Prison Landscapes: An Exploration of Therapeutic Landscapes in Women’s Prison Facilities

by

Lindsay Marie Stucki

A REPORT

submitted in partial fulfillment of the requirements for the degree

MASTERS OF LANDSCAPE ARCHITECTURE

Department of Landscape Architecture
College of Architecture, Planning and Design

KANSAS STATE UNIVERSITY
Manhattan, Kansas

2018

Approved by:

Major Professor
Brent Chamberlain
Abstract

In the United States there are approximately 2.2 million people incarcerated in prisons and jails, making the U.S. incarcerated population the largest in the world (Kaeble and Glaze, 2016; Lindemuth, 2014). With the expansion of the prison population, women now comprise a larger portion than ever before (FBJS, 2010). There are approximately 100,000 women incarcerated in US federal and state prisons (FBJS, 2015). Many facilities do not contain adequate programs to help rehabilitate these women (Young, 2000).

Prisons are often termed "correctional facilities", but struggle to promote positive behavior and well-being (Pacholke, 2014; Haney, 2001; SuedFeld, 1980). When the prison environment is examined, it is often found that prisons are bleak, unwelcoming institutions (Lindemuth, 2014). This prompts the question: How can landscape architects design prison environments that improve psychological health and promote positive behavior?

Evidence suggests that exposure to nature improves psychological health and promotes positive behavior (Moore, 1981; Ulrich, 1984, Ulrich, 1991, Hartig, 1991). Many studies report on the effects of therapeutic landscapes in healthcare settings, (e.g. Ulrich, 1999; Cooper Marcus & Barnes, 1995, 1999; Mitrione and Larson, 2007), however, limited literature exists on therapeutic landscapes within the prison context. The focus of this report is to explore how landscapes within women’s prison facilities can be designed to reduce stress and promote positive behavior.
Prison Landscapes
An Exploration of Therapeutic Landscapes in Women’s Prison Facilities
Acknowledgments

To my family, for all the love and support you’ve given me in the past 25 years. I’ll never be able to fully express my gratitude.

To my studio mates, thank you for helping me survive this program. It was reassuring to have people to relate to and confide in during all the times of struggle and triumph.

To my committee members, Brent, Lorn, and Cheryl, for your time and patience, and for not giving up on me.

To Amy Lindemuth, Julie Stevens, Topeka Correctional Staff members: Colene Fischel, Tammy Shoulders, and Bradley Metzler; and the Iowa Correctional Institution for Women. The interviews and site visits provided me with eye-opening experiences that were invaluable to this report.
Table of Contents

3......Introduction
11......Literature Review
21......Methodology
29......Imagery Analysis Findings
53......Interview and Site Observation Findings
61......Guidelines
79......Design Concepts for the Topeka Correctional Facility
99......Discussion and Conclusion
111......Appendix: Interview and Site Observation Notes

Figures and Tables

Chapter 3
Figure 3.01: Prison Inventory and Analysis Template 26-27

Chapter 4
Figure 4.01 United States Penitentiary, Leavenworth Site Context: 30
Figure 4.02 USP, Leavenworth Building... 31
Figure 4.04 Naval Consolidated Brig, Miramar Site Context... 32
Figure 4.05 NAVCONBRIG Units... 33
Figure 4.06 NAVCONBRIG Entrance... 33
Figure 4.07 NAVCONBRIG Site Plan... 33
Figure 4.08 ADX, Florence Site Context... 34
Figure 4.09 ADX Units... 35
Figure 4.10 ADX Building... 35
Figure 4.11 ADX Site Plan... 35
Figure 4.12 Federal Medical Center, Carswell Site Context... 36
Figure 4.13 FMC Carswell Buildings... 37
Figure 4.14 FMC Carswell Entrance... 37
Figure 4.15 FMC Carswell Facility Site Plan... 37
Figure 4.16 Eloi Correctional Facility Site Context... 38
Figure 4.17 Eloi Correctional Buildings... 39
Figure 4.18 Eloi Correctional Site Plan... 39
Figure 4.19 Central California Women's Facility Site Context... 40
Figure 4.20 CCFW Entrance... 41
Figure 4.21 CCFW Site Plan... 41
Figure 4.22 Topeka Correctional Facility Site Context... 42
Figure 4.23 Topeka Correctional Minimum Security... 43
Figure 4.24 Topeka Correctional: Medium and Maximum Security Units... 43
Figure 4.25 Topeka Correctional Facility Site Plan... 43
Figure 4.26 Hutchinson Correctional Facility Site Context... 44

Chapter 5
Figure 5.01 Topeka Correctional Site Inventory and Analysis Plan... 57
Figure 5.02 ICIW Inventory and Analysis Plan... 59
Figure 5.03 ICIW Outdoor Classroom Inventory Plan... 60

Chapter 6
Figure 6.01 Application of LA Concepts Diagram... 64
Figure 6.02 Pool of Perceived Healing Garden Design Feature Items... 66
Figure 6.03 Design Elements for Spatial Coherence... 68-69
Table 6.01 Recommendation: Sense of Control... 70
Table 6.02 Recommendation: Social Functions... 71
Table 6.03 Recommendation: Access to Privacy... 72
Table 6.04 Recommendation: Natural Distractions... 73
Table 6.05 Recommendation: Movement and Exercise... 74
Table 6.06 Recommendation: Shelter... 75
Table 6.07 Recommendation: Mother Child Bonding... 76
Table 6.08 Recommendation: Technology... 77

Chapter 7
Figure 7.01 Topeka Correctional Facility Plan View... 80
Figure 7.02 Topeka Correctional Staff Focus Areas... 82
Figures and Tables continued

Figure 7.01 Topeka Correctional Minimum Security Focus Areas... 83
Figure 7.04 Topeka Correctional Buildings and Outdoor Spaces... 85
Figure 7.05 Process Diagrams... 85
Figure 7.06 Existing Design... 81
Figure 7.07 Proposed Design... 89
Figure 7.08 Central Courtyard Design... 90
Figure 7.09 Therapeutic Walkway... 93
Figure 7.10 Visitation Area Design... 94
Figure 7.11 Main Playground... 95
Figure 7.12 Climbing wall... 95
Figure 7.13 Slackline... 95
Figure 7.14 Ropes Course... 95
Figure 7.15 Sensory Play Path... 95
Figure 7.16 Toddler Swing... 95
Figure 7.17 Chalkboard... 95
Figure 7.18 East Corridor Design... 97
Figure 7.20 Proposed Program Location... 98-99
Figure 7.21 Proposed Conceptual Design Plan View... 100-101

* All images are of the public domain or created by the author. Proper citations are provided.
Preface

This report was driven by a personal belief that access to nature and good design should be available to all members of society regardless of circumstance. The incarcerated population has been largely neglected in many instances and especially in terms of access to therapeutic design. While landscape architecture may not address all the complex challenges incarcerated individuals face, creating a therapeutic environment may provide some relief and assist in the process of inmate rehabilitation.

The past approach used in the design of prison facilities has created sterile, isolating environments that convey ideas of containment and prioritize security. While there are several examples of correctional facilities that have been redesigned to provide more humane environments for inmates, there is still a need to further explore the effects of therapeutic design on inmate rehabilitation.

Incarcerated women in particular, are a highly underserved incarcerated population. Since women consist of a small percentage of the incarcerated population, their needs are often neglected in prison management and the design of the physical prison facility. Design can be used to create environments that better serve not only incarcerated women, but many other incarcerated populations.

The goal of this report is to examine ways of improving women’s prison environments through landscape architecture. This report also aims to bring attention to the necessity of reconsidering the needs of other incarcerated populations (male, elderly, disabled, juvenile, etc.). Creative approaches are needed to address the needs of improving health and well-being of prison inmates. This report is intended to serve as an starting point in generating ideas for the future of correctional design.
Chapter 1

Introduction
Background

The number of incarcerated women has increased in substantially within the past quarter century. From 1980 to 2014, the number of women in Federal and State prisons has increased eightfold from approximately 13,000 to 100,000 (Federal Bureau of Justice statistics, 1981; Federal Bureau of Justice Statics, 2014). This increase is the result of many factors including increased law enforcement efforts, stricter sentencing policy, and post-release challenges (Haney, 2001). Today, incarcerated women are the fastest growing incarcerated population (Federal Bureau of Justice Statics, 2015).

Though prisons fit into the category of institutions often termed “correctional facilities,” they often struggle to promote correct behavior and wellbeing (Pacholke, 2014; Listwan et al, 2006, Haney, 2001; SuedFeld, 1980). Historically, women have been disregarded in prison policy, management approaches, and correctional programming (Morash et al, 1998; Fair, 2007). Many approaches to the treatment of incarcerated women have replicated that of men’s except for small adaptations (Fair, 2007). Often, these approaches do not address the specific needs of the incarcerated female population (Fair, 2007; Carp and Davis, 1989).

This “one size fits all” type approach is also seen in the physical design for women’s prison facilities (Carp and Davis, 1989). It has been common practice to replicate the building prototype used for men’s facilities (Carp and Davis, 1989). “Until recently women’s facilities, have been designed to men’s prison standards, then painted pink” (“A Model for Female Correctional Design,” 2011). Placing women in prison environments ill-equipped to suit their needs can further aggravate the many problems incarcerated women face (Fern and Parker, 2005).

In a prison environment, inmates are often exposed to a considerable amount of stress (Lindemuth, 2014). Exposure to stress has negative implications for psychological health, physical health, and behavior (Ulrich, 1991). Stress during incarceration can come from many sources including physical and psychological illness, separation from family, and the lack of access to physical health and mental health resources (Harnar and Riley, 2013a; Harnar and Riley, 2013b).

Social and emotional environments of prisons may also contribute to stress levels due to their unpredictable nature (Greer, 2002). The fear of isolation, intimidation, violence, and sexual coercion contribute to the stress of the prison environment (Harnar and Riley, 2013; Struckman-Johnson and Struckman-Johnson, 2002; Warren et al, 2004). Mental health issues are common among the incarcerated female population (Harnar and Riley, 2013). During incarceration, mental health can worsen from prolonged exposure to stress (Harnar and Riley, 2013a; Harnar and Riley, 2013b).


Psychologically hard environments have historically been found in both the design of healthcare facilities and prison facilities (Ulrich, 1991). Though the mission of healthcare facilities and prison facilities is slightly different, the facilities share several functional and spatial similarities (Stevens [interview], 2016). In order to mitigate the negative effects of the stressful prison environment, Ulrich proposes designing “psychologically supportive environments” (Ulrich, 1991).

There has been renewed interest in examining the health benefits of therapeutic gardens in healthcare settings. This approach to healthcare design stems from the desire to provide an integrated, holistic approach to healing (Mitrose and Larson, 2007). It can be hypothesized that a similar approach in designing prison facilities may also be beneficial in a prison setting. However, currently limited literature exists on the application of therapeutic landscapes in prison facilities. Often therapeutic landscapes are not considered relevant in prison setting (Lindemuth, 2014).

Relevance to Landscape Architecture

Prisons are unique environments that present many challenges to process of coping with stress. Exterior environments often consist of large expanses of bland-colored, hard surfaces that lack scale-defining elements (Phillips and Greibel, 2003). Forms and materials are often chosen to provide function and durability (Phillips and Greibel, 2003). Prison landscapes often contain expanses of mowed lawn, walls, and chain-link security fences lined with concertina wire (Lindemuth, 2011). This landscape typology has evolved out of the need to maintain safety (Lindemuth, 2011). Stress relief in prisons can potentially be achieved through applying landscape architectural principles often used in therapeutic healthcare design.

It is common practice in the field of landscape architecture to design spaces that promote positive health and well-being. Evidence has shown that environments that are purposely designed to be therapeutic can have a significant effect on relieving stress (Moore 1981; Ulrich 1984, 1991; Hartig 1991). By applying principles of landscape architectural that focus on reducing stress to prison environment, it may be possible to design a prison in a way that relieves stress while also...
accounting for the critical concern of safety.

The practice of Landscape Architecture can extend even further beyond the goal of providing stress relief through addressing a wide range of challenges within the prison system. These challenges include health, economics, and inmate education and vocational training. According to a 2010 report, the cost to house one inmate is about $31,000 per year. In some states such as Connecticut, Washington, and New York this cost can range from $50,000-$60,000 (Vera Institute of Justice, 2012). Approximately 20 percent of this cost is spent on health care-related services for inmates (Pew Charitable Trusts, 2014). Aging inmates, a prevalence of physical and mental illness, and the costly nature of delivering healthcare to prison inmates are all factors that are increasing the healthcare costs (Chokshi, 2013). For the female incarcerated population, mental health issues are a significant problem. As many as 73% of females in state prisons have at least one mental health disorder (Bureau of Justice Statistics, 2006). Many incarcerated women rely on prescribed medications to treat psychological problems (Messina, et. Al, 2006). Rehabilitative landscapes may potentially improve the mental and physical health of inmates, thus reducing cost of inmate medical expenses.

Using landscape architectural approaches in prisons may also reduce facility operational costs. Production gardens can be implemented to provide healthy food options for inmates which can aid in improving inmate health. Production gardens can also provide the opportunity for inmates to take part in therapeutic activity (Jiler, 2006; Stevens, 2016). Gardening can be used as a type of vocational training that provides inmates with skills that can be used upon release. Gardening programs, such as the one for Riker’s Island Prison Complex, have been associated with reduced recidivism rates (Lindemuth, 2007).

In addition to gardening, prisons can use other technologies to reduce facility water and energy needs. Landscape applications such as strategic grading and planting design can be used to optimize water usage. Grading can redirect water into desired planted areas. Naturalized planting areas can utilize water runoff and provide a sustainable alternative to the water-dependent expanses of mowed lawn. Green roofs are another technology that can potentially help cut down energy costs. Green roofs can be used to reduce the amount of heat absorbed by buildings (Castleton, 2010). This can potentially decrease the amount money needed for energy expenses. The maintenance of these technologies can provide sources stress relief, education, and vocational training for inmates.

Landscapes can be designed to further enhance existing efforts of rehabilitation and provide areas for new therapeutic activities. Many existing prison rehabilitation programs focus on rehabilitating inmates through therapy, education, and vocational training (Topeka Correctional [site visit], 2016). Outdoor spaces can be designed to accommodate the needs of these programs. For instance, newly implemented outdoor classrooms at the Iowa Correctional Institution for Women have been designed to accommodate the activities of the existing therapy programs. The activities that take place in the outdoor classroom spaces include journaling, individual or group therapy sessions, and role play therapy (Stevens [interview], 2016).

Programs and communities not immediately associated with the prison system may also be benefited through the application of innovative, therapeutic programming. In 2003 the Washington Department of Corrections implemented the Sustainability in Prisons Project. This program provides inmates with a chance to participate in ecological research and biological conservation (Sustainability in Prisons Project, 2017). This type of environmentally-focused programming has the potential to benefit environmental communities outside of the prison institution.

Capitalizing on the idea of programs such as the Sustainability in Prisons Program, landscape architecture can provide outdoor spaces to accommodate innovative types of environmentally-focused programming. Outdoor classrooms can be designed as spaces for inmates to learn about environmental education. Programs such as beekeeping can support other rehabilitative activities like gardening, through providing pollinators. There are many types of outdoor spaces landscape architects can design that accommodate environmentally-oriented programming.

**Project Purpose**

Incarcerated women have specific needs and require special services that are often overlooked in prisons. Women’s prison management policy and facility design (Fairweather and McConville, 2000). This report attempts to address some of those needs through landscape design. The goal for this report is to explore how landscape architectural principles can be used to design therapeutic landscapes for women’s prison facilities.

This report also explores to what extent prison environments can be designed to promote positive psychological health and behavior.

These questions are examined through an exploration of ways to enhance the therapeutic outdoor experience through programming and form. This report addresses both physical forms and programmatic elements. Physical forms are explored in an attempt to “soften” the rigid and constraining effects of prison environment. Programmatic elements provide multiple levels of design complexity. The proposed uses of these spaces focus on proving various methods of stress relief and ways to promote positive behavior.

Therapeutic landscapes can potentially improve psychological health and promote positive behavior.
In order to design therapeutic landscapes for women’s prisons it is necessary to understand the specific needs of incarcerated female population. This report attempts to identify and understand some of the key needs of the incarcerated female population in order to apply that knowledge to existing therapeutic design principles. The synthesis of this information will create an approach to be utilized in the specific challenge of designing therapeutic landscapes for women’s prisons.

Road Map

This report discusses various methods used to (1) identify the needs and challenges of incarcerated women and (2) the challenges of existing prison environments. A literature review examines the topics of the challenges of incarcerated women, the characteristics of the prison environment, therapeutic healthcare gardens, and therapeutic prison landscapes. Methods also include a prison imagery inventory and analysis, interviews with experts, and facility site visits.

Information from the methods was condensed into key findings. Findings were then synthesized to create design guidelines for landscapes within women’s prison facilities. As research on therapeutic prison landscapes expands, the intention is for the guidelines become more comprehensive and expand into the study of landscape design for other incarcerated populations.

Key Report Products

The Prison Imagery Design Analysis contains a method for analyzing and documenting the current state of landscapes in prison facilities. The Prison Imagery Design Analysis is further discussed in Chapter 4 of this report.

Design Guidelines for Women’s Prison Facilities provides recommendations for designing spaces that reduce stress and promote positive behavior. The Design Guidelines are provided in Chapter 6 of this report.

A Conceptual Site Design for the Topeka Correctional Facility uses the developed guidelines to create a conceptual design. This women’s prison facility is located in Topeka, Kansas. Design Concepts for the Topeka Correctional are discussed in Chapter 7 of this report.

Report implications

This research has the potential to extend beyond designing women’s prison facilities. The research presented in this report can serve as the starting point to further examine landscape architecture approaches in a variety of prison institutional settings. Research can be expanded to include the needs of other incarcerated populations such as male, elderly, disabled, juvenile, etc. Further research and design exploration is needed across a variety incarcerated populations and site conditions (geographic location, security level, etc). Landscape architects can provide new approaches to design that can potentially decrease negative aspects of the environment and provide design alternatives that promote greater psychological health and well-being.
Chapter 2

Literature Review
The goal of this literature review is to analyze and synthesize existing literature related to landscape design for women’s prison facilities. Literature on the topic of designing exterior environments within prisons is highly limited. Due to the limited information on the topic, this literature review involved the review of topics which consisted related topics. These topics include: The Needs and Challenges of Incarcerated Women, Stress Caused by Prison Environments, and Therapeutic Design for Healthcare Facilities. Synthesized literature was used to create the Design Guidelines (Ch 6) and subsequently, the application of developed design guidelines in the Conceptual Design for the Topeka Correctional Facility (Ch 7).

**Challenges of the Incarcerated Female Population**

It is important to recognize the distinct challenges incarcerated women face both prior to and during incarceration. Recognizing these challenges is critical in order to design to accommodate the unique needs of the incarcerated female population.

Prior to incarceration, many women face problems with drug and alcohol addiction, and physical and sexual abuse (Bureau of Justice Statistics, 2015; Harlow, 1999; Messina et al., 2006). Approximately 60% of women in state prisons and 40% of women in federal prisons have reported abuse prior to incarceration. (CSOSA, 2016; Bureau of Justice Statics, 1999). Illegal drug use and alcohol consumption are more common among abused incarcerated women than incarcerated women who had not been abused (Harlow, 1999). Incarcerated women were significantly more likely than incarcerated men to have severe substance abuse histories and to have grown up in homes where drug use was present (Messina et al., 2006).

Approximately 55% of women are incarcerated for drug related charges. (Bureau of Justice Statistics, 2015).

Women are more likely than men to commit nonviolent crimes such as prostitution, fraud, property crimes, and drug offenses (Singer et al. 1995). While in prison, many female inmates continue to struggle with addiction (James and Glaze, 2006).

Incarcerated women have a wide range of physical and mental health issues. Physical health problems include acquired immune deficiency syndrome (AIDS), sexually transmitted disease, obesity, and chronic health problems including hypertension, diabetes, epilepsy and respiratory illnesses (Young, 2000; Bureau of Justice Statistics, 2015.). Commonly cited mental health problems among female inmates include depression, anxiety, and post-traumatic stress disorder (PTSD) (James & Glaze, 2006). As many as 73% of females in state prisons and 61% of females in Federal prisons have at least one mental health disorder (Bureau of Justice Statistics, 2006). It is commonly recognized that many inmates fail to receive the healthcare they need (Wilder et al. 2009).

Pregnancy and motherhood present unique challenges to the female incarcerated population. Pregnancy-related and gynecological problems present challenges for the female incarcerated population (Young, 2000). Health problems caused by drug and alcohol use have the potential to cause complications during pregnancy (Knight and Plugge, 2005). Often facilities are not well-equipped to provide for the needs of pregnant women (Ferszt and Clark, 2012).

Often issues coexist with one or more additional problems. Drug addiction often exacerbates psychological health problems (Messina, et al. 2006). Pregnancy can be further complicated by drug use (Knight and Plugge, 2005). Often, for incarcerated women there are not enough available services and programs to accommodate their physical and mental health needs (Young, 2000). Findings suggest that women were more likely than men to present greater challenges to treatment practitioners (Messina et al., 2006).

Incarceration may have significant impacts on the incarcerated women and their families (Sharp and Marcus-Mendoza, 2008). Approximately 62 percent of women in state prison and 56 percent in federal prison are mothers to a child under the age of 18 (Bureau of Justice Statistics, 2010). Many of these women are noted as the primary caretaker of these minor children (Sharp and Marcus-Mendoza, 2008). Incarceration presents many challenges to raising a child and many women experience high levels of stress due to concern for the health and well-being of their children (Sharp and Marcus-Mendoza, 2008).

Children may be especially vulnerable to the impacts of having an incarcerated mother (Sharp and Marcus-Mendoza, 2008). Evidence has found that children with incarcerated mothers experience feelings of uncertainty and loss (Sharp and Marcus-Mendoza, 2008). Studies have also indicated that there is the potential for the children to be placed with families that have histories of abuse and that lack adequate resources to raise a child (Sharp and Marcus-Mendoza, 2008). Evidence suggests children with incarcerated mothers suffer emotionally, financially, and socially (Richie, 2001). Incarceration can cause the weakening of the mother-child relationship and create difficulties in repairing relationships even after the mother is released (Richie, 2002).

Incarcerated women commonly perceive imprisonment be detrimental to their health. (Douglas et al. 2009; Harner and Riley, 2013a; Harner and Riley, 2013b). Women noted a vast range factors contributing to poor health. Most commonly noted were isolation, lack of mental stimulation, drug abuse, negative relationships (e.g. bullying) and lack of family

...
contact (Harner and Riley, 2013a, Harner and Riley, 2013b). Other factors contributing to poor mental health, included fear, stress, limited access to mental health services, worry over physical health issues, and poor treatment by health and correctional professionals” (Harner and Riley, 2013a, Harner and Riley, 2013b).

Evidence suggests that women’s health in prison is closely linked to their experience of incarceration. (Douglas et al., 2009; Nurse et al., 2003). Existing physical and emotional issues are often aggravated during incarceration due to exposure to facilities unsuited for women (Fern and Parker, 2005).

**Prison Environments**

Designing for security has been of utmost importance in prison architectural design (Federal Bureau of Prisons, 1949; Great Britain: Home Office, 1985; Phillips and Greibel, 2003). The forms of the physical environment have often prioritized safety, security, and durability (Lindemuth, 2011; Phillips and Greibel, 2003). The concept of normative design proposes an approach to designing environments in a way that promotes positive behaviors and beneficial inmate interaction (United States Bureau of Prisons, 1949; Phillips and Greibel, 2003). The concept of normative design aims to “deinstitutionalize” the prison environment without compromising security (Phillips and Greibel, 2003). Applications of normative design are generally reserved for inmates of minimum security status (Phillips and Greibel, 2003).

Historically, women’s prison policy, programming, and design have mirrored the approaches used in men’s institutions except for small adaptations (Fair, 2007).

Until recently, there has been a considerable lack of attention given to the environment that is specific to the needs of women (Julie Stevens interview). Women are typically more sensitive and have shown to be more responsive to the normative design approach (A Model for Female Correctional Design, 2011). Extended exposure to harsh prison environments can potentially lead to negative psychological consequences (Liebling and Maruna, 2005).

An important aspect to consider within prisons is social and emotional environments. "Many women described the emotional environment of correctional facilities to be both capricious and unpredictable while also being rigid and constraining" (Greer, 2002). Studies suggest that social environments can contribute to the negative experience of prison (Douglas et al., 2009; Nurse et al., 2003; Greer, 2000).

Female inmates are significantly impacted by the relationships they form in institutions (A Model for Female Correctional Design, 2011). Research in a women’s prison found high levels of mistrust among female inmates (Greer, 2000). Female inmates have reported relationships in prisons can often form out of economic manipulation (Greer, 2000). In recent years, research has found that the relationships between incarcerated women are not as familial as in past generations and there has been a shift away from relatively caring “pseudo-families” (Greer, 2000). Women now often perceive serving time in prison to be a more solitary process (Greer, 2000). Many women use solitude as a way to avoid conflict. Avoidance and distraction are used as a way to avoid conflicts and deal with stress of the environment (Greer, 2002).

Environmental designs can be potentially hostile and violent areas (Lindemuth, 2014). Inmates and staff deal with constant fear for personal safety. Many inmates and staff believe that they are potential targets for assault (Lindemuth, 2014). The potential for violence is a daily reality within the prison system. While incarcerated women are typically less violent than their male counterparts, incidents of violence still occur in women’s facilities (Harer and Langan, 2001). Violence among female inmates is commonly linked with mental health disorders (Warren et al., 2001). Violence among female inmates is commonly linked with mental health disorders (Warren et al., 2001). Violence among female inmates is commonly linked with mental health disorders (Warren et al., 2001). Violence among female inmates is commonly linked with mental health disorders (Warren et al., 2001). Violence among female inmates is commonly linked with mental health disorders (Warren et al., 2001). Violence among female inmates is commonly linked with mental health disorders (Warren et al., 2001). Violence among female inmates is commonly linked with mental health disorders (Warren et al., 2001). Violence among female inmates is commonly linked with mental health disorders (Warren et al., 2001). Violence among female inmates is commonly linked with mental health disorders (Warren et al., 2001).

The Effects of Nature on Mental Health and Behavior

There is a significant amount of research that examines the relationship between nature and improved mental health (e.g. Kaplan, 1995; Kaplan, 2008; Ulrich, 1984; 1991; Moore 1981; Hartig 1991). Studies have shown correlations between environment and stress. When environments are purposely designed to be therapeutic, they have been shown to relieve stress and alleviate mental fatigue (Ulrich, 1991).

Moore (1981), West (1985), and Spafford (1991) have contributed to the body of research related specifically to restoration in a prison setting. Moore (1981) analyzed the relationship between views, noise levels, and privacy, and the number of sick calls received by the infirmary. He found that inmates with views to farmland reported less sick calls than those with views to the interior prison yard (22.9% vs 28.4%). He also found that having lower noise levels and more privacy within the facility positively influenced health. West (1985), using a similar methodology, continued the study, relating sick calls to the percentage of naturalistic elements viewed, versus built elements. He found views with a higher percentage of naturalistic elements, reported fewer sick calls. A study conducted by Spafford (1991) suggests the significance of visually complex natural views. Views with greater visual complexity were found to have higher calming effects for prison inmates and staff.

Research relating to views of nature within prisons has suggested that inmates with views to nature are positively impacted both physically and psychologically (Moore, 1981; West, 1985; Spafford, 1991). Higher percentages of naturalistic elements and more visually complex views of nature were shown to have a greater calming effect on inmates than views of interior prison yards (West, 1985; Spafford, 1991). The three studies
Gardening and Active Participation

Additional therapeutic benefits can be gained through active landscape participation (Lewis 1990). Gardening programs can provide opportunities for inmates to engage in active landscape participation (Jiler, 2008). Lewis (1990) notes that both observation and participation are beneficial; however there is a different kind of healing and restoration that is achieved through gardening. Active participation through creating and maintaining green spaces may provide deeper, long-lasting emotional and psychological benefits (Lewis, 1990).

Historically, gardening has been associated with improving health through fresh air and exercise. Gardening provides psychological benefits such as stress reduction, increased self-esteem, and improved mental focus (Jiler 2006). The act of gardening has been used to provide horticultural therapy for inmates (Jiler, 2006). Gardening can provide a way for inmates to cope with stress and health issues caused by incarceration (Lindemuth, 2007).

The act of gardening can allow inmates to regain a sense of control through the opportunity to care for and shape their environment (Jiler, 2008). Participation allows inmates to feel personally responsible for caring for and nurturing plants (Jiler, 2008). This connection results in a deeper level of care and appreciation for a landscape (Jiler, 2008). Gardens can also provide a chance for inmates to explore the process of personal growth, change and self-realization (Jiler, 2008).

Gardens and other landscaped areas in prisons can provide opportunities for inmate education and vocational training as well as providing cost benefits for the facility. Providing gardens and landscaped areas can allow inmates to develop skills related to landscape planting and maintenance (O’Callaghan et al, 2010). Production gardening can allow inmates to learn about and experience the process of growing food while also provide facility cost benefits. Food grown in the garden can be used in the facility kitchen, providing an opportunity for healthy meals. Nutritious food options can lead to improved physical health.

Several studies have shown that garden programs can potentially help improve behavior and lower recidivism rates (Jenkins, 2016; Lindemuth, 2007). A study conducted by Rice (1993) found that inmates that participated in the San Francisco County Jail the Garden Project were more likely to reduce destructive behaviors such as forming friendships with criminal associates, damaging familial relationships and drug use (Lindemuth, 2007). Many prison gardening programs are demonstrating reduced recidivism rates (Jenkins, 2016). The Greenhouse Program on Riker’s Island has documented a drop in the recidivism rate from 65 to 25% (Lindemuth, 2007).

Healing Gardens in Hospital Settings

Gardens are often not considered relevant in a prison context (Lindemuth, 2014), however, recently there has been a renewed interest in the use of gardens in healthcare facilities (Mittrone and Larson, 2007). The growing interest in an integrated approach to medicine, has led to increased research on the relationship between nature and health (Mittrone and Larson, 2007). Ulrich (1984) has been a much cited research study in this subject. Ulrich’s study examined the relationship between the length of hospital stay, the use of pain medication, and views through hospital windows. Results of the study found that patients with natural views recovered faster and needed less pain medication.

Both healthcare facilities and prisons can fall under Ulrich’s concept of “psychologically hard” environments. Psychologically hard environments prioritize function and efficiency over comfort and are detrimental to the well-being and psychological needs of patients (Ulrich, 2008). Ulrich (2008) states that prolonged nature exposure during long durations of time (such as those experienced in healthcare facilities and prisons) may tend to have the substantial stress relieving benefits.

Individuals in healthcare facilities and prison facilities suffer from a large range of physical and mental health problems (Harney and Riley, 2013). While the primary purpose of healthcare facilities is to distribute healthcare services to ill patients, the goal of many prisons are commonly centered on safety, rehabilitation, and reintegration. Individuals in both healthcare facilities and prison facilities can undergo considerable amounts of stress and long periods of confinement (Ulrich and Parsons, 1990; Clearwater and Coss, 1990). Individuals in both healthcare facilities and prison can both benefit from stress relieving nature exposure (Ulrich, 2008).

Ulrich’s Theory of Supportive Design suggests that healthcare facilities can be designed to be “psychologically supportive”. This theory employs the use of design to (1) limit obstacles that impede coping with stress and features that are stressors (2) provide stress relieving physical features or social situations (3) provide benefits for patients, visitors, and staff (Ulrich, 1991). The transition of prison environments from psychologically hard to psychologically supportive may not resolve all the issues related to healthcare needs in prison, however, it may help alleviate some health problems.
Prison Design Literature

Prisons are unique design environments that present many design challenges. Prisons are often highly political environments that can quickly fall under new administration. The process of design and implementation can be restricted or altogether terminated by a new warden and staff. Constantly changing administration can prevent long-term progress and limit opportunities in the design and implementation of therapeutic landscapes in prisons (Lindemuth, 2014).

In order to cope with the issue of rapid turnover, a high degree of advocacy and participation is needed. Public and staff support is highly important in order to achieve successful projects (Lindemuth, 2014). Throughout the design and implementation process, it is necessary to work closely with all levels of staff.

The concerns of staff should be understood and addressed by the designer. Staff may be resistant to change due to perception of safety concerns created by adding elements to the prison landscape. It is important that the designer highly consider the requirements of safety as well as therapeutic elements. Providing a safe environment is critical for both inmates and staff.

Superintendents that implement therapeutic gardens and landscapes may run the risk of being viewed as lenient. In order to respond to this problem, the landscape design can include cost benefits (Lindemuth, 2014). Designing landscapes that are therapeutic and provide cost benefits may help gain support for the idea of prison landscapes.

There are many challenges in designing therapeutic landscapes for the prison environment. Incarcerated women deal with numerous physical and psychological health problems both prior to and during incarceration. Stress caused by the prison environment can potentially worsen these problems. Exposure to nature has been shown to reduce stress and promote positive behavior. Landscape architecture can be used to create stress-relieving environments that address the needs of incarcerated women and work within the constraints of prison environments.

The following chapters will further examine existing prison landscapes and explore ways of potentially mitigating the stress of the prison environment through landscape architecture design principles.
Chapter 3
Methodology
Examine negative aspects helped identify issues to be addressed in the design guidelines. For example, a 40’ tall stone wall is a form of technology that exists within prisons. Walls provide the function of security, but a solid wall may block views of the surrounding landscape. Alternatively, a permeable boundary could provide inmates with visual exposure to nature. Visual exposure to nature has been shown to improve mental health (Ulrich, 1984; Ulrich et al, 1991; West 1985; Moore, 1981).

During this step, ten prisons that are currently operational within the United States were examined. In order to provide a comprehensive analysis, the facilities examined included men’s facilities, women’s facilities and coed facilities. Facilities selected for the analysis included State-level facilities, Federal-level facilities, and one Military facility (Federal-level but operated by the Department of Defense). The majority of facilities selected house various security levels. State prisons have three security levels: minimum, medium, maximum. Federal prisons have five levels: minimum, low, medium, high, and administrative.

Facilities within the Midwest were prioritized in order to examine the landscapes of facilities within the geographical region of the site selected for the conceptual design (the Topeka Correctional Facility). Two administrative level prisons (ADX Florence, and Federal Medical Center Carswell) were also included in order to examine landscapes for facilities that house inmates that pose the highest security risks or have serious medical problems. The remaining facilities were randomly selected from a list of all State-level and Federal-level facilities. During the selection process, prison facilities lacking sufficient historical information and facility imagery were disregarded.

Jails and juvenile detention facilities were not included in this analysis due to the duration of time individuals stay in these facilities. Jails and juvenile facilities are often shorter-term stays, while individuals occupying prisons are typically there for long-term periods of time. The exploration of landscape design for jails and juvenile detention centers should not be disregarded. Prison facilities were the focus of this report because this type of facility presents opportunities for the study and observation of the long-term effects of nature on stress and behavior.

The following general inventory data was collected for each facility:

- Name of Facility
- Location
- Management (Federal or State)
- Level of Security
- Genders served
- Total Capacity
- Population (estimated)
- Date Opened
- Additional Notes

The landscapes of the ten prison facilities were then examined from a landscape architecture design standpoint. The design analysis information is classified into 4 categories; Form/Space, Function, Technology, and Ecology. These categories are derived from Ching’s Architecture: Form, Space, and Order 3rd Edition (Ching, 2007).

General inventory data and design analysis information was formatted into the Imagery Analysis template (page 26-27). This template includes images from Google Earth and free-use images in order to provide an additional understanding of the visual qualities and spaces found in prisons.

**Challenges**

There is very little existing literature on design for outdoor space within prison facilities. Literature on prison design primarily consists of recommendations for prison architecture. Prison architecture guidelines make few, vague suggestions for the programming and design of outdoor space. This lack of literature created challenges in identifying beneficial and detrimental forms, functions, technologies, and ecology in existing prison landscapes.

Design guidelines for therapeutic gardens in healthcare facilities provided a base-level knowledge that was used to determine therapeutic qualities of prison landscapes. The imagery design analysis was also supplemented by an understanding of landscape architecture design principles gained from the author’s education in Landscape Architecture at Kansas State University.

Another challenge of this method was the available imagery for facilities. For presumed security purposes, prison facility imagery is somewhat limited in
quantity and quality. Imagery also may not accurately show what the facility looks like currently (some imagery taken from Google Earth was last updated in 2015).

Google Earth imagery allows for facilities to be examined in plan view. Analyzing the layout of a facility in a two dimensional plan view creates challenges for determining critical spatial aspects such as the building heights. The ability to use the 3D building feature in Google Earth is enabled for a limited number of prison facilities. However, the 3-D building feature still lacks a sufficient amount of detail. In order to obtain more detailed imagery, Google searches for images were performed. These images are also limited in quantity and in quality.

Examining still images does not provide a complete understanding of spatial and experiential qualities. It is difficult to determine how spaces are used through analyzing still images. None of the images were taken with the intent of showing the prison landscape design. There may be spatial qualities, design features, and programmatic functions that exist, but are not immediately understood through looking at photos. Regardless, a design analysis was attempted. The imagery design analysis provides a method of analyzing prison landscape design that could be used to create a more detailed analysis in future research. More in-depth research and analysis could be conducted through site visits to the facilities.

Another challenge was the lack of general inventory information that was publicly available. Many prisons lack web pages that discuss current facility statistics and historical information. The general inventory information listed in the following chapter was obtained through use of Wikipedia pages. It is recognized that Wikipedias not a preferred source and information may not be entirely accurate or up-to-date.

**Interviews with Landscape Architects**

During the research process two designers were identified as having relevant experience related to prison landscape design. These two experts included Amy Lindemuth, Designer at Mithun (Seattle, WA) and Julie Stevens, Assistant Professor at Iowa State University (Ames, IA). Both women have had experience in design and implementation in prison facilities. Interviews were conducted to gain insights from their specific experiences in working in prison environments.

Interviews were set up via email. The initial email included a brief summary of the research topic and a request for an interview. Emails were exchanged and phone interviews were arranged with Ms. Lindemuth and Ms. Stevens. Interview topics for Lindemuth and Stevens focused on general information about their research and experience, the process of working with inmates and correctional staff, their design process, and available post-occupancy evaluations. Full interview questions and recorded notes will be included in the Appendix.

**Site Visits and Interviews**

Over the course of the research, the Topeka Correctional Facility and the Iowa Correctional Institution for Women were visited and observed. The Topeka Correctional Facility was visited in order to observe and inventory the site chosen for the conceptual design and to interview staff. Observations and interviews informed the conceptual site design portion of this report. During the interview topics of the prison context, rehabilitation programming, landscape safety concerns, and potential design improvements were addressed to Deputy Warden, Colene Fishchill, Chief of Security, Tammy Shoulders, and Landscaping Instructor, Bradley Metzler. After the interview, a tour of facility grounds was lead by Mr. Metzler.

During the process of corresponding with Julie Stevens, she extended an invitation to visit the Iowa Correctional Institution for Women. ICIW was visited in order observe the design implemented at the facility and to ask Mrs. Stevens additional questions. During the visit, the author was able to take part in the one of the weekly landscape education classes led by Julie Stevens and several Iowa State Landscape Architecture students. Notes and observations were recorded during the class and site tour.

Site visits allowed for the observation of site functions such as the flow of circulation, accessibility of spaces, programming, and topography. Site visits also allowed for the observation of experiential qualities of the spaces. The use of photography was not authorized within the facilities. Sketches were produced in order to aid with the author’s spatial memory. Key information and syntheses of site observations are included in Chapter 5. Full interviews and additional site visit notes are provided in the Appendix.
Figure 3.01 The Prison Inventory and Analysis template is as follows:

<table>
<thead>
<tr>
<th>General Inventory</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location:</td>
</tr>
<tr>
<td>Managed by:</td>
</tr>
<tr>
<td>Security Level:</td>
</tr>
<tr>
<td>Capacity:</td>
</tr>
<tr>
<td>Estimated Population:</td>
</tr>
<tr>
<td>Date Opened:</td>
</tr>
</tbody>
</table>

**Design Analysis Chart**

<table>
<thead>
<tr>
<th>Form/Space</th>
<th>Technology Ecology</th>
<th>Context</th>
</tr>
</thead>
<tbody>
<tr>
<td>Circuit</td>
<td>Experiential</td>
<td>Material</td>
</tr>
<tr>
<td>Circulation</td>
<td>Technology</td>
<td>Access</td>
</tr>
<tr>
<td>Scale of built elements</td>
<td>Lighting</td>
<td>Parking lots</td>
</tr>
<tr>
<td>Space defining elements</td>
<td>Materials</td>
<td>Topo/slope Views</td>
</tr>
<tr>
<td>Degree of enclosure</td>
<td>Programming</td>
<td>Security measures</td>
</tr>
<tr>
<td>Programming</td>
<td>Security measures</td>
<td>Surveillance</td>
</tr>
<tr>
<td>Programming</td>
<td>Security measures</td>
<td>Lighting</td>
</tr>
<tr>
<td>Surveillance</td>
<td>Lighting</td>
<td>Walls/Fences</td>
</tr>
<tr>
<td>Laboratory ratio</td>
<td>Parking lots</td>
<td>Parking lots</td>
</tr>
<tr>
<td>Parking lots</td>
<td>Lighting</td>
<td>Walls/Fences</td>
</tr>
<tr>
<td>Lighting</td>
<td>Walls/Fences</td>
<td>Parking lots</td>
</tr>
<tr>
<td>Walls/Fences</td>
<td>Lighting</td>
<td>Parking lots</td>
</tr>
<tr>
<td>Parking lots</td>
<td>Lighting</td>
<td>Walls/Fences</td>
</tr>
<tr>
<td>Lighting</td>
<td>Walls/Fences</td>
<td>Parking lots</td>
</tr>
<tr>
<td>Walls/Fences</td>
<td>Lighting</td>
<td>Parking lots</td>
</tr>
<tr>
<td>Parking lots</td>
<td>Lighting</td>
<td>Walls/Fences</td>
</tr>
</tbody>
</table>

**Prison Name**

**General Inventory**

<table>
<thead>
<tr>
<th>Location</th>
<th>Managed by</th>
<th>Security Level</th>
<th>Capacity</th>
<th>Estimated Population</th>
<th>Date Opened</th>
</tr>
</thead>
</table>

**Design Analysis Chart**

<table>
<thead>
<tr>
<th>Form/Space</th>
<th>Technology Ecology</th>
<th>Context</th>
</tr>
</thead>
<tbody>
<tr>
<td>Circuit</td>
<td>Experiential</td>
<td>Material</td>
</tr>
<tr>
<td>Circulation</td>
<td>Technology</td>
<td>Access</td>
</tr>
<tr>
<td>Scale of built elements</td>
<td>Lighting</td>
<td>Parking lots</td>
</tr>
<tr>
<td>Space defining elements</td>
<td>Materials</td>
<td>Topo/slope Views</td>
</tr>
<tr>
<td>Degree of enclosure</td>
<td>Programming</td>
<td>Security measures</td>
</tr>
<tr>
<td>Programming</td>
<td>Security measures</td>
<td>Surveillance</td>
</tr>
<tr>
<td>Surveillance</td>
<td>Lighting</td>
<td>Walls/Fences</td>
</tr>
<tr>
<td>Laboratory ratio</td>
<td>Parking lots</td>
<td>Parking lots</td>
</tr>
<tr>
<td>Parking lots</td>
<td>Lighting</td>
<td>Walls/Fences</td>
</tr>
<tr>
<td>Lighting</td>
<td>Walls/Fences</td>
<td>Parking lots</td>
</tr>
<tr>
<td>Walls/Fences</td>
<td>Lighting</td>
<td>Parking lots</td>
</tr>
<tr>
<td>Parking lots</td>
<td>Lighting</td>
<td>Walls/Fences</td>
</tr>
<tr>
<td>Lighting</td>
<td>Walls/Fences</td>
<td>Parking lots</td>
</tr>
<tr>
<td>Walls/Fences</td>
<td>Lighting</td>
<td>Parking lots</td>
</tr>
<tr>
<td>Parking lots</td>
<td>Lighting</td>
<td>Walls/Fences</td>
</tr>
</tbody>
</table>

**Prison Name**

**General Inventory**

Location: Managed by: Security Level: Capacity: Estimated Population: Date Opened
Chapter 4

Imagery Analysis

Findings
United States Penitentiary, Leavenworth

**General Inventory**

Location: Leavenworth, KS  
Managed by: Federal Bureau of Prisons  
Security Level: Medium  
Gender: Male  
Capacity: unknown  
Estimated Population: 1,971 (442 in prison camp)  
Date Opened: 1903

**Additional Notes:**

Also known as the “Big House”, USP Leavenworth is one of the oldest federal prisons in the US. USP Leavenworth was the largest maximum security prison in the US before being reduced to a medium security facility in 2005 (Kimble, 2015).

**Forms/Space**

- **Scale of built elements:** 30’-tall wall surrounds perimeter  
- **Main building at entrance is a large official government-looking type building**

**Degrees of Enclosure**

- **Large open recreation area**  
- **Large open lawn area with only light poles and mowed grass**  
- **Tall building walls define spaces**  
- **Areas enclosed by fences**

**Space defining elements (walls, fences, trees, etc.)**

- **30’ Solid wall surrounds perimeter**  
- **Watchtowers located along perimeter wall**

**Overhead structures**

- **No determined shade structures, building height may provide some shade**

**Ordering principles**

- **Spatial hierarchy:** Large entry building is the most dominant feature of the site

**Function**

- **Circulation:** Entry circulation leads directly into the central part of the main building
- **Exterior pathways within the prison grounds:** Gridded circulation system, except in SE corner, stands in stark contrast to the rest of the circulation within the prison

**Programming**

- **Recreation area:** track, baseball diamond, sports courts (basketball, tennis etc.)
- **Large, open, paved, outdoor seating area with tables and benches**

**Experiential Qualities**

- **Doesn’t appear to a significant amount of protection from natural elements (limited or no shade structures, wind blocks, etc.)**
- **Some building windows may overlook the recreation area, however most windows seem to be oriented to provide views of other buildings and/or pavement**
- **30’ Solid wall that defines perimeter blocks views of surrounding landscape**

**Technology**

- **Existing vegetation:** Mowed lawn provides limited ecological value
- **Soil/hardscape ratio:** Large amount of hard surface area (pavement and building roofs) slightly less amount of mowed turf area

**Materials**

- **Concrete wall**  
- **Chain-link fences**  
- **Concrete**  
- **Colored paving in recreation area**

**Security measures**

- **Surveillance (watch towers located in the corners along the wall)**
- **Flood lighting Walls and wire fences used**

**Ecology**

- **Existing vegetation:** Mowed lawn provides limited ecological value

**Context**

- **Open land with residential neighborhood to the South**

**Ordering principles**

- **Spatial hierarchy:** Large entry building is the most dominant feature of the site
Naval Consolidated Brig, Miramar

General Inventory
Location: San Diego, CA
Managed by: US Navy
Security Level: Tier II Military
Gender: Male and female
Capacity: 400
Estimated Population: unknown
Date Opened: 1989

Additional Notes:
Naval Consolidated Brig, Miramar is used to house prisoners of war, unlawful combatants, those whose freedom is deemed a national security risk by the military or national authorities, and members of the military found guilty of a serious crime (Wikipedia). The area that houses female inmates was consolidated redesigned focusing on the needs of the female population (A Model for Female Correctional Design, 2011)

Design Analysis

Forms/Space
Mass/Void Organization
Linear, and clustered repeating triangular forms

Scale of built elements
Buildings all of similar height, looks to be 1 and 2 story buildings

Degrees of Enclosure
Extremely high level of enclosure, all outdoor spaces are surrounded by building on all sides

Largest area of green open space
is the entry courtyard area—not accessible by the inmates

Space defining elements (walls, fences, trees, etc.)
Mostly building walls, exterior perimeter has chain-link fence

Overhead structures and purpose (shade)
Buildings have overhang areas that provide shade

Ordering principles
Spatial hierarchy-building mass is preeminent feature of site

Repetition-most outdoor spaces rectangular in shape, and look the same, building masses are mostly triangular... Many repeating forms

Function
Circulation
Approach/entry experience-direct linear path into building entrance

Exterior pathways within the prism grounds-lacking outdoor pathways, most pathways are within the buildings

Programming
Open lawn space
Some kind of sand/dirt volleyball court

Metal Fences lined with barbed wire

Technology
Experiential Technologies
Materials-concrete, turf, and sand

Security measures
Surveillance (watch towers, cameras)

Overhead structures and purpose (shade)

Experiential Qualities
Building walls form highly enclosed spaces

Narrow building windows provide views of interior yard areas and built structures

Context
Main parking lot is right in front of the main entrance

Vegetation bordered by a golf course on the south

Vegetated desert shrub and tree landscape

Exemplary

Expanses of mowed lawn with limited other vegetation

Area between units and fence is kept clear of vegetation. Lack of interesting views

Figure 4.04

Repetitive building forms

Rigid pathway form

Largest area of greenspace is located at the building entrance and is inaccessible to inmates

Figure 4.05

Figures 4.06 and 4.07

Naval Consolidated Brig, Miramar

Location: San Diego, CA
Managed by: US Navy
Security Level: Tier II Military
Gender: Male and female
Capacity: 400
Estimated Population: unknown
Date Opened: 1989

Figure 4.04

Figure 4.05

Figure 4.06

Figure 4.07

32

33
Additional Notes:
ADX is the only supermax prison in the United States. Super-maximum-security prisons contain the most secure levels of custody and house inmates classified as the highest security risks in the prison system (Mears, 2006).
Federal Medical Center, Carswell

Additional Notes:
Houses female inmates with special physical and mental health needs (Wikipedia).
Previously served as a medical center for the Carswell Air Force Base (Wikipedia).

General Inventory
Location: Fort Worth, TX
Managed by: Federal Bureau of Prisons
Security Level: all levels (with Minimum-security camp)
Gender: Female
Capacity: Unknown
Estimated Population: 1,488 (331 in camp)
Date Opened: 1994

Federal Medical Center, Carswell

Forms/Space
Scale of built elements
large hospital-like buildings
Degrees of Enclosure
large open lawn space
Space defining elements
fences surround perimeter and define main outdoor space
trees reinforce pathways
Overhead forms
trees are found throughout the open area and provide many opportunities for shade
Ordering principles
Symmetry
Spatial hierarchy- outdoor space has significant presence
Rhythm
Repetition

Function
Circulation
Approach/entry experience
Exterior pathways within the prison grounds
wide concrete pathways
Programming
Lawn space takes up a large amount of outdoor space, lawn is inviting with seating areas and trees
recreation sports courts, baseball field, track

Technology
Materials
mowed lawn area
concrete paths
has a lot more trees than all other facilities that were examined

Security measures
Surveillance (watch towers, cameras)
Lighting
Walls/Fences

Ecology
Existing vegetation
Trees may provide some ecological value
Soil/hardscape ratio
lots of green lawn area

Context
Located nearby lakes and river
Some buildings may be able to view the lake
surrounding context contains dense tree mass

Additional Notes:
Houses female inmates with special physical and mental health needs (Wikipedia).
Previously served as a medical center for the Carswell Air Force Base (Wikipedia).

Pathways for efficient circulation
Garden area
Expanses of lawn dotted with trees that provide some sense of shade/shelter
Large hospital building

Figure 4.12
Figure 4.13
Figure 4.14
Figure 4.15
El Dorado Correctional Facility

General Inventory
Location: El Dorado, KS
Managed by: Kansas Department of Corrections
Security Level: Medium, Maximum, and Special management
Gender: Male
Capacity: 1511
Estimated Population: unknown
Date Opened: 1991

Additional Notes:
Facility was built in response to a lawsuit challenging prison conditions. EDFC is the newest correctional facility in Kansas (Cadue, 2014).

Form/Space
Mass/ Void Organization
area of administration buildings organized on a grid
housing units arranged around a central open space
large open fenced in lawn area on the south end of the site
Scale of built elements
Mostly 3 story buildings
Degrees of Enclosure
Main central space is formed by housing units
Large open space
fences used to contain inmates within central space
Space defining elements
wire fences surround perimeter
buildings form main central outdoor space
Ordering principles
Symmetry-high level of symmetry
throughout facility
Spatial hierarchy
Rhythm
Repetition

Function
Circulation
Approach/entry experience-leads directing into main office building
Exterior pathways within the prison grounds-direct efficient circulation within the facility
Programming
Recreation-Basketball courts and a track
limited outdoor seating areas
Experiential Qualities
Views from inside cells to outside-majority of views of other buildings, and interior space
limited shade/protection from natural elements
facility may have a fenced in garden area

Technology
Materials
mowed lawn
concrete pathways
wire fences
Security measures
Two layers of curved wire fencing with razor wire
large scale watch towers
floodlights

Ecology
Existing vegetation
expanses of mowed lawn
Soil/hardscape
Expanses of mowed lawn large amount of roof area

Context
Large open prairie like context
Facility located far away from the main road

Scale of built elements
Mostly 3 story buildings

Additional Notes:
Facility was built in response to a lawsuit challenging prison conditions. EDFC is the newest correctional facility in Kansas (Cadue, 2014).

Figure 4.16 Figure 4.17
Figure 4.18

Razor wire fences surround perimeter
Fences in front of the entrances to units
Fences contain inmates within the central outdoor area

Recreation cages outside presumed max security units
Central outdoor area consists of pavement and mowed lawn
Symmetry and repetitive forms create monotonous experience
Central California Women’s Facility

Additional Notes:
CCWF is the largest women’s prison facility in the US (Wikipedia)
Facility houses the death row for the State of California’s female inmates (Wikipedia)

Form/Space

Function
- Circulation
  Exterior pathways within the prison grounds rigid angular circulation for efficient circulation pathways are of similar width
- Programming
  Recreation area: track, baseball diamond, sports courts (basketball, tennis etc.)
  Large, open, paved, outdoor seating area with tables and benches
- Experiential Qualities- Difficult to determine
  Doesn’t appear to a significant amount of protection from natural elements (limited or no shade structures, wind blocks, etc.)
  Areas of vegetation leading into the housing units
  Majority of housing unit buildings windows may overlook the recreation area, other buildings or expanses of pavement
  Limited seating areas

Technology

- Experimental: technologies
  Lighting: tall floodlight posts
- Materials
  Concrete walkways
  Chain-link fences
  Mowed lawn

Ecology

- Existing vegetation
  Expanses of mowed lawn
  Areas of trees planted areas along the entry paths to housing units
  Appears to be a garden area
- Soil/hardscape ratio
  Large amount of hard surface area (large expanses of paved areas and building roofs)
  Slightly less amount of mowed turf area

Context

- Facility is surrounded on all sides by plots of small trees
- Fences contain inmates within central outdoor area
- Limited seating
- Concrete pathways maintain similar width
- Large expanse of mowed lawn
- Many units have overlook expanses of dirt

General Inventory

Location: Chowchilla, CA
Managed by: California Department of Corrections
Security Level: Min-Max
Gender: Female
Capacity: 2004
Estimated Population: 3676
Date Opened: 1990

Central California Women’s Facility

Forms/Space

Min/Max Organization
Housing units arranged around central open spaces
repetitive building forms

Scale of built elements
Moderately low buildings throughout facility around 2-4 stories

Degrees of enclosure
Large open recreation area
Large open lawn area with only light poles and mowed grass
Tall building walls define spaces areas enclosed by fences

Space defining elements (walls, fences, trees, etc.)
Metal link fences around perimeter
Building arrangement creates underutilized spaces

Overhead structures
No determined shade structures, building height may provide some shade

Ordering principles
Symmetry
Spatial hierarchy
Rhythm
Repetition
Topeka Correctional Facility

Additional Notes:
Site chosen for Conceptual Design
Facility has landscape and horticulture program available for minimum security inmates (Topeka Staff interview, 2017).

General Inventory
Location: Topeka, KS
Managed by: Kansas Department of Corrections
Security Level: work release-maximum
Gender: Female
Estimated Population: 853
Date Opened: 1970s

Function
Circulation
Approach/entry experience
Entry circulation leads directly into the central part of the main building
Exterior pathways within the prison grounds
pathways with sharp angles and straight lines
pathways configured to provide efficient travel

Programming
Recreation area: track, baseball diamond
Large, open lawn area
Few outdoor seating areas
Production gardening areas in both minimum and max security areas

Technology
Materials
Concrete wall
Chain-link fences
Mowed lawn
Concrete

Security measures
Wine fences and security cameras

Ecology
Existing vegetation
expanses of mowed lawn provides limited ecological value
planted areas are ornamental plants which may provide benefits to pollinators

Context
Open land to the North, Residential neighborhood to the East, I70 to the South, and Payless Headquarters building to the West

Production gardens in max and min security areas.

Figure 4.22
Figure 4.23
Figure 4.24

Figure 4.25

Views to expanses of mowed grass
Angular pathways with no variation in width
Large expanse of pavement
Hutchinson Correctional Facility

General Inventory
Location: Hutchinson, KS
Managed by: Kansas Department of Corrections
Security Level: min-max
Gender: Male
Capacity: 1784
Estimated Population: Unknown
Date Opened: 1895

Additional Notes:
Hutchinson Correctional Facility is the second largest facility for adult males in Kansas.

Many of HCF's structures were constructed between 1889 and 1912. The facility has emphasized the need to rehabilitate and repair the aging structures. (Cadue, 2013).

Hutchinson Correctional Facility is the second largest facility for adult males in Kansas. Many of HCF's structures were constructed between 1889 and 1912. The facility has emphasized the need to rehabilitate and repair the aging structures. (Cadue, 2013).
Additional Notes:
In 2016 Alabama Governor, Robert Bentley announced plans to close the facility and build four new facilities to replace the aging Julia Tutwiler facility (Shelburne, 2016).
Facility was Alabama’s only max security prison for women.
In 2012 a Federal Report was issued describing a "repressive and intimidating environment" in which "inmates reported being in fear of retaliations from staff if they reject staff’s sexual advances" (Shelburne, 2016).

Location: Wetumpka, AL
Managed by: Alabama Department of Corrections
Security Level: Maximum
Gender: Female
Capacity: 702
Estimated Population: 985
Date Opened: 1942

Form/Space
Linear building with “arms” that branch 90 degrees from the main building
Building is centrally located within the fenced perimeter
Narrow linear spaces are created between “arms”

Scale of built elements
Low 2-3 story buildings

Degree of enclosure
Building walls define narrow outdoor spaces
Main outdoor recreation space is defined by fenced perimeter and building walls
Areas enclosed by fences

Space defining elements (walls, fences, trees, etc.)
Metal link fences
Building walls

Overhead structures
2 trees on site may provide some shade

Ordering principles
Spatial hierarchy: The one large (administration housing units) building takes up the majority of the site

Repetition of building forms

Function
Circulation
Approach/entry experience
One way stretch of road leads into a drop-off area outside the administration building
Exterior pathways within the prison grounds
Primary circulation is within the buildings
No defined outdoor pathways

Programming
Recreation area: baseball diamond, sand volleyball court

Experiential Qualities - Difficult to determine
 Doesn’t appear to a significant amount of protection from natural elements (limited or no shade structures, wind breaks, etc.)

The form of the building limits views from windows, most windows are oriented to provide views of other buildings
No determined seating areas

Technology
Experiential
Lighting: tall floodlight posts

Building form and window placement
Provides views of other building walls

Materials
Chain-link fences
Mowed lawn
Concrete building walls

Security measures
Flood lighting around perimeter
Wire Fences topped with concertina wire

Ecology
Few trees on site may provide habitat
Mowed lawn provides limited ecological value

Soil/Hardscape ratio
Majority of site consists of large building mass, large amount of roof area
Areas surrounding building are mostly mowed lawn

Context
Facility is bordered by dense expanse of trees
A highway is located to the west of the building

No clearly defined outdoor pathways

Building forms create narrow spaces
Views consist primarily of building walls
Primary vegetation consists of expanses of mowed lawn

Figure 4.31

Figure 4.32

Figure 4.33

Figure 4.30

General Inventory
Location: Wetumpka, AL
Managed by: Alabama Department of Corrections
Security Level: Maximum
Gender: Female
Capacity: 702
Estimated Population: 985
Date Opened: 1942

Figure 4.31

Figure 4.32

Figure 4.33
Iowa Correctional Institution for Women

Table of Contents

1. Introduction to Iowa Correctional Institution for Women

2. Design Analysis

3. Additional Notes

4. General Inventory

5. Location: Mitchville, IA

6. Managed by: State of Iowa Department of Corrections

7. Security Level: medium and minimum

8. Gender: Female

9. Capacity: unknown


11. Date Opened: facility partially reconstructed in 2015


13. Date Opened: facility partially reconstructed in 2015

14. Facility was partially reconstructed in 2015. During the reconstruction process, a landscape design project completed by an Iowa State Landscape Architecture studio lead by professor, Julie Stevens. The project included the design and construction of a central courtyard consisting of outdoor classrooms/therapy spaces and rolling hill lawn. A small therapeutic garden by the medical building and a decompression space for staff outside the facility were also implemented (ICIW Site Visit, 2017).

15. Forms/Space

16. Mass/ Void Organization

17. Gridded organization with buildings located throughout the fenced perimeter

18. Scale of built elements

19. 2-4 story buildings

20. Degrees of Enclosure

21. Large open recreation area

22. large open lawn area with only light poles and mowed grass

23. tall building walls define spaces areas enclosed by fences

24. Space defining elements

25. walls, fences, trees, etc.

26. metal link fences

27. wall around perimeter

28. Large building walls

29. Overhead structures

30. allees of trees provides shaded corridor along a secondary circulation path

31. Ordering principles

32. Symmetry

33. Spatial hierarchy

34. Rhythm

35. Repetition

36. Function

37. Circulation

38. Approach/entry experience

39. Entry circulation leads directly into the central part of the main building

40. Exterior pathways within the prison grounds

41. gridded circulation system of various widths,

42. primary circulation pathways are wider

43. secondary circulation pathways are more narrow

44. Programming

45. No determined recreation area

46. Centrally located outdoor common space allows inmates to sit and socialize and also engage in therapy program activities such as journaling and role play

47. Therapeutic garden area is located near the hospital building

48. production gardening areas are located throughout the facility

49. Decompression area outside the facility

50. Security measures

51. Chain-link fences with concertina wire

52. Ecology

53. Existing vegetation

54. mowed lawn provides limited ecological value trees provide opportunities for habitat production gardens provide benefits for pollinators

55. Soil/ Hardscape ratio

56. large portion of area within fenced perimeter consists of mowed lawn area

57. Context

58. Residential area is located to the east of the facility

59. Farmland is located on North, South and West of the facility

60. General Inventory

61. Location: Mitchville, IA

62. Managed by: State of Iowa Department of Corrections

63. Security Level: medium and minimum

64. Gender: Female

65. Capacity: unknown


67. Date Opened: facility partially reconstructed in 2015


69. Date Opened: facility partially reconstructed in 2015

70. Facility was partially reconstructed in 2015. During the reconstruction process, a landscape design project completed by an Iowa State Landscape Architecture studio lead by professor, Julie Stevens. The project included the design and construction of a central courtyard consisting of outdoor classrooms/therapy spaces and rolling hill lawn. A small therapeutic garden by the medical building and a decompression space for staff outside the facility were also implemented (ICIW Site Visit, 2017).
Synthesis of Critical Information

The following information contains findings synthesized from the analysis of prison imagery. Findings address the form and space, function, technology and ecology, found within various prison landscapes.

- Almost all prisons contain a recreation area. Recreation areas include running/walking tracks, sport fields and hardscape courts (e.g. baseball, basketball, etc.). Outdoor exercise is recognized as important in a prison setting.
- The women’s administrative facility at Carswell appears to have the highest consideration for overall landscape design. This facility houses inmates with special physical and mental health needs. This provides an example of a facility that shares the function of a healthcare facility and a prison facility. This facility displays the application of nature for potential health benefits within a healthcare and prison environment.
- Many facilities have outdoor pathways which are linear and angular in form. These pathways appear to be configured to provide direct, efficient circulation. There is a lack of curvature in many pathways within prison facilities.
- Primary vegetation in prison facilities consists of expanses of mowed lawn. Several facilities have vegetation such as trees, but use of vegetation other than lawn is limited. The lack of vegetation displays the concern for maintaining visibility across the site.
- Ecological value does not appear to be highly considered within prison landscapes. Expanses of mowed lawn provide little habitat and require constant watering.
- There appears to be a general lack of shelter and shaded area. Trees that provide shade are limited. It is difficult to determine from the imagery to what extent building heights provide shade.
- Many facilities use a bland color palette for materials.
- Many facilities contain large expanses of hard surfaces (e.g. walls, roofs, asphalt, concrete).
- Many facilities appear to lack variety in planned seating areas. Seating areas opportunities commonly consist of individual benches located along the primary circulation path.
- Chain-link fences are commonly used to restrict inmate access to areas. Access to outdoor spaces is highly regulated.
- Many window views from the buildings consist of views of built infrastructure (e.g. views to interior courtyards and other buildings).
- Four of the ten facilities have discernible garden areas. All four of the facilities with gardens are women’s facilities.

Conclusions

Facilities show varying levels of exterior environment design. The majority of facilities examined do not appear to display an extensive, holistic approach to the design of the exterior environment. This current lack of design consideration provides opportunities to explore various design interventions in diverse prison contexts. Examining imagery of what exists is an important step in outlining and addressing potential problems within various prison contexts. The findings from this examination of imagery influenced the creation of the Design Guidelines (Chapter 6).
Chapter 5

Interview and Site Observation Findings
This Chapter provides a summary of findings from each interview and site visit. Many of the findings have a significant amount of overlap. Findings from this chapter influenced the formation of the design guidelines and the conceptual design for the Topkea Correctional Facility.

Amy Lindemuth
Currently employed at Mithun in Seattle, WA, Amy Lindemuth is a landscape architect that has several published essays on the topic of prison landscape design. Her essays include “Behind Bars: Landscapes for Health and Healing in Corrections” and “Designing Therapeutic Environments for Inmates and Prison Staff in the United States: Precedents and Contemporary Applications”. She has been involved with the design and implementation of landscape interventions for the Monroe Correctional Facility Special Offender’s Unit, in Monroe, WA and the Bedford Hills Facility, a max security women’s prison in New York. She also has various blog posts on The Therapeutic Landscapes Network relating to therapeutic design for prison landscapes. Her work provides research and experience with the topic of restorative landscapes in prisons.

Synthesis of Critical Information
The following information provides key takeaways from the interview with Amy Lindemuth. Full interview notes are included in the Appendix.

Designing a prison landscape comes with many challenges. Oversight, budgets and public interest can be highly political.

It is critical to gain support for the project. Leadership changes occur frequently. Support is needed from various levels of prison administration.

It is important to maintain an efficient construction schedule and to quickly establish programmatic uses. Leadership changes can negatively affect the success of the design. Projects and missions that may have been supported by one warden, may not be supported by a new warden. Prison staff can play a large role in determining which parts of the project get built and how successful the project is after implementation.

Location of the design will be a major factor in determining complexity of the design. Areas with dense planting may only be allowed for certain security level inmates or may only be accessed by a few inmates at a time.

Julie Stevens
Julie Stevens is currently an associate professor in Landscape Architecture at Iowa State University (Ames, IA). In 2010 the Iowa Department of Corrections contacted the President of ISU in hopes of engaging students in creating a landscape design for the Iowa Correctional Institution for Women. Julie Stevens lead a group of fourth and fifth year landscape architecture students in designing and implementing several outdoor spaces for the facility. The spaces include a small garden space near the hospital building, an outdoor classroom for the counseling programs, and a decompression space for the prison staff. Professor Stevens and several volunteer landscape architecture students host a weekly educational landscape class for the offenders. The goal of this class is to teach the offenders how to manage and maintain the landscapes within the facility. The goal is that the women will eventually become fully responsible for the facility landscape and learn to maintain it on their own.

Synthesis of Critical Information
The interview with Julie Stevens focused on the process of working with an Iowa State landscape architecture studio class in researching, designing, and implementing a master plan for the IGW facility. The following list provides key takeaways from the interview:

Therapeutic designs for prisons can use some of the same design theories used in healthcare facilities. One of the key challenges when designing for prisons is that there is not a lot of research on prison landscapes. Much of the literature on therapeutic landscapes addresses therapeutic landscapes in healthcare settings. While hospitals and prisons may have slightly different missions, the structure of space of the facilities is similar.

Safety is a high priority for staff. Prison staff has a hard time believing that a safe prison environment can include more than expanses of mowed lawn and concrete. A large part of the challenge comes from convincing staff members that outdoor environments can be beneficial. The Security Director was very active participant during the design process.

Feeling safe is also important to the women. During the design process, the women helped identify unsafe areas of the student’s design proposals.

Stress is a problem for both inmates and staff. Prisons are high stress environments. Stress can negatively affect many existing problems for inmates. For correctional staff, working in a high stress environment has led to problems with alcohol and substance abuse, and suicide.

Designing a prison landscape is a very human-centered process. It requires a lot of communication between staff, inmates and administration. Throughout the process it is necessary to spend a lot of time with prison staff, inmates, and administration to address their needs and concerns.

There are many challenges to overcome. There are a lot of challenges in convincing people the importance of healthy outdoor environments. It is essential to have support from like-minded people. Another significant challenge comes from funding. With state budget cuts there are a lot of people that are highly concerned with how money is being spent.

There is a growing interest in landscape design among in prisons (at least in Iowa). Several men’s prisons in Iowa have contacted Professor Steven expressing interest in design plans for their facilities.
Topeka Correctional Facility

The following is a list of findings gained through talking to the Topeka Correctional Staff and observing the facility:

Type and Location of Vegetation needs careful consideration. Certain types and placement of vegetation may potentially compromise security. Trees are not to be planted near the fence. Severe weather can damage the trees (e.g., breaking branches) and in turn, trees may potentially damage the fence. Damaged fences can compromise security. The area between the housing units (shown as the red roof buildings in Figure 5.01) and the fence is kept clear of vegetation. Mowed grass allows contraband that is thrown into the facility to be easily seen and confiscated.

Design Budget should be feasible. Money is an issue for many prisons. Changes may have to be implemented in a series of phases in order to accommodate budget constraints.

Aesthetic quality is important. It is evident that the Topeka Correctional Facility staff takes pride in the appearance of the landscaped areas. The planted areas are well-maintained and visually pleasing. Staff also indicated additional areas they thought could be improved with landscaping.

Many inmates are interested in participating in the landscape and horticulture program. The facility receives a large number of applicants for the program. About 50 applications are received, however, the available classroom space can only accommodate around 10 inmates. Many inmates cannot participate in the program due to a lack of resources (e.g., classroom space).

Figure 5.01
The notated map on the following page displays the Topeka Correctional Facility. Driving and walking routes are depicted with dashed lines. The dashed teal line shows a route that was driven by car. The dashed green line denotes the route that was traveled on foot. Call outs include important site information and observations made during the site visit. Additional observations can be found in the Imagery Analysis on (page 43).
Iowa Correctional Institution for Women

The following information was noted during the site visit. Information came from site observations and on-site conversations with Julie Stevens, two of her students, and an ICIW Corrections Officer:

The women appear to be invested in production gardening and landscape management. During the landscape class the women designated maintenance tasks and were engaged in the discussion of the types of vegetables to plant and where the vegetables should be planted.

Design should maintain a realistic budget. State budget cuts have contributed restricted funds for landscape design.

Building relationships is critical. Relationships with staff create a level of understanding needed in order to gain support for the project. It is also beneficial to build relationships with people that have access funding and to landscaping materials in order to help with the financial cost of the project.

It is important to maintain a high level of optimism and persistence. There are many potentially discouraging challenges that include changing mindsets and gaining support for the project, and various levels of political and budget constraints.

Figure 5.02
The notated map on the following page displays the Iowa Correctional Institution for Women. Driving and walking routes are depicted with dashed lines. The dashed teal line shows a route that was driven by car. The dashed green line denotes the route that was traveled on foot. Areas in orange show the locations of spaces designed by Iowa State Landscape Architecture studios. Call outs include important site information and observations made during the site visit.

Outdoor classrooms/therapy Spaces
Space also include a rolling hills lawn and an aspen grove (space shown in greater detail on the following page).

Staff Decompression Space
Space has a hardscape area with a grill and seating

Outdoor garden/courtyard
The building to the to the south of the space is the facility’s healthcare building. Women that have mental health problems and those that are on suicide watch have views to this courtyard. Garden is ADA accessible. This design focuses on providing spaces where women can be by themselves. Many women with mental illnesses find groups of people to be overwhelming.

Ash tree corridor
Julie mentioned this was a beloved area by the women. The walkway provides a pleasant shaded walking experience.
Outdoor classroom area
Julie and her students worked with the counselors and the women in the counseling programs when designing the classroom area. The offenders refer to the classroom area as “the yard.”

Aspen grove
Aspens were chosen because they don’t get very wide at the base. Maintenance includes limbing them up—they’re arranged to form small pockets of space for one on one counseling.

Rolling grassy hill line
(When discussing materiality)
JS: Wardens pride themselves in having tidy prisons—They don’t want dirt being tracked indoors.
This lead to the selection of turf grass that can handle lots of foot traffic. This is the only place the women are allowed on the grass.

Additional Notes
Design issues: Topography data from the city was incorrect. Slopes were a little steeper than expected. Gravel was used for the paths, but is only suitable on a 3% slope or less. There might be future problems with gravel wearing away and having ruts in the pathway.

Iowa has had a lot of state budget cuts.

Obtaining Materials for the design:
Julie had lots of connections to get materials for the design.
Trees for the staff decompression space came from the Department of Transportation.
Limestone used for the classroom space was weathered (and couldn’t be sold) and extremely discounted.

Amphitheater space is used for productions and memorials. Women use this space to sit and socialize. Amphitheater was supposed to have a shade structure but it wasn’t built due to budget.

Role play therapy space
Space is enclosed by low seating walls. Women use this area for sitting and journaling.
Chapter 6 discusses the Design Guidelines for women’s prison facilities that were developed from existing therapeutic design elements and findings from the methodology. The concepts of form and space, function, technology, and ecology are utilized in landscape architecture (Ching, 2007). In rehabilitative healthcare environments, these concepts are applied in ways that create stress-relieving environments through providing a sense of control, privacy, social support, movement, and natural distractions (Martin, 2011). Figure 6.01 suggests that landscape architecture concepts used to provide stress-relieving design elements in healthcare environments can be applied in the prison context. Landscape architecture principles and healing garden design elements can be modified for the prison context based on findings from the methodology. Findings can also influence the creation of new programs and forms to be used within the prison context. The developed set of guidelines includes programming elements and formal elements to create prison environments that provide stress relief and promote positive behavior.

The developed design guidelines attempt to provide recommendations to create therapeutic prison landscapes. In order to provide a more soothing, comforting environment, landscape architects can incorporate a knowledge of spatial coherence into landscape design. In the developed guidelines, spatial coherence encompasses both programs and forms that facilitate the process of reducing stress and promoting positive behavior.

Spatial coherence is achieved through the site-wide application of programming elements and formal elements. The relationship between program and form influence the design of the built environment. Through determining program, forms can be used to facilitate spatial and programmatic needs. Space is created by form. Form provides visual and experiential qualities that enhance the space.

Architectural and vegetative forms with curved shapes and color can be used throughout a site to designate spaces and provide a consistent, overall application of visual and experiential qualities that enhance the space.

Spatial coherence allows for the environment to be understood as a interconnected system of spaces and experiences. As an individual passes through the environment, they experience a seamless flow of one experience into the next. Many prison facilities appear to lack continuity and spatial coherence. Currently, spaces within many facilities appear to operate singularly. Spatial coherence can provide site cohesiveness through interconnected programs and the consistent application of formal design principles. Programs and forms can be designed to work in tandem to support the overall goal of providing a therapeutic environment.

Figure 6.03 on pages 68-69 provides a list of synthesized findings on the challenges of women and the design of the prison environment. From these findings, six design elements were created. Programs were developed in response to the needs for incarcerated women. Formal elements were created in response to the prison environment. Tables 6.01-6.08 further discuss the programming elements.

While the developed concepts for programs and formal elements can be applied throughout sites with diverse site conditions, the application of programming elements and formal elements may be dependent on specific site conditions such as security level, topography, etc.

The Guidelines provided in the chapter are not comprehensive. This report provides a preliminary attempt at creating guidelines addressing the challenges of incarcerated women and the prison environment. Additional guidelines can be developed as prison landscape research continues to expand.

**Design Elements for Prison Facilities**

Building upon the design recommendations for healing gardens, three programs and three formal elements added as recommended
Design Elements Based on the Findings from the Methodology. The six design elements are as follows:

**Provide Shelter**
The Imagery Design Analysis revealed that areas of outdoor shelter are limited. Shelter can provide protection from natural elements and also serve as a place of refuge and mental escape for inmates. Shelter can provide areas of safe, comforting outdoor experiences.

**Promote Mother-Child Bonding**
Literature revealed separation from children is a common source of stress for many incarcerated women. Incarceration separates women from their family which can be detrimental in the development of critical mother-child relationships. During incarceration, mothers are allowed to spend a limited amount of time with their children during visitation hours. Places and programming to strengthen mother-child bonds should be incorporated into the landscape design in order to support the process of healthy childhood development.

**Integrate Technology**
Many technologies can be integrated into prison landscape design. Sustainable technologies can be used to enhance and optimize site ecological functions. For example, rainwater collection, planting design, and grading can be used to optimize site water use. Carefully thought out implementation and maintenance of sustainable technologies can provide stress-relief, vocational training, and facility cost-benefits. Existing site technologies may also benefit from strategic design. For instance, walls and fences are a common form of technology used in prisons to provide security. The design of walls and fences can be strategically considered in order to better promote the goal of rehabilitation.

**Curvature**
Curvature can be used to counterbalance the rigid architectural forms commonly found throughout the prison environment. Curvature can be incorporated through the use of rolling hill landforms and sinuous winding paths.

**Vegetation**
Vegetation can provide numerous experiential benefits. Vegetation can provide shade, color, sense of scale, visual interest through movement, sound, and smell.

**Color**
The Imagery design analysis revealed that bland colors are commonly used in prison facilities. Color can provide therapeutic benefits and create engaging spaces. Color can be applied through vegetation and material surfaces. Chapter 7 discusses the application of developed guidelines for a prison located in Topeka, KS. The Topeka Correctional Facility was the site selected for the exploration in therapeutic landscape design. Programming elements from each of the design elements based on the findings from the Methodology. The six design elements are as follows:

**Provide Shelter**
The Imagery Design Analysis revealed that areas of outdoor shelter are limited. Shelter can provide protection from natural elements and also serve as a place of refuge and mental escape for inmates. Shelter can provide areas of safe, comforting outdoor experiences.

**Promote Mother-Child Bonding**
Literature revealed separation from children is a common source of stress for many incarcerated women. Incarceration separates women from their family which can be detrimental in the development of critical mother-child relationships. During incarceration, mothers are allowed to spend a limited amount of time with their children during visitation hours. Places and programming to strengthen mother-child bonds should be incorporated into the landscape design in order to support the process of healthy childhood development.

**Integrate Technology**
Many technologies can be integrated into prison landscape design. Sustainable technologies can be used to enhance and optimize site ecological functions. For example, rainwater collection, planting design, and grading can be used to optimize site water use. Carefully thought out implementation and maintenance of sustainable technologies can provide stress-relief, vocational training, and facility cost-benefits. Existing site technologies may also benefit from strategic design. For instance, walls and fences are a common form of technology used in prisons to provide security. The design of walls and fences can be strategically considered in order to better promote the goal of rehabilitation.

**Curvature**
Curvature can be used to counterbalance the rigid architectural forms commonly found throughout the prison environment. Curvature can be incorporated through the use of rolling hill landforms and sinuous winding paths.

**Vegetation**
Vegetation can provide numerous experiential benefits. Vegetation can provide shade, color, sense of scale, visual interest through movement, sound, and smell.

**Color**
The Imagery design analysis revealed that bland colors are commonly used in prison facilities. Color can provide therapeutic benefits and create engaging spaces. Color can be applied through vegetation and material surfaces. Chapter 7 discusses the application of developed guidelines for a prison located in Topeka, KS. The Topeka Correctional Facility was the site selected for the exploration in therapeutic landscape design. Programming elements from each of
Synthesized Findings

Challenges of Incarcerated Women

Abuse (Section 2.1)

Addiction (Section 2.1)

Psychological Health (Section 2.1)

Physical Health (Section 2.1)

Separation from family (Section 2.1)

The Prison Environment (Section 2.2, Chapter 4)

Hard surfaces and mowed lawn

Hard lines and rigid geometries in architectural forms

Paths configured for efficiency

Bland color palette

Lack of shade and shelter

Lack of ecological value

Drivers of Behavioral Change

Therapy
personal reflection
conversations
journaling
role play
gardening
exercise

Nutrition
gardening
exercise
healthy food options

Relationship development
peers
families

Programmatic Functions

Provide Sense of Control (Section 6.1, pg 63)

Support Social Functions (Section 6.1, pg 63)

Provide Access to Privacy (Section 6.1, pg 63)

Provide Natural Distractions (Section 6.1, pg 63)

Encourage Movement and exercise (Section 6.1, pg 63)

Provide Shelter (Section 6.2, pg 64)

Promote Mother-Child bonding (Section 6.2, pg 64)

Integrating technology (Section 6.2, pg 64)

Formal Elements

Curvature
Vegetation
Color

Figure 6.03
Design Elements for Spatial Coherence
**Provide Sense of Control**

<table>
<thead>
<tr>
<th>Design Feature Item</th>
<th>Recommendations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ease of Navigation</td>
<td>Paving is smooth to promote use of pathways. ADA accessibility accounts for the needs of elderly and handicapped populations. Wayfinding is easy to understand.</td>
</tr>
<tr>
<td>Views/Visibility</td>
<td>Views of outside while inside building can facilitate beneficial health effects from viewing the landscape. Maintain critical sightlines in outdoor space. Maintaining sightlines is critical for both inmates and staff. Clear sightlines allow threats to be quickly and easily identified.</td>
</tr>
<tr>
<td>Opportunity of Choice</td>
<td>Provide choice of seating (alone, group). Variety in seating areas accommodates the need for individual privacy and for group socialization. Provide different walking routes. This can include curving pathways for meandering, paths of various widths, and paths of various paving materials to create experiential diversity. Provide different choices for scenic views to prevent redundancy and add to the level of visual interest. Provide choice of sunny areas and shaded areas to accommodate various weather conditions and individual experiential preferences.</td>
</tr>
<tr>
<td>Provided Comfort</td>
<td>Seating is comfortable in order to promote usage. Avoid glare from materials (concrete, metals). Glare from reflective materials can create discomfort and potentially induce stress.</td>
</tr>
</tbody>
</table>

**Support Social Functions**

<table>
<thead>
<tr>
<th>Programming Elements</th>
<th>Recommendations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Presence of Seating</td>
<td>Movable seating provides inmates with the opportunity of choice of seating location and social experience. Comfortable materials to sit on promote use of seating areas. Seating provided at angles suitable for conversation. Opportunities to engage in conversation while seated are a way inmates gain social support. Place seating along circulation paths to provide rest areas.</td>
</tr>
<tr>
<td>Presence of tables</td>
<td>Tables to provide areas for group activities such as card games or board games.</td>
</tr>
<tr>
<td>Areas for conversation</td>
<td>Areas should be provided in various locations throughout the site to provide easy access to social support. Areas for small group and larger group conversation. Variety of viewing experiences provide distractions from potentially heated conversations. Views in areas of conversation can provide calming relief.</td>
</tr>
</tbody>
</table>

**Additional Considerations**

**Visibly** should be maintained for staff and inmates. The materials and placement of structures, vegetation, and landform should be carefully considered. Materials should maintain a level of visual permeability. The placement of structures, vegetation and landform should not impede critical sightlines.

**Curved walls** may be provided as an alternative to walls that form angular corners. Narrow corners may potentially provide areas for entrapment.

**Multiple access points** to spaces should be provided in order to allow for the escape from threats.

**Movable seating should not provide potential weapons.** Seating should be movable, but should be substantial enough to not be picked up and swung (eg. folding chairs may not be preferred).
Additional Considerations

**Areas of semi-privacy** may be more applicable in a prison setting. Providing areas of complete privacy may be detrimental for security. Semi-private areas allow for direct supervision from prison staff, but may provide a perception of privacy.

**Location and density of vegetation requires strategic planning.** Vegetation should not block critical sightlines. Highly trafficked areas such as building entrances should be kept clear of dense vegetation. Dense vegetation may only be applicable in areas where additional monitoring can be provided. Trees should not be placed in areas where they can be used for escape (climbing over fences, onto buildings etc.). Large trees near fences are not recommended as they pose the potential to damage the fence if tree branches get broken off. Dense areas of vegetation near the perimeter fence may conceal contraband thrown over the fence into the facility. A buffer of mowed lawn may be necessary in this area to make contraband easily visible during security sweeps.

### Table 6.03

<table>
<thead>
<tr>
<th>Design Feature Item</th>
<th>Recommendations</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Areas for privacy</strong></td>
<td>Provide places where people can be alone in order to provide an experience not commonly found in a prison setting. Create feeling of enclosure in order define spaces and offset the vast openness commonly found in the prison landscape. Area should be large enough to not feel crowded. Crowded areas may be stress inducing for some individuals.</td>
</tr>
</tbody>
</table>

### Table 6.04

<table>
<thead>
<tr>
<th>Programming Elements</th>
<th>Recommendations</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Presence of Vegetation</strong></td>
<td>Vegetation should be located throughout site in order to provide some extent of soothing natural elements for all security levels. Plants located near building edges to soften effects of hard architectural forms. Provide plants with a variety of forms, textures, scents, and colors to create visual complexity. Wind can blow through tree leaves and tall grasses to provide visual interest through movement. Plants that attract wildlife will add ecological value to the often ecologically-unsustainable prison landscape. Edible plants can provide a source of food for facility kitchens. Edible plants can provide nutritious food options to promote physical health.</td>
</tr>
<tr>
<td><strong>Presence of Water</strong></td>
<td>Water feature is easy to see in order to provide visual access to a calming natural feature. Water feature provides soothing sounds. Water feature is appropriate size depending on location and maintenance requirements.</td>
</tr>
</tbody>
</table>
Additional Considerations

**Path materials require consideration.** Gravel, mulch, and earthen paths may require additional maintenance. Material selection should take into account the available resources for maintenance. Topographical slope may limit the choice of path materials (e.g., gravel and mulch paths may only be suitable in areas of minimal topographic slope). Stone and brick paths require that the materials be adhered into place in order to prevent threats to security (e.g., using stones and bricks as weapons).

**Shelter may be design for temporary usage.** The use of shade sails allows for the construction of shade when needed. Trees may only provide shelter spring through fall.

### Encourage Movement and Exercise

<table>
<thead>
<tr>
<th>Design Feature Item</th>
<th>Recommendations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Presence of Paths</td>
<td></td>
</tr>
<tr>
<td>Configure paths to pass through areas of diverse experiential qualities (e.g., diverse views)</td>
<td></td>
</tr>
<tr>
<td>Paths for efficient travel should be maintained</td>
<td></td>
</tr>
<tr>
<td>Provide paths for meandering. Meandering paths can be created through curving and narrow paths. Meandering paths provide an alternative walking experience to the commonly observed straight, angular pathways meant for efficient circulation</td>
<td></td>
</tr>
<tr>
<td>Provide paths for recreation. Tracks with multiple lanes can be used for running and walking</td>
<td></td>
</tr>
<tr>
<td>Proper materials should be to support the activities of meandering, running, and walking</td>
<td></td>
</tr>
</tbody>
</table>

### Provide Shelter

<table>
<thead>
<tr>
<th>Design Feature Item</th>
<th>Recommendations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Protection from natural elements</td>
<td>Provide relief from sun through use of shade trees, or overhead structures</td>
</tr>
<tr>
<td>Provide relief from wind through use of wind blocking vegetation or structures</td>
<td></td>
</tr>
<tr>
<td>Areas of psychological escape</td>
<td>Sense of being transported away from the current environment, areas of warmth, rest, and comfort</td>
</tr>
<tr>
<td>Departure Waiting Areas</td>
<td>Provide a safe area for people to wait for transportation upon release from prison</td>
</tr>
</tbody>
</table>

Table 6.05

Table 6.06
### Promote mother-child bonding

<table>
<thead>
<tr>
<th>Design Feature Item</th>
<th>Recommendations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Areas of Shared Challenges</td>
<td>Implementing Obstacle course playground equipment allows mothers to provide help and support through aiding their child in completing a task.</td>
</tr>
<tr>
<td>Areas of Shared Achievements</td>
<td>Create opportunities for positive reinforcement for both mother and child. Places to participate in shared hobbies such as gardening or arts and crafts.</td>
</tr>
<tr>
<td>Areas Privacy and social interaction</td>
<td>Provide areas of privacy for sensitive mother-child conversations.</td>
</tr>
<tr>
<td>Natural Distractions</td>
<td>Provide natural distractions to ease tension and provide a break from difficult conversations.</td>
</tr>
</tbody>
</table>

**Table 6.07**

### Integrate Technology

<table>
<thead>
<tr>
<th>Design Feature Item</th>
<th>Recommendations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Walls and Fences</td>
<td></td>
</tr>
<tr>
<td>Security Cameras</td>
<td></td>
</tr>
<tr>
<td>Water Management</td>
<td>Utilize strategic grading and areas of plantings.</td>
</tr>
<tr>
<td>Seating</td>
<td></td>
</tr>
<tr>
<td>Tables</td>
<td></td>
</tr>
<tr>
<td>Paths</td>
<td></td>
</tr>
<tr>
<td>Shade Structures</td>
<td></td>
</tr>
<tr>
<td>Signage</td>
<td></td>
</tr>
</tbody>
</table>

**Table 6.08**

### Additional Considerations

**Obstacle course playground equipment** may include balance beams and climbing walls or any other playground equipment that may present a challenge to the child.

**Areas of shared hobbies** can be used for mothers to bond with their child through completing tasks or sharing knowledge. An example of this might be a mother that is part of the horticulture program can share her knowledge of plants and gardening their child. This allows the mother and child to bond through the process of teaching and learning.

### Additional Considerations

Many technologies can be applied in the prison context depending on the facility’s programmatic needs. Conversations with the inmates and staff may determine which technologies are most applicable within the prison.
Design Concepts for the Topeka Correctional Facility
the eight programs were incorporated into the design concept. Architectural and vegetative forms with curvature and color were applied throughout the design. Programs and form were used to create spatial coherence within three focus areas in the minimum security area of the facility.

**Site Description**

The Topeka Correctional facility is an all-women’s facility located at 815 SE Rice Road in Topeka, Kansas. The facility houses 853 inmates of all security levels from Maximum through Minimum (minimum includes work release). The facility was built in the 1970s and became the only women’s prison in the state of Kansas in 2011.

**Challenges**

Several challenges were encountered during the design process. As with most design exercises for educational purposes, there was not enough time for prolonged site observation. The site was only observed during one tour. Various seasonal and weather conditions were not able to be observed. Another drawback was the limited site imagery. Authorization to take pictures was not granted. If the project were to extend beyond educational purposes more extensive communication with staff, inmates, and administration would need to occur. Extensive conversations to address the needs and concerns of a landscape design were not addressed with staff, inmates, and administration. The conversation with the three staff members only identified locations that they wanted planted with aesthetic vegetation.

**Focus areas**

During the site visit to the Topeka Correctional Facility, staff members identified areas they believed would benefit from aesthetic landscaping. Figure 7.02 identifies the areas that were chosen by the staff. Areas

---

Figure 7.01

Other landscape architectural practices were not discussed extensively.
chosen by the staff were taken into consideration during the selection of the final three focus areas. The design exploration focused on three areas chosen within the minimum security area. The three areas include the central courtyard space, the inmate exit corridor, and the outdoor visitation area (Shown in Figure 7.03).

**Outdoor Visitation Area** is where inmates meet with visitors, family, and friends during the weekends. This area contains low metal shade structures and picnic tables for inmates to sit and talk with visitors. A playground space is provided for children. During the site visit tour, Mr. Metzler mentioned design ideas for a new playground may be beneficial. The design for this area was expanded beyond the playground to include the shade structure area and additional space between the playground and the fenced boundary.

**Central Courtyard** is a large open lawn area in the middle of the site. Currently this area consists of a flat grassy lawn and several benches located along the primary circulation path. Due to the central location, this area is widely accessed by a variety of people. This area could be designed to provide further programmatic uses and become a more activated, inviting space.

**Exit Corridor** is a corridor of space defined by a linear stretch of concrete path enclosed by wire fences. This area is located along the southern boundary of the site. Once an inmate is released from prison they walk through this space to exit the facility.

---

**Applied Guidelines**

The design exploration started by choosing programming elements and formal elements to apply to the design:

**Programming**

- Sense of Control - maintain views and visibility
• Access to Privacy - provide areas for privacy
• Social Support - provide areas for conversation
• Natural Distractions - incorporate vegetation
• Movement and exercise - provide paths
• Shelter - relief from natural elements, areas of psychological escape from current environment, departure waiting areas
• Mother-Child bonding - shared challenges and achievements
• Integrating technology - integrating water management technology through use of grading and vegetation

**Formal Elements**
- Curvature
- Vegetation
- Color

**Site Observation and Analysis**
Examination of the site contained within the fenced-in boundary of the minimum-security area lead to the observation of several important existing design moves. Notable design moves included spatial hierarchy, existing program placement and path to space relationships. A clear spatial hierarchy is determined by the level of accessibility to the spaces. The central courtyard space is highly defined by the building edges. This primary space has a high level of presence due to the number of individuals that move through the space and have views to the space. Other spaces consist of the recreation area, the garden area, and a visitation area. These spaces are located along the outer edge of the site. The recreation area and the visitation area are only accessible during certain times of the week. A linear stretch of unused space is located between the fence and the housing units. Inmates are not allowed in this area. The perimeter spaces are less enclosed and are created by both building walls and fences.

The primary path consists of angular lines of concrete which are configured to provide efficient circulation throughout the site. Smaller paths branch off the primary path at a ninety degree angle and terminate at recessed building entrances.

It is also important to note that a building plane extends from the buildings on the east side of the site, inward toward the central space. This plane defines a covered walkway space and provides one of the few areas of shade on the site.

**Process**
The design exploration began with holistically examining the entire area within the minimum-security fenced boundary. Explorations in program placement occurred first. Programming bubble diagrams were used as explore spatial relationships.

![Figure 7.04](image-url)
It was determined that the program placements were well-suited in their current locations. Keeping the programmed uses in their current locations allows the project to remain feasible in terms of budget.

The existing primary circulation provides an efficient linkage of the spaces throughout the site. The placement of the primary circulation remained the same except for a subtle shift closer to the housing units. The form of the path was modified through the addition of curves. The existing angular turns of the path were rounded to create a more sinuous flowing pathway throughout the site.

Enhancements to form and space and increased programming were incorporated into each of the three focus areas. The use of visual characteristics which include curvature, vegetation, and color were kept consistent throughout the site. The application of place-specific form and programming will be discussed in greater detail in the individual descriptions of the focus areas.

Design Concept

The intent of this design is to create an outdoor prison environment that promotes improved health and well-being. In order to create a stress-relieving prison environment, the design focuses on providing greater spatial coherence through the site-wide application of design elements. Developed programming elements were applied to the spaces to create an interconnected system of spaces. In order to soften the physical environment formal design moves of curvature, vegetation and color were used. Formal elements were used to counterbalance the rigid, hard line forms commonly found in prison architecture. Subtle formal gestures used throughout the design Minimal levels of intrusion may be more applicable in the prison setting than bold design moves. While this minimalism style of design may place constraints on design options, the subtlety of intervention was purposely used in order to maintain visibility and lessen security concerns.
The Central Courtyard

This space is centrally located in the site and is highly defined on all sides by building edges. This primary space presents many opportunities to enhance spatial form and programmatic function. Currently this space contains an area of lawn where inmates can engage in activities such as Frisbee. A limited number of benches for sitting, conversation, and relaxation line the circulation path around the lawn space. The path running along the west side of the lawn provides primary circulation. Smaller paths that branch off this primary path at a ninety degree angle provide access to the housing units.

The design intervention began by shifting the primary path closer toward the housing units, in order to increase the amount of lawn space. This allows the lawn to become the primary feature of this space. Several subspaces were then designed within the central courtyard. An additional pathway was added along the east side of the central courtyard. The narrower curving quality of this pathway allows for a more therapeutic meandering experience. This pathway provides an alternative route that stands in contrast to the pathways built for efficiency. Berms were added to further define this path and to give the user the experience of walking through subtle rolling hills. Berms extend into the lawn, framing the space and creating an inviting form. The height of the berms is kept around three feet as to not interfere with visibility. Seating is providing along the meandering pathway allowing areas of semi-privacy and person reflection.

Small seating areas were provided outside of each housing unit. The design enhances the exiting entry experience by providing additional planting areas and more seating opportunities. The curving form of the seating area complements the curved form of the paths. This area can be used by individuals that do not wish to venture away from the housing unit.

An area of underutilized pavement is located adjacent to the central quad area. In order to activate this space, the area was modified into a small plaza. The small enclosed spaces along the edge of the plaza define the plaza space and can be used as places for small group therapy sessions. The larger open area of the plaza space can accommodate larger group sessions or other activities.

The following programmatic functions were used in the central courtyard space:

**Sense of control:** Designed forms were kept open and low to the ground. No seating area was designed to be fully enclosed so that individuals could escape a threatening situation. Low design interventions allow for visibility to be maintained. A variety of different experiences were designed to allow individuals with the opportunity of choice. Choices include opportunity of sitting, walking, or active play, sun or shade, small or large group conversation, etc.
Areas for conversation - Many diverse areas were provided to facilitate a range of different conversation experiences. Spaces of various sizes and experiences are located throughout the central courtyard. Smaller areas for more private conversation were added by the entrances to each housing unit. Benches are located along the main circulation path and along the meandering pathway. Picnic tables are provided in an area of the courtyard to be used for forms of relaxation such as journaling and board games.

Areas for privacy - While complete privacy may not be feasible in the prison setting semi-private areas were designed to offer a perceived increase in privacy. Semi-private areas provide relief from the experience of public areas. Small areas outside the housing units can be used for inmates to be alone or have small group conversations with one another. Benches were provided along the therapeutic pathway to provide areas for personal reflection.

Movement and exercise - Enhanced lawn space, the modification of existing paths, and the addition of a new path were design decisions made to promote movement and exercise throughout the site. The lawn provides an open inviting space for activities such as Frisbee, catch, or relaxing on the grass. The curves applied to the primary pathway and the meandering pathway provides a sense of relief from the rigid lines of the prison environment. The meandering pathway was designed to join with the existing circulation path to create a continuous loop of circulation that can be used for walking exercise.

Vegetation and water management technology were both addressed through the planting design in the central courtyard area. Low ground planting areas were added next to the main circulation path to enhance the experience of walking on that pathway and also to absorb water runoff. Existing site drainage patterns have created areas of erosion between the housing units. In order to address this issue, native planting areas were added between the housing units. Native planting areas can absorb water runoff and provide natural views to look out upon while inside the unit. In order to soften the hard lines of building edges, trees were added. Trees also provide further definition to spaces. Trees selected include small ornamental trees and larger trees to provide shade. Areas for conversation located outside the housing units and around the plaza area have are edged with vegetation to provide additional visual interest.

Figure 7.09 Therapeutic Walkway
The visitation area

The visitation area was redesigned to create areas to promote socializing and family bonding. This rectangular space located on the north side of the site currently contains a playground area and low metal shade structures that cover picnic tables. These picnic tables are used for sitting and conversing with friends and family. During the tour this area was mentioned as one of the areas that may benefit from redesign.

Design began by subdividing the visitation space into four subspaces. The largest space contains the playground. This playground is designed to be the primary feature of the visitation space. In the north corner, a smaller playground for toddler-aged children was designed. Bordering both the playgrounds are linear stretches of space that contain overhead shade sails and picnic tables. The placement of the picnic tables allow individuals to view activities occurring in both playground areas. Shade sails are meant to replace the existing metal shade structures. Shade sails allow protection from the sun while opening up the space.

The main playground was designed to be the primary feature of this area. The playground consists of several smaller areas that are designed for relaxing play, dependent play, and independent play. The area for dependent play was designed to encourage bonding between mother and child. Play equipment in this area includes obstacle course-like equipment. In order to navigate this type of equipment, a child may need help and support from their mother. This equipment allows parents to help physically and emotionally support their child, fostering a connection between them.

The following design elements were applied in the visitation area design:
- Mother-child bonding
- Areas for conversation
- Shelter
- Vegetation

Figure 7.11 Balance beams and slacklines are types of obstacle course equipment where mothers can help their child to completing the task. This provide opportunities for positive encouragement and recognition of achievement. Shade sails and picnic tables (seen in the background) provide sheltered areas for conversation.
The exit corridor

This space is a long linear space located along the southern boundary of the site. The space is defined by a linear stretch of concrete path enclosed by wire fences. Once an inmate finishes their sentence, they pass through this space and exit the facility. This space terminates at a bus stop which then takes the newly released individual back into the city. This area was also chosen by the staff as an area that would benefit from design.

This corridor of space serves as an inmate's final passage to freedom. The intent for this passage is to provide send off into the everyday community. The design for this area incorporated an overhead structure and brightly colored vegetation planted along the pathway. The wire fences located along the sides of the path can be decorated with temporary art installations for the occasion of an inmate's release. Rhythm, repetition, and gradation are used in the design of the overhead structure. Overhead structures are initially spaced far apart at the beginning of the exit sequence. As in individual travels along the path, the forms gradually get closer together. The space created by the forms transitions from undefined, to highly defined. The corridor terminates in a shelter space defined by an overhead trellis. Seating is provided in this area. Shelter area provides a place where individuals can wait to be picked up.

The following design elements were applied to the design of the exit corridor:

- Vegetation
- Shelter

Figure 7.18 Rhythm and repetition with gradation leads to freedom. Temporary art installations can decorated the existing chainlink fence.

Figure 7.19
Figure 7.20 Proposed Program Location

- Sense of Control
- Social Function
- Sense of Privacy
- Natural Distractions
- Movement and Exercise
- Provide Shelter
- Mother-child Bonding
- Technology
Figure 7.21 Proposed Conceptual Design Plan View
Additional Design Considerations

One of the major challenges of designing for the prison environment is the constraint of security. Maintaining visibility was a high priority in this design exploration. Placement and density of vegetation was limited in order to maintain lines of sight (especially near building entrances and other highly trafficked areas). Areas of design intervention were kept under 4 feet to maintain a high level of visibility. The overall approach is a Minimalism style of design.

Additional design considerations provide suggestions to enhance the garden area and the activation of underutilized space located between the perimeter fence and the housing units. The potential to expand the design beyond the fenced in perimeter is also addressed in these considerations.

An apiary can be provided in the space between the housing units and the perimeter fence in the minimum security area. This will activate a space that is currently not being used. Beekeeping can teach inmates valuable vocational skills and raise awareness of environmental issues leading to the decline of the bee population. Beekeeping can also provide a greater understanding of environmental systems. By raising pollinators, inmates can understand the relationship between people and environment. Bees can enhance the existing gardening program by pollinating plants throughout the facility.

Beekeeping can also be profitable. Inmates currently raise and sell houseplants to the public. If apiaries were installed, sales could possibly expand to include honey and beeswax products.

A water retention area could be implemented behind the housing units near the current garden area. Current site drainage patterns already direct water into this area of the site. The retention area could be planted with small fruit trees such as paw paw trees that could be supplemented by the additional water in the retention area. The inclusion of pawpaw trees (Asimina triloba) could provide another source of food for the facility. A water retention area could serve as an expansion of the gardening area.

There is the potential to expand the design beyond the fenced-in perimeter of the site. Vegetation, such as planting trees located outside the fenced boundary could provide appealing views to nature. This may be relevant if placing large trees with a fenced in area poses a security issue for certain inmate security level areas.
Chapter 8

Discussion and Conclusion
Discussion

This report explored the questions of “How can principles of landscape architecture be used to design therapeutic landscapes for women’s prison facilities?” and “To what extent can the outdoor prison environment be designed to promote stress relief and positive behavior?” In an attempt to answer these questions, this report develops Design Elements for Spatial Coherence that directly correspond to the challenges faced by incarcerated women, existing conditions in prison environments, and drivers of behavioral change.

Literature has reported numerous negative effects caused by incarceration, discussed therapeutic effects of nature, and offered design related suggestions using nature to mitigate stress. Fear and stress can exacerbate problems with addiction, physical health, psychological health, and anxiety caused by separation from family. Nature been shown to decrease stress. Martin’s developed Pool of Perceived Healing Garden Design Feature Items provides a synthesis of therapeutic design elements. This synthesis served as the starting point for developing the programmatic functions for this report.

The synthesis of literature allowed for the development of additional programmatic functions specifically related to the needs of incarcerated women and the selection of therapeutic formal elements. Both programmatic functions and formal elements are necessary components in therapeutic landscape design. These programmatic functions and formal elements have been examined in the design for healthcare facilities, but more research and exploration of these principles is needed within prisons. The proposed design elements for spatial coherence presented in this report are intended to be a starting point for developing a more comprehensive set of guidelines.

Many challenges accompany the area of prison research and design. One of the most common challenges is gaining support for the idea that nature and landscape design is beneficial and worth the investment. Further research in prisons is needed to provide evidence on the positive benefits of nature. This research can potentially change mindsets regarding prison management approaches. The question, “To what extent can nature exposure influence correctional behavior and mental health in a prison setting?” needs to be further explored to provide supportive evidence designing therapeutic prison landscapes. Addressing this question will require a significant amount of time and resources, but until this occurs it may be difficult to gain support for idea of therapeutic landscapes in prisons.

Designing for people that are of a different background and circumstance presents a challenge to designers. Designers must be empathetic, but it is difficult to fully understand all the challenges and complexities that incarcerated individuals face. In order to address some of these challenges the design process should be highly inclusive of inmates, staff, and administration.

The research in this report can be enhanced and improved in several ways. The development of the design guidelines and proposed concept design would have benefited from more frequent and extensive conversations with correctional staff members. If time had allowed, it would have also been highly beneficial to interview inmates through focus groups and surveys to assess their perceived needs and desires for the landscape.

One of the key lessons learned from this process is that even small design changes can have beneficial impacts. Small changes to existing formal elements and assigning programmatic functions may help to reduce stress and promote positive behavior. Facilities are often unable to accommodate a large scale, master planning level intervention therefore, smaller scale design interventions should be considered as viable option. Significant impacts can be created by curving a pathway or planting vegetation. Whether design is examined from a large-scale planning perspective or a small-scale site specific intervention, either approach could provide some relief from the rigid and constraining nature of the prison environment.

Prisons should extend beyond deterring crime through containment, and more closely examine methods to help rehabilitate inmates. While goals to rehabilitate are commonly found in the mission statements of prisons, the various interpretations of the term “rehabilitation” could cause issues in forming a standard approach. This report attempts to serve as a starting point in establishing a standard approach in rehabilitation using therapeutic landscapes.

Evidence suggests that nature can have rehabilitative effects through relieving stress and promoting positive behavior. Landscape architecture principles of form and function can be examined in the design of landscapes in order to increase health and well-being. The research, in this report can be used in beginning to address the needs of other incarcerated populations including male, elderly, juvenile, and handicapped populations. Expanding this area of research could have significant implications for the 2.2 million incarcerated individuals in the U.S.
Citations


Appendix:
Interview and Site Observation Notes
Julie Stevens Phone Interview Notes

1. Background Information

How did you get this opportunity?
In 2010 the Iowa Correctional Institution for Women broke ground for a new prison and the President of Iowa State University was contacted in order to recruit students to create a landscape design for the facility. The President then contacted the Department of Landscape Architecture.

Julie noted that many people have had difficulties in getting into prisons to work with them to make any design changes.

2. Design process

What kind of research was conducted to prepare yourself and your students for creating a design for this type of environment?
Research included reading lots of literature in the beginning.

Research projects included surveys and focus groups.

The Iowa State Landscape Architecture program offers research and design classes where students study attention restoration theory, therapeutic gardens, biophilia theory, etc. The students focus on people/environment relationships and were able to apply these theories in their design proposals for the prison.

There is not really an existing body of literature for prison landscapes. Most of the literature is on architecture, and historical information on how prisons have been built. This literature often reflects how society views incarcerated persons.

A prison facility is not all that different than a healthcare institution. The facilities have different missions however the structure of spaces have many similarities.

During the research or design phase, who did you talk to (inmates, employees, etc.)? Did you receive input on what they wanted for the design?

(In Iowa they’re called offenders, different places will have different terms that are deemed politically correct)

Initial contact was made through focus groups. Offenders and staff were asked about what they wanted to see in the landscape. Offenders were more responsive than the staff was.

(*after the implementation of the Master Plan)

As project has progressed the women have become part of the design team. The women have become more active in making decisions and shaping their environment.

Currently, the Iowa State Landscape Architecture Department has a partnership with the prison where they work with the women to plant and maintain the landscape. The hope is for the women to fully transition into becoming the independent leaders of this process.

What were some of the safety concerns for designing a prison landscape?

Many staff can’t understand how they can have anything more than expanses of lawn in prisons. Expanses of lawn is perceived (by staff) as the safest option. Eliminating all threats, results in keeping only the most basic necessities. One of the biggest struggles is convincing people that healthy outdoor environments are a necessity in prisons.

The women were very helpful in giving insights to safety concerns. The women are highly concerned for their personal safety. For example, during the design process, one of the design proposals contained a space that was sunk into the ground. The offenders were quick to point out that a space like that wouldn’t be safe because it was out of sight and someone could be beat up.

The Security Director is a very active participant in the process. Everything that gets built has is approved by the Security Director.

Some officers were concerned with having trees in the design.

Aspens and were selected because trunks don’t get very big, meaning people can’t hide behind them or climb them. Aspens can be limbed up to maintain visibility.

Branches could potentially be used as weapons, but there are other items the offenders have access to (such as pens) that could also potentially be used as weapons.

Part of the battle is convincing people that you can change the existing design for the better.

Where did the idea for an outdoor classroom come from?

In the first semester of designing for the facility a group of students designed an amphitheater space. The warden loved it and really wanted to have it built, so the following class the students honed in on the kinds of programming that could be moved outside.
The building where intensive treatment took place had rooms with tiny windows and harsh lighting. In order to provide a solution, the students proposed outdoor spaces where intensive treatment could take place. The studio class worked with women and counselors in the intensive treatment program and designed an outdoor classroom based on what they learned.

Where does the money come from to do these projects?

Grant funds from the Department of Corrections
Grant funds from the Iowa State Department of Landscape Architecture
Trees and materials donations
Labor cost was kept low by using student interns

3. Post-occupancy information

How often do the offenders use the space and how does it operate?

There is a larger tiered space designed for big group gatherings and 2 other smaller classrooms that are sized for a treatment class. There is also an aspen grove for one on one counseling or alone time.

The offenders can use the space anytime- weather permitting. They have a lot of access to the spaces and the areas get used all the time.

The design provides the only place within the facility where the women can sit on the grass ( in order to accommodate a high level of foot traffic, a specialized high traffic turf was used for that area)

Is there any post occupancy data available?

Yes, but the results haven’t been published yet (as of Oct 2016).

Surveys were completed and sent back by 149 women.

Survey Information included the various ways that the women use the space and perceptions of the space. Some of the ways they use the space include:

- Reading
- Relaxing
- Hanging out with people
- Personal reflection

The women perceive the space to be:

- Calming and relaxing
- Helping them manage conflict
- Helping them focus better

A limitation is the lack of preconstruction data.

Is there any post occupancy data available for the decompression space?

No studies yet, but they are hoping to collect some data in the Spring (2017).

The upcoming Landscape Architecture classes are focusing on creating decompression spaces for 2 Men’s prison facilities in Iowa. The Director of Corrections has recently reached out to the Iowa State Landscape Architecture Department to design staff decompression spaces in response to several staff suicides. Statistics show that suicide rates higher for correctional officers than the general population. For the correctional officer population there are a lot of issues with stress, self medication, and substance abuse.

Many prison facilities are not built to accommodate a garden space for staff and officers.

In the Iowa Correctional Institution for Women, the decompression space requires that the staff leave the facility. This means that space is not highly used during the workday.

Staff use the decompression area only when they’re coming to or from their shifts.

In the men’s prisons, students are looking for spaces that can be used for decompression areas. Whereas the women’s facility was being rebuilt, the men’s facility is already built.

The project for the women’s prison has snowballed into a huge collaboration.

4. Key Takeaways

What are your key takeaways or things that you have learned from you experience in working with the Iowa Correctional Institution for Women?

The process of working with the prison facility is very human centered. You spend a lot of time with offenders, staff, administrators. It is really important to understand their needs and concerns.

The prison environment is highly political. You can encounter a lot of pushback from taxpayers over how taxpayer dollars are being spent. Not everyone is a fan of the idea of prison landscapes. A lot of the officers still have not been fully been convinced. Change is hard for people.

Forming relationships with the people (offenders, staff, administrators) is critical.
Amy Lindemuth became interested in corrections while taking an anthropology course at the University of Washington.

She obtained work experience with two projects:
1. Designing a courtyard for the Monroe Correctional Facility Special Offender’s Unit
2. Designing and constructing a mother-child garden for Bedford Hills Correctional Facility in New York

The following information contains key takeaways from her experiences working in the prison environment:

Working in prisons poses a significant challenge because oversight, budgets, and public interest can be highly political. Prison staff can play a large role in determining which parts of the project get built and how successful the project is after implementation.

Leadership changes occur frequently, and it is important to gain support from various levels of prison administration and to implement projects quickly.

Location of the design will be a major factor in determining complexity of the design. Areas with dense planting may only be allowed for certain security level inmates or may only be accessed by a few inmates at a time. Prison staff may view Gardens and densely planted areas as detrimental to security.

The historical context of the facility may also affect what you’re able to do with the landscape. Location is important. Visual complexity may be affected by location. Areas of dense planting may be in secured locations.

Architects are often risk adverse. They keep designing in the same way because they can utilize an existing prototype for secure design.

It is difficult to find like-minded people that believe that nature within a prison can make a difference.

Male inmates and female inmates may have different risk perceptions.

Inmates and staff have different design criteria. The Staff need safety in order to decompress.

Strong programming is important - spaces can be designed to accommodate programming goals.
Topeka Correctional Facility Site Visit
Met by Mr. Metzler and shown into a conference room where we were joined by Colene Fischili (deputy warden) and Tammy Shoulders (chief/head of security)

Prior to the visit the following questions had been prepared. Maps printed at several scales were printed out beforehand in order to notate. 1 map included some surrounding context. 1 map was zoomed in on the facility and had minimal context.

The following description of my project was given to the staff prior to the interview: The primary goal of this research is to focus on how the outdoor space within the prison can be designed to provide therapeutic benefits and aid in the process of rehabilitation. One of the primary outcomes for my project is to create a landscape design for this facility using the information I gain from talking to you and through touring the facility.

I'm very interested to discuss some of the rehabilitation programs you have, as well as maybe discussing other programs that would benefit from being outside. I'm looking at the possibilities to expand and develop areas of rehabilitation. Ideally, I'd like to look around the whole facility, however I understand if there are issues with security.

Questions for the staff

1. General Facility Information

How many inmates are there at the facility?
About 853. The facility is not overcrowded

What is the age range of the inmates?
Inmates are 18-70s Average age is around 32-35

2. Programming

Can you tell me a little about the Horticulture and landscape program? Is it all one program or are they two separate programs?
The Horticulture and Landscape Program is just one program. The Horticulture program is not separate from the Landscape Program

When and how did the Horticulture and Landscape programs start?
Started before any of the three staff members were at the facility. They estimated the program had been in place around 12 years.

They weren't sure how the program got started since the program started before they were there

How is the Horticulture and Landscape Program funded?
Part of the money comes from the Inmate benefit Fund (IBF). Part of the money in the IBR comes from the commission of house plant sales. Inmates that are involved in the Horticulture and Landscape Program grow house plants and sell them to the general public.

How many women are in the program?
9-10 are in the program, but there are around 50 applicants. A lot of women are turned away because there is not enough classroom space to accommodate everyone

What is the general attitude of the women that participate in the program?
They're enthusiastic. They have to apply to be in the program, so they want to be there.

Do inmates that go through the program ever end up getting jobs related landscape and horticulture?
Sometimes. Two of the women that participated in the program have recently gotten jobs related to what they learned.

What are some of the other rehabilitation programs at the facility?
Some of the programs include: A Microsoft Office Specialist course, GED, substance abuse treatment, sex offender treatment, general mental health, warehouse positions, workforce development skills (resume building) WALC program (Women's Activities and Learning Center), United Methodist Women, Inmate and children programs and Service dog training
Recently inmates worked with the Boy Scouts of America to plant flowers over by the minimum security outdoor visitation area.

Where are the levels of security housed?
(See Figure 7.01 on page 80)

Are there any security levels are not allowed to go outside?
All levels are security have yard time

How long do they typically spend outside?
How long they can be outside depends on their security level. Work release and Minimum get the most outside time (about 4 hours?). The max security gets maybe about an hour less of yard time than minimum security
How are they monitored?
They have a correctional officer with them at all times and there are also security cameras throughout the facility.

What are areas of the facility are the most commonly used by the inmates and what happens there?
The track gets used almost every day in the summer however they need additional supervision in order to be in the recreation area.
Women will often sit on the benches on the edge of the quad area.

Do the majority of women spend yard time outside?
Some choose to remain in their rooms however, the majority of women will spend yard time outside.

3. The Garden Area
How cells are assigned? Are there any preferences to the cells with views of the garden area?
Randomly assigned to whatever is open.
No notable preference for the rooms with views to garden.

Is the garden used year round?
Veggies are grown spring through fall.

What kinds of plants are grown in the garden?
The garden is used for vegetables. House plants are grown in the greenhouses and sold to the public.

Is everything that is produced used by the kitchen? Does any produce leave the facility (sold at a farmer’s market, etc.)?
Everything gets used in the facility.

What was the rationale for the location of the garden? Why is the garden located where it is?
That’s where there was room for a garden.

4. Safety Concerns
Are there any challenges with putting vegetation between buildings?
Security guards walk between the buildings to do security checks. If anything is put between the buildings, it shouldn’t interfere with the security checks.

What are the biggest security concerns with having people outside? (e.g. Violence or the passing of contraband?)
Fights will happen occasionally, like they do in every prison. Drugs have not been a problem.

Have there ever been any security problems with the existing trees (e.g. using branches as weapons)?
No, the trees have never been a problem.

5. Questions to improve the resource needs of the facility (water, and energy)
Is there an irrigation system for watering the grass?
No

Does the facility use Rain barrels or any other means of collecting water from the roofs?
No

Do you have any cost estimates for water and energy?
Annual water costs are approximately $79,000 per year and sewer is $136,000. Electricity is just under $30,000 per month.

Are there any plans for facility expansions?
No, but the garden could possibly be expanded. (The garden hasn’t been expanded because more staff is needed to help manage the program).

Are there problems with flooding?
Some of the units have issues with flooding (it was observed that several housing units sit at lower elevations, water would flow directly towards the buildings.)

As the meeting was wrapping up the Head of Security, Tammy Shoulders cleared Mr. Meltzer and I to access all parts of the facility.
Topeka Correctional Facility Site Visit
Notes and Observations

Minimum security area
We passed several women who said hello and had brief exchanges with Mr. Metzler.

Covered walkway area next to the administration buildings was nicely landscaped (even though it was observed in winter and not much was blooming...due to time of year plant types were not easily identified). Looked like an area that would be aesthetically pleasing there. It was evident that a lot of time and effort has gone into this area to make it look nice. Small pond area under the covered walkway area...apparently had fish in it at one point

Entered into another building and observed the horticulture and landscape program classrooms. The women were currently working on hand drafting plan drawings

Passed computer classrooms where women learn basic computer programs, offices, and indoor gym

Exited the building and walked toward greenhouses.

Greenhouses were warm brightly lit spaces. There was a steady hum from lights and fan. Overall, the experience in the greenhouse was peaceful feeling.

Walked past the greenhouses and noticed an open compost pile and pile of wire plant supports.

Small dog run with shade structure

Gardens slope downward to the west

Are there any unused areas in the minimum security area? Why are they not used?
They’re not supposed to go behind the housing units because they can’t be easily monitored back there.

Observations: about 1 correctional officer per 20 women

How often do people visit?
Saturdays and Sundays are visiting days

Pointed out square openings in the fence that are used for fire hoses.

After mentioning the idea of putting native grasses behind the housing units, I was informed that the area between the fence and the housing unit needs to be kept clear so that guards that do security checks can easily find contraband. Outdoor areas are swept for contraband every day before yard time.

Eroded channels between each housing unit

3' wide concrete path covers cables

Large triangular area of pavement- isn’t used except sometimes women learn to use heavy machinery

Housing unit entry areas consist of planted areas with benches. These are found outside of each housing unit in the minimum security area

What levels of security are allowed to participate in the Hort and Landscape Program?
Minimum and work release inmates.

Work release are allowed to mow outside of the fenced in perimeter also allowed to build furniture

BM: Playground may benefit from being redesigned

Aesthetically unappealing metal shade structures in outdoor visitors area

Medium security

During my visit to this area women were outside for yard time. Women were running up and down the stretch of pavement in front of the housing unit. According to Mr. Metzler this activity is what they do for exercise.

Medium and max security areas have curved metal security fences as opposed to the straight fences found in min security areas (all fences are lined with concertina wire)

Behind the medium security housing unit was just mowed turf

Site slopes to the west

Passed behind the laundry unit

Huge area of underutilized space on the north side of the medium security site

Space in front of the facility is used to host the houseplant sale. The inmates love to sell houseplants to the public

There were problems with getting enough staff for the facility. The state lowered the age of correctional officers from 21 to 18
Iowa Correctional Institution for Women
Site Visit Notes and Observations

Main atrium echoes a lot, which made it difficult to hear what people were saying.

Every Friday Julie and a couple landscape architecture student volunteers from Iowa State go to the facility and work with a group of offenders in a class. The purpose of the class is to teach the women how to manage and maintain the landscape within the prison. During this class, the women, with the help of Julie and her students, allocate tasks such as mowing, and plan the planting of the production gardens. The hope is that this class will be taken over and independently operated by the offenders. The Production gardening program at ICIW started a year ago. They are currently in their second year of the program.

Julie and her students are currently working on developing an app for the women to use. This app helps the offenders manage the gardening program (currently the details of the app are not fully determined, because the app is still in production).

During the visit, I was able to observe one of the landscape program classes lead by Julie and her students. Observations and Notes of the class are as follows.

The class took place inside a newly built programming building. The class consisted of about 12 offenders and 2-3 correctional officers.

The goal of class on that day was to create a gardening schedule and meeting schedule. Offenders were organized into three groups of four. One group worked on the schedule and the other two groups worked on creating 2 separate planting plans for the vegetables.

Offenders working on the planting plans were given maps of the garden areas and scaled areas of veggies to be planted. With the assistance of Julie and the students, the women came up with a schedule and 2 planting plans. Groups then presented the developed schedule and the 2 planting plans to the rest of the class.

While the women seemed hesitant at first, they gradually became more interested and excited in discussing the types of produce to plant in the garden.

After the class I was then given a tour of the facility. Notated maps are included in Chapter 5.

JS: Historically prisons haven’t been designed to accommodate women’s needs. Women’s prisons were essentially men’s prisons without urinals.