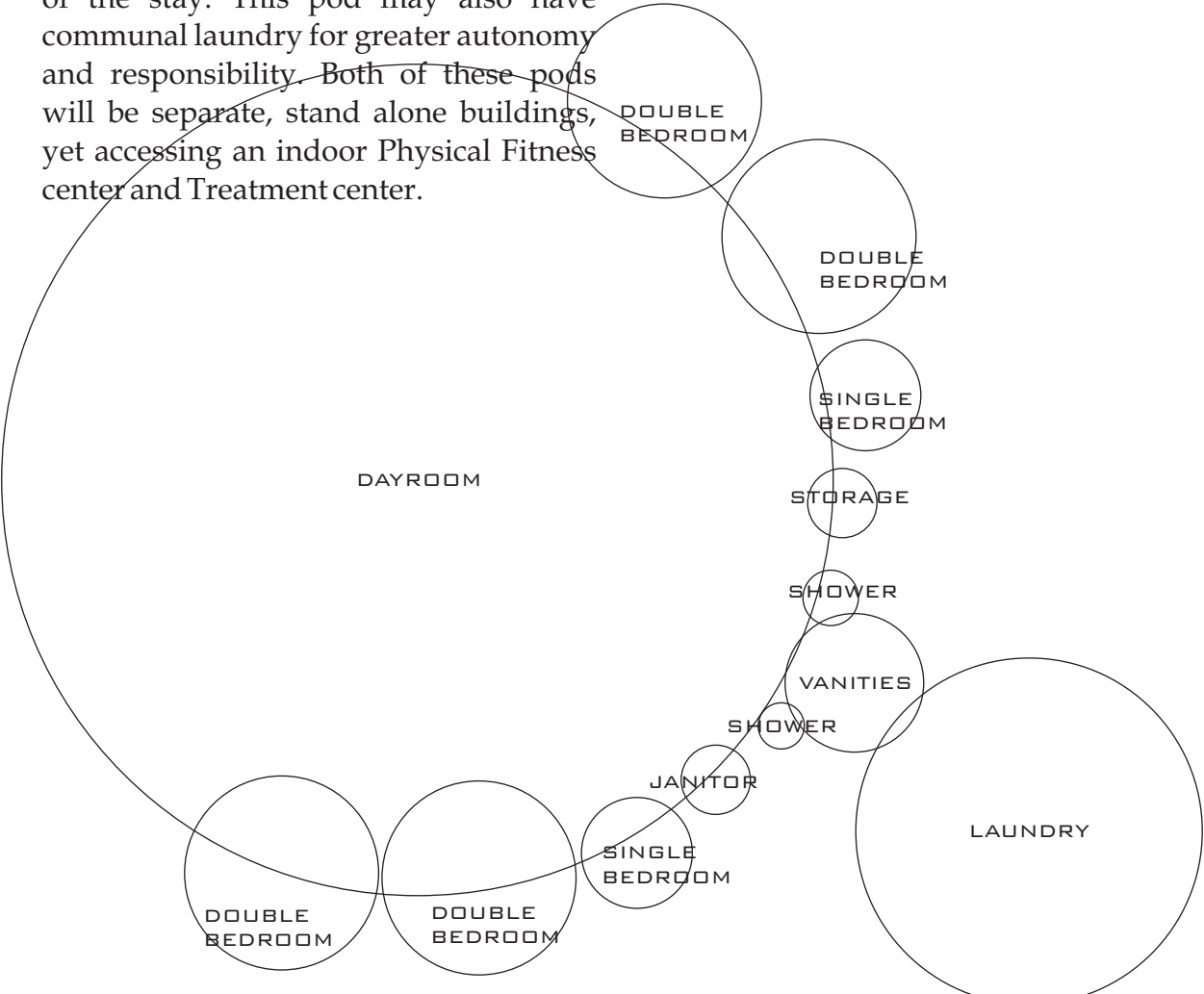
SECURE CARE: CORE

The main purpose of this area is to provide a common area for which all detainees must travel through and meet with Medical Health care and prescription medication services.

SECURE CARE: VISIT

As visitation rights and privileges are obtained, this area will provide a secure atmosphere to meet with family and friends.

SECURE JUVENILE ENTRANCE

CASE MANAGER OFFICE

STORAGE

JANITOR

PRIVATE VISITING/ INTERVIEW

WORKSTATION

STORAGE

HEALTH CLINIC

YOUTH VISITING ROOM

GROUP ROOM

PRIVATE VISITING ROOM

YOUTH RESTROOM

VISITOR RESTROOM

JANITOR

STORAGE

PHYSICAL FITNESS

JANITOR

RESTROOM

THERAPY ROOM

WORK ALCOVE

TREATMENT STAFF ROOM

THERAPY CENTER

MULTI-PURPOSE PROGRAM ROOM
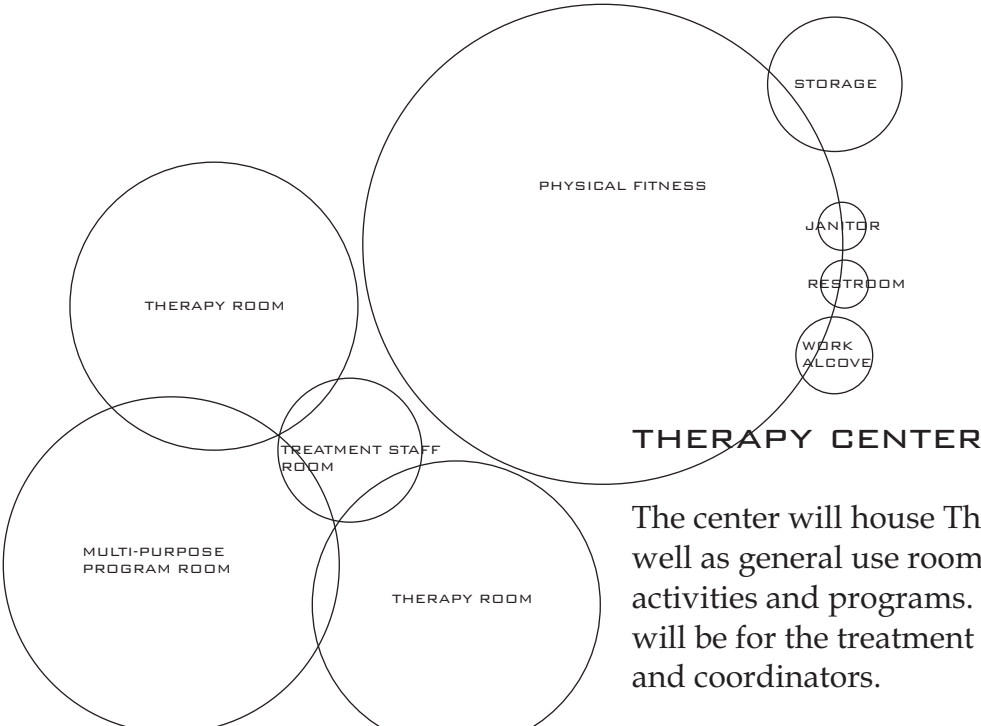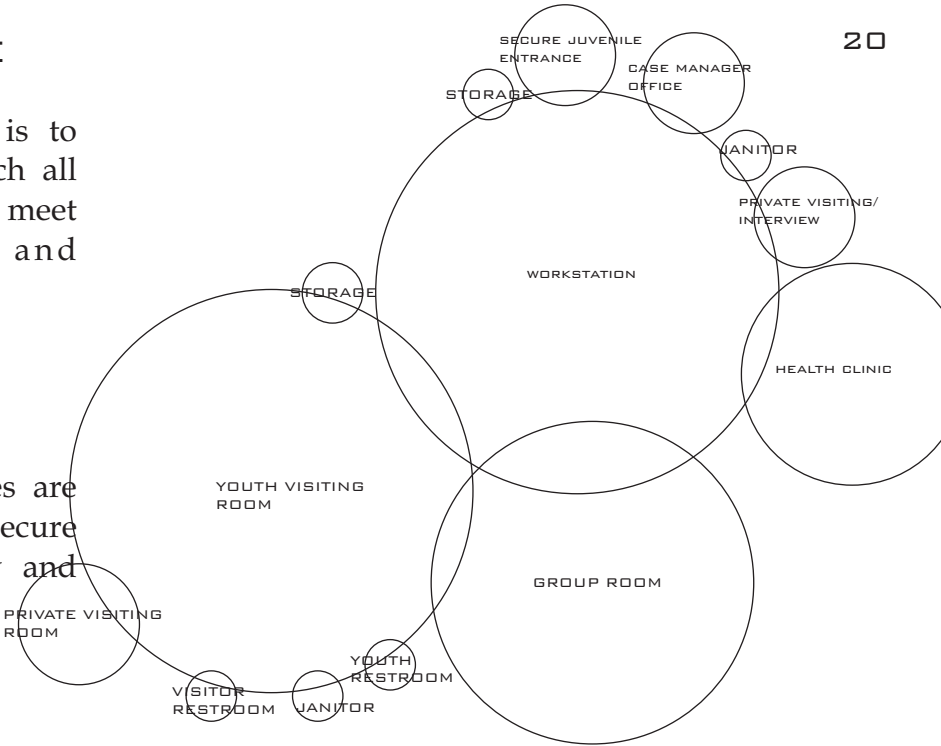
THERAPY ROOM

The center will house Therapy rooms as well as general use room with various activities and programs. The staff rooms will be for the treatment professionals and coordinators.

A respite for Aboriginal Australians

Partnership with local colleges, develop skilled workers for the community

Families encouraged to visit, but not allowed in bedrooms; private and secure for residents

Landscape and surroundings, more important than building adjacencies

Circulation between buildings more important than within; different views - not furniture or color to help with way finding

Most of the time outside, bedroom just for sleeping

Covered walkways

Tjilpi Pampaku Ngura

Emabella

South Australia

Occupied since: October 2000

Gojikara Mura

Nagoya

Japan

Occupied scince: 1987

A multi-generational care campus

Materials and scale of buildings same as surrounding

Gravel walkways to slow pace down

"Cutting roofs instead of trees", maximize ventilation, shade trees

Homelike environment

Noncritical areas intentionally inaccessible or inconvenient, to foster communication, cooperation
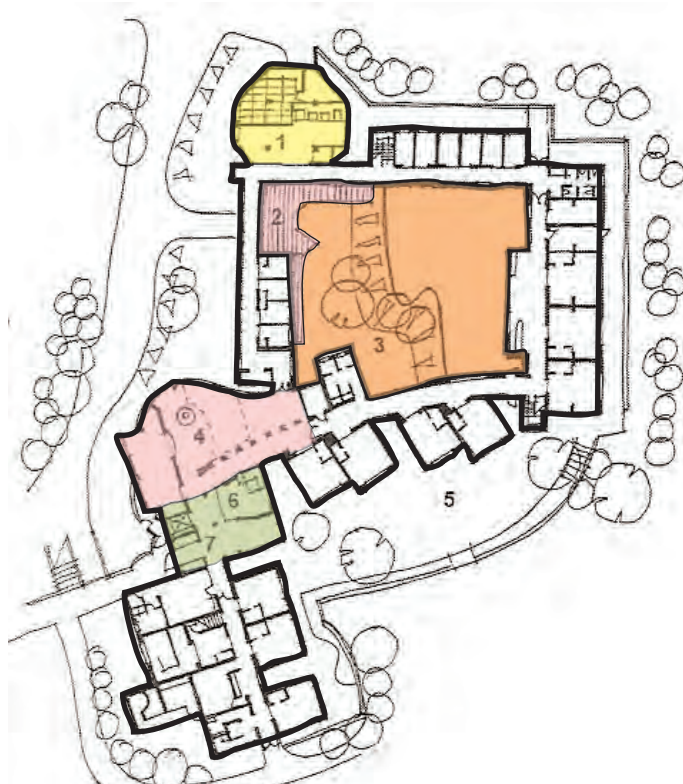
A skilled nursing aged-care facility

Design was manipulated so not to disrupt site balance the amount of cut and fill for building

Not residential nor institutional local materials and colors

Lobby spaces at residential scale living room

Residents and visitors do not feel as if in an institution therefore more community and socialization

Inner courtyard formed by residential wings

Commons area large vaulted ceiling natural light with clerestory

Outside accessed both visually and physically onto the courtyard

Childers Place

Texas
United States
Occupied since: 2007

Castle & Monastery

Images
Layouts
Elevations

Berkeley Castle

Berkeley
England
Occupied since: 1150

Tatev Monastery

Tatev
Armenia
Construction began: 850

SR-51

I-57

SR-3

MURPHYSBORO

CARBONDALE

MARION

SR-13

SR-51

I-57

ANNA
JONESBORO

I-24
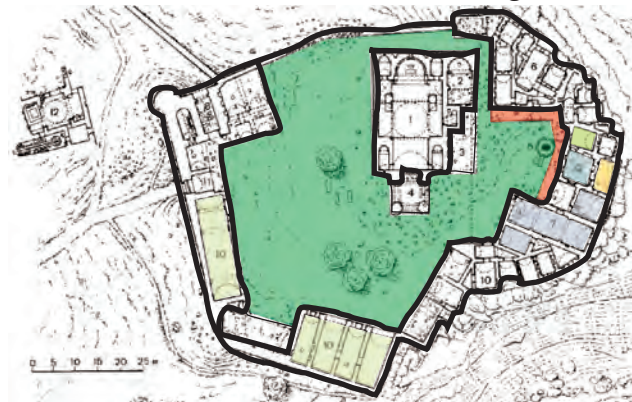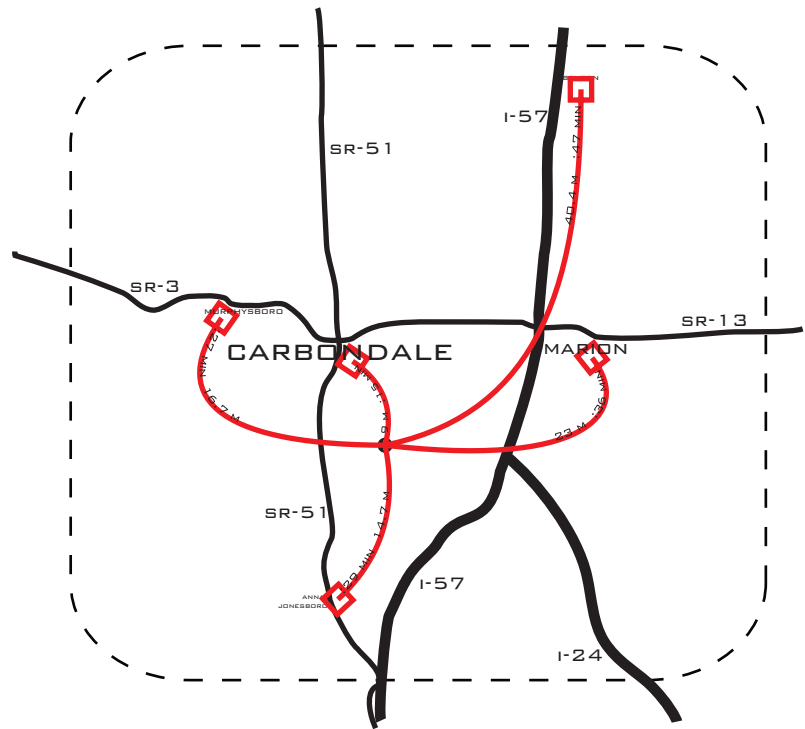
June:
temp: 86 - 63
precip: .11 in.
wind: 5 mph
daylight: 15h 49m

To Carbondale
Giant City Rd
SIUC Fisheries
Camp 1
Admin Office
Fern Ridge Rd
Main Entrance
Touch of Nature Rd.
Camp 2
Upper 40 Road
Stable House
Little Grassy
High Ropes Course
Sewage pond
Parking Lot
To Giant City State Park

To Carbondale
Giant City Rd
SIUC Fisheries
Camp 1
Admin Office
Fern Ridge Rd
Main Entrance
Touch of Nature Rd.
Camp 2
Oikos Road
Stable House
Little Grassy
High Ropes Course
Sewage pond
Parking Lot
Upper 40 Road
To Giant City State Park

December:
temp: 50 - 33
precip: .08 in.
wind: 8 mph
daylight: 10h 31m

To Carbondale
Giant City Rd
SIUC Fisheries
Camp 1
Admin Office
Fern Ridge Rd
Main Entrance
Touch of Nature Rd.
Camp 2
Upper 40 Road
Stable House
Little Grassy
High Ropes Course
Sewage pond
Parking Lot
To Giant City State Park

Touch of Nature Main Campus
Oikos Road
Service Building
Stable House
High Ropes Course

EXISTING GREEN SPACE
ROADS
SECURE LINE
BUILDINGS
GREEN SPACE
PATHWAYS

NON_SECURE

-

NON-SECURE

SECURE

Secure Care | Core
Secure Care | Visit
Courtyard
Education
Treatment Center
Physical Education
Residential Pods
Dining

SECURE

CONNECTIONS

1 | COURTYARD
2 | CLOISTER
3 | MEANINGFUL WANDERING

0
25
N
5
50
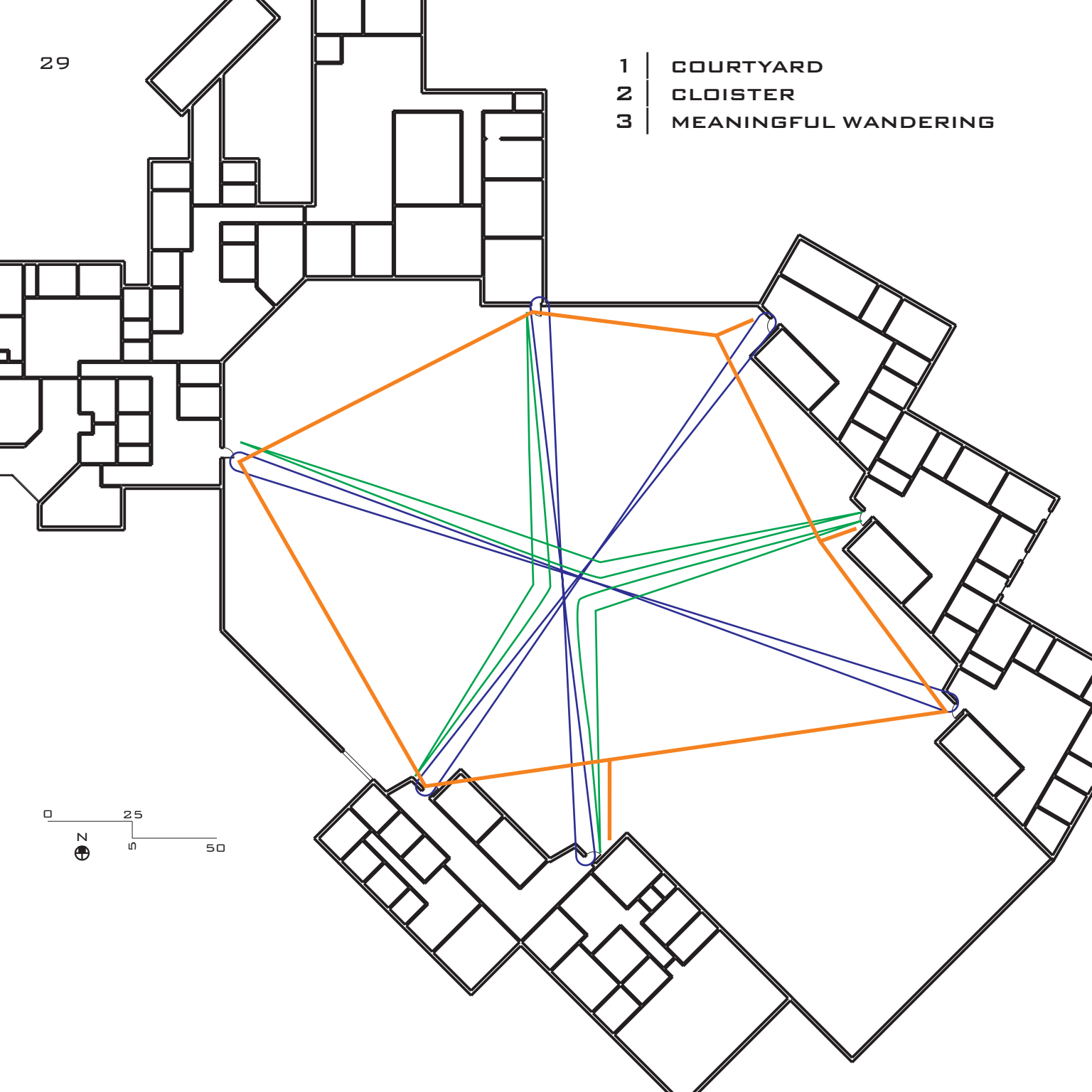
1. ... the courtyards at Childers Place are well landscaped and inviting, and each contains its own series of raised planters, lawn furniture, or garden feature... the introduction of natural light and ease of access to outdoor spaces...

Anderzhon, Jeffrey W., et al., Design for Aging, International Case Studies of Building and Program., 2012.

2. Tatev Monastary. Armenia, 850.

3. ... it can provide residents with a degree of stimulation and challenge and can become a meaningful activity... treat wandering behavior as an opportunity rather than a problem, with responsive programs and an accommodating physical environment...

Cohen, Uriel, and Gerald D. Weisman. Holding On to Home, Designing Environments for People with Dementia., 1991.

LONG TRAVEL DISTANCE
FOOT PATH

This circulation became the basis of the placement of foot paths and centralized patio spaces.
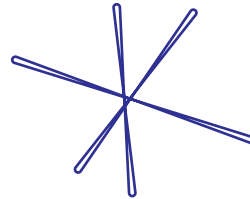
MEDIUM TRAVEL DISTANCE
FOOT PATH

This circulation became the basis of the placement of foot paths and centralized patio spaces in the courtyard.

SHORT TRAVEL DISTANCE
COVERED CLOISTER

This circulation became the basis of the placement of covered cloister between the main program configurations to aid in "meaningful wandering" around the courtyard.

1 | SPACE SYNTAX
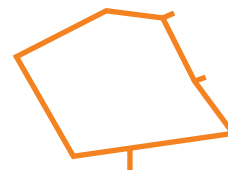
1. Isovist Field, the set of all points visible form a given vantage point in space and with respect to an environment (Benedikt, 1979; Benedikt and Burnham, 1984).
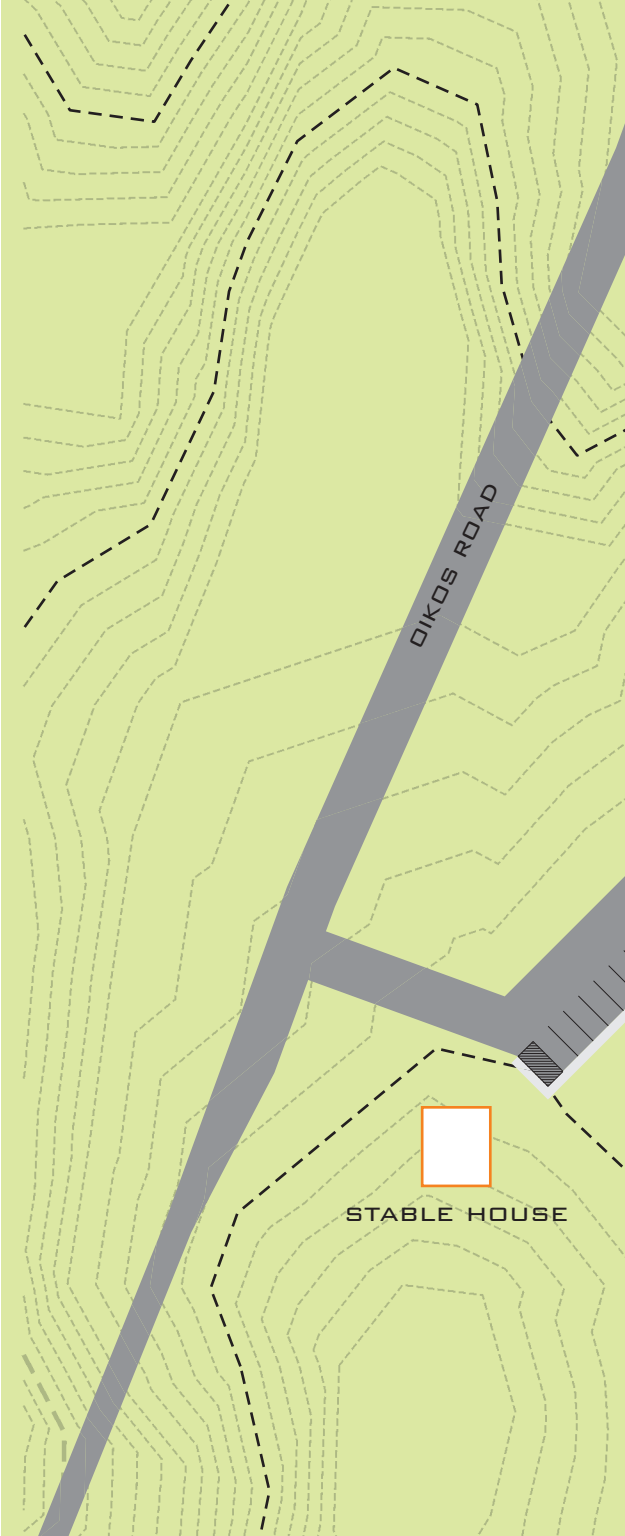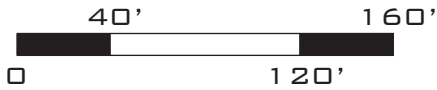
Peatross, Frieda D. 2001. "A syntactic study of control in restrictive settings: innovations in isovist methods." Environment and Planning B: Planning and Design.

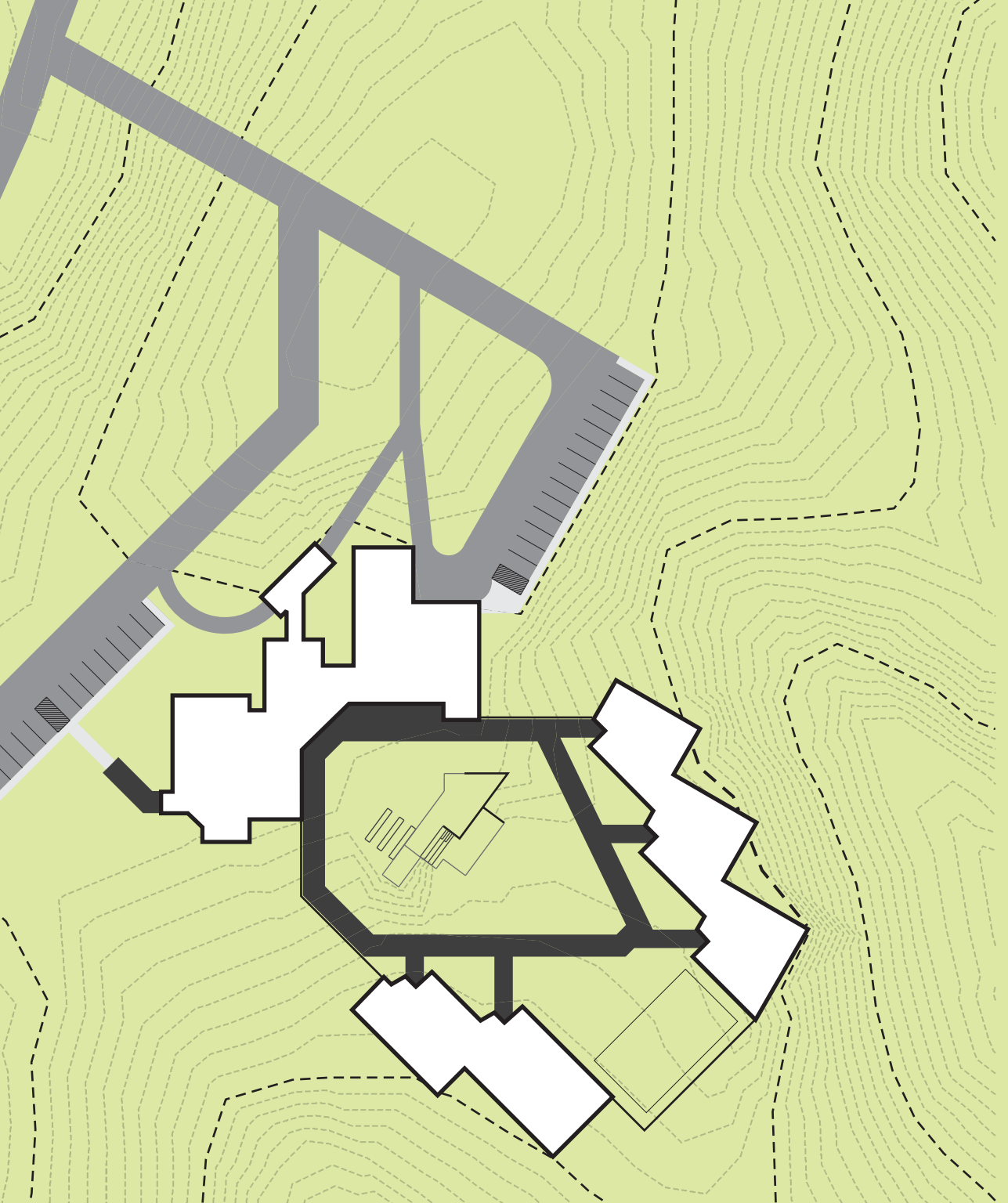## RESIDENTIAL PODS
"LINE OF SIGHT"

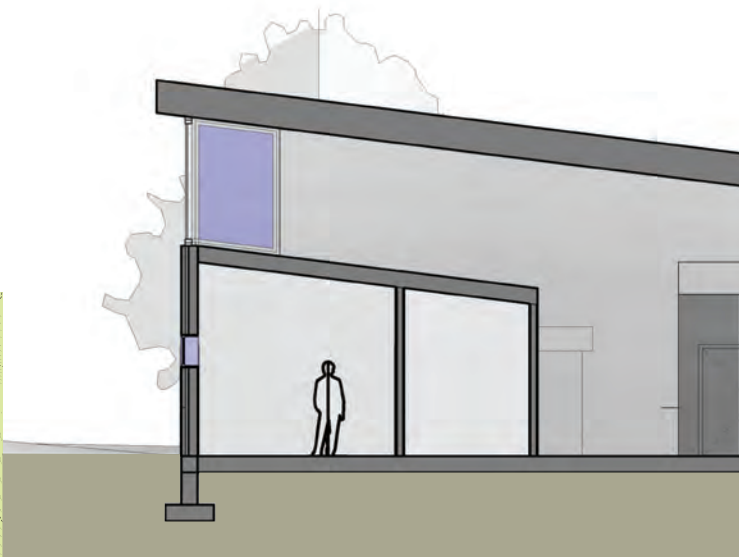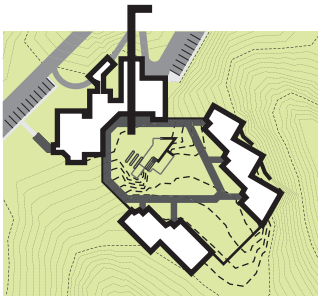Through this analysis, door placements were revised and moved according to better visual access.

John Gollings
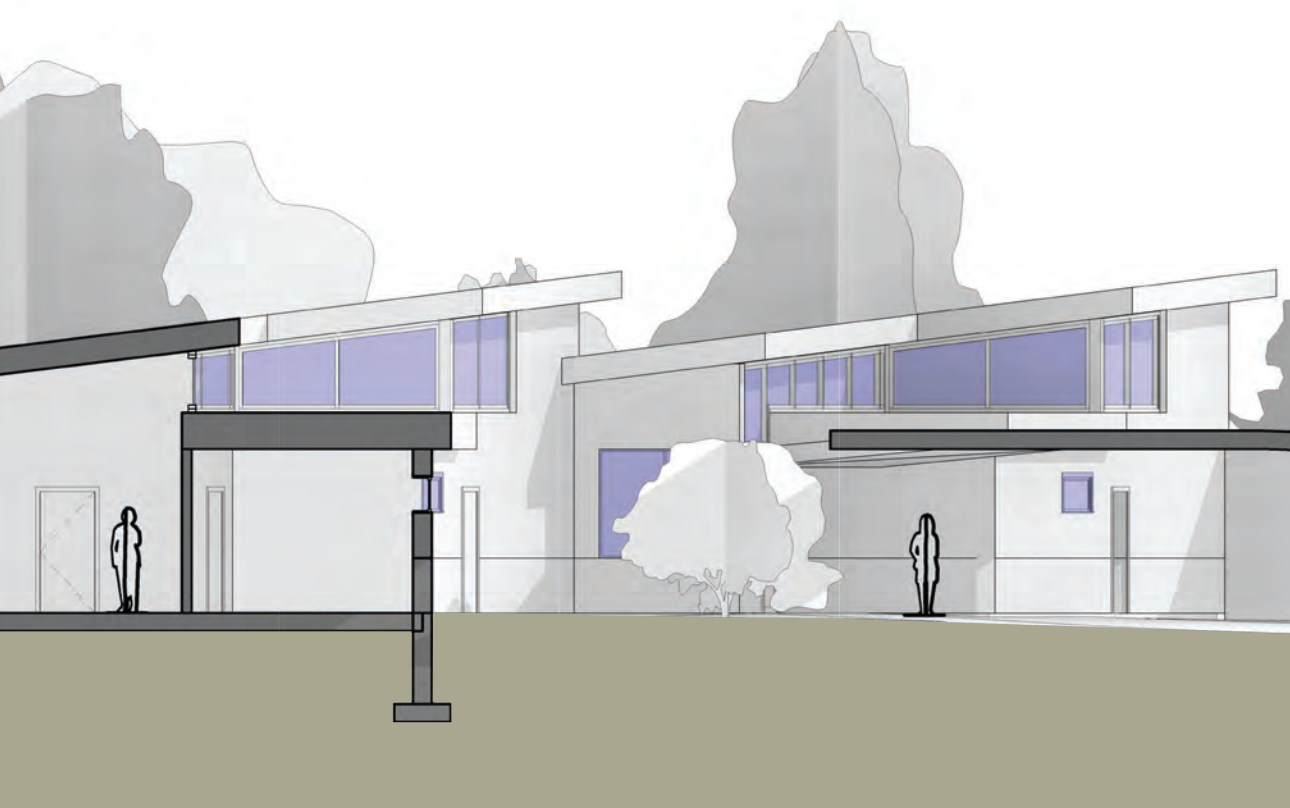

0   25   50
    5
N

NON-SECURE
SECURE

John Gollings

OIKOS ROAD

STABLE HOUSE

40'   160'

0   120'

REFERENCES

Cover:
http://www.geneseo.edu/~bearden/socl217/images/floor.jpg
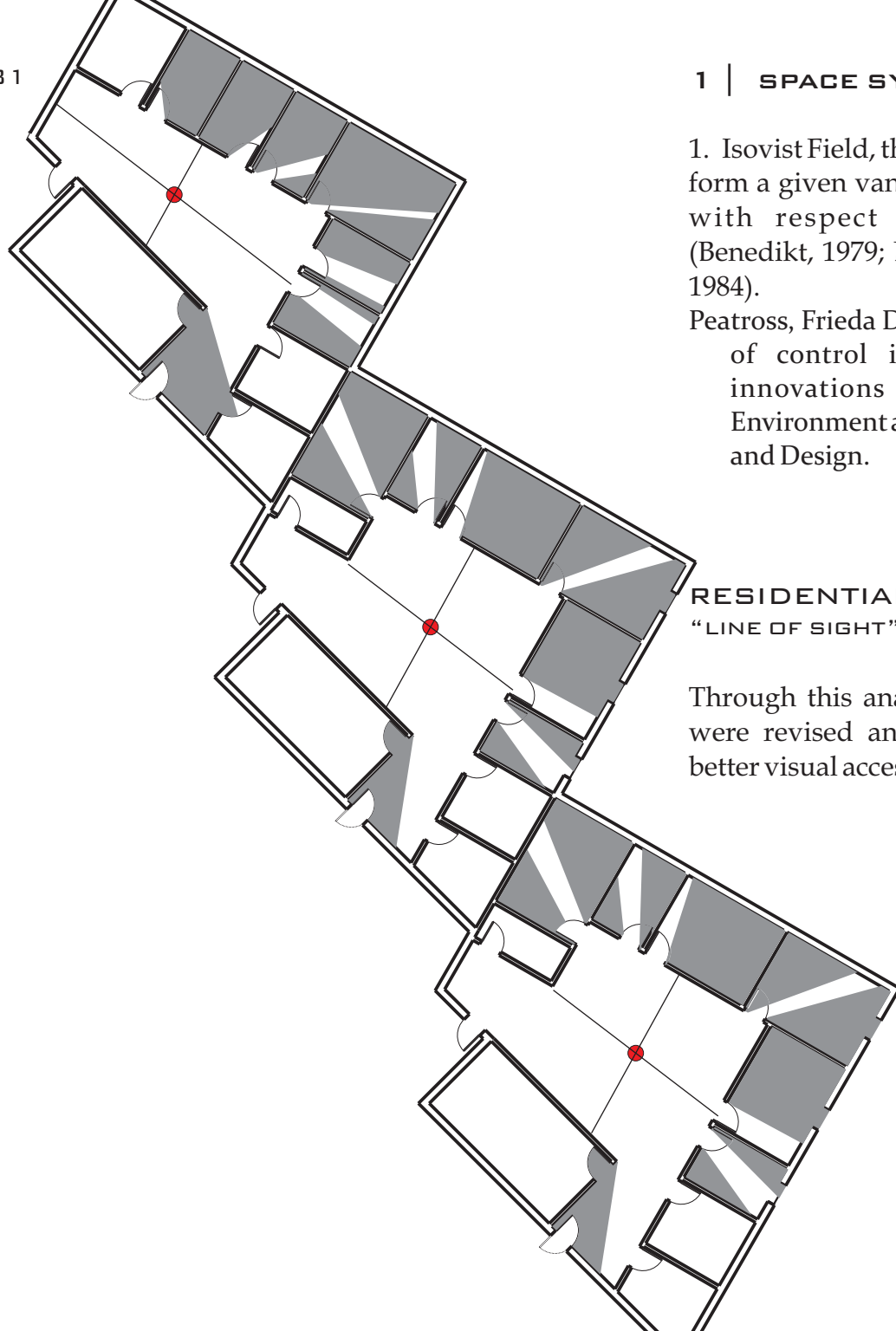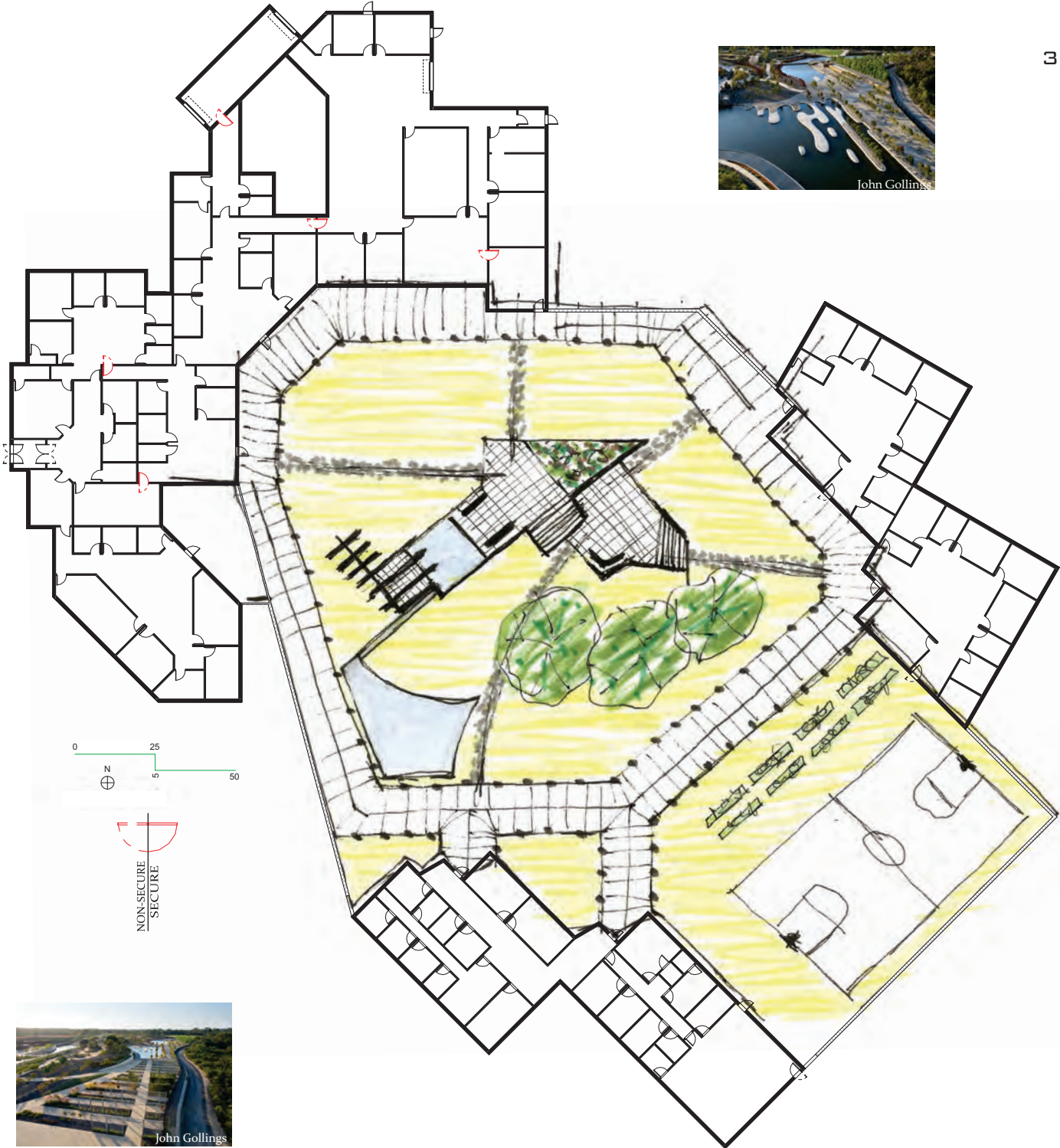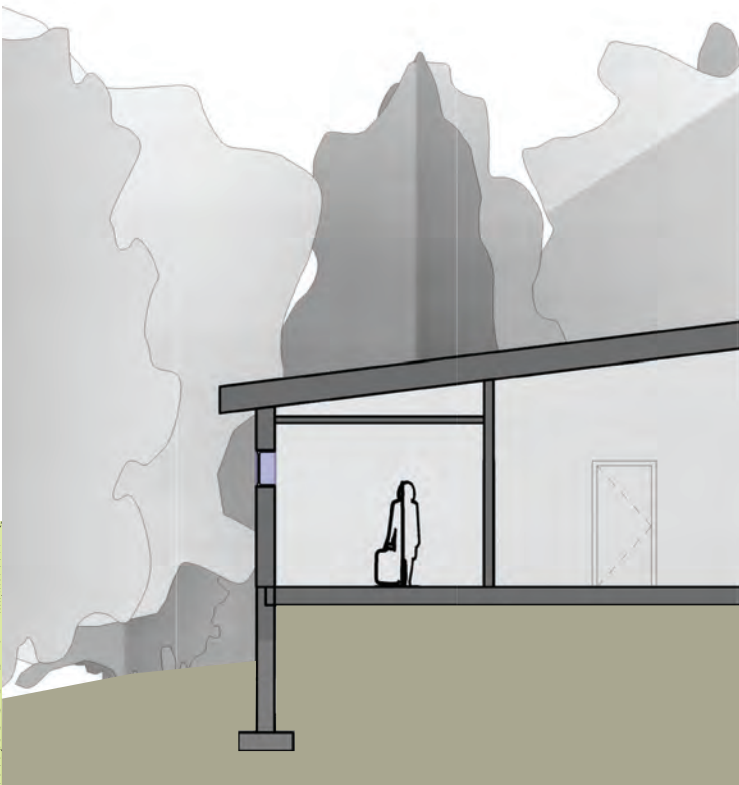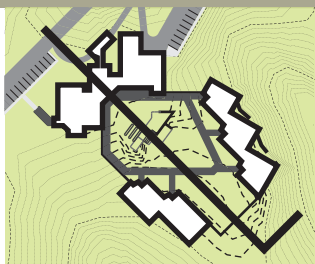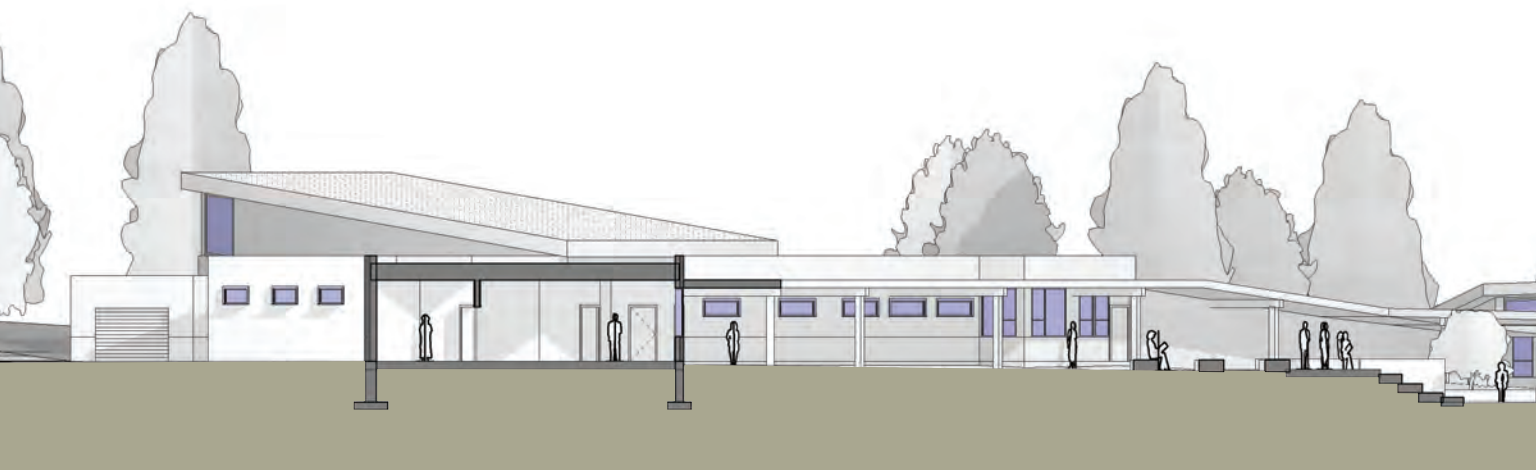
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Pages 11-12:
http://ww1.prweb.com/prfiles/2012/01/31/9156719/2-San-Marcos-High-School-Student-Union-designed-by-LPAinc.jpg
Team, RtI Handbook. *Unity Point RtI Handbook*. Carbondale, District 140, 2012.

Pages: 13-14:
http://www.landmark.edu/m/uploads/classroom-front-back-smiles(1).jpg
Education, Board of. *CCHS Student Handbook*. Carbondale, District 165, 2012.

Pages 21-23:
Anderzhon, Jeffrey W., et al., Design for Aging, International Case Studies of Building and Program., 2012.

Page 25:
http://www.ton.siu.edu

Page 27:
http://farm7.staticflickr.com/6139/5968117826_98bfab1021_z.jpg