Ecotourism in the Flint Hills: exploring design and programming opportunities for Prairiewood in Manhattan, Kansas

by

Elizabeth Franks

A REPORT

submitted in partial fulfillment of the requirements for the degree

MASTER OF LANDSCAPE ARCHITECTURE

Department of Landscape Architecture and Regional and Community Planning
College of Architecture, Planning, and Design

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Approved by:

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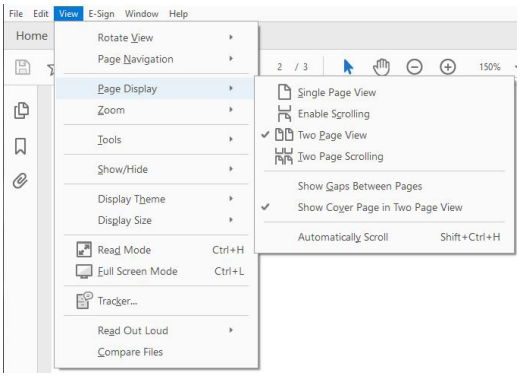
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Abstract

Many visitors traveling through the Flint Hills do not know its history or appreciate the significance of this threatened ecoregion. While the concept of ecotourism and its impacts have been explored in the literature, there has been less attention paid towards integrating specific programming elements found within ecotourism types and how they help promote a stronger human-nature connection. This Master's project and report provides Prairiewood owners and staff with several possible design scenarios aimed at expanding and promoting Prairiewood as a leading example of how ecotourism could be better supported in the Flint Hills. More specifically, this project and report identifies various environmental, cultural, historical, and aesthetic cues that are associated with the Flint Hills ecoregion. Further, this report explores ways to allow visitors to experience these cues first-hand, both at Prairiewood and more distant locations within the Flint Hills. Through a precedent analysis of specific ecotourist locations and interviews with educational staff at various facilities within the Flint Hills, a better understanding of how successful and beneficial ecotourist programming aimed at promoting better human-nature connections was developed. These programming elements and identified Flint Hills' characteristic cues contributed to a projective design outcome for this project, which includes educational, environmental, and recreational considerations. These findings offer more insight into how to successfully promote ecotourism in the Flint Hills ecoregion and could find connections back to the existing body of literature about ecotourism.

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A report submitted in partial fulfillment of the requirements for the degree:
Master of Landscape Architecture

Department of Landscape Architecture and Regional and Community Planning
College of Architecture, Planning, and Design
Kansas State University

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Ecotourism in the Flint Hills

Exploring Design and Programming Opportunities for Prairiewood in Manhattan, Kansas

Elizabeth Franks | Spring 2022

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Abstract

Many visitors traveling through the Flint Hills do not know its history or appreciate the significance of this threatened ecoregion. While the concept of ecotourism and its impacts have been explored in the literature, there has been less attention paid towards integrating specific programming elements found within ecotourism types and how they help promote a stronger human-nature connection. This Master's project and report provides Prairiewood owners and staff with several possible design scenarios aimed at expanding and promoting Prairiewood as a leading example of how ecotourism could be better supported in the Flint Hills. More specifically, this project and report identifies various environmental, cultural, historical, and aesthetic cues that are associated with the Flint Hills ecoregion. Further, this report explores ways to allow visitors to experience these cues first-hand, both at Prairiewood and more distant locations within the Flint Hills. Through a precedent analysis of specific ecotourist locations and interviews with educational staff at various facilities within the Flint Hills, a better understanding of how successful and beneficial ecotourist programming aimed at promoting better human-nature connections was developed. These programming elements and identified Flint Hills' characteristic cues contributed to a projective design outcome for this project, which includes educational, environmental, and recreational considerations. These findings offer more insight into how to successfully promote ecotourism in the Flint Hills ecoregion and could find connections back to the existing body of literature about ecotourism.



Figure 0.1. Tallgrass Planting at Prairiewood (Franks, 2021).

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EMAW!

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01

Introduction

Overview

The Flint Hills ecoregion, as the last remaining 4% of intact Tallgrass Prairie, is a national attraction that is not well known apart from interstate highway transits (NPS (E) 2021). The hills largely remain unplowed due to shallow layers of chert, and the stepped cuesta physiography, due to differential erosion of the alternating layers of limestone and shale, makes the landform very visually distinctive. Manhattan, Kansas, located in the northern portion of the Flint Hills, draws a variety of visitor groups into the region, mainly due to Kansas State University. Manhattan, Kansas, and the surrounding Flint Hills has the opportunity to extend the duration of visits, and even be a destination attraction at the regional and even national scale. However, this potential is largely unrecognized or there is a lack of far-reaching advertising highlighting the visitation opportunity. To help address the unrecognized beauty of the Flint Hills, this project presents Prairiewood, a local Manhattan hospitality business, with several scenarios aimed at extending the duration of their guest visits by introducing ecotourism in the Flint Hills ecoregion. Prairiewood is a privately owned event and retreat facility consisting of several scenic parcels located west of Manhattan. Part of its current mission is to strategically engage in preservation of the local Flint Hills prairie through nature-based outreach programs with the community. Through additional site planning and expanded programming, the opportunity exists to strengthen the connection of local residents and visitors with nature at Prairiewood and use the facility as an excursion hub to promote and support ecotourism within the Flint Hills.

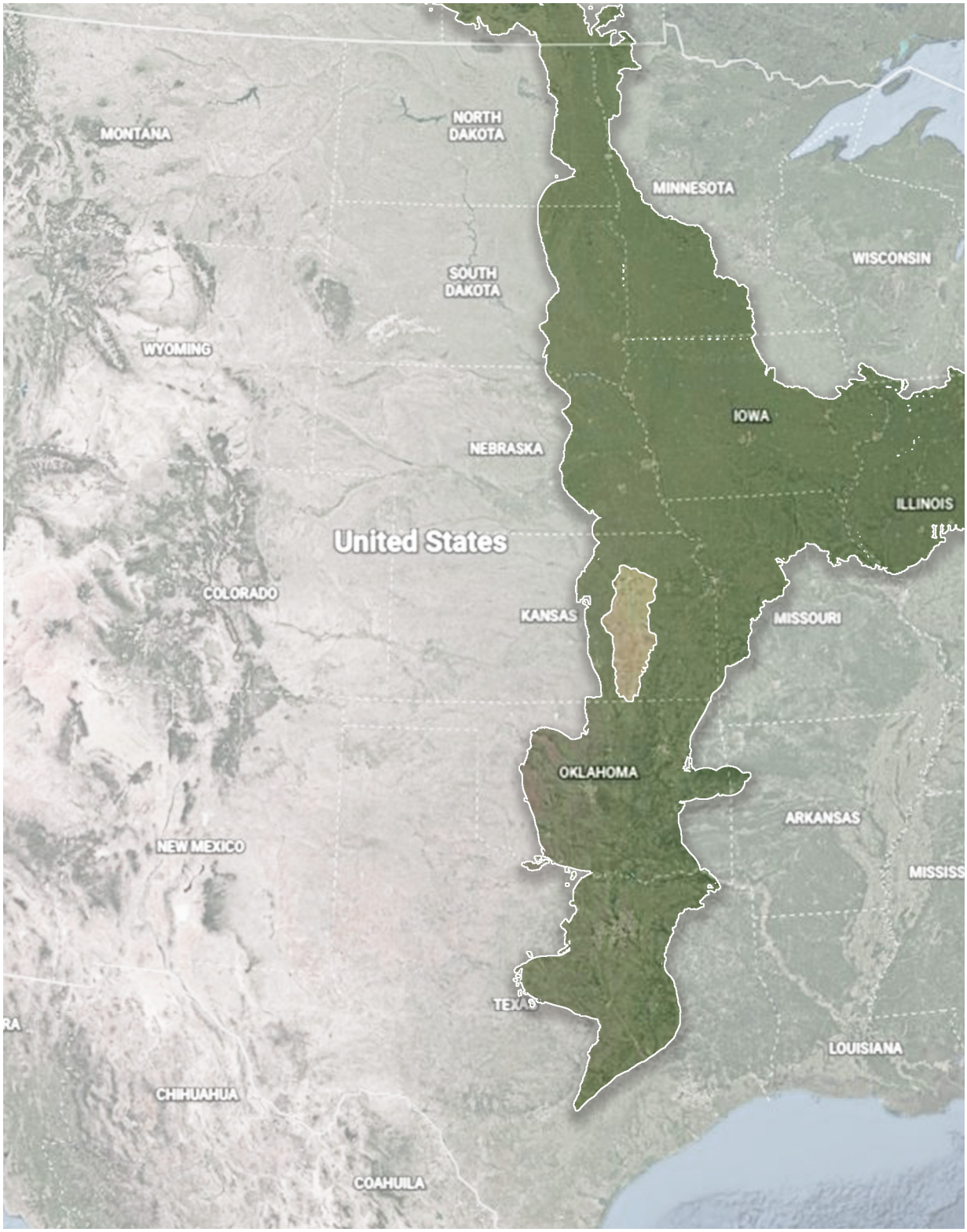


Figure 1.1. Flint Hills in Comparison to Tallgrass Prairie. Source: (Google Earth 2022).

Dilemma and Opportunities

This project's dilemma addresses the lack of organized ecotourism programming within the Flint Hills ecoregion and how Prairiewood might help close the gap. A few challenges for Prairiewood that may arise while addressing the dilemma include acknowledgment of land management requirements (controlled prairie burning, etc.), encountering fragile ecosystems, the time requirements to expand nature-based activity and education programs, and coordinating regional excursions. All of this must be done while maintaining financial viability and core event/retreat operations. By working closely with Prairiewood, an opportunity opens for a local business to become an ecotourism hub that focuses on repairing the disconnect with visitors and the Flint Hills.

Project Importance and Purpose

More people are beginning to appreciate and utilize outdoor spaces after having greater contact and even total immersion in a natural environment. This becomes an exciting opportunity for landscape architects to help protect nature-based landscapes and through programming, help people experience these spaces as interesting, safe, and emotionally fulfilling places. Being in a pandemic, originating in late 2019 has made people realize the value of their surroundings as outdoor recreation and socializing spaces. As travel begins to resume to former levels, many people are beginning to take trips into these natural, nature focused environments, which helps support ecotourism. Ecotourism focuses on promoting a socially sustainable, nature focused, educational, and ethically focused visitation experience (Wardana et al. 2021). Landscape architects

can support ecotourism by enhancing user experiences through educational and sustainable design. According to Wall (1997), "...sustainable development has attracted the interest of the tourism industry and tourism researchers." By incorporating education and sustainable design into a destination spot, more people will be willing to visit and gain a better understanding of the concepts that are driving the success of the design.

Research Question

The research question that drives this project is:
How could Prairiewood's identity be expanded and developed as a nature education center to help increase Prairiewood visitation, and in some cases, use the Prairiewood facilities as a northern excursion hub to attract visitors and promote ecotourism in the greater Flint Hills ecoregion?

Project Goals

1. Create a framework of introducing ecotourism to the Flint Hills.

2. Explore opportunities to help Prairiewood become a leader of introducing ecotourism in the Flint hills.

3. Expand upon the visitor's understanding of the Flint Hills

4. Better understand how precedents have successfully promoted better human-nature connections.

5. Use the above findings to contribue to a detailed projective design outcome for the Prairiewood site.

Project Extent

The full project extent considers much of the Flint Hills, from Manhattan southward to Matfield Green. The site for this report is located just west of the City of Manhattan, along Wildcat Creek Road. The land is owned by Prairiewood Holdings and has some current programming integrated throughout. The land covers around 35 acres and has access to Wildcat Creek. The site will be considered the main location of the project, as other itinerary programming will be found throughout the Flint Hills region. The main project site is where the projective design part of the report will take place.

Anticipated Outcomes

Through a precedent analysis, a visitor profile analysis, and a site analysis, a better understanding of ecotourism and its associated characteristics will help inform the design process by providing programming focus and sustainable solutions for incorporation into a master plan to help promote ecotourism at Prairiewood and in the Flint Hills. These outcomes will include a master plan and three itineraries that help advertise the possible locations within the Flint Hills that best represent the characteristics of the ecoregion, hence promoting ecotourism.



Figure 1.2. Project Site Source: (Google Earth and GIS 2022)

02

Background

Overview

Ecotourism has quickly become an anticipated form of travel for many groups of people around the world. The tourism industry has begun shifting its focus from high-end, competitive entertainment to practicing environmentally sustainable principles and practices and become more aware and educated about the surrounding environment (Ballantyne, Packer, and Sutherland 2011). Many travelers have begun to orient their trips paralleling these new foci. The ecotourism industry is continuing to increase in competition as many visitors desire more eco-focused, nature based activities to be incorporated into their itinerary (Weaver 2001). More people have become increasingly aware of the environment around them and are beginning to realize the impacts they have on it if they do not act to protect it. As tourists' purpose of traveling shifts from adventure and excitement, they are beginning to understand and participate in educational opportunities for themselves to learn how to conserve and preserve the environment around them. Tourists having close contact with the environment are going to become more educated, as many people are beginning to feel disconnected with the environment due to urbanization and mechanization (Ballantyne, Packer, and Sutherland 2011). Hence ecotourism is appealing for many travelers, as they want to address conservation and preservation of the land. This project and report seek to explore how the Prairiewood facilities and activities can be expanded to provide deeper interpretation and promotion of the Flint Hills, both in Manhattan and the greater ecoregion context.



Figure 2.1. Colorful Plant Life in the Flint Hills (Hahn, 2017).

Ecotourism

Ecotourism Definition

Ecotourism is an alternative category under the term tourism and can be interpreted in many ways. Ecotourism continues to spark new ideas of how to define and refine this term, as it continues to be challenged and developed further. The core criteria for the term ecotourism stays consistent throughout each definition. The core criteria for ecotourism is that it is nature-based, participants have a desire to appreciate and learn, and it is sustainable (Weaver 2002). According to The International Ecotourism Society (TIES), ecotourism is defined as:

"Responsible travel to natural areas that conserves the environment, sustains the wellbeing of the local people, and involves interpretation and education".
(Stronza, Hunt, and Fitzgerald 2019)

The "ecologic" adjective that is being combined with the term "tourism" may immediately be associated with the idea of traveling to a natural area, however, it also refers to the equitable interrelationships and the interactions with the natural environment and the guests and hosts of the community (Mosammam et al. 2016). As noted through the literature, ecotourism is more than just traveling to a nature-focused destination; it focuses on attracting visitors to a nature-focused destination to learn more about that environment and the interrelationships with the visitors and the local characteristics. More specifically, it promotes environmentally responsible behavior and

destination management, while also encouraging sustainable development that targets the local human population (Castellanos-Verdugo et al. 2016).

History of Ecotourism

The term ecotourism first made its entrance into the tourism industry and literature back in the 1980s as development began flourishing. During its peak growth time, concerns increased about tourism development intruding into habitats without the ability to provide ecological restoration (Donnelly et al. 2011). As a solution, to ensure that this industry continues to promote a healthy practice for the environment, ecotourism was developed in hopes to help restore the surrounding environment back to a healthy state through conservation methods (Donnelly et al. 2011). Ecotourism activities generally relate to conservation and preservation efforts relative to the location being visited.

Ecotourism Characteristics

The ecotourism industry advocates for conservation and preservation efforts to help sustain natural areas and the wellbeing of the local people. Some specific characteristics that shape ecotourism into becoming attractive to ecotourists and successfully implementing conservation and preservation efforts is the strong, charismatic flora and fauna, and the cultural heritage of a place (Weaver 2002; Terrell 2022). Because of these unique characteristics, places that attract ecotourists stand out compared to other places within the tourism industry. These characteristics influence learning, highlight environmental aspects of a place. And effectively encourage the conservation and preservation efforts.

"The degradation of the natural environment will severely reduce visitor demand in the long term as the natural attributes on which ecotourism depends will be perceived as less attractive, less legitimate and less able to provide satisfying ecologically based experiences." (Weaver 2001)

Ecotourism benefits / Goals

As the term, ecotourism, continues to be researched and developed, literature has provided some benefits for tourist destinations that are moving towards ecotourism. Ecotourism can benefit the environment, society and culture, and the economy (Weaver 2001; Hall and Lew 2009; Mosammam et al. 2016). The benefits that ecotourism brings to a community may also be used to develop specific goals for these destinations when considering further programming for a location. Ecotourism focuses specifically on becoming more socially sustainable, nature focused and ecologically sensitive, more aware and educated regarding the economics and culture of the local context, and being more ethically focused (Wardana et al. 2021; Mosammam et al. 2016). Through available literature, the topic of ecotourism has a consistent "vision" or "mission" that can be applied to projects that are promoting ecotourism. This vision or mission simply enforces ecotourism to protect the environment and to help utilize local people. Ecotourism may endorse the socio-cultural traditions of the surrounding context, or the host community, and it should also explore benefits that could become available to the local communities (Mosammam et al. 2016). In short, when done well, ecotourism encourages a strengthened human-nature connection through the physical place and through the local community's identity.

Environmental Opportunities

The impact that ecotourism has on the environment encourages visitors and residents to promote a healthier and greener place to live and visit. Ecotourism's overall

principle focuses on encouraging visitors to support conservation and preservation efforts towards the surrounding environment and local community (Wardana et al. 2021; Stronza, Hunt, and Fitzgerald 2019; Hall and Lew 2009). Through conservation and preservation efforts, ecotourism supports the protection of wildlife and biodiversity and the surrounding landscape through incentive programs that focus on protecting physical and local communities (Stronza, Hunt, and Fitzgerald 2019; Weaver 2002). These incentive programs encourage upkeep and maintenance of these locations, keeping them attractive to the public eye. Environmental management practices, land and visitor management practices, and educational tours are important to help manage the environment and reduce negative impacts (Weaver 2001).

While ecotourism positively benefits the environment through conservation and preservation efforts, in return, the environment positively benefits ecotourism and associated activities. The physical environment plays an influential role in a tourist's determination to travel, as it may influence the type of activities these tourists are motivated to experience. The physical environment's attractiveness, attraction significances, and its story plays a powerful role in the choice of destination (Aranburu et al. 2016; Suvantola 2002). The physical environment not only influences the choice of a traveler, but also evokes an emotional connection. These emotions will in part determine the tourist's reaction to the place and the tourist-space relationship (Jelinčić and Senkić 2017; Kim and Fesenmaier 2015). The tourist-space relationship keeps people wanting to invest their time, money, and attitude into a place, and is crucial for ecotourism.

"The longer duration of stay may promote a deeper understanding between the individual ecotourist and individual community members. In turn, this may increase the tourist's understanding of the host community." (Weaver 2001)

Economic Opportunities

The tourism industry is large and continues to grow, and each type of tourism generates many economic contributions to a place. This rapid growth of the industry makes tourism a significant role as a major contributor to the economy, as over 80% of countries value this industry (Becken and Hay 2007; Glaesser 2006; Choi and Sirakaya 2005). More specifically, the industry generates over billions of dollars to a country; for example, in 2016, the United States averaged around $205.9 billion in tourism related revenues (Aratuo et al. 2019). GDP varies globally among countries, as some countries accumulate a higher number of tourists throughout the year. In countries that are more ecotourist focused, there is a reliance on ecotourism as a profit-making industry, which essentially acts as a natural asset to the local economy (Weaver 2002). By generating large revenue through visitors, these communities reinvest a portion of the profits back into local conservation and preservation efforts which help benefit the physical upkeep of a place. These conservation and preservation efforts also elevate job opportunities made available for local residents (Weaver 2001; Mosammam et al. 2016). These jobs give people the opportunity to get involved in their community and help keep conservation and preservation efforts strong. Their efforts and dedication to helping conserve these places help strengthen the reputation of the destination and will keep people coming back.

Socio-Cultural Opportunities

The people, community, culture, and social aspects of a place all influence each other to help strengthen the tourism industry and the tourists' experience. Similarly, ecotourism benefits those same socio-cultural aspects of a community. Ecotourism influences the sense of pride and community empowerment within a place (Mosammam et al. 2016). As more people travel to a community and become involved with the surrounding culture, they begin to better understand the values and identity of the locals. Ecotourism also benefits the socio-cultural environment by portraying the local identity of a community through its "local labor and expertise" and strengthened awareness of the surrounding culture and environment (Weaver 2001). A socio-cultural value that ecotourism strives to accomplish successfully is the cross-cultural understanding that is made between the ecotourist and the locals (Weaver 2002). These local experts have an accurate understanding of the area. They may also be referred to as the host community. The host community is a group of people that share a common identity and share the same passion and support for tourism within the community. These people are the ones who best understand the surrounding landscape, history, and activities that are associated within the landscape (Weaver 2001). The host community helps make connections between the ecotourist and the socio-cultural aspect.

Negative Impacts by Ecotourism

When the term ecotourism was developed, it was hoped that it would provide minimum negative impact to the environment and the surrounding context.

However, as ecotourism gains popularity and becomes more mainstream, sustainable practices may lose traction when placed against the pressures of capitalism and growth.

Environmentally, ecotourism activities are meant to educate visitors and allow them to experience these environments first-hand; however, if not done correctly or enforced right, the environment may become damaged. As more people visit conserved and protected areas, the stress and degradation produced on these ecosystem may end up hurting the environment (Wall 1997; Das and Chatterjee 2015; Jain, Singh, and Aggarwal 2010). Habitat degradation may also become an issue in areas, as some activities have visitors intruding into ecosystems. To help avoid negative impacts on the environment, it is essential that tourist and resource managers recognize important or vulnerable areas that could fall into degradation. By setting specific boundaries for areas that are threatened when more people give it attention, the chance of severe degradation occurring is limited and reduces stress on the habitats.

Economically, as more environmental issues arise, more money must be put towards management to maintain it (Jain, Singh, and Aggarwal 2010). As maintenance of the environment begins to increase, this may lead to rising prices for the ecotourist (Weaver 2001) and less willingness to pay to visit. Additionally, funds from ecotourists are not always received equitably by the community. In some cases, only portions of the local population involved in tourism development benefit, while other operations might not employ locals and therefore the economic benefit is not realized.

Socio-culturally, competition among tourist destinations may lead to negative changes within the local communities, which contradicts an ecotourism principle of being sustainable towards the local identity of a place. As destination competition grows, the results may end up displacing the local culture. The tourist industry may begin to expect more from the local people, but in reality, they are unable to give more as they begin losing their local identity (Wall 1997). The local character and identity may even become entirely lost due to rising competition.

These negative impacts can be avoided with proper planning and management of an ecotourist location. Recognizing these negative impacts early helps future planning within this industry to develop strategies and rules to keep ecotourism on track to achieve its goals of being environmentally responsible and friendly, and sustainable towards the local community (Castellanos-Verdugo et al. 2016).

The Ecotourist

Identifying an ecotourist may depend on the level of involvement these people have or want to have within the ecotourism industry. According to Fennell (2002)and other researchers, an ecotourist may be identified, in general, as either a hard-path ecotourist, or soft-ecotourist. Hard path ecotourists are those who have a professional background related to ecotourism disciplines, an example would be a biologist or a botanist. A soft path ecotourist may be someone who wants to casually experience ecotourism on their own during non-professional time (Fennell 2002).

Ecotourists can also be specifically identified as either a hard-core nature tourist, a dedicated nature tourist, a mainstream nature tourist, or a casual nature tourist. These different types of tourists may be found anywhere in the industry and accommodating different visitor types is important when planning specific programs at ecotourist destinations. Hard-core Nature Tourists are tourists that are specifically part of groups that help take conservation or preservation actions. Dedicated Nature Tourists are those who plan trips to protected areas and want to gain information about the local and cultural history of a place. Mainstream Nature Tourists are tourists who take unusual trips to exotic places. Casual Nature Tourists are visitors who participate in nature related activities on broader trips (Fennell 2002).

Although there are different ways to identify an ecotourist, ecotourists in general share common characteristics. An ecotourist appears more active and adventuresome in activity choices, and prefer their adventures to be in outdoor settings (Fennell 2002). Ecotourists value the natural environment and the time they get when interacting in the natural environment, as they find it fascinating to observe wildlife in a natural setting (Kim Lian Chan and Baum 2007). An ecotourist values the time necessary to develop their personal skills and knowledge about a local culture that they are visiting (Kim Lian Chan and Baum 2007).

Ecotourism vs. Other Forms of Tourism

Throughout the development of the tourism industry, there

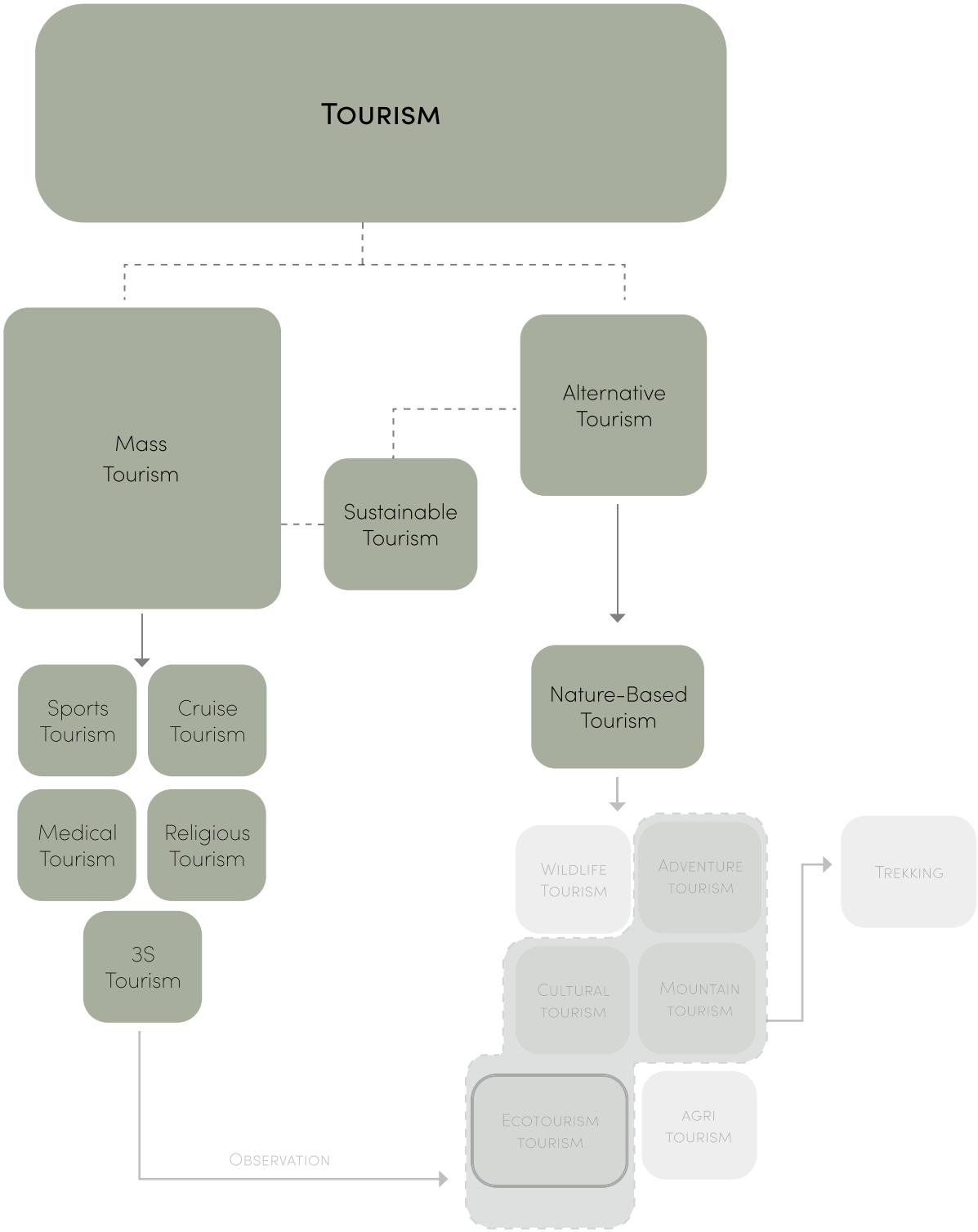


Figure 2.2. Tourism Categories (Franks, 2022).

has been a variety of tourism branches that have become subcategories. The two branches that descend from tourism are mass tourism and alternative tourism. Mass tourism is linked to mass production, mass consumption, and mass tourist locations (Vainikka 2013); some examples of mass tourism include sports tourism, cruise tourism, medical tourism, 3S tourism, and religious tourism. Alternative tourism formed as another 'alternative' form of mass tourism; another form of tourism that seeks to leave a positive impact on a destination (Weaver 2001) rather than the often negative impacts associated with mass tourism. Mass tourism has a stronger focus on the supply and demand of a place and the amount of people participating in travel, while alternative tourism focuses on the low impact it makes towards the economic, social, cultural, and environmental aspects. These two branches represent the overall value that makes up the divisions of the two subcategories. Figure 2.2 shows the relationships among the tourism categories. Following mass tourism and alternative tourism, the types of tourism represented begin to become more specific to certain activities and characteristics.

Nature-based tourism falls under alternative tourism, and is a general type of tourism that utilizes the surrounding landscape and resources to help make for a positive experience (Weaver 2001). Nature-based tourism values the interaction of the visitor and the place of attraction. Because the tourism industry is so large and continues to grow, and for the purpose of this report, the nature-based tourism category will be the focus, as ecotourism falls under this category (Figure 2.3). The branches that follow nature-based tourism all share similar relationships with nature but have different

activities and takeaways (Weaver 2001). From my literature search about nature-based tourism types, a strong list of different types of nature-based tourism was configured. Figure 2.3 highlights the nature-based tourism types that will be examined in more detail in the following section.

Weaver (2001) does a good job defining the relationships among types of nature-based tourism. In the following section, each of these nature-based tourism types are examined in more detail. As explained more in–depth in Weaver's Encyclopedia of Ecotourism, the industry has evolved so much that new perspectives are being influenced by older terms and are beginning to branch from each other. Although these subcategories may cause confusion with the literature available about them, understanding these relationships will help determine better programming needs and solutions within the ecotourism industry.

Nature-Based Tourism Types

In the previous section, the types of tourism are diagrammed out to help visualize where the industry stands at defining more specific types. Through the literature, it was found that ecotourism is a subcategory of nature-based tourism because of its focus to rely on nature. In this section, each of the types of nature-based tourism are briefly defined.

Ecotourism

Ecotourism is a type of tourism that is categorized under nature-based tourism (Weaver 2001). Ecotourism has

many interpretations of definitions and understanding, but in general, it is best defined as travel to a natural area that focuses on conservation and preservation efforts towards the environment, while also improving the well-being of the local community (Terrell 2021).

Adventure Tourism

Adventure tourism is another type of tourism that is used interchangeably with the term ecotourism (Weaver 2001). Adventure tourism revolves around nature observation and wildlife viewing that involve more physical activity (Weaver 2001). Some of these activities may include white-water rafting, wilderness hiking, skydiving, sea-kayaking, caving, mountain climbing, diving, hang-gliding, and ziplining (Weaver 2001).

Cultural Tourism

Cultural tourism is also considered a subcategory of nature-based tourism because of its closely similar activities chosen by a tourist that are done simultaneously (Weaver 2001). Cultural tourism focuses on activities to learn, discover, experience, and consume the cultural identity of a place (World Tourism Organization (UNWTO (A) 2021).

Mountain Tourism

According to the UNWTO, mountain tourism is a type of tourism that takes place within geographical areas that are dominated by mountains and emphasizes the flora and fauna of the surrounding landscape (World Tourism Organization 2018).

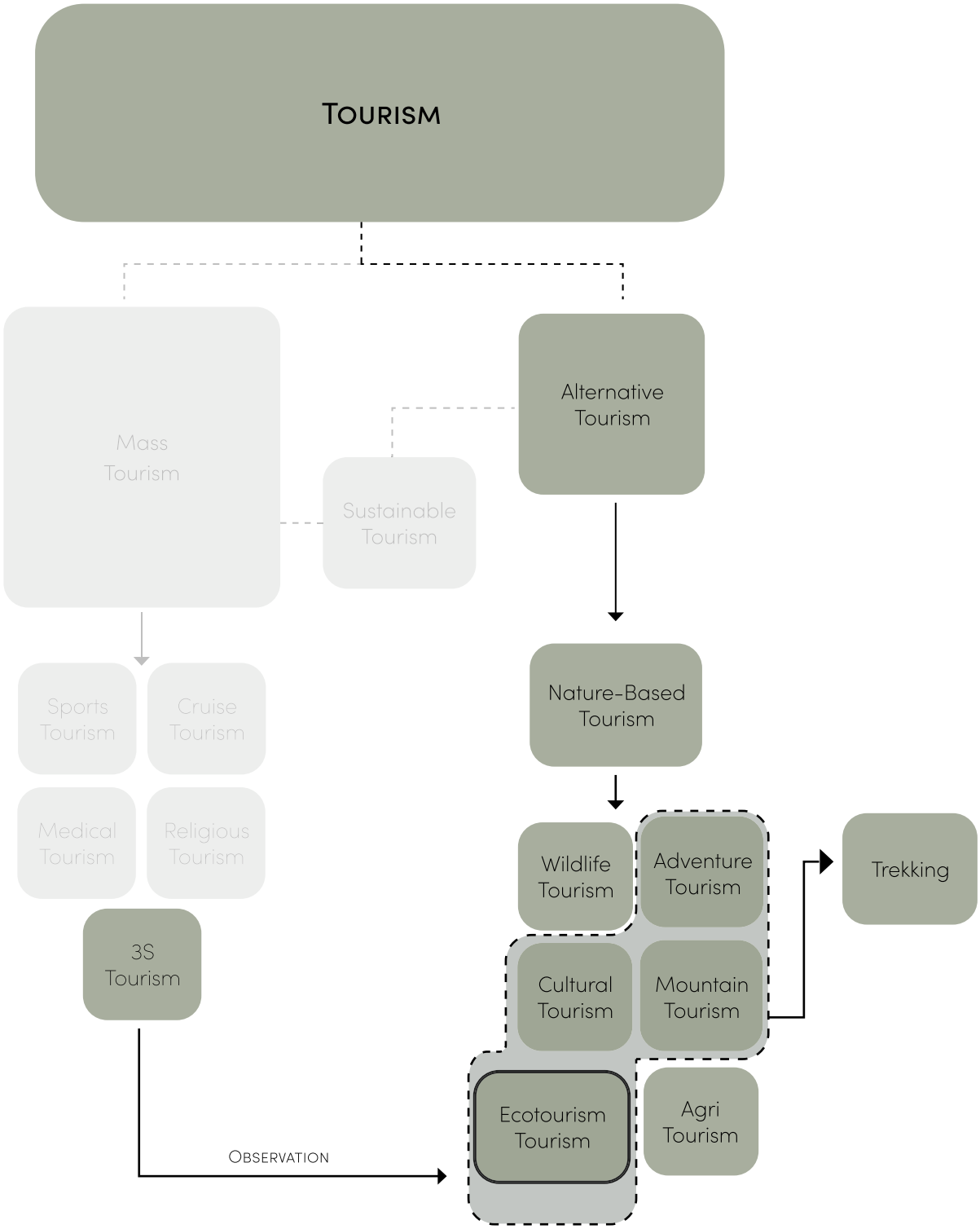


Figure 2.3. Nature-Based Tourism Category (Franks, 2022).

Trekking

Weaver explained trekking as an activity that is associated with mountainous exploration, however, it also becomes an activity for those participating in ecotourism, adventure tourism, and cultural tourism (Weaver 2001). These activities associated with trekking could include distance hiking, visiting local villages, adventure experiences (rope bridges), and nature appreciation moments (Weaver 2001).

Wildlife Tourism

The World Tourism Organization defines wildlife tourism as "the observation and interaction with local animal and plant life in their natural habitat" (UNWTO (B) 2021). Wildlife tourism has similar characteristics to ecotourism and the other types of tourism that have been described in the previous sections.

Agri-Tourism

Agri-tourism focuses on tourists familiarizing themselves with farming activity and recreation that is located in an agricultural environment, while also educating themselves on agricultural production (Sznajder, Przezbórska, and Scrimgeour 2009). Agritourism functions as a nature-based tourism type, as it shares a lot of similar environmental outcomes as ecotourism and some of the other types, but also is considered to be part of rural tourism, which is another small scale subcategory of alternative tourism (Sznajder, Przezbórska, and Scrimgeour 2009).

3S Tourism

3S tourism has activities that rely on the sea, sand, and sun (Weaver 2001). 3S tourism specifically includes activities that are involved in marine observation; some of these marine

activities include scuba diving, snorkeling, swimming, and other forms of observation (Weaver 2001). Weaver explains 3S tourism as one of the categories that may seem to fit right into nature-based tourism, but finds its place under mass tourism because of its affiliation with hedonism (Weaver 2001). To consider 3S tourism part of nature-based tourism, participants should observe and learn from their findings while participating in these activities (Weaver 2001).

Ecotourism Conclusion

Totaling about 10.5% of the world's gross domestic demand, tourism has rapidly been growing over the past four decades and is predicted to grow even more in the future (Choi and Sirakaya 2005). With the tourism industry growing and developing stronger tactics to keep up with competition, more types begin to create subcategories tiered off the existing forms; but focusing on bettering these areas. Alternative forms of tourism, like ecotourism, has sparked awareness of the negative impacts that mass tourism may have on the environment (Choi and Sirakaya 2005). More people are shifting their travel towards nature-based activities, marking ecotourism providers as essential to maintain the industry. It is predicted by 2024 that ecotourism will represent about 5% of travel because of changing motivations towards conservation caring (Das and Chatterjee 2015). Importantly, ecotourism is not the only nature-based type of tourism in the industry. Many other forms of tourism have developed to better suit a specific activity. Many of the nature-based types of tourism all have similar roots, as each type rely on nature and the flora and fauna of a place.

Regional context: Flint hills

History

The Flint Hills is an ecoregion located in the Great Plains regions of the United States. The Flint Hills make up over 1.6 million hectares in eastern Kansas that extend just south of the Nebraska-Kansas state line, southward into northern Oklahoma (Kansas State University 2021). Figure 1.1 shows the Flint Hills region throughout Kansas.

Dating back 10,000 years ago, the first peoples began settling in the tallgrass prairie (NPS (A) 2021). People from the Pawnee, Wichita, Osage, and Kansa tribes were one of the first explorers to make the Flint Hills their home (NPS (A) 2021). These groups quickly became acquainted to the region, as they began to better understand the land and the elements found within. They began to learn the best ways to go about living with the land. As they were known as keen observers, they quickly learned burning techniques and bison grazing to help maintain the plant life (NPS (A) 2021).

Characteristics

As the Flint Hills evolved throughout many years, changes to this ecoregion have established a few characteristics that make this ecoregion so different compared to other places. These characteristics fall under four broad categories: history, culture, environment, and aesthetics.

History

The Flint Hills have a strong historical background, and dates to the Permian Age. As the ecoregion evolved



Figure 2.4. Flint Hills From Interstate 70 (Hahn, 2016).

throughout the years, so did the heritages and groups of people that established their homes on the Flint Hills. The different native tribes that established themselves on the Flint Hills hold a strong historical characteristic in this region. The Pawnee, Wichita, Osage, and Kansa tribes became very familiar with the tallgrass prairie and found ways to successfully live on the Flint Hills. These tribes influenced much of the agricultural heritage that is used in today's agricultural tasks, as many families living in the Flint Hills have found ways to connect back to their past (NPS (A) 2021).

Culture

The historical characteristics of the Flint Hills inspired the cultural characteristics that are still practiced today by farmers and other residents. One cultural characteristic that is found in the Flint Hills is cattle ranching. Because of the high calcium content found in the limestone that erodes into the soil, plants of the Flint Hills are nutritious for grazing animals, such as cattle. Cattle ranching has been a part of Flint Hills agricultural activity for over 150 years now, and is still conducted today (NPS (B) 2021). Another cultural characteristic that makes the Flint Hills unique is bison grazing, which has been around for centuries. The early people of the Flint Hills adapted bison grazing after discovering the rich plant life attracted these animals (NPS (A) 2021). Today, bison are ranched in the Flint Hills, as they continue to be another source of grazing throughout this region. Another cultural characteristic of the Flint Hills is controlled burning that occurs frequently to help maintain the ecosystem. As stated, many of the early people in the Flint Hills used this method to help attract bison and other grazing animals into their hunting ground (NPS (A) 2021).



Figure 2.5. Prescribed Burn in the Flint Hills (Hahn, 2021).

Today, prescribed burning, done professionally through the Nature Conservancy, the National Park Service, the U.S. Fish and Wildlife Service, and ranchers is a method used to promote a healthy prairie and to help maintain the cultural landscape throughout the region. Burning also helps control vegetation and help grow plant and animal diversity (NPS (C) 2021. Figures 2.5 and 2.6 show the before and after of a prescribed burn.

Environment

The Flint Hills is considered a tallgrass prairie reserve; being one of the last remaining tallgrass prairies in the Great Plains region. An environmental characteristic of this ecoregion is the colorful plant life that is found in the Flint Hills. This prairie is considered home to a variety of native

plants, some being big bluestem, wood grass (also called Indiangrass), little bluestem, and switchgrass. Another environmental characteristic that makes up the Flint Hills are cuestas (shown in Figure 2.4), which have a visually distinctive "stepped terrace" appearance associated with the Flint Hills. These landforms consist of shale, limestone, gravel, sand, silt, and clay along the surface which erode at different rates (Schoewe 1949). The limestone found in this ecoregion contains concentrations of chert, which is also known as flint. As erosion occurs, fragments of flint begin to accumulate at the surface of the Flint Hills, hence where the Flint Hills get their name (NPS (B) 2021).

Aesthetics

The aesthetics of the Flint Hills are a combination of cultural, environmental, and historical characteristics. Variations in textures and colors are seen miles on end when walking through the stepped cuesta landforms, making the Flint Hills so unique. As one looks across the Flint Hills, the region is dominated with rolling hillsides composed of cuestas, and the soils are rocky because of the flint sediments found within (NPS (B) 2021). The limestone outcrops that are seen along the sides of the hills and along the surface of trails makes a remarkable, unique experience. The tall waving grasses that sometimes stretch to over 6 feet tall make for an unmatched experience anywhere else. As one oversees many areas of the Flint Hills, there are uninterrupted views of the horizon for miles on end; with no utility lines, windmills, or urban sprawl to interrupt a connection with nature. Scattered limestone, left as white markers contrasting with the blackened ground after fire sweeps



Figure 2.6. Post Prescribed Burn in the Flint Hills (Hahn, 2021).

across the hills, reminds visitors of the continued practice of prairie management through controlled burning.

Key Locations

Key locations representing the Flint Hills can be found following the State Route K-177 which begins in Manhattan, Kansas. After crossing Interstate 70 in Geary County, K-177 becomes a designated Scenic Byway and continues 80 miles south to Butler County. Progressing from Manhattan southward, several noteworthy attractions are found along scenic K-177. Although some attractions are not directly adjacent to K-177, they follow the same general direction and are examples that typify memorable characteristics and history of the Flint Hills.

The Flints Hills Discovery Center, located in the City of Manhattan, has a variety of activities for all visitors, of any age, to participate in. Activities include discussions of the Flint Hills' geology, climate, fossils, and prehistory stories of the surrounding area (Price 2013). These activities help educate visitors about the history of the Flint Hills and the Tallgrass Prairie. By making this an interactive experience, visitors will hopefully take away a few educational points that will help them better understand this region.

Milford Nature Center is located along Milford Reservoir in Junction City, Kansas. Its exhibits help visitors better understand the natural communities found in Kansas.

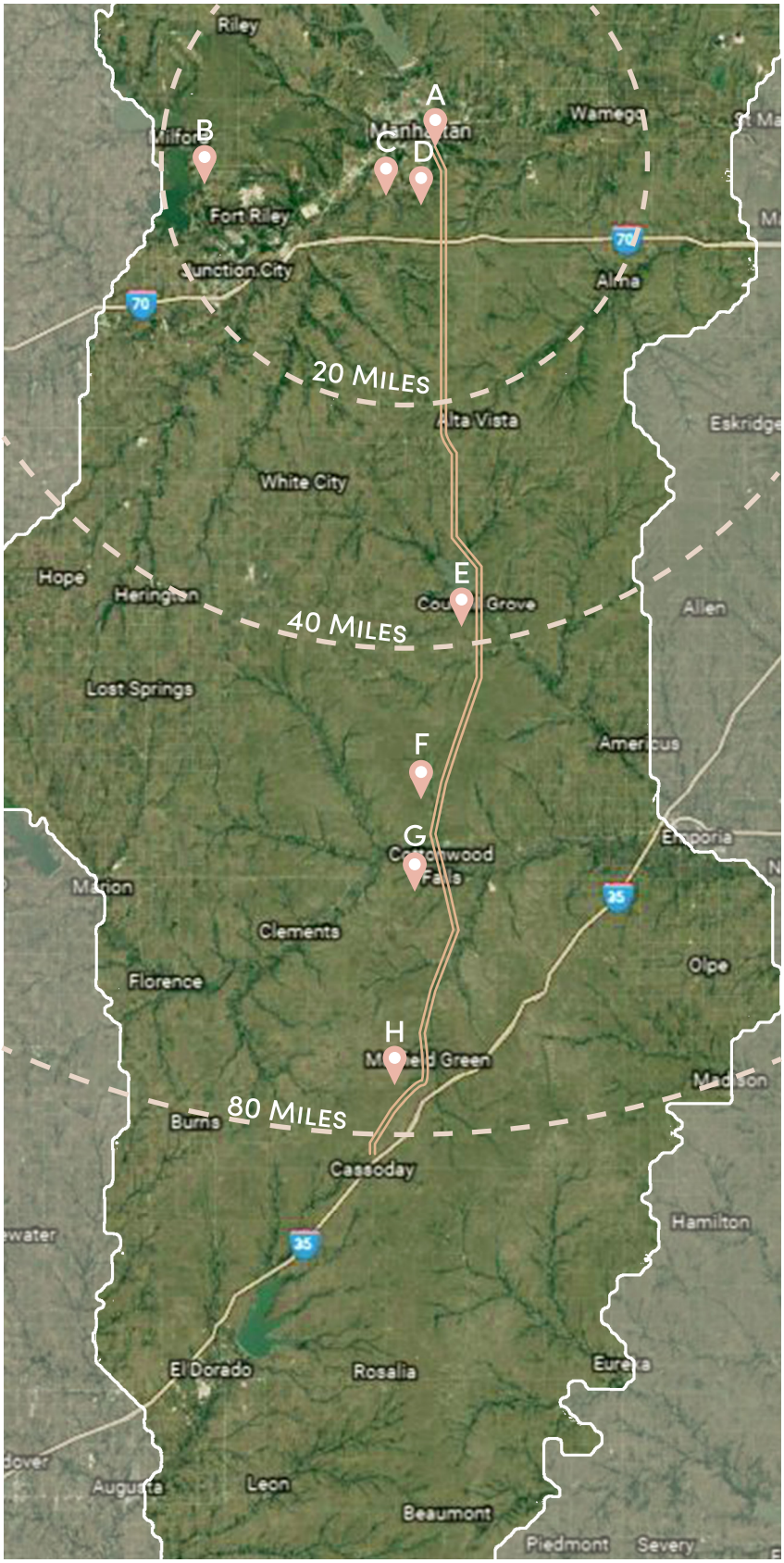


Figure 2.7. Flint Hills Region Locations (Franks, 2022)
Source: (Google Earth, 2022).

KEY:

A. Flints Hills Discovery Center

B. Milford Nature Center

C. Konza Prairie

D. Scenic Lookout

E. Council Grove, Kansas

F. Tallgrass Prairie

G. Cottonwood Fall, Kansas

H. Matfield Green, Kansas

Konza Prairie is a 3,487-hectare native tallgrass preserve that is owned by the Nature Conservancy and Kansas State University (Kansas State University 2021). The Konza Prairie has trails that are open to the public. These trails take visitors into the heart of the Flint Hills, as visitors walk along a gravel path going up and around the cuestas. The Konza Prairie is a Long-Term Ecological Research (LTER) site that focuses on long-term ecological studies. The three main programs of focus include control burning, grazing, and climatic variability. The LTER also looks into multiple other studies that include addressing abiotic drivers and biotic drivers in the area. These drivers are examined at varying ecological levels, spatial scales, and temporal scales (Konza Prairie LTER 2021).

Scenic Lookout, which is directly adjacent to K-177, provides an outstanding eastward-looking panoramic view of the Flint Hills. This stop provides photo opportunities for visitors and the chance for visitors to strengthen the human-nature connection, as they can observe nature miles on end.

Council Grove, Kansas is a small town at the intersection of K-177 and Highway 56. This little town holds a great portion of history for those interested in the Santa Fe Trail and its companions. This town served as one of the last stops to gather supplies before settlers continued their journey westward (NPS (D) 2021). For those interested in United States history, there are many Santa Fe Trail sites to visit while in Council Grove. To gain more history information about the town and the Santa Fe Trail, visitors are able to seek out a meal at the Trail Days Café and Museum or the historical Hayes House restaurant.



Figure 2.8. Vegetation and Landform of the Flint Hills (Hahn, 2011).



Figure 2.9. Rolling Hills of the Flint Hills (Hahn, 2011).



Figure 2.10. Scenic Lookout on K-177 (Franks, 2021)

Matfield Green, Kansas Located south of the Tallgrass Prairie Preserve, Matfield Green, Kansas is a small town that is roughly around 90 acres in size. Although this small town is home to a small number of people, there are unique landform and Flint Hills characteristics that can be found on the drive through the area. Pioneer Bluffs is a worthwhile stop in Matfield Green. Pioneer Bluffs offers opportunities for visitors to experience the Flint Hills and its history.

Cottonwood Falls, Kansas has many buildings that are built with Cottonwood Limestone, which is a common building stone in the state of Kansas (NPS (B) 2021). This small town was founded as a cattle ranch in 1854 and began to flourish because of its location close to the Cottonwood River (Cottonwood Falls Kansas 2021). Because of the location, many settlers began settling in this town and the town began introducing new infrastructure and buildings to help support the new lifestyles.

Tallgrass Prairie National Preserve is a nature preserve located near Strong City, Kansas along Scenic Byway K-177. The preserve protects a significant amount of tallgrass prairie, as only 4% remains intact throughout the region (NPS (E) 2021). While visiting the preserve, visitors can go fishing, go hiking, view bison, and explore the ranch that is located on the preserve. This ranch complex is a historic site, as it dates back to the 1880's (Price 2013). Interpretation of the prairie history at this location is provided through the National Park Service, a visitor's center, and the education mission.



Figure 2.11. Matfield Green Station (Hahn, 2013).



Figure 2.12. Pioneer Bluff Barn (Hahn, 2013).



Figure 2.13. Tallgrass Prairie Trail (Hahn, 2015).

Site context: Prairiewood

Brief Introduction

Prairiewood is a lodging and retreat center destination in Manhattan, Kansas. A range of facilities can accommodate small and large groups for gatherings and special events. Accommodations at Prairiewood focus on creating opportunities that connect visitors to nature. Prairiewood works to successfully accomplish their vision to preserve the native tallgrass prairie in the area and throughout the region.

Prairiewood in Context

Prairiewood is located just a mile west of Manhattan, Kansas. The holdings are located just outside of the Manhattan city boundary and are owned by Kail and Rebecca Katzenmeier and are currently zoned as "agricultural" land. There is roughly 500 acres of land, under stewardship, that is associated with Prairiewood. Most of this land is not heavily programmed with activities, to help enforce their vision of conservation and preservation of the Flint Hills.

"Prairiewood is a unique property designed to create a one-of-a-kind experience." (Prairiewood (A) 2021)

The properties are located along unpaved Wildcat Creek Road and fall within the Wildcat Creek corridor. Part of the holdings of Prairiewood fall within the 1% chance of flood hazard, meaning that development is limited in these areas to reduce the risk of flood damage. The three large properties that are associated with Prairiewood all focus on connecting visitors to nature. The Bird, Bee, and Butterfly Sanctuary holding is located on the



Figure 2.14. Prairiewood Blue Sage Barn (Franks, 2021).



Figure 2.15. Prairiewood Walnut Pond (Franks, 2021).

"...a place where the senses are awakened, perspective is renewed, and imagination is inspired." (Prairiewood (A) 2021)

southern side of Wildcat Creek. This holding consists of outdoor programming elements such as a canoe and kayak loading zone, trails, pavilion, and the Home Place building that accommodates guests. On the southern property, Willis Prairie, is located south of Wildcat Creek Road, and features the Blue Sage Barn and Gallery which supports events involving large numbers of people. Also located on this property is the Retreat House, which is another accommodation for long term guests. The Prairiewood Farms Holding, located on the northern side of Wildcat Creek, is all agriculture land and currently has no programming associated with Prairiewood. Finally, located on the northern side of Anderson Avenue is the Stone House, which is another lodging accommodation for visitors.

Programming and Facility Operations

Prairiewood Retreat Home is a retreat center for families or large groups and offers services that include first-class accommodations, event space, and community programs. To advance their conservation mission, the Prairiewood staff plans and facilitates nature-based outreach events and educational opportunities for visitors and local residents. Guests of Prairiewood have many opportunities to kindle memories with the surrounding, unique landscape.

The facilities on Prairiewood property accommodate a range of stay durations, event types, and group sizes. There are three housing facilities that are available for booking: the Retreat House, the Stone House, and the Home Place. The Retreat House is a guest residence that provides amenities for large groups of visitors and access to surrounding outdoor activities. The Stone House is a historic

structure dwelling that offers modern amenities for guests and access to surrounding outdoor activities. Finally, the Home Place, is a set of suites attached to the proprietors' home that offer amenities and access to surrounding outdoor activities (Prairiewood (B) 2021).

Also located on the premises are programmed facilities that function as event gathering spaces for large groups. The Blue Sage Barn and Gallery is a multi-purpose event space that can accommodate between 175 to 250 guests (Prairiewood (C) 2021). The Co Dwelling pavilion is located adjacent to Walnut Pond and offers adequate space for outdoor gatherings (Prairiewood (C) 2021).

Ecological Inventory of Site

The Flint Hills' character is strongly present on the Prairiewood holdings, as they are located within the heart of the Flint Hills ecoregion. Evidence of this character includes rolling hills, rocky soils, abundant grasses, and native shrubs and trees along drainages. Slopes throughout the holdings and steep embankments along Wildcat Creek make for an adventurous experience. A more in-depth site analysis of Prairiewood will be performed in the following section.

Prairiewood Conclusion

Prairiewood Holding is an excellent partnership to work with to help promote ecotourism not just within the Manhattan area, but throughout the Flint Hills ecoregion. This will be accomplished by highlighting specific landscape features characteristic of the Flint Hills across the Prairiewood parcels and expanding interpretation and programming opportunities for short-term visitors stays. For longer visits, Prairiewood will serve as an excursion hub into the larger Flint Hills ecoregion. This will require identifying what regional sites might be worth visiting and coordinating with local entities to support the visitation. The remainder of the project and report will more specifically investigate and propose how this vision might unfold.

Because Prairiewood's mission of conservation and preservation focuses on involving the community, this aligns similarly with the purpose of nature centers. This similarity between Prairiewood's mission statement and the purpose of nature centers, a nature center could be a strong, desired additional programming element to Prairiewood's programming. By introducing a nature center within the programming, this could draw many visitors and extend nature oriented activities and education. The exact details for a nature center will be explored in the projective design phase of this project. In the following section, nature centers are examined in more detail; looking at how nature centers are defined, how they function, and how they expand local nature-education within the community.



Figure 2.16. Bonfire at Prairiewood (Franks, 2021).

Nature Centers

What are they?

When the idea of a nature center arises, many people would make the connection of a place that allows for visitors to interact with nature. Nature centers have the potential to help strengthen the human-nature connection that ecotourism hopes to accomplish. There is a network of over 2,000 nature centers in the United States that have potential to bring communities together and connect them to the surrounding environment (Browning et al. 2017). According to the National Association for Interpretation, a nature center is defined as:

"a facility that brings environments and people together under the guidance of trained professionals to experience and develop relationships with nature. A nature center serves its community and fosters sustainable connections between people and their environment." (Browing et al. 2017).

Nature centers can be interpreted in many ways. Although they may be defined through various statements, nature centers have a consistent theme: they all include a combination of science, education, and conservation towards the surrounding community, and potentially, a site (Browning et al. 2017). Nature centers strive to incorporate these themes into their programming. Programming incentives that are implemented into a nature center could include structured educational opportunities to develop knowledge and awareness of the surrounding environment, while also incorporating unstructured experiences that allow users to experience the surrounding nature on their own



Figure 2.17. Swing at Prairiewood (Hahn, 2021).

(Browning et al. 2017). In the end, nature centers can help motivate and strengthen the connection between people and nature (Browning et al. 2017). Because nature centers create impactful experiences with users and the surrounding environment, this sets up an outcome of potentially implementing a nature center as an ecotourism opportunity at Prairiewood. The interpretation and education that is present at the nature center could strengthen the ecotourism focused program for visitors.

"A key element in creating successful and sustainable interpretative facilities comes from understanding visitors' needs, desires, and expectations." (Healy, van Riper, and Boyd 2016)

Importance

Nature centers serve as an event center that allows visitors to create experiences and memories by interacting with others and the surrounding wildlife (Browning et al. 2017). Communities can be brought together through nature centers. Nature centers provide a lot of value to a place. They increase appreciation of local nature environments, which leads to an increase in visitation, while also encouraging stewardship behavior directed at protecting the surrounding, natural landscapes (Browning et al. 2017; Lindberg, Veisten, and Halse 2019). Visitors attracted to nature centers tend to reflect, learn, and translate their experience into stewardship behaviors (Healy, van Riper, and Boyd 2016). Nature centers may also introduce multisensory experiences, creating "edutainment" opportunities for visitors, as they begin to see a combination of entertainment and education through their experience (Healy, van Riper, and Boyd 2016).

Even with these strong outcomes from nature center experiences, nature centers can struggle to gain or maintain popularity and continue to financially survive.

"A nature center is more than a place – a physical structure with surrounding land area. It is an event, a potential experience for a member of the community."

(Browning et al. 2017)

According to Browning and other authors (2018), nature centers sometimes struggle to receive sufficient resources and recognition to provide a positive experience for the community (Browning et al. 2018). They also require a lot more attention and support to operate properly, depend on volunteers to conduct functions, and depend on donations to offset operational and management costs (Browning et al. 2018). Consequently, some people view nature centers negatively and consider them as just another building that needs more money, attention, and time to manage and maintain. It is therefore essential to understand and consider visitor interests and perspectives, when developing ways to introduce a nature center into a community (Browning et al. 2017). If

done right, nature centers can provide a fun, leisurely, and memorable experience for users (Browning et al. 2017). There are many positives that nature centers provide for a community. Since a nature center at Prairiewood would be associated with range of other existing facilities and program activities that already require staff, the nature center would not need to be totally self-supporting, yet still be a visitor/guest attraction. Much of the Flints Hills interpretation could also be self-directed through signage, video stations, and exhibit observation. During scheduled events, the nature center could be supported by existing staff. Manhattan is already home to the Flint Hills Discovery Center on the eastern side of the community. The nature center at Prairiewood, on the west side, could be a smaller, privately owned complementary facility. The following section will explore nature center precedents to guide further thinking and projective design efforts.

Precedents

Precedents were collected based on strong visitor and environmental relationships. The following criteria helped determine which projects would be good precedents to further development at Prairiewood: demonstrates ecotourist aspirations; mission is focused around educating visitors about the environment; opportunities for direct access to experience the surrounding landscape; similar size to Prairiewood; and could accommodate large group gatherings. Although they varied in scale, location, and programming, they serve as good precedents to help develop successful design strategies for Prairiewood, which will strengthen the visitors' connection to the environment.



Figure 2.18. Precedent Map (Franks, 2022). Source: (ArcGIS, 2022).



© Casey Dunn

Figure 2.19. Phil Hardberger Ecology Center. Designed by Lake | Flato Architects. Photograph by Casey Dunn (Dunn, 2013).

Precedent

Phil Hardberger Urban Ecology Center

Location: San Antonio, Texas

Size: 11,360 sq. ft.

Designed by: Lake | Flatos Architects

The Phil Hardberger Park Urban Ecology Center is a get away from the urban hustle in San Antiono. Some of the programming features include educational lectures, private parties, corporate events, business meetings, and weddings. The two structures of this ecology center include a 3,000 sq. ft. gathering hall and a 1,000 sq. ft. classroom (Phil Hardberger Park Conservancy 2021).



Figure 2.20. Phil Hardberger Ecology Center Distance from Prairiewood (Franks, 2022). Source: (ArcGIS, 2022).



Figure 2.21. Laurance S. Rockefeller Preserve (Hahn, 2019)

Precedent

Laurance S. Rockefeller Preserve

Location: Jackson, Wyoming

Size: 1,100 acres

Designed by: CLB Architects

The Laurance S. Rockefeller Preserve interpretive center encourages visitors to explore first-hand the natural and historic pieces of the surrounding Teton landscape. Laurance S. Rockefeller envisioned a space that would make an individual's experience with nature transformative and grow their appreciation and understanding of the environment (ASLA (A) 2014).



Figure 2.22. Laurance S. Rockefeller Preserve Distance From Prairiewood (Franks, 2022). Source: (ArcGIS, 2022).



© Casey Dunn

Figure 2.23. Marine Education Center. Designed by Lake | Flato Architects. Photograph by Casey Dunn (Dunn, 2018).

Precedent

Marine Education Center

Location: Ocean Springs, Mississippi

Size: 29,700 sq. ft.

Designed by: Lake|Flato Architects

The Marine Education Center is a mini campus that has six structures that are programmed to help educate visitors about the marine ecosystem in the area. This education center offers outdoor classrooms, labs, administration offices, gathering spaces, exhibit spaces, and a pedestrian bridge that allows for visitors and educators to have a first-hand experience with the bayou (Klein 2020).



Figure 2.24. Marine Education Center Distance From Prairiewood (Franks, 2022). Source: (ArcGIS, 2022).



© Paul Hester

Figure 2.25. Shangri La Nature Center. Designed by Lake | Flato Architects. Photograph by Paul Hester (Hester, 2008).

Precedent

Shangri La Nature Center

Location: Orange, Texas

Size: 250 sq. ft.

Designed by: Lake|Flato Architects

Located within Adams Bayou, the Shangri La Nature Center offers unique, hands-on learning experiences for visitors. Some of the programming includes an outdoor education center, classroom pavilions, bird viewing areas, and a wooden walkway that allows for visitors to easily access these activities (Lake Flato 2021).



FIGURE 2.26. Shangri La Nature Center Distance From Prairiewood (Franks, 2022). Source: (ArcGIS, 2022).



Figure 2.27. Lady Bird Johnson Wildflower Center (Hahn, 2012)

Precedent

Lady Bird Johnson Wildflower Center

Location: Austin, Texas

Size: 284 acres

Designed by: Overland Architecture • Urban Planning

The Lady Bird Johnson Wildflower Center mission is focused on conservation of native plants. There are many programming opportunities to help visitors develop landscapes using native plantings through sustainable practices (Lady Bird Johnson Wildflower Center 2021).



Figure 2.28. Lady Bird Johnson Wildflower Center Distance From Prairiewood (Franks, 2022). Source: (ArcGIS, 2022).



© Brandon Huttenlocher / Design Workshop Inc.

Figure 2.29. Highlands Retreat. Designed by Design Workshop Inc. Photograph by Brandon Huttenlocher (Huttenlocher / Design Workshop Inc., 2021).

Precedent

Highlands Retreat

Location: Pitkin County, Colorado

Size: 10 acres

Designed by: Design Workshop Inc.

This private retreat property located in the heart of Colorado's mountainous environment. Highlands Retreat focuses on connecting residents to nature by providing outdoor spaces that are placed into the heart of the ecosystem (Design Workshop Inc. 2021).



Figure 2.30. Highlands Retreat Distance From Prairiewood (Franks, 2022). Source: (ArcGIS, 2022).



© D.A. Horchner / Design Workshop Inc.

Figure 2.31. DBX Ranch. Designed by Design Workshop Inc. Photograph by D.A. Horchner (Horchner / Design Workshop Inc., 2016).

Precedent

DBX Ranch

Location: Aspen, Colorado

Size: 3.5 Acres

Designed by: Design Workshop Inc.

The owner envisioned an opportunity to pursue a family retreat that would inspire the human-nature connection. On this site, there are many context-sensitive strategies that were developed to incorporate that interaction with nature (ASLA (B) 2016).



Figure 2.32. DBX Ranch Distance From Prairiewood (Franks, 2022).
Source: (ArcGIS, 2022).

Nature Center Precedents Conclusion

As seen through these brief introductions of each precedent, they all vary in programs and design. However, they all have one common theme, which is to promote educational opportunities for visitors, whether that is through structured programming or self-guided programming. These precedents will then be analyzed in the following sections to generation more information that will be used to further design for this project.



Figure 2.33. Sunset Over the Flint Hills (Franks, 2021)

Document Review

SCORP Introduction and Importance

The SCORP, Statewide Comprehensive Outdoor Recreation Plan, is a document that provides information and resources about recreational needs and trends across the state. The purpose of this document is to inform the public about existing recreation opportunities and potential issues in Kansas outdoor recreation, and then addressing these opportunities and issues by setting up goals to help strengthen them within the next couple of years (Kansas Department of Wildlife & Parks 2021).

Major Goals and Priorities

Throughout the document, there are major goals that have been identified in hopes that they will be accomplished within the next couple of years. In past comprehensive plans, one major goal that was determined that still aligns with this project is protecting the state's legacy landscapes, one being the Flint Hills. This project with Prairiewood focuses on enhancing their mission of conserving and preserving these threatened landscapes and help encourage visitors to learn how to better take care of them. In the recent report, one of the main priorities was improving the connectivity between people and the surrounding environment. This priority aligns directly with my project as I am also designing to help strengthen the visitor-environment connection.

Application to Project

The SCORP document provides a lot of useful information regarding outdoor recreation throughout the state of Kansas. Through SCORP surveys, data was collected to best understand the desires and needs for particular outdoor recreational activities. Questions were focused on gaining more insight about what activities are currently the most desired, what people are wanting to see more of, and where people are spending their time outdoors (Kansas Department of Wildlife & Parks 2021). All of the collected answers from the surveys help promote areas of programming aligned with expressed public desires. Below are screenshots of the survey and responses that note the most relevant information that could be applied to my project when working on Prairiewood programming. All graphics and data shown in screenshots are from the SCORP as provided by the Kansas Department of Wildlife and Parks.

Outdoor Recreation Participation By Activity

Rank	Activity	# Days
1	Walking	69
2	Jogging/running (outdoors)	60
3	Bird watching	60
4	Wildlife viewing (excluding bird watching)	45
5	Off Highway Vehicle (OHV) or 4-wheeling/ motorcycling	39
6	Road biking	36
7	Team or individual sports (outdoors) (e.g., basketball, golf, tennis, etc.)	33
8	Playground activities	30
9	Mountain biking	27
10	Ball fields	25

Figure 2.34. Outdoor Recreation Participation by Activity (Kansas Department of Wildlife and Parks, 2021).

These top four preferred activities could become part of the Prairiewood programming.



Figure 2.35. Statewide Comprehensive Outdoor Recreation Plan 2021 - 2025 (Kansas Department of Wildlife & Parks, 2021).

Program Offerings

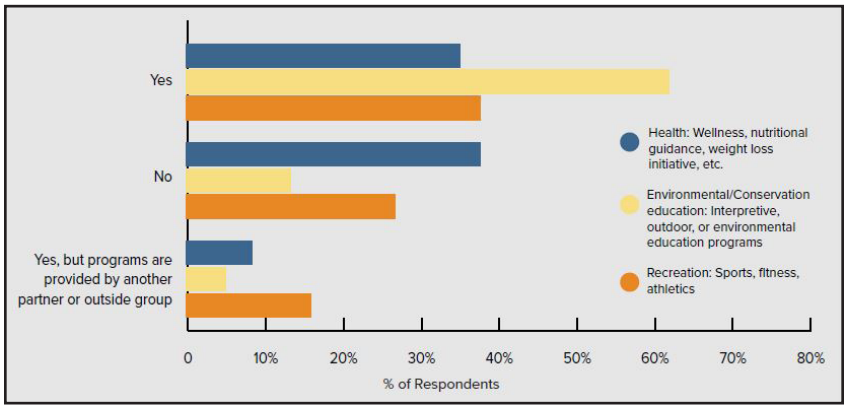


Figure 2.36. Program Offerings (Kansas Department of Wildlife and Parks, 2021).

Many of the programs that are currently offered have a strong focus on education and conservation efforts, which will be incorporated into the design for Prairiewood.

How often did you use the following outdoor recreation areas in your local community in 2019?

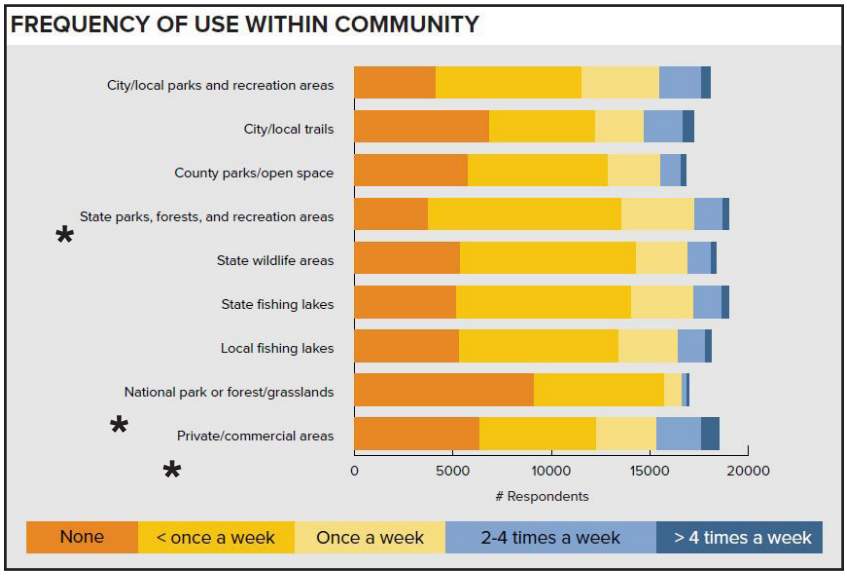


Figure 2.37. Frequency of Use in Outdoor Recreation in Local Community (Kansas Department of Wildlife and Parks, 2021).

These results show that people do not utilize surrounding outdoor areas like state parks, national parks, or private areas, like Prairiewood, as often as they would like to.

* Relationship to project

Figure 2.38. Frequency of Use in Outdoor Recreation Outside of Local Community (Kansas Department of Wildlife and Parks, 2021).

From the results, it is seen that many people do not venture much out from their local community. Places like states parks, national parks, and private areas, like Prairiewood, are not utilized as much as they could be.

* Relationship to project

How often did you use the following outdoor recreation areas outside of your local community in 2019?

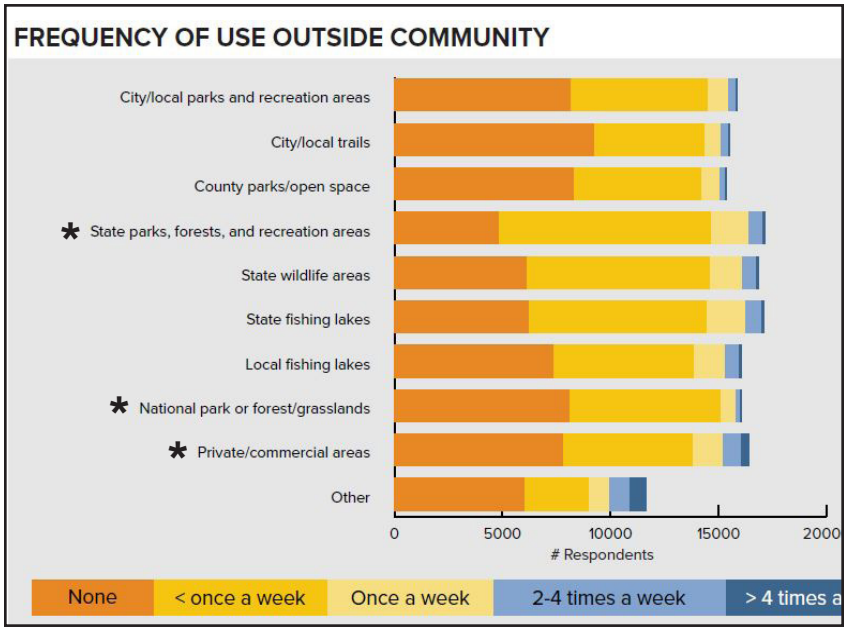
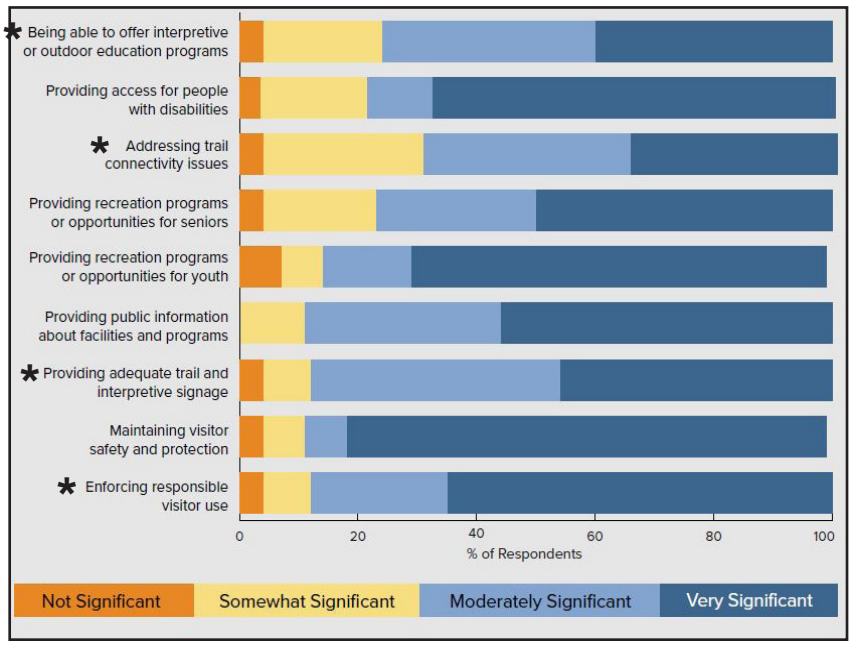


Figure 2.39. Significance of Visitor Service Issues (Kansas Department of Wildlife and Parks, 2021).

These visitor service issues will be addressed through the programming and design at Prairiewood.

* Relationship to project

Significance of visitor Service Issues



Priorities For Outdoor Recreation

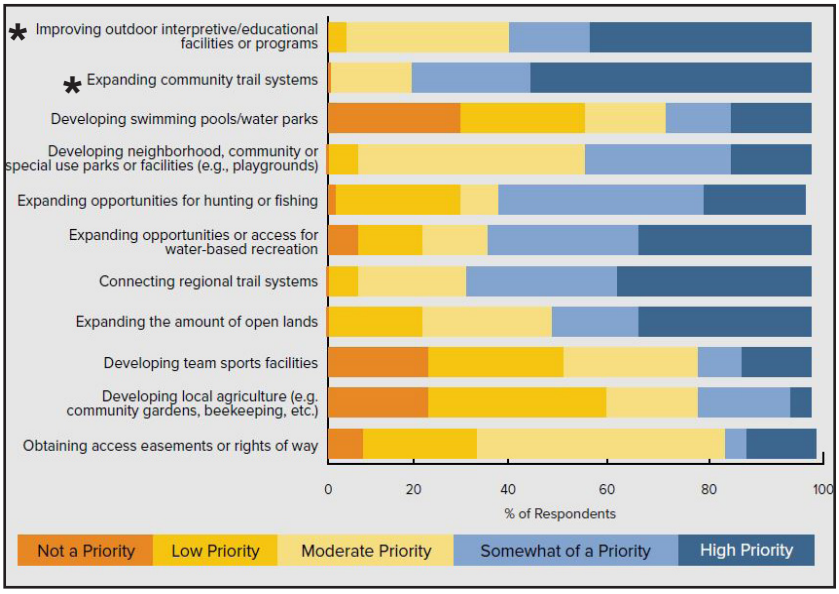


Figure 2.40. Priorities for Outdoor Recreation (Kansas Department of Wildlife and Parks, 2021).

The two priorities listed have the most relevance to my project, so these two will be important to make sure they are included in programming on design.

* Relationship to project

03

Methodology

Overview

This report addresses the lack of organized ecotourism programming within the Flint Hills ecoregion. To support the research question and develop a projective design for Prairiewood, several initial tasks were performed: a precedent analysis, a visitor profile analysis, and a site analysis. The outcomes of this project include a projective design package for Prairiewood that includes: a master plan to enhance the Prairiewood Holdings' programming and itineraries that help coordinate regional excursions that Prairiewood could make available for visitors. This project will hopefully become a framework that will encourage more ecotourism opportunities within of the Flint Hills ecoregion.

Methodology Process

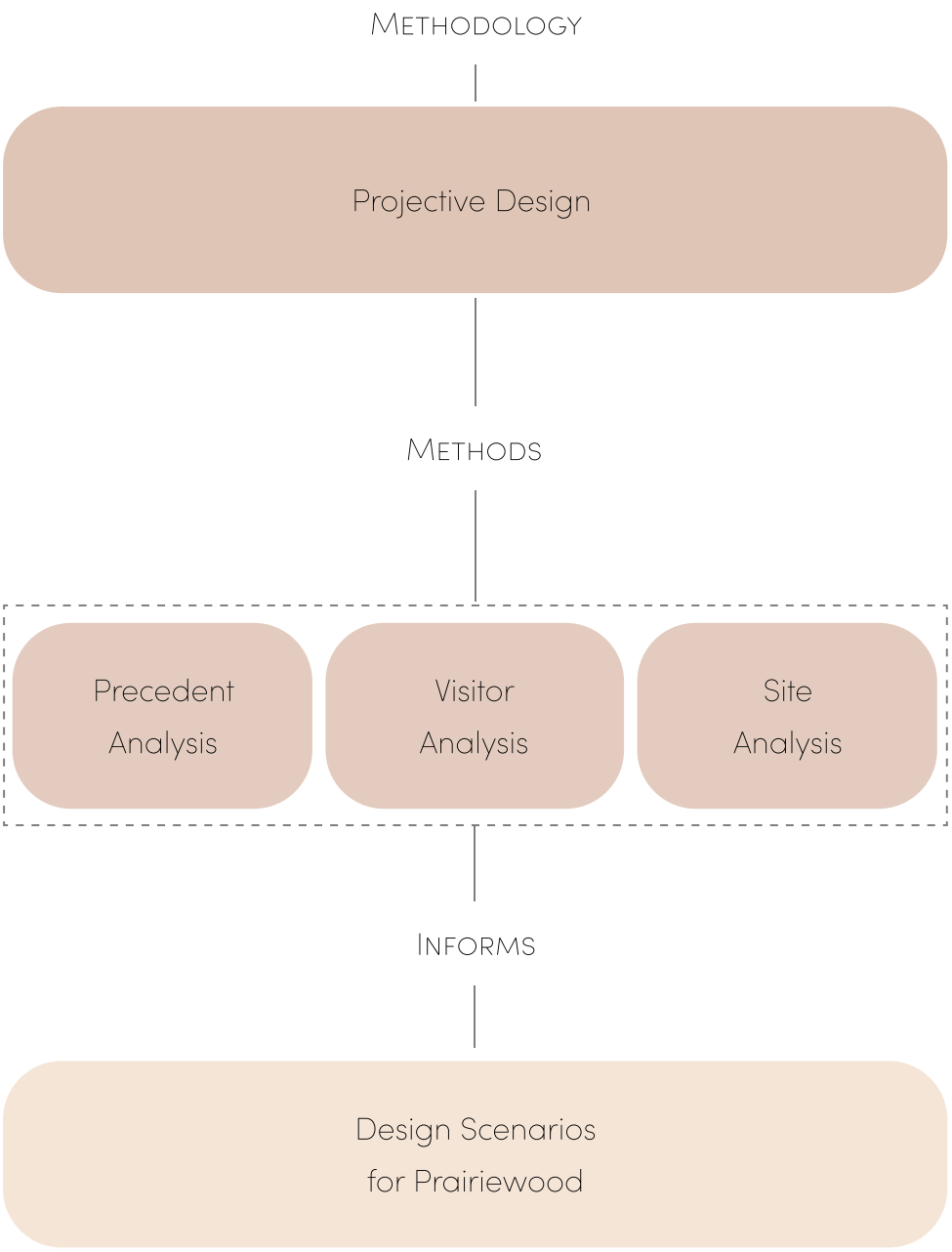


Figure 3.1. Methodology Process (Franks, 2022).

Precedent Analysis

In the literature search, precedents were mentioned that had a strong visitor and environment relationship. Looking at precedents can help influence design moves to projects that have similar outcomes as the precedents. The outcome of this precedent analysis helps identify the best practices and programming to influence ecotourism in a place, while also identifying the connections to the surrounding environment. The following criteria helped determine which projects would be good precedents to help further development at Prairiewood:

1. Demonstrates ecotourist aspirations

2. Mission is focused around educating visitors about the environment

3. Opportunities for direct access to experience the surrounding landscape

4. Similar size to Prairiewood project size

5. Precedents could accommodate large group gatherings

Through an analysis of each precedent, the findings help inform programmatic elements and architectural characteristics that could inspire a nature-focused design at Prairiewood. Seven precedents were selected for Prairiewood because of their size and relationship to the surrounding environment:

Phil Hardberger Park Urban Ecology Center, Laurance S. Rockefeller Preserve, Marine Education Center, Shangri La Nature Center, Lady Bird Johnson Wildflower Center, Highlands Ranch, and DBX Ranch.

The precedent analysis focuses on identifying best practices that optimize the visitor and nature connection with the surrounding ecoregion. It also identifies influential programming to help strengthen an ecotourism focused design that could be implemented at Prairiewood. To help keep the precedents consistent, the following information will be collected:

1. Location

2. Size / Scale

3. Designer

4. Programming

5. Functionality

6. Ecotourism Relationships (Relates back to the themes and impacts of ecotourism identified in the literature review)

7. Application to Prairiewood

Visitor Analysis

A visitor profile analysis was conducted to understand who the tourists are that are visiting the Flint Hills ecoregion and Prairiewood. Travel patterns associated with the visitors were queried, while also considering the number of guests and the reasoning on why they were traveling to Prairiewood and / or the Flint Hills. The overall takeaway from performing a visitor analysis was to ensure an understanding of the types of guests that Prairiewood hosts, while also seeing if the guests might be influenced to travel into the greater Flint Hills context. By better understanding the preferences of the visitor target group, programming and design elements were adjusted for Prairiewood. The visitor profile analysis remained broad, being mindful of the scale to keep the project within its respected scope.

Educational or event staff were interviewed at Prairiewood, The Flint Hills Discovery Center, and the Konza Prairie Biological Station (Environmental Education Program and "Friends of the Konza"). These staff members routinely interact with the public and have first-hand knowledge of who visits these interpretation centers, what types of exhibits and activities seem most well-received, and what aspects of the Flint Hills may not be fully understood or appreciated by visitors. These interviews covered information about the demographics of the visitors, the visitors' needs and interests, travel patterns they see annually, visitors' awareness of other attractions related to the Flint Hills, other information resources, and gaining more understanding about visitors' itineraries.

Below is a list of questions that were posed to the interviewees.

Regional Specific Questions (KPBS andFHDC):

KPBS: Konza Prairie Biological Station

FHDC: Flint Hills Discovery Center

1. What are the demographics, ages, and interests of people who visit the Konza Prairie [or FHDC]?

2. Approximately how people visit the Konza Prairie [or FHDC]?

3. What exhibits, programs, activities, and on-site locations are most popular among visitors to the Konza Prairie [or FHDC]?

4. How many visitors to the Konza Prairie [or FHDC] are in-state residents versus out-of-state residents?

5. What other places of environmental, cultural, or historical interest (other than the Tallgrass Prairie National Preserve) would you recommend that people visit within the Flint Hills to gain a greater appreciation of this ecoregion?

6. Do you have any indications of visitors' awareness of, or plans to travel to, other environmental, cultural, or historical places of interest within the greater Flint Hills region that might be an attraction?

7. What resources are made available to these travelers that informs them about other attractions related to the Flint Hills?

Prairiewood Specific Questions:

1. What types of groups currently visit Prairiewood?

2. What is the percentage breakdown of single day event visits versus multi-day (overnight) visits, both in numbers of events and visitor counts?

3. On average, what is the size breakdown of various groups visiting or staying at Prairiewood?

4. What is the distribution of visitors to Prairiewood across the year?

5. What education, recreation, and other programming activities relative to guests are currently being offered at Prairiewood?

6. How many and what types of community (public) outreaches are devoted to conservation?

7. Has Prairiewood established consistent community partners involved with conservation education?

8. Does increased exposure through conservation programs and open trail days translate to increased event scheduling and visitation stays?

9. Based on received feedback, what are the various reasons why people visit or stay at Prairiewood?

10. What forms of advertising does Prairiewood use? How far do these advertising efforts reach within the MHK area and/or Flint Hills ecoregion?

11. Do you see potential for Prairiewood to expand their programs and efforts to grow towards a targeted audience?

12. Do you see any potential for Prairiewood to influence ecotourism in the Flint Hills?

13. What are some desired future opportunities you would like to see at Prairiewood?

Based on findings from the interviews, insights related to site design and programming for expanding Prairiewood as an ecotourist site were gained. First, the information gathered provided a profile of visitors to Prairiewood and within the Flint Hills. Second, the current activities being offered, specifically at Prairiewood, Flint Hills interpretation centers, and across publicly accessible parts of the Flint Hills, and what activities are desirable for possible future implementation were better understood. From these interviews, a projective design outcome is to be developed along with ecotourism activities that are finely tuned to the educational and recreational interests of potential visitors to Prairiewood and the greater Flint Hills region.

Site Analysis

A site analysis of the Prairiewood sites was performed. The purpose of performing a site analysis is to better understand the holdings that Prairiewood owns and identify opportunities around the site to reinforce a nature centered experience.

The process of collecting information included frequent site visits to the different areas and spots that had potential to enhance the programming. Techniques used to gather data included photographs, GIS mapping, and diagrams. Photographs were an important factor to the project, as they documented the site throughout the seasons to encourage a year-long opportunity. Photographs captured the characteristics of the site, while also capturing areas that may need more scrutiny. GIS mapping provided more precise, technical information related to the site. This kind of mapping helped to spatially analyze the property through more analytical data: slope, flooding, and vegetation. As information was collected, I was able to better understand the details and characteristics of the project site.

The outcomes of these methods focuse on understanding the information that has been researched on in the literature review and taking that understanding and allowing it to guide the early stages of the design process up to the final design. The finding of these methods will allow me to begin to answer my research question and produce a design deliverable for Prairiewood that will influence the promotion of ecotourism on site.

Methodology Outcome

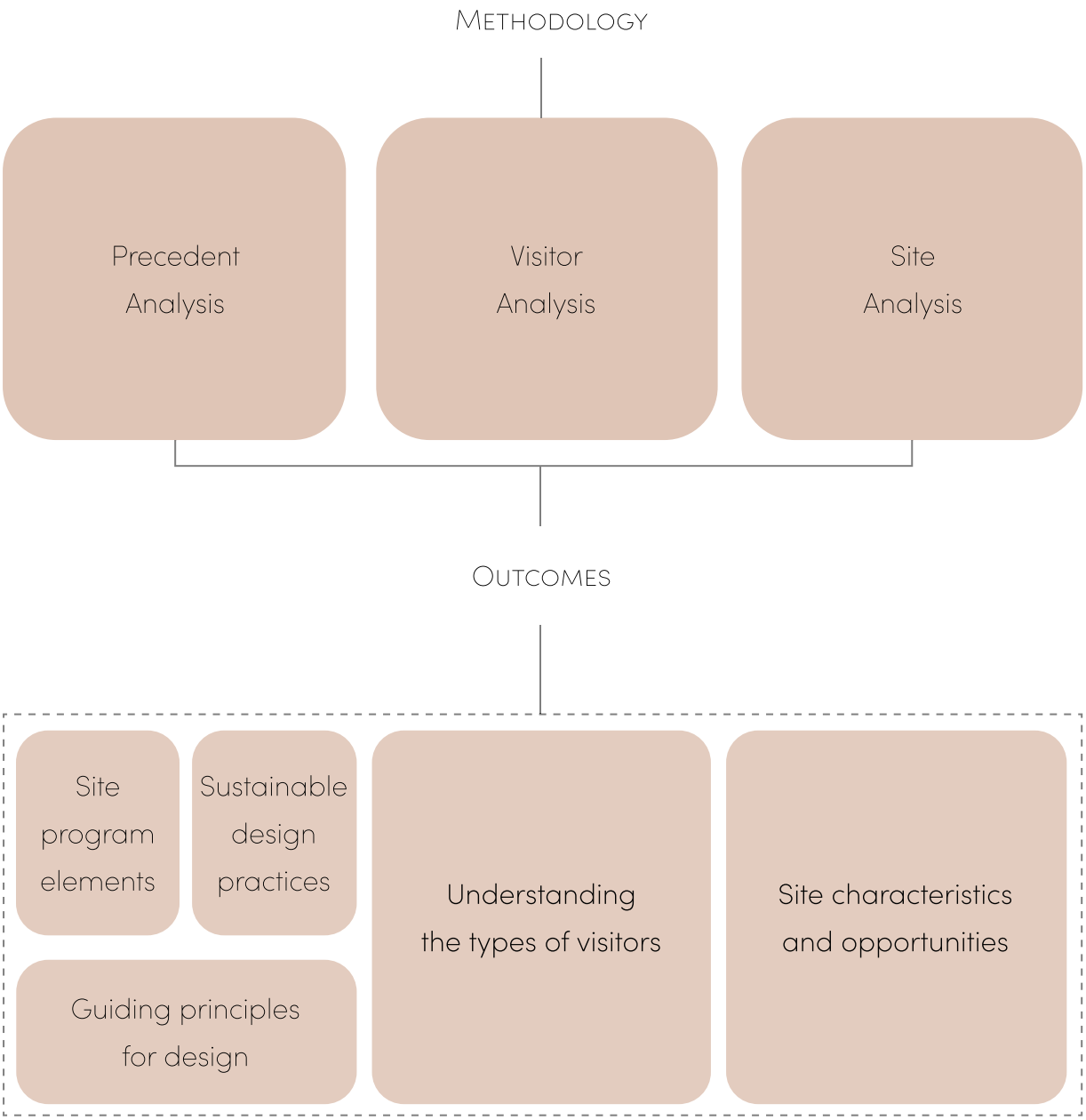


Figure 3.2. Methods Outcomes (Franks, 2022)

04

Analysis Findings

Overview

The methods used to answer this project's research question included a precedent analysis, a visitor analysis, and a site analysis. Through an analysis of seven precedents, design guidelines were compiled that helped design development for Prairiewood. These guidelines push for ecotourist focused programming. Following the precedent analysis, a visitor analysis was performed in order to gain a better understanding of the types of visitors that come to Manhattan. To learn more about these types of groups, interviews were conducted with local visitor centers that generate a connection to the Flint Hills through education opportunities and activity scenarios. Through the interviews, information gathered provided a profile of visitors to Prairiewood and within the Flint Hills. These interviews also helped understand what activities are currently offered, specifically at Prairiewood, Flint Hills interpretation centers, and across publicly accessible parts of the Flint Hills, and what activities are desirable for possible future implementation. The information collected helps the design promote a greater appreciation for the Flint Hills through ecotourism activities that are finely tuned to the educational and recreational interests of potential visitors to Prairiewood and the greater Flint Hills region. Finally, the site analysis begins the design development phase. Through various site visits, photographs, and GIS mapping, Prairiewood's site opportunities were documented.

Methods Used

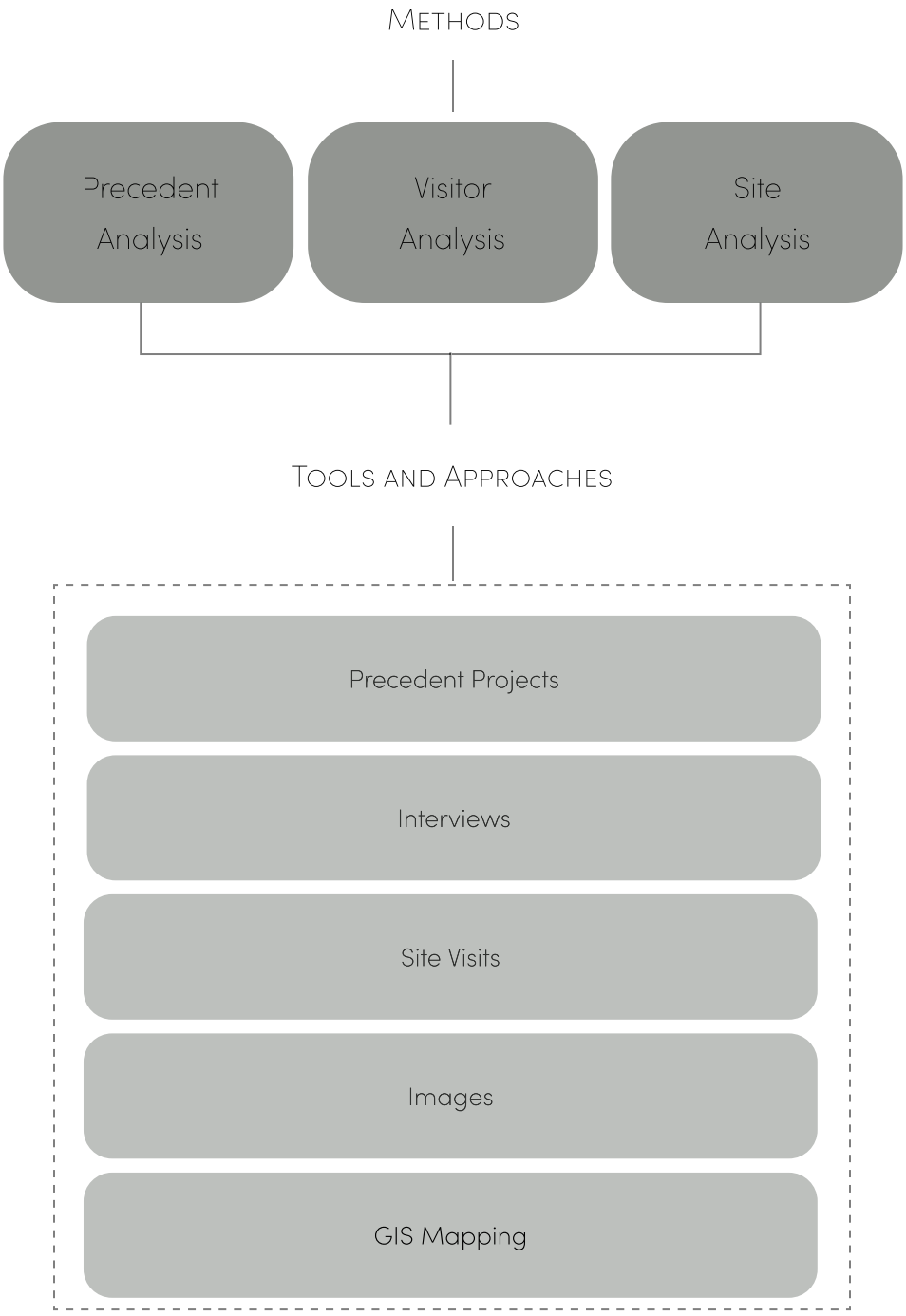


Figure 4.1. Methods Used to Answer Research Questions (Franks, 2022).

Precedent Analysis

For the precedent analysis, seven projects were chosen based on their ecotourist aspirations, focused mission of educating visitors about the surrounding environment, strong experience with the surrounding landscape, similar size to Prairiewood, and accommodation of larger groups. For each of the seven projects, the programming, functionality, and sustainable practices were studied.

Figure 4.2 locates each precedent in comparison to the Flint Hills. Following this introduction, each precedent and the associated information will be presented. At the end of the section, a summary of takeaways from all the precedents is presented, leading to design guidelines to inform the projective design at Prairiewood.



Figure 4.2. Precedent Map (Franks, 2022). Source: (ArcGIS, 2022).



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Figure 4.3. Phil Hardberger Ecology Center. Designed by Lake | Flato Architects. Photograph by Casey Dunn (Dunn, 2013).

Precedent

Phil Hardberger Ecology Center

Designed By: Lake | Flato Architects

	Phil Hardberger Park Urban Ecology Center
Location	• San Antionio, Texas
Size	• ~ 18,000 sq. ft.
Programming	• Urban Ecology Center (~ 7,580 sq. ft.) • Community gathering space • Classrooms available to the public • Trail loop
Functionality	• Self-interpretive • Guided tours on special occasions • Used to provide educational lectures, private parties, corporate events, business meetings, and weddings (similar to Prairiewood)
Sustainable Practices Present (Ecotourism Goals From Literature Review)	• Job opportunities • Supports conservation and preservation efforts (restored savanna space) {similar to Prairiewood's native grass space on site} • LEED standards (solar panels, rainwater collection systems, LED lighting, low-impact design)

Table 1. Phil Hardberger Ecology Center Findings (Franks, 2022).

Project Programming

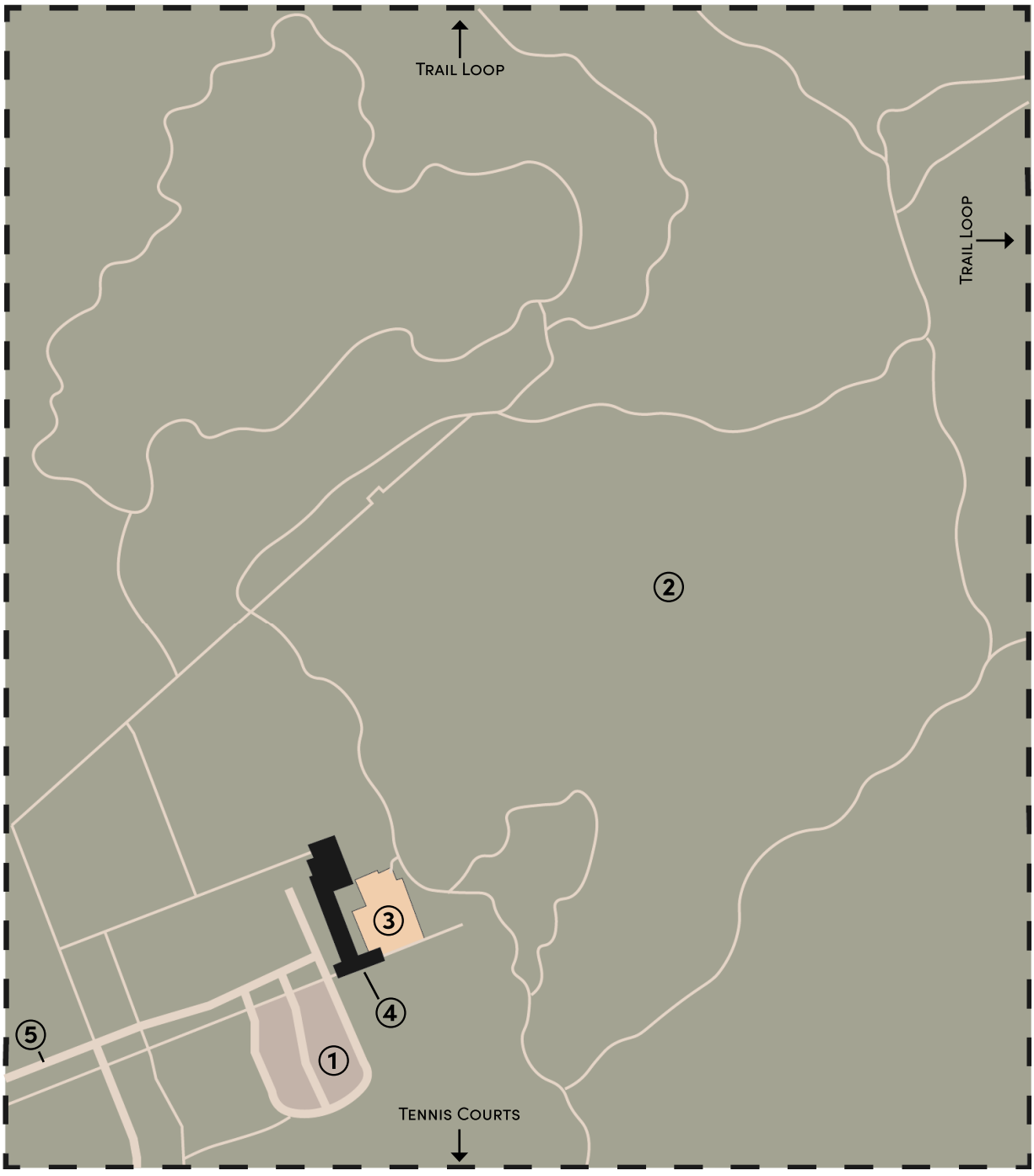


Figure 4.4. Phil Hardberger Ecology Center Programming (Franks, 2022).

Ecotourism Relationships

The Phil Hardberger Ecology Center actively practices ecotourism goals. First, the park supports conservation and preservation efforts of the native vegetation of San Antonio. There are sections throughout that are restored savanna spaces to help reintroduce this ecosystem in the area. Second, although there may not be many job opportunities in interacting with visitors, the maintenance of the facility and surrounding area is important. Lastly, the Phil Hardberger Park Urban Ecology Center follows LEED standards. The facility is powered by solar panels and LED lighting. There is also a rainwater collection system that helps maintain the amounts of water going through the vegetation. Finally, the overall design of the park is considered low impact as many pieces were designed around the native vegetation on site.

Application to Prairiewood

The Phil Hardberger Ecology Center is a leading precedent for Prairiewood because of its similar size and offered programming. The footprint of the facility on site does not dominate the natural landscape, allowing it to flourish during the warmer seasons. The facility also has very strong exterior and interior relationships that offer visitors a flexible experience.



Figure 4.5. Laurance S. Rockefeller Preserve (Hahn, 2019)

Precedent

Laurance S. rockefeller Preserve

Designed By: CLB Architects

	Laurance S. Rockefeller Preserve
Location	• Jackson, Wyoming
Size	• 1,100 acres; 7,000 sq. ft. building
Programming	• Sensory exhibits • Trails • Junior Ranger Activities • Spaces throughout site immerses visitors into the landscape
Functionality	• Self-interpretive (Interpretive Center) • Guided tours offered if wanting to know more about the Preserve (provided through government, Ranger Programming)
Sustainable Practices Present (Ecotourism Goals From Literature Review)	• Job opportunities • Supports conservation and preservation efforts • Appreciation of the surrounding landscape • Sustainable materials used in the design • Low-impact design • Local identity is portrayed

Table 2. Laurance S. Rockefeller Preserve Findings (Franks, 2022).

Project Programming

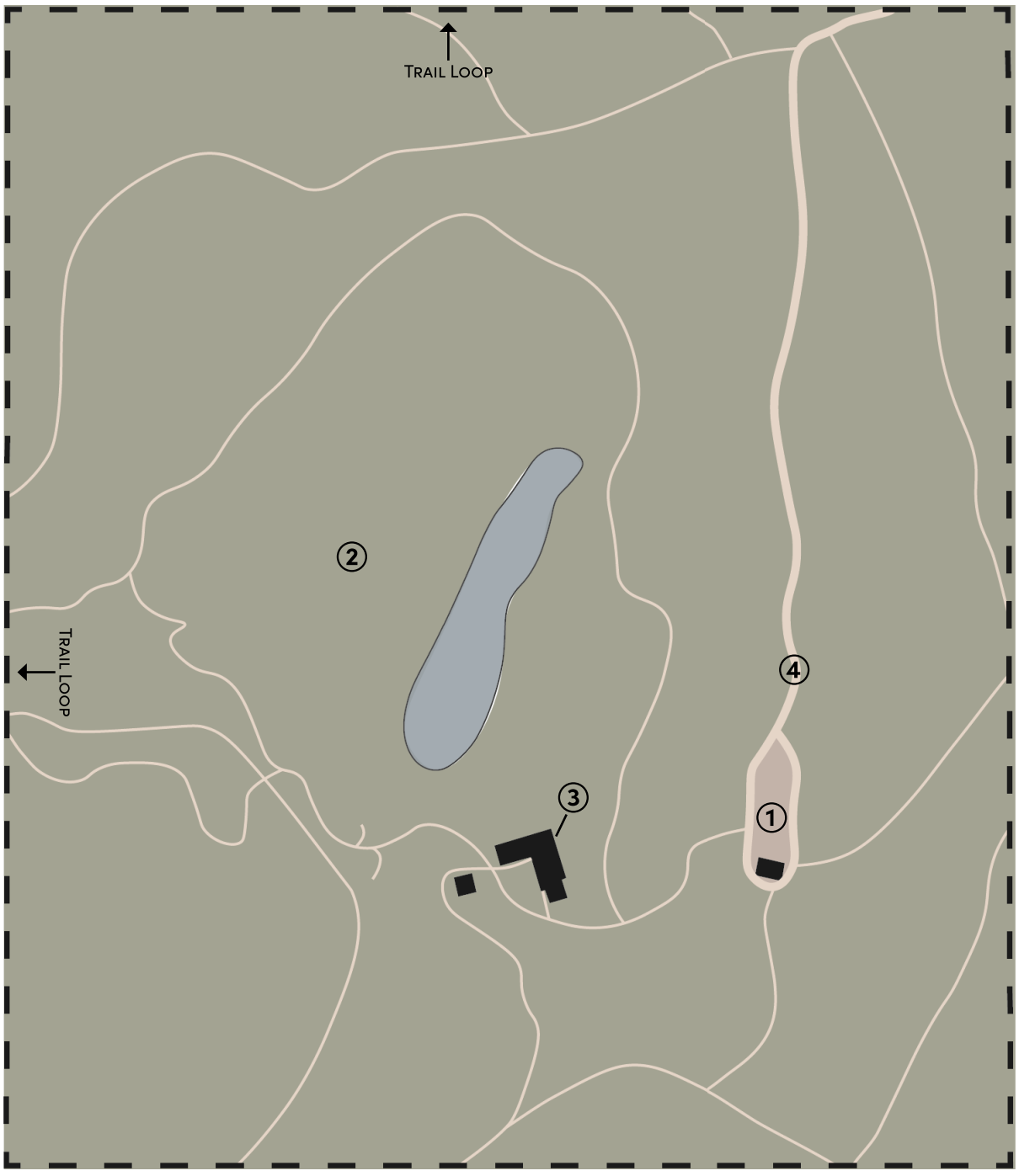


Figure 4.6. Laurance S. Rockefeller Preserve Programming (Franks, 2022).

Ecotourism Relationships

The Laurance S. Rockefeller Preserve strongly emphasizes ecotourism. Being associated with the National Park Service, the preserve's leading mission is to support conservation and preservation efforts, while also showing appreciation of the surrounding landscape. The facility design and site layout strongly display the local identity of the area, as one is able to experience the mountainous landscape. The very minimal design of the facility on site allows for the native vegetation to be undisruptive and able to still flourish.

Application to Prairiewood

The Laurance S. Rockefeller Preserve's mission parallels Prairiewood's goals and mission in conserving the native vegetation. The success of the exhibits at the preserve shows how successful self-interpretive functionality is, allowing for visitors to experience the place on their own time. The architectural element of the building provides a strong aesthetic that helps sets the tone for visitors' experiences.



© Casey Dunn

Figure 4.7. Marine Education Center. Designed by Lake | Flato Architects. Photograph by Casey Dunn (Dunn, 2018).

Precedent

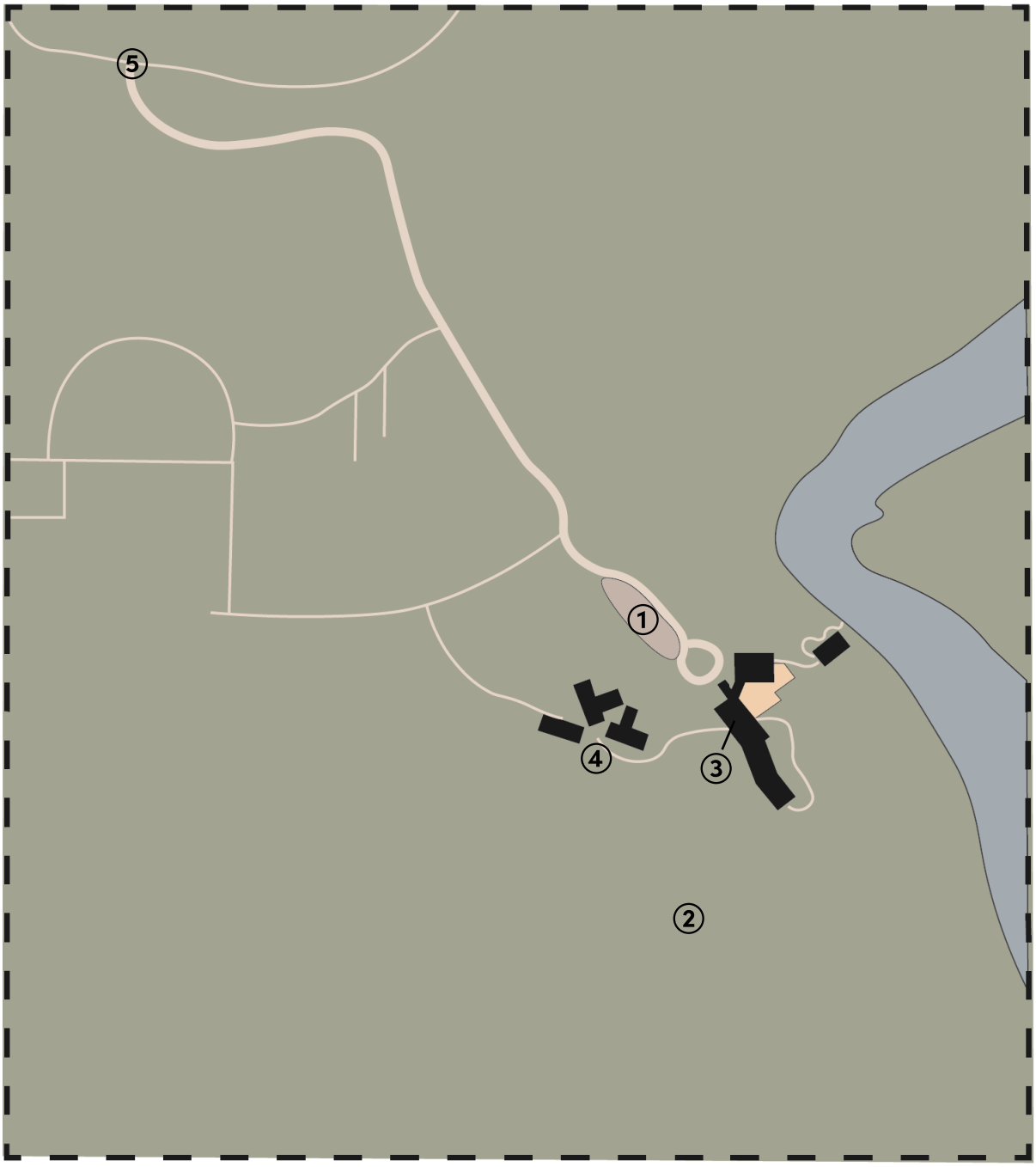
Marine Education Center

Designed By: Lake | Flato Architects

	Marine Education Center
Location	• Ocean Springs, Mississippi
Size	• ~ 29,700 sq. ft.
Programming	• Education Facility • Outdoor Classrooms • Laboratories • Administrative Offices • Exhibit Areas • Pedestrian bridge • Overnight accommodation • Design of building worked with environment
Functionality	• Self-interpretive • Guided tours on special occasions or if needed
Sustainable Practices Present (Ecotourism Goals From Literature Review)	• Job opportunities • Sustainable coastal building practices to work with surrounding environment • Protects wildlife and biodiversity • Low impact design (piers)

Table 3. Marine Education Center Findings (Franks, 2022).

Project Programming



① Parking ② Native Vegetation ③ Marine Education Center

④ Building Facilities ⑤ Main Drive

NTS N

Figure 4.8. Marine Education Center Programming (Franks, 2022).

Ecotourism Relationships

The Marine Education Center has many sustainable practices that relate back to ecotourism. First, there are many educational opportunities made available to all ages when visiting the Marine Education Center. Most of the educational opportunities focus on marine biology and guests are able to have first-hand experience to become stewards and advocates for marine life in the Gulf Coast. Because of the strong programming of marine biology education, the local identity of the place is strengthened from programs that rely on the bayou and wildlife that inhabit it. Lastly, the Marine Education Center was designed to have a low impact on the biodiversity in the area. The majority of the built features on site are built on piers, allowing for less impact on the landscape.

Application to Prairiewood

Although the Marine Education Center has a marine life focus, Prairiewood could adapt some of the activities to fit the tallgrass prairie. Activities like hiking along interpretive trails can help encourage recognition and understanding of the Flint Hills ecoregion.



© Paul Hester

Figure 4.9. Shangri La Nature Center. Designed by Lake | Flato Architects. Photograph by Paul Hester (Hester, 2008).

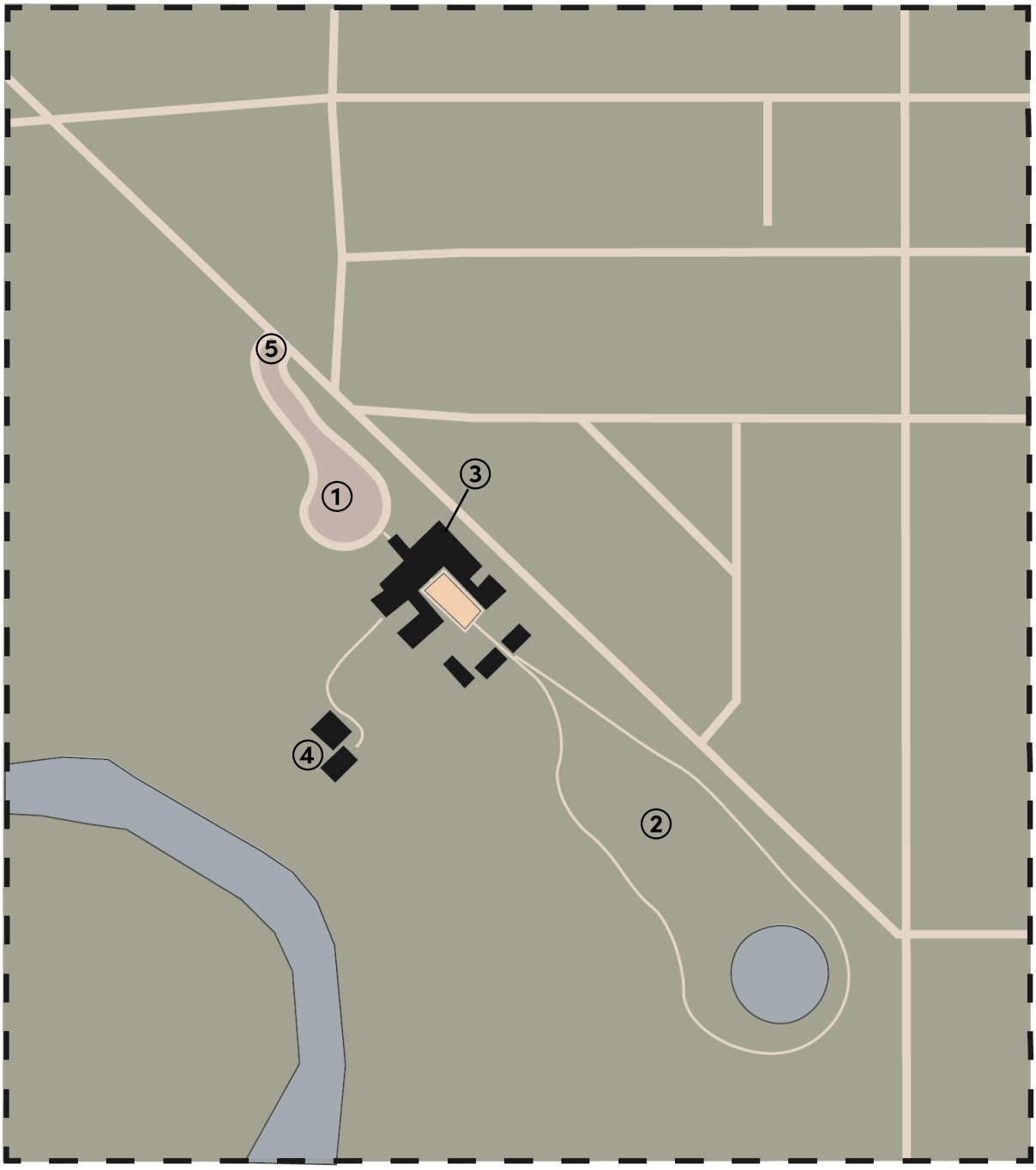
Precedent

Shangri La Nature Center

Designed By: Lake | Flato Architects

	Shangri La Nature Center
Location	• Orange, Texas
Size	• 250sq. ft.
Programming	• Botancial Gardens • Education Nature Center • Classroom Pavilions • Bird Watching Opportunities
Functionality	• Self-interpretive • Guided tours on special occasions or if needed
Sustainable Practices Present (Ecotourism Goals From Literature Review)	• Job opportunities • Local identity is portrayed • Supports conservation and preservation efforts • LEED Standards • Protects wildlife and biodiversity • Low-impact design in areas that are threatened • Engages visitors with the landscape

Table 4. Shangri La Nature Center Findings (Franks, 2022).



① Parking ② Native Vegetation ③ Visitor Center

④ Nature Education and Research Facilities ⑤ Entry / Exit

NTS N

Figure 4.10. Shangri La Nature Center Programming (Franks, 2022).

Ecotourism Relationships

The Shangri La Nature Center successfully addresses many ecotourism goals. First, like the other precedents, the project supports the bayou and surrounding ecosystems through conservation and preservation efforts. Because the bayou and ecosystems are the main focus of the nature center, the local identity is strongly emphasized. Next, the design of the nature center site offers a low-design impact because of preservation efforts of the surrounding wildlife. The design engages visitors with the landscape, while also acknowledging the endangered areas and minimizing impacts through the use of piers.

Application to Prairiewood

All the programming at Shangri La Nature Center maximizes hands-on experiences for its users. These hands-on experiences range in age groups, making the programs socially sustainable, which is key when wanting to appeal to a broad cross-section of ecotourists.



Figure 4.11. Lady Bird Johnson Wildflower Center (Hahn, 2012)

Precedent

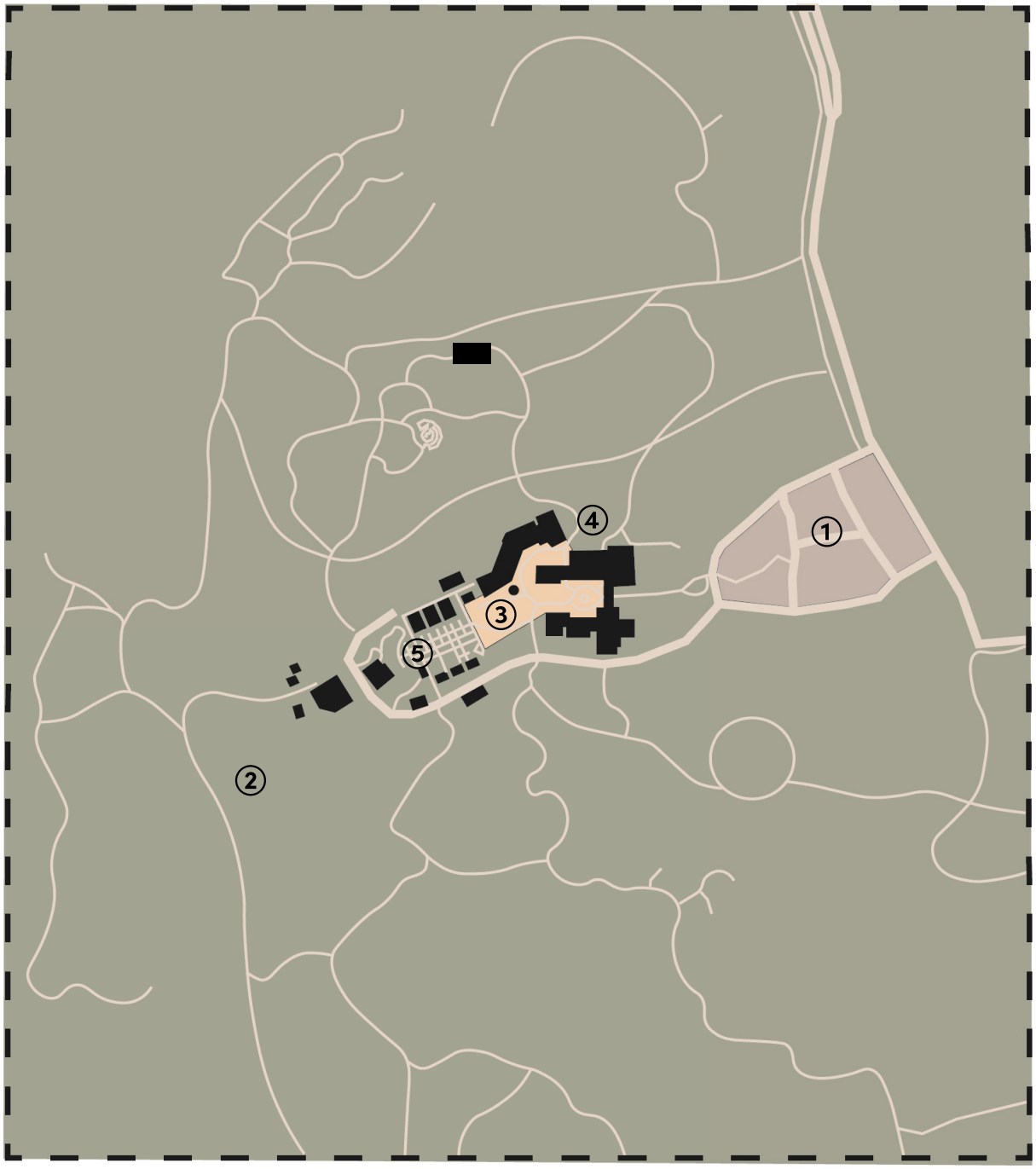
Lady Bird Johnson Wildflower Center

Designed By: Overland Architecture • Urban Planning

	Lady Bird Johnson Wildflower Center
Location	• Austin, Texas
Size	• 284 acres
Programming	• Central Complex • Auditorium • Great Hall • Classrooms (Indoor and Outdoor) • Observation tower • Library • Open Lawn • Pavilion • Gardens • Trails
Functionality	• Self-interpretive • Guided tours (special occasions / if needed)
Sustainable Practices Present (Ecotourism Goals From Literature Review)	• Job opportunities • Local identity is portrayed • Protects wildlife and biodiversity • enhance human health and happiness • Educational opportunities to learn about native plants • Sustainable design practices implemented

Table 5. Lady Bird Johnson Wildflower Center Findings (Franks, 2022).

Project Programming



① Parking ② Native Vegetation ③ Gathering Space

④ Visitor Center ⑤ Research Facilities

NTS N

Figure 4.12. Lady Birdy Johnson Wildflower Center Programming (Franks, 2022).

Ecotourism Relationships

The Lady Bird Johnson Wildflower Center is a leading precedent that accomplishes almost all the goals listed in the other precedents. Being a wildflower center, its mission is to educate visitors about native plants while also maintaining and protecting them. The native plants throughout the garden portray the local identity of Austin. The Lady Bird Johnson Wildflower Center also provides job opportunities in maintenance or in staff interacting with visitors. Lastly, the LBJWC has multiple sustainable design practices implemented: Rainwater storage throughout, low-flow landscape irrigation systems, local materials used, and solar arrays to generate power.

Application to Prairiewood

Although Lady Bird Johnson Wildflower Center is much larger than Prairiewood, they both have similar missions of strengthening conservation for native plants. The way that the Lady Bird Johnson Wildflower Center site is designed and programmed may influence programming ideas that can be implemented onto the Prairiewood site.



© Brandon Huttenlocher / Design Workshop Inc.

Figure 4.13. Highlands Retreat. Designed by Design Workshop Inc. Photograph by Brandon Huttenlocher (Huttenlocher / Design Workshop Inc., 2021).

Precedent

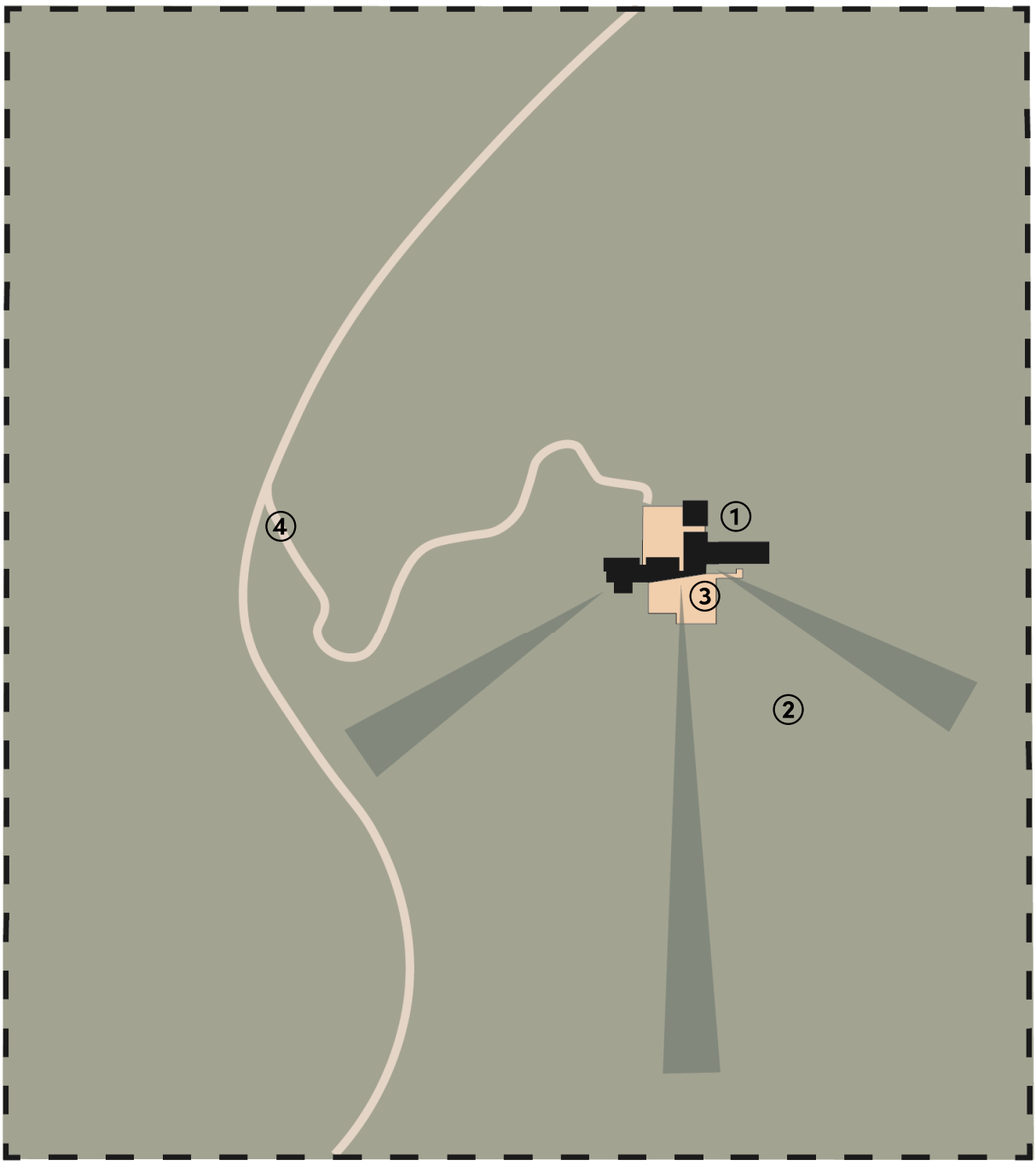
Highlands Retreat

Designed By: Design Workshop Inc.

	Highlands Ranch
Location	• Pitkin County, Colorado
Size	• 10 Acres
Programming	• Design of ranch is supported by the surrounding landscape • Design offers a sense of adventure and peace • Engages the landscape with the history and cultural heritage of the surrounding environment • Design considered seasonal change, sunlight, and the existing natural systems surrounding the property • Trail weaving through the Aspen Forest • Exterior courtyards • Building for overnight accommodations • Interior exterior relationships are strong
Functionality	• Self-interpretive • Residential
Sustainable Practices Present (Ecotourism Goals From Literature Review)	• Local identity is portrayed • Strong appreciation of surrounding environment

Table 6. Highlands Retreat Findings (Franks, 2022).

Project Programming



① Overnight Accommodations ② Native Vegetation ③ Interior / Exterior Spaces

④ Main Drive

NTS N

Figure 4.14. Highlands Retreat Programming (Franks, 2022).

Ecotourism Relationships

Highlands Retreat did not address multiple ecotourist goals compared to some of the other precedents. This project, however, did address the local identity of the community by utilizing the natural landscape around the site to help influence design moves. Being located in a heavily forested area, the design was able to capture the natural beauty of the mountain scape while also enhancing programming opportunities, like trails, to help visitors grow a stronger appreciation for the environment.

Application to Prairiewood

One takeaway from Highlands Retreat that can be applied to Prairiewood is the design intent of utilizing the surrounding context to determine building placement, as well as influencing the user's experience while visiting the place. Because the surrounding context plays a key role at Prairiewood, it is important to consider the primary views and how they will influence the placement of the design.



© D.A. Horchner / Design Workshop Inc.

Figure 4.15. DBX Ranch. Designed by Design Workshop Inc. Photograph by D.A. Horchner (Horchner / Design Workshop Inc., 2016).

Precedent

DBX Ranch

Designed By: Design Workshop Inc.

	DBX Ranch
Location	• Aspen, Colorado
Size	• 3.5 acres
Programming	• Two buildings that allow for overnight accommodations • Views were a major design consideration when designing the site plan and architecture • Water is used not just as an aesthetic, but also as a functional and ecological element • Design of ranch is supported by the surrounding landscape • Context Sensitive
Functionality	• Self-interpretive • Residential
Sustainable Practices Present (Ecotourism Goals From Literature Review)	• Addresses water quality, reforestation, and restore ecological integrity • ddresses efforts to support the surrounding wildlife and biodiversity • Local identity is portrayed

Table 7. DBX Ranch Findings (Franks, 2022).

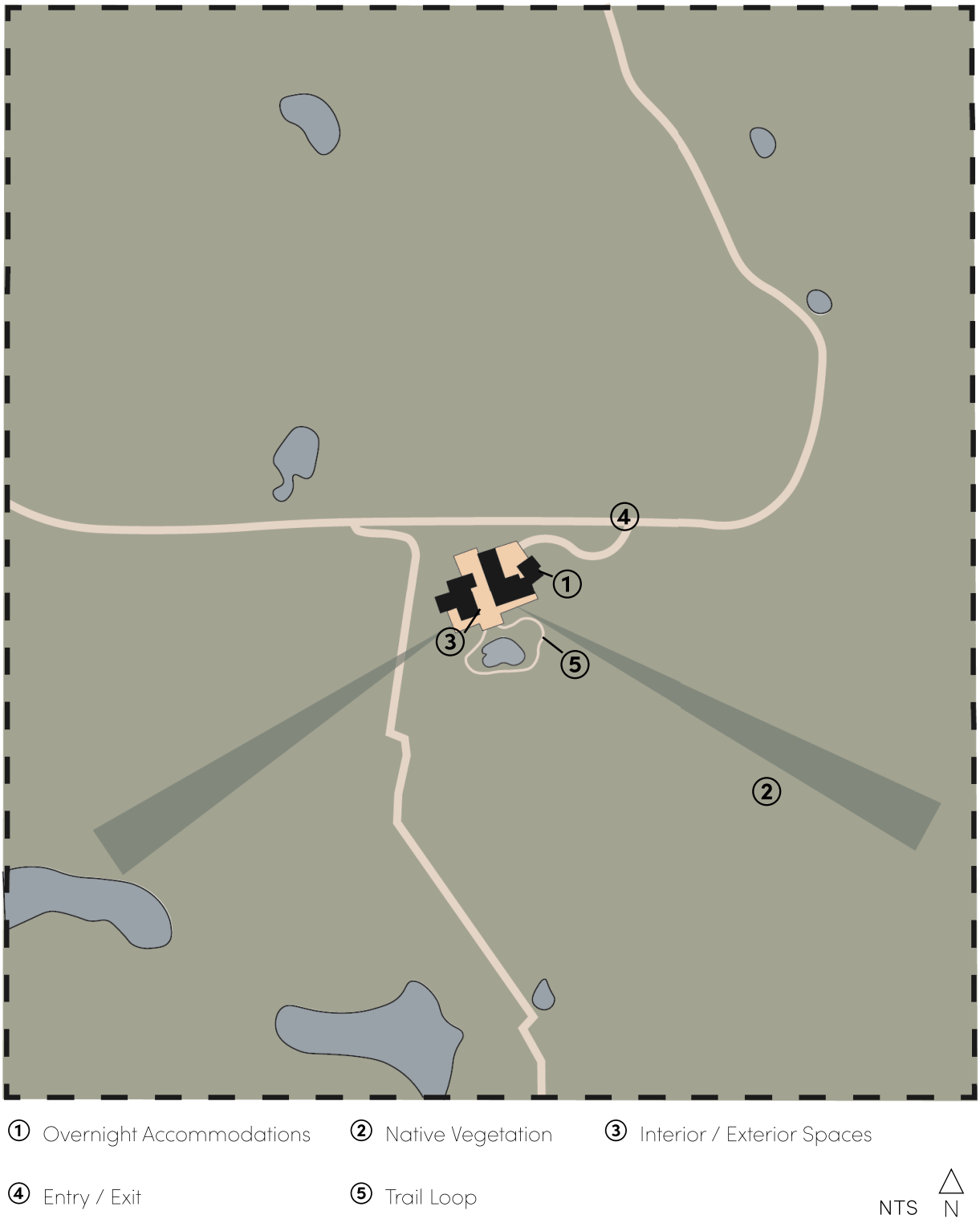


Figure 4.16. DBX Ranch Programming (Franks, 2022).

Ecotourism Relationships

The design team focused on addressing goals that helped influence ecotourism on this project. First, DBX Ranch addressed efforts to support surrounding wildlife and biodiversity. The project does this by improving water quality, begin reforestation of the surrounding vegetation, and restoration of ecological integrity. The overall project portrays the local identity of the Rocky Mountains in Colorado. Residents and guests at DBX Ranch are fully immersed in the landscape and are able to appreciate the natural elements.

Application to Prairiewood

DBX Ranch had a lot more detailed design elements that could benefit Prairiewood. Emphasizing views and utilizing ecological elements, such as water, could help strengthen the proposed programming for Prairiewood. Recognizing the surrounding environment and designing a strong interior-exterior relationship would help influence visitors in becoming more engaged with the surrounding context.

Precedent Analysis Takeaways

The seven precedents that were presented are leading examples of what ecotourism could look like at Prairiewood. They all vary in size, functionality, and location, but have the same purpose of providing opportunities for ecotourist aspirations and educational opportunities for visitors. After learning more about each of these projects, the overall takeaways include:

1. Majority of the precedents offered a mix of outdoor experiences for visitors. With most of them offering self-interpretive experiences, the nature center precedents did offer guided tours upon request to gain more information about certain topics. It is going to be important for Prairiewood to provide flexibility for their visitors in terms of outdoor experiences/activities so visitors can remain interested during their stay at Prairiewood.

2. Most of the projects proposed one primary facility that housed exhibits or educational opportunities. There were also secondary facilities that held smaller classrooms and laboratories to allow for a more private and personal experience for their guests.

3. A select few offered overnight accommodations, which benefited visitors by allowing them more time to interact with the on-site programming and with the surrounding environment.

4. Each precedent supported and protected the surrounding landscape and wildlife in the area. Supporting and protecting the surrounding landscape and wildlife is a leading factor in ecotourism and is one of the main goals that makes ecotourism "eco".

5. Most all of the precedents had strong interior-exterior relationships that allowed for different settings and interactions. Spatial and architectural design can be influential on user experiences, so it is important to connect visitors and the environment.

6. The local identity was strongly supported in all of the precedents. By engaging the local identity, through architectural materials, plant preservation, and featured views, visitors gain a great appreciation for the specifics of place.

Design Guidelines

From these successful precedents, design guidelines were created to help Prairiewood become a leader in the ecotourism industry within the Flint Hills ecoregion. These guidelines will help guide a design scenario for Prairiewood.

1. Conserving and preserving the native vegetation and offering opportunities to educate visitors about the importance of these terms.

2. A balanced functionality experience for visitors; offering guided activities on occasion.

3. A minimum of a primary facility on site is needed to host educational sessions and gatherings during all weather conditions.

4. Keep existing over-night accommodations but enhance the relationship between them and the surrounding programming to develop more extended stay opportunities on site.

5. Propose new overnight accommodations that are low impact that immerse visitors into the landscape.

6. Create strong interior and exterior relationships to emphasize engagement with the surrounding environment.

7. Promotes cues to local identity.



Figure 4.17. Tree Grove Along Trail (Franks, 2022).

Visitor Analysis

Understanding visitor travel patterns and itineraries are important for a tourist focused project. A visitor profile analysis helps gather information about the visitors' itinerary and what activities they are aware of and are participating in. To better understand the visitors, interviews were conducted with staff who have strong interactions with visitors and interpretation activities. Through interviews with staff at local visitor centers which have a connection to the Flint Hills, several site design, education, and activity scenarios are envisioned for Prairiewood that will help visitors gain a greater appreciation for the Flint Hills, both locally and at more distant attractions.

Visitor Analysis Goals

1. Gather information to compile a profile of visitors to Prairiewood and within the Flint Hills.

2. Understand what activities are currently offered at these interpretive centers, publicly accessible parts of the Flint Hills, and at Prairiewood.

3. Develop a projective design outcome and ecotourist activities that are finely tuned to educate visitors about the Flint Hills

Visitor Analysis Process

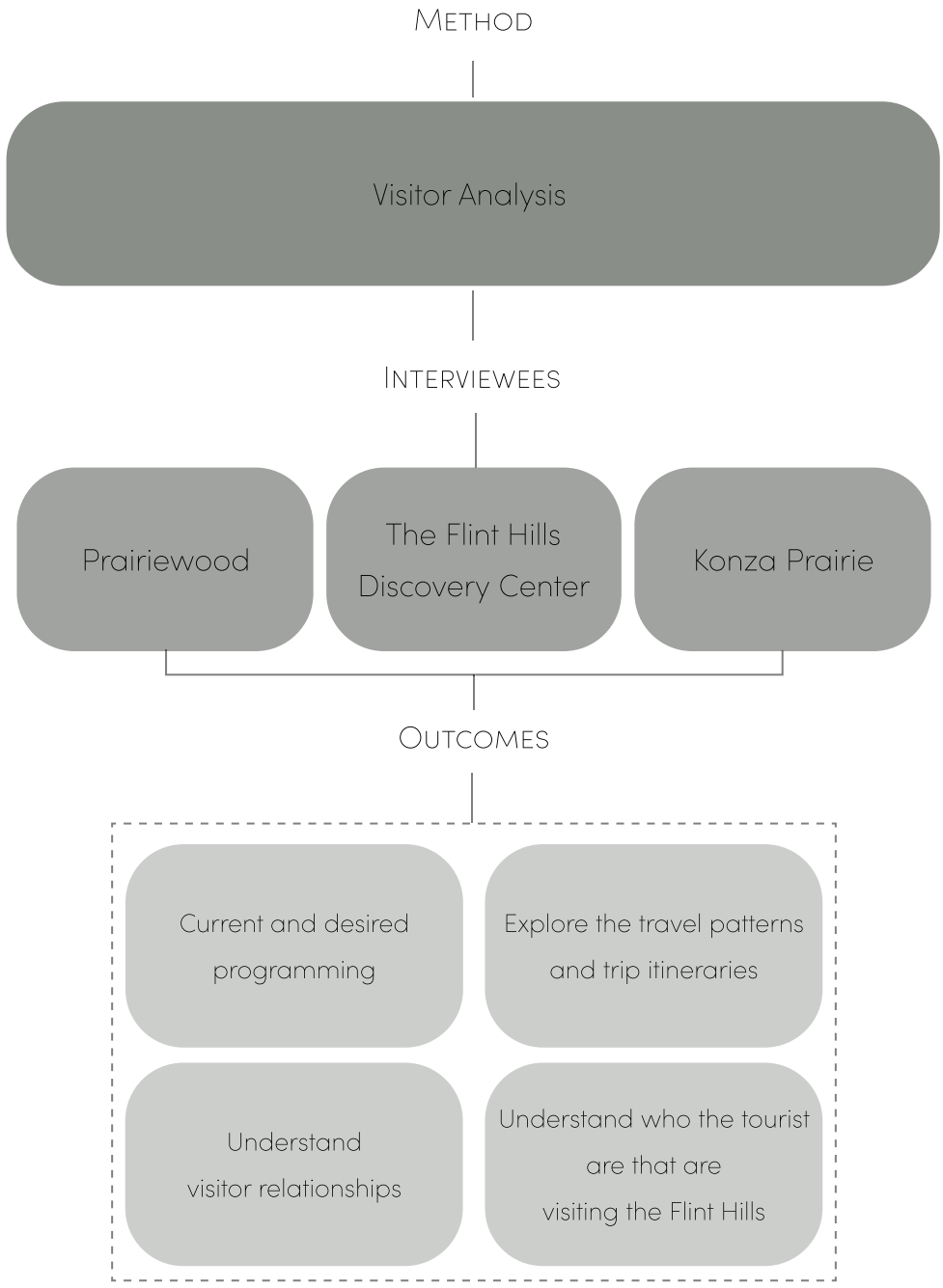


Figure 4.18. Visitor Analysis Process (Franks, 2022).

Interview

Interviewee: Prairiewood Retreat Home

What types of groups currently visit Prairiewood?

Summary: The most popular groups that Prairiewood hosts are those associated with weddings. Because they host many weddings throughout the year, they see an increase in out-of-state visitors for this particular type of event. However, there is an opportunity that Prairiewood may see more numbers of out-of-state groups due to the increased marketing publicity being developed and the highly reviewed facility that also offers diverse outdoor programming in the Flint Hills. Prairiewood also attracts small to medium sized groups that are wanting a memorable experience. From time-to-time Prairiewood hosts educational groups through special nature-oriented programs and activities.

What is the percentage breakdown of single day event visits versus multi-day (overnight) visits, both in numbers of events and visitor counts?

Summary: The breakdown of single day event visits versus multi-day (overnight) visits are as followed. In 2019, Prairiewood had approximately 7,000 visitors in total. From that 7,000 total, they brought in 274 lodging reservations, 39 wedding events, 9-day use rentals, and about 20 public programs that averaged around 880 visitors. However, in 2020, COVID-19 disrupted the hospitality industry and caused the industry to freeze. Prairiewood did have an impact on their in-person events and gatherings, However, in 2020, Prairiewood was able to host about 4,200 visitors, which included 295 lodging reservations, 21 wedding events,

5-day use rentals, and about 55 public programs. These public programs estimated about 1,300 visitors, which was almost a 50% increase from 2019. In conclusion, although Prairiewood was impacted by COVID-19 in 2020, and saw a lower number of visitors in 2020, they did see an increase in lodging reservations, along with a greatly increased number of visitors for public programs. This could be because of Prairiewood's ability to host events in a safe manner, outdoors.

On average, what is the size breakdown of various groups visiting or staying at Prairiewood?

Summary: Prairiewood attracts small to medium sized groups that are seeking memorable and exceptional experience, along with larger parties associated with weddings or a larger scheduled event. Prairiewood has collected a few numbers over the past couple of years that helps them understand the numbers of visitors they are seeing coming to visit. About 20 to 25% of their overall guests come from out-of-state. They see about 60% of their guests travel from more than 60 miles to visit Prairiewood.

Prairiewood saw an increased demand for private lodging and outdoor recreation activities after the COVID-19 peak in Spring 2020. Due to this increased, growing, demand, along with a growing number of visitors, Prairiewood began and continues to think of ways to accommodate for larger group visits. They hope to increase the lodging guest capacity to 17% to help accommodate for these more requested demands for private lodging. By increasing guest capacity, this will help Prairiewood continue to adapt to societal changes and be able to provide a comfortable experience for their guests.

What is the distribution of visitors to Prairiewood across the year?

Summary: Being part of the hospitality industry, the numbers of visitors fluctuate every year. Prairiewood could see busier years than others depending on how many reservations and bookings guests make. Most recently, Prairiewood has seen a larger distribution of visitors during the COVID-19 pandemic because they offer flexible event space that can be inside or outside. For example, Prairiewood used to offer Open Trail Days once a month, and now offers it twice a week to allow for more opportunities for people to explore nature safely. They have also seen that more people are wanting private lodging for an increase in safety and comfortability during the pandemic.

What education, recreation, and other programming activities relative to guests are currently being offered at Prairiewood?

Summary: The 400 acres of land located in between Fort Riley and Manhattan and along Wildcat Creek allow for an exciting experience for those visiting Prairiewood. There are a wide variety of programming activities that occur throughout Prairiewood's site. Most of these programming activities fall under education, recreation, and social events. With an increase of visitation to outdoor spaces within the last couple of years, it is expected for this trend to continue with greater growth. This allows for countless opportunities for day-use groups and overnight groups to use the Walnut Pond site. With an introduction to improved programming and educational opportunities on the Walnut Pond site, this could become an opportunity for Prairiewood's hosting capacity to increase.

Education

Most of the public programs and events that are hosted at Prairiewood have an educational focus to them. Some of the programs and events that have been offered at Prairiewood include: Community Youth Orchestra, Meet the Makers, Prescribed Burn School (Prairie Management), Woodcock Wall, Sunday in the Stream, guided walks, and seed collections, CoDwelling events, Pioneer Women Yoga, Music in the Barn, Edible Wild Plants class with UFM Community Learning Center. All of these programs offer a mix of educational opportunities and recreational opportunities.

Recreation

Prairiewood has many opportunities on site to allow for recreational programming. One popular activity is hiking along the trails throughout the property. Guests are able to hike throughout Willis Prairie and around the Bird, Bee, and Butterfly Sanctuary. Trails are open all the time for guests staying on site and are open to the public on Sundays and during special events. Walnut Pond has many opportunities for recreation and education. The established native grasses and forbes, recreational pond, shaded tree grove, riparian area with blue heron rookery offer exciting opportunities to allow for guests and visitors to learn more about the site while also having fun.

Social

Prairiewood is a leading host for weddings in the area. They have amble amount of space to host the event and overnight accommodations for the event. They have four on-site locations that guests are able to reserve. They also have the Blue Sage Barn, which is the main location for larger group gatherings. Adjacent to the Blue Sage Barn is the Blue Sage Galley, which acts as a welcome center for over-night and day guests. Prairiewood is one

of the only locations in the Flint Hills region that offers lodging adjacent to event space and space to participate in outdoor retreat and recreation opportunities.

How many and what types of community (public) outreaches are devoted to conservation?

Summary: Many of the activities at Prairiewood are devoted to conservation. Activities like Sunday in the Stream, Prescribed Burn School, and Edible Wild Plants class with UFM Community Learning Center offer opportunities for guests to learn about conservation. These programs come from groups that are from the Manhattan area, so the information they teach have relation to the Flint Hills.

Has Prairiewood established some consistent community partners involved with conservation education?

Summary: Prairiewood has established some consistent community partners that are involved with conservation education. These partners have included Sunset Zoo, Flint Hills Discovery Center, Konza Prairie, K-State, and USD 383. Other groups like UFM Community Learning Center and Kansas Prescribed Fire School have also been involved in opportunities related to conservation education.

Based on received feedback, what are the various reasons why people visit or stay at Prairiewood?

Summary: Based on received feedback, Prairiewood has left a positive impact on its visitors. Their guests had positive interactions with the staff. The communication among guests and staff creates a sense of safety and

"Small but mighty team"

"Personal kind and warm welcome"

"Very welcoming"

"...inspiring story and passion on preserving the beautiful natural prairie lands of Kansas"

"...unexpected surprises every turn"

"...pictures don't do it justice"

"...smack in the Flint Hills, minutes from downtown, but somehow it feels a million miles away"

"...property was stunning and beaming with wildlife"

welcomeness for visitors. Prairiewood's location also has left a positive, lasting impact on the guests. The facility is located along Wildcat Creek, in between Fort Riley base boundary and Manhattan city boundary. This location allows guests to experience a sense of being away from the bustling everyday lifestyles and allowing them to immerse themselves into the surrounding landscape.

What forms of advertising does Prairiewood use? How far do these advertising efforts reach within the MHK area and/or Flint Hills ecoregion?

Summary: Prairiewood was a founding member of the Flint Hills Tourism Coalition and continues to be an active member in helping increase tourism and interest in the region. By being part of this coalition, Prairiewood has the opportunity to advertise to those who are looking to

travel to the Flint Hills. Another form of advertising that Prairiewood does well with is posting on social media. When documenting on social media, Prairiewood is able to reach people across the country. Social media opens the door for possible featured inquiries in travel promotions and magazines.

Do you see potential for Prairiewood to expand their programs and efforts to grow towards a targeted audience?

Summary: There is potential for Prairiewood to expand their programs and efforts to help grow their targeted audience and bring new audiences to the Flint Hills. They will continue to support wedding parties and larger gathering events that need overnight accommodations. They continue to improve their accommodation facilities and keep them functioning to meet guests' desires. They have also continued to improve on-site amenities that were in demand from customers. Some of these amenities expanded on technology and additional aesthetic elements in the Blue Sage Barn event space.

Do you see any potential for Prairiewood to influence ecotourism in the Flint Hills?

Summary: Prairiewood's main goal is for visitors to visit and once they leave, they leave more connected to the land, more interested in preserving it, and more interested in making experiences that makes them love the land more and make them think and act differently once they leave. Prairiewood values the statement, "lead with the

land". They hope that in the future, this statement can help connect people who are like-minded and appreciate the idea of conservation and preservation.

What are some desired future opportunities you would like to see at Prairiewood?

Summary: Prairiewood would like to see their events and barn calendar become more filled with activities that are more retreat like and are connected to the arts. They want their visitors to feel more connected and knowledgeable about the ideas of conservation and preservation. Prairiewood would also like more public access. They enjoy seeing how successful Open Trail Days is during the warmer months because it makes them feel happy and accomplished at sharing their mission of preservation and conservation.

Prairiewood Interview Takeaways

1. Prairiewood excels in overnight accommodations.

2. Opportunity exists to grow the programming on site to help increase the number of single day visits and make Prairiewood a leading contender in the ecotourism industry in the Flint Hills.

3. Create a powerful environment that engages and immerses visitors with the surrounding landscape for a lasting experience that promotes return visits.

Interview

Interviewee: Konza Prairie Biological Station (KPBS)

What are the demographics, ages, and interests of people who visit the Konza Prairie?

Summary: The Konza Prairie is a leading research component in the research world. Many visitors to the Konza Prairie are on research trips to learn more about environmental factors in the Tallgrass Prairie ecosystem.

Approximately how people visit the Konza Prairie?

Summary: Being a popular destination in Manhattan, the Konza Prairie sees a large number of visitors every day throughout the year. The Konza Prairie staff estimates that they get approximately 25,000 to 45,000 visitors a year, who come out and hike the publicly accessible trails.

What exhibits, programs, activities, and on-site locations are most popular among visitors to the Konza Prairie?

Summary: The primary purpose of the site is for research. Many researchers and educators come out to learn more about the environmental aspects of the Flint Hills. Because so many people visit for research reasons, there are onsite accommodations for them, so they have easy access to the site. Although research is the main program on the site, they do have three trails, open to the public, that takes visitors into the Flint Hills. These trails range between two miles to six-mile hikes.

"...this is the only research facility for the Tallgrass Prairie ecosystem in the world."

"But on most days, there is at least somebody out there at some point of time during the day."

"...trails here at Konza Prairie are an international draw at the very least."

"There are very few places that you can get out into the prairie and hike the Tallgrass Prairie with easy access."

How many visitors to the Konza Prairie are in-state residents versus out-of-state residents?

Summary: Visitors, researchers, and non-researchers, come from all 50 states, and include a handful of foreign countries, which is exciting to hear that the Flint Hills is an outdoor attraction that is known at the international level.

What other places of environmental, cultural, or historical interest (other than the Tallgrass Prairie National Preserve) would you recommend that people visit within the Flint Hills to gain a greater appreciation of this ecoregion?

Summary: The Flint Hills Discovery Center was mentioned

being a wonderful resource to gain a greater appreciation of this ecoregion. If visitors are wanting to get out into the prairie, then the Konza Prairie and Tallgrass Prairie are the two places to visit to gain an appreciation of the Flint Hills. There is Top of the World and Carnahan Creek Park and other state parks that visitors can visit and appreciate the surrounding landscape. Another great opportunity that visitors have to see in the Flint Hills is the drive through the region. Driving K-177, the scenic byway, has amazing views of the horizon along the hills. Exploring the Flint Hills can be a yearlong activity; however, the season may play an important role in some parts as many places see change in vegetation and maintenance.

Do you have any indications of visitors' awareness of, or plans to travel to, other environmental, cultural, or historical places of interest within the greater Flint Hills region that might be an attraction?

Summary: The Konza Prairie may be stop number two for visitors coming from the Flint Hills Discovery Center.

What resources are made available to these travelers that informs them about other attractions related to the Flint Hills?

Summary: Although there are hiking trails throughout the site, many of the traditional tourists coming into town do not know about the Konza Prairie right away. They learn about it through conversation with locals and at the Flint Hills Discovery Center.

"...if they had some kind of self-guided brochure that leads families without needing any other assistance might be a good idea. It would be kind of cool if they had one for each season."

Konza Praire Interview Takeaways

1. Groups traveling to Konza Prairie may be potential visitors for Prairiewood.

2. Konza Prairie is one of the only locations in the Flint Hills that accommodates first-hand experience with this ecosystem.

3. Seasons matters when visiting areas in the Flint Hills.

Interview

Interviewee: The Flint Hills Discovery Center (FHDC)

What are the demographics, ages, and interests of people who visit the FHDC?

Summary: The Flint Hills Discovery Center attracts many different groups. The first group the center sees is the traditional tourists. From interactions with these groups, the center knows that they are groups of families who are on vacation and looking for new, different, and interesting things to add to their itinerary. The traditional tourists range from families with children, to groups of middle-aged couples to retirees. These groups are seen in larger numbers during the warmer months, especially the summer seasons when travelling is more popular. Other types of groups that the Discovery Center interacts with are those who are on business trips, university-related trips, and locals. The local groups are those traveling within a 30-mile radius: Junction City to Wamego, to Riley County to Pottawatomie County.

Approximately how people visit the FHDC?

Summary: The Flint Hills Discovery Center hosts around an average of 70,000 visitors during a good year; given the past two years have not been typical due to the COVID-19 pandemic. A breakdown of people visiting the FHDC is based on admission type: 32% of admissions use the FHDC memberships, while 68% are non-members who pay regular price for admission. From those that pay to visit, 39% are visitors under the age of 17 and 61%

are adults over the age of 18. The Flint Hills Discovery Center does host organized group visits. These group visits average around 2,666 people, which are mainly school field trips.

What exhibits, programs, activities, and on-site locations are most popular among visitors to the FHDC?

Summary: The Flint Hills Discovery Center is filled with "visually attuned" experiences for their guests. One asset that attracts visitors to the center is the exhibits. These exhibits are rich in information and graphics that accurately represent the Flint Hills and the Tallgrass Prairie. Another programming element that visitors experience is the short film entitled *Tallgrass Prairie Tides of Time* in the theater. The film gives visitors an overview of the Flint Hills. It goes into detail about the natural, cultural, and historical resources associated with the region. Finally, the last major programming piece that many visitors enjoy participating in is the "Prairie Garden, Terrace, and Trail". This is an outdoor space on the third floor of the building that takes users through an interpretive experience of being immersed with native planting of the Flint Hills. This element is open to the public, so visitors are able to experience it without paying a fee. There are also the traveling exhibits that are rotated out every other couple month to help serve the local audience. The center wants to try new and interesting exhibits so they can attract back the local visitors.

How many visitors to the FHDC are in-state residents versus out-of-state residents?

Summary: Although they do not have an exact answer, the discovery center does receive a good number of out-of-state visitors, but a majority of the guests coming has identified to be in-state residents.

What other places of environmental, cultural, or historical interest (other than the Tallgrass Prairie National Preserve) would you recommend that people visit within the Flint Hills to gain a greater appreciation of this ecoregion?

Summary: The Flint Hills Discovery Center (FHDC) serves as an official travel information center that provides opportunities for visitors to learn more about the Flint Hills region. The Flint Hills Discovery Center always encourages their visitors to go and explore the Flint Hills They provide lots of great resources for free. They encourage visitors to go visit the Konza Prairie, and Tallgrass Prairie National Preserve. There is also the Flint Hills Wildlife Refuge in Hartford Kansas.

Do you have any indications of visitors' awareness of, or plans to travel to, other environmental, cultural, or historical places of interest within the greater Flint Hills region that might be an attraction?

Summary: During interaction with the guests, the Flint Hills Discovery Center has accumulated general information regarding the interests that guests have when visiting the region. The most popular question they receive relates back to getting out and being immersed in the Flint Hills. This shows that people are invested in finding ways to get out and explore the region.

What resources are made available to these travelers that informs them about other attractions related to the Flint Hills?

Summary: There is information at the Flint Hills Discovery Center that helps guide visitors out into the Flint Hills. There is an interactive kiosk that allows visitors to search places and build an itinerary. They also have a room dedicated to brochures that are free to the public. These brochures have information regarding places within the Flint Hills region, along with places throughout the state of Kansas.

"...our exhibits do very well is they are very visually attuned. They are very graphic rich. Everything was done sort of with the eye and look feel of everything, and the content was expertly researched."

Flint Hills Discovery Center Interview Takeaways

1. The Flint Hills Discovery Center serves as a great starting place for visitors to gather information about the Flint Hills.

2. The idea of providing a visually attuned and an exciting experience to the visitors helps the Discovery Center build strong relationships with them.

3. Traveling and refreshed exhibits at the Flint Hills Discovery Center bring new and exciting experiences for visitors.

Comparison to SCORP

Analysis of the Statewide Comprehensive Outdoor Recreation Plan Findings and Interview Findings

After multiple interviews with Prairiewood, Flint Hills Discovery Center, and Konza Prairie Biological Station, and gaining a better understanding of what each place offers to help spread awareness of the Flint Hills, each place was then compared to the findings from the Statewide Comprehensive Outdoor Recreation Plan. From the document review in Chapter 2, the SCORP had a couple of findings that had strong relationships to ecotourism. Those relationships were placed into a comparative chart with the three places interviewed. The purpose of this comparison is to take the information gathered from the interviews and see if this information aligns with what the SCORP. document had found about outdoor recreation planning. Although the information presented in the document does not have a direct correlation to ecotourism, the idea of people traveling and participating in outdoor activities ensures that there are opportunities for ecotourism in the Flint Hills.

Shown in the table, the Flint Hills Discovery Center (FHDC) and the Konza Prairie accomplishes the majority of the applicable pieces from the SCORP document, with some that are not applicable (N/A). However, these two places do accomplish interpretive and educational opportunities for all visitors. When looking at Prairiewood, it currently does offer some educational opportunities like the FHDC and Konza Prairie. The result of the comparison shows that Prairiewood has the opportunity to improve in interpretation of the Flint Hills and improve trail connectivity and experience for users.

SCORP Findings	Prairiewood	FHDC	Konza Prairie
Recreation Areas	x	x	x
Private Commerical Area		N/A	N/A
Addressing Trail Connectivity Issues		N/A	N/A
Enforcing Responsible Visitor Use		x	x
Providing Adequate Trail and Interpretive Signage		N/A	x
Provides Environmental / Conservation Education: Interpretive, outdoor, or environmental education programs	x	x	x
Provides programs or opportunities for seniors	x	x	x
Provides programs or opportunities for youth	x	x	x

Table 8. SCORP Document and Interview Findings (Franks, 2022).

Visitor Analysis Takeaways

Interviews were done to better understand the visitor types and their patterns that are seen coming into the Flint Hills. Findings from the interviews were then compared to the findings found in the SCORP document that was reviewed in Chapter 2. It was gathered that many of the findings from the interviewee locations and activities aligned with what the SCORP document had found through surveys. From that, three main takeaways were gathered to help further design development at Prairiewood.

1. Seasonality of activities play an important role for visitor times and certain programming.

Expanded in Chapter 5

2. Increase the exposure to the Flint Hills through programming opportunities, locally and regionally, to grow the appreciation of this ecoregion.

3. Opportunities exist for Prairiewood to strengthen visitor experiences through more interpretation of the Flint Hills to help introduce ecotourism in this ecoregion.



Figure 4.19. Konza Prairie in the Flint Hills (Hahn, 2010).

Site Analysis

As part of the design process, a site analysis of the project site was conducted. To conduct this analysis, the use of site visits, photography, and GIS mapping documented the opportunities and constraints on site. The purpose of this site analysis is to help understand the project site in a designer's eye and define the opportunities that this site has to offer for Prairiewood. Prairiewood's identity was captured through photographs that showcased all the opportunities that could contribute to a positive ecotourism experience.

Site Analysis Process

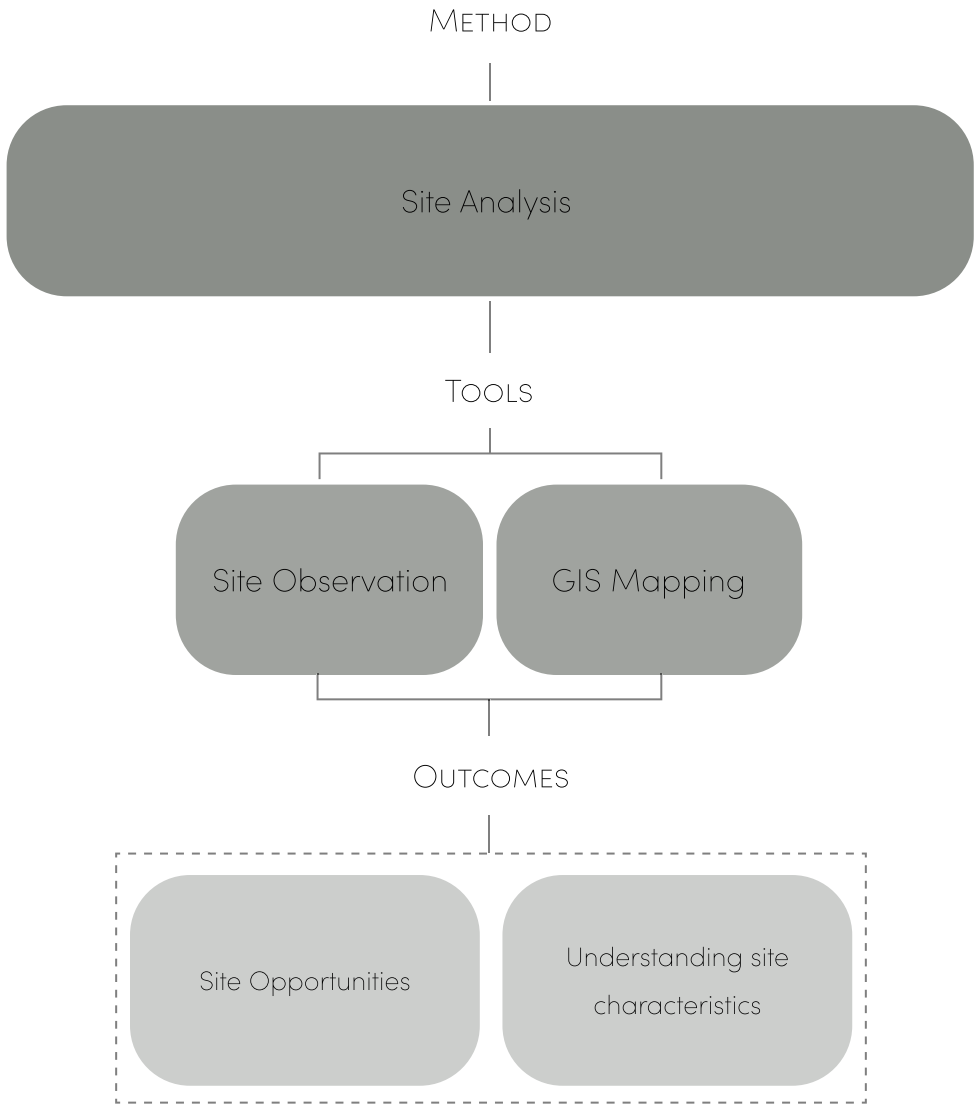


Figure 4.20. Site Analysis Process (Franks, 2022).

Site Analysis

Site Observations



Figure 4.21. Walnut Pond at Prairiewood (Franks, 2021).

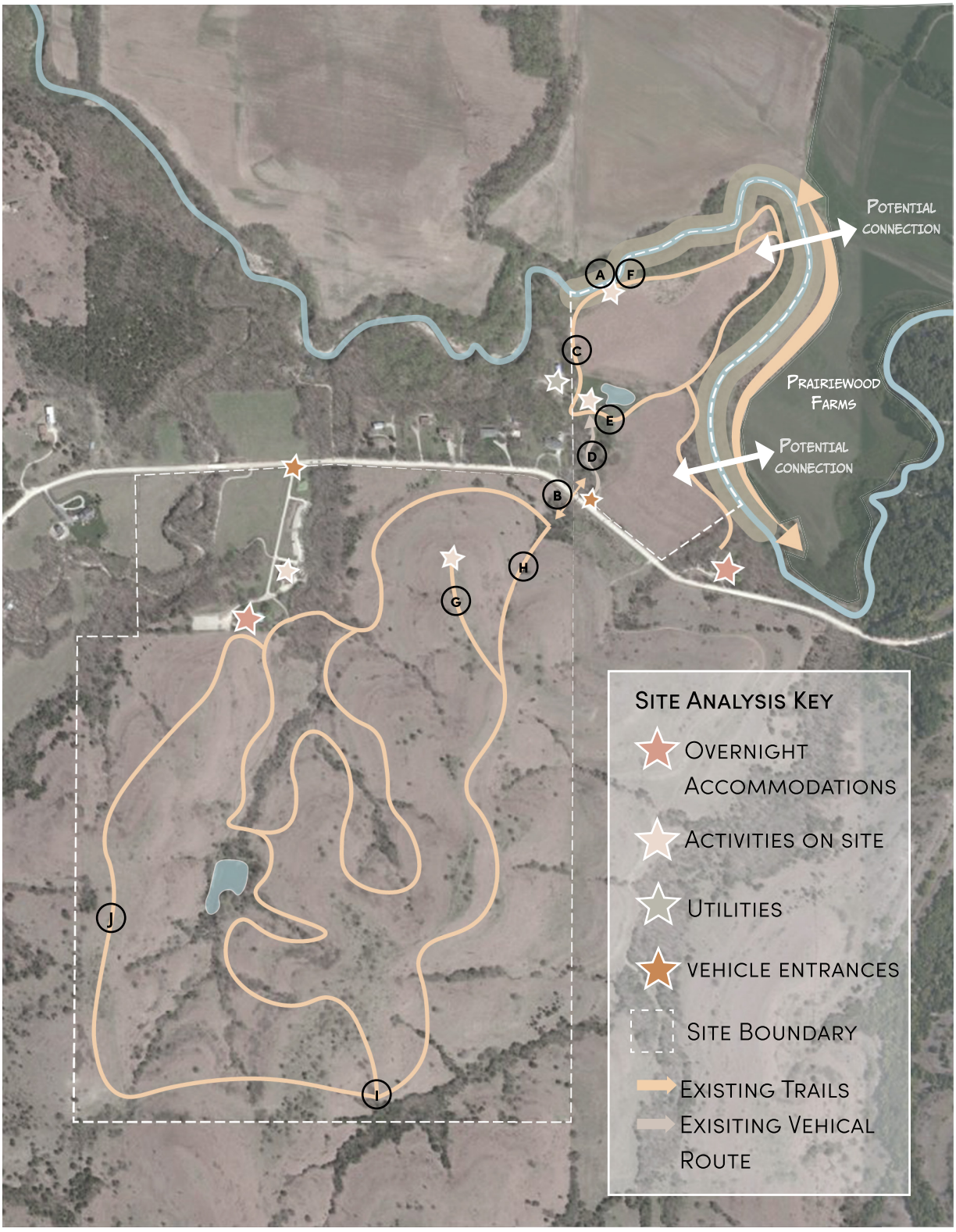


Figure 4.22. Site Observation Map (Franks, 2022). Source: (Google Earth, 2022).



Figure 4.23. Wildcat Creek Access (Hahn, 2021).

Observations:

1. Only point to access creek.

2. Steep embankments along the creek around the entire site.



Figure 4.24. Under Pass to Willis Prairie (Franks, 2021).

Observations:

3. Under pass to Willis Preserve.

Figure 4.25. Trail Along Prairie Conservation (Hahn, 2021).



Observations:

1. Tallgrass grows during spring and summer months.
2. Tallgrass is mowed during fall as hay.

Figure 4.26. Entry Drive at Prairiewood (Franks, 2021).



Observations:

1. Entry drive has heavy woodland patches blocking views to the site.



Figure 4.27. Tree Grove (Franks, 2021).

Observations:

1. Tree grove around Walnut Pond.



Figure 4.28. Wildcat Creek Access Point (Hahn, 2021).

Observations:

1. Steep slope down to creek

Figure 4.29. Trail on Willis Prairie at Prairiewood (Hahn, 2021).



Observations:

1. Willis Prairie is filled with a variety of vegetation textures.

Figure 4.30. Trail on Willis Prairie at Prairiewood (Franks, 2021).



Observations:

1. Trails on Willis Prairie have steep slopes



Figure 4.31. Framed View of the Flint Hills (Hahn, 2021).

Observations:

1. Trees create a framed view out to the Flint Hills



Figure 4.32. Views Walking on Willis Preserve Trail (Hahn, 2021).

Observations:

1. Endless views of the Flint Hills

Site Analysis

Mapping

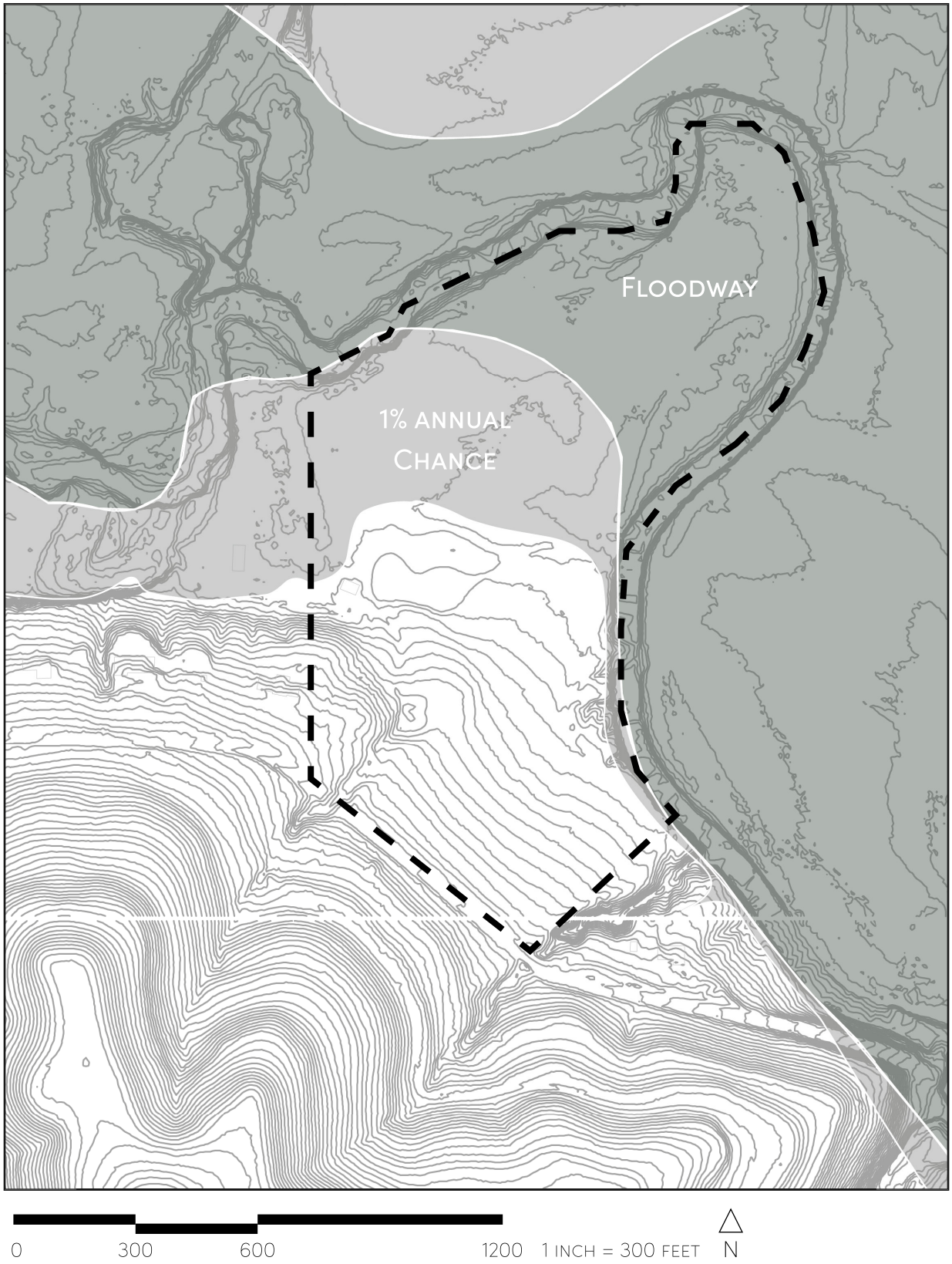


FIGURE 4.33. Flood Hazard Map (Franks, 2022). Source: (ArcGIS, 2022).

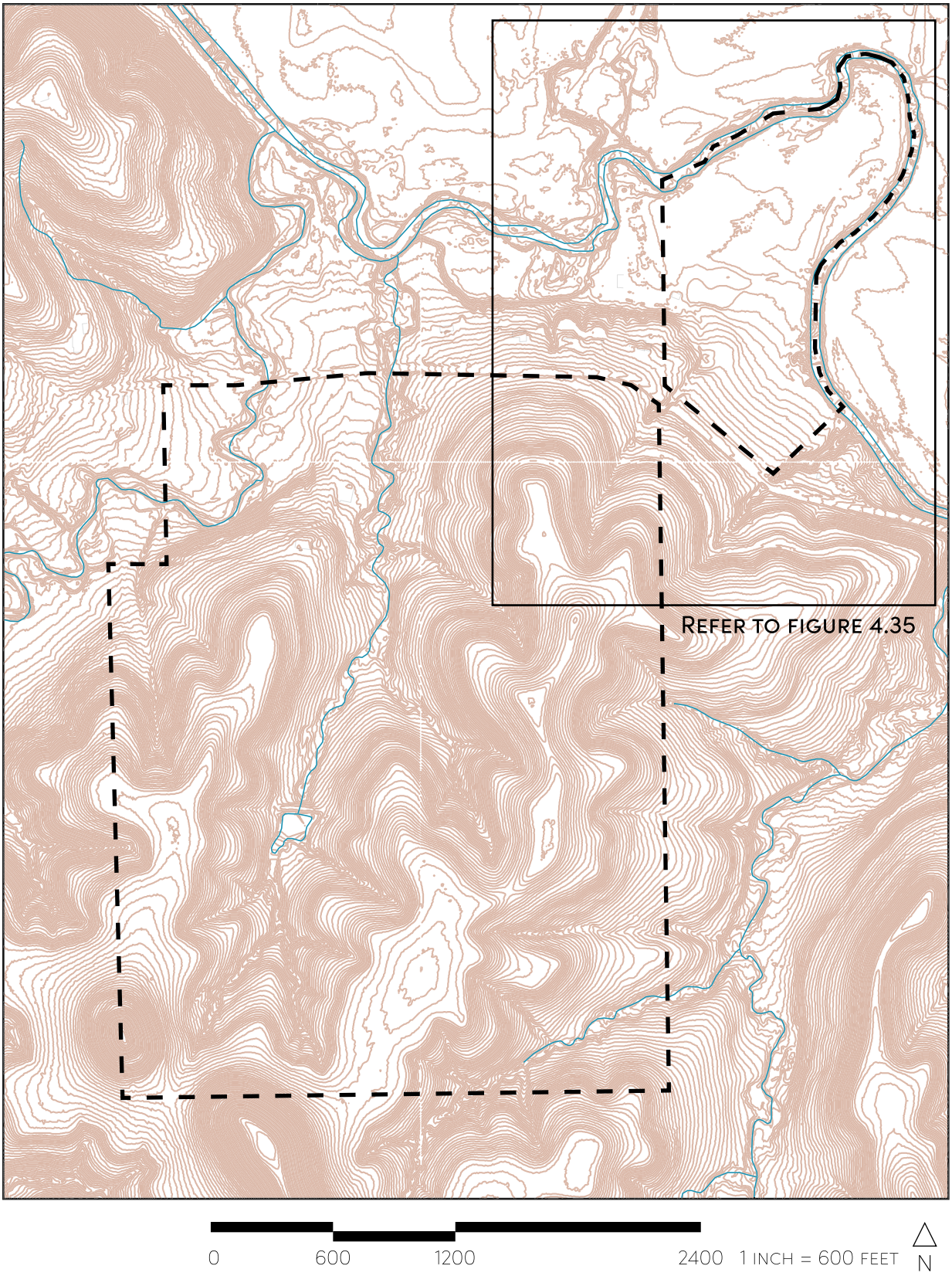


FIGURE 4.34. Prairiewood Property 2 Ft. Contours (Hahn, 2022). Source: (ArcGIS, 2022).

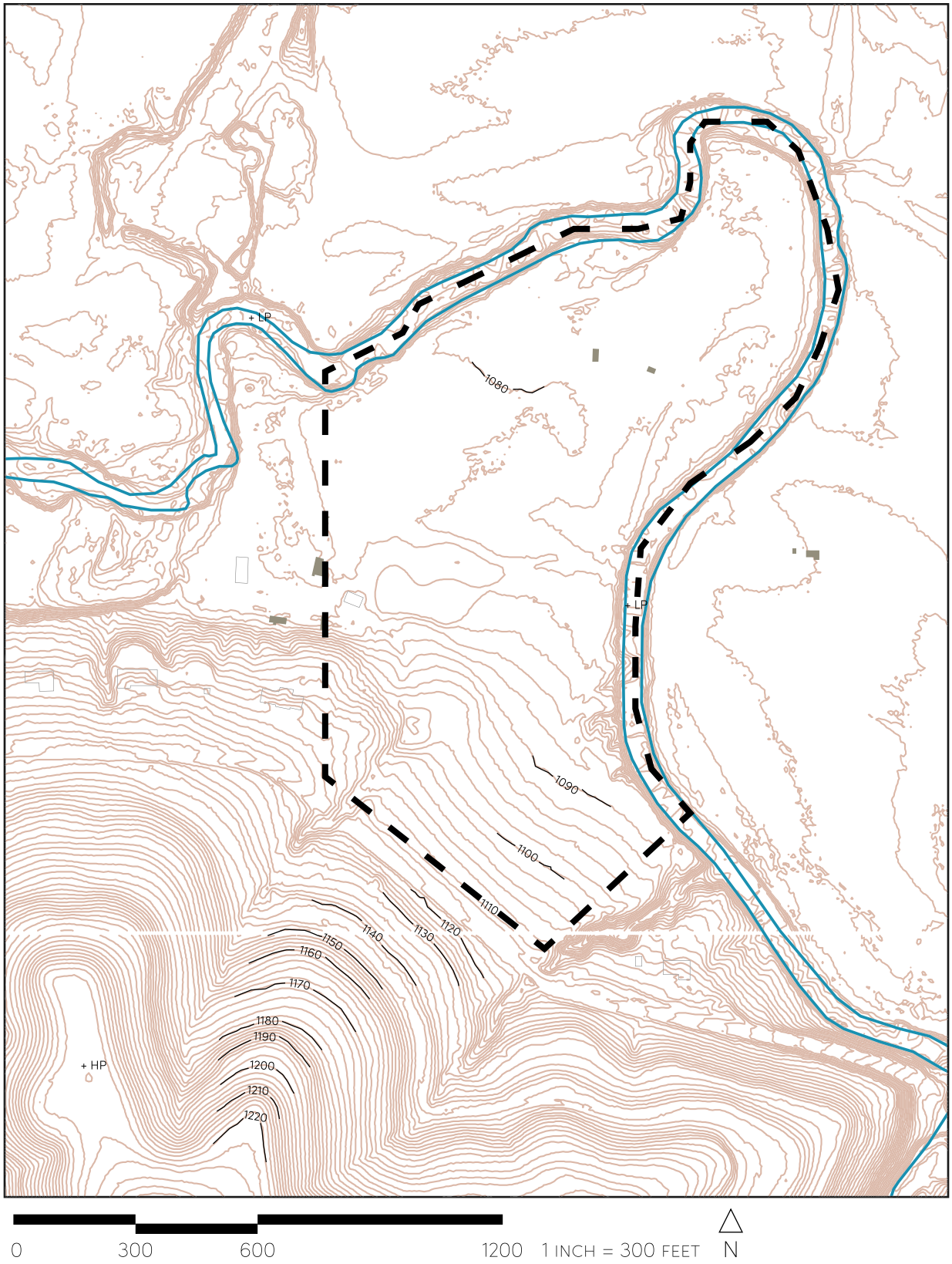


FIGURE 4.35. Site 2 Ft. Contour Map (Hahn, 2022). Source: (ArcGIS, 2022).

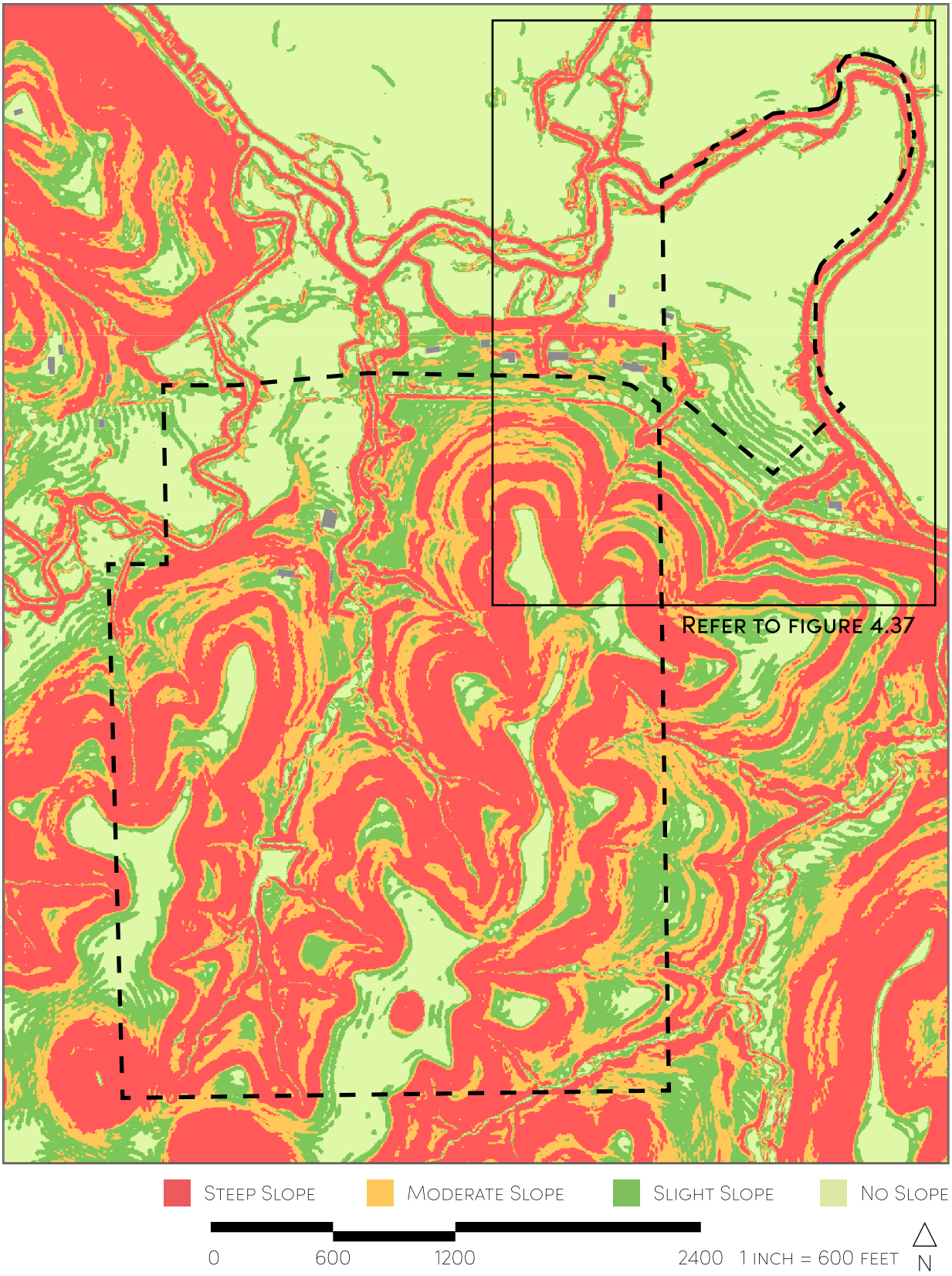


FIGURE 4.36. Prairiewood Property Slope Map (Hahn, 2022). Source: (ArcGIS, 2022).

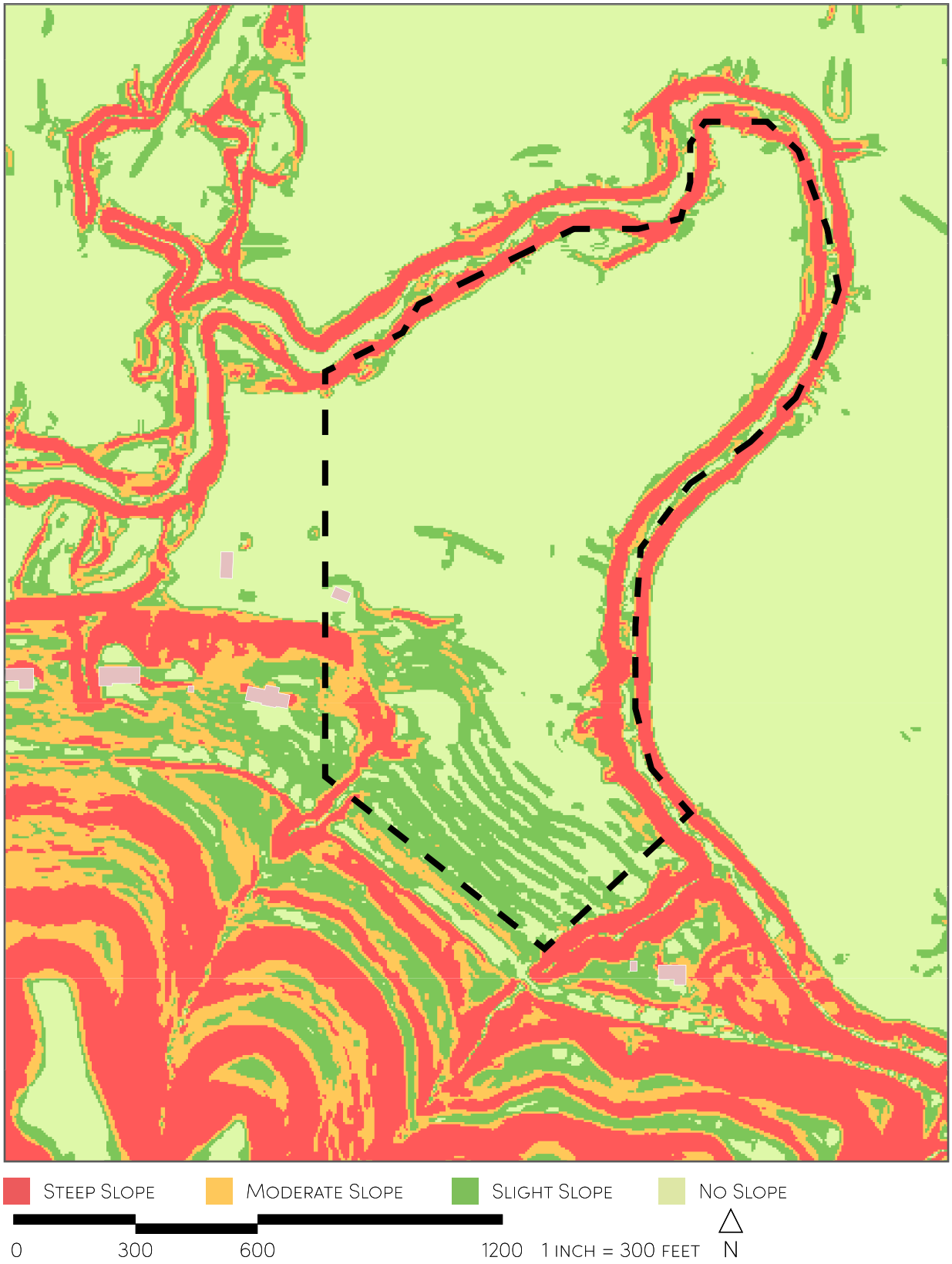


Figure 4.37. Site Slope Map (Hahn, 2022). Source: (ArcGIS, 2022).

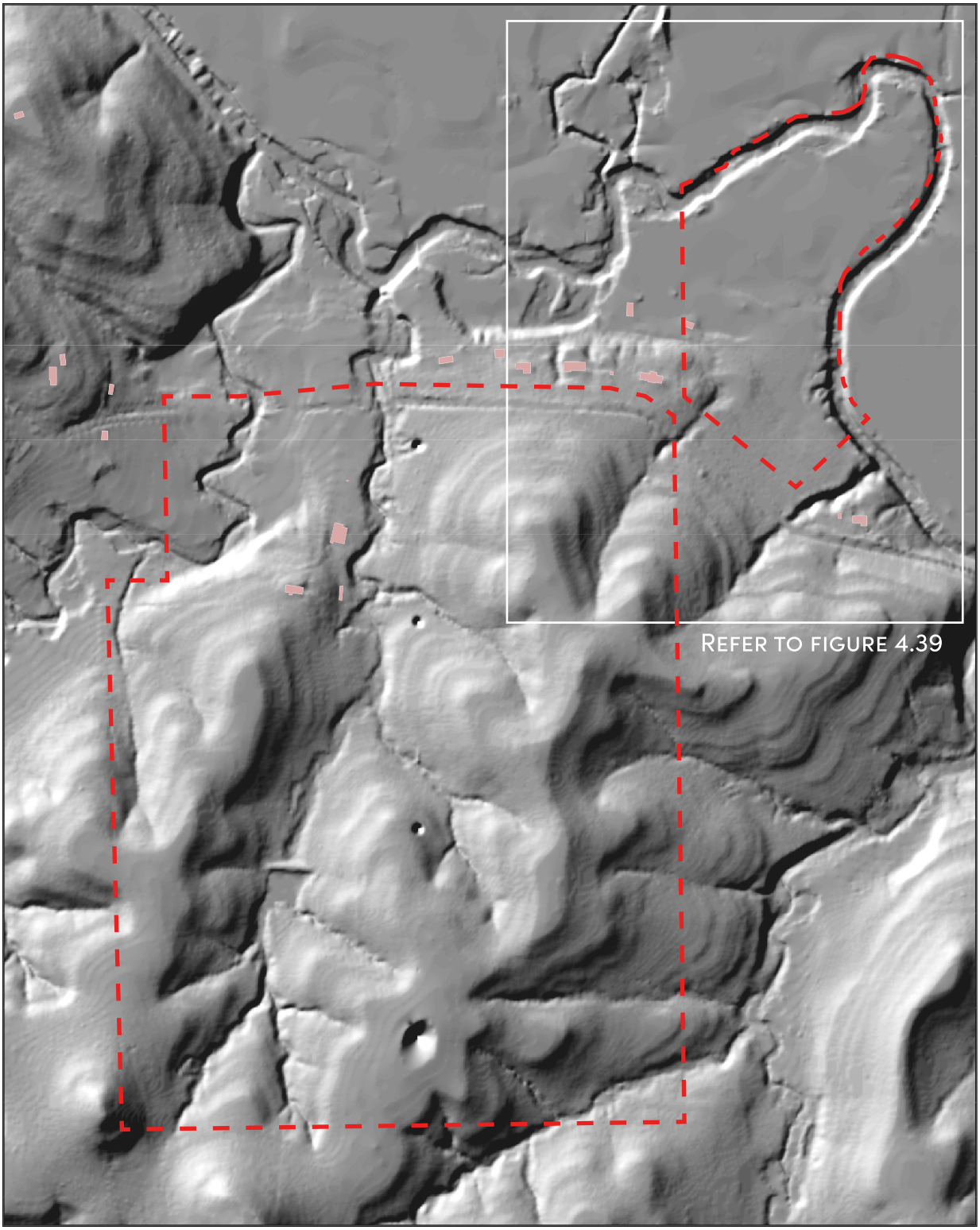


FIGURE 4.38. Prairiewood Property Hill Shade Map (Hahn, 2022). Source: (ArcGIS, 2022).

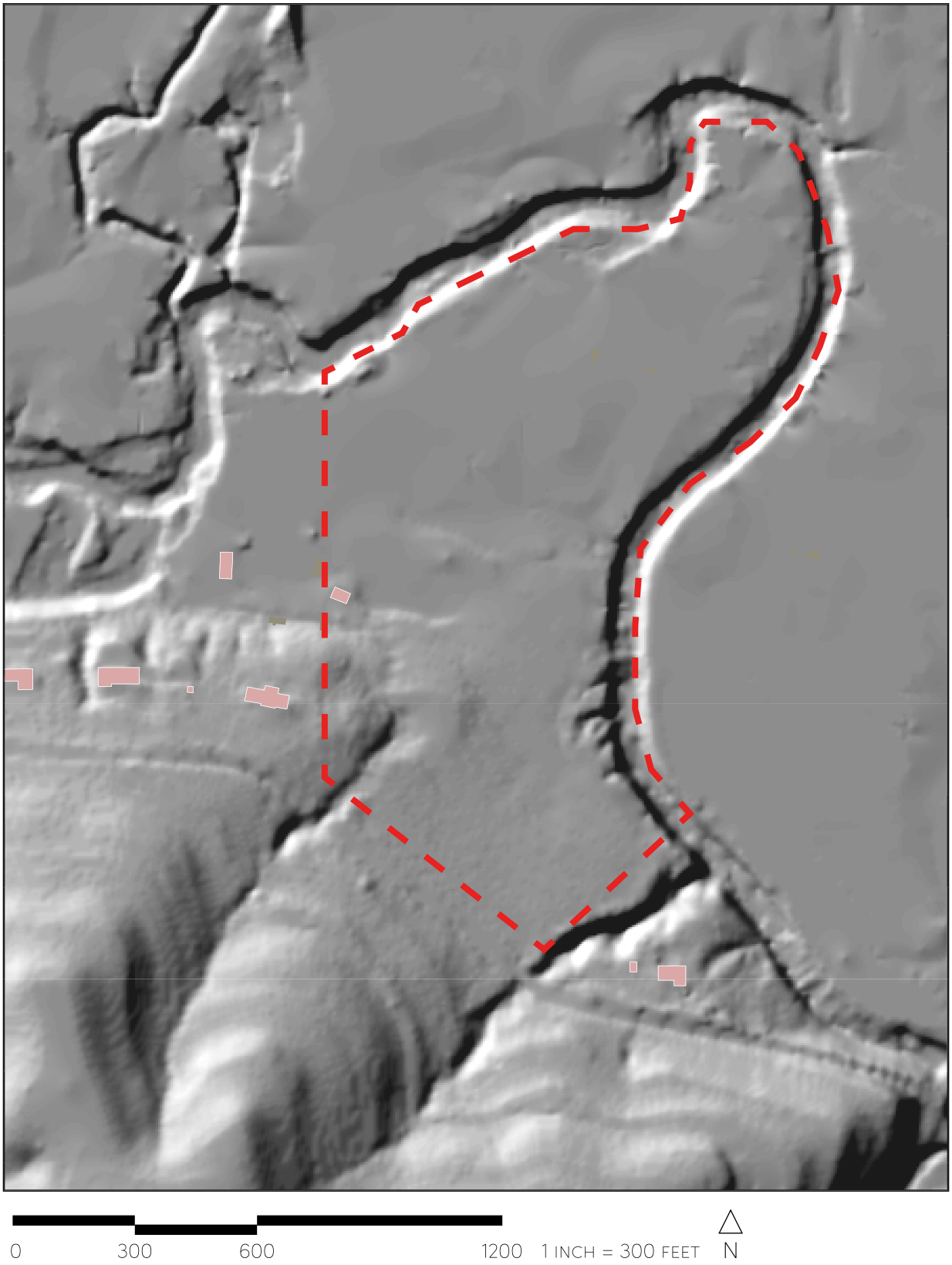


FIGURE 4.39. Site Hill Shade Map (Hahn, 2022). Source: (ArcGIS, 2022).



Figure 4.40. Prairiewood Property Canopy Map (Franks, 2022). Source: (ArcGIS, 2022).



FIGURE 4.41. Site Canopy Map (Franks, 2022). Source: (ArcGIS, 2022).

Site Analysis Takeaways

The Prairiewood site has great potential to be a notable attraction for ecotourism in the Flint Hills. Some of the main takeaways to consider when designing include:

1. Feeling of being immersed into the Flint Hills.

2. Prairiewood has a beautiful natural identity.

3. There is strong potential for the site to provide for ecotourist activities because of the surrounding nature characteristics.

Expanded in Chapter 5

4. Notable viewing areas to the rest of the Flint Hills exist on the property.

5. Existing trails have potential to provide for interpretive experiences for users.

6. Existing trails' directional signage is underdeveloped and can be improved.



Figure 4.42. View of Project Site from Willis Preserve (Franks, 2021).

05

Design Proposal

Design Application

Ecotourism in the Flint Hills

Ecotourism is the branch of tourism that explores the surrounding environment and calls for a mission of conservation and preservation of the landscape. Ecotourists are able to experience first-hand what the surrounding environment has to offer, while also acting appropriately towards it. To encourage visitors at Prairiewood, three itineraries were created based on the Flint Hills characteristics that were explored in Chapter 2 of the literature review: outdoor recreation, history, and entertainment. These itineraries offer programming ideas for those who want to explore scenic K-177 when visiting the region, allowing them to see what the Flint Hills have to offer. Each itinerary is organized by menus that are based on different towns in the Flint Hills. Visitors are able to freely choose which ones to participate in based on their own desires and interests.



Figure 5.1. The Flint Hills (Hahn, 2008).

Itineraries

Itinerary 1

Get Active in the Flint Hills

(Outdoor Recreation)

Itinerary 2

Adventure Back in Time to the Early Flint Hills

(History)

Itinerary 3

Entertainment in the Flint Hills

(Entertainment)

Activity	Itinerary 1	Itinerary 2	Itinerary 3
Hiking			
Konza Prairie	X		
Flint Hills Trail State Park	X		
Tallgrass Prairie National Preserve	X	X	
PrairyArt Path (Matfield Station)	X		X
Water Activities			
Tuttle Creek Reservoir	X		
Council Grove Marina	X		
Chase State Fishing Lake	X		
Animal / Nature Observation			
Konza Scenic Overlook	X		
Schrumpf Hill Scenic Overlook	X		
Flint Hills National Wildlife Refuge	X		
Plumlee Buffalo Ranch	X	X	
Historic Interpretation			
Goodnow House		X	
Self-Guided Tour: Santa Fa Trail		X	
Trail Days Historic Site		X	
Knute Rockne Memorial Monument		X	
Pioneer Bluffs (Matfield Station)		X	
Kansas Flint Hills Quilt Trail		X	
Stone Observation			
Native Stone Byway (Stone Fences)		X	
Stone Bridge		X	
Goodnow House (Stone Structure)		X	
Tallgrass Prairie National Preserve (Stone Barn)	X	X	
Tallgrass Prairie National Preserve (Stone Wall)	X	X	
Pioneer Bluffs (Stone Wall)		X	
Matfield Green (Stone Wall)		X	
Art			
Santa Fa Trail Mural		X	X
Symphony in the Flint Hills			X
Flint Hills Gallery		X	X
Flint Hills Books			X
PrairyArt Path (Matfield Station)	X		X
Blue Sage Gallery			X
Contemporary Observation			
Aggieville			X
Sunset Zoo	X		X
Liquid Art Winery			X
Prairie Fire Winery			X
Grove Gardens (Council Grove)	X		X
The Flint Hills Discovery Center		X	X
Kansas State University Beach Museum			X
Oz Museum			X

Figure 5.2. Itinerary Activities Chart (Franks, 2022).

Itinerary 1

Get Active in the Flint Hills

Hiking · Animal Observation · Water Activities

Refer to Figure 5.4

① Tuttle Creek Reservoir (Manhattan)

② Konza Prairie (Manhattan) *

Nature Trail (**~2.6 Miles; 2 hours**)

Kings Creek Loop (**~4.6 Miles; 3.5 hours**)

Goodwin Hill Loop (**~6.2 Miles; 4.5 hours**)

③ Plumlee Buffalo Ranch (Alma)

④ Konza Scenic Overlook

Itinerary Menu 1A

Refer to Figure 5.5

⑤ Flint Hills Trail State Park (~89 Miles) (Council Grove) *

⑥ Council Grove Marina (Council Grove)

Itinerary Menu 1B

Refer to Figure 5.6

⑦ Tallgrass Prairie National Preserve (Strong City) *

Southwind Nature Trail (**~1.75 Miles**)

Bottomland Nature Trail

Main Trail (**~ 0.75 Mile**)

Short Trail (**~ 0.5 Mile**)

Fox Creek Hiking Trail (**~ 6.1 Miles**)

⑧ Chase State Fishing Lake (Cottonwood Falls)

⑨ Schrumpf Hill Scenic Overlook (Cottonwood Falls)

⑩ Matfield Station (Matfield Green)

PrairyArt Path (**~1 Mile**)

Itinerary Menu 1C

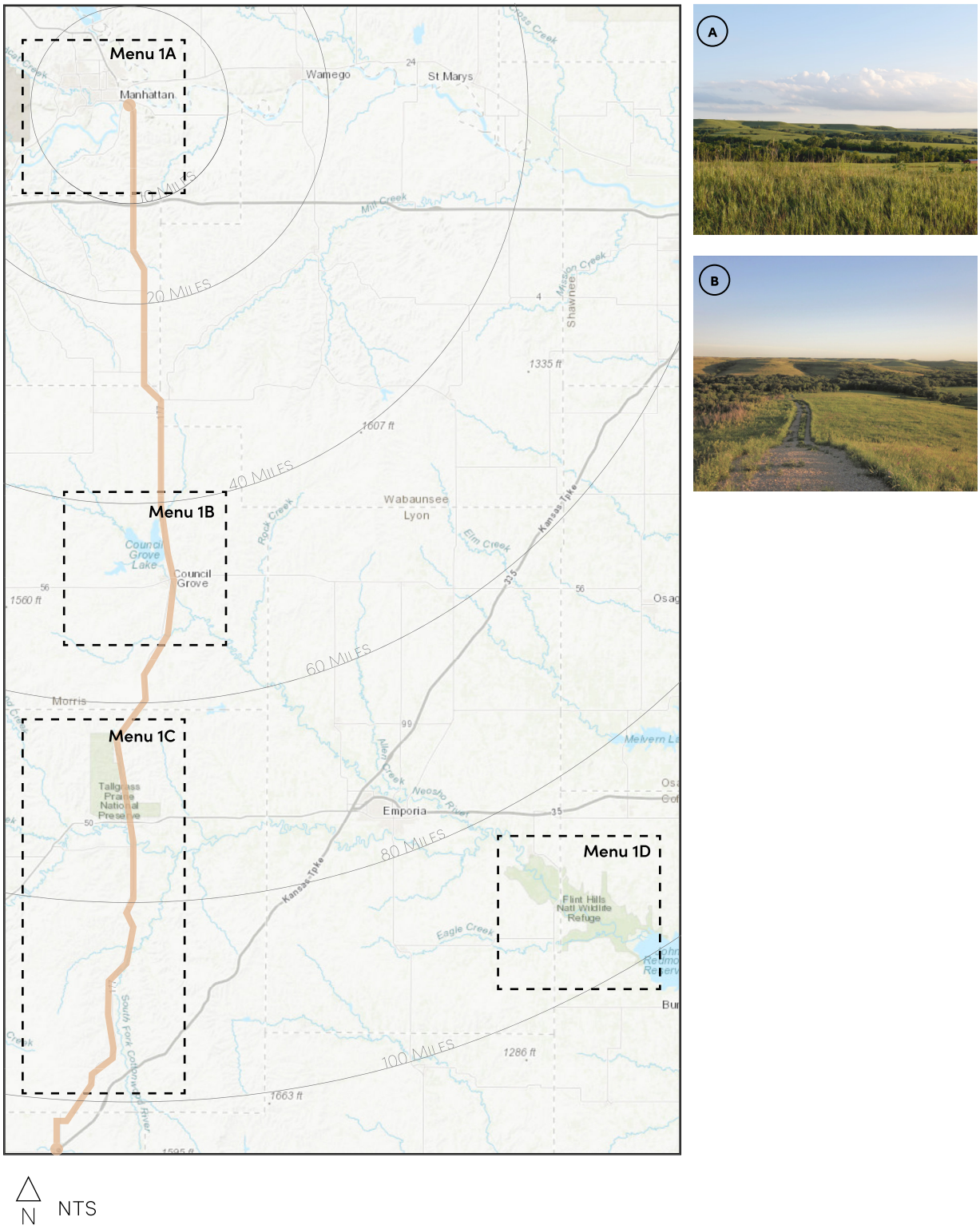
Refer to Figure 5.7

⑪ Flint Hills National Wildlife Refuge (Hartford)

Itinerary Menu 1D

***** Consider your own physical ability to aprticipate in

Itinerary 1 — Overview Map



N NTS

Figure 5.3. Get Active in the Flint Hills Itinerary Map (Franks, 2022).
Source: (ArcGIS, 2022).

Menu 1A Map

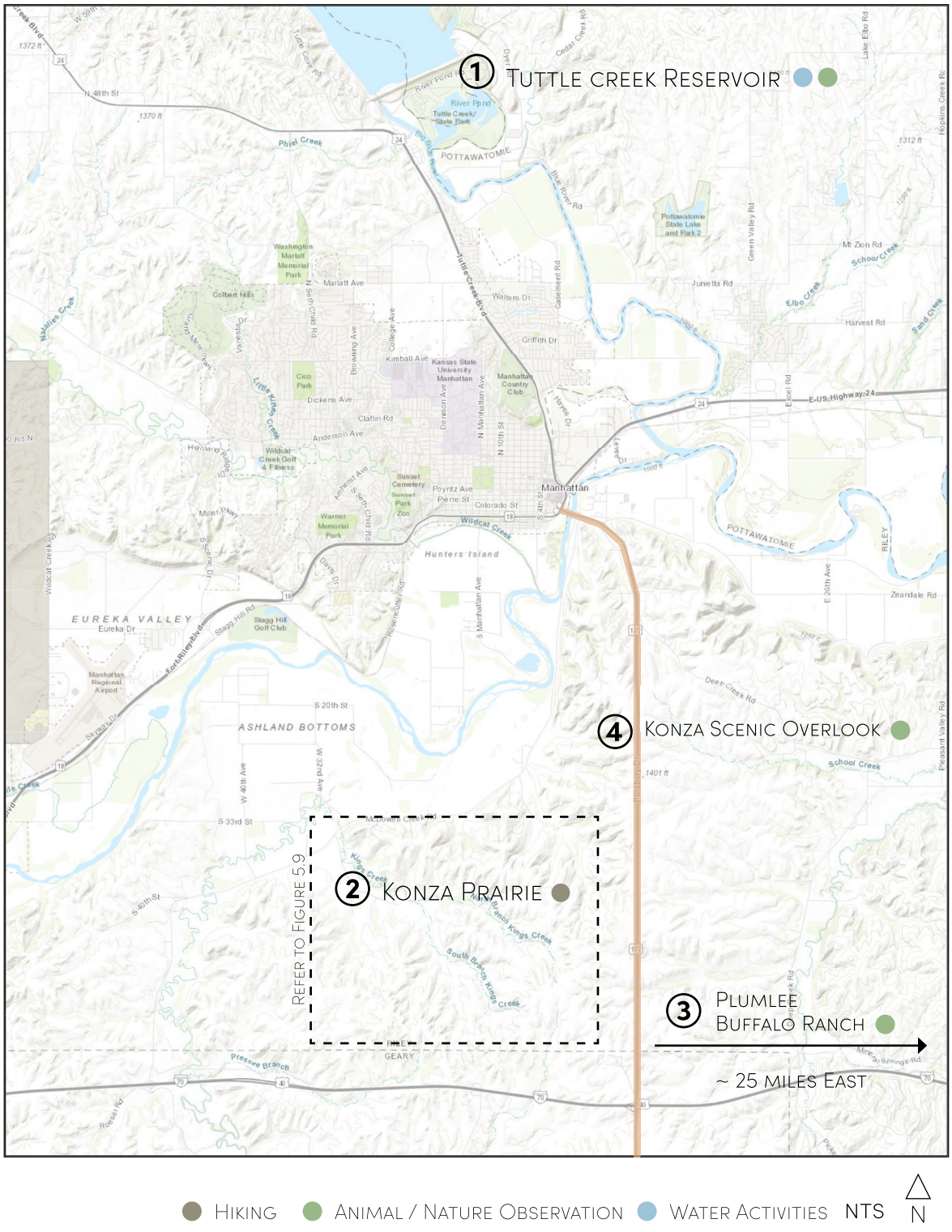


Figure 5.4. Manhattan Map (Franks, 2022). Source: (ArcGIS, 2022).

Menu 1B Map

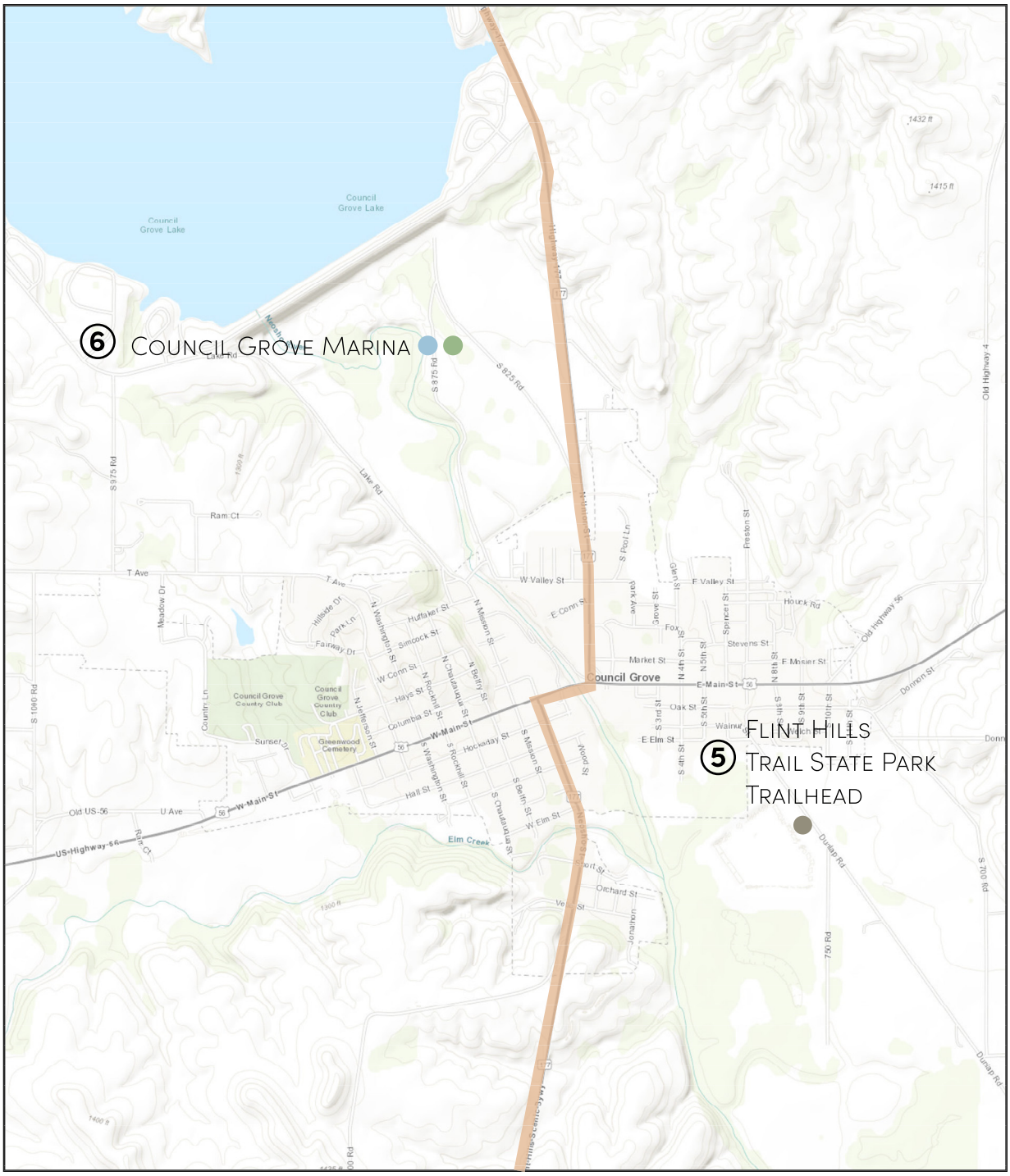


Figure 5.5. Council Grove Map (Franks, 2022). Source: (ArcGIS, 2022).

Menu 1C Map

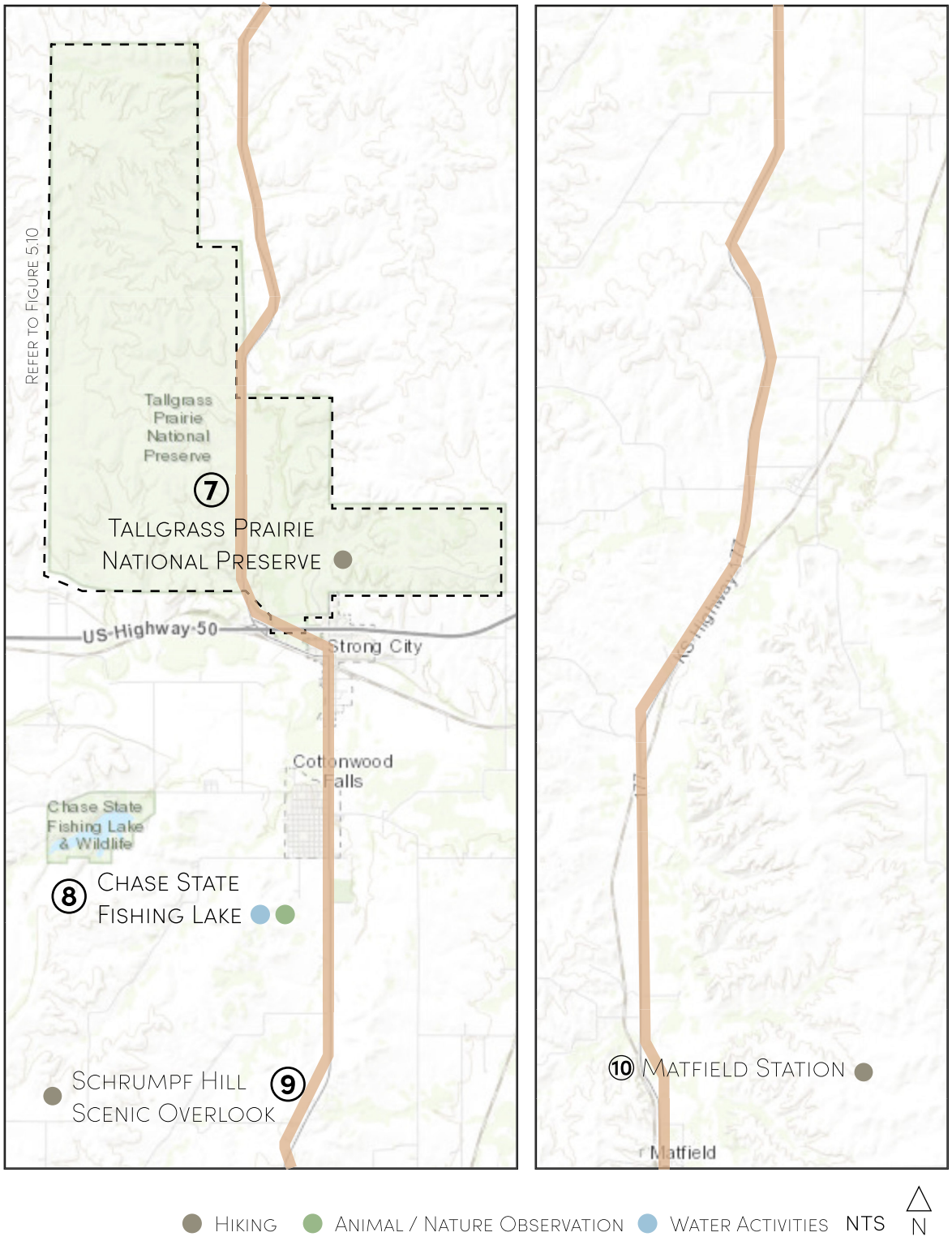


Figure 5.6. Strong City, Cottonwood Falls, and Matfield Green Map (Franks, 2022). Source: (ArcGIS, 2022).

Menu 1D Map

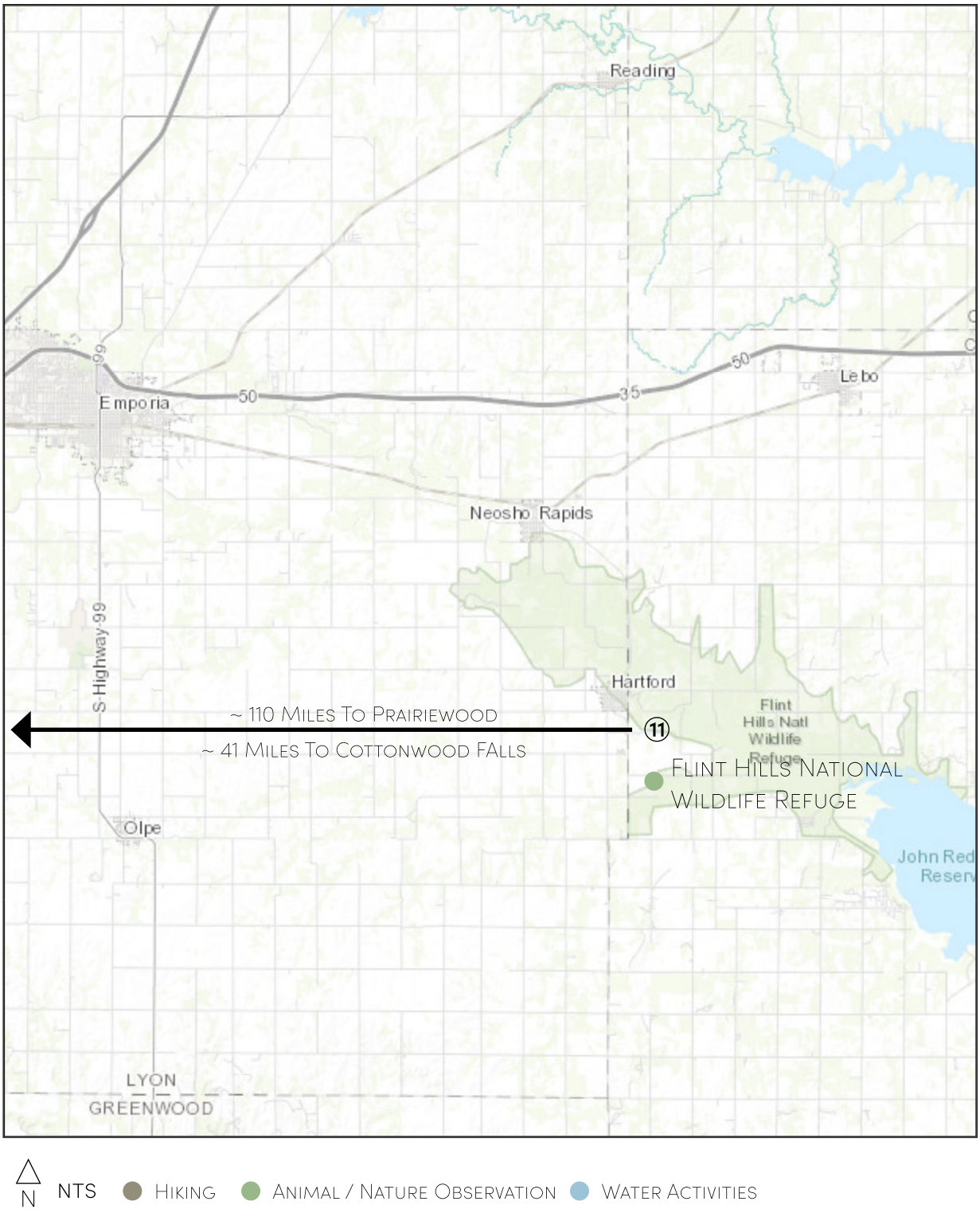
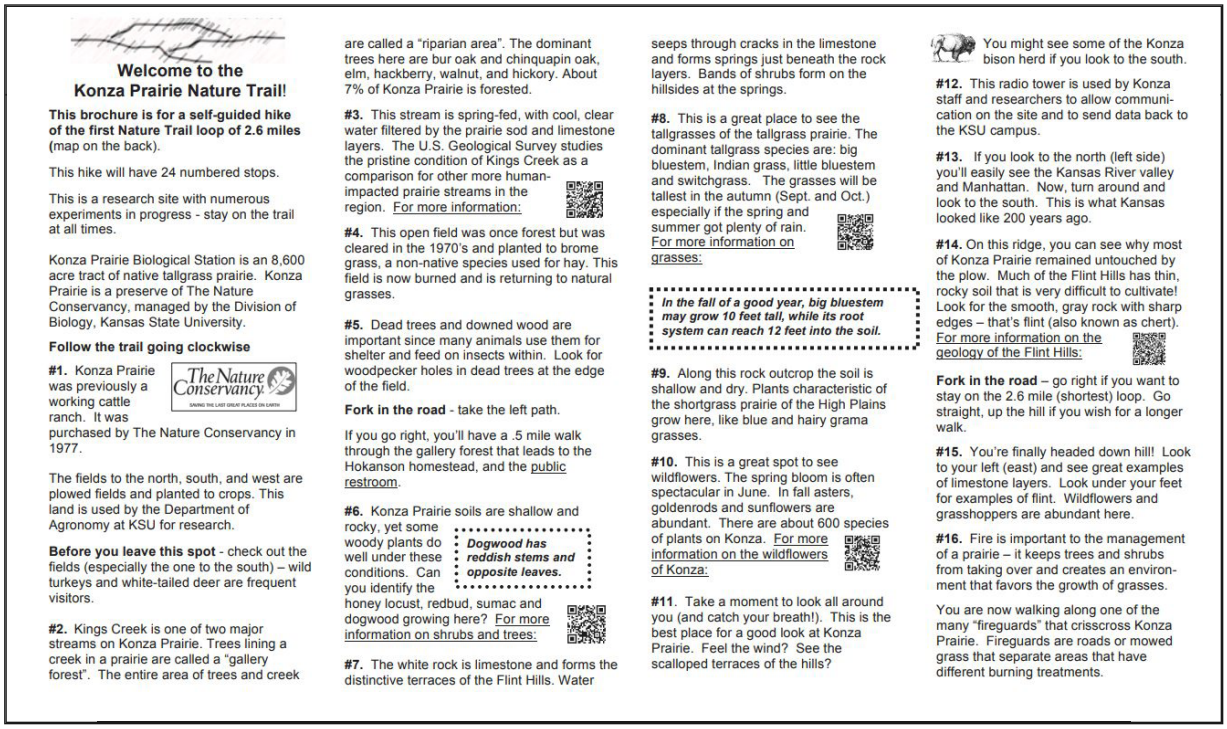


Figure 5.7. Hartford Map (Franks, 2022). Source: (ArcGIS, 2022).

Konza Prairie Trail Information



Welcome to the Konza Prairie Nature Trail!

This brochure is for a self-guided hike of the first Nature Trail loop of 2.6 miles (map on the back).

This hike will have 24 numbered stops.

This is a research site with numerous experiments in progress - stay on the trail at all times.

Konza Prairie Biological Station is an 8,600 acre tract of native tallgrass prairie. Konza Prairie is a preserve of The Nature Conservancy, managed by the Division of Biology, Kansas State University.

Follow the trail going clockwise

#1. Konza Prairie was previously a working cattle ranch. It was purchased by The Nature Conservancy in 1977.

The fields to the north, south, and west are plowed fields and planted to crops. This land is used by the Department of Agronomy at KSU for research.

Before you leave this spot - check out the fields (especially the one to the south) – wild turkeys and white-tailed deer are frequent visitors.

#2. Kings Creek is one of two major streams on Konza Prairie. Trees lining a creek in a prairie are called a "gallery forest". The entire area of trees and creek are called a "riparian area". The dominant trees here are bur oak and chinquapin oak, elm, hackberry, walnut, and hickory. About 7% of Konza Prairie is forested.

#3. This stream is spring-fed, with cool, clear water filtered by the prairie sod and limestone layers. The U.S. Geological Survey studies the pristine condition of Kings Creek as a comparison for other more human-impacted prairie streams in the region. For more information:

#4. This open field was once forest but was cleared in the 1970's and planted to brome grass, a non-native species used for hay. This field is now burned and is returning to natural grasses.

#5. Dead trees and downed wood are important since many animals use them for shelter and feed on insects within. Look for woodpecker holes in dead trees at the edge of the field.

Fork in the road - take the left path.

If you go right, you'll have a .5 mile walk through the gallery forest that leads to the Hokanson homestead, and the public restroom.

#6. Konza Prairie soils are shallow and rocky, yet some woody plants do well under these conditions. Can you identify the honey locust, redbud, sumac and dogwood growing here? For more information on shrubs and trees:

Dogwood has reddish stems and opposite leaves.

#7. The white rock is limestone and forms the distinctive terraces of the Flint Hills. Water seeps through cracks in the limestone and forms springs just beneath the rock layers. Bands of shrubs form on the hillsides at the springs.

#8. This is a great place to see the tallgrasses of the tallgrass prairie. The dominant tallgrass species are: big bluestem, Indian grass, little bluestem and switchgrass. The grasses will be tallest in the autumn (Sept. and Oct.) especially if the spring and summer got plenty of rain. For more information on grasses:

In the fall of a good year, big bluestem may grow 10 feet tall, while its root system can reach 12 feet into the soil.

#9. Along this rock outcrop the soil is shallow and dry. Plants characteristic of the shortgrass prairie of the High Plains grow here, like blue and hairy grama grasses.

#10. This is a great spot to see wildflowers. The spring bloom is often spectacular in June. In fall asters, goldenrods and sunflowers are abundant. There are about 600 species of plants on Konza. For more information on the wildflowers of Konza:

#11. Take a moment to look all around you (and catch your breath!). This is the best place for a good look at Konza Prairie. Feel the wind? See the scalloped terraces of the hills?

You might see some of the Konza bison herd if you look to the south.

#12. This radio tower is used by Konza staff and researchers to allow communication on the site and to send data back to the KSU campus.

#13. If you look to the north (left side) you'll easily see the Kansas River valley and Manhattan. Now, turn around and look to the south. This is what Kansas looked like 200 years ago.

#14. On this ridge, you can see why most of Konza Prairie remained untouched by the plow. Much of the Flint Hills has thin, rocky soil that is very difficult to cultivate! Look for the smooth, gray rock with sharp edges – that's flint (also known as chert). For more information on the geology of the Flint Hills:

Fork in the road – go right if you want to stay on the 2.6 mile (shortest) loop. Go straight, up the hill if you wish for a longer walk.

#15. You're finally headed down hill! Look to your left (east) and see great examples of limestone layers. Look under your feet for examples of flint. Wildflowers and grasshoppers are abundant here.

#16. Fire is important to the management of a prairie – it keeps trees and shrubs from taking over and creates an environment that favors the growth of grasses.

You are now walking along one of the many "fireguards" that crisscross Konza Prairie. Fireguards are roads or mowed grass that separate areas that have different burning treatments.

Trail →

Turn right at the next sign! If you go straight expect to go down a steep hill.

#17. This rock ledge is formed by an outcropping of the "Cottonwood limestone", which provided the traditional building material in this part of the Flint Hills.



Along this section of the trail it's common to find collared lizards. You'll need to be quiet and stealthy! Look for them basking on a sunny rock.

#18. Look in the brushy areas for woodrat nests ("middens"). These large collections of sticks and leaves can be quite impressive. The solitary woodrat may have more than one home under rock ledges or on the ground in shrubby areas.

#19. Public Restroom. In front of you is the composting toilet, built in 2001 for your convenience. Please observe the rules for use inside. The trail turns to the right here.

#20. Down the hill to your left is what remains of the original **Hokanson Homestead** built by Swedish settlers in 1878.

The trees on your right are American elm and hackberry. The strong winds have bent and broken these trees and summer heat and drought have slowed their growth.

#21. The trees here are chinquapin oaks, one of two species of oak that occur in the gallery forest. Note the shape of the leaves and the smooth acorn caps.

#22. The large tree seen here was a bur oak. A fungal infection recently killed this stately specimen. It now has a second life as a home for many insects and worms that help to decompose this tree. Expect to see some woodpeckers here.

#23. Cottonwoods and willows indicate the presence of water. A perennial spring issues from the rock outcrop above these trees. Early settlers knew that where cottonwoods grew, water could be found. Perhaps this is the reason that the cottonwood was chosen as the Kansas state tree.

#24. You are at the end of the Nature Trail loop. Continue left to the parking lot.

Funded in part by a grant from the Geary County Convention & Visitors Bureau.

Please take only photos and leave only footprints. No pets allowed!

Please recycle this guide – leave it at the kiosk for others to use.

$2.00 Trail fee – pays for trail maintenance and upkeep.

More information:

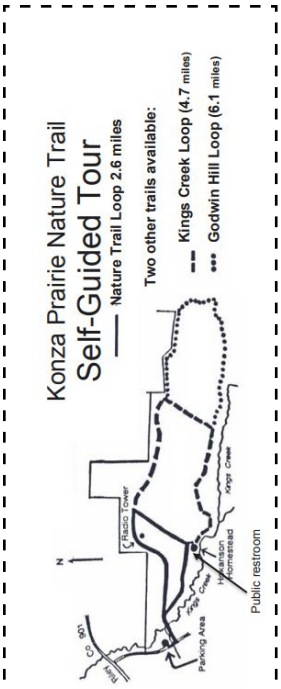
Konza Environmental Education Program
http://keep.konza.ksu.edu

Friends of Konza Prairie
http://keep.konza.ksu.edu/friends/

Konza Prairie Docent (Volunteers) Program
http://keep.konza.ksu.edu/docents/

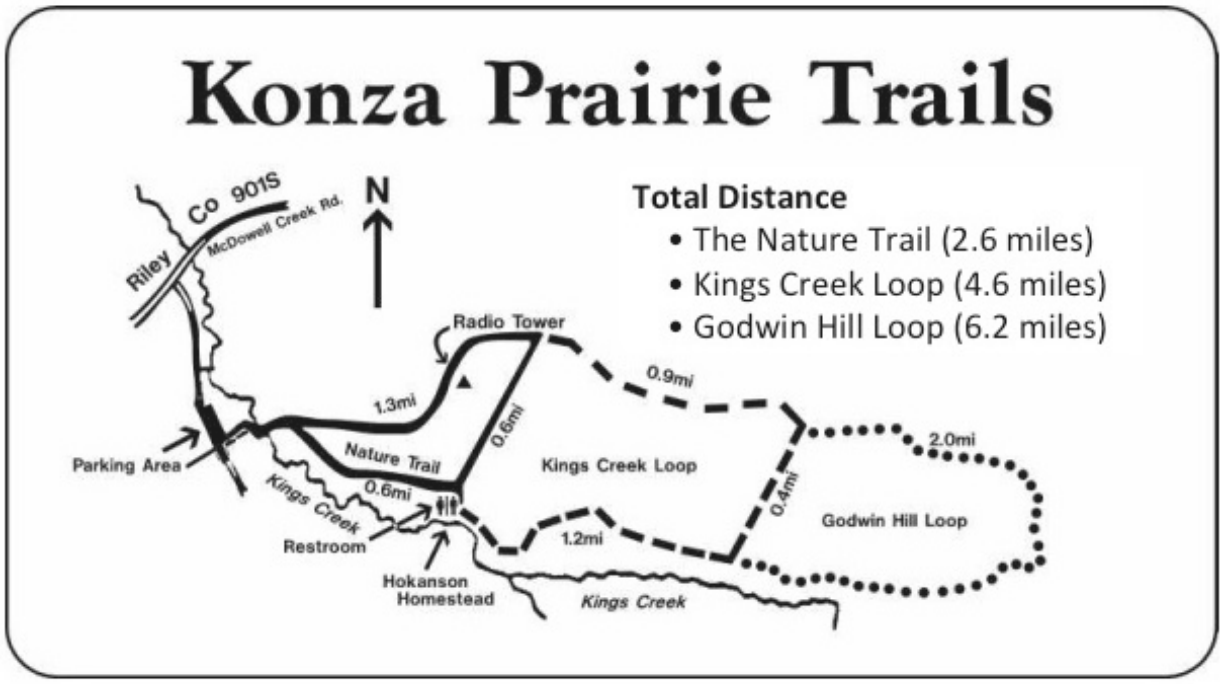
Konza Prairie Management
http://kpbs.konza.ksu.edu/mission.html

Research on Konza Prairie
http://kpbs.konza.ksu.edu/currentresearch.html



REFER TO FIGURE 5.9

Figure 5.8. Konza Prairie Self-Guided Tour Guide (Konza Prairie Biological Research Station, 2022).



For more information, refer to the Konza Environmental Education Program at

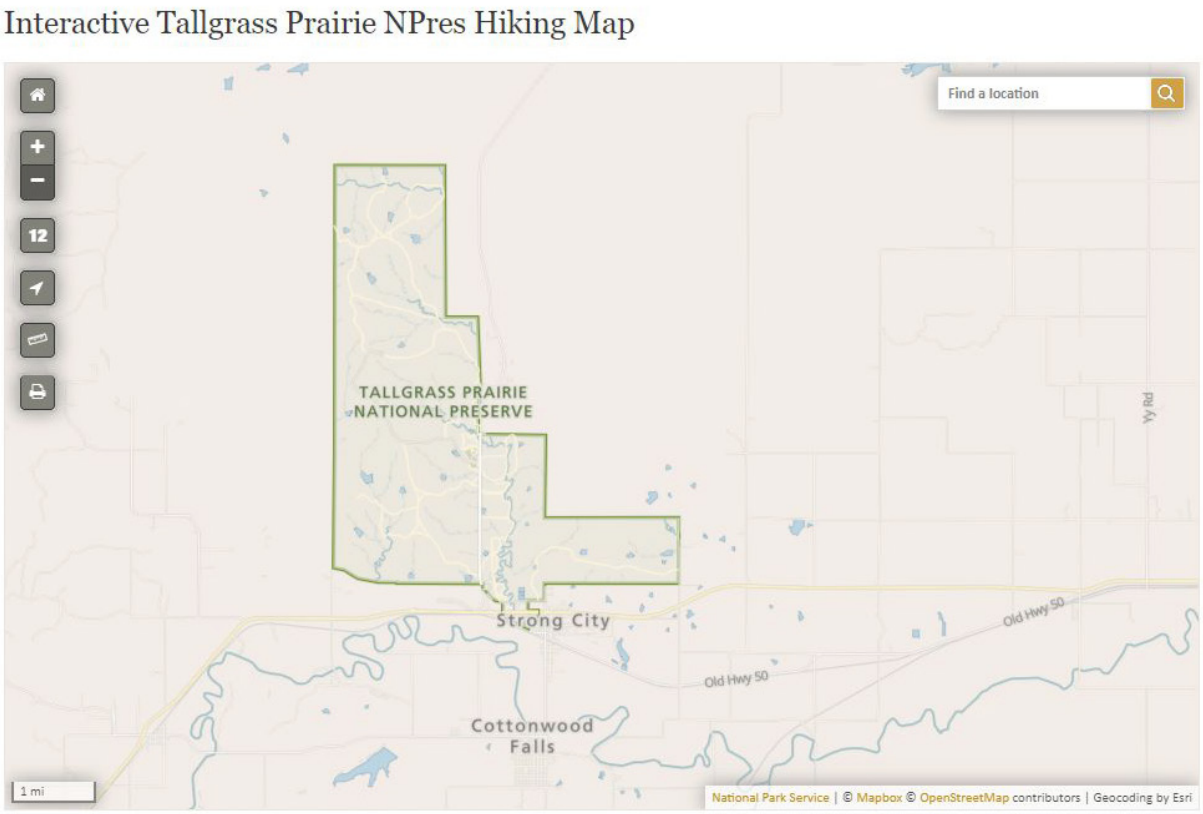
https://keep.konza.k-state.edu/visit/

Figure 5.9. Konza Prairie Trail Map (Konza Prairie Biological Research Station, 2022).

Tallgrass Prairie National Preserve Information



Figure 5.10. Tallgrass Prairie Trail Map (National Park Service, 2022).



For more information, refer to the National Park Service at

https://www.nps.gov/tapr/index.htm

https://www.nps.gov/articles/000/tallgrass-prairie-npres-hiking-map.htm

Figure 5.11. Tallgrass Prairie Interactive Trail Map (National Park Service, 2022).

Itinerary 2

Adventure Back in Time to the Early Flint Hills

● Historic Site ● Stone History

Refer to Figure 5.14

① Goodnow House State Historic Site (Manhattan) ● ●

② Kansas Flint Hills Quilt Trail (Alma) ●

③ Native Stone Byway (Alma) ●

Itinerary Menu 2A

Refer to Figure 5.15

④ Self-Guided Tour: Santa Fe Trail (Council Grove) ●

i. Kaw Mission Historic Site and Museum
ii. Hays House Restaurant
iii. Old Bell Monument
iv. 1861 Terwillger Home
v. Hermit's Cave
vi. Cottage House Hotel
vii. The M-K-T "Katy" Depot
viii. Cowboy Jail
ix. Kaw Nation Allegawaho Memorial Heritage Park
x. The Council Oak
xi. Post Office Oak
xii. Custer Elm

⑤ Trail Days Historic Site (Council Grove) ●

Itinerary Menu 2B

Refer to Figure 5.16

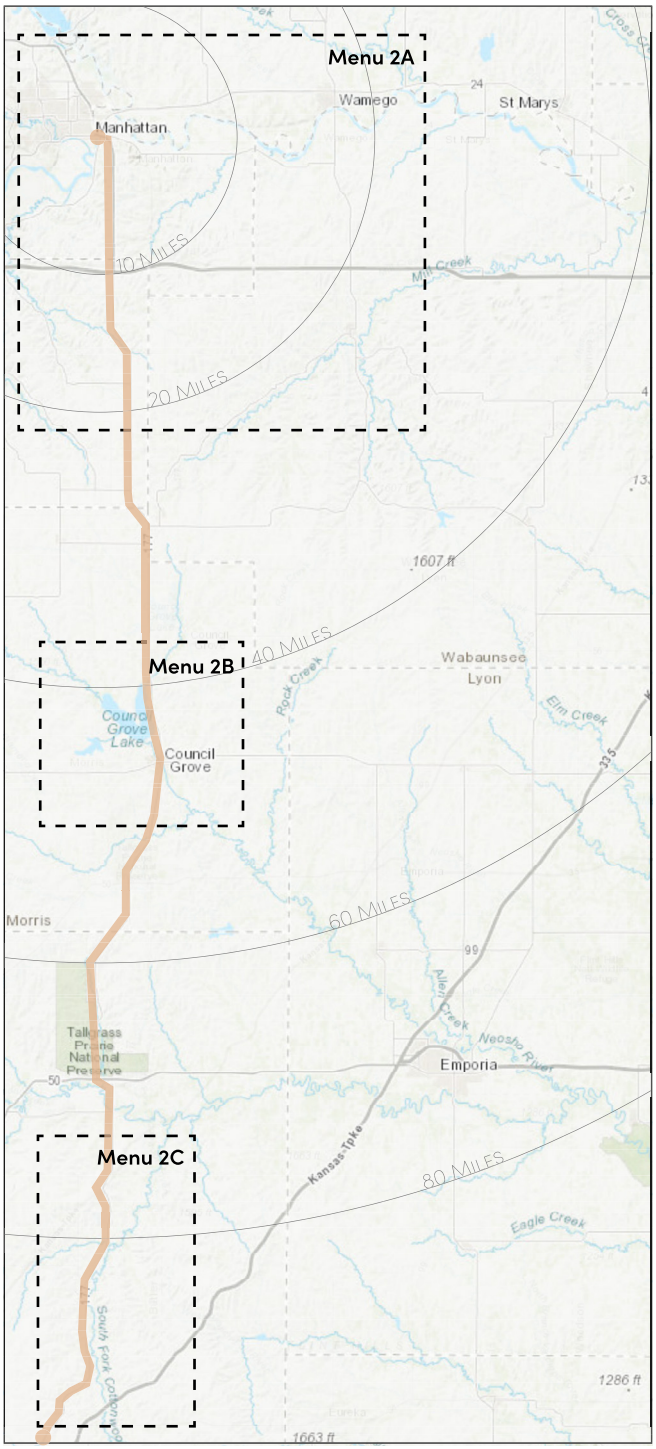
⑥ Stone Bridge (Clements) ●

⑦ Knute Rockne Memorial Monument (Matfield Green) ●

⑧ Pioneer Bluffs (Matfield Green) ●

Itinerary Menu 2C

Itinerary 2 — Overview Map









N NTS

Figure 5.12. Adventure Back in Time to the Early Flint Hills Itinerary Map (Franks, 2022). Source: (ArcGIS, 2022).

Menu 2A Map Overview

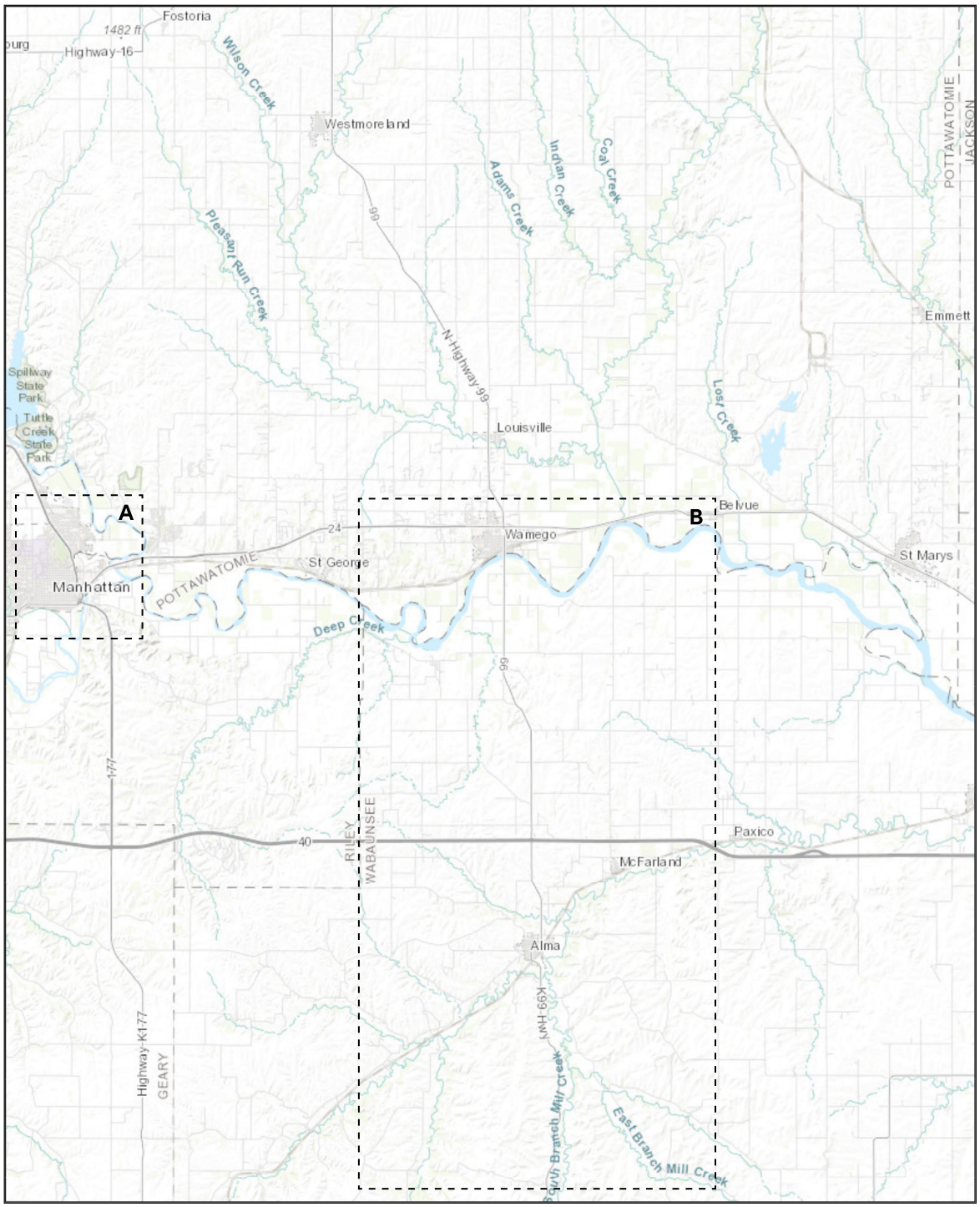


Figure 5.13. Manhattan and Alma Map (Franks, 2022). Source: (ArcGIS, 2022).

Menu 2A Map Enlargement

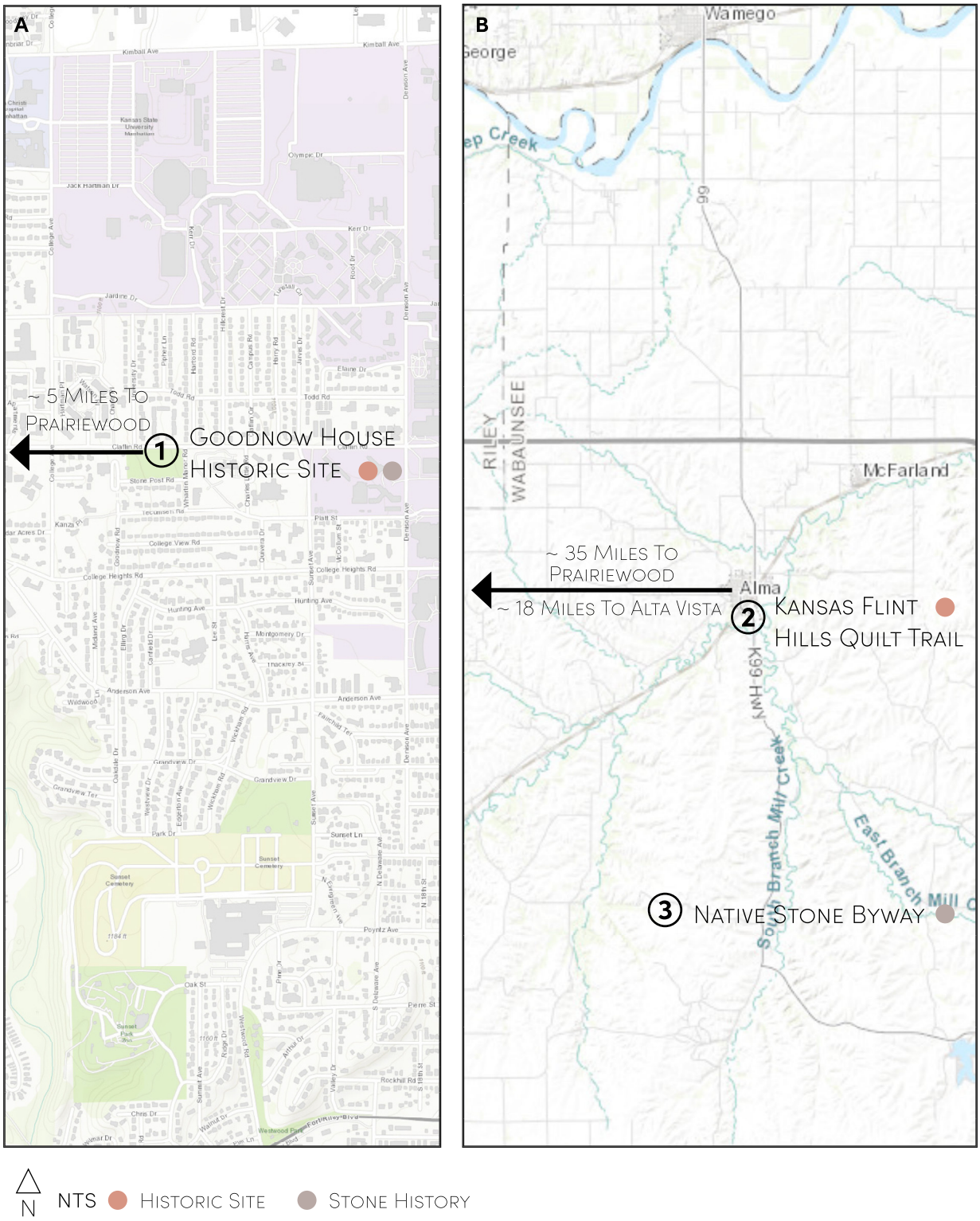


Figure 5.14. Manhattan and Alma Town Scale Map (Franks, 2022). Source: (ArcGIS, 2022).

Menu 2B Map

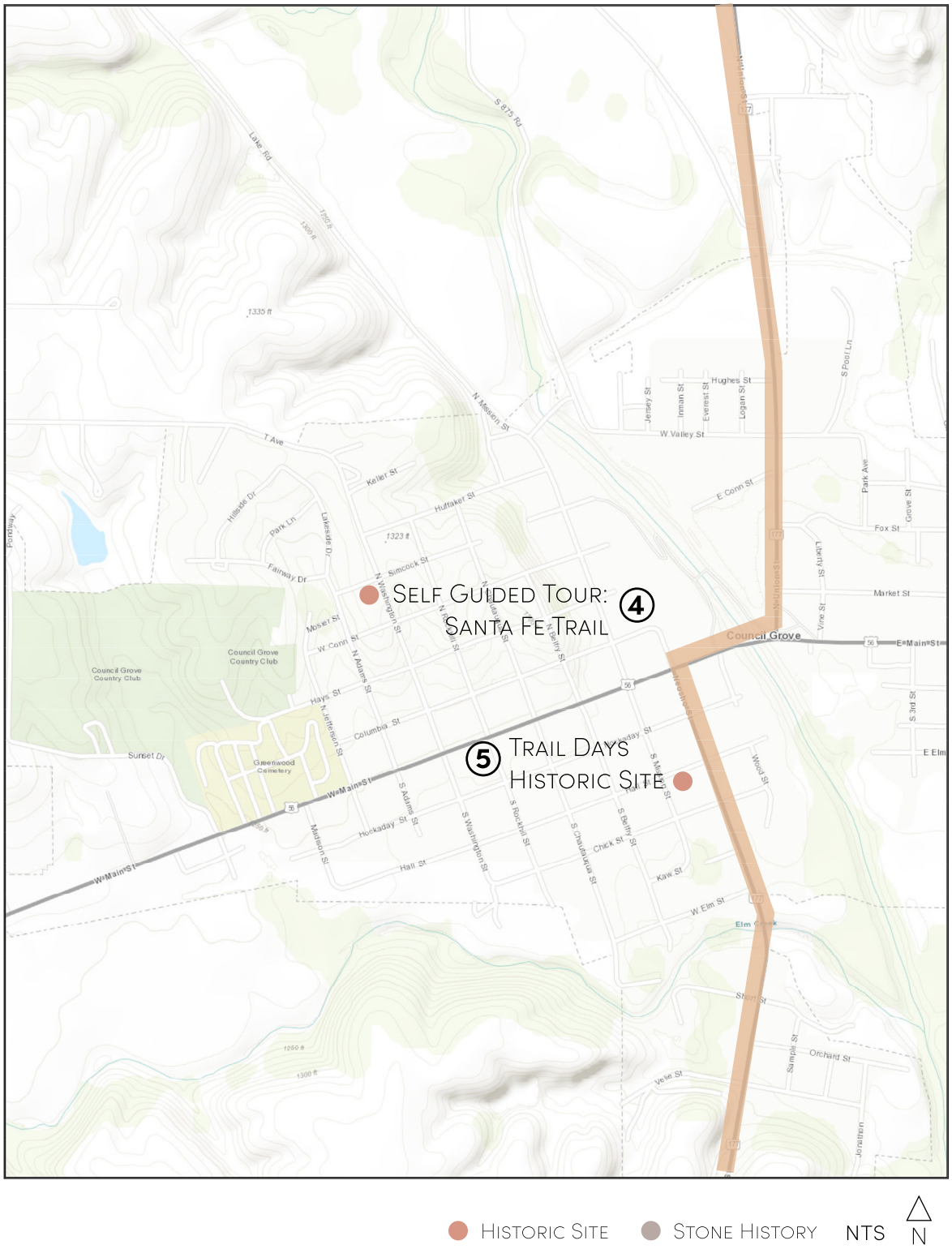


Figure 5.15. Council Grove Map (Franks, 2022). Source: (ArcGIS, 2022).

Menu 2C Map

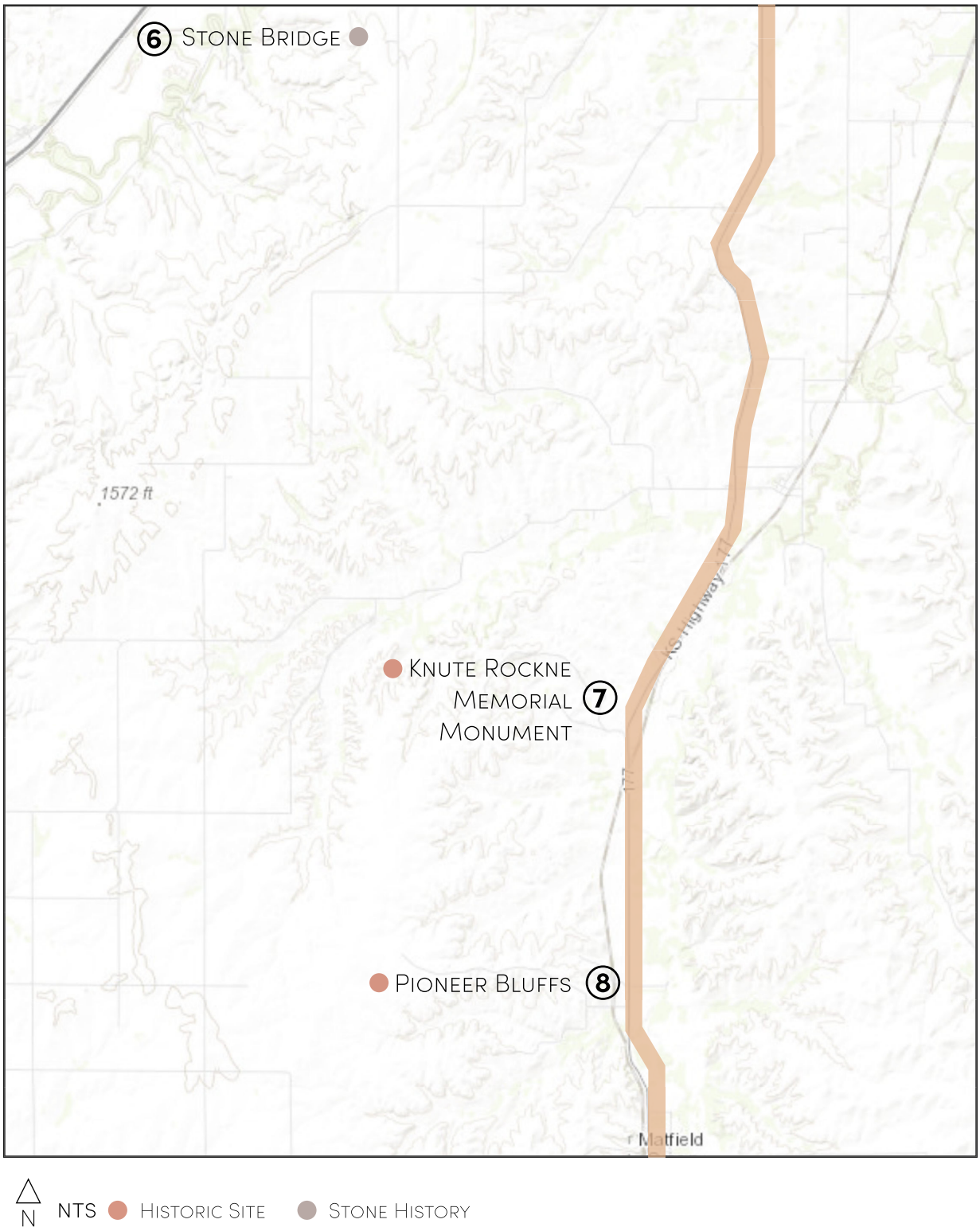
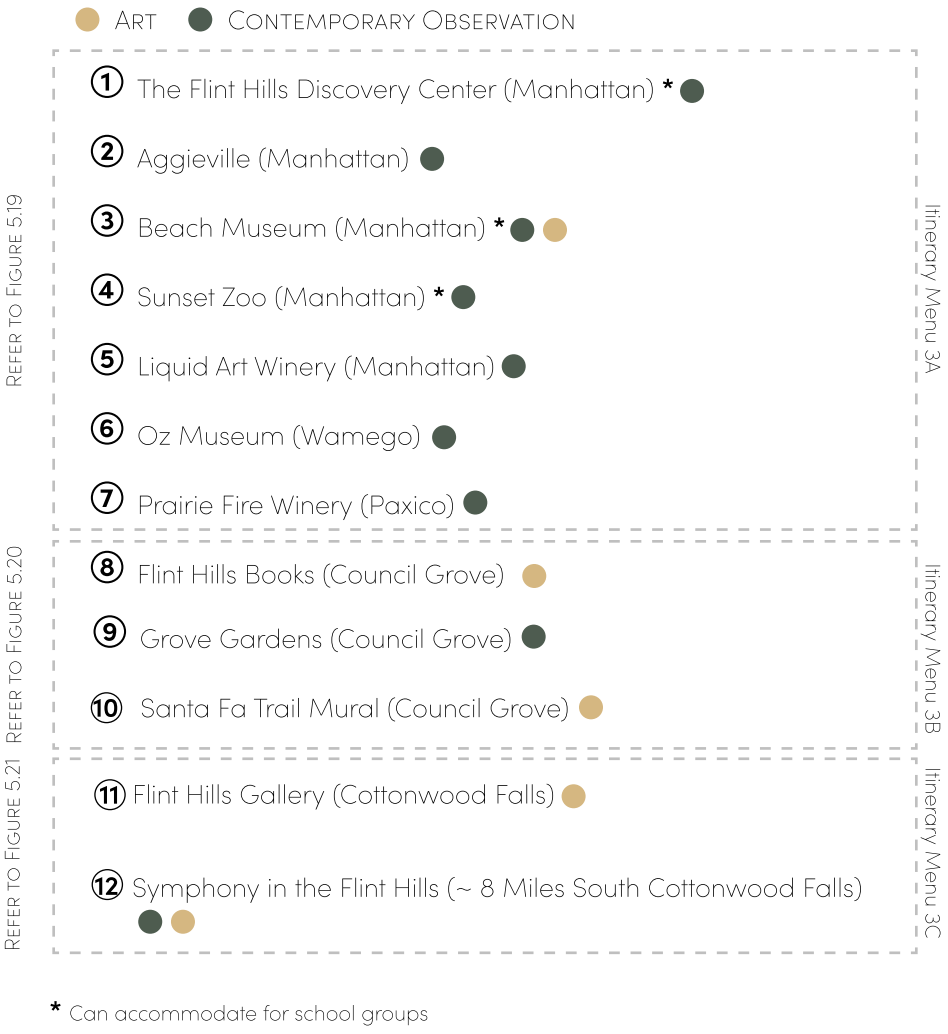


Figure 5.16. Matfield Green Map (Franks, 2022). Source: (ArcGIS, 2022).

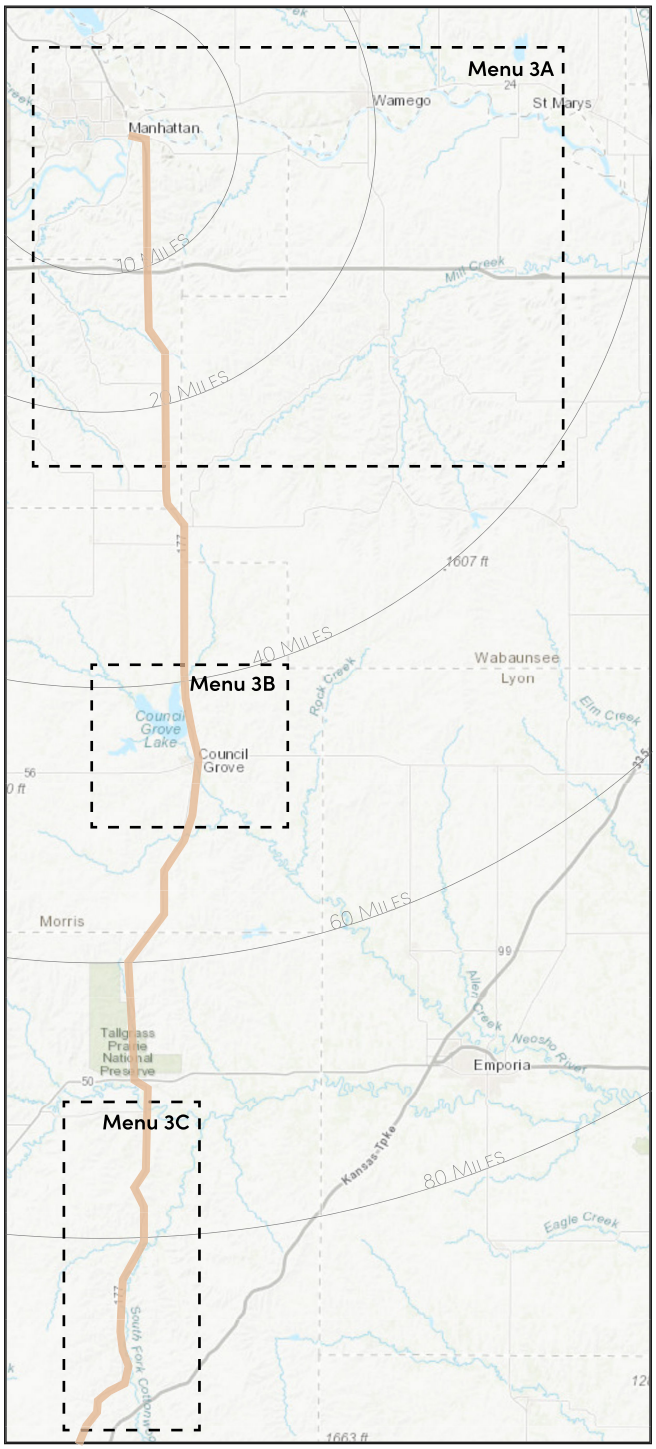
Itinerary 3

Entertainment in the Flint Hills



* Can accommodate for school groups

Itinerary 3 — Overview Map









N NTS

Figure 5.17. Entertainment in the Flint Hills Itinerary Map (Franks, 2022). Source: (ArcGIS, 2022).

Menu 3A Map Overview

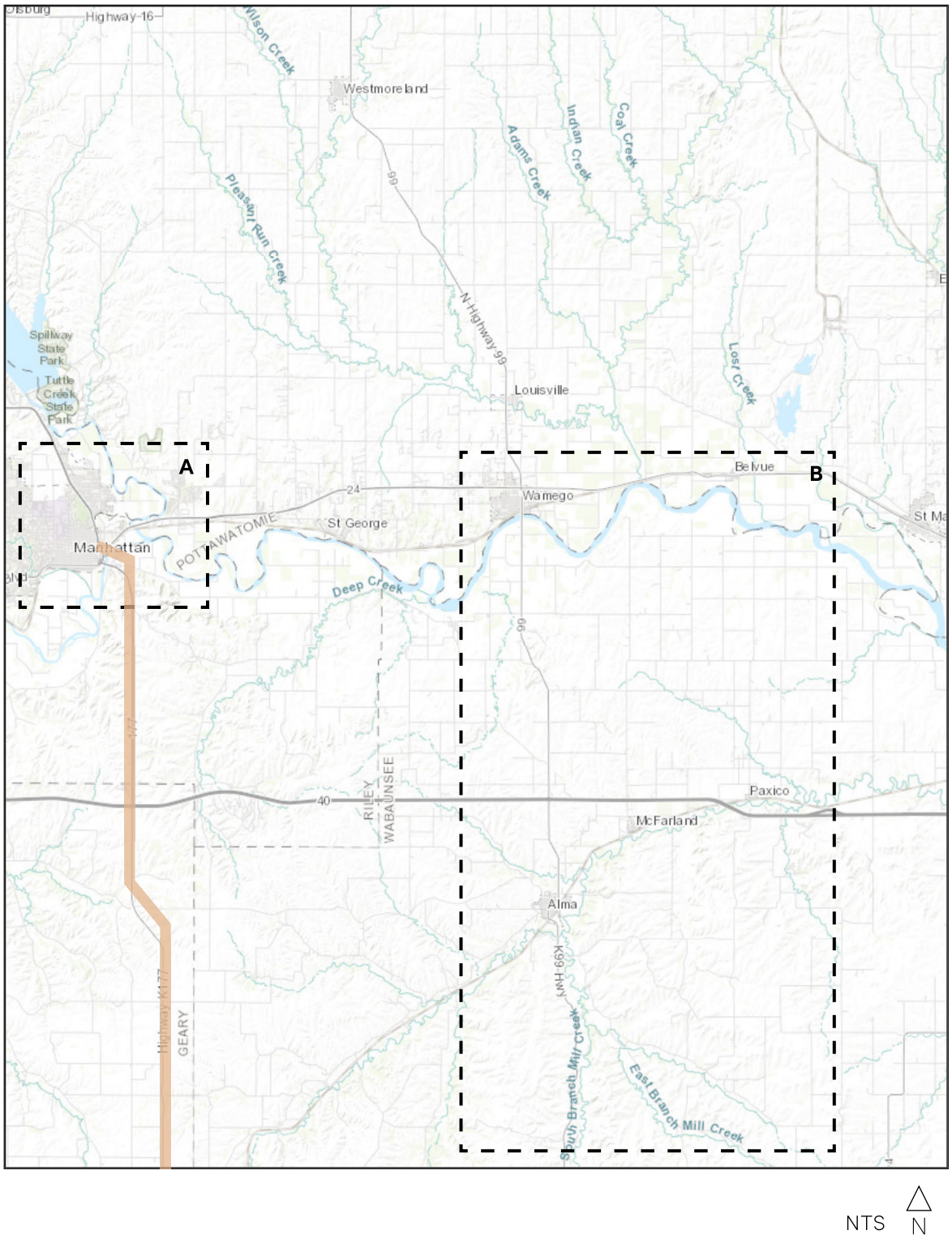


Figure 5.18. Manhattan and Alma Map (Franks, 2022). Source: (ArcGIS, 2022).

Menu 3A Map Enlargement

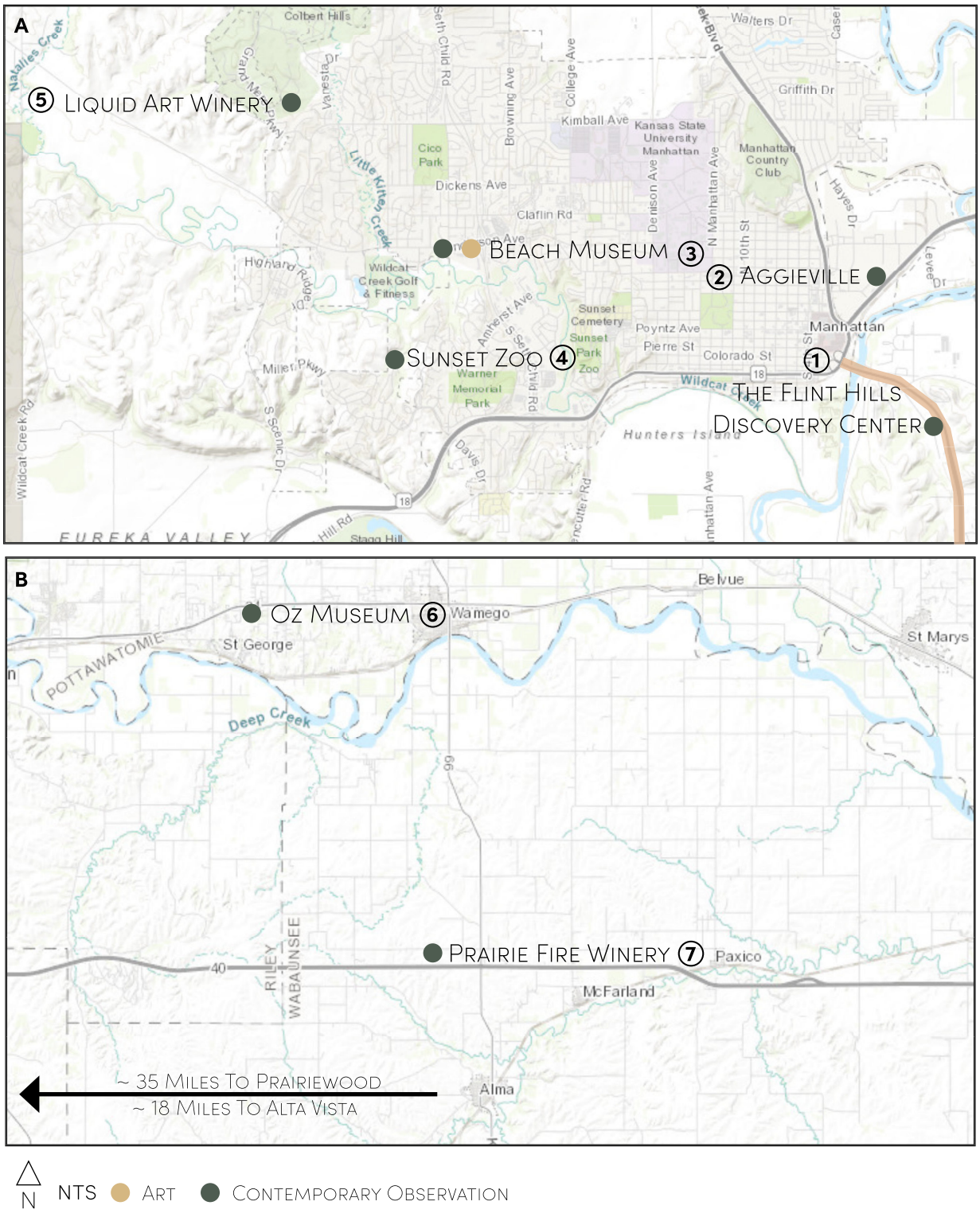


Figure 5.19. Manhattan, Wamego, Paxico, and Alma Town Scale Map (Franks, 2022). Source: (ArcGIS, 2022).

Menu 3B Map

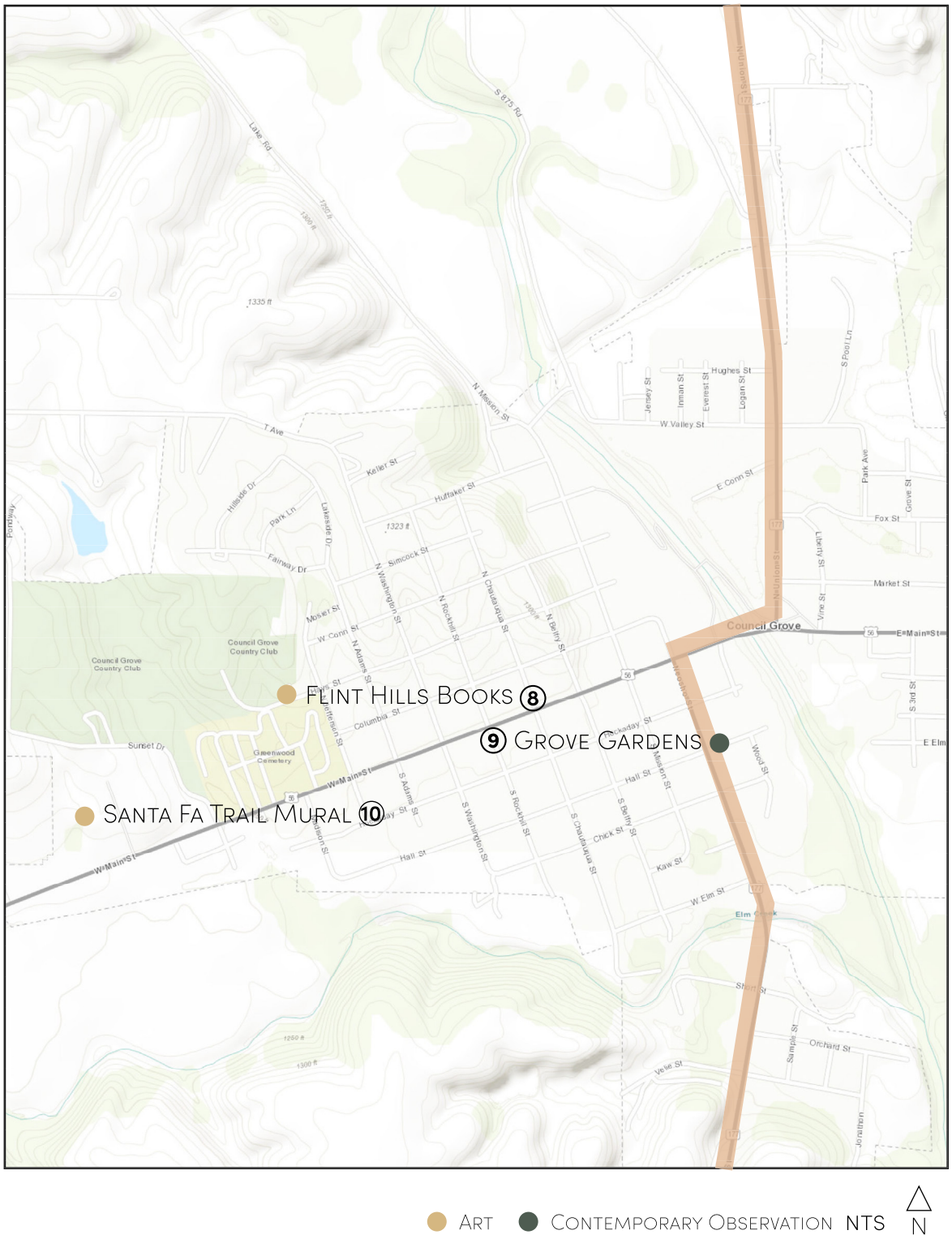


Figure 5.20. Council Grove Map (Franks, 2022). Source: (ArcGIS, 2022).

Menu 3C Map

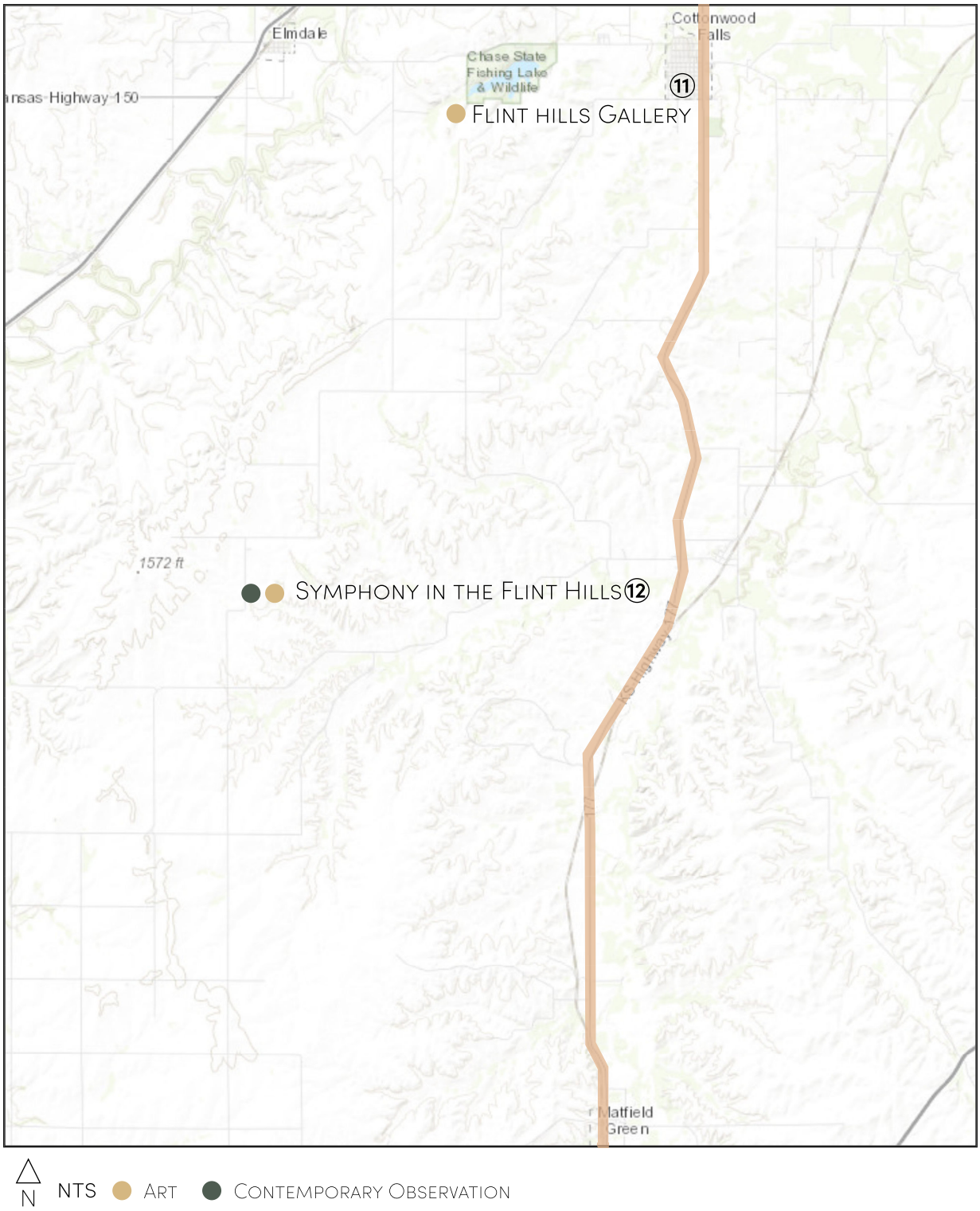


Figure 5.21. Cottonwood Falls and Matfield Green Map (Franks, 2022). Source: (ArcGIS, 2022).

Itinerary

General Information

Overnight Accommodations

Council Grove:

1. The Lodge
2. The Cottage House Hotel and Motel
3. Bradford Guest House
4. Young Guest House

Cottonwood Falls:

1. Millstream Resort Motel
2. Tired of the City
3. Spring Street Bed and Breakfast
4. Plum Street Guesthouse
5. Lark Inn at Fox Hollow
6. Lark Inn on Main
7. Cherry On Top
8. Grand Central Hotel and Grill
9. Aunt Kate's Cottage
10. 1879 Stone House
11. The Prairie House
12. Taylor Historic Guesthouse
13. Stonehorse Bed and Breakfast
14. The Church

Matfield Green:

1. Flying W Ranch
2. Camp Wood YMCA
3. Paw Print Cabin
4. Frontier Store House
5. Matfield Station
6. The Bunkhouse
7. Clover Cliff Ranch B&B
8. Prairieside Cottage
9. Middle Creek Tree House
10. True Prairie Home Guest House

Strong City:

1. Pilgrim Ranch
2. Cottage on Cottonwood

Seasonal Events			
Year-Round	Spring	Summer	Fall
Emma Chase Friday Night Music	Prescribed Burning (Mid-March to April)	Symphony in the Flint Hills (Early June)	Pioneer Bluffs Fall Festival (October)
Konza Prairie			
The Flint Hills Discovery Center	Prairie Chicken Mating Dance (Late March to early May)	Unbound Gravel Cycling Race (Early June)	Chase State Fishing Lake (March to October)
Aggieville			
Beach Museum		Chase State Fishing Lake (March to October)	Tuttle Creek Reservoir (Spring to Fall)
Sunset Zoo	Chase State Fishing Lake (March to October)		
Liquid Art Winery			
Oz Museum		Tuttle Creek Reservoir (Spring to Fall)	Prairyart Path (Spring to Fall)
Kansas Flint Hills Quilt Trail	Tuttle Creek Reservoir (Spring to Fall)		
Prairie Fire Winery			
Flint Hills Books		Grove Gardens (Spring to Summer)	Council Grove Marina (Late Spring to Early Fall)
Santa Fa Trail Mural	Grove Gardens (Spring to Summer)		
Trail Days Historic Site			
Matfield Station		Flint Hill Rodeo (Early June)	
Schrumpf Hill Scenic Overlook	Prairyart Path (Spring to Fall)		
Flint Hills Trail State Park		Prairyart Path (Spring to Fall)	
Paradise Ranch	Council Grove Marina (Late Spring to Early Fall)		
Packgoat Research and Development		Council Grove Marina (Late Spring to Early Fall)	
Tallgrass Prairie National Preserve			
Matfield Station			
Flint Hills National Wildlife Refuge			

Table 9. Activities in the Flint Hills by Seasons (Franks, 2022).

Design Application

Ecotourism Interpretation at Prairiewood

Interpretation is an important factor to consider for ecotourism. Interpretation is a way of explaining information to someone. Having interpretation signage and programming to support one's ecotourist experience will help them gain a better understanding of the surrounding environment. Currently, there are very few interpretation opportunities available throughout the Flint Hills ecoregion. The Konza Prairie, the Flint Hills Discovery Center, and the Tallgrass Prairie National Preserve are the three main places that offer interpretation opportunities. With the number of programs and events that are held at Prairiewood, there is very little to no interpretation to guide visitors about the Flint Hills while at Prairiewood. With a developed trail system, this opens up an opportunity to include interpretation enhancements of the Flint Hills along these paths. The following application provides a menu of options to begin a conversation about placement of these interpretation signs.



Figure 5.22. Red Chairs at Walnut Pond (Franks, 2022).

Interpretation Trail Enhancement Locations



Figure 5.23. Trail Experience Enhancements Menu (Franks, 2022). Source: (Google Earth, 2022).



Figure 5.24. Trail Experience Enhancement Photos (Franks, 2022).

Interpretation Trail Enhancement Locations

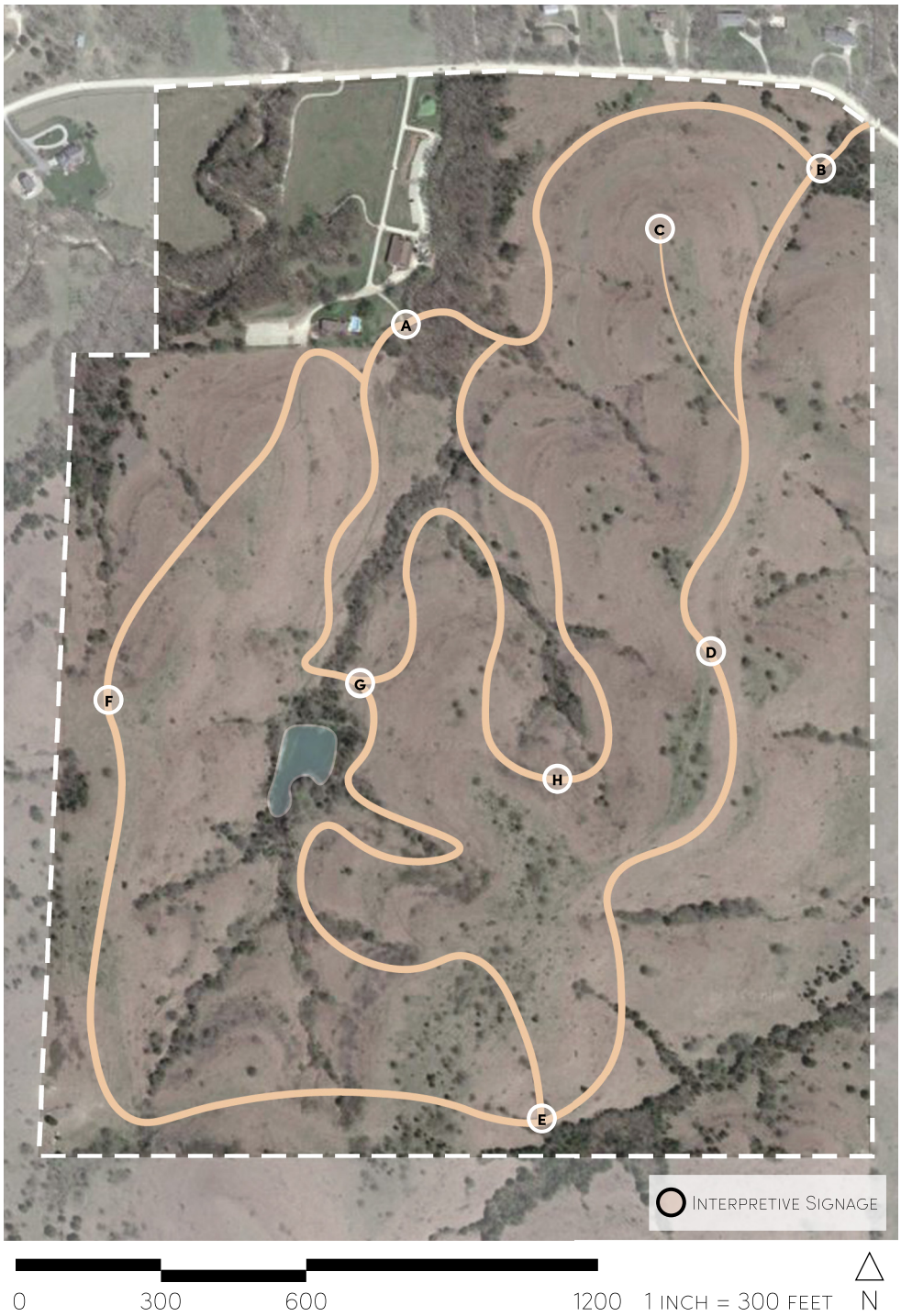


Figure 5.25. Willis Preserve Trail Experience Enhancements Menu (Franks, 2022). Source: (Google Earth, 2022).

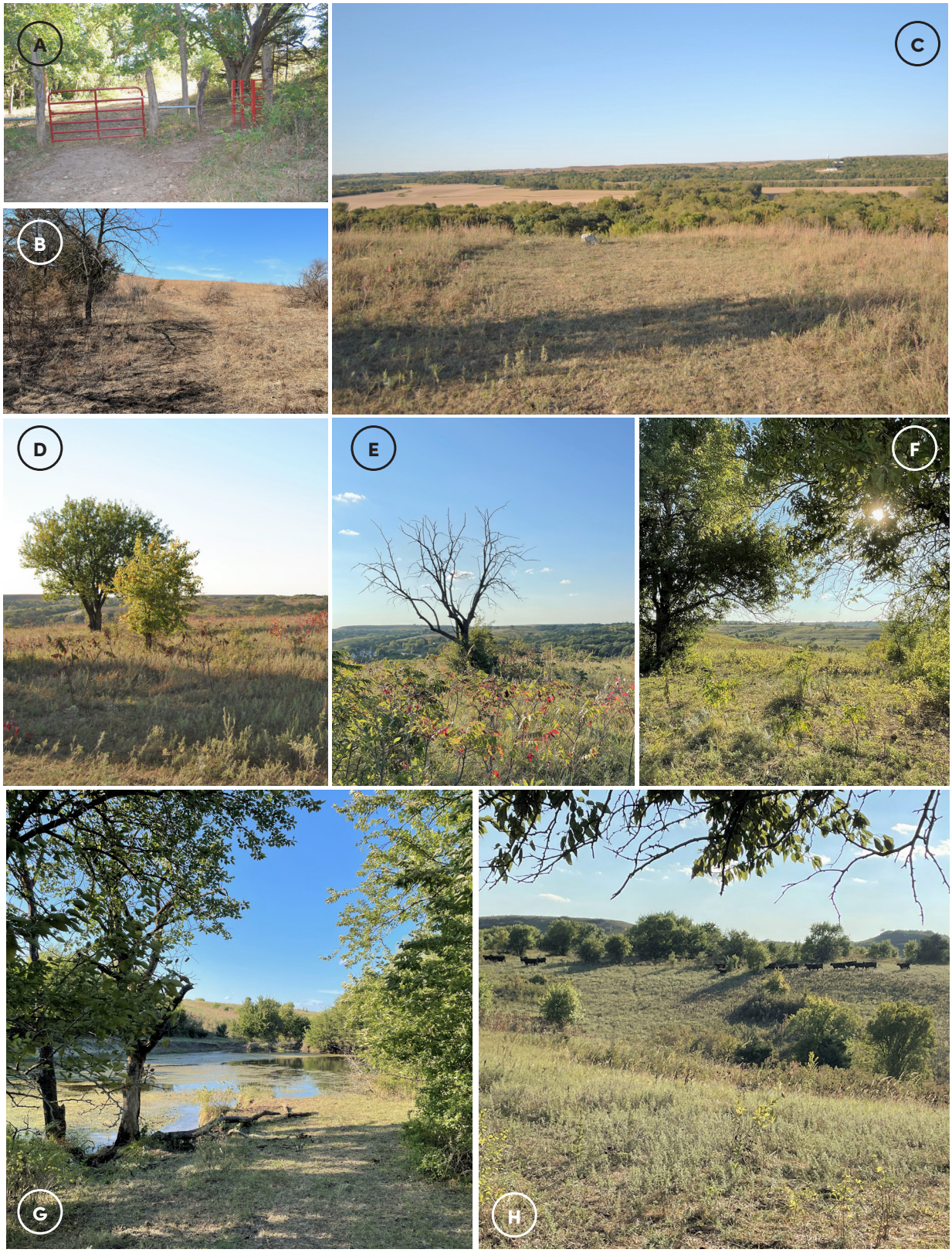


Figure 5.26. Willis Preserve Trail Photos (Various Authors)

Design Application

Ecotourism at Prairiewood

With Prairiewood's location in the Flint Hills, they have built their foundation on the idea of the prairie driving the sense of imagination and connection to nature. Prairiewood's mission focuses on conserving and preserving the tallgrass prairie while also strengthening the connection between people and the environment. Their mission and foundation make this site an ideal location to promote ecotourism in the Flint Hills ecoregion. To promote ecotourism, additional programming and design is proposed to attract more visitors to this location for them to feel immersed with the Flint Hills. The design scenario proposed is focused on a more feasible budget that has an open-air architectural influence. The scenario creates a feeling of place within the Flint Hills and allows for visitors to connect with the rolling hills of the Flint Hills.



Figure 5.27. Walnut Pond and Pavilion at Prairiewood (Hahn, 2021).

Design Scenario

The design was influenced by the programming and architectural style that the Marine Education Center presented. The following are key takeaways from this design scenario.

1. Educational experiences, includes interior and exterior classrooms, exhibits, and hands on activities allows for opportunities to learn more about the Flint Hills

2. Large, curtain windows allow for clear views towards the rest of the surrounding landscape

3. Multiple buildings allow for exterior and interior relationships to be experienced with the surrounding environment

4. Additional lodging building and cafe allows for over-night accommodations

5. Better trail experience allows for a positive user experience

6. Amble opportunities to host events outside when weather permits

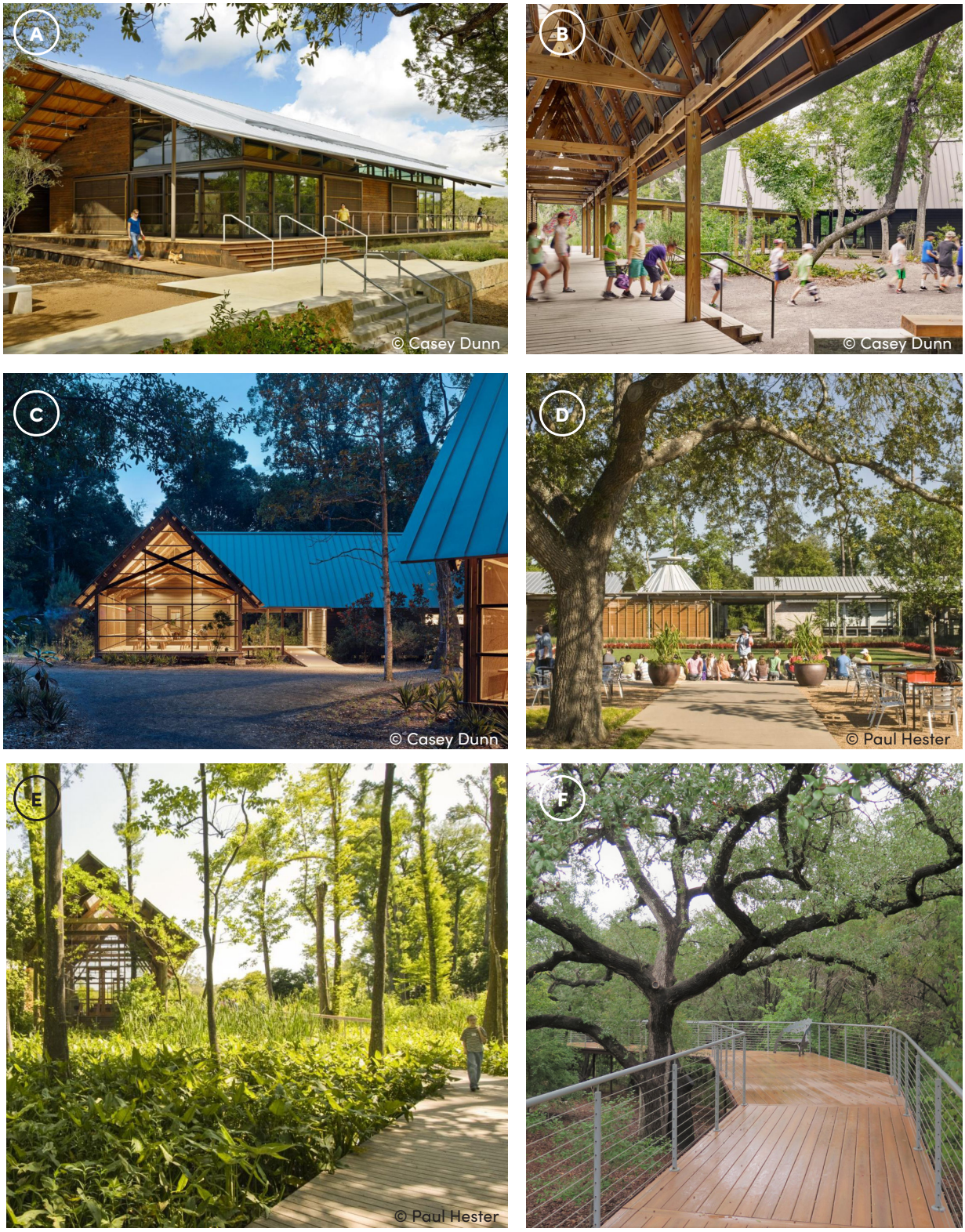


FIGURE 5.28. Design Inspiration (Various Authors).

Design Scenario Programming

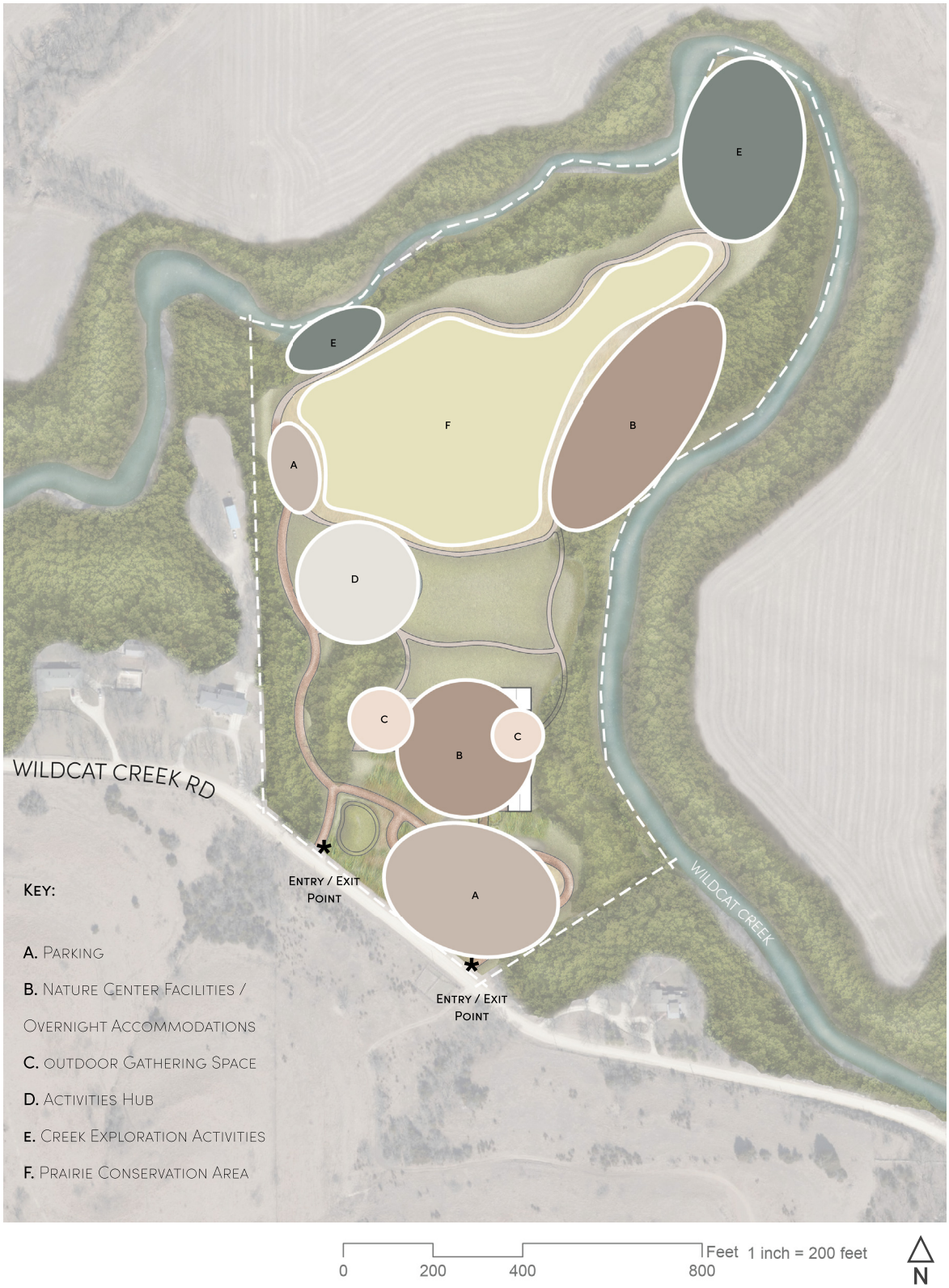


Figure 5.29. Design Scenario Programming (Franks, 2022).

Design Scenario



Figure 5.30. Design Scenario (Franks, 2022).

Design Scenario Flood Hazard



Figure 5.31. Flood Hazard on Site Plan (Franks, 2022).

Design Scenario Circulation

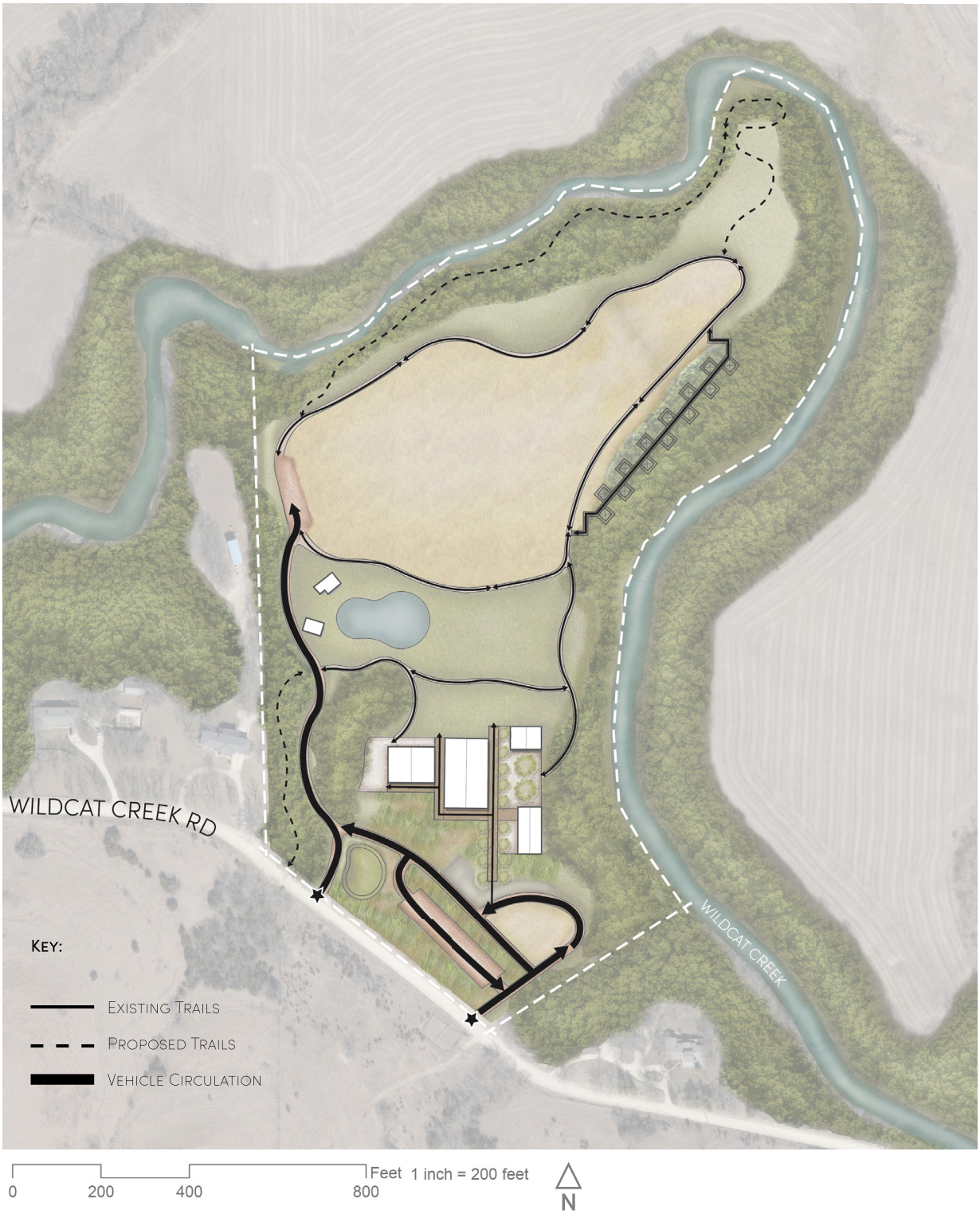


Figure 5.32. Design Scenario Circulation (Franks, 2022).

Design Scenario Views



Figure 5.33. Design Scenario Views (Franks, 2022).

Site Photos of views



Figure 5.34. View from Proposed Nature Facility (Franks, 2022).

Architectural Components

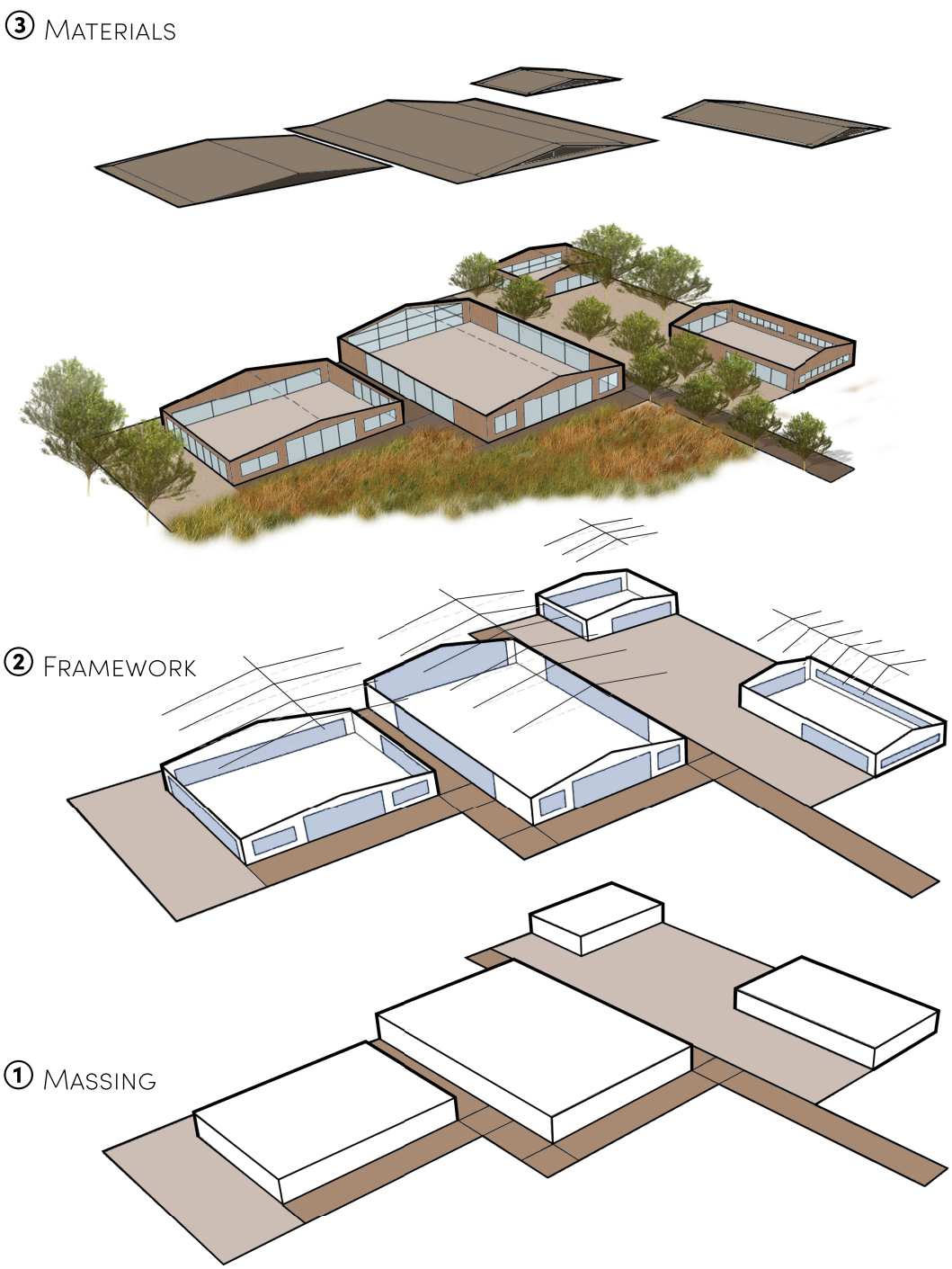


Figure 5.35. Building Formation (Franks, 2022).

Architectural elements Inspiration



Figure 5.36. Architectural Element Inspiration (Various Authors)


GATHERING
SPACE
A


OUTDOOR
EVENT SPACE
B



Figure 5.37. Perspective Views of Proposed Design (Franks, 2022).

Design Scenario Section



SECTION A-A'

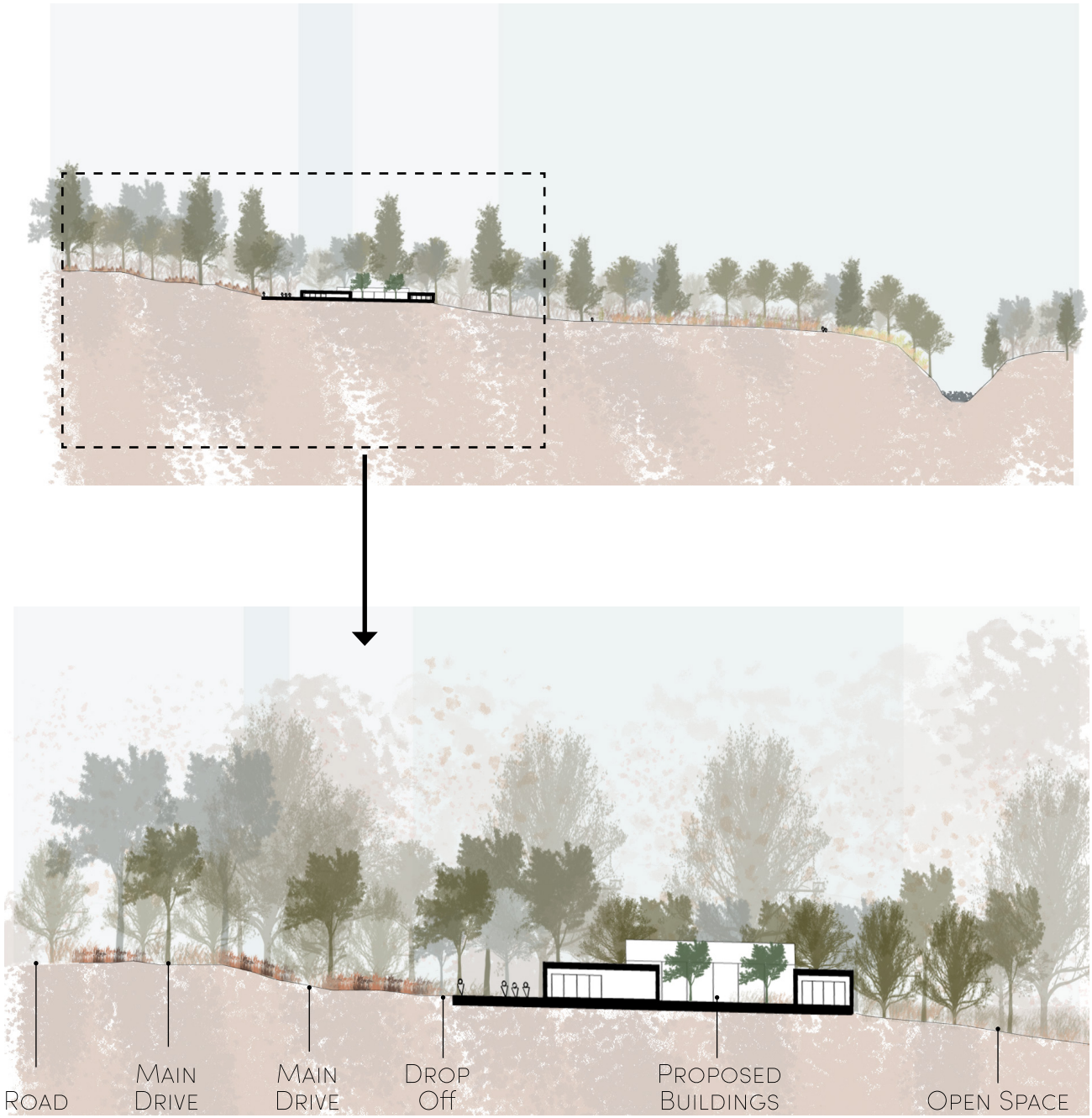


FIGURE 5.38. Conceptual Section View of Proposed Design Scenario (Franks, 2022).

Design Process

Multiple different concepts were explored. The focus of each concept looked at how to incorporate the views of the site, along with interior and exterior relationships. Variety of building forms included organic shapes to resemble the Flint Hills and more geometric to help frame the surrounding context. The final concept proposed was a combination of each one of these five concepts from the earlier stages of design development.

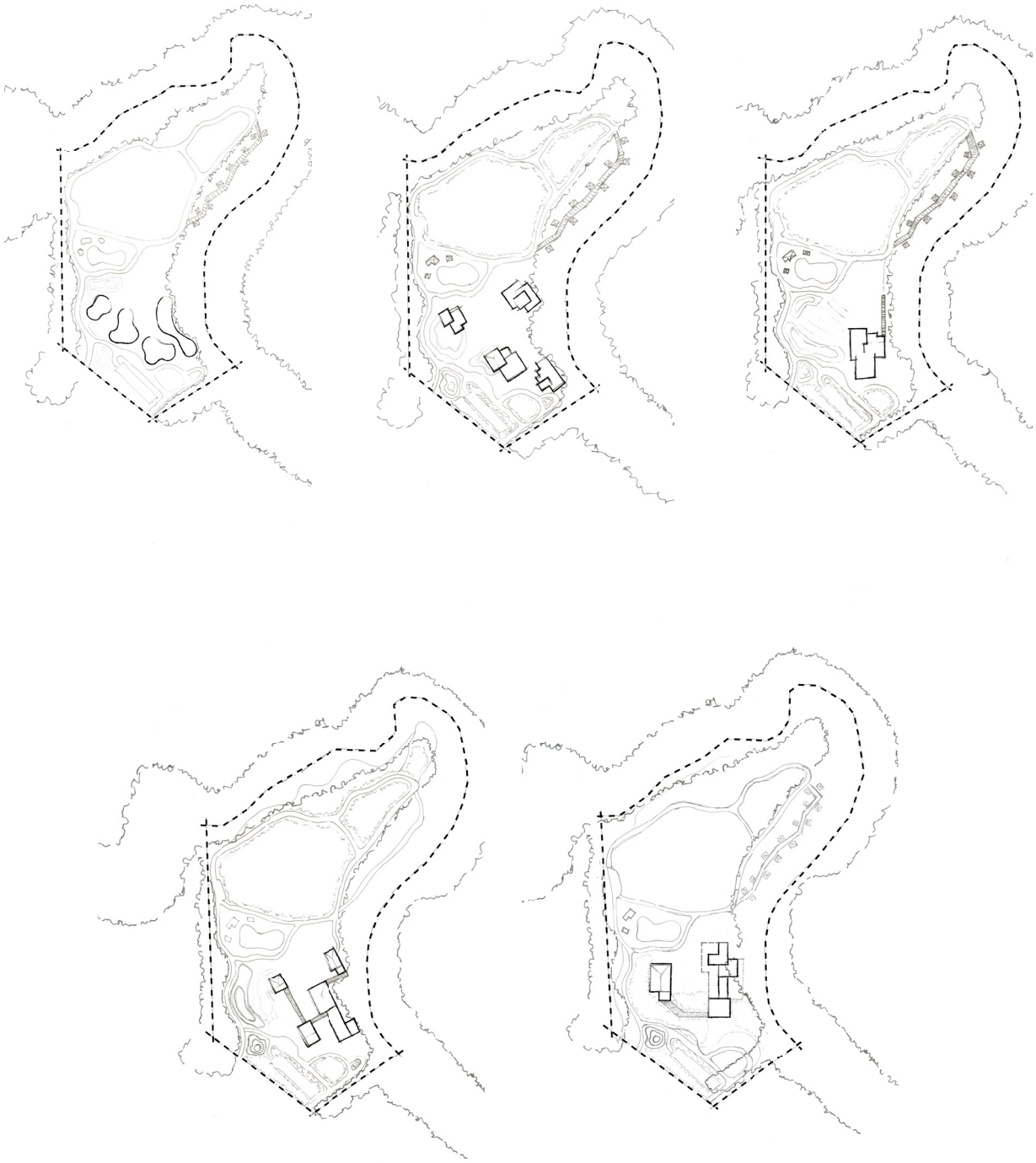


Figure 5.39. Design Development Process (Franks, 2022).

06

Conclusion

Conclusion

Many people lack appreciation for the significance of the threatened ecoregion, the Flint Hills. Research about ecotourism and its impacts have been explored and are in the early stages but there has been a lack of understanding how these ecotourist focused elements promote a stronger human-nature connection. The purpose of this report was to explore what ecotourism could look like in the Flint Hills ecoregion, more specifically in Manhattan, Kansas and explore the potential to introduce a hypothetical opportunity of introducing this branch of tourism at the Prairiewood Retreat Facility. Nearing the end of this report, the project significance, and the importance this project could potentially have on the surrounding Flint Hills ecoregion for the future is directly addressed. The outcomes of this project will become a starting point for discussion for future hopes of introducing ecotourism opportunities in the Flint Hills.

Project Significance

Being in a pandemic, originating in late 2019 has made people realize the importance of their surroundings and outdoor spaces. As travel begins to resume to former levels, many people are beginning to take trips into these natural, nature focused environments, which allows the opportunity for ecotourism to flourish in these areas of natural landscapes. The profession of landscape architecture has many values that align with values that relate back to ecotourism. These values focus on promoting socially sustainable, nature

focused, educational, and ethically focused visitation experiences (Wardana et al. 2021). As a landscape architect, it is important to enhance the user experience through educational and sustainable design. According to Wall (1997), "...sustainable development has attracted the interest of the tourism industry and tourism researchers." By incorporating education and sustainable design into a destination spot, they begin to show appreciation for outdoor spaces that have total immersion in a natural environment, making more people willing to visit and gain a better understanding of the concepts that are driving the success of the design. This makes this project of introducing ecotourism in the Flint Hills ecoregion an exciting opportunity for landscape architecture.

Project Recommendations

Tourism is a large industry that will continue to have on-going research and an indefinite number of solutions to nature-based tourism. These findings and understandings of this industry made this project difficult because of the industry constantly changing and being questioned. The restriction of time allotted for this project made it difficult to further the project to the next level in understanding specific details with ecotourism. Due to the scope of this project, there are a couple of recommendations that is presented that could be further explored in future research and could contribute and be useful prior to implementation. One recommendation is furthering conversation with the tourist themselves. This scope for

this project focused on conversation with Prairiewood management and owner, but it would help to have conversations with visitors at Prairiewood and see what they are looking for and how satisfied they are. Another recommendation would be to interact with the local community more. Future conversations could include seeing if there is a desire from the community wanting and using a program that focuses on this topic, ecotourism. The location of the project makes the idea of ecotourism seem successful, but would it be desirable and draw in the anticipated number of users into the Manhattan community?

Future Research

Because ecotourism is a new branch of tourism and is anticipated to continue to grow in interest and understanding, this leads to exciting opportunities for future research on the topic. This specific project is just the beginning of what could be researched about for this topic. Additional research could look into a comparative analysis of how different regions in the United States and different countries present ecotourism. This comparative analysis could help bring a better understanding of how ecotourism may differ among different locations and cultures. Another way for future research on this particular project is performing a post-evaluation of the ecotourism framework presented in this proposal. This post-evaluation would focus

on gaining feedback and see how successful the design and regional programming was. Interaction with Prairiewood and visitors to gain their point of views of how well the project worked could open up conversation about further developing ecotourism in the Flint Hills ecoregion.

Final Thoughts

This project addressed the lack in appreciation of the threatened ecoregion, the Flint Hills. It also explored ways to help strengthen the human-nature connection by introducing ideas to promote ecotourism in Manhattan, Kansas. Programming elements and Flint Hills' characteristic cues were identified to contribute towards a projective design outcome that included environmental and educational considerations. These considerations offer successful activities to promote ecotourism in the Flint Hills. It is hoped that the natural beauty of the Flint Hills will inspire a stronger appreciation for the ecoregion, and make people want to travel to experience its beauty first-hand.

07

Appendices

Appendix A. References

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Figure 5.35. Franks, E. 2022. *Building Formation*. Graphic in Adobe Illustrator.

Figure 5.36. Architectural Element Inspiration (Various Authors)

A. Dunn, C. & Lake | Flato Architects. *Dixon Water Foundation Josey Pavilion*. Photograph. Accessed 10 March 2022. https://www.lakeflato.com/eco-conservation/dixon-water-foundation-josey-pavilion.
B. Dunn, C. & Lake | Flato Architects. *Dixon Water Foundation Josey Pavilion*. Photograph. Accessed 10 March 2022. https://www.lakeflato.com/eco-conservation/dixon-water-foundation-josey-pavilion.
C. Hahn, H. *Boardwalk at Lady Bird Johnson Wildflower Center*. Photograph. 2017.

Figure 5.37. *Perspective Views of Proposed Design* (Franks, 2022).

A. Franks, E. 2022. *Gathering Space*. Graphic in Adobe Photoshop.
B. Franks, E. 2022. *Outdoor Event Space*. Graphic in Adobe Photoshop.
C. Franks, E. 2022. *Trail Enhancement Perspective*. Graphic in Adobe Photoshop.
D. Franks, E. 2022. *Activities Perspective*. Graphic in Adobe Photoshop.

Figure 5.38. Franks, E. 2022. Conceptual Section View of Proposed Design Scenario. Graphic in Adobe Illustrator.

Figure 5.39. Franks, E. Design Development Process. Photograph. 2022.

Appendix C. Tables

Table 1. Franks E. 2022. *Phil Hardberger Ecology Center Findings*. Graphic in Adobe InDesign. Information obtained from:

- Lake Flato. "Phil Hardberger Ecology Center". Accessed 15 February 2022. https://www.lakeflato.com/eco-conservation/phil-hardberger-park-urban-ecology-center.
- San Antonio Parks and Recreation. "Phil Hardberger Ecology Center". Accessed 15 February 2022. https://www.sanantonio.gov/ParksAndRec/Parks-Facilities/All-Parks-Facilities/Facility-Details/ArtMID/16234/ArticleID/3279/Phil-Hardberger-Park-Urban-Ecology-Center.
- Phil Hardberger Park Conservancy. "Park Map". Accessed 15 February 2022. https://www.philhardbergerpark.org/map.

Table 2. Franks, E. 2022. *Laurance S. Rockefeller Preserve Findings*. Graphic in Adobe InDesign. Information obtained from:

- National Park Service. "Laruance S. Rockefeller Preserve Center". Accessed 15 February 2022. https://www.nps.gov/grte/planyourvisit/lsrpvc.htm.

Table 3. Franks, E. 2022. *Marine Education Center Findings*. Graphic in InDesign. Information obtained from:

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Table 4. Franks, E. 2022. *Shangri La Nature Center Findings*. Graphic in InDesign. Information obtained from:

- Lake Flato. "Shangri La Nature Center". Accessed 15 February 2022. https://www.lakeflato.com/eco-conservation/shangri-la-nature-center/.
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Table 5. Franks, E. 2022. *Lady Bird Johnson Wildflower Center Findings*. Graphic in InDesign. Information obtained from:

- Lady Bird Johnson Wildflower Center. "Plan Your Visit". Accessed 15 February 2022. https://www.wildflower.org/visit.

Table 6. Franks, E. 2022. *Highlands Retreat Findings*. Graphic in Adobe InDesign. Information obtained from:

- Design Workshop. "Highlands Retreat". Accessed 15 February 2022. https://www.designworkshop.com/projects/highlands-retreat.html.

- World Landscape Architecture. "Highlands Retreat: Design Workshop". Accessed 15 February 2022. https://worldlandscapearchitect.com/highlands-retreat-design-workshop/#.YgwBeN9KiiN.

Table 7. Franks, E. 2022. *DBX Ranch Findings*. Graphic in Adobe InDesign. Information Obtained from:

- Design Workshop Inc. "DBX Ranch". Accessed 15 February 2022. https://www.designworkshop.com/projects/dbx-ranch.html.

- American Society of Landscape Architects. "DBX Ranch: A Transformation Bring Forth a New Livable Landscape". Accessed 15 February 2022. https://www.asla.org/2016awards/169708.html.

Table 8. Franks, E. 2022. *SCORP Document and Interview Findings*. Graphic in Adobe InDesign.

Table 9. Franks, E. 2022. *Activities in the Flint Hills by Seasons*. Graphic in Adobe InDesign.

Appendix D. Interview Information

KPBS: Konza Prairie Biological Station

FHDC: Flint Hills Discovery Center

TPNP: Tallgrass Prairie National Preserve

Regional Specific Questions (KPBS, FHDC, and TPNP):

1. What are the demographics, ages, and interests of people who visit the Konza Prairie [or FHDC, TPNP]?

2. Approximately how people visit the Konza Prairie [or FHDC, TPNP]?

3. What exhibits, programs, activities, and on-site locations are most popular among visitors to the Konza Prairie [or FHDC, TPNP]?

4. How many visitors to the Konza Prairie [or FHDC, TPNP] are in-state residents versus out-of-state residents?

5. What other places of environmental, cultural, or historical interest (other than the Tallgrass Prairie National Preserve) would you recommend that people visit within the Flint Hills to gain a greater appreciation of this ecoregion?

6. Do you have any indications of visitors' awareness of, or plans to travel to, other environmental, cultural, or historical places of interest within the greater Flint Hills region that might be an attraction?

7. What resources are made available to these travelers that informs them about other attractions related to the Flint Hills?

Prairiewood Specific Questions:

1. What types of groups currently visit Prairiewood?

2. What is the percentage breakdown of single day event visits versus multi-day (overnight) visits, both in numbers of events and visitor counts?

3. On average, what is the size breakdown of various groups visiting or staying at Prairiewood?

4. What is the distribution of visitors to Prairiewood across the year?

5. What education, recreation, and other programming activities relative to guests are currently being offered at Prairiewood?

6. How many and what types of community (public) outreaches are devoted to conservation?

7. Has Prairiewood established some consistent community partners involved with conservation education?

8. Does increased exposure through conservation programs and open trail days translate to increased event scheduling and visitation stays?

9. Based on received feedback, what are the various reasons why people visit or stay at Prairiewood?

10. What forms of advertising does Prairiewood use? How far do these advertising efforts reach within the MHK area and/or Flint Hills ecoregion?

11. Do you see potential for Prairiewood to expand their programs and efforts to grow towards a targeted audience?

12. Do you see any potential for Prairiewood to influence ecotourism in the Flint Hills?

13. What are some desired future opportunities you would like to see at Prairiewood?

KANSAS STATE UNIVERSITY | University Research Compliance Office

TO: Howard Hahn
Landscape Archit & Comm Plan
Manhattan, KS 66506

Proposal Number: IRB-10970

FROM: Rick Scheidt, Chair
Committee on Research Involving Human Subjects

DATE: 12/21/2021

RE: Proposal Entitled, "Ecotourism in the Flint Hills: Exploring Design and Programming Opportunities for Prairiewood in Manhattan, Kansas."

The Committee on Research Involving Human Subjects / Institutional Review Board (IRB) for Kansas State University has reviewed the proposal identified above and has determined that it is EXEMPT from further IRB review. This exemption applies only to the proposal - as written – and currently on file with the IRB. Any change potentially affecting human subjects must be approved by the IRB prior to implementation and may disqualify the proposal from exemption.

Based upon information provided to the IRB, this activity is exempt under the criteria set forth in the Federal Policy for the Protection of Human Subjects, **45 CFR §104(d), category:Exempt Category 2 Subsection ii.**

Certain research is exempt from the requirements of HHS/OHRP regulations. A determination that research is exempt does not imply that investigators have no ethical responsibilities to subjects in such research; it means only that the regulatory requirements related to IRB review, informed consent, and assurance of compliance do not apply to the research.

Any unanticipated problems involving risk to subjects or to others must be reported immediately to the Chair of the Committee on Research Involving Human Subjects, the University Research Compliance Office, and if the subjects are KSU students, to the Director of the Student Health Center.

Electronically signed by Rick Scheidt on 12/21/2021 7:13 PM ET

203 Fairchild Hall, Manhattan, KS 66502 | (785) 532-3224 | fax: (785) 532-3278

Project Participation Information

Project Title: Ecotourism in the Flint Hills: Exploring Design and Programming Opportunities for Prairiewood in Manhattan, Kansas

Project Approval Date: December 21, 2021, by IRB | **Project Expiration Date:** May 13, 2022 | **Length of Study:** 5 months

Principal Investigator: Associate Professor Howard Hahn Kansas State University | Department of Landscape Architecture and Community Planning & Design (LARCP).

Interviewer: Elizabeth Franks, graduate student (LARCP)
Anticipated length of Interview: 30-45 min.

Contact Details for Problems/Questions: hhahn@ksu.edu

IRB Chair Contact Information: *Rick Scheidt*, Chair, Committee on Research Involving Human Subjects, 203 Fairchild Hall, Kansas State University, Manhattan, KS 66506, (785) 532-3224; *Cheryl Doerr*, Associate Vice President for Research Compliance, 203 Fairchild Hall, Kansas State University, Manhattan, KS 66506, (785) 532-3224.

Purpose: The purpose of this research is to explore how Prairiewood, a private retreat/event facility in Manhattan, Kansas, could expand their facilities and provide additional environmental, cultural, and historical interpretation and activities to support ecotourism in the Flint Hills. This will be done by first interviewing staff at local visitor centers which have a connection to the Flint Hills, provide interpretation, and frequently interact with visitors. Based on input from this interview, the landscape architecture student investigator will prepare a Master's project and report that will propose several site design, education, and activity scenarios for Prairiewood that will help visitors/guests gain a greater appreciation for the Flint Hills, both locally and in the larger regional context.

Selection of Interview Subjects and Rationale: You are invited to be interviewed for this project based on your involvement with the exhibits, educational programs, interpretation activities, special events, and interaction with visitors to your facility or organization connected with the Flint Hills.

Interview Procedures: This interview was developed in accordance with the protocols associated with Research Involving Human Subjects and was reviewed and approved by the Institutional Review Board (IRB) at Kansas State University. Prior to the interview, you will receive a Project Participation Information sheet (this document) and the list of questions that will be asked during the interview. You will also have opportunity to ask any questions prior to the start of the interview, and participation is totally voluntary.

This interview will be focused on your potential knowledge concerning the demographics of visitors, their needs and interests, travel patterns, reasons that might be prompting their visit, and reporting their reactions/comments concerning the facilities, exhibits, educational programs, activities offered, research being conducted, and locale of your site. Some questions relate to the greater Flint Hills context. The interview questions relate to your area of expertise and are not intended to solicit any opinions which might reflect negatively on your organization or reveal any information that might be deemed sensitive or proprietary. You do not need to answer any question that makes you feel uncomfortable. You may consult with others at your organization where your knowledge may be incomplete. You can have your responses reviewed or approved by your supervisors or administrative staff. Also, please refrain from naming specific people which may be part of your responses.

To ensure accuracy, responses to interview questions will be documented via the graduate student's personal notes and audio recordings which will be used in preparation of a master's project and report anticipated to be

published in May 2022. The project report will be publicly available online through the KSU Research Exchange (https://krex.k-state.edu/dspace/). The final report will contain a summary of the findings from the interviews from multiple participants' viewpoints. Only your title and position, but not name, will be used in the final report.

Participation in this interview indicates consent.

Anticipated Risks: Anticipated risks to interview subjects are judged by the researchers to be minimal. Most questions require factual responses, but some questions ask about your summary conclusions about visitors' educational interests and responses related to the Flint Hills after their visit to your location. Even though your name will not be used, because of your title and position within your organization, it may be possible for someone to identify you through searches. As mentioned in the Interview Procedures, you may consult with others within your organization to better inform your responses or seek review/approval.

Benefits of Study: The benefit of this design project and report is to propose feasible ideas, grounded in visitor preferences and actual facility operations, for highlighting the Flint Hills context for the existing Prairiewood retreat/event center that also has an existing community education program. The researcher intends to gain a better understanding of the types of people who are visiting the region and determine if these visitors are specifically traveling to learn more about the Flint Hills or have a desire for a fuller immersion experience. From these interviews, and through additional research, the researcher will develop and present projective design scenarios for expanding the facilities and activities offered by Prairiewood as a means to better promote the unique landscape character of the Flint Hills.

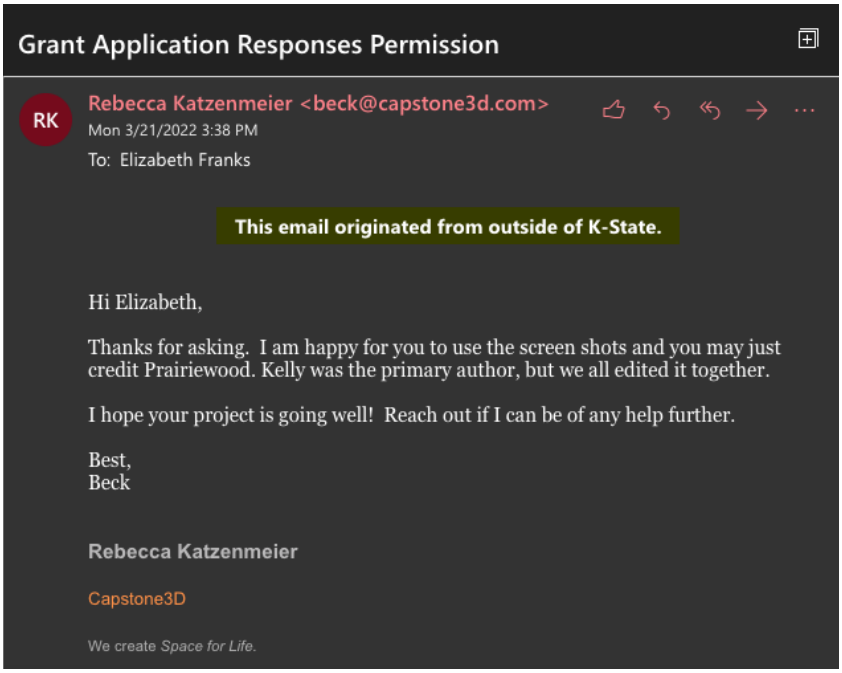
Extent of Confidentiality: The data will be collected through notes taken by the graduate student, along with audio recording during the process. Audio recording will be taken through a phone audio app or Zoom teleconference recording feature and will be kept ensuring accuracy of the notes. Any handwritten notes will be kept locked in graduate student's desk, while any electronic files will be on the graduate student's password-protected computer. The time frame of the data storage will be until 3 months after graduation date. The data will be completely erased from computer and any handwritten notes will be shredded. The graduate student will be the only one who has access to the data storage, as the data will be kept locked either in the graduate student's desk or on graduate student's password protected computer.

Terms of participation: I understand this project is research, and that my participation is voluntary. I also understand that if I decide to participate in this interview, I may withdraw my consent at any time without penalty or loss of benefit. I can stop participating at any time without explanation.

My participation indicates that I have read and understand this information sheet, and willingly consent to participate in this project and interview under the conditions described.

Interview A.
~ 15 minutes

Prairiewood refered to their grant application for first couple of questions. PDF document was provided by Prairiewood and approved to document (see below). Responses were made by Prairiewood RetreatHouse.



Grant Application Responses Permission

RK

Rebecca Katzenmeier <beck@capstone3d.com>

Mon 3/21/2022 3:38 PM

To: Elizabeth Franks

This email originated from outside of K-State.

Hi Elizabeth,

Thanks for asking. I am happy for you to use the screen shots and you may just credit Prairiewood. Kelly was the primary author, but we all edited it together.

I hope your project is going well! Reach out if I can be of any help further.

Best,
Beck

Rebecca Katzenmeier

Capstone3D

We create *Space for Life.*

(6.) PROJECT INFORMATION

Provide the following information:
- Describe how the attraction, event or festival meets the definition of a "Tourism Attraction" as defined in the "Attraction Development Grant Program Definitions".
- What makes your Project unique or collaborative as compared to other similar attractions, events or festivals in Kansas?

Prairiewood is uniquely situated as an attraction for visitors both near and far, honoring history expressed in the ecology of the land and the footprint of past peoples ...

Honoring History through Hospitality
Historically, much of the current Prairiewood land was homesteaded by the Kimble family who constructed a limestone farmhouse, barn and outbuildings, now known as Prairiewood's StoneHouse location. Through patience and dedication over 15+ years, the Katzenmeier family has reunited much of this historical Kimble family footprint through individual land purchases, now experienced as over 400 acres around Wildcat Creek and surrounding hills. The Kimble homesteader history has been preserved through architecture, thoughtful design, and documentation available to visitors inside StoneHouse. Because of the Katzenmeiers' thoughtful intention, the StoneHouse was given the prestigious State Historic Preservation Award shortly after its renovation in 2014.

In another corner of the Prairiewood campus, visitors to the Blue Sage Barn experience a renovated event space that was once a working equestrian barn and still retains some notable features of the building. Rather than erasing history, it is a consistent priority of the Prairiewood team to highlight and honor a building's story, incorporating its heritage into contemporary design and use. In fact, years after its equestrian use, the Blue Sage Barn has started welcoming horses once again to one of its pastures — visible to the public and visitors on Open Trail Days. This is just one way that Prairiewood continually seeks out new opportunities to share their spaces with audiences in meaningful ways that honor history.

Ecologically, Prairiewood's varied land features also tell a fascinating story of history and resiliency that is truly Kansan. The 400+ acres of Prairiewood land consist of hilly, upland prairie and signature Flint Hills vistas, lowland prairie and riparian hardwood forest along Wildcat Creek, and a modest amount of cropland. Once the Walnut Pond Expansion Project is complete, natural surface walking trails will weave through all of this multi-use land, creating a rich opportunity for education and interpretation.

Ecological Diversity = Opportunity
The Walnut Pond site itself is notable in its land history and diversity. Once terraced cropland on the edge of Wildcat Creek, the 35 acre parcel was re-seeded in 2005 to a careful mix of native prairie grasses, and the banks of Wildcat Creek have undergone special reinforcement through tree planting and structural stabilization to ensure

resilience even through Kansas flash flooding events. Now with a field of established native grasses and forbes, a recreational pond, a shaded grove of mature walnut trees and historic riparian area with blue heron rookery along Wildcat Creek, the Walnut Pond site is an ideal hub for outdoor education and recreation. The site was also the focus of a 2020 artist residency project funded by the Kansas Creative Arts Industries Commission, which resulted in an original sculptural element attached to the Walnut Pond Outdoor Learning Pavilion, designed to invite barn swallow nesting. Poised at the intersection of art and environmental education, the "CoDwelling" project asks visitors to consider the overlap between wildlife and human habitats.

It is also worth noting that Prairiewood's public programming, known as *Prairiewood Connect*, is unique in its collaborative design. Rather than dictating its own curriculum, Prairiewood Connect is an evolving, collaborative conduit for creative programming with local and regional partners. From live music to environmental education, plein air painting and wild plant foraging, Prairiewood has become a host and coordinator of public events, led by other experts, that educate and inspire.

To put it simply, Prairiewood is unique because of its accessibility and hospitality. The layout of land and diversity of spaces and collaborative programs create opportunities that far exceed what other small business attractions in different situations might be capable of offering. As one recent visitor noted, Prairiewood is a "small, but mighty team". The proximity to town and dedication to on-site points of contact with staff create a feeling of safety and welcome for visitors who may need more orientation to the outdoors. But, the location among the green space of Wildcat Creek Road and Fort Riley buffer zones preserves the compelling sense of being "away from it all" with quiet trails and impressive vistas.

- What natural, cultural, or historical uniqueness does the Project have relative to the national destination travel market?
- Identify your competition.
- Identify your customer.

A Premiere Small-scale Destination for Families

With the success of vacation rental platforms such as AirBnB and Vrbo, and especially since the world-changing events of Covid-19, private lodging coupled with experiential attractions are more popular than ever before. Prairiewood offers this small-scale destination exceptionally well, drawing visitors from many states away with its outstanding guest properties and glowing reviews. These offerings also work in tandem with Manhattan tourism, offering visitors and guests plenty of opportunity to eat, shop, and spend money in (or from) town while enjoying safe and private lodging surrounded by expansive praire landscape.

On-trend with Regional Studies
On a larger scale, the trajectory of Prairiewood has been on track with an elaborate report produced in 2010 for the Kansas Division of Travel & Tourism Department focusing on a long-term "Experiential Tourism Strategy" for the Kansas Flint Hills, prepared by Fermata Inc. Among other conclusions, the report emphasized that the primary barrier to increased Flint Hills recognition and tourism was access and amenities. Prairiewood is uniquely positioned to be a potent force in breaking through that barrier. Following this report, Prairiewood was a founding member of the Flint Hills Tourism Coalition (and is still active as a member) and the region has seen a continued surge of tourism and travel interest.

Exceptional Quality, Multiple Uses
Like the previously mentioned multi-use spaces and programs that Prairiewood offers, there is also variety to be found within Prairiewood's customer and visitor base:

Weddings and wedding party lodging make up a significant amount of Prairiewood business, but the model works more in conjunction with other local lodging than in competition with it. Prairiewood has become a premiere Manhattan-area destination for wedding events, but on-site lodging is limited to specialized guest houses and suites — perfect for family or members of the bridal party, but not enough to house most wedding guests. The result is that Prairiewood events fill beds in Manhattan hotels. In addition, Prairiewood guest staff is well-versed in recommending local hotels, caterers, florists, entertainment, and other vendor services to brides and event planners. In terms of wedding venues, our closest, most direct competitors would be Liquid Art Winery just up the road from Prairiewood and Blue Vista located in Randolph, KS. However, these venues all offer something a little different from each other that seem to expand options in the market rather than act in direct competition with each other. Prairiewood often refers larger wedding events to Liquid Art, while still offering lodging for their guests. Likewise, visitors making the trip to Liquid Art's tasting room have an increased exposure to Prairiewood and will often return for future events or stay the night.

Prairiewood has also seen an increased demand for day-use event space and other specialty event rentals, arguably as a direct result of the exposure from more public programming. Relationships have been established with multiple K-State administrative groups and Greek organizations, McCain Auditorium, Manhattan Leadership and other Chamber groups, Fort Riley groups, Manhattan Community Orchestra, USD383, Ducks Unlimited, among others who now host recurring events at Prairiewood. Prairiewood was also able to adapt to Covid-19 remarkably well with its outdoor venues and multi-use spaces. Although guest attendance to weddings dropped dramatically in 2020 due to reduced travel and social distancing protocol, Prairiewood still hosted more than half of its planned weddings in 2020 while implementing all health deparment safety measures (compared to other local wedding venues who could not adapt and hosted few or none of their scheduled events). Due to increased demand for private, safe lodging, Prairiewood reservations actually increased in 2020 compared to 2019. Notably, while wedding numbers have rebounded for 2021 (and beyond), private lodging reservations are holding steady in their popularity.

While there are certainly other options for day-use event and meeting space in Manhattan and plenty of options for basic lodging, there is not another venue in the region that marries event space, lodging, and outdoor retreat/recreation opportunities like Prairiewood. It could be argued there is not another venue in Kansas that offers Prairiewood's combination of amenities and resources with such quality and care. Especially because of its proximity to the bustling college town of Manhattan — and yet providing a sense of being a world apart — Prairiewood is consistently and increasingly the destination of choice for small to medium-sized groups that are seeking a truly memorable and exceptional experience for their participants. In that market, Prairiewood has little competition.

Adaptable & Responsive
In terms of public visitation, Prairiewood was again able to adapt beautifully to Covid-19 by increasing the number of Open Trail Days from once a month to twice a week through intentional safety protocol and social distancing guidelines. The success of that one act was felt through both numbers of visitors in 2020 and numerous verbal acknowledgements from grateful parents and space-seekers!

Prairiewood is also responsive to increased and changing customers demands. In 2020, Prairiewood installed several significant features in its Blue Sage Barn event space: an 120" retractable screen and projector for guest use, a beautifully crafted fireplace and seating nook, and a permanent bartop complete with in-house full bar service. After consistent popularity of Prairiewood's HomePlace Suites, a third private guest suite is currently being renovated to be brought online in 2022.

• For new projects and major expansions provide a feasibility study prepared by an entity outside of the organizational structure of the applicant.
• If the Project is an existing attraction, event, or festival please provide market data describing and verifying current customers. Include quantitative and qualitative metrics.
• Have you received an Attraction Development Grant in the past? If yes, is this Project an additional phase to the first grant project?
• Have you requested or received technical or financial assistance related to the Project from Commerce or any other state agency?

Considering the nature of Prairiewood and the project being undertaken, an outside feasibilty study was deemed unnecessary. Please see visitation information in Question #8 for more description of current customers. Further data may be available upon request.

Prairiewood has not recieved any financial assistance from an Attraction Development Grant in the past, and has not recived any other outside assistance related to the Walnut Pond Expansion Project.

(8.) GRANT PROJECT IMPACT

Visitor numbers for the past two years. Include:

- What method is used to track visitation?
- A report indicating the visitor's origin and average distance traveled.
- What is your annual out-of-state visitation count (or what percentage of your total annual count)?

How does your annual visitation compare to existing attractions, events or festivals in the state as well as to comparable attractions, events, or festivals elsewhere?

How do you use the visitation numbers?

With whom do you share or report the visitation numbers?

Visitation is tracked by Guest Services through private rental agreements and invoicing, and by Community Programming through visitor logs for open public events and RSVP's for public event registration. On average, visitors from out of state account for 20-25% of our overal guest demographic. Approximately 60% of guests travel from a distance of greater than 60 miles. These averages are based on historical data over the past 5 years, generally independent of the extenuating cicumstances due to 2020's Covid-19 effect. Visitation numbers are used for internal tracking, reporting and forecasting. They are shared at year's end with relevant community stakeholders and funding partners, and utilized in applications for various funding opportunities.

2019

Between public and private events, it is estimated that Prairiewood hosted approximately 7,000 visitors in 2019. There were 274 lodging reservations made across 4 properties, 39 wedding events were hosted, in addition to 19 day use rentals. There were 20 public programs/events that drew an estimated 880 visitors.

2020

Even though Covid-19 hugely impacted the ability to hold in-person events and gatherings, it is estimated that between public and private events, Prairiewood hosted approximately 4,200 visitors in 2020. 295 lodging reservations were made across 4 properties (an increase from 2019), 21 wedding events were hosted, in addition to 5 day use rentals. However, the pivot to more outdoor public event offerings as well as some virtual programming (55 public event offerings, in total) resulted in an estimated 1,300 visitors/attendees to public events — approximately a 50% increase in public event attendance from 2019.

An Estimate of visitation numbers for the next three years. Include:

- What method is used to project visitation? If available, please provide third-party verification for all methods used to determine visitation numbers.
- What percentage of future visitors do you expect to be from in- state and what percentage do you expect to be from out-of- state. (Provide documentation to support your answer.)
- How will the Project generate visitation from beyond 100 miles or from out of state?
- Will tourism traffic to the community due to this Project increase economic development through increased overnight stays and spending within the community where the Project is located or within 30 miles of the Project? Please provide detailed documentation to support your answer. Include information on how the Project will influence direct, indirect and induced expenditures.
- Event applicants should complete the Event Impact Data document and submit with application.
- What effect will the Project have on the region's quality of life and the ability of the community to attract businesses and industries?

Responding to Demand

It has been noted by both Prairiewood and the larger travel tourism industry that 2020 saw an increased demand for private lodging and outdoor recreation opportunities. Not only has that increased demand sustained into 2021, it can be expected that destinations offering both will continue to be desirable for travelers well into the future. Prairiewood is well positioned to meet these continued demands, as evidenced by the year over year double-digit increases curently being experienced in reservations revenue. Prairiewood is also currently renovating an additional residence on its property and is scheduled to bring this third private guest suite online in 2022. This will increase Prairiewood lodging guest capacity by 17%. Based on historical data and market trends, the trajectory of conservative projections shows Prairiewood visitation from lodging guests increasing by just over 30% upon stabilization.

Specifically in private events, Prairiewood has noted increases in demand for special day-use rentals beyond weddings and an increase in returning groups and guests. Recently added amenities such as the full-service bar and an integrated large-scale projector system directly address these increased demands. It is expected that these additions will improve guest and visitor experiences, both increasing the ability to host more special day-use private events as well as hosting public and educational events.

The noted increase in visitation from public events in the past two years is also a trend expected to continue — with a potential for much greater growth with the completion of the Walnut Pond Expansion Project. The ability for groups to use the Walnut Pond site independently from other private guest event spaces means that programming can happen simultaneously with privately hosted events, significantly increasing Prairiewood's hosting capacity.

Communication & Visibility in Forecasting

Trends in growth are assessed internally through reservation numbers, public event attendance, and, notably, through consistent communication with guests and visitors. Through numbers of bookings and frequent, exuber-

ant guest reviews, it is not hard to identify what is working well and what trends travelers are gravitating towards. Because Prairiewood is a major player in the regional wedding market, there is also a good amount of visibility 12-18 months into the future — the general wedding venue booking window. This, coupled with past data allows for reasonably accurate forecasting and opportunities for adaptation. Prairiewood's Guest Services team is also in frequent contact with local tourism and Chamber of Commerce partners to network with other businesses and hoteliers, staying up to date on trends and changes.

Though out of state visitation is not expected to dramatically change in the near future, it is well known that the Flint Hills region continues to have an increased reach, in both its number of visitors and the distances from which they come. It should also be noted that through exceptional design, care and documentation, Prairiewood has a very extensive organic social media reach that engages people from across the country and attracts press coverage — most recently a feature inquiry by Midwest Living Magazine. With new and increased press coverage paired with loosened travel restrictions, it is possible that 2021-22 could bring a greater than expected number of out-of-state visitors.

To give further insight, the Prairiewood Facebook page currently has 31,754 followers, and in the past month has had a post reach of 49,281 with 10,049 post engagements. The stunning photogenic quality of Prairiewood properties are unique and perhaps unexpected in Kansas — this appeal clearly resonates with online users and translates to online inquiries and bookings through direct reservations as well as the increasingly utilized platforms of AirBnB and Vrbo. Prairiewood's HomePlace Suites and StoneHouse are listed on AirBnB and consistently have 5 star ratings, with owner Rebecca Katzenmeier featured as a superhost.

Time Spent at Prairiewood = Money Spent in Local Economy

In terms of contributing to future economic growth in the area, a simple time = money equation can be considered. Prairiewood's ecosystem of boutique offerings makes it a perfect destination to spend time and create memories, but it is not a full-service retreat center functioning independently from the local community. This means that collaboration with tourism, service and programming partners is built into Prairiewood's DNA. Food and large group lodging are the most notable services that Prairiewood lacks on site, but it's proximity to town and dedication to hospitality make these into opportunities rather than limitations. Prairiewood creates spaces that invite visitors to linger and connect, while content for those experiences is often brought in by private guests, local vendors, and community educators.

Even with just the recently completed and currently in-progress additions to guest amenities, it can be expected that visitors to Prairiewood will both increase in number and have opportunities to spend more time on site. The longer that visitors stay at Prairiewood, the more likely they will be to spend money in town on food, overnight lodging, and other opportunities not available at Prairiewood. After the completion of the Walnut Pond Expansion Project, this equation increases by an even greater percentage — more and longer trails, restroom facilities, increased interpretive and educational opportunities all add up to more time spent on site and more money spent in the local and state economy.

Quality of Life = Workforce Development
Beyond travel tourism, it should be noted that Prairiewood plays an increasingly vital role in adding to the quality of life for residents and potential residents of the greater Manhattan area. With Kansas State University, the National Bio and Agro-Defense Facility, and Fort Riley all within a 30 mile radius, Manhattan is poised for consistent workforce turnover and growth. Quality of life plays a critical role in work force recruiting and retention, and opportunities to engage with the outdoors in a safe and meaningful way are extremely valuable in a state with relatively little publicly-accessible land. One current K-State faculty member related to a Prairiewood team member that she was on the fence about moving to Kansas to accept the job — until she discovered Prairiewood. The vision, values and opportunities that Prairiewood offered and represented gave this K-State recruit confidence that she and her family could indeed make Kansas their home. They have now been Manhattan residents for ten years.

(9.) HOURS OF OPERATION AND STAFFING
- What dates and hours will the attraction, event, or festival be open to the traveler? Will the Project be staffed during these hours?
- Provide a list of all staff positions. This should include paid staff (both full time and part time) and volunteers.
- What is your source of funding to support the salaries of paid staff?

Prairiewood's trail system is open at all times to private guests during their stay, and are currently open to the public on Sundays and during special events. Through Prairiewood's community partnerships and programming initiatives, spaces are increasingly being used by special use educational groups. All events are staffed by Prairiewood, unless another arrangement is made with special use guest groups. Prairiewood staff positions are supported by hospitality sales through event venue rentals and lodging. Need for part-time seasonal caretaking and grounds maintenance staff positions flex with seasonal schedules and occupancy.

Capstone3D (Contractor)
Kail Katzenmeier - Owner, President
Ryan Kegley - Chief Business Strategist
Chad Verge - Construction & Maintenance Manager
Amy Brox - Lead Planning Coordinator

Prairiewood (Applicant)
Rebecca Katzenmeier - President, Director of Guest Relations
Kelly Yarbrough - Director of Community Programming
Megan Kegley - Director of Hospitality Operations
Jessica Hedgecock - Lead Caretaking Manager
6-8 part-time and seasonal caretaking positions
4-5 part-time and seasonal groundskeeping and maintenance positions
2-3 part-time event & bar staff positions (future)

Me: Do you see potential for Prairiewood to expand their programs and efforts to grow towards a targeted audience?

Interviewee: We, you may have picked this up, Prairiewood started as a preserve, a preservation. And in order to do that, because its expensive, land is expensive, we thought the best way to do that is to have a business that protects it. We aren't ranchers, we aren't farmers, we wouldn't want to farm the land anyway because that wouldn't be ideal for it. All that to say, the whole idea is to get people here so that when they leave, they feel more connected to the land, more interested in preserving it, more interested in having an experience that makes them love it in a way that makes them think and act differently afterwards. We strangely have things, like weddings, that don't always connect, but our internal conversations that we have and give to tours is the 'lead with the land'. I start out letting them know that we are a prairie preserve, we are about preservation. Even in that, we hope to be connecting with people who are like-minded or appreciate what we are doing, thoughtful and responsible in the way they have their event. But that doesn't always happen, but that is our hope.

Me: What are some desired future opportunities you would like to see at Prairiewood?

Interviewee: I love the lodging portion of what we do. So, lodging to be continued as many people come here for rest and renewal. I would love for our events and barn calendar to be more filled with things that are more

retreat like or connected to the arts or to important conversations that could happen. I would say meaningful impact for the people that attend them, and also what that creates for the surrounding land. The more we can have things that impact people on a deeper level, on a soul and spirit level, and that also connect with our mission of preservation of the land, spirit, community. And more public access, where we are struggling right now. I love what you are doing, I love Open Trail Days; the more successful we are to public access the happier we will be. It is a challenging thing to figure out, but worth it in the end.

Interview B.
~ 30 minutes

Me: We are going to jump into it. I know you mentioned that you weren't too familiar with the demographics and ages of people coming here. {referring to "What are the demographics, ages, and interests people who visit the Konza Prairie" question and email reply prior to interview}

Interviewee: I'm familiar but it's different from having data. So, the only public part of the Konza Prairie is the nature trail system. And as you saw coming by today that we're not down there at the nature trail systems. When people come, we don't have any way of recording who's using the trail. So, all we can do is estimate based on how many cars we see there, because we don't know how many people are in the car, and we're not seeing every single car that comes and goes all day. So, all we have is an estimate, and at one point in time I sat down and estimated how many cars I saw on average at the nature trail. I would just informally, count the number of cars I would see. And if you have been out here before, there are certain days where there are a lot of cars and there's other days there is hardly anybody. But on most days, there is at least somebody out there at some point of time during the day. At one point in time, I have sat down and extracted the average number of people I thought came to the trail a day. Average now, highs and the lows; coming with about 100 people a day and that estimated to about 45,000 visitors a year. Whether that's anywhere close to accurate, I have no idea and whether if we are going to have variations in the years. With the

COVID years, we have had a lot more people out here and the non-COVID years, I don't know a lot, but we had fewer people out here. Take that with a grain of salt but that is what we have been going with. A low of 25,000 and a high of 45,000.

Me: And yeah, I would think that seasonality too plays a huge part.

Interviewee: Huge.

Me: Like today when I drove in, there was only one car

Interviewee: But there is somebody out there!

Me: Right, there is someone out there and then you know I come in the summer in a lot, I come out here a lot, hiking the trails, and I see endless groups of people walking and coming.

Interviewee: So, when you come out, are you coming out on a weekday or a weekend?

Me: I come out during the weekday, so I don't think I have been on a weekend.

Interviewee: You have never been here on a weekend?

Me: I don't think so, not that I remember.

Interviewee: Yeah, and so the weekends are a lot different. And to the point that there's so many cars there's no place

to park. So yeah. And I will let you ask your questions but knowing that (referring to her comments above) that's what we start with.

Me: It's a good starting point I would say. So, you answered the next question "Approximately how many people visit the Konza Prairie?" and you mentioned that there is the public hiking trail that is on site, nothing else to accommodate for that. But I did just want to follow up because I did notice coming in some cottages over here, and I'm just curious out of my knowing what exactly are those for?

Interviewee: They are for researchers to stay at. Because this is the only research facility for Tallgrass Prairie ecosystem in the world. So, anybody who wants to do any kind of research, any kind, whether ecological, geological, or atmospheric whatever involving the Tallgrass Prairie ecosystem comes here. And we get people from all over the world, and so if they are going to be here for a month and they need access to the site, it makes a lot of sense for them to stay on the site. And a lot of these people don't have huge budgets, so we provide housing for them. They pay, but we have housing in the cottages and upstairs here in the Hullberg Center.

Me: Interesting, ok cool.

Interviewee: And that's really the primary purpose of this site, is as a research facility. And that is why we don't have more available activities and expereinces for the public

here.

Me: And then know about the Environmental and Education Program and Friends of Konza, are those considers groups as well that are staying here or are those day-to-day visits?

Interviewee: So, they would not stay here, not typically. So, I run the Konza Environmental Education Program, which is a facet of the Konza Prairie Biological Station. So, I am staff of the station, but I run my own program. And the only time that I would really utilize the onsite housing is when I offer a summer teachers workshop. So, I work to bring in school groups so that students can learn about the prairie. To do that, I have to have a relationship with teachers and so I offer a weeklong teacher's workshop to teach the teachers. And so, this is how I develop a relationship with the teachers. And once they know what all is available for them and their students, they can then bring their classes in knowing what is going to happen. And the teachers can stay on site because it is a one-week program. They can stay upstairs if they want to.

Me: Cool, cool. So, moving forward to the next question, if you know an answer, how many visitors to the Konza-Prairie are in-state versus out-of-state residents?

Interviewee: I can tell you this, we do have a sign in sheet at the kiosk at the beginning of the nature trail. With very little information, we know that at least a few people sign in and leave us some information about how many are in their party and where they are from. What percentage that is anyone's guess, probably less than 10% of the

people sign in. Have you ever signed in?

Me: No, I have not.

Interviewee: Have you ever seen someone sign in?

Me: No.

Interviewee: So, it is people who are motivated to come into the kiosk and see what might be there for them. And it's usually going to be people who are with a group, like a family group, or older. Because they are curious and want to know what this is about when they sign in. So, at the very most, at least 10% of our visitors sign in. So, from that data, we know that we get visitors from all 50 states and from numerous foreign countries. So, for the record I am throwing my hands up and saying, 'I don't know'. How many foreign countries? Probably 30 to 40 different countries.

Me: that is actually a pretty good amount.

Interviewee: That evidence is indicating that the trails here at Konza Prairie are an international draw at the very least. So, there is really no other place that I am aware of, I mean you can walk at the Tallgrass Prairie National Preserve, but you are going to have to drive a little way to get there. There are very few places that you can get out into the prairie and hike the Tallgrass Prairie with easy access. Prairiewood has a trail, but as you may know, it's a private trail with hours, so we (Konza Trails) really don't have hours and you can come and go, it's accessible.

Me: Yeah, Prairiewood has a public access day on Sunday afternoons. I believe it's a window from noon to sunset; it's very limited.

Interviewee: It's great because it's another option to get out and hike.

Both Agrees

Me: Sweet. So, moving on to our next question. This is based off your opinion, but what other places of environmental, cultural, or historical interest (other than the Tallgrass Prairie National Preserve) would you recommend that people visit within the Flint Hills to gain a great appreciation of this ecoregion?

Interviewee: You know that's a good question, where would you go? The Flint Hills Discovery Center, being a wonderful resource. It's hard. You have four choices that I can really tell. If you wanted to get out into the prairie, you come here or to the Tallgrass Prairie National Preserve (after a drive). The drive itself is another opportunity because there are tons of country roads and you can just drive the roads and see the countryside and see the gravel roads, get off the pavement and get on the gravel roads, you're going to see lots of cool places. But it's from the road. If you want to learn more about it, you can go to the Flint Hills Discovery Center and Prairiewood. There are some parks here and you can go to some of them, like Top of the World and Carnahan Creek Park and some state parks, but they are really limited. So, you can

get books and learn about it and drive around so. Here, getting out and driving, Tallgrass Prairie National Preserve, and the Flint Hills Discovery Center.

Me: And I think the driving aspect too gets you into these little pockets that people might not know exist. It gets you into that experience right there.

Interviewee: It sounds like you have done it before?
Me: I have, I have done a little bit of driving here and there. I'm from St. Louis and do drive on 70 and do sometimes hop of sometimes to just go and see and I like to take photos as I'm going. But yeah, you just never know when you're driving down that 70 strip, like wow when you go down 177, down south, it's like woah. It's like a whole new experience for me. You know came here not knowing what the Flint Hills was, when I first came to college. It definitely has opened my eyes.

Interviewee: So what open your eyes to the beauty of the Flint Hills, just driving here?

Me: Basically. The very first drive I remember coming for a college visit in high school, and I saw these hills and was like 'I thought we were in Kansas' because you just assume it is flat, like you see in movies.

Interviewee: Were you excited coming here for school visit?

Me: I was! I never had been to Kansas so I could say I've been here finally, and you know I was expecting it to be

very flat because you know in Missouri its very hilly and you get the Ozarks and its heavily forested and you get out here and it's like woah it's definitely a different change in a region. But then when I saw the Flint Hills, I was like 'Oh! That's like odd' because I wasn't expecting that. Once I decided to come here, I started taking more classes with the college of architecture and I don't know if you know who Tim Keane is, but I took a studio with him.

Interviewee: Oh, I know Tim, great guy! So, did you come out here and do the stream stuff?

Me: No, we came out and hiked the inner loop for our ecological system studio. I never took his stream courses; it was more the ecological focused courses.

Interviewee: So he gave you a guided hike on the nature trail?

Me: Yes, to the top of the hill...Actually, I take that back, I think it was the inner loop we would walk with him. We went through and he would be pointing out the characteristics of the Flint Hills and that is when it hit me like wow that's when my appreciation for this ecosystem grew. I was just mind blown at how amazing the nature was and how much we have worked to protect it because it is unfortunately, an endangered piece of ecosystem in our country.

Interviewee: It is the most endangered...it is the most imperial, terrestrial endangered ecosystem in the world.

Me: It was just like wow, its different and it's not like the

mountains or the Ozarks in Missouri. It just has that unique characteristic to it that just made me appreciate it a million times more. And it just makes me said to think that people come through here not knowing about it.

Interviewee: They didn't have Tim Keane to show them around. So, it sounded like your experience with him and that class opened your eyes to it?

Me: Yep, and started coming out here on my own or with my friends hiking it in our free time and taking it in. Being immersed into it.

Interviewee: It didn't take much, did it?

Me: No, it didn't and I think also because I am studying landscape architecture, so I am very supportive and appreciative of the landscape. It is part of our field is to appreciate the surrounding landscape and experience it.
Interviewee: Yep. You were pre-exposed for liking it and you just didn't know. And you are right, there is not much, if you want to learn more about it, it's very limited. The TGPR was intended to help alleviate that. But I still don't know how many people know about that and are willing to drive down there.

Me: I speak for myself, but I didn't know about until my third year in school.

Interviewee: Have you been?
Me: I have not been yet but am planning a trip down there to get photos for my report and just exploring it for a bit.

Interviewee: When are you going? The season matters.

Me: Season does matter, and I am hoping to early March if I can. Because the timeline for my project is limited in a short time frame. For my project I would hope to go for a bit to get some photos during this current season because my professor has provided photos when he has gone down in different seasons. And then once I get my project turned in, then it would be great to do another trip down during the summer time.
Conversation gets sidetracked about master project timeline...reverted back to topic.

Me: And with ecotourism relating to nature and seasonality, you have to look at it during all seasons.

Interviewee: You already understand. They have already done most of their burning; they do most of their burning in the Fall, so if you go down there in March, you will start to see the beginnings of somethings. There will be somethings, but it will be pretty bare.

Me: Yes, and it is good to see that side to it because there are people who, like you said, come out and explore it all season. So, looking at it in different time frames is important and key.

Interviewee: Yeah, cool.

Me: Moving on, I know you mentioned that you may not know this one, but do you have any indications of visitors'

awareness of, or plans to travel to, other environmental, cultural, or historical places of interests within the greater Flint Hills region that might be an attraction?

Interviewee: Not one clue. I mean we, anecdotally, that people often times after coming from the Flint Hills Discovery Center. It is usually a 1 to 2 thing. Many people do not know about Konza, we don't advertise. It is not to our advantage to have hordes of people out here, so we don't have an advertising budget because we are not charging. I mean we have a donation request of $2 but we are not charging entrance fees. So, we don't advertise and unless you know about it, a lot of people have a hard time getting out here. So, unless you know about it already or have had someone shown you where it is, we are not going to have people coming out here on their own as a visitor to MHK. I mean if you did not have someone show you how to get out here, would you have come out here on your own?

Me: probably not.

Interviewee: There are instructions of how to get here on our website, but you need to know about it to get to that website.

Me: That makes sense.

Interviewee: So, the answer to your question is no.

Me: That is all good. And then our final question, what resources are made available to these travelers that

informs them about other attractions related to the Flint Hills? And I think you mentioned how the Flint Hills Discovery Center does a great job of introducing these spots.

Interviewee: Yeah, when you go there, they got this interactive computer screen. Have you seen? They have the map of the Flint Hills and it's a touch pad and you can touch the different places and it shows you how to get there.

Me: Interaction.

Interviewee: It's great, its right there in the entry way in the front door. So that's where, well they have the Konza Prairie display there. And so, if people want to know more about the Konza Prairie, then they have the instructions there at the desk.

Me: Cool. I think that wraps up everything. Do you have any final thoughts, questions, comments?

Interviewee: Well, I am kind of thinking of your project. It's a challenging one, because Prairiewood has a lot of challenges that we do, but they are wanting to bring people out to their site. So, they are wanting people to find the site and easily find it and know what is available to them. I think that is going to be really attracted to families that want to bring their children to experience these things. So that might be a really good focus.

Me: And I am also exploring that throughout this project.

Interviewee: And with the creek, I know they have the macro-invertebrate's collection all the creek, it just requires a lot of people available to help with that kind of thing; so, another challenge.

Me: Right and I am hoping once I sit down with Amy at Prairiewood and get her insight more in detail and you know hope to talk it out and gain some interest and potential ideas.

Conversation got off track about Prairiewood and Jill talks about connection with Kelli at Prairiewood and who took over for her.

Interviewee: Yeah, and we have a self-guided brochure and maybe if they had some kind of self-guided brochure that leads families without needing any other assistance might be a good idea. It would be kind of cool if they had one for each season. So if they had one for spring, summer, fall, and winter. Self-Guided Brochure. I mean it costs money to print stuff but that might be kind of cool.

Me: Yeah that would be a cool potential idea that they could hop on.

Interviewee: And even if they had, I'm going to do all sorts of brainstorming here, if they along the trail areas that are burned and areas that aren't burned and have some explanatory describing what burning does. And what happens over here in the unburned areas and how the kids can then go into these areas and do some discovery.

Me: and exposing that information to them at a younger so they grow up being aware of it.

Interviewee: So seeing it so they can see what has been burned and what hasn't...what's so obvious about that?
Me: But now they are understanding earlier why we need to do that and why it is beneficial and seeing it first-hand.

Interviewee: Yep, and seeing it. So, tell Prairiewood to do that!

Me: Definitely!

Closes conversation with thank you and exchange of contact information for other point of contacts that could be beneficial to the project.

Interview C.
~ 30 minutes

Introduction…gives insight to the project

Me: What are the demographics, ages, and interests of people who visit the FHDC?

Interviewee: Well, we get a very diverse audience. Really, you get folks that come here for different reasons. We do get your traditional tourists, who are on vacation and who are looking to do new, different, and interesting things in the places they visit. Those folks tend to visit more so during the traditional tourism season, the warm months, summer especially. And those can be families with children, they can be more middle-aged couples, they can be retirees. Folks who are traveling and looking for things to see and do in an area. You also get a fair number of people who come to this region for other reasons. Often times, its for business, reasons attached to the university (K-State), and often times people look for things to see and do when they are in the area. So those folks are also an audience here. You also get a fair number of people who are interested in our facility because it is a museum or a science center. We are part of a reciprocal program, and so there are science centers and discovery centers across the country where your membership at that site, you can get in for free here. And so, it works reverse there too there. We do get guest that come here because they know we are a good value to them because they comply that membership. That is something that only works when you are coming over

100 miles away, so there are some limitations there. But also, we get a significant level of community support and regional support. That means Manhattan, areas within a 30-mile radius, so say Junction City, Wamego, the rest of Riley County and Pottawatomi County, are a significant amount of our visitation here. Because we are a facility that not only is about the Flint Hills, but we have traveling exhibits and special programs and so serving that local audience is very important. So, we always try to do new and interesting things for them. There are certainly folks that come here because of our focus on the environment, on ecology. You'll often time meet these folks, they often times don't self-identify as such, but when you talk to them when they are in the building, it is very clear they are here because of our environmental focus, because of our mission to educate others about the Tallgrass Prairie, in particular. So those folks are always great guests because they are an easy sell. They already understand, to a certain degree, why the environment probably speaking is important. The difficulty laying in gapping that maybe lack of knowledge about the Flint Hills in particular, the Tallgrass Prairie a little more broadly. And so those folks are great guest to have because they are already primed to learn and once you start educating them and give them opportunities to learn, they really sort of take it all in.

Me: Cool, well that sounds like there's a wide variety of people coming in, which is great. Moving on to the next question: Approximately how many people visit the FHDC?

Interviewee: When we add it all up, and we do include visitors here as well as our program contacts, when we

do special events here, educational programs, when we add it all up it averages around 70,000 people a year. We have had higher years than that, 70,000 is a good average. Obviously, with COVID-19 pandemic, 2020 and 2021 were not our typical years, and those numbers were lower. But looking at years prior to that leading up to it, we accumulate around 70,000 visitors.

Me: Ok. Next question, what exhibits, programs, activities, and on-site locations are most popular among visitors to the FHDC?

Interviewee: Well, I'd say our theater and the film we show in there: Tallgrass Prairie Tides of Time. It's about a 15-minute short film, that give a very broad, but thorough overview of the Flint Hills. Talking about the natural resources, the cultural resources, and the historical resources, telling a complete story of the Flint Hills region. It has some special effects in it and its an immersive theater with a curve screen, so it makes for a very compelling, storytelling advice. That is very popular. I think one of the assets we have here is the building itself, the location, downtown location, as well as our exhibits, which were beautifully designed and executed so they are visually interesting, as well as being rich in content. One of the things our exhibits do very well is they are very visually attuned. They are very graphic rich. Everything was done sort of with the eye and look feel of everything, and the content was expertly researched. I know for a lot of those guests that come here as traditional tourist or who want to learn more about our environment, those permanent galleries, on the first floor, are very popular because they very much speak on what they want to learn about. For more of our community members, those

are traveling exhibits. These can cover a wide range of topics, and we change it up about three times a year. And that is in our second-floor gallery. And for our community members, giving them a reason to come back is important. You can see our film and our permanent exhibits, you can learn about the Flint Hills, and people do that. But it is always great to give them something a little more, something that changes, giving them a reason to return to their own museum in their own backyard.

Me: And I have been here before, as a side question, didn't you guys have a garden upstairs, a rooftop garden on the third floor? If I remember correctly.

Interviewee: Yep. And that is still there. We have a free outdoor public space. We call it the "Prairie Garden, Terrace, and Trail". It is our third-floor terrace, which is open to the public. And then there is a trail that goes down the back of the building and meets with the sidewalk. And we did a project a few years ago to put interpretive panels out there that teaches guests about that space, as well as the surrounding areas that you can see up high. All of the landscaping here was specifically designed with native plants, designed to showcase the flowers and the forbs and all the beauty of the prairie, all in this mini oasis downtown during our warmer months.

Me: Is that open year-round?

Interviewee: Yep, sure is! It's open in all day light hours and its free. It's considered essentially like a public park. The only thing that closes it is inclement weather, so when we have snow or ice.

Me: So, my next question: how many visitors to the FHDC are in-state residents versus out-of-state residents?

Interviewee: I don't have that number on hand. We do zip code analysis, which is the preferred process of identifying origins of visitors. The trick there though, when you collect information often times you collect it from the individual who is paying, and it doesn't accurately reflect visitation. So, you have a local person bringing in a group of people who are out of state, you'll get a local zip code even though the guests are out of state. So, it is a tricky thing to collect, from a guest service's point of view. But we do get a significant amount from out-of-state, but it does, like when I talked earlier about visitation, it's not even throughout the year. We get much more visitation from out of state visitors during the summer months versus any time of the year.

Me: My next question, what other places of environmental, cultural, or historical interest (other than the Tallgrass Prairie National Preserve) would you recommend that people visit within the Flint Hills to gain a greater appreciation of this ecoregion?

Interviewee: Well, we always encourage people to go out and explore the Flint Hills. We are an official travel information center with the state, and so with that, we do have a great resource on site in our informational kiosk, as well as in our side room with brochures and maps of regional attractions. With that official designation and that on site, we always try to lead people out into the region. We like to be the jumping off point for our guests here. Its part of our mission to get them out and actually enjoy that resource. We often get asked questions, the one we

get asked a lot, "how do I actually go out and see and be in the Flint Hills, be in that environment?" So, typically, that traditionally means only a handful of places allow for public access. Locally, the Konza Prairie Biological Station, they have the trails there. Tallgrass Prairie National Preserve. There's the Flint Hills Wildlife Refuge. If you go further, there are some public and city parks that maintain native prairie. You can go far south as Oklahoma, you do have the Tallgrass Prairie Preserve that is operated by the Nature Conservancy, which is down in Oklahoma. Most often, when we talk to guest here, that is a little too far out of the range. It still is in the Flint Hills, but when you are up here in MHK, that's about three to four hours to get down there. So, we do provide guest the choice, it always depends on how much time they have, what they want to do exactly, what they want to learn about, do they want to go hiking, or do they want to do more of a specialized experience there are some groups that offer some more extinct experiences: horseback riding, or ziplining things like that. That always just depends on the guests.

Me: Next question, do you have any indications of visitors' awareness of, or plans to travel to, other environmental, cultural, or historical places of interest within the greater Flint Hills region that might be an attraction?

Interviewee: Generally speaking, how we learn about what they want to learn more of is through basic conversation. We have a lot of volunteers that work in our main floor. We have a lot of folks that work at the front desk. They get asked questions: "Where can I go to see this? What can I do?" We provide them resources.

Asks to repeat question for clarification.

Interviewee: It's interesting because our information is a little bias that we generally interact more with people who need to ask us those questions. And so, if they know already where they want to go, they don't ask us. And so, I don't want to emphasize on that people don't know where to go and they keep asking us. Those are just the people that happen to talk to us. And so, we have maps that we hand out to people who want to know how to get to the Konza Prairie, for example. Any question that we get asked, that one is a little more frequent. More common: "where can I go hiking?" or "where is the Konza Prairie?" But, I mean, its hard, because we have never done really any formal survey or studies here about guests, as to their knowledge and intentions. I would love to do one, but I would say we get a variety of folks that know what to do next, and some who come to us to ask us. Those are the ones who we happen to interact with more.

Me: Cool. And my last question which you touched base on a little earlier, what resources are made available to these travelers that informs them about other attractions related to the Flint Hills?

Interviewee: The Flint Hills Gateway Kiosk, is an interactive touchscreen platform that includes destinations of interest throughout the region: natural sites, museums, stores restaurants, anything that is really and truly unique to our region is available on that. They can actually select the site that they are interested in, they can print an itinerary

or email a copy to themselves in that kiosk. We also have a travelers information center and the documents in that. That is something we partner with Visit Manhattan group in town, as well as the Kansas Tourism department. So, that information provides up to date brochure and maps of regional attractions. Those are managed by an outside third-party supplier, so we don't actually manage that. We are the host space for that, and so those are free and available to any guest that comes in here. We do like to direct guests to those racks so they can pick what they need. And we do have a few resources that are at our front desk. Maps of MHK, things to do in town, how to get to Konza Prairie. And the Flint Hills maps on the Flint Hills Regional Coalition. They have a map that features the region and that is helpful to folks who like driving maps. You can grab a highlighter and highlight the route where they want to go.

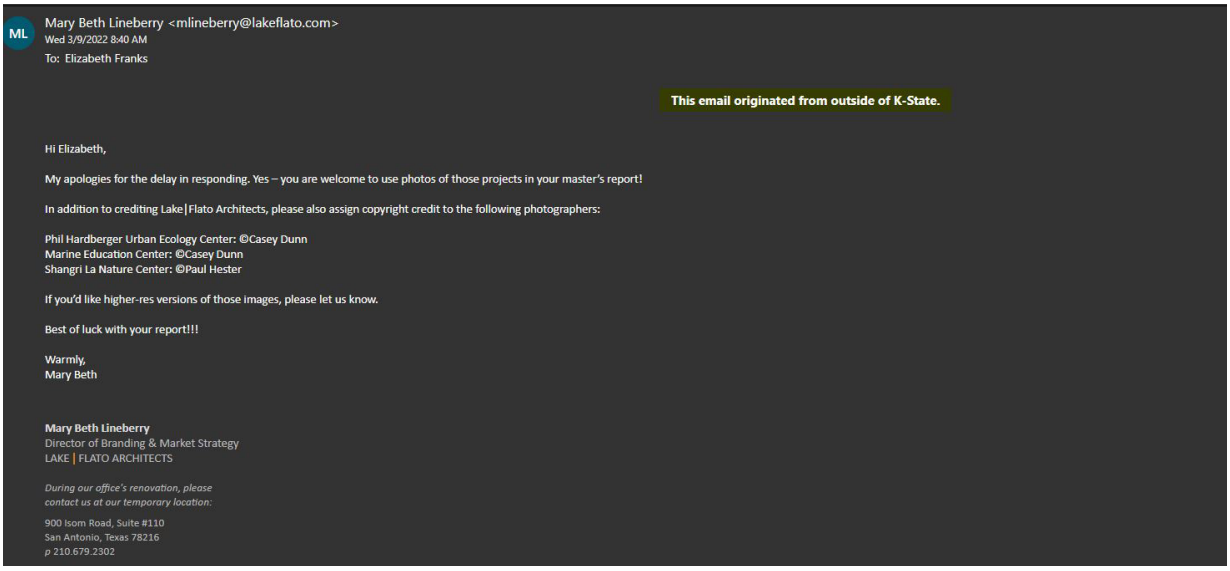
Me: follow up, how often is the brochure room updated throughout the year?
Interviewee: You know, I don't know. It is a third party, so I honestly don't know. It's for sure at least monthly, if not more. I say we see that gentleman here at least once a month. But it may be a thing that he visits more during the visitor's month.

Conclusion and thank you comments.

Appendix E. Image Permissions

Majority of images used in this report were taken by the author or from the National Park Service and Kansas State Univsersity Konza Prairie Biological Station.

Several of the precedent images used in this report required consent to use. Consent for these images were requested and approved from the firms. See screenshots of consent given via email.



Mary Beth Lineberry <mlineberry@lakeflato.com>
Wed 3/9/2022 8:40 AM
To: Elizabeth Franks

This email originated from outside of K-State.

Hi Elizabeth,

My apologies for the delay in responding. Yes – you are welcome to use photos of those projects in your master's report!

In addition to crediting Lake|Flato Architects, please also assign copyright credit to the following photographers:

Phil Hardberger Urban Ecology Center: ©Casey Dunn
Marine Education Center: ©Casey Dunn
Shangri La Nature Center: ©Paul Hester

If you'd like higher-res versions of those images, please let us know.

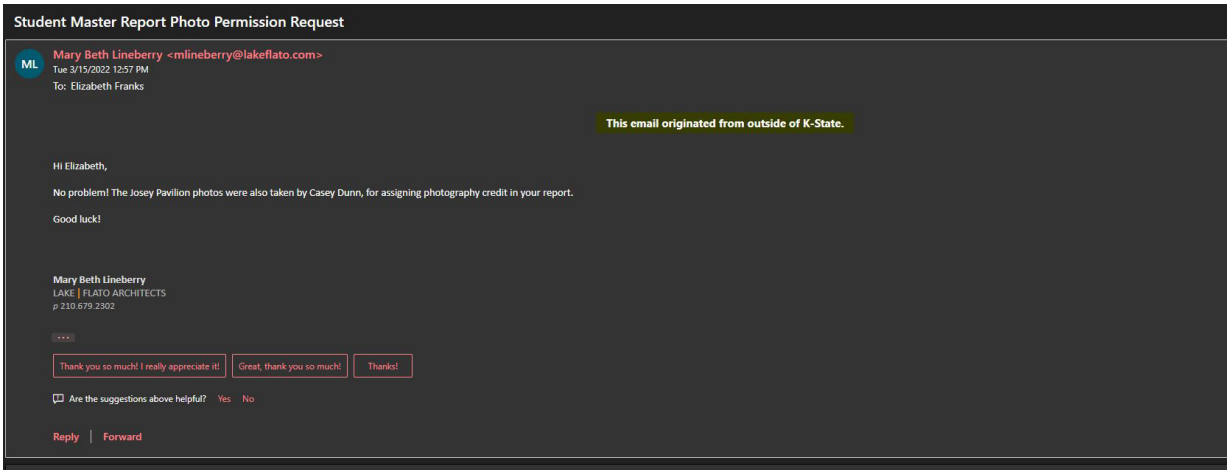
Best of luck with your report!!!

Warmly,
Mary Beth

Mary Beth Lineberry
Director of Branding & Market Strategy
LAKE | FLATO ARCHITECTS

During our office's renovation, please contact us at our temporary location:

900 Isom Road, Suite #110
San Antonio, Texas 78216
p 210.679.2302



Student Master Report Photo Permission Request

Mary Beth Lineberry <mlineberry@lakeflato.com>
Tue 3/15/2022 12:57 PM
To: Elizabeth Franks

This email originated from outside of K-State.

Hi Elizabeth,

No problem! The Josey Pavilion photos were also taken by Casey Dunn, for assigning photography credit in your report.

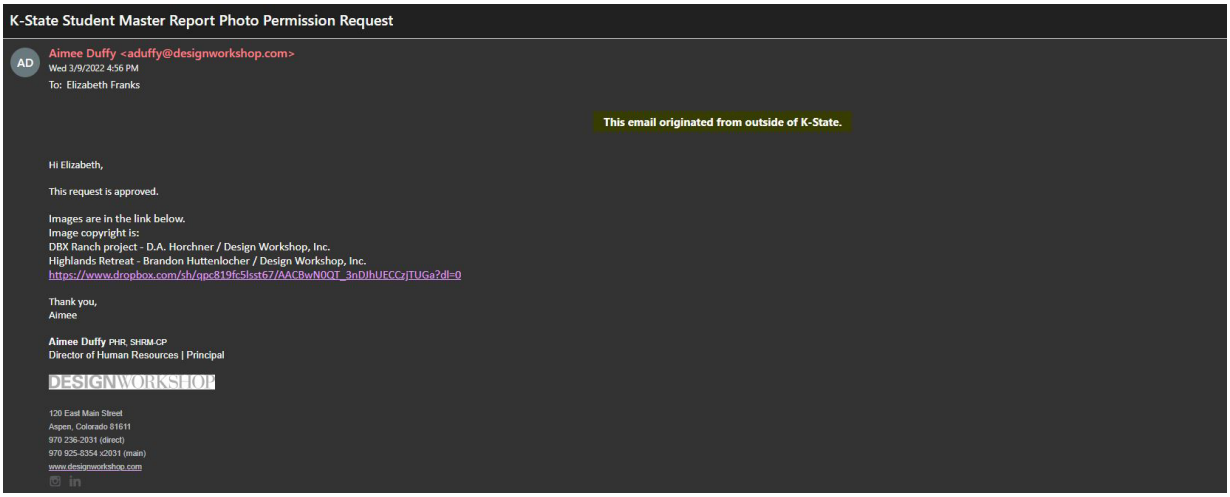
Good luck!

Mary Beth Lineberry
LAKE | FLATO ARCHITECTS
p 210.679.2302

Thank you so much! I really appreciate it! | Great, thank you so much! | Thanks!

Are the suggestions above helpful? Yes No

Reply | Forward



K-State Student Master Report Photo Permission Request

Aimee Duffy <aduffy@designworkshop.com>
Wed 3/9/2022 4:56 PM
To: Elizabeth Franks

This email originated from outside of K-State.

Hi Elizabeth,

This request is approved.

Images are in the link below.
Image copyright is:
DBX Ranch project - D.A. Horchner / Design Workshop, Inc.
Highlands Retreat - Brandon Huttenlocher / Design Workshop, Inc.
https://www.dropbox.com/sh/qpc819fe5lsst67/AACBwN0QT_3nDJhUECCzJTUGa?dl=0

Thank you,
Aimee

Aimee Duffy PHR, SHRM-CP
Director of Human Resources | Principal

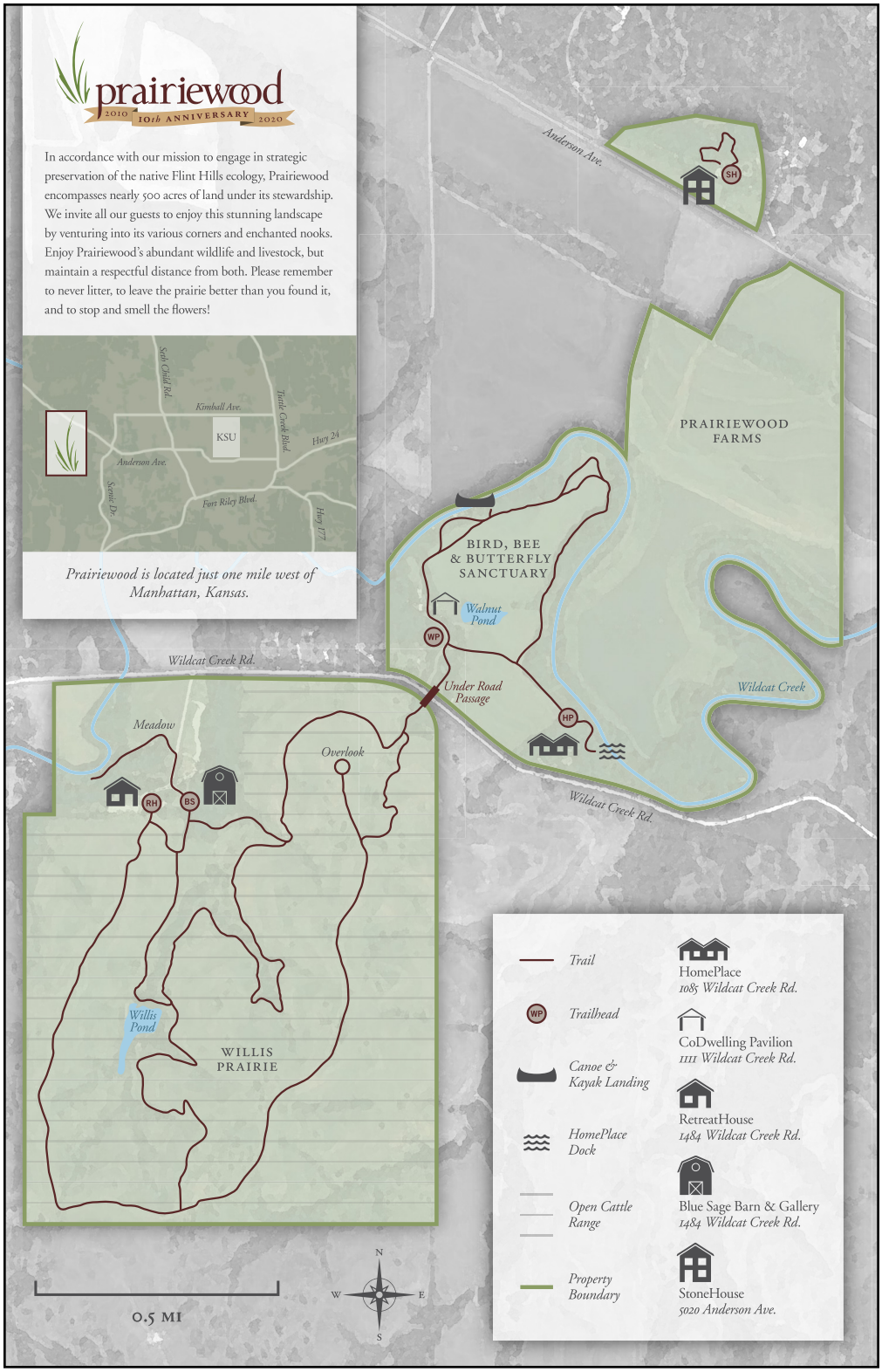
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120 East Main Street
Aspen, Colorado 81611
970 236-2031 (direct)
970 925-8354 x2031 (main)
www.designworkshop.com

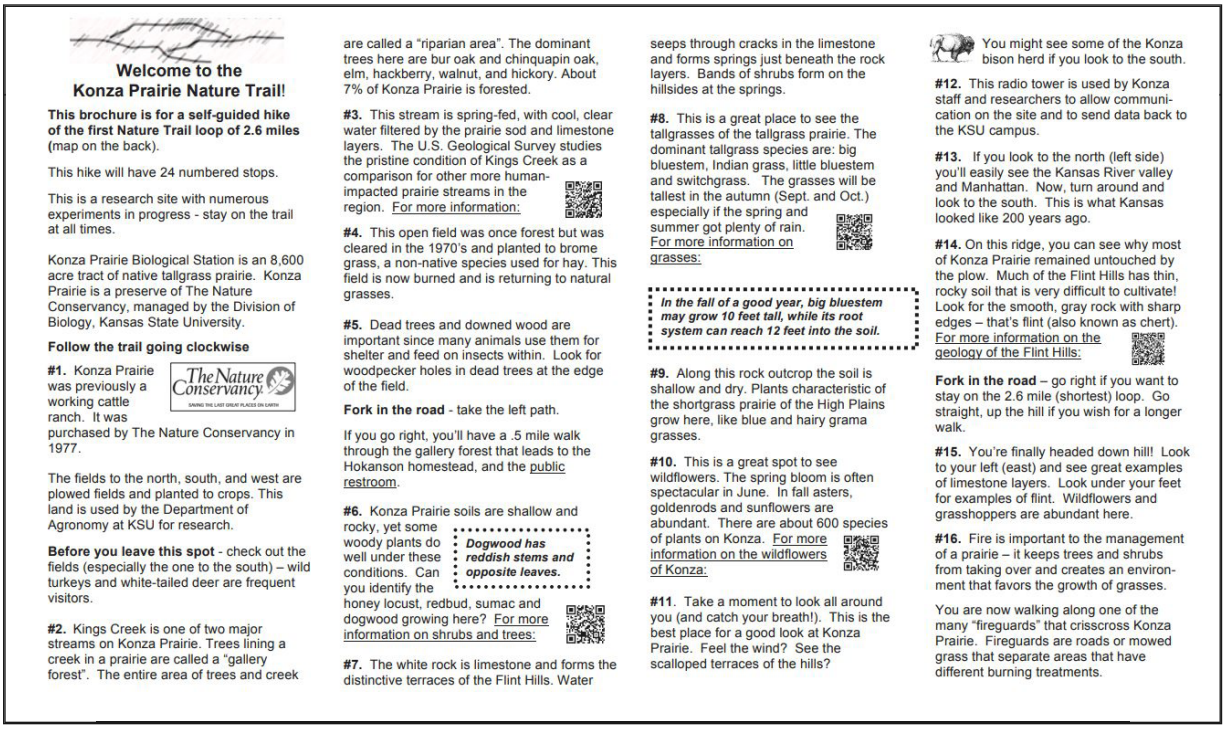
Appendix F. Exisiting Maps

Following are existing trail maps that are made available to the public. These maps were obtained from Prairiewood Retreat House, Konza Prairie Biological Station, and the Tallgrass Prairie National Preserve (National Park Service).

Prairiewood Trail Map



Konza Prairie Self-Guided Trail brochure



Welcome to the Konza Prairie Nature Trail!

This brochure is for a self-guided hike of the first Nature Trail loop of 2.6 miles (map on the back).

This hike will have 24 numbered stops.

This is a research site with numerous experiments in progress - stay on the trail at all times.

Konza Prairie Biological Station is an 8,600 acre tract of native tallgrass prairie. Konza Prairie is a preserve of The Nature Conservancy, managed by the Division of Biology, Kansas State University.

Follow the trail going clockwise

#1. Konza Prairie was previously a working cattle ranch. It was purchased by The Nature Conservancy in 1977.

The fields to the north, south, and west are plowed fields and planted to crops. This land is used by the Department of Agronomy at KSU for research.

Before you leave this spot - check out the fields (especially the one to the south) – wild turkeys and white-tailed deer are frequent visitors.

#2. Kings Creek is one of two major streams on Konza Prairie. Trees lining a creek in a prairie are called a "gallery forest". The entire area of trees and creek are called a "riparian area". The dominant trees here are bur oak and chinquapin oak, elm, hackberry, walnut, and hickory. About 7% of Konza Prairie is forested.

#3. This stream is spring-fed, with cool, clear water filtered by the prairie sod and limestone layers. The U.S. Geological Survey studies the pristine condition of Kings Creek as a comparison for other more human-impacted prairie streams in the region. For more information:

#4. This open field was once forest but was cleared in the 1970's and planted to brome grass, a non-native species used for hay. This field is now burned and is returning to natural grasses.

#5. Dead trees and downed wood are important since many animals use them for shelter and feed on insects within. Look for woodpecker holes in dead trees at the edge of the field.

Fork in the road - take the left path.

If you go right, you'll have a .5 mile walk through the gallery forest that leads to the Hokanson homestead, and the public restroom.

#6. Konza Prairie soils are shallow and rocky, yet some woody plants do well under these conditions. Can you identify the honey locust, redbud, sumac and dogwood growing here? For more information on shrubs and trees:

Dogwood has reddish stems and opposite leaves.

#7. The white rock is limestone and forms the distinctive terraces of the Flint Hills. Water seeps through cracks in the limestone and forms springs just beneath the rock layers. Bands of shrubs form on the hillsides at the springs.

#8. This is a great place to see the tallgrasses of the tallgrass prairie. The dominant tallgrass species are: big bluestem, Indian grass, little bluestem and switchgrass. The grasses will be tallest in the autumn (Sept. and Oct.) especially if the spring and summer got plenty of rain. For more information on grasses:

In the fall of a good year, big bluestem may grow 10 feet tall, while its root system can reach 12 feet into the soil.

#9. Along this rock outcrop the soil is shallow and dry. Plants characteristic of the shortgrass prairie of the High Plains grow here, like blue and hairy grama grasses.

#10. This is a great spot to see wildflowers. The spring bloom is often spectacular in June. In fall asters, goldenrods and sunflowers are abundant. There are about 600 species of plants on Konza. For more information on the wildflowers of Konza:

#11. Take a moment to look all around you (and catch your breath!). This is the best place for a good look at Konza Prairie. Feel the wind? See the scalloped terraces of the hills?

You might see some of the Konza bison herd if you look to the south.

#12. This radio tower is used by Konza staff and researchers to allow communication on the site and to send data back to the KSU campus.

#13. If you look to the north (left side) you'll easily see the Kansas River valley and Manhattan. Now, turn around and look to the south. This is what Kansas looked like 200 years ago.

#14. On this ridge, you can see why most of Konza Prairie remained untouched by the plow. Much of the Flint Hills has thin, rocky soil that is very difficult to cultivate! Look for the smooth, gray rock with sharp edges – that's flint (also known as chert). For more information on the geology of the Flint Hills:

Fork in the road – go right if you want to stay on the 2.6 mile (shortest) loop. Go straight, up the hill if you wish for a longer walk.

#15. You're finally headed down hill! Look to your left (east) and see great examples of limestone layers. Look under your feet for examples of flint. Wildflowers and grasshoppers are abundant here.

#16. Fire is important to the management of a prairie – it keeps trees and shrubs from taking over and creates an environment that favors the growth of grasses.

You are now walking along one of the many "fireguards" that crisscross Konza Prairie. Fireguards are roads or mowed grass that separate areas that have different burning treatments.

Trail

Turn right at the next sign! If you go straight expect to go down a steep hill.

#17. This rock ledge is formed by an outcropping of the "Cottonwood limestone", which provided the traditional building material in this part of the Flint Hills.



Along this section of the trail it's common to find collared lizards. You'll need to be quiet and stealthy! Look for them basking on a sunny rock.

#18. Look in the brushy areas for woodrat nests ("middens"). These large collections of sticks and leaves can be quite impressive. The solitary woodrat may have more than one home under rock ledges or on the ground in shrubby areas.

#19. Public Restroom. In front of you is the composting toilet, built in 2001 for your convenience. Please observe the rules for use inside. The trail turns to the right here.

#20. Down the hill to your left is what remains of the original **Hokanson Homestead** built by Swedish settlers in 1878.

The trees on your right are American elm and hackberry. The strong winds have bent and broken these trees and summer heat and drought have slowed their growth.

#21. The trees here are chinquapin oaks, one of two species of oak that occur in the gallery forest. Note the shape of the leaves and the smooth acorn caps.

#22. The large tree seen here was a bur oak. A fungal infection recently killed this stately specimen. It now has a second life as a home for many insects and worms that help to decompose this tree. Expect to see some woodpeckers here.

#23. Cottonwoods and willows indicate the presence of water. A perennial spring issues from the rock outcrop above these trees. Early settlers knew that where cottonwoods grew, water could be found. Perhaps this is the reason that the cottonwood was chosen as the Kansas state tree.

#24. You are at the end of the Nature Trail loop. Continue left to the parking lot.

Funded in part by a grant from the Geary County Convention & Visitors Bureau.

Please take only photos and leave only footprints. No pets allowed!

Please recycle this guide – leave it at the kiosk for others to use.

$2.00 Trail fee – pays for trail maintenance and upkeep.

More information:

Konza Environmental Education Program
http://keep.konza.ksu.edu

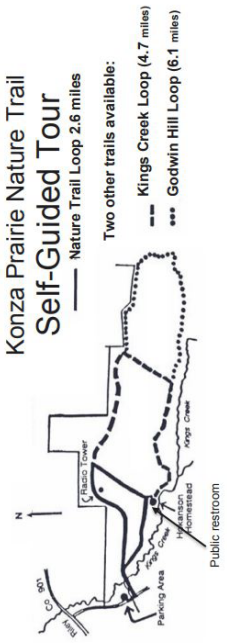
Friends of Konza Prairie
http://keep.konza.ksu.edu/friends/

Konza Prairie Docent (Volunteers) Program
http://keep.konza.ksu.edu/docents/

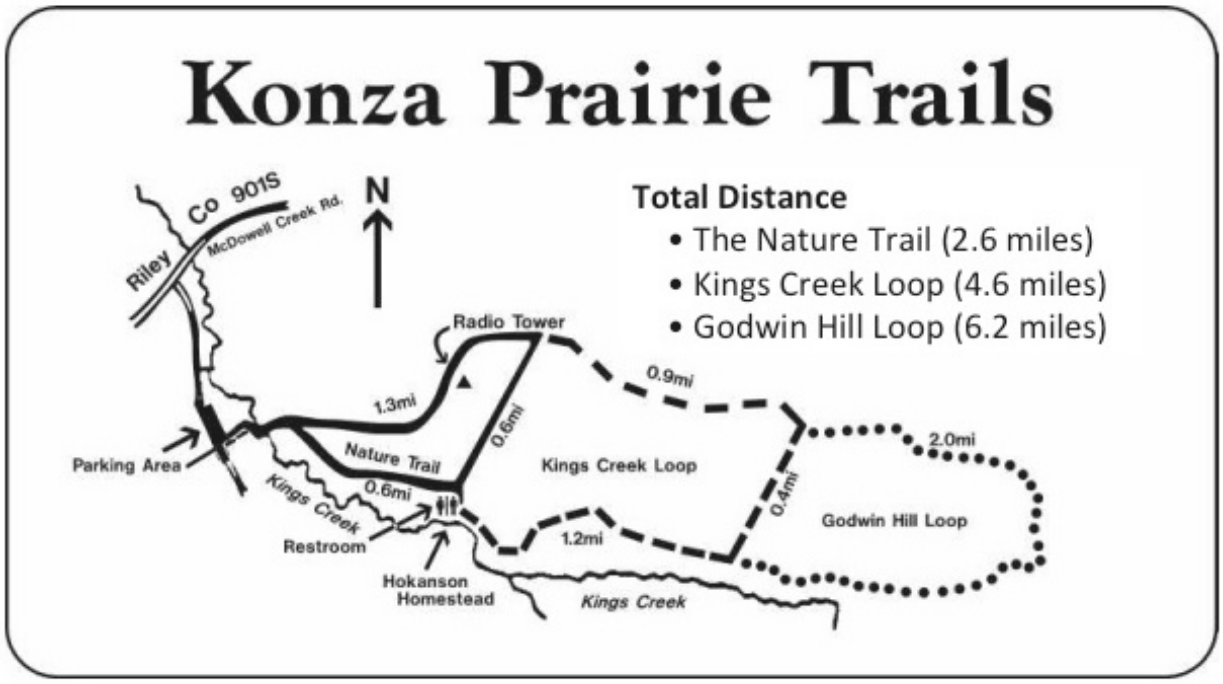


Konza Prairie Management
http://kpbs.konza.ksu.edu/mission.html

Research on Konza Prairie
http://kpbs.konza.ksu.edu/currentresearch.html



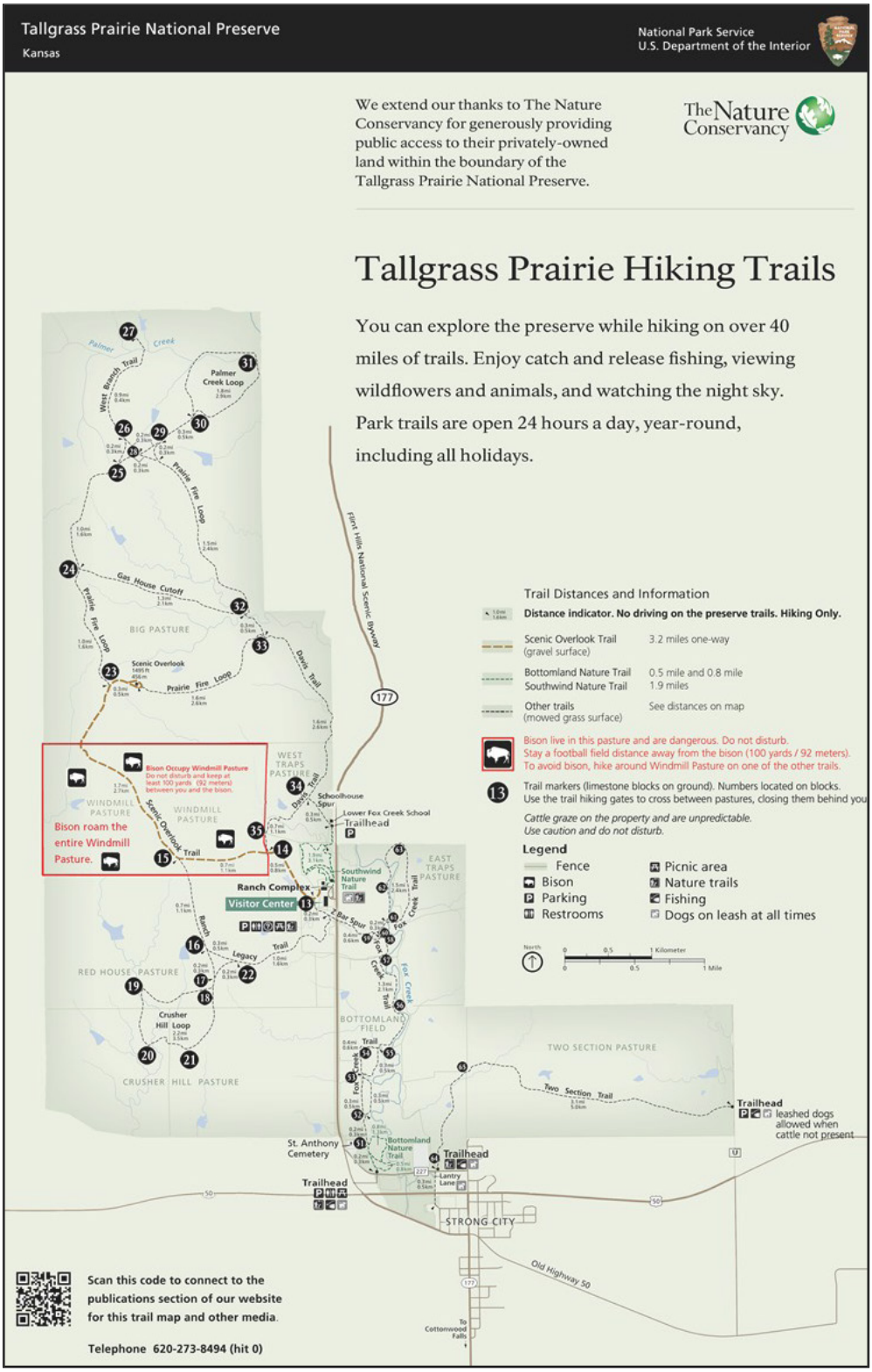
Konza Prairie Trail Map



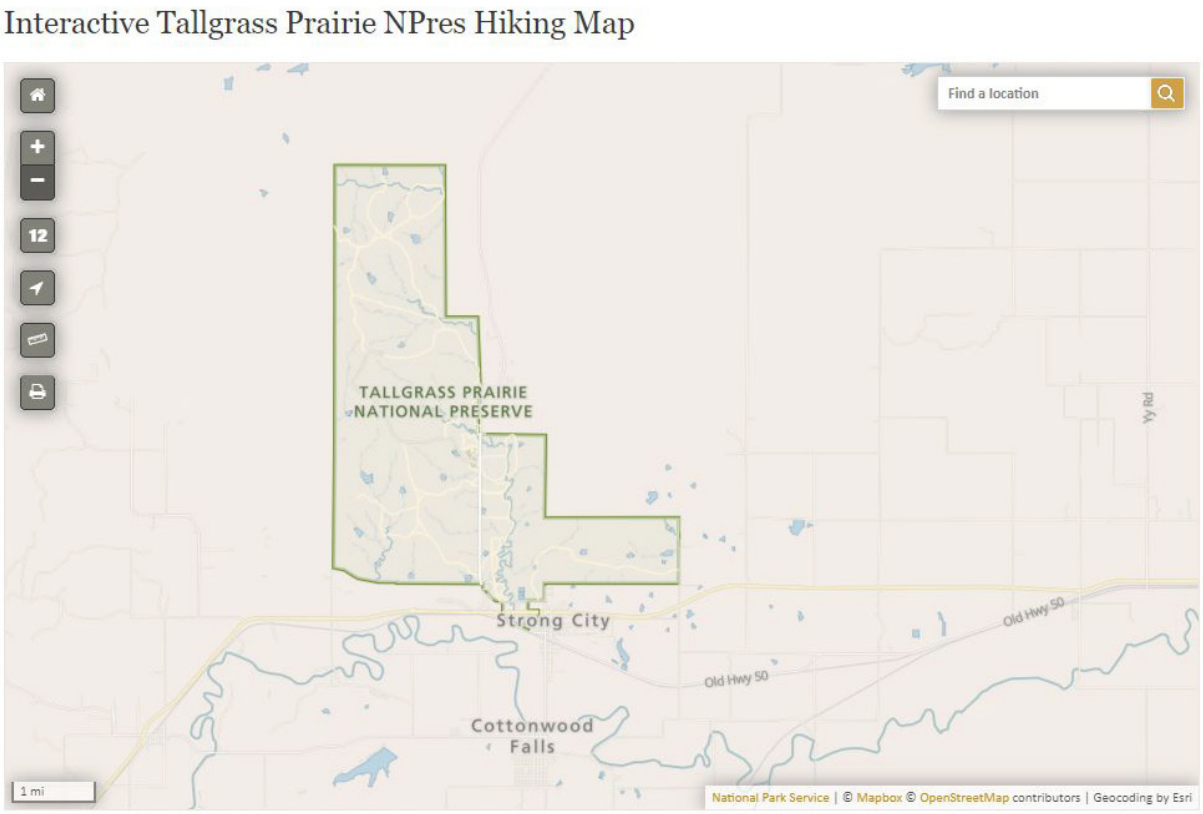
For more information, refer to the Konza Environmental Education Program at

https://keep.konza.k-state.edu/visit/

Tallgrass Prairie Hiking Trail Map



Interactive Tallgrass Prarie Map



For more information, refer to the National Park Service at

https://www.nps.gov/tapr/index.htm

https://www.nps.gov/articles/000/tallgrass-prairie-npres-hiking-map.htm

Appendix G.
Project Workplan

