MASTER PLAN

Carmel, Indiana

June 2022

BEAR CREEK PARK

Carmel • Clay Parks&Recreation | pros consulting | synthesis | SMITHGROUP

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LETTER FROM THE DIRECTOR

On behalf of Carmel Clay Parks & Recreation, it is my privilege to share with you the Bear Creek Park Master Plan. Anchored by the needs of our community and a commitment to environmental stewardship, this plan establishes the vision for a new park destined to provide incredible experiences and lasting memories for generations to come.

For anyone that has visited the Bear Creek Park site, it seems like it was destined to become a park. With rolling topography, its namesake creek, and existing prairies and trees, it is already a nature-lover's dream. Thanks to an innovative public input process, this park will also become a transformative space that inspires play and exploration while meeting the recreation needs of our ever more diverse community.

Because our parks are for the benefit and enjoyment of all people, I want to thank the community for your contributions to the master plan. Your voice and ideas, including enlightening (and entertaining) input from elementary, middle school, and high school students, helped inspire the park's design and guide its future uses.

This planning process was just one step in the journey for Bear Creek Park. Working with our community leaders to secure the necessary funding, CCPR looks forward to making this master plan – your vision for Bear Creek Park – a reality.

Recreationally Yours,

Michael W. Klitzing, CPRE

Director of Parks and Recreation/CEO

1.0 INTRODUCTION

1.1 PROJECT HISTORY AND BACKGROUND

Bear Creek Park was acquired by Carmel Clay Parks & Recreation (CCPR) in 2020. Prior to its acquisition the property was a residence and had been privately held for almost 100 years. Historic aerial photos dating back to 1931 indicate this property and the neighboring properties were farmed until the early 2000's. By 2005, much of the land that had been used for row cropping or grazing, had been converted to a planted prairie or tree plantation, discussed in more detail in Section 2.2.

Because the site had been privately held for so long, there were very few community members who had any meaningful experiences onsite. This presented a problem and opportunity for collecting community opinions about how the site should be developed and the types of park programming and amenities that should be provided in the park. Without having any real experiences onsite, or even visual access to the location, many in the community were unaware of the intrinsic character of the new park before the master plan process began. To enable the community to experience the site personally, CCPR made the unprecedented move of 'soft' opening the park before it was developed, CCPR provided primitive access opportunities so the community could get into the park and develop firsthand experiences.

Master planning of the park began in the spring of 2021 and ended in the spring of 2022. The process was deliberately slower than is customary to enable the community more time to be onsite and use their new firsthand experiences to better inform the planning process. The slower process also enabled the design team and CCPR staff to spend more time onsite throughout the year. This afforded the team the opportunity to experience the park in all seasons (during rain, snow, and shine; hot, warm, and cold).

Bear Creek Park is envisioned as a community park and is well-suited to serve Carmel's growing northwest population. For many residents in this developing portion of the city, this will be their closest park. Many of the participants in the engagement process were nearby or immediately adjacent neighbors who expressed interest in walking trails, picnicking, biking, as well as playgrounds, splash pad, and recreation courts. In addition, it was clear that this would be a site used by CCPR's summer camp program and needed infrastructure to accommodate 75-100 campers.

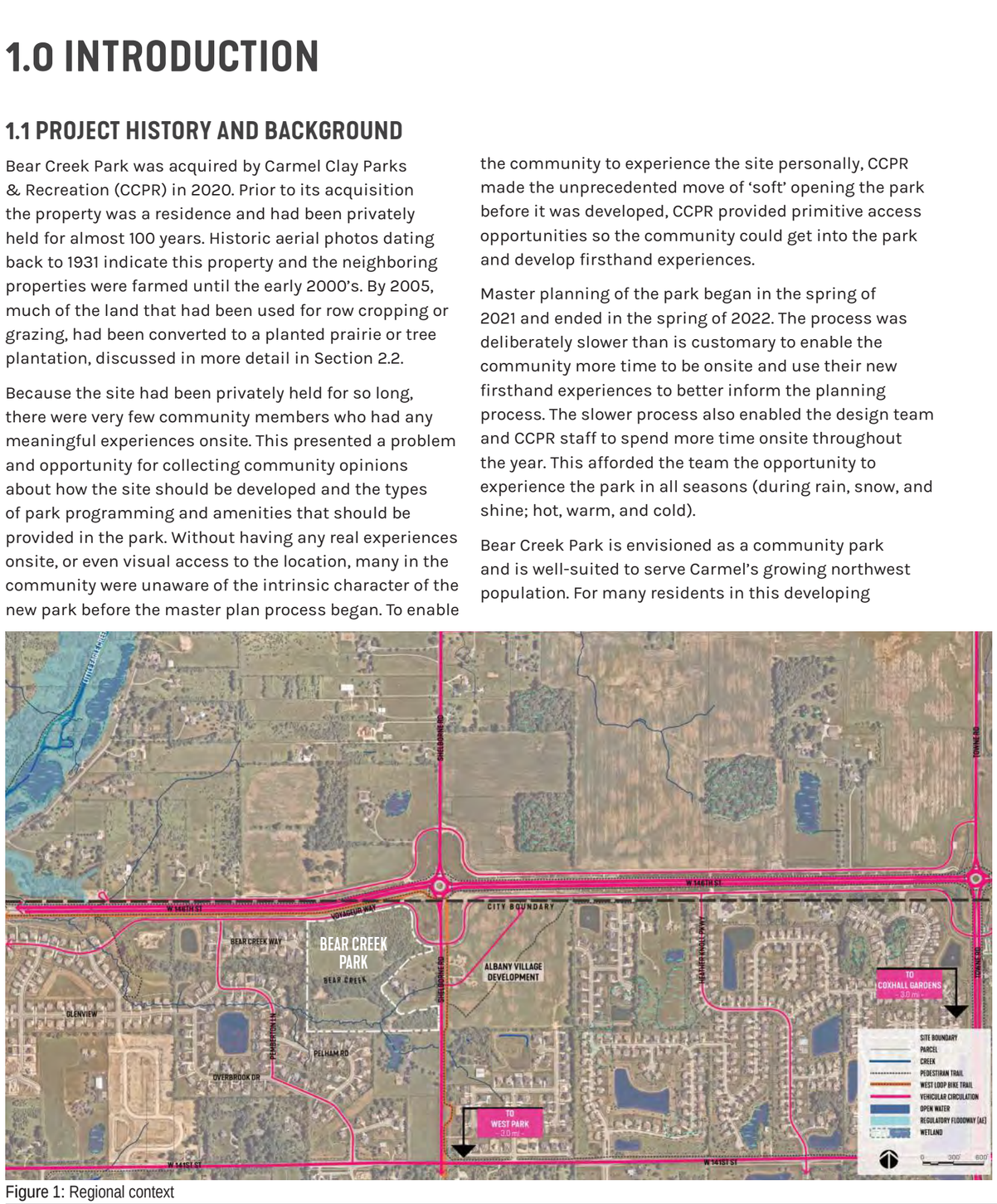


Figure 1: Regional context

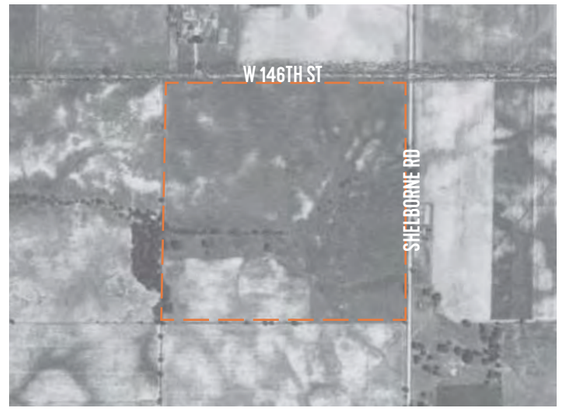
As the master plan was developed through the community engagement process, it became clear there was a desire for the site to be more than a neighborhood park. The proposed site programming, such as the treehouse play and tower, were derived from the existing site grading and portions of the vegetative cover. The master plan concepts along with the park characteristics allow the park to serve as a unique community draw.

1.2 PROJECT AREA

Bear Creek Park is located in the northwest corner of Carmel, Indiana and fills a service gap in this part of the city. Given its proximity, it is recognized that the park will also serve portions of neighboring communities. This corner of Carmel is one of the fastest growing areas in the city, county, and state, with rich cultural diversity. Surrounding the park are many new (and growing) residential developments. These developments are predominantly detached, single-family homes. Many of the residents in these newer neighborhoods are two-income families employed in professional fields.

Several nearby or immediately neighboring community members who participated in the public engagement of the project expressed the need for a park that would accommodate families with younger to teenage children, a place to passively recreate, to picnic as a family, and also a place to play. This is further supported by the demographics of the area.

The site can be accessed from Voyageur Way on the north and Shelborne Road on the east. While bike trails to the park, particularly along Shelborne Road, are not yet complete, they are planned as part of future development. In addition, the park is located in the middle of an expanding east-west greenway, the result of dedicated open space set aside in the new residential developments on either side of the park.



1941

1956

1985

Figure 2: Historic aerials of Bear Creek Park property

1.3 PROPERTY DESCRIPTION

Totaling approximately 27-acres, the site is located in the southwest corner of the intersection of Shelborne Road and 146th Street. Voyageur Way, a frontage road on the south side of 146th Street, defines the site's northern boundary. The property abuts Shelborne Road along the east edge of its southeast corner. A private residential neighborhood borders most of the southern and western edges, except for the site's southeast corner which borders the future location for an Islamic Life Center currently in the planning stages. The property would be roughly rectangular except for a 5-acre cutout owned by private residents in the central eastern edge of the site and the Voyageur Way and Shelborne Road intersection in the northeastern corner of the site. The property is currently accessed by the former residential driveway off Shelborne Road

The site is split into north and south sections approximately through the middle by Bear Creek, a low flow creek. Its peak flows are driven by season (spring melt and rain) and storms. During droughty periods the creek will go dry. Even in wet years the flow can be little more than a trickle or present itself as saturated soils in the creek bottom in the drier months of the year. During spring runoff or following heavy storm periods, the flow is deeper and its presence is more pronounced. Bear Creek flows west and north discharging into the Little Eagle Creek watershed.

At the east end of the site the creek is formed from the confluence of two tributaries that flow around the north edge and south edge of the 5-acre cutout. The north tributary is fed by road runoff from 146th Street, Voyageur Way and Shelborne Road The southern tributary comes from the east side of Shelborne Road, fed by stormwater runoff from the residential developments east of Shelborne Road

The existing site grades are one of the two key attributes that gives the site its character, the other is the existing vegetation patterns, discussed later. The site grades down to the creek, forming a bowl or valley with higher grades at the north and south edges of the park. A low earthen bluff between 6 and 12 feet in height defines the change in grade between the creek bottom and the south face, whereas the sweep up the north face is more gradual. The creek valley, beginning with the tributaries to the east and continuing through the middle of the site,

Figure 3: Aerial photo from September 2021

is heavily wooded. This wood continues west beyond the site, hugging the creek as it flows west.

The property can be differentiated into one of five significant vegetative land covers: scrub woods along the west, south, and east edges of the property; wet woodlands along the creek bottom; established prairie on the south face; established prairie on the north face; and an oak plantation along the upper half of the north face. A more detailed discussion of the creek and vegetative land covers follows in the Existing Ecology description.

A 40' wide sewer easement runs along the west side of the park along the north side of the creek, across the creek east to Shelborne Road The easement and sewer line imact where and how features of the park can be designed.

Figure 4: Condition of Bear Creek

EXISTING ECOLOGY OF THE PARK

Bear Creek can be seen in aerial photos dating back to the 40's. An aerial photo from 1998 (see page 5) provides the clearest historic aerial photo and presents some of the most interesting stream morphology history of the creek. In the '98 photo, the northern and southern tributaries as well as Bear Creek are clearly seen. The two tributaries show evidence of straightening from farming and development. In addition, the image suggests that the creek was fed by flow other than stormwater runoff. Staining patterns in the photo indicate the tributaries were fed by tile drains from the farm parcels that had been on the east side of Shelborne Road The latent form of the tributaries can be seen in the fields as well as in unfarmed parcels. Without a more detailed historical hydraulic study it is not clear if these represented larger natural drainage systems, prior to farming, fed by seeps, springs, or overland flow. It is also unclear how the tributary arms east of Shelborne Road have been changed because of development. Today, however, there is little evidence of the tributaries in the aerial images.

In addition, the '98 photo suggests Bear Creek had once been straightened, though it is unclear when. A photo from 1985 faintly shows longer and more dramatic meanders than what can be seen in '98. In the photo, Bear Creek shows it is beginning the process of reestablishing a fluvial morphology to match its flow and volume. Subtle, minor bends suggest the creek was reestablishing meanders. Without clearer aerial photography of this reach of the creek before it was straightened, we won't know exactly how it looked. However, in the '98 photo we get a hint from a reach of the creek immediately west of the park. In the '98 photo long, loopy meanders are seen in an open meadow where the creek once flowed north and west. This pattern of meandering was very likely what Bear Creek would have looked like before it had been straightened. It serves as the pattern for how Bear Creek should look after

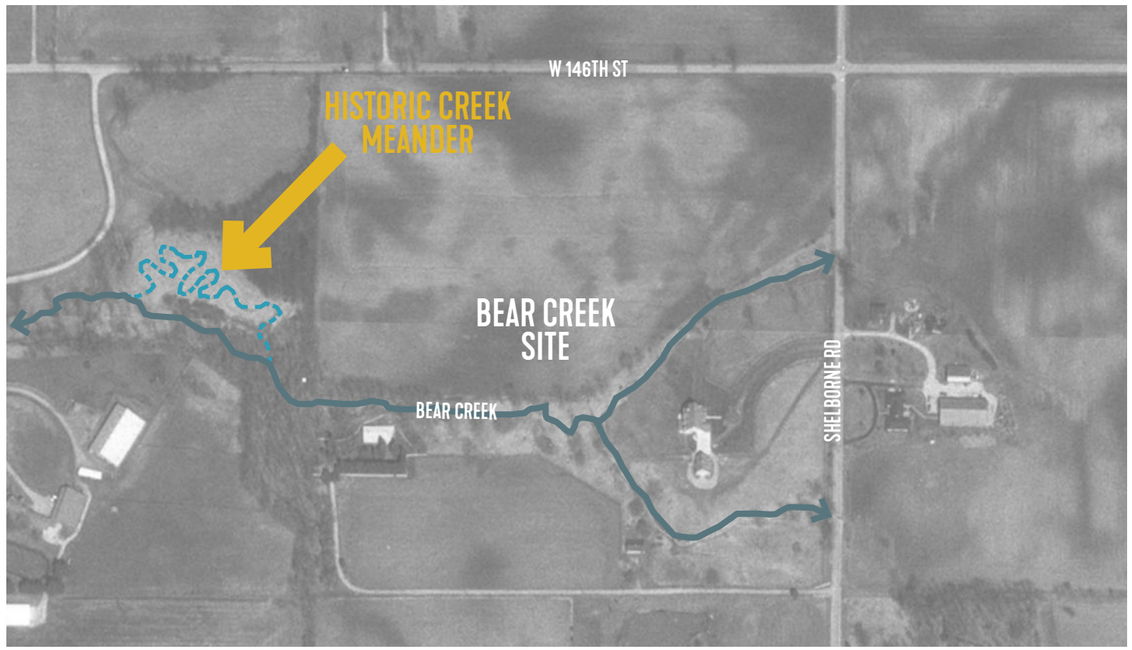


Figure 5: Historic meander of Bear Creek

restoration. In addition, the open vegetative character seen in the '98 aerial suggests that the creek bottom was historically characterized by wetland, wet prairie, or meadow; not heavily wooded or tree dominated, as it is today.

The edges of the park are dominated by a mixed scrub woodland comprised of native and invasive species: black walnut, ash, boxelder, cedar, red maple, Norway spruce, honesuckle, and gooseberry. (Juglans nigra; Fraxinus americana; Acer negundo; Thuja occidentalis; Acer rubra; Picea abies; Lonicera tartarica; Ribes missouriense). Some of the vegetation was planted, most are pioneer scrub species; remnants of no disturbance in these regions. While these vegetated edges provide a buffer between the park and the surrounding parcels, they have low ecological value. There is some cover value, but low nutritional value for many faunal species.

As noted earlier, the creek bottoms are dominated by a wet wood. Just as with the scrub wood, the dominant species are predominantly weedy natives or invasives (walnut, ash, boxelder, honeysuckle, gooseberry). It is clear from historical imagery that the creek bottoms were always vegetated, however it is not clear the degree to which it was dominated by wood or more open vegetative communities. The creek bottom stands out in contrast to row crop fields, but the images lack the resolution to determine the extent of cover versus openness.

Two prairies were planted at the site sometime in the 2000's. These are not high-quality prairies; however, they are well-established with few invasive species. A survey of invasive species within the prairies was conducted by CCPR in 2021 and found populations of invasive species within the prairies was very low. The species planted represent those that easily establish. These spaces provide some ecological value as habitat and food sources for desirable native fauna.

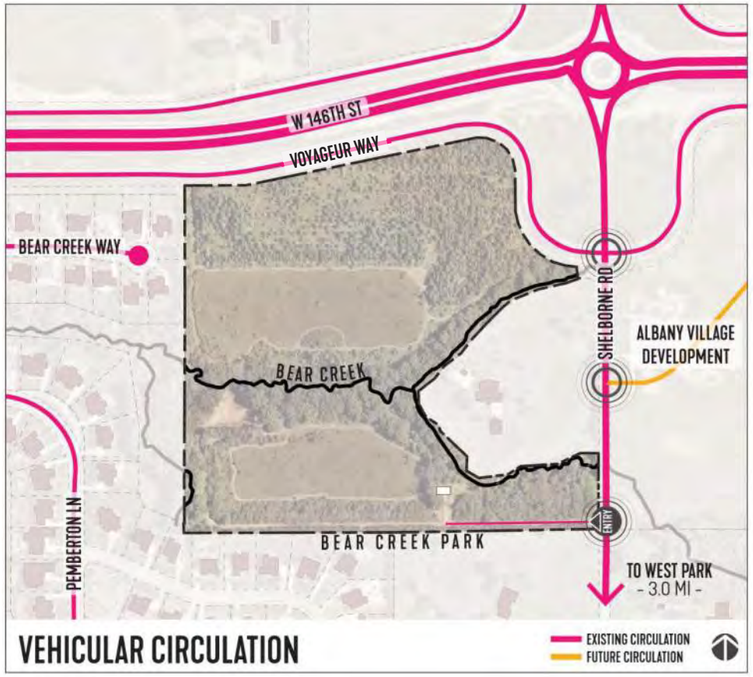
Where the north prairie transitions to the creek bottom and wet wood, a large stand of cane willow (S. spp.) forms a brow.

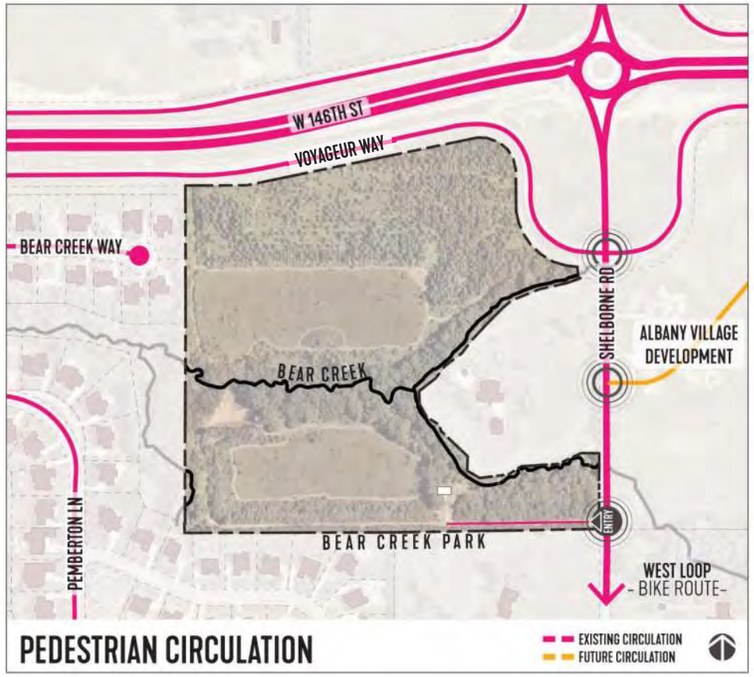
Finally, approximately half of the north side of the park was planted in a tree plantation. The trees are planted on a grid, likely plugged or seeded by tractor, and are dominated by oak species (white, Q. alba; bur, Q. macrocarpa; scarlet, Q. coccinea; chinkapin, Q. muhlenbergii and red oak Q. rubra) as well as with some maples (A. rubrum). Some undesirable invasive species have also established in the plantation, most notably Asian pear (P. calleryana) and Russian Autumn Olive (E. augustifolia). Some desirable native shrubs or small trees including hazelnut (C. americana) have also established in this area, but it is unclear if they were planted or found their way to the site.

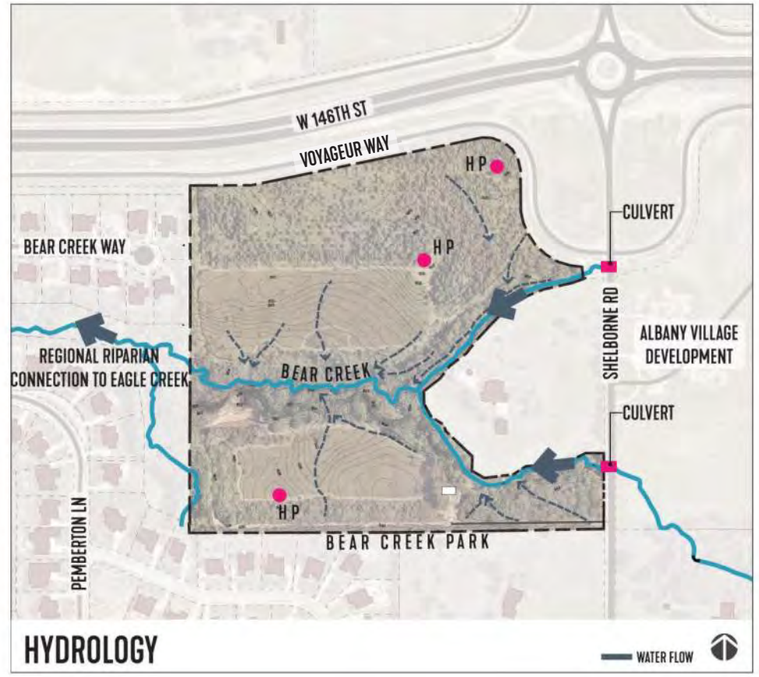
The total area of existing woods including the mixed scrub wood and the wet wood is 15.23 acres. The total area of existing prairie and plantation is 9.85 acres. The amount of wood found at the site today is higher than it would have been historically. This isn't just because much of the site was dominated by row cropping or pasturing practices, as evident from the historical aerial photos of the site. Historically, the site would have been maintained with burning, initially by Native Americans and later by pioneers who adopted the practice to manage the vegetation around their homesteads. It wasn't until the early 1900's that the practice began to wane particularly in portions of the United States that were becoming more developed, such as larger metropolitan areas but also in smaller towns or villages. Even then however, many farmers still managed their creeks or wetland areas with fire to knock back seasonal vegetation. But beginning in the late 50's to early 60's, fire management, even on farms, became less common thanks in part to the federal government's Smokey the Bear campaign. By the mid 70's through the 80's, fire as a vegetative management tool was vehemently frowned upon. In the absence of burning, row cropping, or grazing the number of trees and the size of woods grew throughout much of the Midwest, including Indiana.

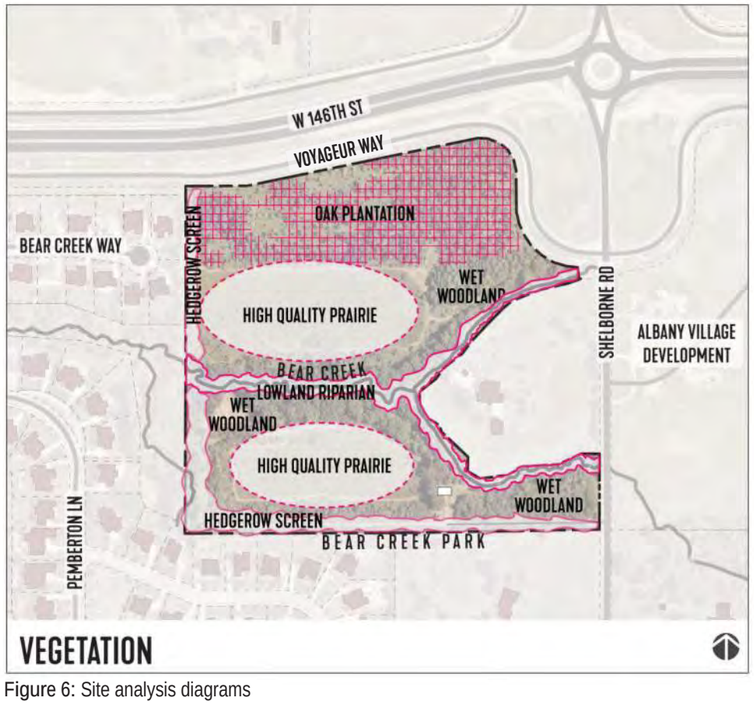
ARCHEOLOGICAL EVALUATION

As part of the site analysis process, CCPR engaged Stantec to prepare a Phase IA Archaeological Reconnaissance Report. The report identified and evaluated potential archaeological resources present within the proposed project area. The process included historical research and fieldwork digs for artifacts. Based on their findings, Stantec is recommending that the project proceed as planned. The full report is attached as Appendix 1.









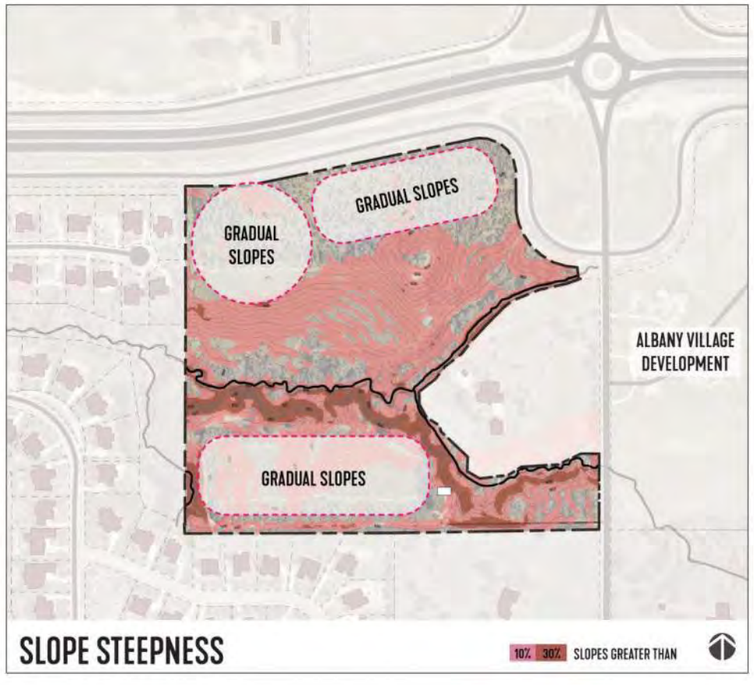


Figure 6: Site analysis diagrams

1.4 VISION STATEMENT

Bear Creek Park will be an innovative, inclusive, and resilient community park. The park will be grounded in the site's natural fabric and shaped by the northwest side of the city's need for a unique and culturally connected experience.

2.0 PROCESS AND FINDINGS

2.1 COMMUNITY ENGAGEMENT

The plan for Bear Creek Park was identified and refined through a robust public engagement process. Three public meetings were held where community residents were given the opportunity to share their ideas for what a new park could be, review and comment on the ideas developed by the design team, and finally select a preferred concept for the park. A Steering Committee comprised of invited participants, including Park Board members, Carmel and Clay Township elected officials, and community members involved with Citizen Science or that live close to the park, provided leadership and guidance for the development of the park. The Steering Committee was a sounding board for design ideas and sharpened concepts before they were presented to the public.

The team also held sessions with stakeholder groups including elementary, middle and high school students, environmental stewardship professionals, neighboring property owners, nearby school administrators and teachers, representatives of the planned Islamic Life Center, and the Carmel Mayor's Youth Council.

The first public input meeting introduced the public to the park and asked attendees to identify desirable design themes and priorities. The second shared the findings from the first round of public input and asked participants to identify the types of park programming that should (or should not) be planned in the new park. The third presented three illustrated conceptual alternatives of the park and asked participants to identify the concept or the parts of a concept that most appealed to them.

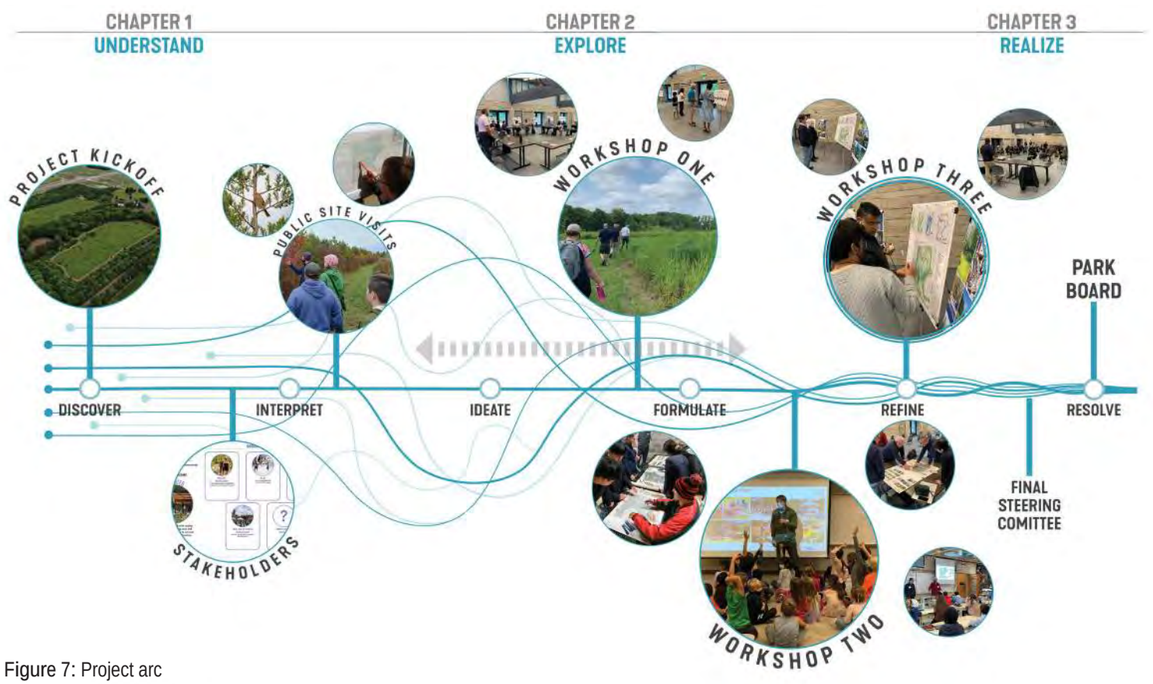
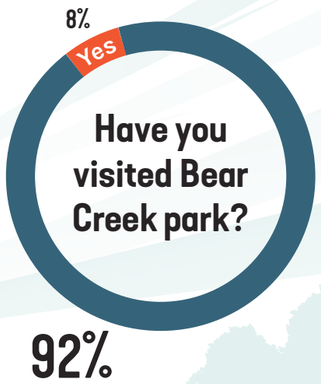


Figure 7: Project arc

PUBLIC ENGAGEMENT

Figure 8: Photos of public & stakeholder engagment process

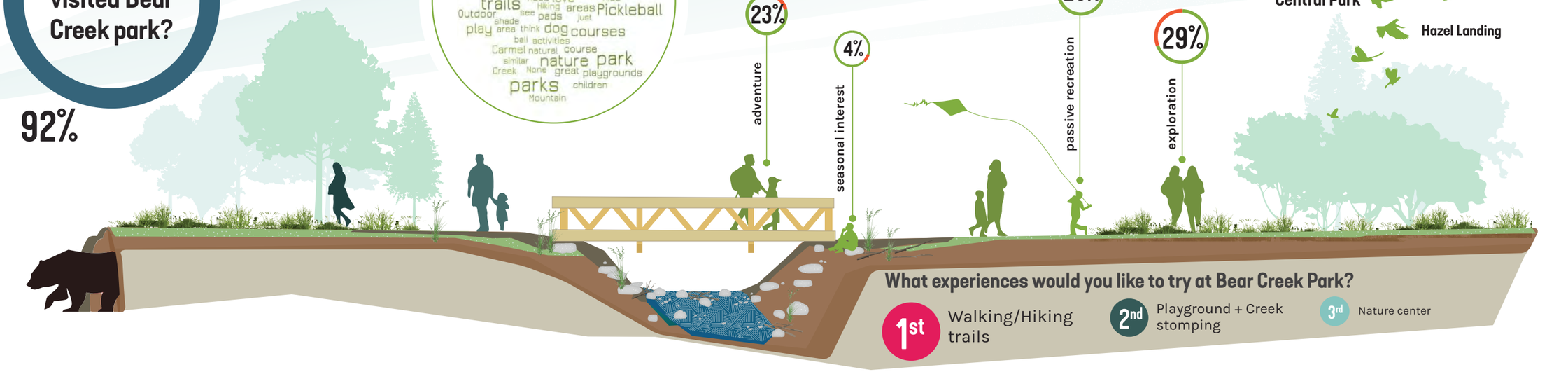
WHAT WE HEARD

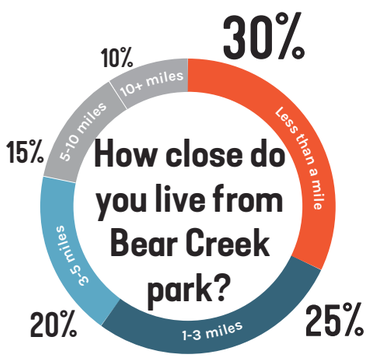


What are we **missing?** from Carmel/Clay Parks

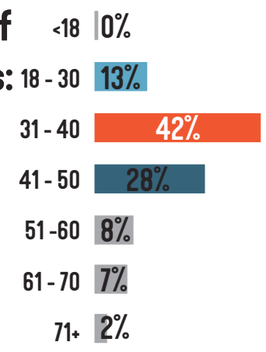
When visiting the park, survey respondents **design priorities...**

Which **park** do you use most often?

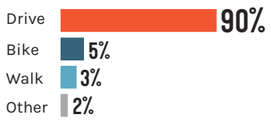


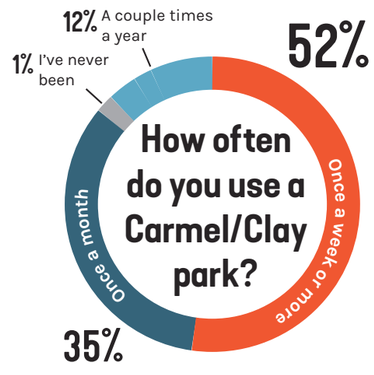


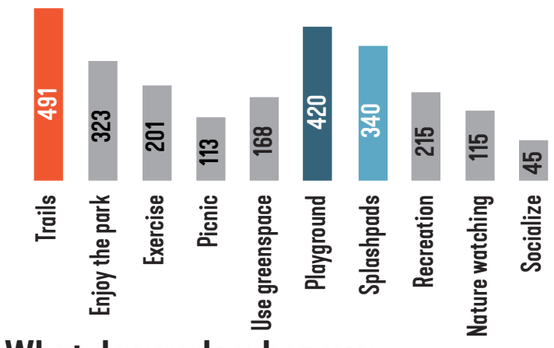
Average age of respondents:



How do you typically travel to a Carmel/Clay Park?



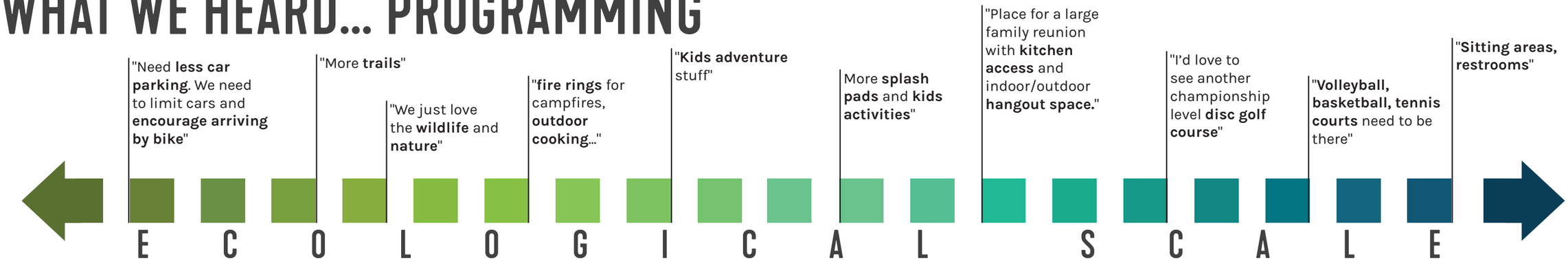




What do you do when you visit a Carmel/Clay Park? *Number of responses

Figure 9: Public input survey summary

WHAT WE HEARD... PROGRAMMING



NATURE CENTRIC PROGRAMMING

STRUCTURED PROGRAMMING

Figure 10: Public input survey programming summary

Participants at the public input meetings were encouraged to identify their preferences using colored sticker voting, and by writing notes directly on the meeting boards. In addition, an online tool was developed for each round of public input that enabled participants to 'vote' for their preferences online in a way that closely mimicked the in-person experience. Participants were encouraged to participate in person and online. Summaries of the feedback collected through the online tool can be found in the appendices.

The Steering Committee previewed content developed for each round of public input and provided recommendations for modifying the approach, presentation, or content.

Content shared at public input meetings was also presented at the stakeholder sessions. Depending on the size of the group (or in the case of the students, the age), the team collected feedback and responses with a question and answer period, engagement with boards, and in one session a design charrette with teens from the Carmel Mayor's Youth Council.

2.2 OPPORTUNITIES AND FUNCTION

A goal of the master plan was to have the community provide guidance on the park, as discussed in the Community Engagement portion of this report. But, because the park was private property until 2020, most of the community had little exposure to the site. Bear Creek Park wasn't just going to be a brand new park, it was also a brand new 'place' that most people had never had the chance to experience. Getting the community on site and in the park was critical for them to be able to share their expectations for the park. As part of the master planning process, Bear Creek Park was opened on a limited basis. CCPR mowed paths through the park, provided a small (8-car) gravel parking lot, and opened Bear Creek Park for limited hours on the weekend. They advertised the park's opening at the community engagement events, on their website, and in e-newsletters sent directly to those on the Bear Creek Park mailing list. In addition, some public engagement events were held in the park to encourage participants to come to the site. Several events included walking tours of the property.

By opening the park before it was developed, participants in the community engagement process were able to share first-hand experiences in the park and use these experiences to shape their expectations for the park. It is not common for a parks department to open a park before it is developed. The resulting feedback from the community was different than what would typically be expected and strongly shaped the outcome of the park's master plan. Specifically, the balance between the various vegetative covers and the site grading emerged as strong attributes of the park.

Figure 11: Stakeholder Tour of Bear Creek Park

Figure 12: Design Opportunities

2.3 DESIGN DRIVERS

The design team collaborated with the community, project Steering Committee, and CCPR team to identify appropriate design drivers that reflect opportunities and aspirations for the site based on early analysis and input from the aforementioned groups. The drivers were used to guide programming and the development of site plan alternatives described in Section 2.4.

Nine drivers were developed, organized into three themes:

- **An Activated Escape**

  With a focus on the park's role in providing recreational and community spaces for gathering and play, an important need identified for this rapidly growing part of the community with a heavy youth and family concentration.

- **A Resilient Model**

  Leveraging the site's existing and potential natural resources and appropriate levels of cost recovery to create a park that is both ecologically and economically sustainable and adaptable over time.

- **A Connected Experience**

  Highlighting the opportunities for the park to connect visitors physically, culturally, and educationally to the park's amenities and experiences.

AN ACTIVATED ESCAPE

Bear Creek Park resides in a growing section of the community that is home to a high density of families underserved by park amenities and programming. As such the plan aims to provide places for all-season recreation, play, and community gathering to fill this need, integrated sensitively into the site's natural setting of upland and bottomland landscapes. Leveraging the creek corridor, it "Engages the Bear" by bringing programming to the edges of the corridor, creating a range of passive and more actively programmed spaces that are shaped by community needs and informed by their natural setting. Key components include:

- **Activity Zones** that are influenced by their context to the site and surroundings, including adjacent neighbors seeking quiet and a buffer from park activities, and louder spaces along adjacent busy roadways that are more suitable for more active programming and facility development. This approach creates an intentional balance of spaces to engage in play and community activities, to unplug in more passive but programmed areas, and to be immersed in natural, interpretive settings.
- **Community Rooms** for more intensive programming and community events, shaped by the park's planted landscapes including the more formal, gridded "oak rooms" along the northern park edge, expansive planted prairies immediately north and south of Bear Creek, and the landscapes surrounding the former home site and existing barn.

A RESILIENT MODEL

Bear Creek Park is comprised of an interwoven network of natural and planted landscapes including savannas, prairies, woodlands, riparian corridors, and the gridded oak plantation along the north property edge. The plan aims to create "A Bigger Bear" that enhances and celebrates these ecological communities, in particular the Bear Creek corridor, as the foundation of the park's visitor experience. It also seeks a balance between ecological health and critical community needs for multi-generational recreation, inclusive play, and community gathering experiences that reinforce healthy living and community vitality. The plan is also informed by past development and leverages areas of human disturbance as opportunity areas for more intensive development, including the former home site, northern oak room openings, recently planted landscapes, and more disturbed natural areas along the creek corridor. Further, the plan is mindful of operations and maintenance associated with proposed natural and built elements, and its program carefully considers appropriate levels of cost recovery to ensure operational and financial sustainability.

A CONNECTED EXPERIENCE

Bear Creek Park sits at the confluence of community, culture, and ecology, creating the opportunity for a park that is connected to the community from a physical mobility perspective through adjacent trails and greenways, culturally through its spaces for community programming and events, and educationally through immersive trails and exploration embedded in the park's ecological setting. This mix of activities and connections creates "Bear Sightings" where intentional interactions between park users and nature create innovative experiences to see and be seen in. It is equal parts natural oasis and people's park, shaped by needs at the neighborhood and community scale, and designed to integrate seamlessly into adjacent green and blueway corridors, and residential developments currently in planning or under development described in Section 3.

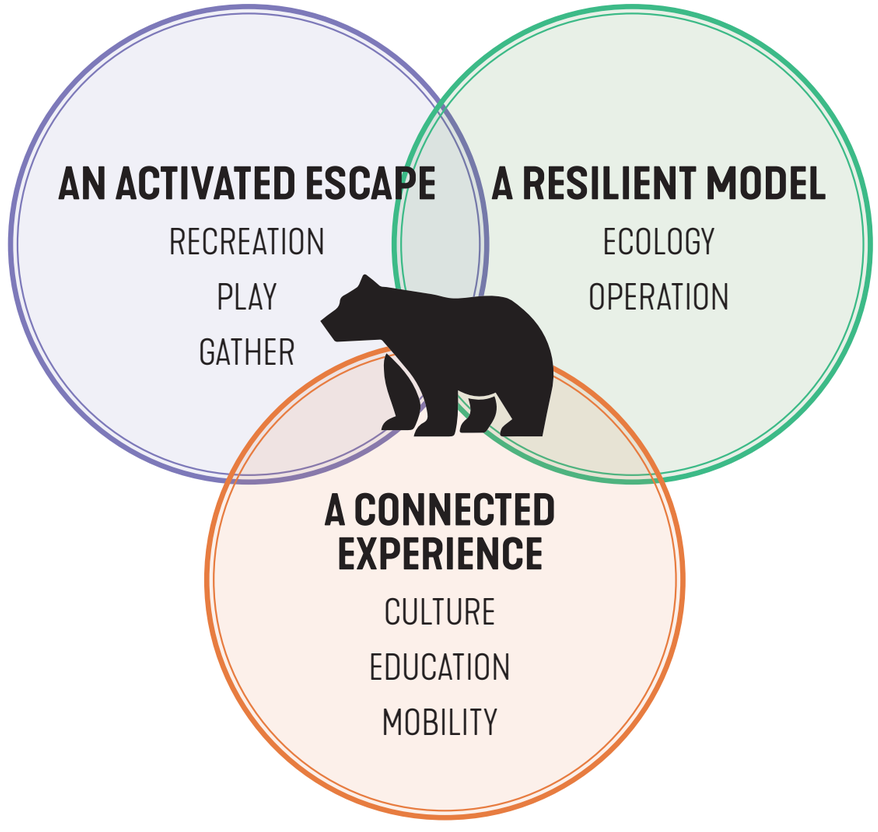
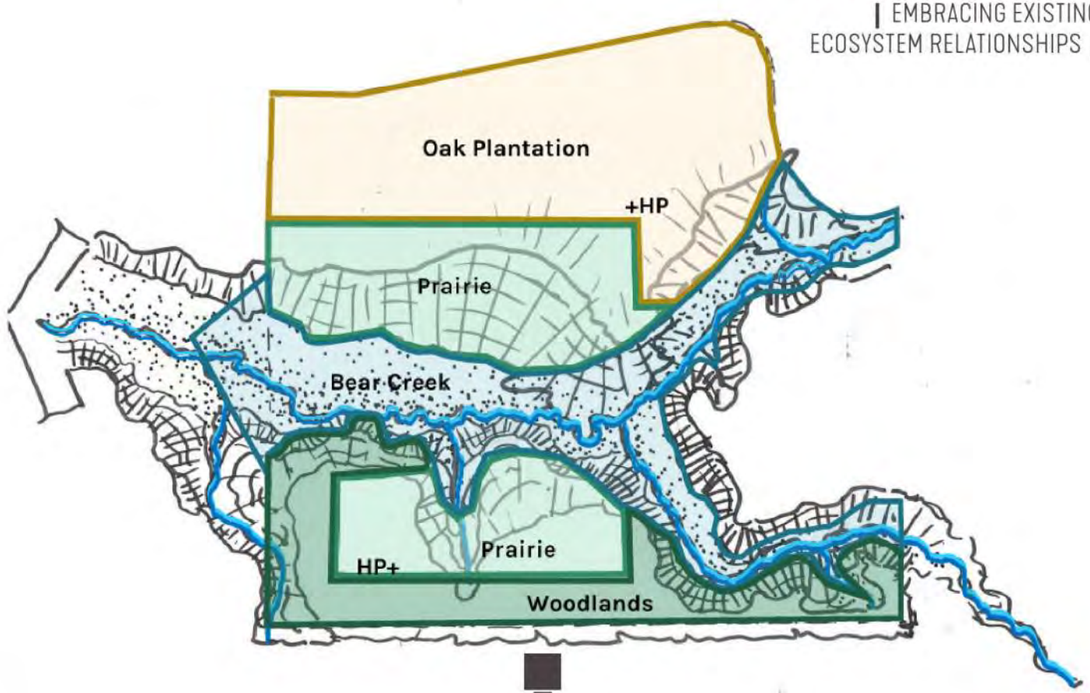


Figure 13: Diagram of project vision and design drivers

DESIGN DRIVERS RESILIENT

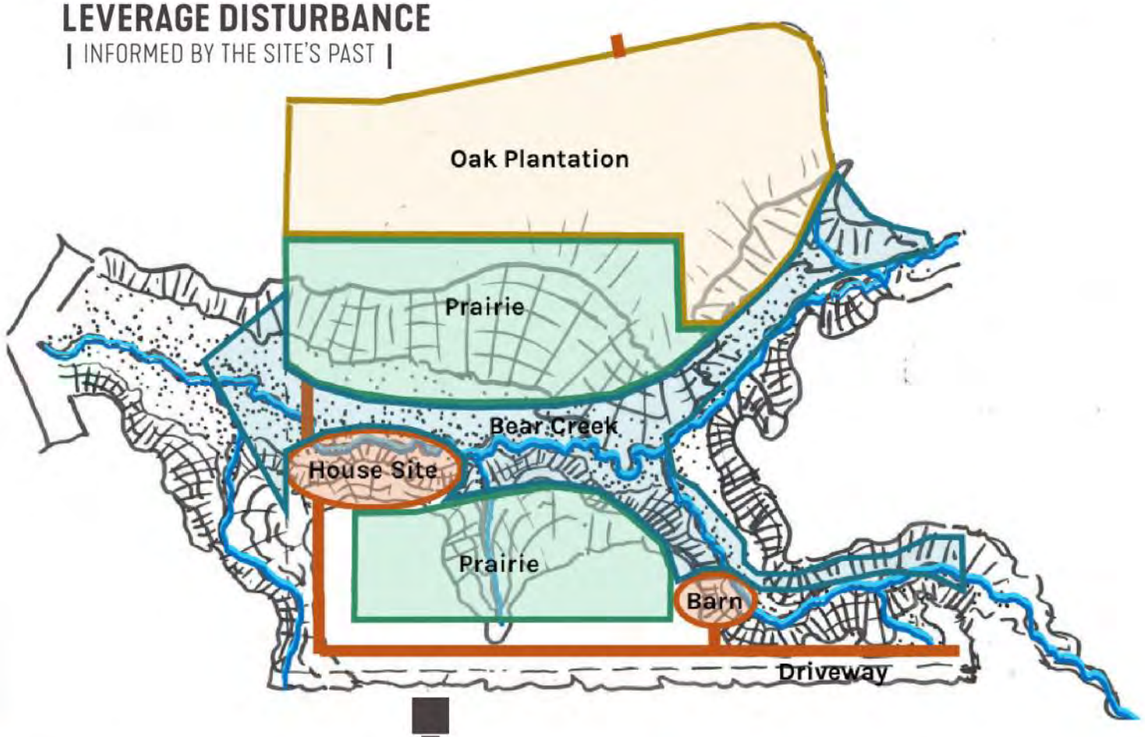
CELEBRATE ECOLOGY

| EMBRACING EXISTING ECOSYSTEM RELATIONSHIPS |



LEVERAGE DISTURBANCE

| INFORMED BY THE SITE'S PAST |



A BIGGER BEAR

| GROUNDED IN THE NATURAL FABRIC OF THE SITE |

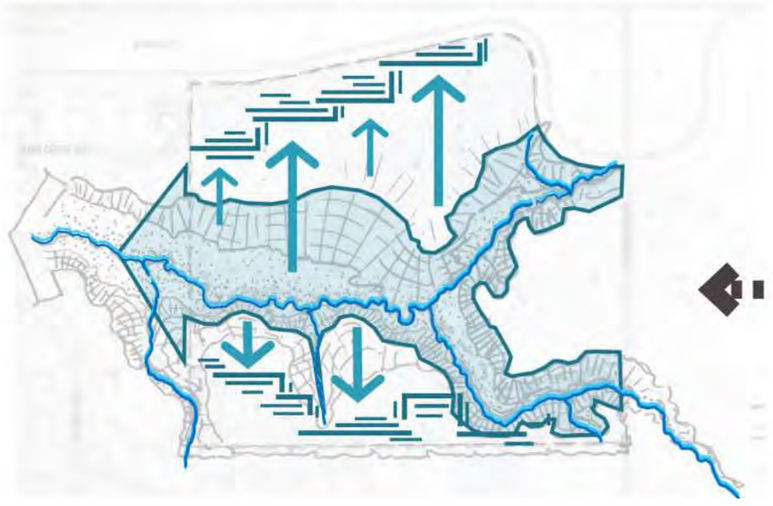
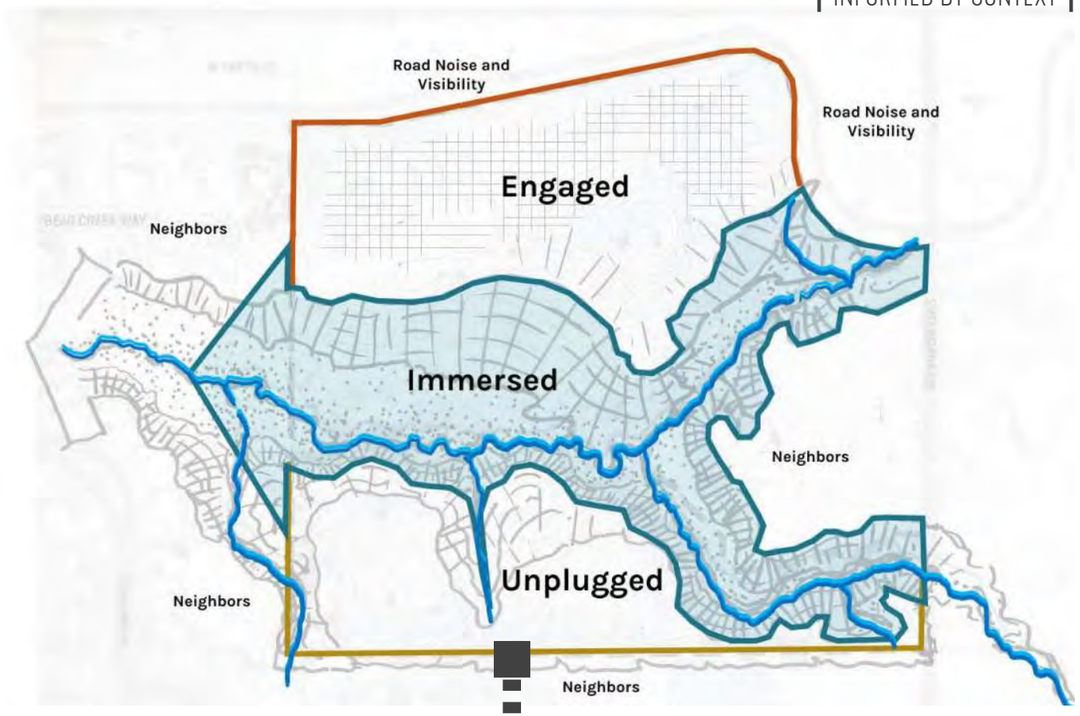


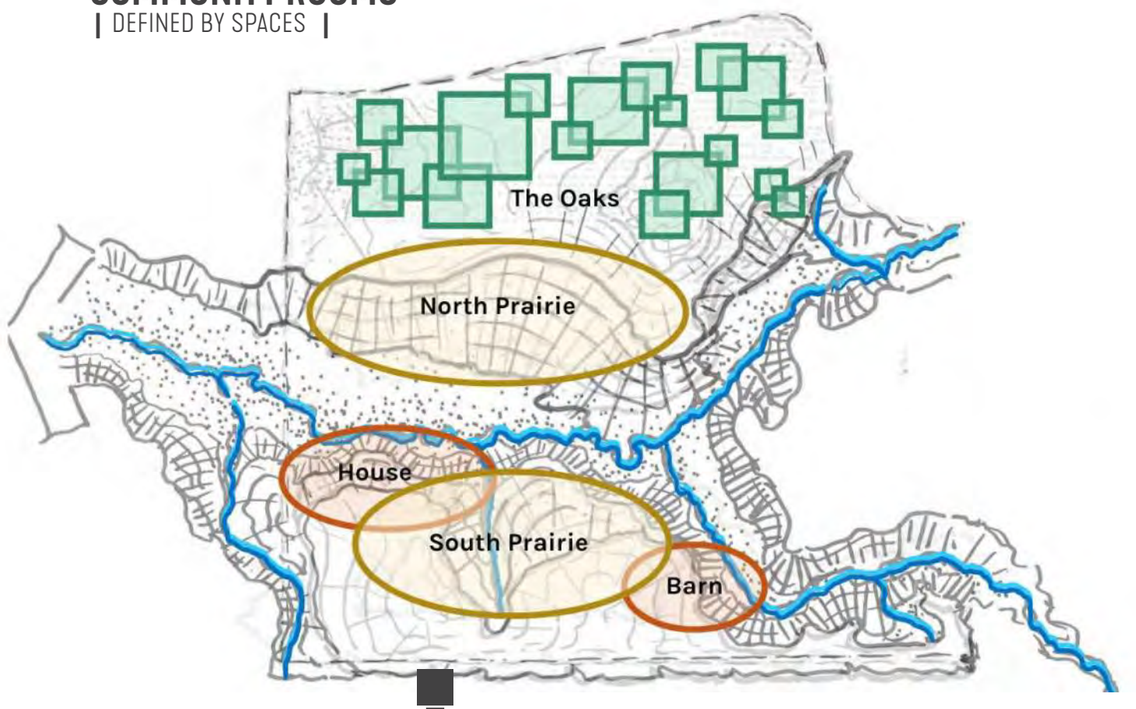
Figure 14: Design driver: Resiliency

DESIGN DRIVERS ACTIVATED

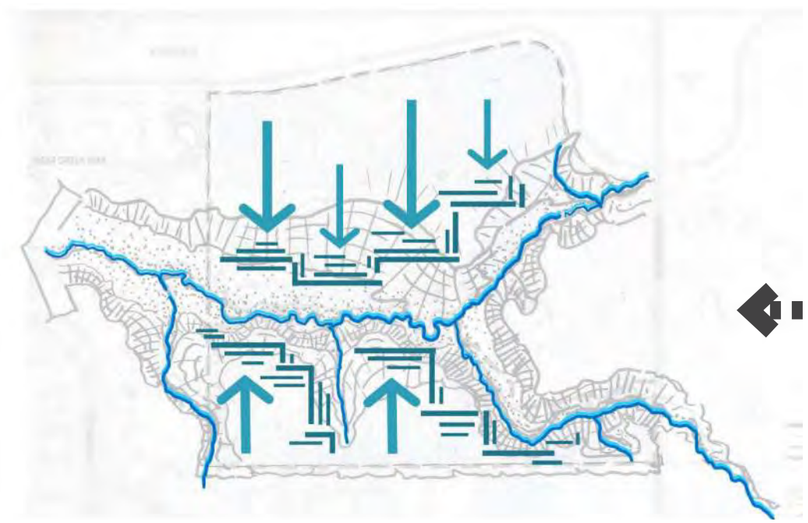
ACTIVITY ZONES
| INFORMED BY CONTEXT |



COMMUNITY ROOMS
| DEFINED BY SPACES |



ENGAGE THE BEAR
| SHAPED BY COMMUNITY EXPERIENCES |



AN ACTIVATED ESCAPE

RECREATION

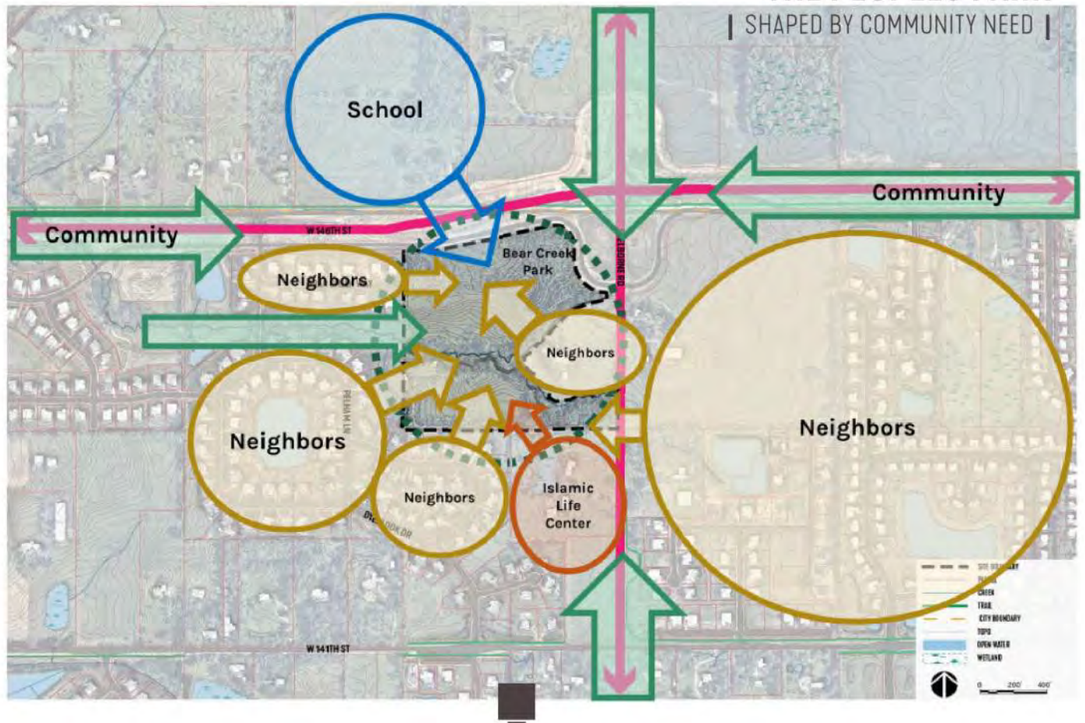
PLAY

GATHER

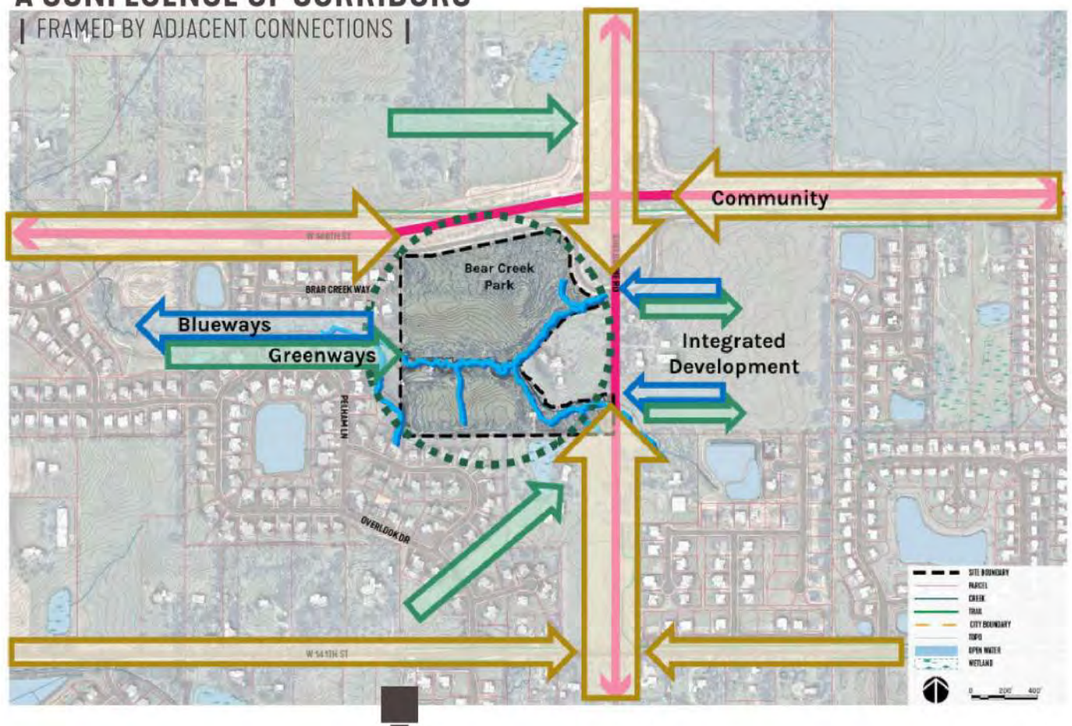
Figure 15: Design Driver: Activated

DESIGN DRIVERS C O N N E C T E D

THE PEOPLES PARK
| SHAPED BY COMMUNITY NEED |



A CONFLUENCE OF CORRIDORS
| FRAMED BY ADJACENT CONNECTIONS |



BEAR SIGHTINGS
| CULTURALLY CONNECTED THROUGH EXPLORATION |

A CONNECTED EXPERIENCE

CULTURE

EDUCATION

MOBILITY

Figure 16: Design Driver: Connected

2.4 CONCEPT ALTERNATIVES

Based on the project vision, design drivers, and consensus program, the design team developed three distinctive concept alternatives of what Bear Creek Park could become. Each concept was based on a consistent program but illustrated dramatically different approaches to key project elements, including ecology, activities, facilities, and connections. Meeting participants were asked their preference between the three holistic concepts as well as the individual elements to provide guidance towards one preferred alternative.

Alternative One, Bear Towers, is anchored by two dramatic viewing and activity towers, one north and one south of Bear Creek. It also features a centralized "base camp" that leverages oak openings in the northwestern section of the park as the location for a single year-round pavilion and associated plazas and parking areas. Play, spray, and more active recreational programming is clustered in the northeast "oak rooms" adjacent to the northern tower. More passive picnic groves and shelters are located south of Bear Creek. The creek itself is ecologically restored but its current alignment left largely intact. A hierarchy of paved, aggregate, and boardwalk trails link the site together from a pedestrian perspective, with two pedestrian crossings of Bear Creek. Park roadways do not cross the creek in this alternative.

Alternative Two, Braided Bear, features a more extensive restoration and reconfiguration of Bear Creek into a larger, "braided" pattern. Above it is a dramatic "canopy play" feature along the southwestern creek bluff, leveraging the former house site for landside picnicking, support facilities, and parking. At creek level is an extensive, gridded network of boardwalks and open-air interpretive shelters and kiosks. Activity areas are balanced between the north and south park zones, with play and spray located south of the creek, and a campus of year-round pavilions and open-air shelters located to the north in the oak rooms. A hierarchy of paved and aggregate trails link pedestrians throughout the site, including two "low" creek crossings that complement the upper crossing provided by the canopy play structures. Park roadways are designed to cross Bear Creek in this alternative, with a dramatic road and trail bridge providing a north-south vehicular link between the two park zones.

Alternative Three, Wandering Bear, also features a more extensive restoration and reconfiguration of Bear Creek, this time into a more sinuous, meandering or "wandering" alignment that is mirrored by an adjacent boardwalk. It also includes a more undulating network of upper and lower landforms and pedestrian trails that create a dramatic sculpture quality to the park's prairies and bottomlands while making them feel larger to the pedestrian's eye. This alternative takes the most decentralized approach to activities and facilities, with a campus of year-round and open-air pavilions to the north, a southern picnic grove with shelters, toilets, and parking. Play and spray is clustered near the creek itself. This concept includes the most extensive network of trails of boardwalks with two lower-level pedestrian creek crossings and, like alternative one, no roadway crossings of Bear Creek.

ALTERNATIVE ONE | BEAR TOWERS

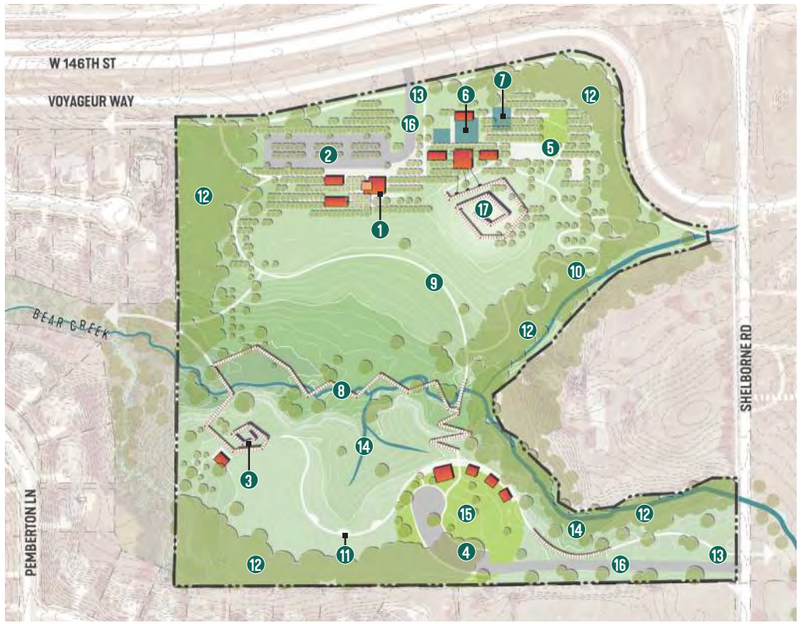


Figure 17: Alternative 1 conceptual plan

1. NORTH CAMPUS
2. NORTH PARKING WITH DROPOFF
3. SOUTH TOWER
4. SOUTH PARKING WITH DROPOFF
5. OUTDOOR CLASSROOMS
6. NATURE PLAY (PLAYGROUND)
7. WATER PLAY
8. BOARDWALK
9. PRAIRIE TRAIL
10. WOODLAND TRAIL
11. RIDGE TRAIL / OVERLOOKS
12. VEGETATIVE BUFFER
13. GATEWAY/ENTRY FEATURE
14. RESTORED TRIBUTARY AND BLUFF
15. PICNIC GROVE WITH FLEX LAWN
16. PARK ROAD
17. NORTH TOWER AT OBSERVATION KNOLL NORTH CAMPUS

ALTERNATIVE TWO | BRAIDED BEAR

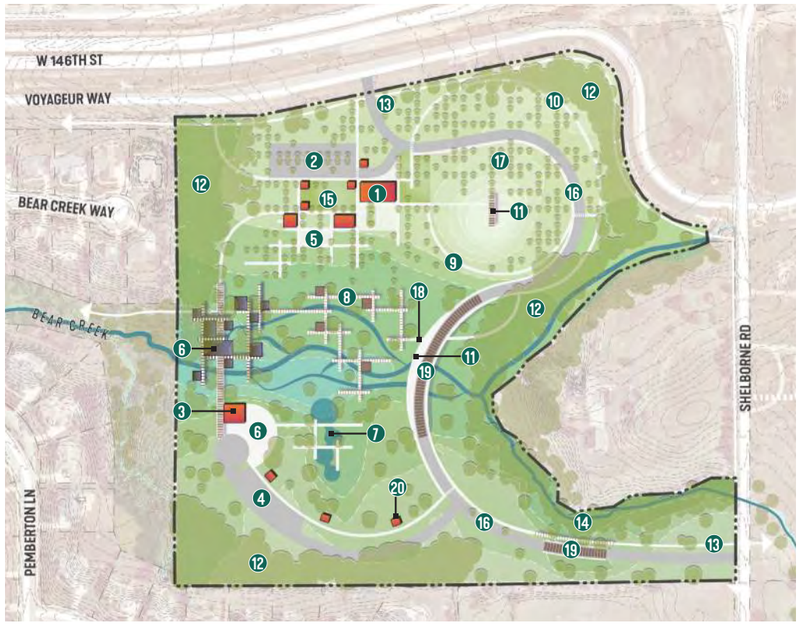


Figure 18: Alternative 2 conceptual plan

1. 'NORTH CAMP'
2. NORTH PARKING WITH DROPOFF
3. 'SOUTH CAMP'
4. SOUTH PARKING WITH DROPOFF
5. OUTDOOR CLASSROOM
6. CANOPY PLAY
7. CREEK STOMPING
8. BOARDWALK WITH INTERPRETIVE KIOSKS
9. PRAIRIE TRAIL
10. WOODLAND TRAIL
11. OVERLOOK
12. VEGETATIVE BUFFER
13. GATEWAY/ENTRY FEATURE
14. RESTORED TRIBUTARY AND BLUFF
15. EVENT LAWN
16. PARK ROAD
17. OAK GROVE ROOMS
18. PEDESTRIAN UNDERPASS
19. VEHICULAR BRIDGE
20. PICNIC SHELTER

ALTERNATIVE THREE | WANDERING BEAR

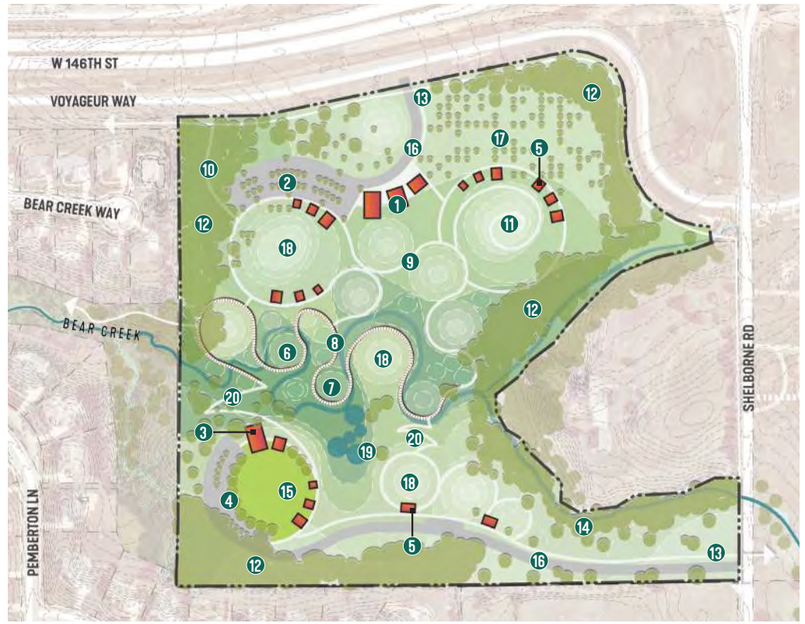


Figure 19: Alternative 3 conceptual plan

1. 'NORTH CAMP'
2. NORTH PARKING WITH DROPOFF
3. 'SOUTH CAMP'
4. SOUTH PARKING WITH DROPOFF
5. CLASSROOM SHELTERS
6. NATURE PLAY (PLAYGROUND)
7. CREEK STOMPING
8. BOARDWALK
9. PRAIRIE TRAIL
10. WOODLAND TRAIL
11. OVERLOOK MOUND
12. VEGETATIVE BUFFER
13. GATEWAY/ENTRY FEATURE
14. RESTORED TRIBUTARY AND BLUFF
15. PICNIC GROVE, LAWN, AND SHELTERS
16. PARK ROAD
17. OAK GROVE ROOMS
18. RAISED MOUND, TYP.
19. TRIBUTARY POOLS
20. BLUFF CLIMB

3.0 PREFERRED CONCEPT

A preferred concept plan was developed that incorporated design ideas from all of the concept alternatives tested at Public Input Meeting #3, Steering Committee, and the CCPR team. The most significant components combined to form the preferred concept based on community feedback included, base camp; adventure tower; active recreation rooms within the oak grove; and the north parking lot; canopy play; a remeandered Bear Creek; and a smaller, southern picnic grove.

The preferred concept shown here, is described in greater detail on the following pages. Recommendations proposed in the plan are organized in the following sections:

- **Ecological Function**
- **Visitor Use and Experience**
- **Park Structures**
- **Trail Systems and Connections**

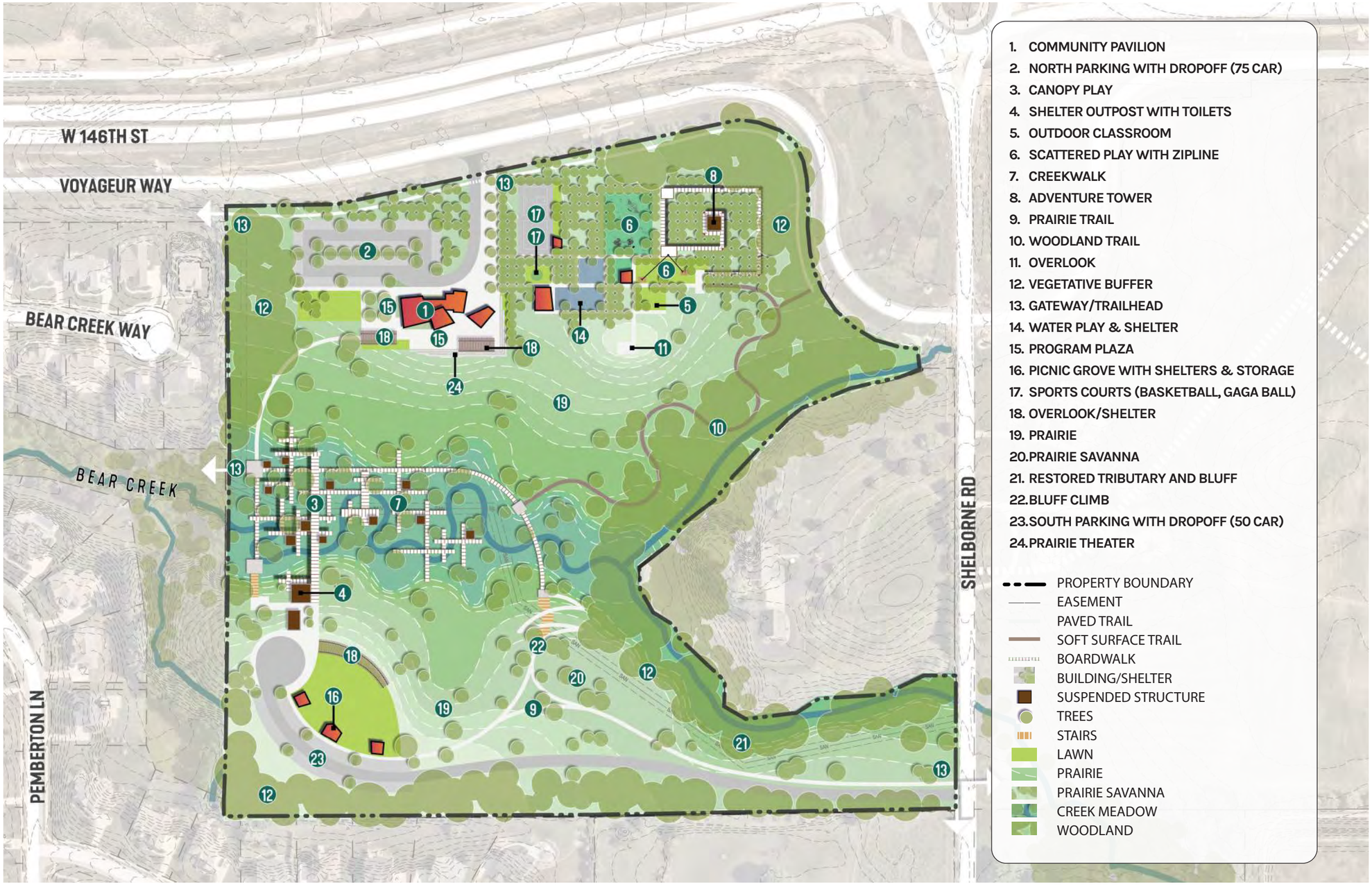


Figure 20: Preferred Concept Master Plan

Figure 21: Illustrative site sections

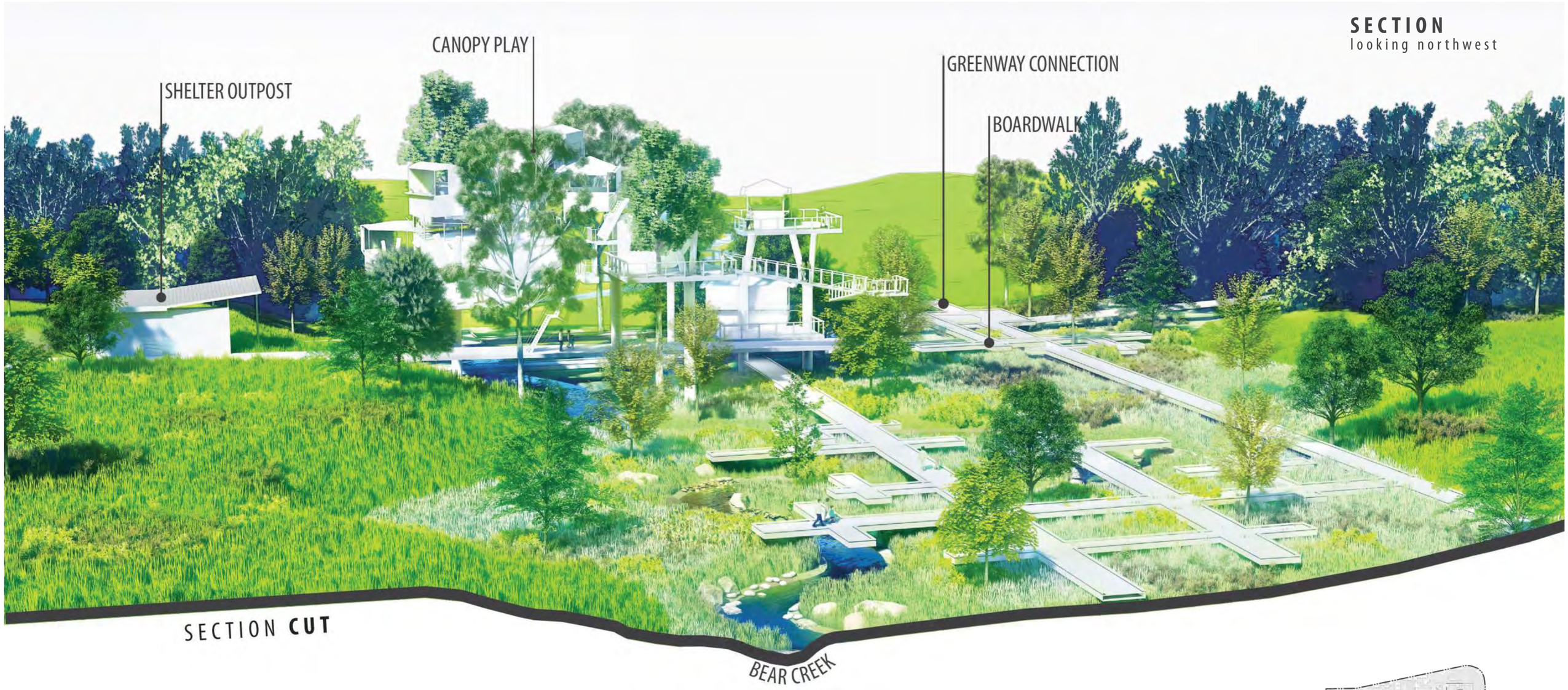


Figure 22: Illustrative creek axonometric section

3.1 RECOMMENDATIONS TO THE ECOLOGICAL FUNCTION OF THE PARK

The master plan recognizes the distinguishing characteristics of Bear Creek Park, in particular the existing site grades and vegetation patterns. The master plan proposes a restoration of native vegetative communities at the park. More than 80% of the park is proposed to undergo restoration. The habitats proposed for the park are based on identifying appropriate native vegetative communities informed by the site in its current condition. The restoration actions proposed in the master plan are:

1. Re-meander Bear Creek. As noted in an earlier discussion, a 1998 aerial photo highlights a meander pattern in Bear Creek immediately west of the park property. The creek flows through long loops in a mostly open plain. Whereas the portion of Bear Creek within the park is seen in the photo to meander only slightly but remain mostly straight. Earlier photos of the site seem to suggest that Bear Creek was straightened at some point. The relatively modest meanders seen in the park portion of Bear Creek suggest that by '98 the creek was working to reestablish meanders. Meandering is an important form for a creek for many reasons.

   First, riparian systems are intended to move dirt. They erode slope on the 'cut' side of their flow (outside curve) and redeposit on the 'depositional' side of flow (inside curve). In this way, if left unfettered, a natural creek will appear to 'walk' with the bends moving slowly downstream over time. Second, meanders enable a riparian system to let off heat. The more sinuous the flow the greater opportunity for the water to release the heat it carries from overland run off, direct solar warming, and friction.

   Third, in addition to improving the heat management of the creek, restoring the meanders increases the time it takes for water entering the site on the east to exit the site on the west. As the water passes through more shoreline habitat, it will be better cleaned through longer contact with shoreline emergent vegetation. Lastly, the increased duration of flow can also help slow down stream flooding.

   The meanders seen west of the park in the '98 photo represent what Bear Creek probably looked like before straightening. Among the first restoration efforts for the park should be to reestablish appropriate meanders to the creek. The '98 aerial photo should serve as a reference from which meander lengths and bow widths should be derived. The master plan illustrates an approximate meander alignment that should be refined with future design.

2. Bear Creek Meadow. In its current disposition the creek bottoms are over vegetated. There are too many canopy trees and shrubs. Historically these areas would have been managed by fire. Fire would have promoted the establishment of oaks and limited the establishment and development of other species less suited to fire. This would have meant the creek bottoms would have been more open. The native perennial vegetation that would have dominated a system such as this historically were sedge (Carex) meadow or wet prairie dominant. Few of the species found in these vegetative communities are shade tolerant. Existing canopy trees and shrubs should be heavily thinned in this area to reopen the creek bottoms for the establishment of Bear Creek Meadow. All invasive species should be removed and treated for resprouting. A sedge meadow dominated planting should be established in this portion of the park.

3. Mesic Prairie and Savanna. Where the grade moves up and away from seasonal to regular saturation and throughout the unmowed portions of the tree plantation area the site should be restored with mesic prairie species. Most of the interior of the site should be restored to mesic prairie. The two existing planted prairies are comprised of mostly mesic species. The master plan recommends preserving the existing prairies where possible and enhancing the prairies by expanding down the bluff or where existing woodland areas have been thinned.

   Tall grass prairie species such as big blue stem (Andropogon gerardii), Indian grass (Sorghastrum

Figure 23: Cross section of Bear Creek

nutans), switchgrass (Panicum virgatum), little bluestem (Schizachyrium scoparium) and sideoats grama grass (Bouteloua curtipendula) should dominate the planting, comprising approximately 70% of the cover. The shorter grasses, little bluestem and sideoats grama grass, should comprise more than 80% of the cover in the former tree plantation area.

Existing invasive tree species in these portions of the park should be removed. The pasture grass that is currently found throughout the tree plantation portion of the site should be managed for removal.

4. Woodland Management. Like the creek bottoms the woods on site are over vegetated. Historically these areas would have been comprised of a more open wood structure and dominated by oaks. The master plan recommends thinning the existing woods on the edges of the park property and enhancing the screening where none currently exists. Thinning work should target invasive species of trees and shrubs and evergreen species. Enhancement should be focused on reestablishing a canopy cover of between 75-80% with desirable native flowering trees and shrubs in the understory.

5. Burning and Oaks. Historically Bear Creek Park would have been managed with fire. Even after initial pioneer settlement the site would have been burned to control annual growth. This type of vegetation management promoted the establishment of grassier vegetative communities such as meadows, prairies, and savannas. It also limited the types of trees and shrubs that could become established except in the coldest and wettest portions of the landscape. This favored oaks. Oaks, particularly white (Q. alba), swamp white (Q. bicolor) and bur (Q. macrocarpa) oaks, were historically the dominant tree species throughout Indiana and most of the United States for centuries. It's no wonder then that oaks (white, swamp white, and bur) provide the greatest habitat value for the most number of native fauna.

Throughout Bear Creek Park oaks should be established and promoted in all the major vegetative communities proposed above. In the meadows and woods, they should form the dominant canopy species and comprise the dominant canopy structure (45-60%; meadow; 75-80% woods and property screening). In the prairie and savanna areas they should comprise between 1-45% canopy cover.

Controlled burns should be used to manage vegetation on site. All of the vegetative communities proposed in the master plan were historically managed with burning. Historically most of these communities were burned every one to three years. If possible, burning should be reestablished as a vegetation management tool. While it can be intimidating for many at first, including neighbors, many communities especially in the upper Midwest have learned to embrace seasonal burning. When conducted and controlled by professionals, controlled burns are very safe.

Additional design is needed for the development of more complete restoration recommendations. This is especially true with regards to Bear Creek. The restoration recommendations proposed above are intended to guide the further design of these portions of the site and the selection of appropriate species for seeding or planting.

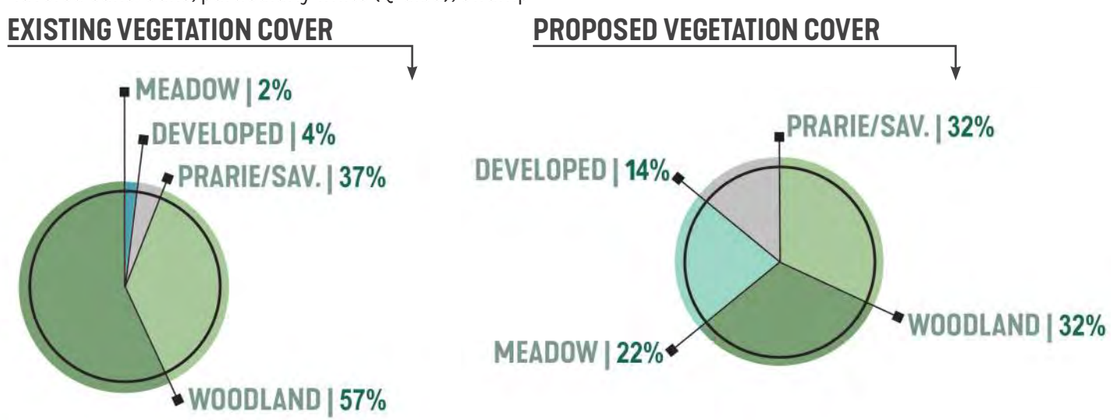


Figure 24: Tree canopy diagram

Figure 25: Vegetative biome diagram

Figure 26: Vignette perspective along the realigned creek

3.2 RECOMMENDATIONS TO VISITOR USE AND EXPERIENCE OF THE PARK

As noted previously, the plan seeks to create an activated escape for neighbors and residents of Carmel's northwest side to serve the growing density of families currently underserved by recreational programming and amenities. The location and organization of activities and facilities is guided by the goal of a culturally connected and immersive visitor experience that is embedded in the park's ecological systems. As illustrated on page 44, the park's programming is primarily passive recreation with concentrated clusters of more active uses and support amenities including:

Figure 27: Park programmed spaces

BASE CAMP Located along the north edge of the park and anchored by the year-round pavilion as described in section 3.3, with associated plazas, open-air shelters, and parking.

THE OAK ROOMS Home to the north activity tower, play and spray facilities, ziplines, sports courts, and flexible outdoor rooms for small gatherings and outdoor classroom activities. These uses, like Base Camp, are intentionally located away from adjacent neighbors and nestled into openings or "rooms" within the gridded oak plantation along the north edge of the park. The location of the activity tower provides a visual landmark from 146th Street that identifies both the park's presence and exciting character to passersby.

THE PERCH Located at the former home site on the south bluff facing Bear Creek, is the launching point for canopy play and related structures set at varying heights within the adjacent mature tree canopy that also serves as an upper-level creek crossing. With spaces for active play and socialization, as well as nature interpretation and quiet escape, it creates a park experience like no other in the region.

CREEKSIDE Follows the lower creek corridor and is activated by an extensive interpretive boardwalk network and related shelters and kiosks. It is designed to link into regional trails as they develop over time in the Bear Creek greenway to the west.

Inspired by the gridded pattern of the site's existing oak plantation, the boardwalks have been designed as both a circulation element and part of the multi-tiered

By the Numbers:

PRIMARY STRUCTURE g.s.f.

EXISTING		PROPOSED
0	+7,200	7,200

SECONDARY STRUCTURE g.s.f.

EXISTING		PROPOSED
940	+1,435	2,375

OPEN AIR STRUCTURE g.s.f.

EXISTING		PROPOSED
0	+10,000	10,000

OPEN LAWN sf

EXISTING		PROPOSED
0	+42,000	42,000

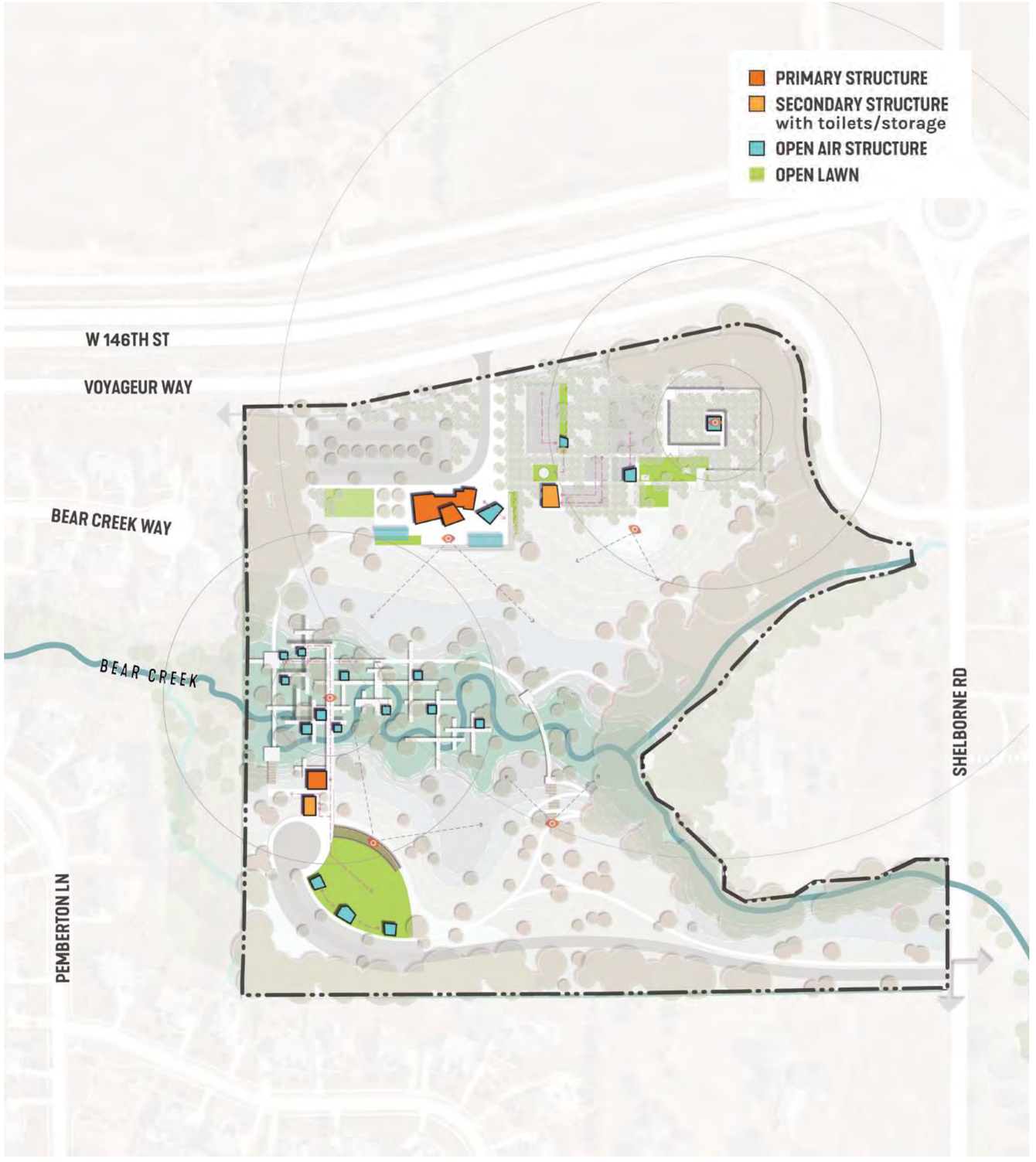


Figure 28: Activity zones diagram

educational program of the park. Their immersion into the Bear Creek bottomlands, including strategically located open air shelters and kiosks, create a linear outdoor classroom that complements more formal indoor and outdoor spaces in the Base Camp and Oak Rooms areas. If "The Perch" is the place for canopy play, the Creekside boardwalks are nature's playground and classroom.

SOUTH PRAIRIE Includes the open spaces south of Bear Creek and is home to a flexible picnic grove with supporting lawn, shelters, toilets, and parking that are both a destination and support for a network of nature trails and interpretation opportunities set in the prairie, savanna, and woodlands south of Bear Creek. They are also designed to support and complement the adjacent canopy play in The Perch.

Figure 29: Vignette perspective along the realigned creek

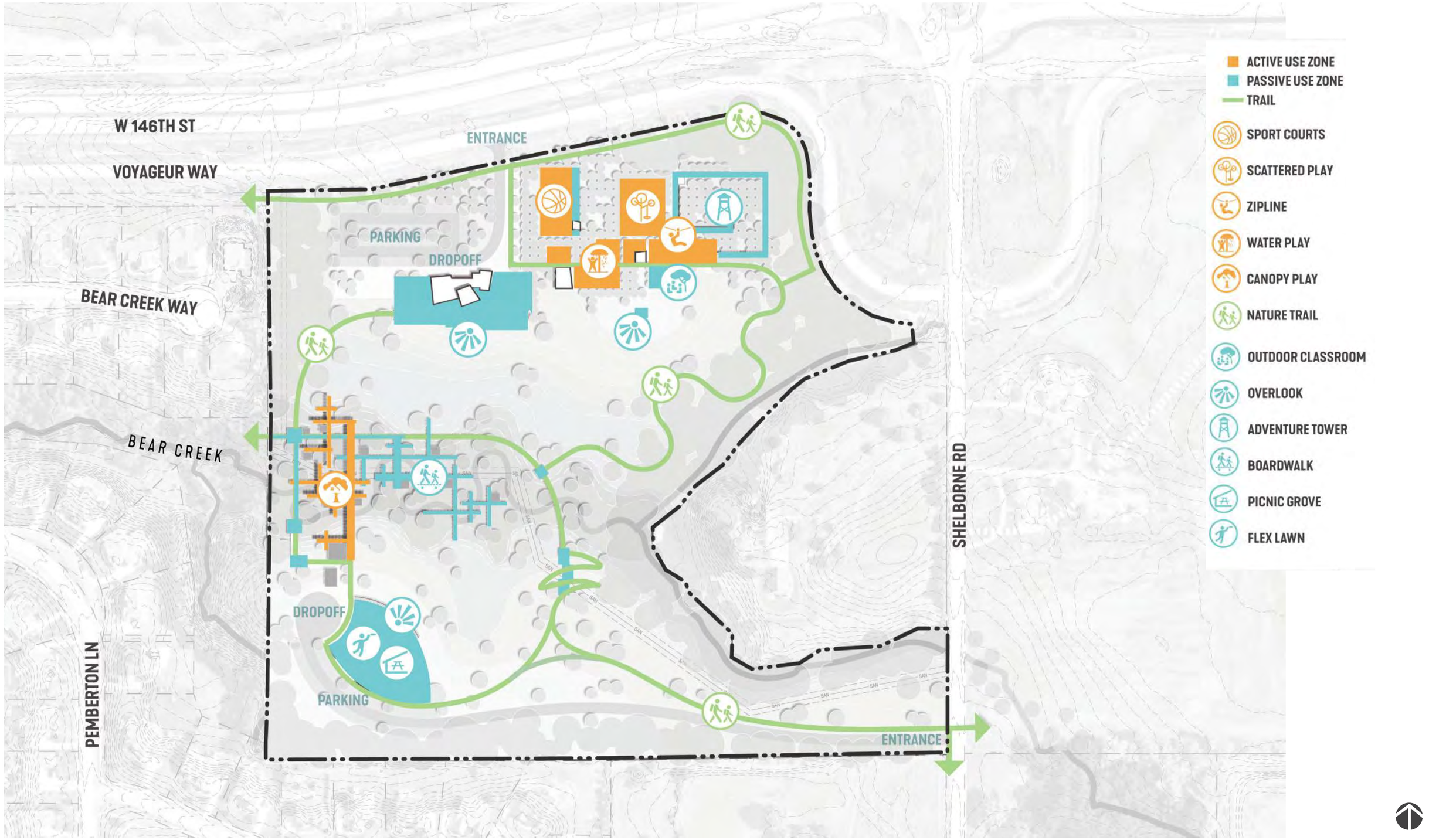


Figure 30: Program and use diagram

Figure 31: Concept of main structure in preferred alternate

3.3 RECOMMENDATIONS FOR PARK STRUCTURES

MAIN STRUCTURE

Inspired by the experience of exploring the natural world, the architecture of the structures is an ode to the excitement and surprise of discovering unexpected landscape features and the environments they can create. The memories of walking along, and splashing in the creek beds of central Indiana, similar to Bear Creek, is pervasive in the consciousness of those who grew up in this region. The serendipity of surprising and delightful discoveries (fossils, bends, plunge pools, etc) along these streams creates a lasting impression that the architecture of Bear Creek Park aims to evoke.

The massing of the building has a monolithic character and rises from grade as though the ground has been stripped way, revealing the building's forms and surfaces, similar to the geological forms that dot the creek beds of the area. The angular building forms imply an irregularity typical of the natural world, and the relationships of the masses create unique, inhabitable spaces that can surprise and delight their occupants.

The arrangement of these masses and forms communicates hierarchy of building program creating an implied wayfinding element. The building's architecture signals to the visitors the location of key spaces such as the activity rooms.

At this concept phase, exploration of building skins and materiality provides a range of solutions to consider. However, the application and detailing of the envelope aims to reinforce its monolithic nature. A common material should wrap corners, including those from wall to roof as the structure is designed to be seen from across the park and whose pitched roofs will be visible from grade. Openings in the structure's envelope emulate the angular shapes and forms, furthering the allusion of geological features expressing themselves in the park's landscape. These openings reveal a material change evocative of the gems or fossils that often hide within.

STRUCTURE FUNCTION & SPACE PROGRAM

The main structure is intended to be used primarily for summer camp and educational opportunities, accommodating approximately ninety students in two adjacent spaces that have been sized for forty-five students each, based on an anticipated allowance of

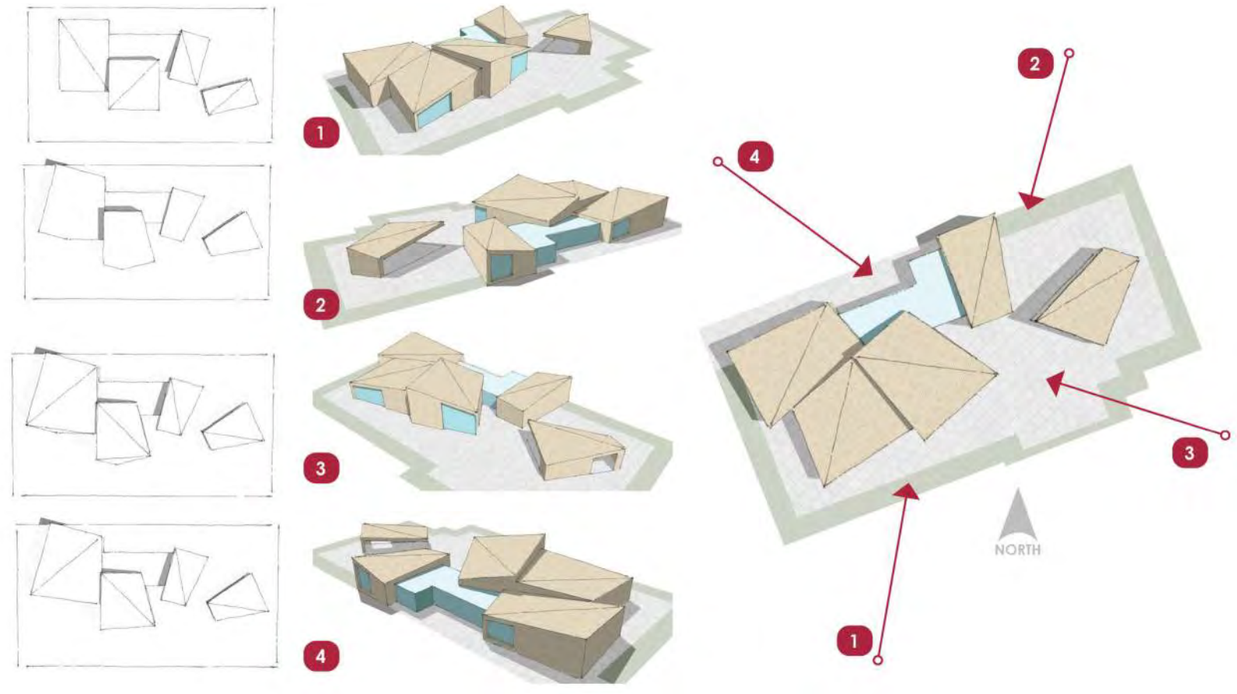
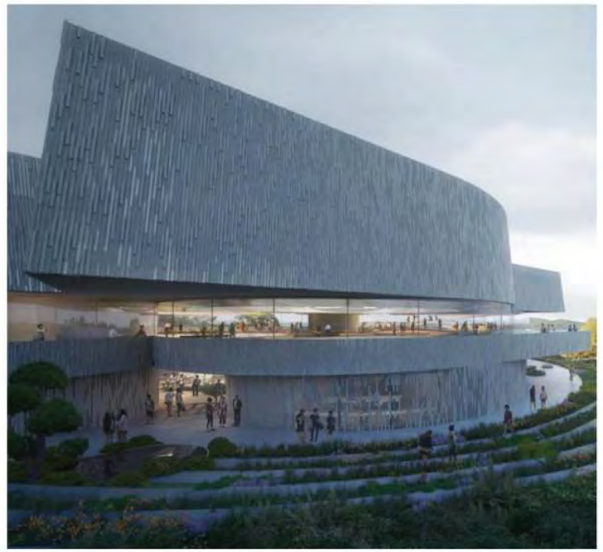


Figure 32: Views of main structure



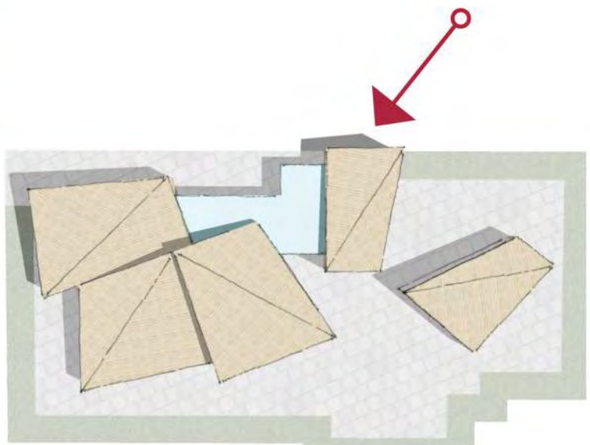


Figure 33: Northeast view of main structure

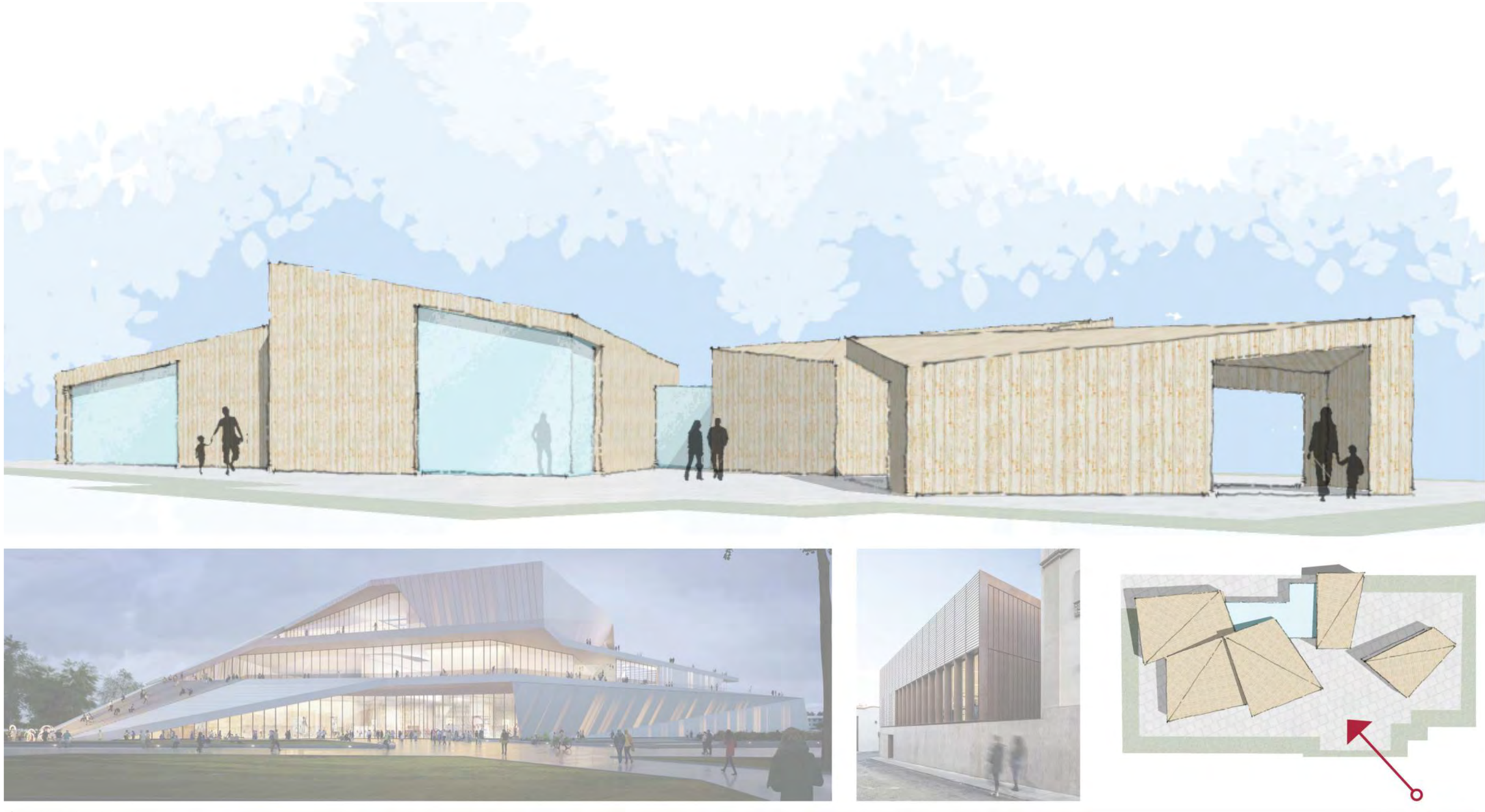


Figure 34: Southeast view of main structure

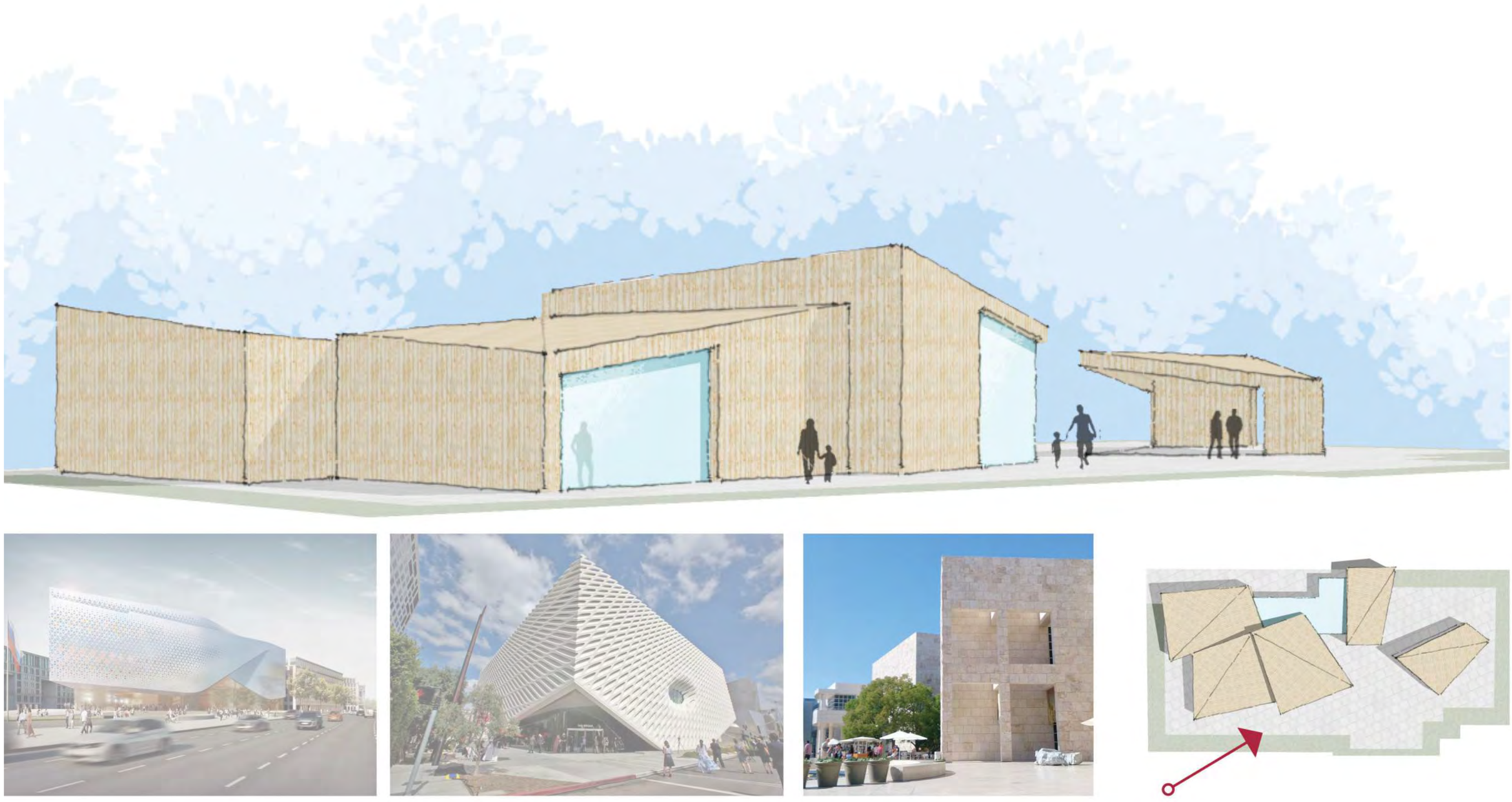
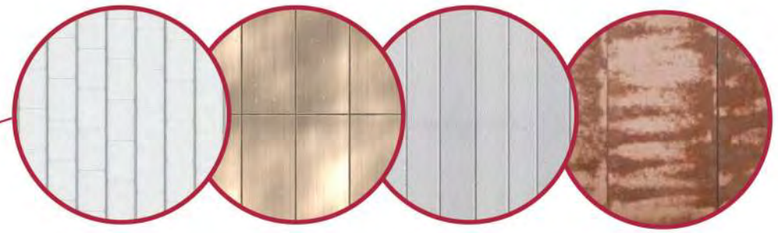
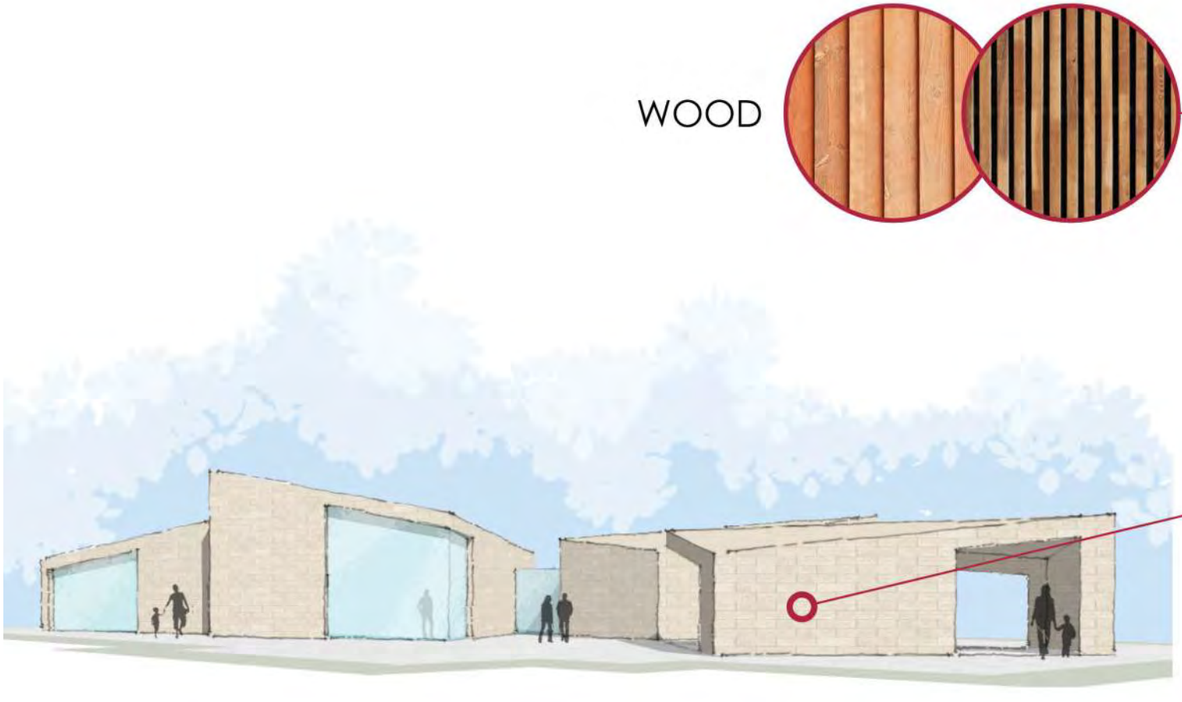


Figure 35: Southwest view of main structure



PANEL SYSTEM

WOOD



MASONRY

Figure 36: Material options for the main structure

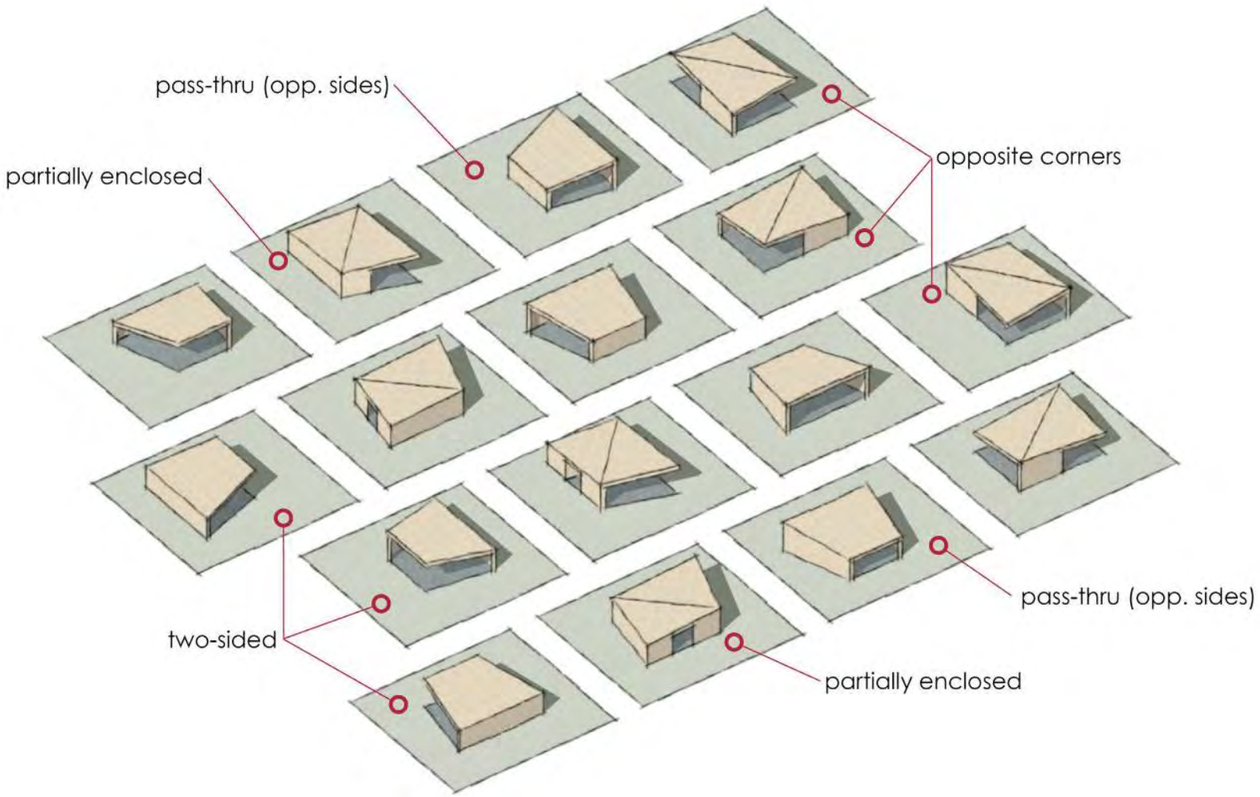


Figure 37: Shelter studies

thirty (30) square feet per student. A movable partition is suggested between the classrooms that can be opened up to allow for a single space that could accommodate a larger group.

Secondary usage for the rooms would be as small rental opportunities to the public. Larger rental space needs are anticipated to continue to be at other locations in the CCPR system.

The building program also includes necessary support features including restrooms (both public facilities and a unisex single use facility), a staff breakroom, and an isolation room adjacent to the staff breakroom for housing ill students until they can be relocated off site. Additional building program needs include a maintenance closet accessible from the exterior of the building and storage spacefor table, chairs, camp supplies, etc. that is relatively accessible from the classroom spaces.

The men's and women's restrooms and the corridor leading to them is anticipated to be constructed of an independent structural system that would be resistant to severe weather events such as tornados that are typical to Indiana. Standard recommendations for these types of spaces that would be used for short durations would be three (3) square feet per person, for approximately ninety (90) students and ten (10) accompanying staff. This equates to a need of approximately 300 square feet, which is easily accommodated in the above-mentioned spaces.

The building is anticipated to be climate controlled for year-round use and floor space has been allocated for both mechanical and electrical needs to support the various building systems including Wi-Fi capabilities throughout the facility.

SUSTAINABILITY

Initial conversations with CCPR indicate a desire to have this facility LEED certified, which can be pursued based on the initial design concept presented in the Master Plan document. Implementation of a sustainability strategy for the main structure should focus on four areas, water efficiency, energy & atmosphere, materials & resources, and indoor environmental quality.

Water efficiency will endeavor to reduce demand of water consumption through the installation and use of efficient plumbing fixtures and identify any inefficacies through monitoring of the systems wholistically.

One of the greatest opportunities to improve the performance of buildings and structures and reduce their environmental impact is strategic design of the building envelope and HVAC systems. Increased insulation performance combined with passive solar design will reduce the heating and cooling loads on the HVAC system, resulting in reducing energy consumption. Furthermore, metering and controls of the system can reduce that demand even further, not only minimizing the impact on the environment, but also realizing cost savings associated with the purchase and use of energy.

Intentional selection of sustainable building materials can affect the impacts an industry has on the environment. Sourcing of materials that are recycled, renewable, or have long life cycles reduces the demand on virgin materials. Reduction of waste and selective means of disposal will reduce the cumulative impact on our landfills and incineration facilities.

While sustainability may emphasize the reduction of impacts on the environment, it also aims to address the health and well-being of building occupants. Improving the quality of life through air quality management, daylighting, and thermal comfort all contribute to the extended use of structures and the functions they support.

MAIN STRUCTURE CONSTRUCTION COST

Based on the architect's understanding of the current volatile construction market, the architect advises a budget of $3 million dollars for construction of the Main Structure. This budget would be for construction of the facility only and would not include cost to develop the adjacent site costs or connect to utilities. This includes both a continency and escalation factors based on the assumption that the facility would be completed within three (3) years.

SECONDARY & OPEN-AIR STRUCTURES

The design of the Secondary and Open-Air Structures is anticipated to be derivative of the Main Structure. Structures will vary in their inclusion of public restroom spaces, storage spaces, and the number of amenities found within each of the structures.

The architectural design of the secondary and open-air structures will extend the motif and theme established by the main structure. The allusion of geological features presenting themselves as shelters and functional spaces through the park will unify the park through a consistent motif.

The shelters will employ the same form and materiality as the main structure, but each structure's functional program will inform the structure's openness. Shelters may only provide overhead cover, while those structures with enclosed space, such as restrooms, will enclose the structures on one or more sides. Some shelters may take advantage of the architectural language to extend the enclosure to grade on one or more sides to obstruct views or create protected spaces by screening winds or sound.

SECONDARY & OPEN-AIR CONSTRUCTION COST

Based on the architect's understanding of the current volatile construction market, the architect advises a budget between $250,000 and $500,000 dollars for construction of each of the secondary and open-air structures depending on the inclusion of restroom and storage space. This budget would be for construction of the facility only and would not include any adjacent site costs or site utility costs. This includes both a continency and escalation factors based on the assumption that the facility would be completed within three (3) years.

PROJECT DELIVERY & DESIGN PROCESS

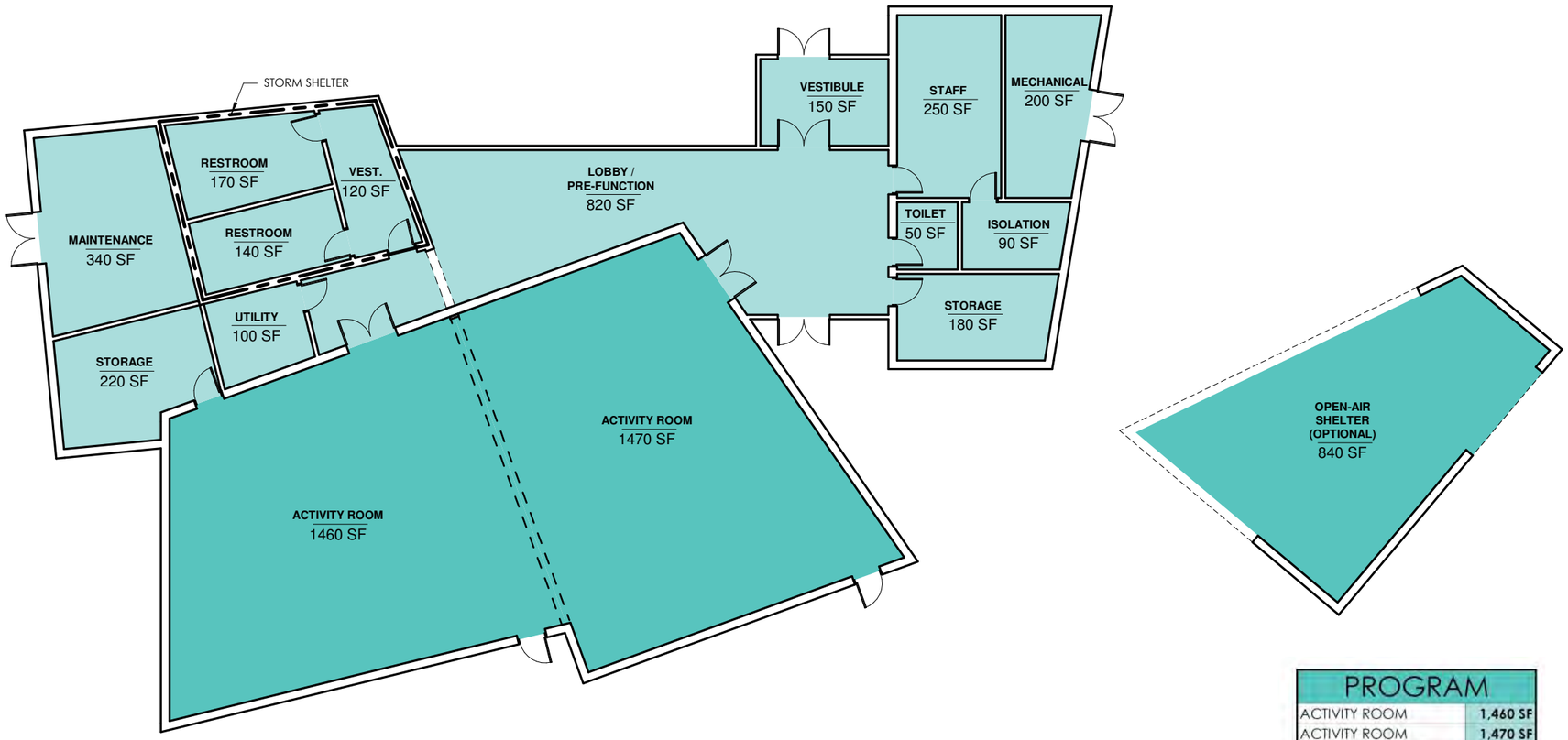
Following this initial, conceptual, design phase, successive projects can be packaged and developed to align with funding timelines and the timing of other project scopes. Whether it is a standalone project or part of other park project scopes, the design of the main structure would benefit from the following design phases prior to procurement of the construction contract: schematic design, design development, and construction documentation.

Typical schematic design tasks would be to verify the space program, refine the envelope design, and develop the interior floor plan. This phase would include one or two design review meetings with project stakeholders and a design deliverable consisting of both design drawings and project scope narratives.

The design development phase would further the efforts of schematic design to include refinement of the design and selection of building systems and materials. Deliverables in this phase would include presentation drawings, preliminary construction drawings, and proposed material specifications.

The construction document phase is aimed at creating bidding documents that clearly communicate design intention through drawings and specifications. These documents are then used by contractors or construction managers to provide a competitive bid for the cost of the work.

Each phase should include stakeholder design reviews and signoffs and an evaluation of anticipated construction cost as the scope is defined in greater detail. This estimate can be performed by the design team, or an outside party can be brought in with specific expertise in construction estimating.



GROUND FLOOR PLAN

Figure 38: Main structure programming

PROGRAM	
ACTIVITY ROOM	1,460 SF
ACTIVITY ROOM	1,470 SF
MAINTENANCE	340 SF
RESTROOM	170 SF
RESTROOM	140 SF
UTILITY	100 SF
LOBBY / PRE-FUNCTION	820 SF
STORAGE	180 SF
TOILET	50 SF
ISOLATION	90 SF
STAFF	250 SF
MECHANICAL	200 SF
VESTIBULE	150 SF
CORRIDOR	120 SF
VEST.	120 SF
STORAGE	220 SF
	5,890 SF

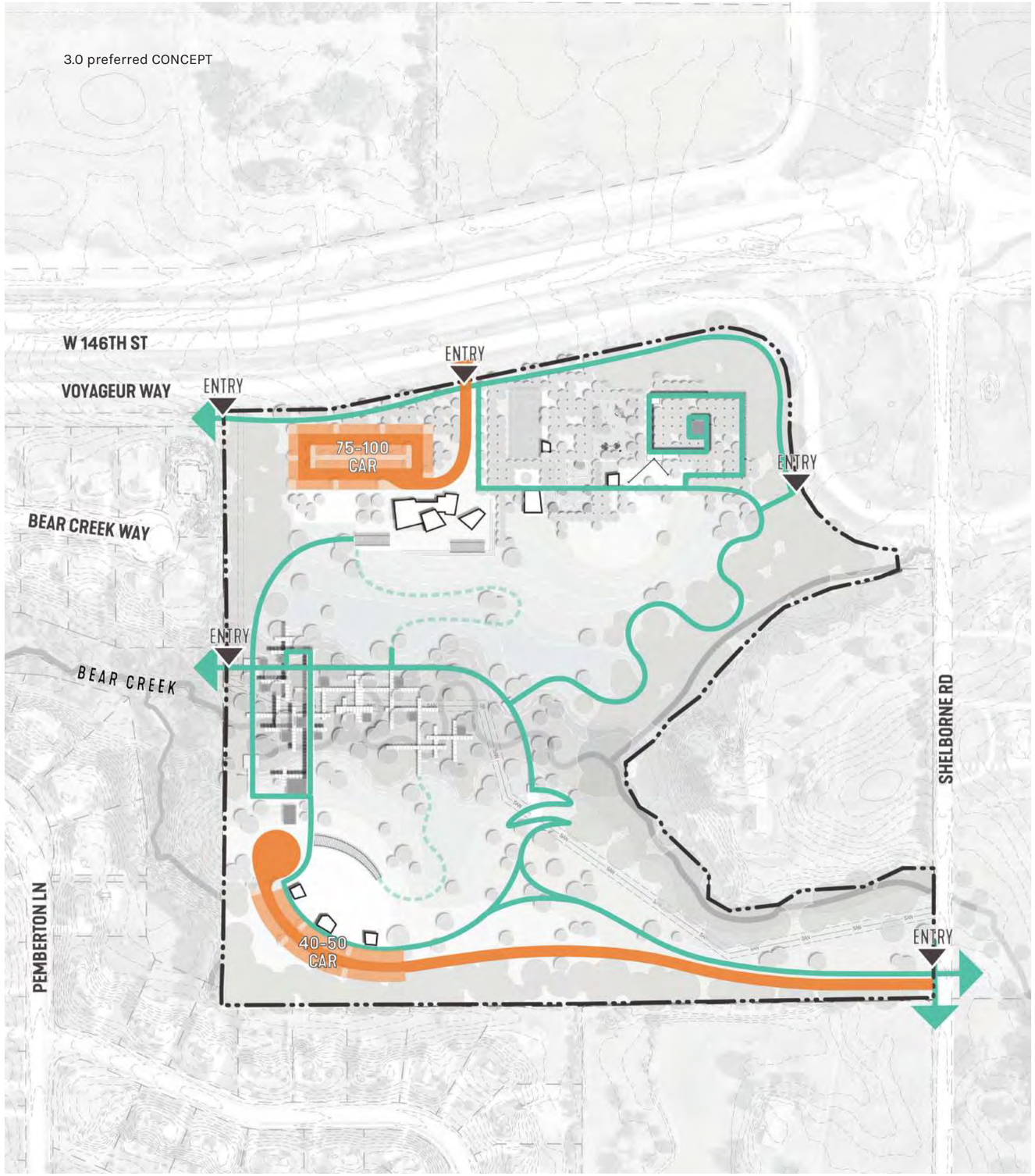


Figure 39: Trails and connections diagram

3.4 RECOMMENDATIONS TO THE TRAIL SYSTEM AND CONNECTIONS

Part of creating a connected experience for Bear Creek Park visitors includes developing a rich network of trails within the park as well as connections to the surrounding system of trails and regional greenways. It also includes vehicular connections and parking for those that must drive to Bear Creek Park. The following outlines key components of the plan illustrated on this page:

PARK TRAILS

How users and visitors experience Bear Creek Park is as important as the uses that are proposed for the park and the restoration of habitat areas within the park. The master plan concentrated on developing a loop trail that moves users around the park and across the creek. The outer loop trail is planned to be accessible from Shelborne Road, and the anticipated future greenway west and east of the park. Trail activity is concentrated at the creek with boardwalks that crisscross the creek experience and the canopy play area. Additional trails provide access at the north end of the park to the play experiences and the adventure tower.

The plan includes over 1.5 miles of paved, aggregate and boardwalk trails that connect park attractions and unique experiences in all seasons. All trails are to be universally accessible and are themed by the ecological communities they serve (Prairie Trail, Woodland Trail, Creekside Trail) with associated wayfinding and interpretive information as appropriate. They are also designed to provide multiple loop options within the park and provide corridors for snow-related recreation as weather permits.

In addition to the permanent paved, aggregate, and boardwalk trails mentioned above, the plan provides the potential for more tactical, temporary mown trails that could be added to both the north and south prairie areas by the CCPR team on a seasonal basis. This represents an opportunity to create an evolving user experience as dynamic as the spaces they traverse.

PARKING (PERMEABLE PAVEMENT)
DRIVEWAY
PEDESTRIAN TRAIL
INFORMAL MOWED TRAIL

By the Numbers

PARK ENTRIES qty

EXISTING		PROPOSED
1	+4	5

PEDESTRIAN TRAIL mi

EXISTING		PROPOSED
.77	+.73	1.50

DRIVEWAY In ft

EXISTING		PROPOSED
1,471	-136	1,335

PARKING SPACES qty

EXISTING		PROPOSED
14	+101-136	115-150

NEIGHBORHOOD CONNECTIONS

To encourage bike and pedestrian trips to Bear Creek Park from the surrounding community, proposed park trails are designed to link to adjacent community trails along the north and east park boundaries, with four entrances and trailheads as noted on the adjacent diagram. This plan strongly supports the City's continued development of regional trail connections along the Shelborne Road and W. 146th Street corridors to provide this non-motorized access.

REGIONAL CONNECTIONS

The park's location along Bear Creek creates the potential for regional greenway trail connections as improvements are made in the creek corridor to the west and east of the park. Park trails, and associated entries and trailheads, are planned to support these regional connections in the future, with a long-term goal of linking to the Lower Eagle Creek regional open space corridor to the west.

ROADS AND PARKING

Bear Creek Park is a community park intended to serve visitors from zero to three miles away that may choose to

drive to the park at varying frequencies. As such, the plan includes two vehicular entrances and parking clusters, including a north entrance with a primary parking lot of 75-100 cars and an east entrance with 40-50 parking spaces near the amenities south of Bear Creek. Pavement throughout the parking bays will be permeable to increase bio-filtration and limit runoff of Total Suspended Solids into the restored habitats.

Connections between the north and south park areas are made by trail only. There are no roads planned for the park. One of the draft alternatives (Braided Bear) explored a road that connected the north and south sides of the park, but community feedback was clear, this was not strongly desired. The master plan proposes driveways that direct visitors arriving by vehicle to parking lots quickly and with minimal impact. The drive on the south side follows closely the alignment of the existing drive with some modification to provide a better buffer between the park and immediately adjacent properties to the south.

3.5 PROJECT PHASING

Implementation of the master plan is expected to be developed over time as funding sources become available. Bundles of development that would allow for independent construction of different portions of the design were identified. The components of the bundles are described on the following pages.

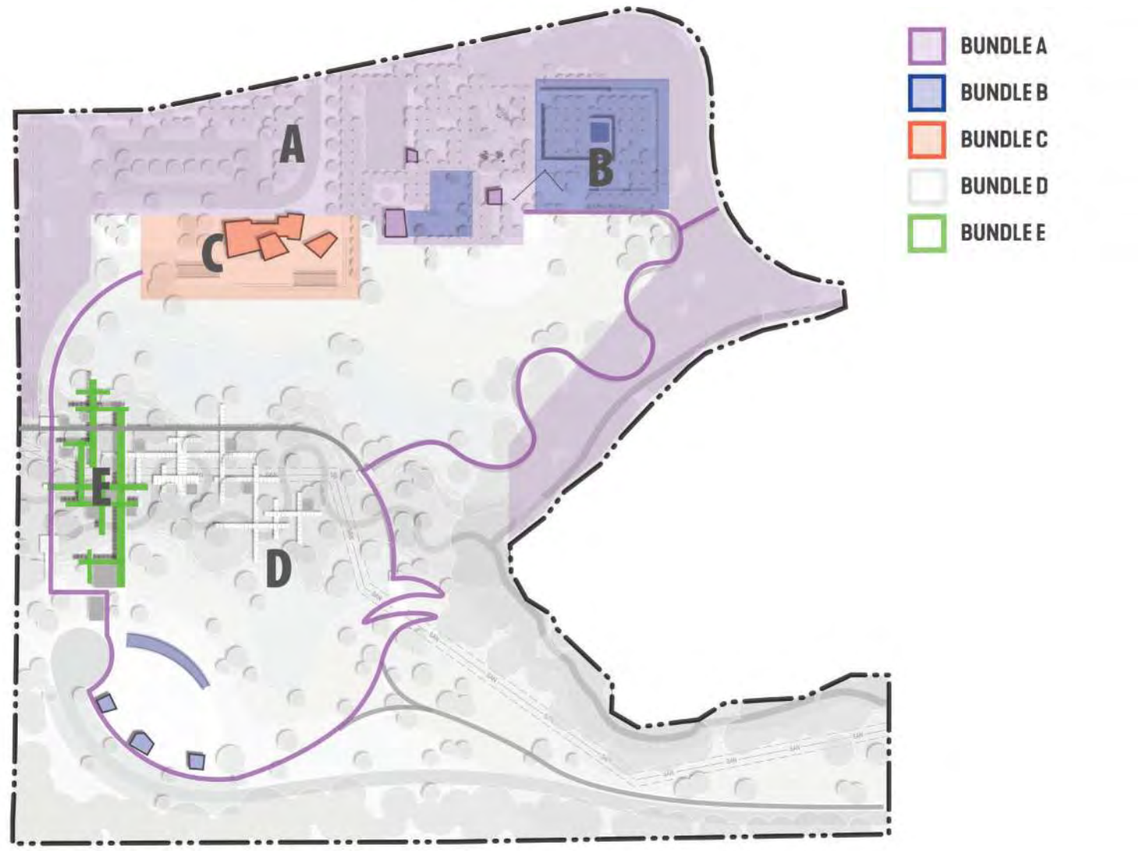


Figure 40: Project phasing diagram

BUNDLE A

Item	Item	Quantity	Unit	Unit Cost	Item Total	Subtotal
	Site Preparation and Earthwork					
1.	Subsurface Investigation	1	LS	$ 12,000.00	$ 12,000.00	
2.	Erosion Control	1	LS	$ 47,000.00	$ 47,000.00	
3.	Clear and Grub	1	LS	$ 42,000.00	$ 42,000.00	
4.	Selective Site Demo	1	LS	$ 5,000.00	$ 5,000.00	
5.	Grading and Earthwork	28200	SY	$ 10.00	$ 282,000.00	
6.	Fine Grading	50000	SF	$ 0.50	$ 25,000.00	
7.	Temporary Project Signage and Fencing	1	LS	$ 15,000.00	$ 15,000.00	
8.	Construction Layout	1	LS	$ 20,000.00	$ 20,000.00	
	Subtotal					$ 448,000.00
	Overall Site Improvements					
1.	Signage	1	LS	$ 25,000.00	$ 25,000.00	
2.	Gateway Entry Signage	1	EA	$ 66,000.00	$ 66,000.00	
3.	Concrete Pavement	16700	SF	$ 8.00	$ 133,600.00	
4.	Asphalt Pavement - Road	36800	SF	$ 7.50	$ 276,000.00	
5.	Asphalt Pavement - Path	16200	SF	$ 4.00	$ 64,800.00	
6.	Gravel Path	6500	SF	$ 31.00	$ 201,500.00	
7.	Nature Play	1	LS	$ 610,000.00	$ 610,000.00	
8.	Outdoor Classrooms	1	LS	$ 50,000.00	$ 50,000.00	
9.	Overlook	1	LS	$ 15,000.00	$ 15,000.00	
10.	Stone Steps (per stone slab)	280	EA	$ 3,100.00	$ 868,000.00	
11.	Basketball Courts	2	EA	$ 40,000.00	$ 80,000.00	
12.	Gaga Ball	1	EA	$ 6,000.00	$ 6,000.00	
13.	Site Furnishings	1	LS	$ 20,000.00	$ 20,000.00	
14.	Sanitary Service	1	LS	$ 11,000.00	$ 11,000.00	
15.	Electrical Service	1	LS	$ 15,000.00	$ 15,000.00	
16.	Water Service	1	LS	$ 23,000.00	$ 23,000.00	
	Landscape					
17.	Turf Sod	1600	SY	$ 18.00	$ 28,800.00	
18.	Trees	200	EA	$ 750.00	$ 150,000.00	
19.	Accent Planting	1	LS	$ 60,000.00	$ 60,000.00	
	Subtotal					$ 2,703,700.00
	Buildings					
1.	Secondary Structure w/ Restrooms or Storage	1	EA	$ 380,000.00	$ 380,000.00	
2.	Open Air Structure (Picnic Shelter)	2	EA	$ 75,000.00	$ 150,000.00	
	Subtotal					$ 530,000.00
	Vegetative Restoration					
1.	Woodland Resortaion	172,000	SF	$ 0.50	$ 86,000.00	
	Subtotal					$ 86,000.00
	Construction Subtotal					**$ 3,767,700**
	Bonds and Insurance	1.5%				$ 56,500.00
	Mobilization	2%				$ 85,000.00
	Escalator	3%		2 years		$ 226,000.00
	Construction Contingency & Remaining Elements	20%				$ 753,500.00
	Construction Total					**$ 4,888,700**
	Design/Engineering/Permits/Site Investigations	15%				$ 733,300.00
	Project Total (Construction, design, contingency and permitting)					**$ 5,622,000**

BUNDLE B

Item	Item	Quantity	Unit	Unit Cost	Item Total	Subtotal
	Site Preparation and Earthwork					
1.	Subsurface Investigation	1	LS	$ 12,000.00	$ 12,000.00	
2.	Erosion Control	1	LS	$ 47,000.00	$ 47,000.00	
3.	Clear and Grub	1	LS	$ 42,000.00	$ 42,000.00	
4.	Selective Site Demo	1	LS	$ 5,000.00	$ 5,000.00	
5.	Grading and Earthwork	12000	SY	$ 10.00	$ 120,000.00	
6.	Fine Grading	25500	SF	$ 0.50	$ 12,750.00	
7.	Temporary Project Signage and Fencing	1	LS	$ 15,000.00	$ 15,000.00	
8.	Construction Layout	1	LS	$ 20,000.00	$ 20,000.00	
	Subtotal					**$ 273,750.00**
	Overall Site Improvements					
1.	Signage	1	LS	$ 15,000.00	$ 15,000.00	
2.	Gateway Entry Signage	2	EA	$ 66,000.00	$ 132,000.00	
3.	Adventure Tower	1	LS	$ 410,000.00	$ 410,000.00	
4.	Water Play	1	LS	$ 750,000.00	$ 750,000.00	
5.	Zip-Line	1	LS	$ 85,000.00	$ 85,000.00	
6.	Site Furnishings	1	LS	$ 35,000.00	$ 35,000.00	
7.	Sanitary Service	1	LS	$ 11,000.00	$ 11,000.00	
8.	Electrical Service	1	LS	$ 15,000.00	$ 15,000.00	
9.	Water Service	1	LS	$ 23,000.00	$ 23,000.00	
	Landscape					
10.	Turf Sod	4055	SY	$ 18.00	$ 72,990.00	
11.	Trees	650	EA	$ 750.00	$ 487,500.00	
12.	Accent Planting	1	LS	$ 10,000.00	$ 10,000.00	
	Subtotal					**$ 2,046,490.00**
	Buildings					
1.	Secondary Structure w/ Restrooms or Storage	1	EA	$ 178,000.00	$ 178,000.00	
2.	Open Air Structure (Picnic Shelter/Trellis)	3	EA	$ 75,000.00	$ 225,000.00	
	Subtotal					**$ 403,000.00**
	Construction Subtotal					**$ 2,723,240**
	Bonds and Insurance	1.5%				$ 40,800.00
	Mobilization	2%				$ 61,000.00
	Escalator	3%		2 years		$ 163,000.00
	Construction Contingency & Remaining Elements	20%				$ 544,600.00
	Construction Total					**$ 3,532,640**
	Design/Engineering/Permits/Site Investigations	15%				$ 529,900.00
	Project Total (Construction, design, contingency and permitting)					**$ 4,062,540**

BUNDLE C

Item	Item	Quantity	Unit	Unit Cost	Item Total	Subtotal
	Site Preparation and Earthwork					
1.	Subsurface Investigation	1	LS	$ 12,000.00	$ 12,000.00	
2.	Erosion Control	1	LS	$ 25,000.00	$ 25,000.00	
3.	Clear and Grub	1	LS	$ 25,000.00	$ 5.00	
4.	Selective Site Demo	1	LS	$ 5,000.00	$ 5,000.00	
5.	Grading and Earthwork	4000	SY	$ 10.00	$ 40,000.00	
6.	Fine Grading	25000	SF	$ 0.50	$ 12,500.00	
7.	Temporary Project Signage and Fencing	1	LS	$ 15,000.00	$ 15,000.00	
8.	Construction Layout	1	LS	$ 20,000.00	$ 20,000.00	
	Subtotal					**$ 129,505.00**
	Overall Site Improvements					
1.	Signage	1	LS	$ 10,000.00	$ 10,000.00	
2.	Concrete Pavement	29000	SF	$ 8.00	$ 232,000.00	
3.	Concrete Steps	721	LF	$ 400.00	$ 288,400.00	
4.	Site Furnishings	1	LS	$ 15,000.00	$ 15,000.00	
5.	Sanitary Service	1	LS	$ 33,000.00	$ 33,000.00	
6.	Electrical Service	1	LS	$ 50,000.00	$ 50,000.00	
7.	Water Service	1	LS	$ 17,000.00	$ 17,000.00	
	Landscape					
8.	Turf Sod	275	SY	$ 18.00	$ 4,950.00	
9.	Trees	4	EA	$ 750.00	$ 3,000.00	
10.	Accent Planting	1	LS	$ 20,000.00	$ 20,000.00	
	Subtotal					**$ 673,350.00**
	Buildings					
1.	Community Pavilion	1	LS	$ 3,000,000.00	$ 3,000,000.00	
2.	Open Air Structure (Trellis)	2	EA	$ 75,000.00	$ 150,000.00	
	Subtotal					**$ 3,150,000.00**
	Construction Subtotal					**$ 3,952,855**
	Bonds and Insurance	1.5%				$ 59,300.00
	Mobilization	2%				$ 89,000.00
	Escalator	3%		2 years		$ 237,000.00
	Construction Contingency & Remaining Elements	20%				$ 790,600.00
	Construction Total					**$ 5,128,755**
	Design/Engineering/Permits/Site Investigations	15%				$ 769,300.00
	Project Total (Construction, design, contingency and permitting)					**$ 5,898,055**

BUNDLE D

Item	Item	Quantity	Unit	Unit Cost	Item Total	Subtotal
	Site Preparation and Earthwork					
1.	Subsurface Investigation	1	LS	$ 12,000.00	$ 12,000.00	
2.	Erosion Control	1	LS	$ 47,000.00	$ 47,000.00	
3.	Clear and Grub	1	LS	$ 42,000.00	$ 42,000.00	
4.	Pavement Removal	3755	SY	$ 7.50	$ 28,162.50	
5.	Selective Site Demo	1	LS	$ 5,000.00	$ 5,000.00	
4.	Grading and Earthwork	75800	SY	$ 10.00	$ 758,000.00	
6.	Fine Grading	100000	SF	$ 0.50	$ 50,000.00	
7.	Temporary Project Signage and Fencing	1	LS	$ 15,000.00	$ 15,000.00	
8.	Construction Layout	1	LS	$ 20,000.00	$ 20,000.00	
	Subtotal					$ 977,162.50
	Overall Site Improvements					
1.	Signage	1	LS	$ 15,000.00	$ 15,000.00	
2.	Gateway Entry Signage	1	EA	$ 66,000.00	$ 66,000.00	
3.	Concrete Pavement	9550	SF	$ 8.00	$ 76,400.00	
4.	Asphalt Pavement - Road	46400	SF	$ 7.50	$ 348,000.00	
5.	Asphalt Pavement - Path	4375	SF	$ 4.00	$ 17,500.00	
6.	Boardwalk	3675	LF	$ 82.00	$ 301,350.00	
7.	Interpretive Kiosks	4	EA	$ 2,700.00	$ 10,800.00	
8.	Site Furnishings	1	LS	$ 12,000.00	$ 12,000.00	
9.	Sanitary Service	1	LS	$ 11,000.00	$ 11,000.00	
10.	Electrical Service	1	LS	$ 15,000.00	$ 15,000.00	
11.	Water Service	1	LS	$ 23,000.00	$ 23,000.00	
	Landscape					
12.	Turf Sod	2650	SY	$ 18.00	$ 47,700.00	
13.	Trees	450	EA	$ 750.00	$ 337,500.00	
14.	Accent Planting	1	LS	$ 25,000.00	$ 25,000.00	
	Subtotal					$ 1,306,250.00
	Buildings					
1.	Secondary Structure w/ Restrooms or Storage	1	EA	$ 178,000.00	$ 178,000.00	
2.	Open Air Structure (Picnic Shelter)	1	EA	$ 75,000.00	$ 75,000.00	
	Subtotal					$ 253,000.00
	Prairie/Woodland Restoration					
1.	Prairie Savanna Restoration	376,360	SF	$ 0.25	$ 94,090.00	
2.	Woodland Resortaion	93,200	SF	$ 0.50	$ 46,600.00	
3.	Meadow Restoration	165,000	SF	$ 0.45	$ 74,250.00	
	Subtotal					$ 214,940.00
	Stream Restoration					
1.	Stream Restoration (Bank restoration & Armoring)	1285	LF	$ 212.00	$ 272,420.00	
	Subtotal					$ 272,420.00
	Construction Subtotal					$ 3,023,773
	Bonds and Insurance	1.5%				$ 45,400.00
	Mobilization	2%				$ 68,000.00
	Escalator	3%		2 years		$ 181,000.00
	Construction Contingency & Remaining Elements	20%				$ 604,800.00
	Construction Total					$ 3,922,973
	Design/Engineering/Permits/Site Investigations	15%				$ 588,400.00
	Project Total (Construction, design, contingency and permitting)					$ 4,511,373

BUNDLE E

Item	Item	Quantity	Unit	Unit Cost	Item Total	Subtotal
	Site Preparation and Earthwork					
1.	Subsurface Investigation	1	LS	$ 12,000.00	$ 12,000.00	
2.	Erosion Control	1	LS	$ 25,000.00	$ 25,000.00	
3.	Clear and Grub	1	LS	$ 25,000.00	$ 25,000.00	
4.	Selective Site Demo	1	LS	$ 5,000.00	$ 5,000.00	
5.	Grading and Earthwork	5500	SY	$ 10.00	$ 55,000.00	
6.	Fine Grading	25500	SF	$ 0.50	$ 12,750.00	
7.	Temporary Project Signage and Fencing	1	LS	$ 15,000.00	$ 15,000.00	
8.	Construction Layout	1	LS	$ 20,000.00	$ 20,000.00	
	Subtotal					$ 169,750.00
	Overall Site Improvements					
1.	Signage	1	LS	$ 15,000.00	$ 15,000.00	
2.	Tree House Play (The Perch)	1	LS	$ 2,250,000.00	$ 2,250,000.00	
3.	Site Furnishings	1	LS	$ 15,000.00	$ 15,000.00	
4.	Electrical Service	1	LS	$ 20,000.00	$ 20,000.00	
	Landscape					
5.	Turf Sod	4055	SY	$ 18.00	$ 72,990.00	
6.	Trees	650	EA	$ 750.00	$ 487,500.00	
7.	Accent Planting	1	LS	$ 10,000.00	$ 10,000.00	
	Subtotal					$ 2,870,490.00
	Construction Subtotal					$ 3,040,240
	Bonds and Insurance	1.5%				$ 45,600.00
	Mobilization	2%				$ 68,000.00
	Escalator	3%		2 years		$ 182,000.00
	Construction Contingency & Remaining Elements	20%				$ 608,000.00
	Construction Total					$ 3,943,840
	Design/Engineering/Permits/Site Investigations	15%				$ 591,600.00
	Project Total (Construction, design, contingency and permitting)					$ 4,535,440

4.0 PRO FORMA

4.1 PROGRAM ZONES

Program zones were established to develop the program and operational standards for Bear Creek Park. The zones are defined as:

- Base Camp: Program Center that is 5,890 square feet with a secondary open-air shelter of 840 square feet, landscaped areas of 9,250 sq. feet, and parking space for 75-100 cars with drop off, Prairie Overlook, Trailhead.
- The Oak Rooms: Scattered playgrounds, nature-based playground, splashpad/water play area, adventure tower, half court sport courts, 1,500 square feet open air shelter with additional bathrooms and ziplines.
- The Perch: Canopy play area
- Creekside: Boardwalk with additional creek side open-air shelters.
- South Prairie – Flexible lawn space, picnic area, 1,100 square feet of open-air shelters, bathrooms, bluff climb, overlook, terraced seating area, trailhead, and parking for 40-50 cars.
- Bear Creek Greenway- Trail corridor
- Ecology area 21-acres and 2,715 feet of creek
- Pedestrian trail is 1.5 miles

The total footprint of Bear Creek Park is approximately 27-acres. A majority of the park will remain in a more natural state allowing it to be managed at a level three (3) maintenance standard as defined in section 4.2 of this plan. The restored native vegetative communities will be maintained to ensure that invasive species are minimized. High-use spaces within the park will require more frequent visits by staff to empty trash, clean, or manicure (mow, etc.), therefore resulting in a level two (2) maintenance standard. The master plan aims to restore 2,715 lineal feet of creek while providing 1.5 miles of trail. The matrix below provides further detail into the program zones and facilities/amenities available at Bear Creek Park. The matrix also illustrates who benefits from use and the projected cost to develop/operate.

4.1.1 BASE CAMP INCLUDES A 5,890 SQUARE FOOT INDOOR PROGRAM CENTER AND A SECONDARY OPEN AIR SHELTER FACILITY OF 840 SQUARE FEET

- 5,900-square foot Indoor program center for nature-based programs, summer camps, ecology programs, rentals, and public meeting space.
- 840-square foot open-air shelter that can be used for summer camps, group outings, gathering space and general school programs
- Trail head
- Parking and drop off for 75-100 cars

4.1.2 OAK GROVE AND ROOMS

- Adventure tower
- Open-air structures
- Program spaces for different types of events and rentals
- Splashpad/water play

4.1.3 CREEKSIDE

- Boardwalk with additional open-air shelters and seating
- Creek-walk

4.1.4 SOUTH PRAIRIE

- Flexible open lawn space
- Picnic area
- 1,100 square feet open air shelter with toilets
- Trail head
- Bluff Climb, terraced seating area
- Parking and drop off for 40-50 cars

4.1.5 DESTINATION ADVENTURE PLAY

- Large iconic playground – ages 2-5 and 6-10 destination adventure playground will be located on-site
- Large Shelter – rentable with restrooms and picnic tables, 100-person capacity

4.1.6 SPLASH PAD

- Nature-based splash pad
- Small shelter – 24-person capacity

AMENITY MATRIX

BEAR CREEK PARK

Activity Experience Chart (Menu of Options)

FACILITIES and AMENITIES		Age Group Appeal														
Space	**Length of Experience**	**2-5 years**	**6-8 years**	**9-12 years**	**13-15 years**	**16-18 years**	**19-30 years**	**31-45 years**	**46-60 years**	**61-70 years**	**71-75 years**	**76 + years**	**% Covered**	**Revenue**	**Cost to Develop**	**Cost to Operate**
Walking Paths / Trails	**1-2 hours**			*	*	*	*	*	*	*	*	*	82%	low	medium	medium
Natural Open Green Spaces	**1-2 hours**	*	*	*	*	*	*	*	*	*	*	*	100%	low	low	low
Tree House Play (The Perch)	**2-3 hours**	*	*	*	*	*	*	*					64%	low	high	medium
Community Program Pavilion	**3-4 hours**	*	*	*	*	*	*	*	*	*	*	*	100%	high	high	medium
Ziplining	**1-2 hours**			*	*	*	*	*					45%	low	medium	low
Birding	**1-2 hours**	*	*	*	*	*	*	*	*	*	*	*	100%	low	low	low
Picnic Areas	**2-3 hours**	*	*	*	*	*	*	*	*	*	*	*	100%	low	low	medium
Natural Areas	**1-2 hours**		*	*	*	*	*	*	*	*	*	*	91%	low	low	low
Water Recreation (Creek Experiences)	**1-2 hours**	*	*	*	*	*	*	*	*	*			82%	low	medium	low
Water Play Area (Splash Pad)	**2-3 hours**	*	*	*	*	*	*	*	*				73%	low	high	medium
Shelters	**2-3 hours**						*	*	*	*	*	*	55%	medium	medium	medium
Nature Play Area/Playground	**1-2 hours**	*	*	*									27%	low	low	medium
Outdoor Classrooms	**1-2 hours**	*	*	*	*	*							45%	low	low	low
Sports Courts	**1-2 hours**	*	*	*	*	*	*	*	*	*			64%	low	medium	low
Adventure Tower	**2-3 hours**	*	*	*	*	*	*	*	*				73%	low	high	low

4.2 MAINTENANCE STANDARDS

Maintenance Standards: Two maintenance levels are generally defined. The differences between levels are determined by the frequency of maintenance as determined by ability. Maintenance standards have the following general characteristics.

- Level 1 Maintenance – Moderate to heavy use typical of most parks. Example maintenance activities include: Mowing and edging once per week, 88 percent turf coverage at start of season with 8 percent weeds and 4 percent bare area, tree pruning cycle every seven years, litter pickup once per week.
- Level 2 Maintenance – Typical for low usage parks or when funding is limited. Example maintenance activities include: Native vegetative community management activities such as spot herbiciding or mechanical removal of undesirable species, annual burning or mowing, tree pruning cycle every 10 years, natural areas mowed three times a year.

This format provides guidance in terms of understanding the required work activities and elements in a descriptive manner that then can be quantified numerically. Following are descriptions of the levels of service and both qualitative and quantitative maintenance standards as proposed for all parks in the system.

4.2.1 LEVEL TWO MAINTENANCE STANDARDS FOR PARKS

Maintenance standards can change by season and month depending on the park and level of use. Standards will be calculated by time and equipment needed to develop the required operation budgets. A summary of maintenance levels is shown on the table found on page 79.

- Turf Maintenance
  - Mowing will occur once weekly
  - Mowing heights
    - 2½" during cool season (day time highs consistently below 75 degrees)
  - Edging of all turf perimeters will occur weekly during season and every 2 weeks in off-season
  - 88% turf coverage
  - 8% weed infestation
  - 4% bare area will be acceptable after play begins
  - Remove grass clippings if visible
  - Aerate once annually in low use areas
  - Aerate twice annually in high use areas (additional if needed)
  - Inspect thatch layer regularly and remove as needed
  - Test soil and water annually
    - Additional testing will occur if deemed necessary
  - Soil moisture will be consistent
    - No wet areas
    - No dry areas
    - Firm enough for foot and mower traffic
    - Apply wetting agents to assist in uniform soil moisture
    - Hand water as needed
  - Inspect weekly for insects, disease, and stress, and respond to outbreaks within 24 hours
  - Fertilize twice yearly
- Tree and Shrub Maintenance
  - Prune/trim trees and shrubs as dictated by species at least once annually
  - Apply fertilizer to plant species only if plant health dictates
  - Remove sucker growth as needed
  - Inspect regularly for insects and diseases. Respond to outbreaks within 48 hours
  - Place 2" of organic mulch around each tree within a minimum 18" ring
  - Place 2" of organic mulch around shrub beds to minimize weed growth
  - Remove hazardous limbs and plants immediately upon discovery
  - Remove dead trees and plant material within 30 days of discovery
  - Remove or treat invasive plants yearly
- Storm Cleanup
  - Inspect drain covers at least once monthly and immediately after flooding occurs
  - Remove debris and organic materials from drain covers within every other month
  - Inspect and clean drains before forecasted storms begin
  - Maintain water inlet height at 100% of design standard
  - Invasive plant removal once a year or as needed
  - Drain system maintenance done once a year
- Irrigation Systems
  - Inspect irrigation systems a minimum of once per month and as necessary
  - Initiate repairs to non-functioning systems within 48 hours of discovery
  - Annual back flow inspection done yearly
- Litter Control
  - Pick up litter and empty containers at least every other day or as needed
  - Remove leaves and organic debris once a week
- Playground Maintenance
  - Audit each playground to insure compliance with the current version of ASTM Performance Standard F1487 and the Consumer Product Safety Commission "Handbook for Public Playground Safety"
  - Complete low-frequency playground inspections at least bi-monthly or as required. All low-frequency inspections are to be completed by a Certified Playground Safety Inspector (CPSI). Complete safety-related repairs immediately and initiate other repairs within 48 hours of discovery
  - Complete high-frequency inspections at least weekly
  - Grooming surface two times weekly
- Hard Surface Maintenance
  - Remove debris and glass immediately upon discovery
  - Remove sand, dirt, and organic debris from walks, lots, and hard surfaces every 30 days
  - Remove trip hazards from pedestrian areas immediately upon discovery
  - Paint fading or indistinct instructional/directional signs every other year
  - Remove grass in the cracks monthly
- Outdoor Court Maintenance
  - Inspect basketball courts at least once monthly. Complete repairs within 10 days of discovery
  - Repaint lines at least once every 2 years
  - Replace basketball nets within 10 days when frayed, broken, or removed
  - Maintain basketball goal posts, backboards, rims, fencing, and hardware to original design specifications. Complete repairs within 10 days of discovery
- Trail Maintenance
  - Inspect hard and soft surface trails at least once monthly
  - Remove dirt, sand, and organic debris from hard surfaces at least once monthly
  - Remove organic debris from soft surfaces at least once monthly
  - Maintain a uniform 2-4" depth of compacted material on soft surface trails
  - Mechanically or chemically control growth 24" on either side of the trails
  - Remove overhanging branches within 84" of the trail surface at least once annually
  - Inspect signs, benches, and other site amenities at least once monthly. Complete repairs within 10 days of discovery
- Site Amenity Maintenance
  - Inspect benches, trash containers, picnic tables, grills, bicycle racks, drinking fountains, and other site amenities at least monthly. Complete repairs within 5 days of discovery
  - Cleaning and washing annually
  - Inspect daily for insects, disease, and stress and respond to outbreaks within 24 hours
- Fence and Gate Maintenance
  - Inspect fences, gates, and bollards at least once annually. Complete safety-related repairs immediately, and complete other repairs within 5 days of discovery
  - Clean debris annually
- Sign Maintenance
  - Inspect sign lettering, surfaces, and posts at least once every 3 months
  - Repair/replace signs to maintain design and safety standards within 5 days of discovery
  - Clean sign once a year
- Vandalism and Graffiti Removal
  - Initiate repairs immediately upon discovery. Document and photograph damage as necessary
- Picnic Shelters
  - Reserved units cleaned and litter removed prior to and after each reservation
  - Minor repairs are made immediately upon discovery
  - Non-reserved units are cleaned bi-weekly, or as necessary

- Lighting Security/Area
  - Inspect quarterly
  - Repairs/bulb replacement will be completed within 72 hours of discovery
- Restrooms
  - Restrooms cleaned daily unless contracted
  - Restrooms inspected every three hours
  - Restrooms locked/unlocked daily
  - Replace waterless urinal cartridges monthly
  - Leaks dealt with immediately and repaired within 24 hours of discovery

4.2.2 LEVEL THREE MAINTENANCE STANDARDS FOR PARKS

Maintenance Standards are adjusted to suite the season and month depending on the type of park and level of use. Standards are calculated by time and equipment needed to develop required operation budgets.

- Native Vegetation Community Maintenance
  - Biannual burning or mowing
  - Mowing heights
    - 8" max., duff to be removed following mowing
  - Mechanical removal of undesirable species
    - Hand pulling
    - Tractor removal of large vegetative material
  - Monthly or more frequent herbicide application
    - Wick application or spot spraying
    - Occasionally broadleaf herbicide application in some areas
- Tree Care
  - General maintenance of scrub trees as needed
  - Pruning done every 10 years, if needed

4.3 FINANCIAL AND OPERATIONS PLAN

The operational and financial assumptions describe the overall philosophy of Bear Creek Park and explain how revenues and expenses were derived to develop the operational proforma for the Park. The proforma is demonstrated over a six-year period and forecasts all revenues and costs associated with the operation and maintenance of the park.

The following operational assumptions were used to develop the pro forma, which will help to determine the overall operational cost of the park.

4.3.1 AMENITIES ON SITE

- Community pavilion
- North parking with drop off for 75-100 cars
- Canopy play area
- Shelter outpost with toilets
- Outdoor classroom
- Scattered play with zipline
- Creekwalk
- Adventure Tower
- Prairie Trail
- Woodland Trail
- Overlook
- Vegetative Buffer
- Gateway/trailhead
- Water play and Shelter
- Program plaza
- Picnic grove with shelters and storage
- Sports courts with basketball and gaga ball
- Overlook shelter
- Prairie
- Prairie Savanna
- Restored tributary and bluff
- Bluff Climb
- South parking with drop-off for 40-50 cars
- Prairie Theater

4.3.2 HOURS OF OPERATION

Bear Creek Park will be open 365 days per year as a park. Regular hours of operation will be sunrise to sunset.

4.3.3 GENERAL COST ASSUMPTIONS

The following are general cost assumptions for the Park

- Lawn areas within the park will be mowed by contract at $400 dollars per occurance which will include the areas around the program center, the parking lots, the picnic areas, along both sides of the trails, the play areas,] and around the key amenities on site.
- Custodial services will be contracted for the program center at approximately $16,000 a year based on what the CCPR is paying now for a comparable size center and will include 3 cleanings a week.
- HVAC preventative maintenance will be contracted at approximately $6,174 annually with an assessment completed quarterly.
- General grounds maintenance in-house will be $21.63 per hour x 3 hours a week x 52 weeks = $3,375 annually
- Custodial services for exterior public restrooms will be done in-house including 3 restrooms-$21.63 an hour x 2 times a day x 363 hours a year=$15,790
- Utility costs are anticipated for the program center to be:
  - $1,000 for Electricity a month
  - $90 dollars a month for water
  - $115 a month of Sewer costs
  - $220 a month for Gas
- The Program Center will be approximately 100% cost recovery with 20% cost recovery for permitted shelters on site.
- No overnight stays anticipated in the park.

4.3.4 PRICING AND REVENUE STRATEGY

The revenue opportunities and pricing philosophy for programs and services at Bear Creek Park are as follows:

- Revenues are categorized into the following areas: Programs on-site, Events rentals, and Other.
- Pricing and participation for programs considered existing offerings by the Department, as well as local market rates based on similar provider analysis.
- Recreation programs will be a key source of driving energy and activity at Bear Creek Park. Summer Day Camps will be offered in weeklong sessions during the summer months (10 weeks), with an expected attendance of 100 kids per week.
- Rentals revenues will be generated from shelters, rentals of the program center, and programs on site.
  - Shelters are rented via a permit at $150 per day
  - It is anticipated that there will be approximately 50 full-day rentals for Sunday through Friday and 30 rentals for Saturday.
  - Pricing of the Program Center will be Sunday-Friday at $150 dollars an hour x 400 hours and $225 an hour on Saturday x 240 hours a year.
- No cost recovery goal has been established for Bear Creek Park except all programs offered will recover 100% of their cost.
- There is no parking cost, no school group cost for accessing the park.

4.3.5 STAFFING LEVELS

To operate and maintain Bear Creek Park, no full-time or part-time staffing levels will be permanent on-site. Staffing levels and hours required for staff will be based on the programs that are conducted on-site. There may be a part-time or contracted program person and park maintenance staff. As indicated earlier in this proforma, the park will be mowed contractually.

PART-TIME / SEASONAL STAFFING FOR SUMMER DAY CAMPS

- Seasonal Facility Maintenance Worker rate = $13.00 hr. 2 hours a day x 7 days a week x 30 weeks=$5,460
- Seasonal Summer Camp Staff = $15hr @ x 8 staff a week x 40 hours a week x 10 weeks =$48,000

CONTRACT SERVICES

Services that may be needed on a contractual basis for Bear Creek Park include:

- Mowing of the high use areas on a weekly basis= $400 dollars a mow x 32 mows a year
- Program instructors – 60/40 split if programs are offered in the park
- Garbage pick-up- done by the department workforce
- HVAC-Contracted

4.3.6 ADDITIONAL OPERATIONAL COSTS

Utility costs reflect industry rates based on actual costs for similar operations.

- All equipment, materials, and supplies were estimated based on existing expenses and industry rates to account for the provision of program services and to operate Bear Creek Park on an annual basis.
- Maintenance costs were incorporated based on industry best practices and the desired maintenance standards (level 2), which includes all costs except personnel. (See 4.2)
- Marketing costs to promote the programs and services of Bear Creek Park are estimated at <1% of the operational budget for the park. Marketing Costs will be approximately 3k a year
- Credit card fees are estimated at 2% of revenues x $331,938 of the total revenue earned in the first year of operation or $6,639.
- An ongoing asset management/lifecycle replacement cost is estimated at 3% of the annual operating budget.
- Furniture, Fixtures, and Equipment will be factored into upfront capital development costs.

4.3.7 PRO FORMA

The table below represents the six-year operational pro forma for Bear Creek Park. Based on the assumptions outlined and typical growth inputs for revenues and expenditures, Bear Creek Park is projected to achieve 81.1% cost recovery in year one, with expected improvement to 87.3% by year six. (Note: full revenue and expenditure detail can be found in the Appendix.)

Pro Forma Revenues and Expenditures
Bear Creek Park

REVENUES	**Y1**	**Y2**	**Y3**	**Y4**	**Y5**
Shelters	93,688	102,582	111,925	128,191	145,331
Program Center	238,250	245,398	252,759	260,342	268,152
TOTAL REVENUES	**$ 331,938**	**$ 347,979**	**$ 364,684**	**$ 388,533**	**$ 413,484**
EXPENSES					
Grounds & Trails Mx	$ 8,275	$ 8,523	$ 8,779	$ 9,042	$ 9,314
Facility Mx	27,424	28,247	29,094	29,967	30,866
Sprayground	20,000	20,600	21,218	21,854	22,510
Shelters	106,128	109,312	112,591	115,969	119,448
Program Center	126,470	130,264	135,109	141,181	148,775
#REF!	6,113	6,296	6,485	6,680	6,880
TOTAL EXPENSES	**$ 426,992**	**$ 439,803**	**$ 454,871**	**$ 472,555**	**$ 493,448**
OVERALL NET REVENUE / (LOSS)	**$ (95,055)**	**$ (91,823)**	**$ (90,187)**	**$ (84,022)**	**$ (79,965)**

Total Grounds & Trails Maintenance Expenses (not adjusted for inflation)

EXPENSES	**Y1**	**Y2**	**Y3**	**Y4**	**Y5**
Total Category Expenses					
Grounds Mx (contracted)	$ 4,000	$ 4,000	$ 4,000	$ 4,000	$ 4,000
Grounds Mx (in-house and other)	$ 3,375	$ 3,375	$ 3,375	$ 3,375	$ 3,375
Snow Removal	$ 900	$ 900	$ 900	$ 900	$ 900
Other	-	-	-	-	-
TOTAL Grounds & Trails Mx	**$ 8,275**	**$ 8,275**	**$ 8,275**	**$ 8,275**	**$ 8,275**

Total Grounds & Trails Maintenance Expenses (ADJUSTED for inflation)

Multiplier 1.03

EXPENSES	0 **Y1**	1 **Y2**	2 **Y3**	3 **Y4**	4 **Y5**
Total Category Expenses					
Grounds Mx (contracted)	$ 4,000	$ 4,120	$ 4,244	$ 4,371	$ 4,502
Grounds Mx (in-house and other)	$ 3,375	$ 3,476	$ 3,581	$ 3,688	$ 3,799
Snow Removal	$ 900	$ 927	$ 955	$ 983	$ 1,013
Other	$ -	$ -	$ -	$ -	$ -
TOTAL Grounds & Trails Mx	**$ 8,275**	**$ 8,523**	**$ 8,779**	**$ 9,042**	**$ 9,314**

Facilities Maintenance

Facility Maintenance Level Definitions:

Level 1	Hourly; highest level for special, high-visibility, extremely high traffic areas
Level 2	Every 2-4 hours; high level; well-developed high-traffic public facilities.
Level 3	Daily; for locations that have moderate levels of visitation.
Level 4	Every 2-3 days; moderately-low maintenance for low-visitation or that cannot afford a higher level. Daily for open-air facilities.
Level 5	As-needed; very low level maintenance associated with locations
Level 6	Bare minimum for rarely visited or storage areas, both indoor and open-air.
NOTE:	*The above definitions represent maintenance levels necessary to sustain facilities for general public use. Facility rental/special use fees should be used to offset the additional costs associated with the rental/special use.*

Facility Maintenance *SqFt by Year based on phasing assumptions*

			Y1	Y2	Y3	Y4	Y5
Level 2	*Public Restrooms*	Level 2	15,790	15,790	15,790	15,790	15,790
Level 3	*Seasonal Maintenance*	Level 3	5,460	5,460	5,460	5,460	5,460
		TOTAL	**21,250**	**21,250**	**21,250**	**21,250**	**21,250**

Facility Maintenance *Costs by Year (not adjusted for inflation)*

			Y1	Y2	Y3	Y4	Y5
	HVAC Preventive M.	Level 6	$ 6,174	$ 6,174	$ 6,174	$ 6,174	$ 6,174
		TOTAL	**$ 6,174**	**$ 6,174**	**$ 6,174**	**$ 6,174**	**$ 6,174**

SUMMARY: Facility Maintenance

Total Facility Maintenance Expenses (not adjusted for inflation)

		Y1	Y2	Y3	Y4	Y5
EXPENSES						
	Total Category Expenses					
	Facility Maintenance	$ 21,250	$ 21,250	$ 21,250	$ 21,250	$ 21,250
	HVAC Preventive Maintenance	$ 6,174	$ 6,174	$ 6,174	$ 6,174	$ 6,174
	TOTAL Facilities Mx	**$ 27,424**	**$ 27,424**	**$ 27,424**	**$ 27,424**	**$ 27,424**

Total Facility Maintenance Expenses (ADJUSTED for inflation)

Multiplier 1.03

		0	1	2	3	4
		Y1	Y2	Y3	Y4	Y5
EXPENSES						
	Total Category Expenses					
	Facilities	$ 21,250	$ 21,888	$ 22,544	$ 23,220	$ 23,917
	HVAC Preventive Maintenance	$ 6,174	$ 6,359	$ 6,550	$ 6,746	$ 6,949
	TOTAL Facilities Mx	**$ 27,424**	**$ 28,247**	**$ 29,094**	**$ 29,967**	**$ 30,866**

SUMMARY: Sprayground Maintenance

Totals (not adjusted for inflation)

		Y1	Y2	Y3	Y4	Y5
	Productivity Multiplier	0%	0%	0%	0%	0%
REVENUE						
	Total Category Revenue					
	Sprayground	$ -	$ -	$ -	$ -	$ -
	Other Revenue	-	-	-	-	-
	TOTAL Revenue	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
EXPENSES						
	Expenses -Personnel					
	Labor	$ 1,015	$ 1,015	$ 1,015	$ 1,015	$ 1,015
	Testing	$ 475	$ 475	$ 475	$ 475	$ 475
	Cleaning	2,400	2,400	2,400	2,400	2,400
	Total Personnel	**3,890**	**3,890**	**3,890**	**3,890**	**3,890**
	Expenses - Utilities					
	Water	$ 6,019	$ 6,019	$ 6,019	$ 6,019	$ 6,019
	Energy	$ 4,803	$ 4,803	$ 4,803	$ 4,803	$ 4,803
	Chemicals	$ 5,288	$ 5,288	$ 5,288	$ 5,288	$ 5,288
	TOTAL Utilities	**$ 16,109**	**$ 16,109**	**$ 16,109**	**$ 16,109**	**$ 16,109**
	Total Expenses	**$ 20,000**	**$ 20,000**	**$ 20,000**	**$ 20,000**	**$ 20,000**

Totals (ADJUSTED for inflation)

Multiplier 1.03

		0	1	2	3	4
		Y1	Y2	Y3	Y4	Y5
REVENUE						
	Total Category Revenue					
	Sprayground	$ -	$ -	$ -	$ -	$ -
	Other Revenue	-	-	-	-	-
	TOTAL Revenue	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
EXPENSES						
	Expenses -Personnel					
	Labor	$ 1,015	$ 1,045.90	$ 1,077.28	$ 1,109.60	$ 1,142.89
	Testing	$ 475	$ 489.25	$ 503.93	$ 519.05	$ 534.62
	Cleaning	2,400	$ 2,472.00	$ 2,546.16	$ 2,622.54	$ 2,701.22
	Total Personnel	**3,890**	**4,007**	**4,127**	**4,251**	**4,379**
	Expenses - Utilities					
	Water	$ 6,019	$ 6,200	$ 6,386	$ 6,577	$ 6,774
	Energy	4,803	$ 4,947	$ 5,095	$ 5,248	$ 5,405
	Chemicals	5,288	$ 5,446	$ 5,610	$ 5,778	$ 5,951
	Total Utilities	**16,110**	**16,593**	**17,090**	**17,603**	**18,131**
	TOTAL Expenses	**$ 20,000**	**$ 20,600**	**$ 21,218**	**$ 21,854**	**$ 22,510**
NET REVENUE / (LOSS)		**$ (20,000)**	**$ (20,600)**	**$ (21,218)**	**$ (21,854)**	**$ (22,510)**
Cost Recovery		**0%**	**0%**	**0%**	**0%**	**0%**

SUMMARY: Shelter Rentals

Totals (not adjusted for inflation)

		Y1	Y2	Y3	Y4	Y5
REVENUE						
	Total Category Revenue					
	One Day Shelters	$ 11,813	$ 17,719	$ 23,625	$ 35,438	$ 47,250
	Pavilion	$ -	$ 11,000	$ 11,000	$ 11,000	$ 11,000
	Program Center Shelters	$ 70,875	$ 70,875	$ 70,875	$ 70,875	$ 70,875
	TOTAL	**$ 82,688**	**$ 99,594**	**$ 105,500**	**$ 117,313**	**$ 129,125**
EXPENSES						
	Total Category Expenses					
	All Shelters	$ 106,128	$ 106,128	$ 106,128	$ 106,128	$ 106,128
	Pavilion	$ -	$ 6,113	$ 6,113	$ 6,113	$ 6,113
	Other Expenses	$ -	$ -	$ -	$ -	$ -
	TOTAL Expenses	**$ 106,128**	**$ 112,241**	**$ 112,241**	**$ 112,241**	**$ 112,241**

Totals (ADJUSTED for inflation)

Multiplier 1.03

		0 Y1	1 Y2	2 Y3	3 Y4	4 Y5
REVENUE						
	Total Category Revenue					
	One Day Shelters	$ 11,813	$ 18,250	$ 25,064	$ 38,724	$ 53,180
	Pavilion	$ 11,000	$ 11,330	$ 11,670	$ 12,020	$ 12,381
	Program Center Shelters	70,875	73,001	75,191	77,447	79,770
	TOTAL Revenue	**$ 93,688**	**$ 102,582**	**$ 111,925**	**$ 128,191**	**$ 145,332**
EXPENSES						
	Total Category Expenses					
	All Shelters	$ 106,128	$ 109,312	$ 112,591	$ 115,969	$ 119,448
	Pavilion	$ 6,113	$ 6,296	$ 6,485	$ 6,680	$ 6,680
	Other Revenue	$ -	$ -	$ -	$ -	$ -
	TOTAL Expenses	**$ 112,241**	**$ 115,608**	**$ 119,076**	**$ 122,649**	**$ 126,128**
NET REVENUE / (LOSS)		**$ (18,554)**	**$ (13,026)**	**$ (7,151)**	**$ 5,542**	**$ 19,204**
Cost Recovery		**83%**	**89%**	**94%**	**105%**	**115%**

SUMMARY - Business Unit: Program Pavilion

Totals (not adjusted for inflation)

		Y1	Y2	Y3	Y4	Y5
REVENUES						
	Total Category Revenue					
	Pavilion Rental	$ 57,000	$ 57,000	$ 57,000	$ 57,000	$ 57,000
	Day Camp Revenue	181,250	181,250	181,250	181,250	181,250
	TOTAL	**$ 238,250**	**$ 238,250**	**$ 238,250**	**$ 238,250**	**$ 238,250**
EXPENSES						
	Total Category Expenses					
	Personnel	$ 81,000	$ 81,000	$ 81,000	$ 81,000	$ 81,000
	Supplies	$ 24,800	$ 19,700	$ 19,700	$ 19,700	$ 19,700
	Other Services	$ 4,650	$ 16,450	$ 16,450	$ 16,450	$ 16,450
	Utilities	$ 16,020	$ 16,020	$ 16,020	$ 16,020	$ 16,020
	TOTAL	**$ 126,470**	**$ 133,170**	**$ 133,170**	**$ 133,170**	**$ 133,170**
NET REVENUE / (LOSS)		**$ 111,780**	**$ 105,080**	**$ 105,080**	**$ 105,080**	**$ 105,080**
Cost Recovery		188%	179%	179%	179%	179%

Totals (ADJUSTED for inflation)

Multiplier 1.03

		0 Y1	1 Y2	2 Y3	3 Y4	4 Y5
REVENUES						
	Total Category Revenue					
	Pavilion Rental	$ 57,000	$ 58,710	$ 60,471	$ 62,285	$ 64,154
	Day Camp Revenue	181,250	186,688	192,288	198,057	203,998
	TOTAL	**$ 238,250**	**$ 245,398**	**$ 252,759**	**$ 260,342**	**$ 268,152**
EXPENSES						
	Total Category Expenses					
	Personnel	$ 81,000	$ 83,430	$ 85,933	$ 88,511	$ 91,166
	Supplies	$ 24,800	$ 25,544	$ 27,100	$ 29,612	$ 33,329
	Other Services	$ 4,650	$ 4,790	$ 5,081	$ 5,552	$ 6,249
	Utilities	$ 16,020	$ 16,501	$ 16,996	$ 17,505	$ 18,031
	TOTAL	**$ 126,470**	**$ 130,264**	**$ 135,109**	**$ 141,181**	**$ 148,775**
NET REVENUE / (LOSS)		**$ 111,780**	**$ 115,133**	**$ 117,650**	**$ 119,161**	**$ 119,377**
Cost Recovery		188%	188%	187%	184%	180%

APPENDIX 01 | ARCHAEOLOGICAL RECONNAISSANCE REPORT

Appendix 01 contains the a Phase 1A Archeaological Reconnaissance Report of the project area.

Phase Ia Archaeological Reconnaissance for Bear Creek Park

Clay Township, Hamilton County, Indiana

J090109334

Cardno

now

Stantec

Document Information

Prepared for	Carmel Clay Parks & Recreation
Project Name	Bear Creek Park Project, Clay Township, Hamilton County, Indiana
Cardno, now Stantec PN	J090190334
Cardno, now Stantec PM	Kathleen D. Settle
Date	June 8, 2022

Prepared and Submitted By Alexandra Powell, Isabelle Ortt, and Kathleen D. Settle

Principal Investigator

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Executive Summary

The Carmel Clay Board of Parks and Recreation acquired 27 acres located in Clay Township, Hamilton County, Indiana intended for the future location of Bear Creek Park. The project is located in the northeast corner of Section 19, Township 18 North, Range 3 East on the Carmel, Indiana USGS 7.5' topographic map quadrangle. Specifically, the property is located at 14330 Shelbourne Road and currently consists of overgrown agricultural fields with extant native prairie and remnant woodlots. The property will be developed into a public park to be managed by Carmel Clay Parks & Recreation and provide recreation opportunities to park patrons.

Prior to proceeding with the proposed Bear Creek Park Project, Carmel Clay Parks & Recreation contacted Cardno, now Stantec (Cardno) to conduct a Phase Ia archaeological records review and reconnaissance (Phase Ia) prior to the proposed Bear Creek Park Project in Clay Township, Hamilton County, Indiana. Cardno was contracted to survey the areas slated for ground disturbance related to the trails and park infrastructure, which included approximately 4.14 hectares (ha; 10.22 acres [ac]) of infrastructure and 930 meters (m; 3,051 feet [ft]) of trails (Project Area).

Research within a 1.6 kilometer (km; 1 mile [mi]) radius around the proposed Project Area revealed seven previously conducted cultural resources surveys and identified seventeen archaeological sites and two Indiana Historic Sites and Structures Inventory (IHSSI)-listed resources within the study area, one of which is a cemetery. Neither of these resources are within the current Project Area.

Archaeological fieldwork was conducted on May 9th and 10th, 2022. As a result of the Phase Ia investigation, one new archaeological site was identified, which consists of a mid-to late nineteenth century post-contact scatter of artifacts (12H1935). Based on the results of the field reconnaissance and archival research, site 12H1935 is recommended not eligible for inclusion in the National Register of Historic Places (NRHP), and Cardno recommends no further archaeological investigation be required for the proposed project to proceed as planned.

These recommendations are based on the current project plans. Currently the project is not considered a Federal Undertaking under Section 106 of the National Historic Preservation Act (NHPA). Carmel Clay Parks & Recreation has chosen to conduct an archaeological survey out of respect for the preservation of cultural resources. If plans should change, or the Project becomes a Federal Undertaking subject to Section 106 of the National Historic Protection Act (NHPA), further archaeological work may be necessary.

1 Introduction

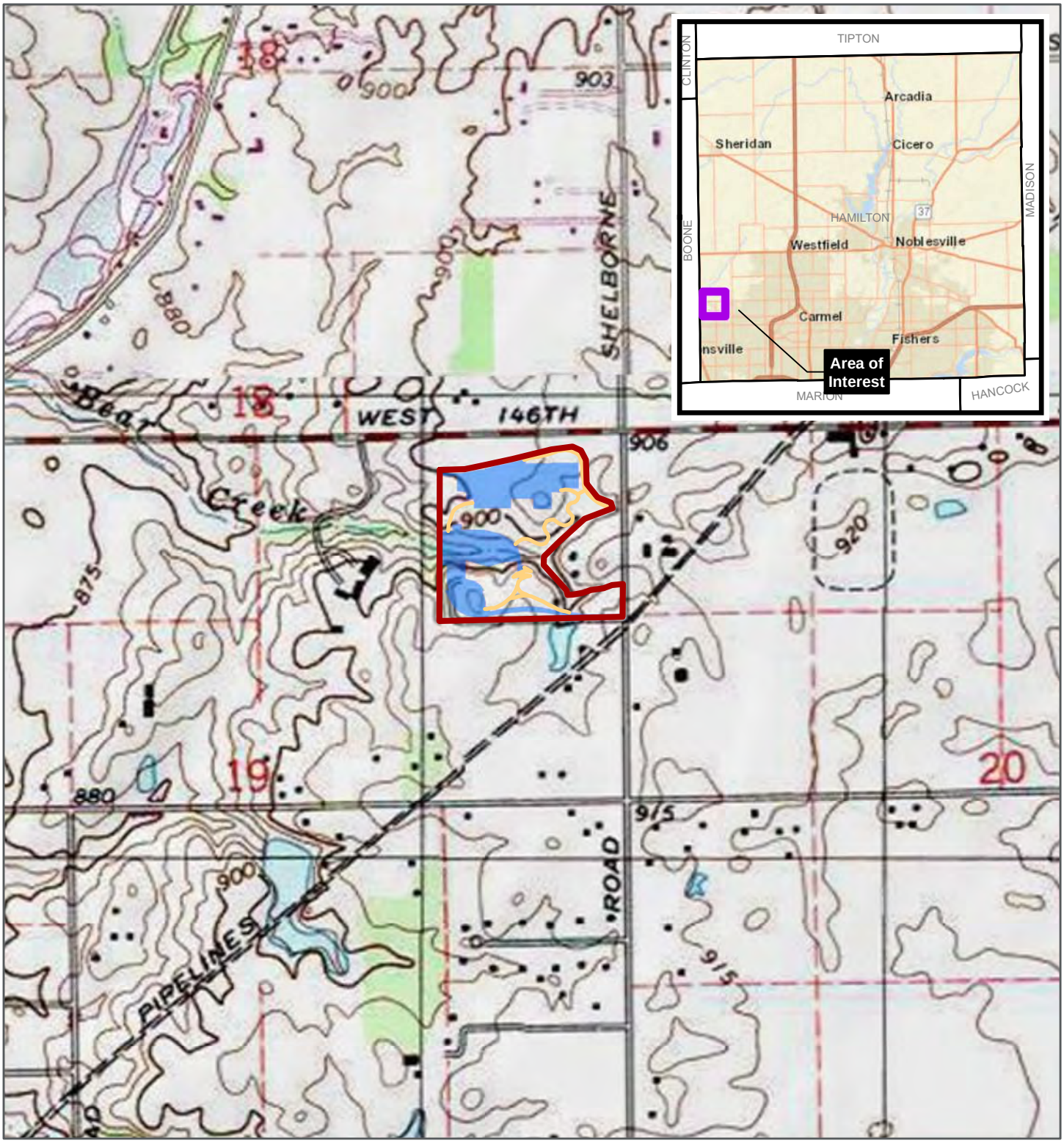
In response to a request from the Carmel Clay Parks & Recreation, Cardno conducted a Phase Ia archaeological records review and reconnaissance (Phase Ia) in Hamilton County, Indiana for the proposed Bear Creek Park Project. Carmel Clay Parks & Recreation purchased 27 acres located in Clay Township, Hamilton County, at 14330 Shelborne Road that currently consists of overgrown agricultural fields with extant native prairie and remnant woodlots. The property will be developed into a public park and provide recreation opportunities to park patrons. Cardno was contracted to survey the areas slated for ground disturbance related to the trails and park infrastructure, which include approximately 4.14 hectares (ha; 10.22 acres [ac]) of infrastructure and 930 meters (m; 3,051 feet [ft]) of trails.

The project is located in Section 19, Township 18 North, Range 3 East on the Carmel, Indiana USGS 7.5' quadrangle map (Figure 1). The portions of the Project Area that will experience subsurface disturbance were subject to a Phase Ia archaeological reconnaissance.

Background research conducted in April 2022 focused on a 1.6 kilometer (km; 1 mile [mi]) study area centered on the proposed project footprint. Cardno gathered information about previously conducted cultural resource investigations and documented cultural resources, as well as the environmental and cultural context of the region to assess the potential for additional undocumented cultural resources in and around the Project Area.

Key personnel committed to the project include Principal Investigator and Field Director, Kathleen Settle, and Field Technicians John Flood, Matt Pike, Isabelle Ortt, and Nicole Shields. Isabelle Ortt, Alexandra Powell, and Kathleen Settle served as report co-authors. Ms. Tammy Miller created the report graphics.

This report presents the research design and results of the background research in Section 2. Section 3 outlines the field methods used during the survey. Section 4 discusses the results of the field investigation, followed by the conclusions and recommendations in Section 5. The references cited in this report appear in Section 6. Appendix A includes Historic Maps, Appendix B includes photographs documenting the Phase Ia, and Appendix C contains the artifact catalog.



0 500 1,000 Feet

0 100 200 300 Meters

Trail Survey Area

Infrastructure Survey Area

Project Area

N

W E

S

7.5' Quadrangle: CARMEL
T18n R3e Sec19
Project No. j090109334

Figure 1: Project Location

Phase Ia Archaeological Reconnaissance
Bear Creek Park Project
Carmel Clay Parks & Recreation
Hamilton County, Indiana

Cardno now Stantec
3901 Industrial Blvd.,Indianapolis, IN 46254
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Date: 5/24/2022 File Path: R:\Projects\09\0901\0901093_CarmelClay_CentralPark\34_Bear Creek Park\GIS\MXD\Phase1\Fig1_ProjLocation.mxd Saved By: Stephen.LaFon

2 Literature Review

The objective of the current study is to identify and evaluate any archaeological resources present within the proposed project area, as well as assess the effects of the proposed project on archaeological resources, including those resources eligible for or listed in the National Register of Historic Places (NRHP).

For the purposes of this investigation, archaeological resources may include any site location that contains material remains of past human life or activities, or other places and/or items that possess cultural importance to individuals or a group. Once identified through fieldwork, these sites are evaluated for eligibility based on the following criteria.

"*The quality of significance in American history, architecture, archaeology, engineering and culture is present in the districts, sites, buildings, structures and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and:*

a. *That are associated with the events that have made a significant contribution to the broad patterns of our history; or*

b. *That are associated with the lives of persons significant in our past; or*

c. *That embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or*

d. *That have yielded or may be likely to yield, information important in prehistory or history" (36 CFR 60.4)."*

The purpose of this section is to provide a basic context through which to evaluate the results of our investigations. This section will briefly outline the environmental and cultural background of the region in and around Hamilton County, Indiana.

2.1 Background Research

The literature review was directed toward identifying previously recorded cultural resources. Research was conducted using online data available through the Indiana Department of Natural Resources-Division of Historic Preservation and Archaeology (IDNR-DHPA) in April 2022. Cardno focused on previously recorded resources within the 1.6 km (1 mi) study area, but also examined the larger region where appropriate. For the literature review, the following resources were consulted:

- National Historic Landmark list;
- NRHP list;
- Indiana State Historic Architectural and Archaeological Research Database (SHAARD);
- Indiana Historic Sites and Structures Inventory (IHSSI);
- Cemetery Registry Survey files;
- Cultural Resource Management reports;
- Historic Maps; and
- Guernsey Map of Indiana (Guernsey 1932).

The results of the literature review revealed 17 archaeological sites and two IHSSI-listed resources, one of which is a cemetery are recorded within the study area. In addition, seven previously conducted cultural resource investigations have occurred within the study area (Figure 2 and Figure 3). No cultural resources were previously identified within the Project Area.

2.1.1 National Historic Landmarks List

There are no National Historic Landmarks within the 1.6 km (1 mi) study area.

2.1.2 National Register of Historic Places (NRHP)

There are no NRHP-listed properties identified within the 1.6 km (1 mi) study area.

2.1.3 Indiana State Historic Architectural and Archaeological Research Database (SHAARD)

The SHAARD files and previous cultural resource investigation reports indicate 17 archaeological sites are located within the 1.6 km (1 mi) study area (Table 1).

In 1995, the Archaeological Resources Management Service from Ball State University conducted an archaeological field reconnaissance for 146th Street corridor improvements in Hamilton and Boone Counties, Indiana (Feldhues and Zoll 1995). The survey identified 40 archaeological sites, 14 of which are located within the current 1.6 km (1 mi) study area. The identified sites varied from precontact lithic scatters and isolates, to post-contact nineteenth to twentieth century artifact scatters. Though some of the sites from this field effort were listed as potentially eligible for the NRHP, the fourteen archaeological sites that fall within the current study area are all listed as ineligible (Feldhues and Zoll 1995).

An addendum to the previous 1995 report (Feldhues and Zoll), detailed an additional survey effort that was conducted along the 146th Street corridor to capture portions of the project area which had previously unable to have been surveyed (Waldron and Zoll 1996). During this field effort, three additional sites were identified, one of which was 12H746, which is located within the current 1.6 km (1 mi) study area.

According to SHAARD files, sites 12H1085 and 12H1086 were previously identified within the 1.6 km (1 mi) study area (IDNR-DHPA 2007); however, these sites were not identified during a cultural resource survey, but were reported by David Buibee and subsequently investigated by DHPA in 2003.

Table 1. Previously Recorded Archaeological Sites within the Study Area

Site Number	Description	Cultural Affiliation	National Register Status	Source
12H710	Isolated Find	Unidentified Precontact	Ineligible	Feldhues and Zoll 1995
12H711	Multicomponent Scatter	Unidentified Precontact, Postcontact	Ineligible	Feldhues and Zoll 1995
12H711_R1	Multicomponent Scatter	Unidentified Precontact, Postcontact	Ineligible	Feldhues and Zoll 1995
12H712	Lithic Scatter	Unidentified Precontact	Ineligible	Feldhues and Zoll 1995
12H713	Multicomponent Scatter	Unidentified Precontact, Postcontact	Ineligible	Feldhues and Zoll 1995
12H714	Postcontact Scatter	Postcontact (19th – 20th Century)	Ineligible	Feldhues and Zoll 1995
12H715	Postcontact Scatter	Postcontact (19th – 20th Century)	Ineligible	Feldhues and Zoll 1995
12H716	Lithic Scatter	Unidentified Precontact	Ineligible	Feldhues and Zoll 1995
12H717	Postcontact Scatter	Postcontact (19th – 20th Century)	Ineligible	Feldhues and Zoll 1995
12H718	Isolated Find	Early Archaic	Ineligible	Feldhues and Zoll 1995
12H719	Multicomponent Scatter	Unidentified Precontact, Postcontact	Ineligible	Feldhues and Zoll 1995
12H720	Lithic Scatter	Unidentified Precontact	Ineligible	Feldhues and Zoll 1995

Table 1. Previously Recorded Archaeological Sites within the Study Area

Site Number	Description	Cultural Affiliation	National Register Status	Source
12H721	Isolated Find	Unidentified Precontact	Ineligible	Feldhues and Zoll 1995
12H722	Postcontact Scatter	Postcontact	Ineligible	Feldhues and Zoll 1995
12H746	Postcontact Scatter	Postcontact (19th – 20th Century)	Ineligible	Waldron and Zoll 1996
12H1085	Lithic Scatter	Unidentified Precontact	Ineligible	Buibee 2003; IDNR-DHPA 2007
12H1086	Isolated Find	Unidentified Precontact	Ineligible	Buibee 2003; IDNR-DHPA 2007

2.1.4 Indiana Historic Sites and Structures Inventory (IHSSI) and Historic Bridge Inventory

There are two IHSSI-listed resources mapped within the 1.6 km (1.0 mi) study area, one of which is listed as a church and one of which is the cemetery associated with this church. (Figure 2; Table 2). These resources are not located directly within or adjacent to the current Project Area.

Table 2. Previously Recorded IHSSI and Historic Bridge Resources within the Study Area

Resource Number	Resource Type	Resource Age	Location	IHSSI Rating
IHSSI 057-667-20033 CR-29-106	Cemetery	ca. 1858/ to present	E. side of Rd. just N.E. of the intersection of Little Creek Ave. and W. 156 St.	Notable
IHSSI 057-667-20033	Church	ca. 1858/ to present	E. side of Rd. just N.E. of the intersection of Little Creek Ave. and W. 156 St.	Notable

2.1.5 Cemetery Registry Survey Files

A search of the Hamilton County cemetery records indicates that one cemetery has been recorded within the 1.6 km (1 mi) study area (Figure 2). Eagle Creek Cemetery (CR-29-106/IHSSI 057-667-20033) is listed with a “Notable” rating in the IHSSI. The cemetery contains approximately 2,000 headstones. Eagle Creek Cemetery is located nearly 1.6 km (1 mi) north of the Project Area and will not be directly affected by project activities.

2.1.6 Cultural Resource Management (CRM) Reports

Records on file at the IDNR-DHPA indicate that seven previous cultural resources investigations have been conducted within the 1.6 km (1.0 mi) study area (Bennett and Plunkett 2016; Feldhues and Zoll 1995, King and Zoll 2008; Stillwell 1999, 2005; Waldron and Zoll 1996, Westmor and Finney 2019; Table 3; Figure 3).

Three of the surveys (Feldhues and Zoll 1995, King and Zoll 2008; and Waldron and Zoll 1996) examine the 146th street corridor which travels east to west directly north of the current Project Area. A portion of the King and Zoll (2008) survey overlaps a small portion of the current Project Area. The two other surveys which examined the 146th street corridor (Feldhues and Zoll 1995 and Waldron and Zoll 1996) were conducted adjacent to, but outside of the current Project Area. The additional previous surveys within the study area also do not fall within or adjacent to the current survey boundaries. Brief summaries of the previous CRM reports are provided in Table 3.

Table 3. Previous CRM Reports

Report Year	Report Author	Report Title	Number of Sites Identified	NRHP Eligible Sites
1995	Feldhues, William and Mitchell Zoll	Archaeological Field Reconnaissance: 146th Street Corridor Improvements Boone and Hamilton Counties, Indiana	40 total, 1 previously identified	7 potentially eligible
1996	Waldron, John and Mitchell Zoll	Archaeological Field Reconnaissance Addendum: 146th Street Corridor Improvements, Boone and Hamilton Counties, Indiana	3	0
1999	Stillwell, Larry N.	An Archaeological Field Reconnaissance of a Proposed Cellular Phone Tower (Project #MW07140C) near Westfield, Hamilton County, Indiana	0	0
2005	Stillwell, Larry N.	An Archaeological Field Reconnaissance of the Proposed C.R. 300 South Improvements in Hamilton County, Indiana	0	0
2008	King, Brad and Mitchell K. Zoll	Archaeological Field Reconnaissance West 146th Street Added Travel Lanes Des. No. 0810287 Hamilton County, Indiana	0	0
2016	Bennett, Stacy and Jeffrey A. Plunkett	Phase Ia Archaeological Field Reconnaissance: Proposed Culvert Replacement on 151st Street in Westfield, Hamilton Co., IN (INDOT Des. No. 1500431)	0	0
2019	Westmor, Colleen and Kathryn M. H. Finney	Phase I Archaeological Survey Proposed 146th Street Improvement Project Detention Pond and Floodway Mitigation Areas Clay and Washington Townships	0	0

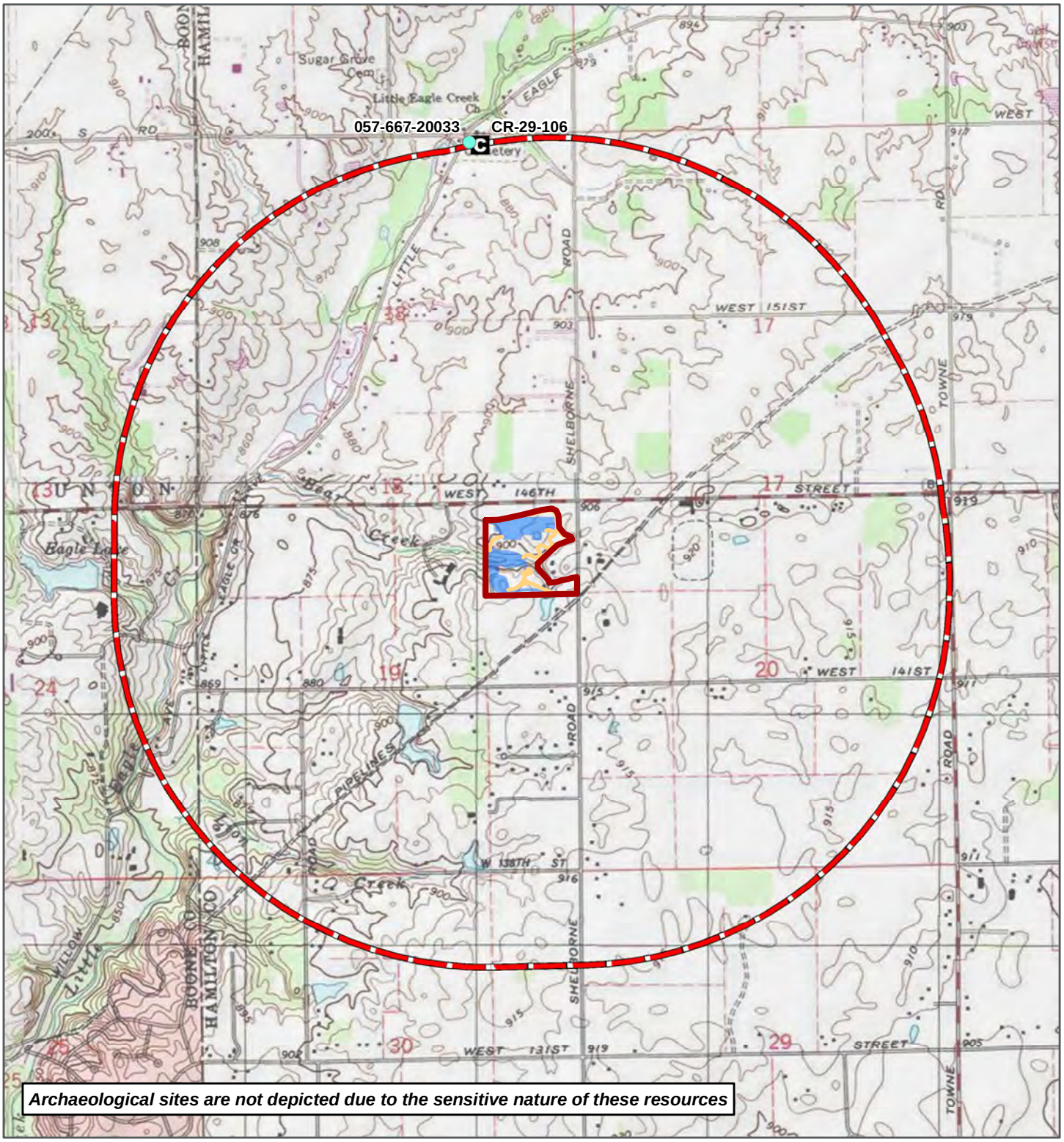
2.1.7 Historic Maps and Atlases

Several available historic maps as well as aerial imagery were referenced for information pertaining to the historic use of the Project Area between 1866 and 1959 (Cottingham 1896; Cottingham 1906; Indiana Highway Survey Commission 1936; Kenyon Company 1922; McClellan and Warner 1866; NetrOnline 2022; and United States Geological Survey [USGS] 1959). These maps are shown in Appendix A.

The 1866 map of Hamilton County shows property owners and locations of structures (McClellan and Warner 1866). As early as 1866 regional features such as a school to the southeast and a church and cemetery to the north of the Project Area are depicted, along with Eagle Creek traveling southwest to northeast, west of the Project Area. In 1866 the Project Area is located on a parcel owned by T. Stalbtz. The Stalbtz property has one mapped structure which falls within the current survey boundaries in the northeast corner of the parcel (McClellan and Warner 1866). Mapping from 1896 shows a change in parcel ownership with the Project Area to J. M. Stultz (Cottingham 1896). In 1896 mapping, it appears the former structure within the Project Area is no longer extant. Mapping from 1906 depicts continued Stultz ownership of the Project Area, now listed under Marion Stultz. Building locations are not illustrated on this map (Cottingham 1906). Mapping from 1922 again depicts the parcel associated with the Project Area being owned by Marion Stultz, though similar to the 1906 map, the locations of structures are not depicted (Kenyon Company 1922). A 1936 Hamilton County roadway map does depict a structure within or directly adjacent to the Project Area's southwestern border (Indiana Highway Survey Commission 1936); however, this structure appears to no longer be extant by 1952 as evidenced by an aerial image (NetrOnline 2022). In the late 1950's, aerial imagery (NetrOnline 2022) and a Carmel, Indiana topographic

map (USGS 1959) depict two structures within the current Project Area boundaries, as well as Bear Creek running east to west through the area.

In addition to the historic atlas maps, one early cultural resources map was also consulted (Guernsey 1932). Similar to other maps of its time (e.g., Mills 1914), this map depicts some archaeological site locations as well as important historic cultural resources at a county-wide scale. This map provides an overview of cultural resources but is limited in locational accuracy. The Guernsey map indicates no cultural resources in proximity to the Project Area (Guernsey 1932).



0 500 1,000 2,000 Feet
0 100 200 300 400 500 600 Meters

IHSSI Structure
Trail Survey Area
Infrastructure Survey Area
Cemetery
Project Area
1-Mile Study Area

N
W E
S

7.5' Quadrangle:
CARMEL
T18n R3e Sec19
Project No.
j090109334

Figure 2: Previously Identified Cultural Resources
Phase Ia Archaeological Reconnaissance
Bear Creek Park Project
Carmel Clay Parks & Recreation
Hamilton County, Indiana

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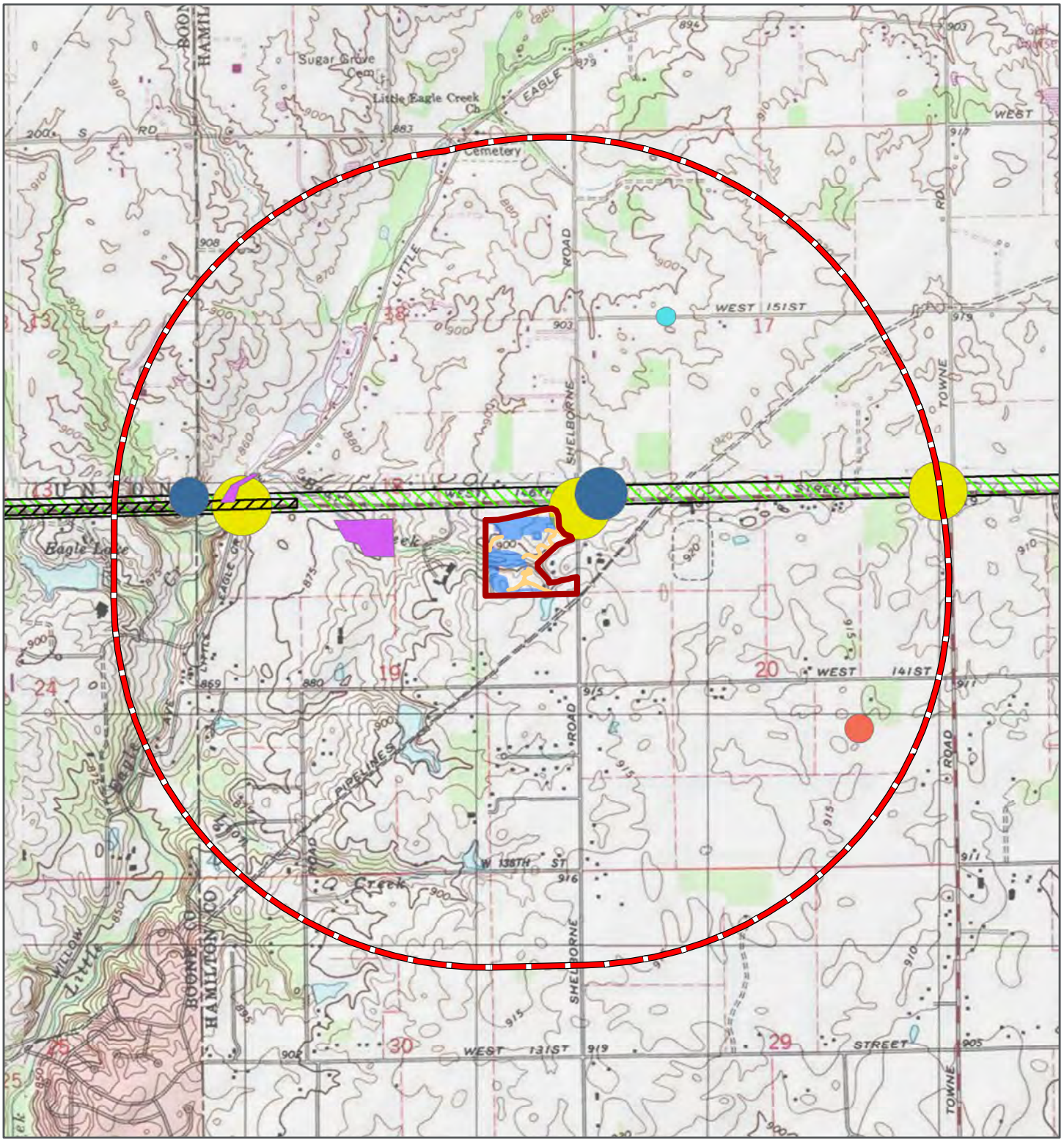

0 500 1,000 2,000 Feet

0 100 200 300 400 500 600 Meters

- Trail Survey Area
- Infrastructure Survey Area
- Bennett and Plunkett 2016
- Feldhues 1995
- King and Zoll 2008
- Stillwell 1999
- Stillwell 2005
- Waldron and Zoll 1996
- Westmor and Finney 2019
- Project Area
- 1-Mile Study Area

N W E S

7.5' Quadrangle: CARMEL
T18n R3e Sec19
Project No. j090109334

Figure 3: Previous CRM Investigations
Phase Ia Archaeological Reconnaissance
Bear Creek Park Project
Carmel Clay Parks & Recreation
Hamilton County, Indiana

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2.2 Environmental Context

Hamilton County is located within the Tipton Till Plain Natural Region. The Project Area is located within the Upper White River watershed. An unnamed tributary of Bear Creek travels east to west through the Project Area.

2.2.1 Physiography

The Project Area is located in the Tipton Till Plain physiographic region, which is characterized by gently rolling to flat terrain, the result of continental glaciation. The glaciers deposited glacial till and outwash as the ice advanced and melted from central and northern Indiana (Indiana Geological Survey 2019).

The Tipton Till Plain region is “a mostly undissected plain formerly covered by an extensive beech-maple-oak forest” (Homoya et al. 1985:255). Features such as bogs, prairies, marshes, seep springs, and ponds are common (Homoya et al. 1985). No restricted species exist within this region due to the section’s location and the scarcity of specialized natural communities (Homoya et al. 1985).

The Project Area is located within the Miami-Crosby soil association (United States Department of Agriculture/Soil Conservation Service [USDA/SCS] 1978). The Miami-Crosby association consists of "deep, nearly level to strongly sloping, well drained and somewhat poorly drained, medium textured soils that formed in a thin mantle of loess and the underlying glacial till on uplands" (USDA/SCS 1978). Soils within the Project Area are listed in Table 4 and depicted on Figure 4.

Table 4. Soil Units within the Project Area

Soil Type	Soil Characteristics	Drainage Type	Hydric
Br	Brookston silty clay loam, 0-2% slopes	Poorly drained	Yes
CrA	Crosby silt loam, fine loamy subsoil, 0-2% slopes	Somewhat poorly drained	No
MmB2	Miami silt loam, 2-6% slopes, eroded	Moderately well drained	No
MoC3	Miami clay loam, 6 to 12% slopes, severely eroded	Moderately well drained	No
Sh	Shoals silt loam, 0-2% slopes, frequently flooded, brief duration	Somewhat poorly drained	No
YbvA	Brookston silty clay loam-Urban land complex, 0 to 2% slopes	Poorly drained	Yes
YclA	Crosby silt loam, fine-loamy subsoil-Urban land complex, 0 to 2% slopes	Somewhat poorly drained	No
YmsC2	Miami silt loam-Urban land complex, 6 to 12%, eroded	Moderately well drained	No

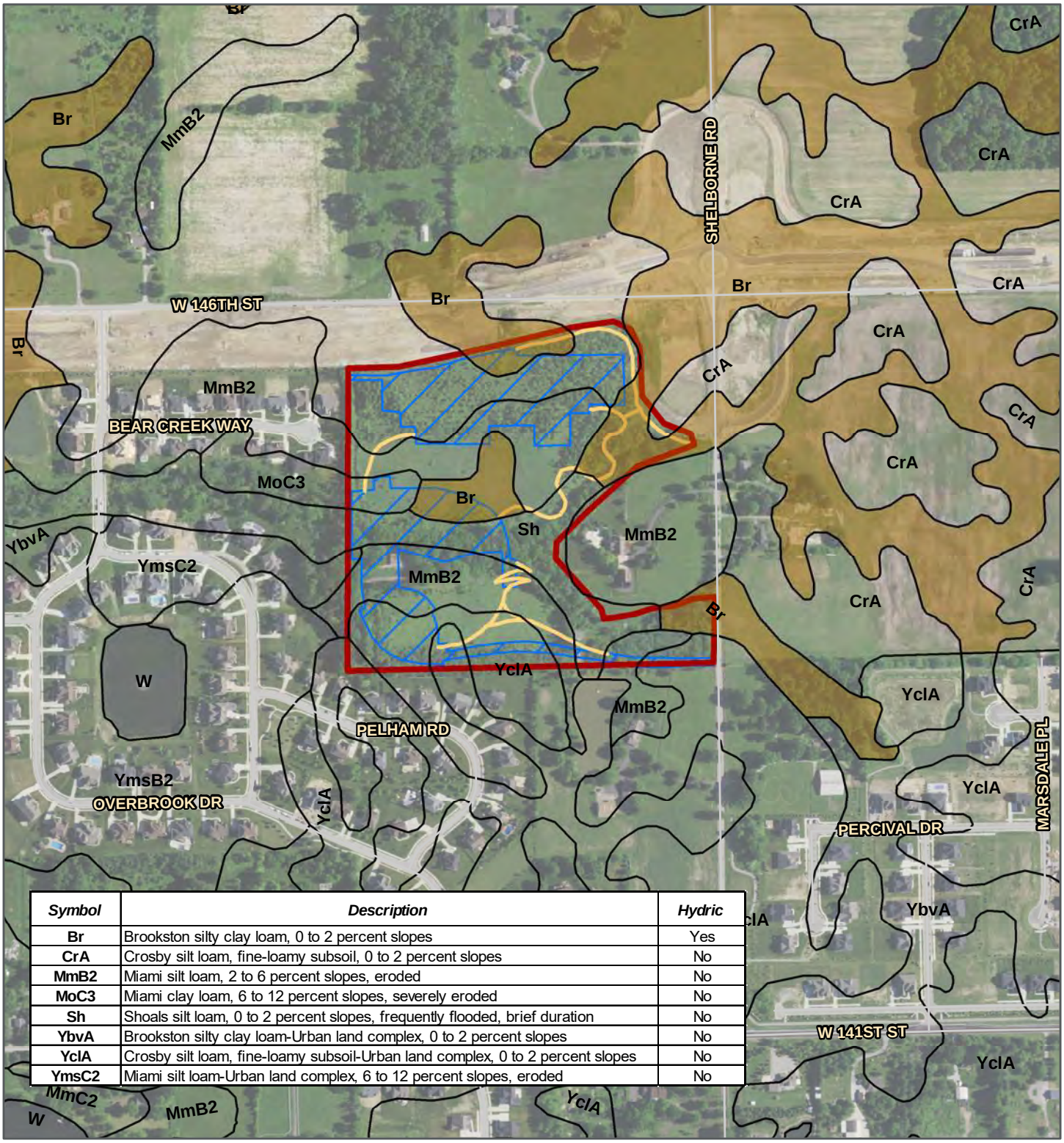
2.2.2 Climate

Mild winters and warm summers characterize the humid continental climate typical of central Indiana (USDA/SCS 1978). The average winter temperature in the region fall to the -1s Celsius (high-20s Fahrenheit) and reaches the 30s Celsius (mid-80s Fahrenheit) in the summer months. Precipitation is fairly constant throughout the year, but peaks between April and September, which coincides with the growing season for most crops (USDA/SCS 1978).

2.2.3 Flora and Fauna

In Indiana, the ecological communities in the forests presented a wide variety of resources available to precontact and post-contact populations. Plant species such as white, red, and black oak, pignut and shagbark hickory, sugar maple, and beech, would have provided nuts and other food resources to native

groups. Animal species occurring in this environment would have included a variety of woodland mammals such as gray wolf, red wolf, black bear, white-tailed deer, red fox, gray fox, eastern cottontail, and bison (Mumford 1966). River valleys would have contained a variety of shellfish, fish, amphibians and reptiles, as well as migratory waterfowl. Other birds such as wild turkeys and passenger pigeons would have also been present (Mumford 1966). Much of the area where these natural communities occurred has been cleared due to the high agricultural productivity of this region.



Symbol	Description	Hydric
Br	Brookston silty clay loam, 0 to 2 percent slopes	Yes
CrA	Crosby silt loam, fine-loamy subsoil, 0 to 2 percent slopes	No
MmB2	Miami silt loam, 2 to 6 percent slopes, eroded	No
MoC3	Miami clay loam, 6 to 12 percent slopes, severely eroded	No
Sh	Shoals silt loam, 0 to 2 percent slopes, frequently flooded, brief duration	No
YbvA	Brookston silty clay loam-Urban land complex, 0 to 2 percent slopes	No
YclA	Crosby silt loam, fine-loamy subsoil-Urban land complex, 0 to 2 percent slopes	No
YmsC2	Miami silt loam-Urban land complex, 6 to 12 percent slopes, eroded	No

0 250 500 Feet
0 50 100 150 Meters

Trail Survey Area
Infrastructure Survey Area
Soil Unit
Soil Unit - Hydric
Project Area

N W E S

7.5' Quadrangle: CARMEL
T18n R3e Sec19
Project No. j090109334

Figure 4: Project Area Soils

Phase Ia Archaeological Reconnaissance
Bear Creek Park Project
Carmel Clay Parks & Recreation
Hamilton County, Indiana

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2.3 Precontact Cultural Setting

Archaeological sites are well-documented in Hamilton County, Indiana. The county is located in a region with a temperate climate, well-drained soils, subtle topography, and riverine corridors, making it an ideal location for settlement and subsistence throughout history. Over 1,800 archaeological sites have been recorded in Hamilton County to date (IDNR-DHPA 2007). These sites include approximately 300 post-contact archaeological sites and over 1,500 precontact archaeological sites (IDNR-DHPA 2007). The precontact occupation of Indiana is generally divided into four broad periods: Paleoindian, Archaic, Woodland, and Mississippian. Hamilton County contains sites dating to each of these time periods; however, the majority of recorded precontact sites in the county do not contain diagnostic artifacts, and therefore cannot be attributed to specific cultural occupations.

The Paleoindian period encompasses the cultural remains of the earliest recorded occupations in the region. Paleoindian sites date to early postglacial times, after 12,000 B. P. (years Before Present). In Hamilton County, currently only eight documented Paleoindian sites exist (IDNR-DHPA 2007). The majority of these sites consist of individual fluted projectile points, a characteristic artifact type for the Paleoindian period. The Archaic period is identified by archaeologists as the timespan when more localized seasonal settlement and subsistence patterns replaced the broad seasonal migration patterns of the Paleoindian period. Over 200 Archaic period sites are recorded in Hamilton County (IDNR-DHPA 2007). The majority of these sites consist of small camps, identified through the presence of characteristic projectile points.

The innovation of ceramic technology and the emergence of cultigens generally define the transition to the Woodland time period. Woodland period sites are often identifiable through recovered pottery sherds, in addition to stylistic projectile points. In Hamilton County, over 100 Woodland period sites are currently recorded (IDNR-DHPA 2007). The Albee Phase is a prime example of Woodland period occupation within northern and central Indiana, and dates to the Late Woodland period (between about A.D. 850 and 1100) (Schurr 2003). Albee ceramics are generally thought to exist within the Wabash Valley in Indiana (Schurr 2003). Schurr (2003) states that there are some problems with the current definition of the Albee Phase, but the findings in central and northern Indiana suggest two things: the dispersion of Albee ceramics suggests substantial communication between the Kankakee and Wabash Valleys around A.D. 1,000; and that Albee ceramics are more widely dispersed chronologically and temporally than previously thought. These occupations appear to have been terminated by the intrusion of Upper Mississippian groups from the west. If this is the case, the ultimate fate of the Albee-related peoples of northwestern Indiana remains unknown and is a topic for future research (Schurr 2003).

Archaeologists divide the Mississippian period into two general cultural adaptations. The Middle Mississippian represents the expression of influences from the southeastern U.S., resulting in the development of complex sociopolitical organizations. Middle Mississippian sites generally occur in the southern half of Indiana, with the majority located in southwest Indiana. The second adaptation, the Upper Mississippian, may be characterized as the “Mississippianization” of groups influenced by populations in the Great Lakes region. Upper Mississippian groups in Indiana are generally found in the northern, central, and southeastern parts of the state and generally demonstrate less “classic” characteristics of Mississippian cultures.

The Oliver Phase represents Mississippian period occupations located in central and south-central Indiana and is best described as a collection of village-dwellings, mainly located along the drainages of the East and West Forks of the White River. The Oliver Phase (AD 1200-1450) exhibited a heavy reliance on maize, and settlements contained a great deal of diversity from circular villages with post stockade walls and ditches to dispersed “farmsteads” along floodplains and linear settlements along natural levees (McCullough 2000). The Mississippian period is not well-documented in Hamilton County. To date, fewer than 10 sites are affiliated with the Mississippian time period, documented through characteristic pottery and tools (IDNR-DHPA 2007).

2.3.1 Contact and Post-Contact Periods (ca. 1650 C.E. – Present)

The Contact Period represents the initial time when Europeans and Native Americans began to interact directly. Prior to this time, Native American communities had known of European presence on the continent through interregional communication, exotic goods, disease, and warfare, but scholars designate the early to mid-seventeenth century as the time during which Europeans began to physically enter present-day Indiana. The Contact Period covers the initial interval of direct interaction between Native Americans and Europeans, and the Post-Contact Period represents the time after which European and Euro-American peoples and culture spread across the region. To date, no contact-period sites have been identified in Hamilton County.

While the following sections focus on European and Euro-American activities within present-day Indiana, it is important to acknowledge that Native American nations played a vital role in Indiana's Post-Contact Period and continue to influence Indiana's culture today. These Nations have demonstrated resilience and resistance in the face of concerted efforts to remove them from their land and culture. In the first treaty following the Indian Removal Act of 1830, the state government forcibly removed many of the Native Americans inhabiting Indiana from their homes in 1832. We acknowledge the circumstances that led to the forced removal of the displaced peoples and honor their history and resilience.

2.4 Post-Contact Cultural Setting

Approximately 16 percent of the recorded archaeological sites in Hamilton County date to the post-contact period (IDNR-DHPA 2007). These sites represent the introduction and perpetuation of European and early American settlement in the region. The majority of these sites consist of domestic, industrial, or commercial development associated with the historic growth of Hamilton County. Some common recorded site types include elements of farmsteads or other residential sites, municipal buildings such as schools or churches, commercial structures such as mills, or post-contact dump and debris discard areas.

2.4.1 Hamilton County

Hamilton County is located in central Indiana in the White River Valley. The land that was eventually to become Hamilton County was first settled by Europeans in 1822 when the land office in Brookville, Indiana offered large expanses of land for purchase in central Indiana (Historic Landmarks Foundation of Indiana [HLFI] 1992). The following year, Hamilton County was formally established, and the village of Noblesville named the county seat (HLFI 1992). Settlement occurred quickly in Hamilton County due to its rich farmland and access to major transportation routes.

The development of a rail system and the discovery of natural gas dramatically affected the county's economic growth during the years following the Civil War (HLFI 1992). The county's first railroad was followed quickly by other lines. Towns such as Durbin, Jolietville, Eagletown, and Fishers grew up along the lines, becoming commercial centers for their respective areas (HLFI 1992).

Washington Township is located in west-central Hamilton County and was organized in 1833. The township was first settled in 1832 by Quakers who had moved to the area from North Carolina (HLFI 1992). The proposed project is located south of the city of Westfield, which was organized by Ambrose Osborn, Asa Beales, and Simon Moon in 1834 (HLFI 1992). Asa Beales had opened the first store in 1832, a post office was created in 1837, a flour mill was constructed by Isaac Williams and Company in 1848, and a tannery was built before the Civil War by A. E. Funderburg and Joseph Conklin. Hamilton County's only Congregational Church was founded by Jabez Neal, and a church was constructed in Westfield in 1855. The State Bank of Westfield was created in 1884 and the bank building, which remains as the most prominent commercial building in the city, was erected in 1899. The first library was also built in Westfield in 1910 by Carnegie and was later expanded in 1918 (HLFI 1992).

2.4.2 Clay Township

Clay Township is situated in the southwestern corner of Hamilton County and was established in 1833 by the County Board of Commissioners (Haines 1915). Though formally established in 1833, the first European American settlers came to Clay Township in the early 1820's (Haines 1915). Initially a wooded area with sections of swamps and floodplains, the early to mid-1830's saw Clay Township experience larger scale development and agriculture as the Indianapolis and Peru State Road surveyed through the region. This facilitated the movement of settlers, bringing with them the construction of houses, churches, county buildings, and pioneer schools (Haines 1915). As were many townships in Indiana, much of Clay Township was historically used as agricultural land, and while it retains some of that usage today, Clay Township is also home to the large urban city of Carmel, Indiana.

2.5 Summary and Discussion

This section presented the results of the cultural resources records review. The records check indicates that seventeen archaeological sites and two IHSSI-listed resources, one of which is a church and the other its associated cemetery, are located within the 1.6 km (1 mi) study area. None of these resources are located within or adjacent to the current Project Area. The seventeen archaeological sites consist of nineteenth to twentieth century post-contact artifact scatters and temporally unidentified precontact scatters and isolated finds. An additional isolated find consisted of a projectile point dating to the Early Archaic temporal period (12H718). Based on the results of the field reconnaissance and archival research, the seventeen recorded archaeological sites were recommended not eligible for inclusion in the NRHP. The cultural context of the region suggests that additional unidentified cultural resources persist in this area.

The precontact context of the region suggests that unidentified precontact archaeological sites may represent a variety of time periods, ranging from precontact Paleoindian period sites through proto-historic Native American sites. These sites may represent a variety of site types including isolated artifacts to larger occupational sites. Terrace remnants, hill and/or sandy ridge features, particularly in association with drainages or other water sources are local landforms likely to contain archaeological deposits.

The post-contact context of the region also suggests that unidentified post-contact archaeological sites may represent a variety of activities ranging from dump and debris discard areas to residential sites. Post-contact sites also tend to occur in conjunction with transportation features such as drainages, railroads, and roads. Additionally, these types of transportation features can be considered cultural resources. Based on the review of historical maps, three structures may have been located within the Project Area between 1866 and present (Appendix A).

3 Methods

This section describes the regulations and guidelines governing archaeological fieldwork as well as the research design, field methods, and laboratory methods employed during the Phase Ia survey. The objective of the Phase Ia was to identify cultural resources that may be affected by the proposed project and to evaluate their eligibility for the NRHP.

3.1 Applicable Regulations and Guidelines

Section 106 of the National Historic Preservation Act (NHPA) requires that federal agencies assess the effect(s) of their projects on cultural resources eligible for listing in the NRHP. While no specific federal agency is responsible for this review, Section 106 of the NHPA applies to any federal agency undertaking that has the potential to affect cultural resources eligible for listing in the NRHP, should they be present. This federal agency action may include permitting, funding, or other approval of project activities. The current project is not considered a Federal Undertaking under Section 106 of the NHPA due to the lack of federal involvement. Carmel Clay Parks & Recreation has requested an archaeological survey out of respect for the preservation of cultural resources. The current survey was conducted in a way to satisfy requirements under Section 106 of the NHPA.

Section 106 of the NHPA requires that the federal agency assess the effect(s) of their undertakings in areas where the effects are likely to occur, known as the Area of Potential Effects (APE). The APE takes into account both direct and indirect effects. Direct effects are limited to the areas of likely ground disturbance in the planned area of improvements and in associated easements. Direct effects in these areas may affect archaeological or architectural resources, if present. Indirect effects include areas where visual, noise, or other effects caused by the project occur outside the footprint of the project area. Indirect effects may affect architectural resources, certain types of archaeological resources, or other cultural resources if present.

The Indiana Administrative Code IC 14-21-1, as amended by Public Law 175 in 1989 and House Enrolled Act No. 1129 in 2008 also provides protection for archaeological sites and historic burial sites regardless of their location on state or private lands. All archaeological sites with artifacts dating before December 31, 1870, are protected under this act. Human burial sites are afforded protection under IC 14-21-1, IC 14-21-2, IC 23-14 (Indiana General Cemetery Act), and others. IC 14-21-1 protects burial grounds or cemeteries containing human remains buried before January 1, 1940, while IC 23-14 protects burial grounds or cemeteries containing human remains buried after January 1, 1940.

3.2 Research Design

Cardno based the research design on the results of the records check, environmental data, and the precontact and post-contact cultural background information. Based on the context of the area, any unidentified precontact sites may range from isolated artifacts such as projectile points or other tools, to small, diffuse artifact scatters, to larger, denser distributions of artifacts. Any unidentified post-contact sites are likely to be related to agricultural and/or rural domestic activity associated with the post-contact development of Hamilton County.

3.3 Field Methods

Cardno conducted the archaeological fieldwork using methods consistent with IDNR-DHPA guidelines (IDNR–DHPA 2022). Carmel Clay Parks & Recreation will develop the property into a public park. Cardno surveyed the areas slated for ground disturbance related to the trails and park infrastructure, which include approximately 10.22 acres of infrastructure and 930 meters of trails (Figure 1).

The portions of the Project Area which were the focus of this investigation exhibited less than 30 percent surface visibility; therefore, Cardno conducted systematic shovel probe investigation. Adherence to these intervals was maintained as closely as possible, although shovel test units were occasionally off-set due to the presence of utility corridors, drainage ditches, and roots. Cardno conducted shovel test probe excavation in several different portions of the Project Area. Systematic shovel testing was conducted along the proposed trails, along an access route which partially followed an existing gravel drive off Shelborne Road, and within two areas slated for ground disturbance and facility construction. Portions of the southern area were subjected to construction related to the installation of a sewer line prior to survey, which disturbed the ground surface. Visibility in these areas was greater than 90 percent and the areas of ground disturbance were subsequently visually inspected (Appendix B, Photograph 1).

Pursuant to IDNR-DHPA Guidelines (IDNR–DHPA 2022), shovel tests were 30 centimeters (cm; 11.8 inches [in]) in diameter and extended into undisturbed soils or to a maximum depth of 50 cm (19.7 in). Soils removed from the units were screened for cultural materials through ¼-inch hardware mesh and immediately backfilled. The crew documented and characterized soil stratigraphy according to the Munsell color guide (Munsell 1994). Shovel test units that exhibited disturbance, such as mixed and mottled “A” and “B” horizons were excavated until intact subsoil was encountered, or to a maximum depth of 50 cm (19.7 in). Shovel tests that became inundated with water were not fully excavated. No additional portions of the Project Area will be subjected to ground-disturbing activities; therefore, no additional portions of the Project Area were investigated beyond those previously discussed.

When the crew encountered an artifact isolate and/or concentration, artifact collection methodology was consistent with IDNR-DHPA Guidelines (IDNR–DHPA 2022). No precontact material was noted during the investigation. Archaeologists recorded the artifact distribution, along with relevant landscape features, with a Trimble R1 receiver capable of real-time sub-meter accuracy.

For identified post-contact artifact scatters, the Field Supervisor, a Qualified Professional in Midwestern historic archaeology, focused on collecting diagnostic artifacts. Materials with no identifying characteristics, artifacts of recent origin, and artifacts which were large and non-diagnostic (i.e. fragments of brick of unknown manufacture) were left in the field. Counts and descriptive notes were recorded for the materials left in the field.

3.4 Laboratory Methods

Laboratory staff cleaned, sorted, analyzed, and cataloged all cultural material recovered during the investigation. Once cataloged, artifacts were counted, weighed, and photographed.

3.4.1 Precontact Artifacts

No precontact sites were identified during the current investigation. Precontact sites are most commonly identified by the presence of lithic artifacts.

3.4.2 Post-Contact Artifacts

Following initial processing, post-contact materials were identified categorically along a spectrum ranging from general to specific. Artifacts were first separated into broad material categories (e.g. bone, brick, ceramic, glass, and metal). Although brick is a ceramic material in that it is fired clay, it is easily recognized as a structural element, and has therefore been categorized separately from other ceramic items. Sub-material types were then utilized to further evaluate and classify those artifacts with additional characteristics beyond their general material. These sub-material types included a variety of ceramic wares and their surface treatments, the production characteristics of flat and vessel glass, which include categories such as embossed, pressed, paneled, and undecorated, and specific types of metal, such as ferrous, cast iron, or copper alloy. The final, most specific classification focused on artifact type, and was used to identify, when possible, the exact function of an artifact, such as a dinner plate, architectural nail, or glass medicinal bottle.

Artifacts were further separated into functional categories in order to determine the function of a feature or site. The functional categories used in the present study include: Activity, Architectural, Kitchen, and Personal. These categories are based on methods set forth by South (1977) and described in greater detail below. South (1977) launched his methodological framework to draw out cultural trends at post-contact sites through easily quantifiable data based on the artifacts identified.

The Activity group is a broad category encompassing a multitude of artifacts associated with work related activities and includes all materials, tools, and machinery associated with those activities. The Architecture group encompasses artifacts associated with the external and internal material remains of structures. The Kitchen group is one of the largest functional groups, composed of a variety of artifacts related to cooking, dining, and storing foodstuff. Artifacts within the Personal group are often some of the most interesting due to their tendency to be associated with the familiar routines of daily life.

For recovered ceramics, classifications and chronologies formulated by Greer (2005), Miller (1991), and Samford & Miller (2002) were referenced to identify and date ceramic artifacts for the current project. Bottle glass in particular was analyzed according to Lindsey's (2022) classification, terminology, definitions, and chronology.

3.5 Curation

Cardno collected all artifacts for transport to our laboratory in Indianapolis, Indiana. Following review and concurrence of the report of investigations by the IDNR-DHPA, artifacts will be returned to the current landowner (Carmel Clay Parks & Recreation). An Indiana archaeological site record will also be completed for the identified archaeological site.

4 Results

Cardno conducted the fieldwork on May 9 and 10, 2022. Weather was warm and sunny with temperatures around 24° Celsius (75° Fahrenheit). Ground surface visibility in the wooded area, grassy yard lot, and overgrown pastures was 0 percent (Appendix B, Photographs 1-4). Ground visibility in areas of previous ground disturbance relating to construction was greater than 90 percent and disturbance in these areas extended to 50 cm below ground surface (Appendix B, Photograph 5). Photographs of the field investigation are included in Appendix B.

4.1 Fieldwork Results

During fieldwork, Cardno field technicians excavated 221 shovel test probes throughout the Project Area (Figure 5). These shovel tests consisted of 180 negative probes, nine positive probes, and two disturbed probes. Six negative probes located in proximity to site 12H1935 contained between one and 10 fragments of brick, which were counted and discarded in the field. An additional 24 probes were recorded as “No Dig” due to their location on slope, within creeks or areas of standing water, near extant utilities, or within paved areas on the access road. Portions of the southern Project Area were subjected to construction related to the installation of a sewer line prior to fieldwork, which disturbed the ground surface. Visibility in these areas was greater than 90 percent. A shovel probe excavated within the construction area exhibited disturbance and fill to a depth of at least 50 cm below ground surface and the areas of ground disturbance were subsequently visually inspected (Appendix B, Photograph 5). Overall, the intact shovel test probes across the project area displayed multiple soil profiles. The A horizon ranged in depth from approximately 5 to 50 cm (2.0 in to 19.7 in) and consisted of gray (10YR 3/1) silt loam, gray (10YR 3/1) clay loam, very dark grayish brown (10YR 3/2) silt loam, dark grayish brown (10YR 4/2) silt loam, dark grayish brown (10YR 4/2) clay loam, brown (10YR 4/3) silt loam, brown (10YR 4/3) clay loam, dark yellowish brown (10YR 4/4 and 10YR 4/6) silt loam. The B horizon ranged from very dark gray (10YR 3/1) silt loam, dark grayish brown (10YR 4/2) silt loam, brown (10YR 4/3) or dark yellowish brown (10YR 4/4) silt loam or clay loam sometimes followed by inundation with water at 20-30 cm below ground surface, yellowish brown (10YR 5/4 and 10YR 5/6) silty clay or clay loam sometimes mottled with very dark brown (10YR 2/2) clay loam or light gray (10YR 7/1) silty clay, and yellowish brown (10YR 5/4 and 10YR 5/6) silt loam (Appendix B, Photographs 5-8). Nine shovel test probes were positive for cultural material, and one new archaeological site was identified within the Project Area (12H1935; Figures 6 and 7). The fieldwork results are discussed in greater detail in the following sections.

0 100 200 Feet
0 20 40 60 Meters

- Disturbed
- Negative STP
- No Dig
- Only Brick Noted
- Positive STP
- Surface Find
- Trail Survey Area
- Infrastructure Survey Area
- No Dig - Creek and Slope
- No Dig - Distrubed and Utilities
- No Dig - Disturbed and Manhole
- Project Area

N W E S

7.5' Quadrangle: CARMEL
T18n R3e Sec19
Project No. j090109334

Figure 5: Fieldwork Results

Phase Ia Archaeological Reconnaissance
Bear Creek Park Project
Carmel Clay Parks & Recreation
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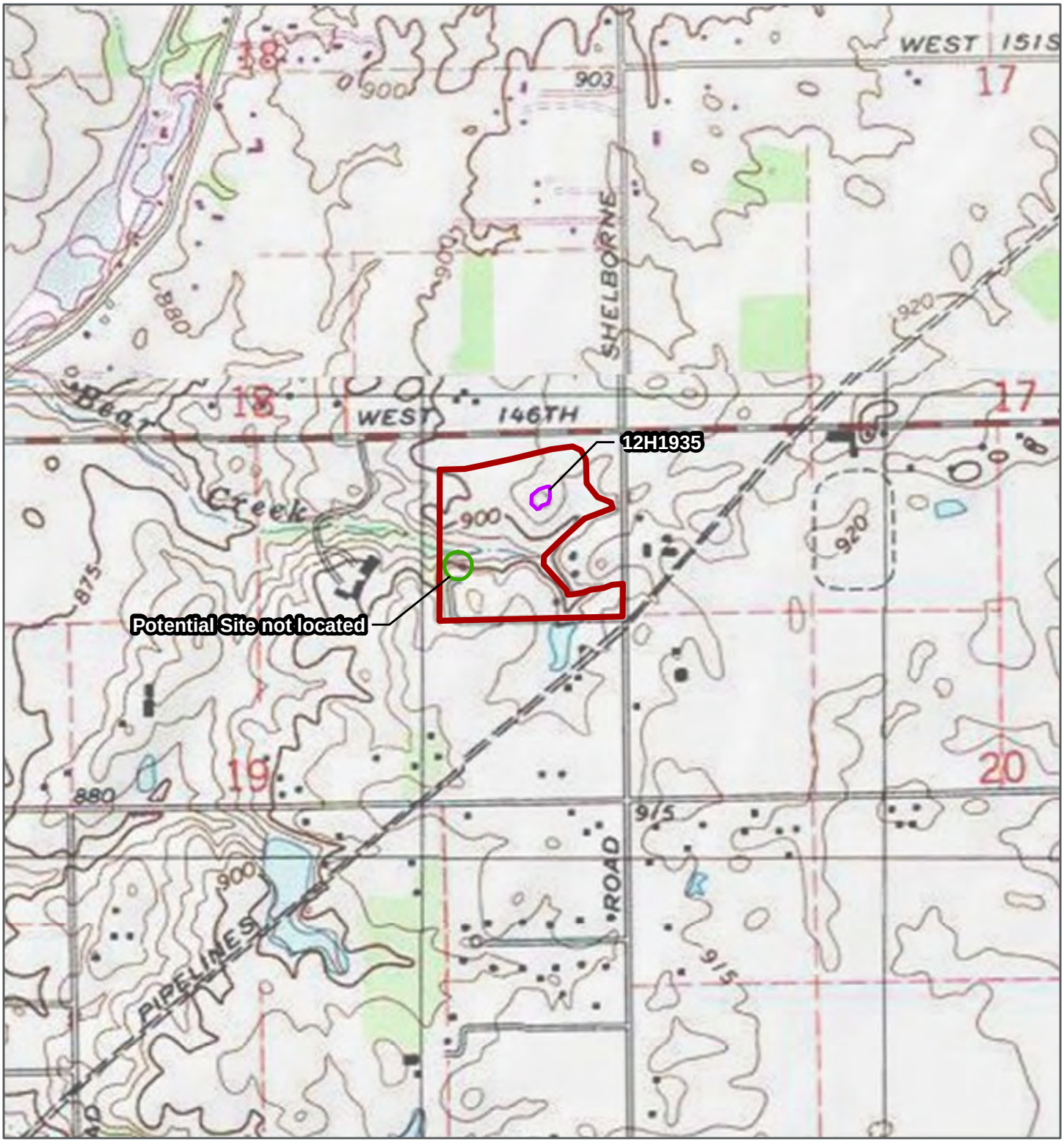

0 500 1,000 Feet
0 100 200 300 Meters

12H1935
Potential site not located
Project Area

N
W E
S

7.5' Quadrangle:
CARMEL
T18n R3e Sec19
Project No.
j090109334

Figure 6: Site Location

Phase Ia Archaeological Reconnaissance
Bear Creek Park Project
Carmel Clay Parks & Recreation
Hamilton County, Indiana

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4.1.1 Site 12H1935

Site 12H1935 consists of a small post-contact artifact scatter (N=29) identified during the systematic shovel testing of an overgrown agricultural field and extant native prairie.

UTM coordinates: (NAD 1983)	566255 m E, 4427780 m N
Cultural period:	Post-Contact (Mid-Late 19th Century)
Site dimensions:	36.1 meters E/W by 40.7 meters N/S (118.4 feet by 133.5 feet), 966.8 square meters (3771.9 square feet)
Physiographic region:	Tipton Till Plain Section
Topographic setting:	Upland Flats
Elevation:	909 feet AMSL
Soil type:	Miami silt loam (MmB2), 2 to 6 percent slopes, eroded
Watershed:	Upper White
Nearest water source:	Unnamed Tributary of Bear Creek
Distance and direction to nearest water source:	70 meters (229.7 feet) southeast
Surface visibility:	0 percent

Site 12H1935 is located in the SW ¼ of the NE ¼ of the NE ¼ of the NE ¼ of Section 19, Township 18 North, Range 3 East as shown on the USGS 7.5' series Carmel, Indiana topographic quadrangle (Figure 6). The site consists of a small post-contact artifact scatter (N=29) identified during the systematic shovel testing of an overgrown agricultural field and extant native prairie with no ground surface visibility (Plate 1). Radial shovel tests were excavated at 5 m (16.4 ft) until two negative shovel tests were encountered to the north and east; however, the Project Area boundaries prevented complete delineation to the west and south. Nine shovel tests were positive for cultural material at site 12H1935, with an additional six shovel tests containing between one and 10 fragments of brick, which were noted and discarded in the field (Figure 7). Most of these brick fragments were small, likely broken from larger pieces during STP excavation. Additionally, none of the brick fragments had identifying marks.

The soil on which the site is located is Miami silt loam (MmB2), 2 to 6 percent slopes, eroded. The excavated shovel test probes exhibited a typical soil profile of a brown (10YR 4/3) silt loam A-horizon ranging from 22 cm (8.6 in) to 38 cm (15.0 in) below surface over a yellowish brown (10YR 5/4 or 10YR 5/6) silt loam subsoil (Plate 4). No evidence of soil staining related to the presence of subsurface features was observed. Site 12H1935 measures 40.7 m north to south by 36.1 meters east to west (133.5 ft by 118.4 ft).

Plate 1. Overview of 12H1935. Photo facing southeast.

Historic maps were referenced in order to identify potential structures in proximity to the scatter. The Hamilton County Assessor's GIS website indicates that this parcel belongs to the Carmel Clay Board of Parks and Recreation, transferred from Beth and David Bidgood in September 2021. There are no extant structures on this property. A review of aerials from 1952 through 2018 reveals one structure within the Project Area; however, this structure was not in proximity to site 12H1935.

Historic maps between 1866 and 1959 were reviewed (Appendix A). The 1866 map indicates the landowner as T. Stalbtz [Stultz]; one structure is depicted in the northern portion of the parcel, within the vicinity of site 12H1935 (McClellan and Warner 1866; Plate 2). By 1896, the parcel is depicted as being owned by J. M. Stultz and has no structures illustrated (Cottingham 1896; Plate 3). In 1906, the property owner of the parcel is listed as Marion Stultz with no structures illustrated (Cottingham 1906). Mapping from 1922 does not illustrate building locations; and therefore, it is unknown if a structure stood in the vicinity of site 12H1935 during this time (Kenyon Company 1922). Historic mapping from 1936 depicts one structure in the southwestern portion of the Project Area, not in the vicinity of site 12H1935 (Indiana Highway Survey Commission 1936). This structure is in approximately the same location as the structure which first appears in 1956 aerial imagery, but due to the absence of any structures on the parcel in 1952, it cannot be confirmed that these structures are the same (NetrOnline 2022).

US Census Records reveal no individuals named "Stalbtz" residing in Clay Township between 1830 and 1950; however, multiple individuals with the surname "Stultz" or "Stutts" are recorded as residents of the township during that time. The E. Clampell family, documented neighbors of the Stabltz family on the 1866 map, are recorded in the 1860 census as the "Clampitt" family, suggesting that the 1866 historic mapping and corresponding census records may contain spelling discrepancies and likely reflects an association of the "Stalbtz" family with the "Stultz" and "Stutts" names (United States Census Bureau 1860; McClellan and Warner 1866; Plate 2; Plate 3).

US General Land Office Records describe the "east half of the northeast quarter of Section 19, in Township 18, north of Range 3 east", as being transferred to Thomas Stultz on October 15, 1835 (United States Bureau of Land Management 1935). Thomas A. Stultz was born in 1808 in North Carolina and died in 1894 in Boone County, Indiana; he is buried in Eagle Creek Cemetery in Westfield, Hamilton County, Indiana (Find a Grave 2022). Census records from 1840 denote a Thomas Stultz as a resident of Clay Township, while records from 1850 and 1860 describe a Thomas Stutts or Stultz, wife Sarah, and multiple children as residing in the township. Thomas was a farmer with real estate assets worth 600 dollars which had increased to 4000 dollars by 1860 (United States Census Bureau 1840; United States Census Bureau 1850, United States Census Bureau 1860).

The E. Clampell and Conrad families, neighbors of the Stalbtz [Stultz] family in 1866 mapping, are included on the same census page as the family in 1850 and 1860, suggesting the Thomas Stultz family may have resided in the structure depicted on the 1866 historic map (United States Census Bureau 1850; United States Census Bureau 1860; Plate 2). An 1874 Boone County Directory indicates Thomas Stultz relocated in 1868 (The People's Guide 1874: p 377). Subsequent census records depict Thomas and Sarah Stultz as residents of Union Township in Boone County and Center Township in 1870 and 1880, respectively (United States Census Bureau 1870; United States Census Bureau 1880). Mapping depicts no structures on the parcel by 1896, indicating the Stalbtz [Stultz] structure may have been removed between 1866 and 1896, possibly as early as 1868 after the family had relocated to neighboring Boone County.

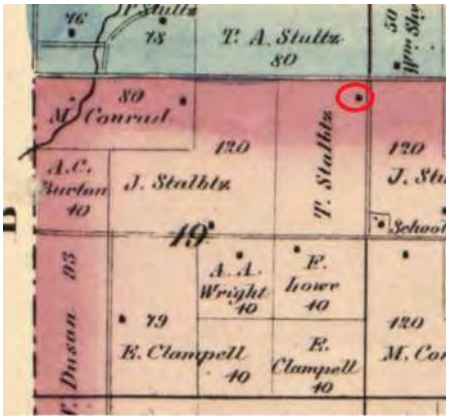


Plate 2. 1866 Map showing the approximate location of site 12H1935

Plate 3. 1896 Map showing the approximate location of site 12H1935

Based off the temporally diagnostic artifacts recovered from site 12H1935, the post-contact component of the site represents a mid-late nineteenth century refuse scatter. Most likely, the artifact scatter is the result of the historic use of the landscape related to the historically mapped structure in the vicinity of site 12H1935. Artifacts consisted of glass, ceramics, and metal. In total, 29 artifacts were recovered from the overgrown agricultural field and extant native prairie containing site 12H1935. Diagnostic artifacts consisted predominantly of fragments of glass and ceramic containers, as well as cut nails (Plate 5).

Plate 4. Typical soil profile for site 12H1935

Plate 5. Artifacts recovered from site 12H1935 (Top to Bottom, left to right) CAT Nos. 1.1.1 - 1.9.3

Temporally diagnostic glass artifacts present at site 12H1935 consist of solarized glass manufactured between 1875 and 1920 (Jones & Sullivan 1989; Lockhart 2006; CAT No. 2.2.4). In addition, various unidentified aqua flat glass fragments were recovered.

Recovered ceramic varieties include whiteware and stoneware. The stoneware fragments consist of two body fragments with Albany-slipped interior and a salt glazed exterior, which were manufactured from 1825 to 1900 (Greer 2005; CAT Nos. 1.1.2, 1.4.1; Plate 5). Six undecorated whiteware fragments manufactured post 1830 (Miller 1991; CAT Nos. 1.2.3, 1.5.2, 1.8.2, 1.9.2; Plate 5) were recovered, along with two blue painted edge-decorated rim pieces, one with impressed lines and one without, with manufacture dates of 1800-1860s and 1860s-1890s, respectively (Samford & Miller 2002; CAT Nos.

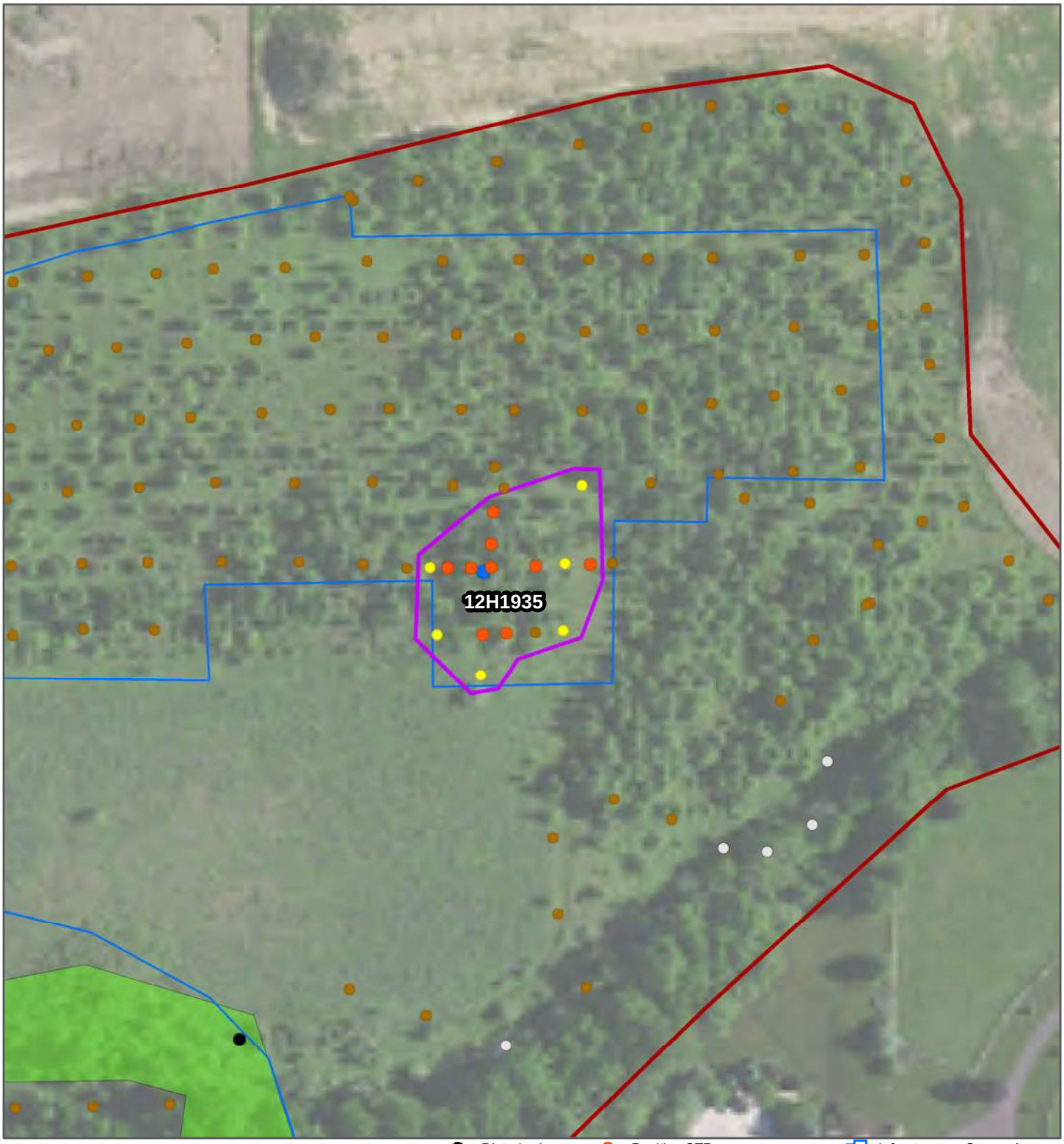
1.2.2, 1.9.1). While these artifacts all have nineteenth century manufacture dates, it is likely that they were used past their end manufacture date.

Diagnostic metal artifacts recovered consist of late and indeterminate cut nails (1835-1880; 1790-1880; Nelson 1968; CAT Nos. 1.3.1, 1.7.1; Plate 5). Undated material recovered includes miscellaneous glass of unknown manufacture and a sample of brick fragments (N=3). An additional 10-20 fragments of brick were noted on the ground surface or recovered from shovel tests and discarded in the field. Only one shovel test contained more than two brick fragments, and while the test did contain between five and 10 fragments of brick, it is likely the fragments all broke from the same larger fragment lodged in the wall of the shovel test. The following artifacts were recovered from site 12H1935 (Table 5); a comprehensive artifact catalog is included in Appendix C.

Table 5. Artifacts Recovered from site 12H1935

Material Type	Artifact Type	Depth of Recovery (cmbs)	Date Range	Count
Refined Earthenware	Whiteware-Undecorated	0-30, 0-31, 0-32	Post 1830	6
	Whiteware-Edge Decorated, Impressed	0-30	1800-1860s	1
	Whiteware-Edge Decorated, Non-impressed	0-31	1860s-1890s	1
Stoneware	Albany-slipped/salt glazed	0-15	1825-1900	2
Unrefined Earthenware	Brick	0-28		3
		0-38		10-20*
Glass	Unknown Container - Aqua	0-31		4
	Unknown Container - Solarized	0-27, 0-30, 0-32	1875-1920	1
	Flat Glass - Aqua	0-27, 0-31, 0-32		9
Metal	Late cut nail	0-28	1835-1880	1
	Indeterminate cut nail	0-10	1790-1880	1
*discarded in field			**Total Recovered**	**29**

The archaeological survey revealed no intact structural remains or deposits beneath the ground surface related to the historic occupation of the site, which historic mapping and Bureau of Land Management records date to as early as 1835 and certainly by 1866. Historic occupation of the site ended by 1896 at the latest and possibly as early as 1868. The artifact assemblage reflects a mid- to late nineteenth century occupation. It appears that site 12H1935 is a refuse scatter related to historic use of the land in the mid to late nineteenth century. The site cannot be directly associated with any significant persons or events in the region, nor does it appear to offer information important to the history of the region. For these reasons, site 12H1935, as it is currently defined, is not eligible for the NRHP and no further archaeological work is recommended.



0 50 100 Feet

0 10 20 30 Meters

- Disturbed
- Negative STP
- No Dig
- Only Brick Noted
- Positive STP
- Surface Find
- No Dig - Disturbed and Manhole
- 12H1935
- Infrastructure Survey Area
- Project Area

N W E S

7.5' Quadrangle: CARMEL
T18n R3e Sec19
Project No. j090109334

Figure 7: Site 12H1935

Phase Ia Archaeological Reconnaissance
Bear Creek Park Project
Carmel Clay Parks & Recreation
Hamilton County, Indiana

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Date: 6/1/2022
Basemap:

File Path: R:\Projects\09\0901\0901093_CarmelClay_CentralPark\34_Bear Creek Park\GIS\MXD\Phase1\Fig7_Site12H1935.mxd

Saved By: Stephen.LaFon

4.2 Potential Sites Not Identified During the Field Effort

Analysis of historic mapping and archival documentation indicated the presence of historic structures within the Project Area. Cardno identified one of the two, potentially three mapped structure locations during the current Phase Ia effort; however, the remaining mapped structure(s) locations/location were not relocated. These are described below.

4.2.1 14330 Shelborne Road

Historic mapping from 1936 depicts one structure in the southwestern portion of the Project Area, although the map does not denote landowners (Indiana Highway Survey Commission 1936). This structure is in approximately the same location as a structure which first appears in 1956 aerial imagery, but due to the absence of any structures on the parcel based on an aerial image from 1952, it cannot be confirmed that these structures are the same (NetrOnline 2022). A review of aerials from 1952 through 2018 reveals an additional structure within the Project Area, first appearing in on aerials in 1956 and depicted consistently through 2018. Property records indicate construction began on the dwelling in 1951 (Hamilton County Department of Parks and Recreation 2022). The structure also appears on topographic mapping from 1959 (USGS 1959). This structure has since been demolished, leaving an open overgrown grassy lawn surrounded by remnant woodlot (NetrOnline 2022; Plate 6). Shovel tests were excavated according to the methodology described in this report and the ground surface scrutinized for surface artifacts. No artifacts were recovered from subsurface investigations. At least one fragment of PVC pipe and a cut coaxial cable were noted on the surface, but not collected. A cast iron bathtub was noted in the creek basin directly below the landform where the structure previously stood.

Plate 6. Overview of the area previously occupied by the dwelling at 14330 Shelborne Rd. Photo facing northeast.

5 Conclusions and Recommendations

Carmel Clay Parks & Recreation contracted Cardno to conduct a Phase Ia archaeological records review and reconnaissance for the proposed Bear Creek Park Project in Clay Township, Hamilton County, Indiana. The project area is located in Section 19, Township 18 North, Range 3 East on the Carmel, Indiana USGS 7.5' quadrangle map. Carmel Clay Parks & Recreation purchased 27 acres of land located in Clay Township, Hamilton County. The property is located at 14330 Shelbourne Road and currently consists of largely overgrown agricultural fields, extant native prairie, and remnant woodlots. The property will be developed into a public park and provide recreation opportunities to park patrons. Cardno was requested to survey the areas slated for ground disturbance related to the trails and park infrastructure, which include approximately 10.22 acres of infrastructure and 930 meters of trails.

The records on file at the IDNR-DHPA indicate that no archaeological sites have been recorded within or immediately adjacent to the Project location; however, seventeen archaeological sites and two IHSSI-listed resources are located within the 1.6 km (1 mi) study area.

As a result of the current investigation, Cardno conducted survey work on the proposed areas of ground disturbance that will result from the Project, which included the length of the proposed trails and the areas intended for park infrastructure. Cardno identified one archaeological site, a mid- to late nineteenth century post-contact site (12H1935). Based on the results of the field reconnaissance and archival research, this recorded archaeological site is recommended not eligible for inclusion in the NRHP, and Cardno recommends no further archaeological investigation be required for the proposed project to proceed as planned.

These recommendations are based on the current project plans. Currently the project is not considered a Federal Undertaking under Section 106 of the NHPA. Carmel Clay Parks & Recreation has chosen to conduct an archaeological survey out of respect for the preservation of cultural resources. If plans should change, or the Project becomes a Federal Undertaking subject to Section 106 of the National Historic Protection Act (NHPA), further archaeological work may be necessary.

If archaeological artifacts or human remains are identified during project activities in any location, work within 30m (100 ft) of the discovery must stop and the Indiana Department of Natural Resources – Division of Historic Preservation and Archaeology must be notified within two (2) business days pursuant to Indiana Code 14-21-1.

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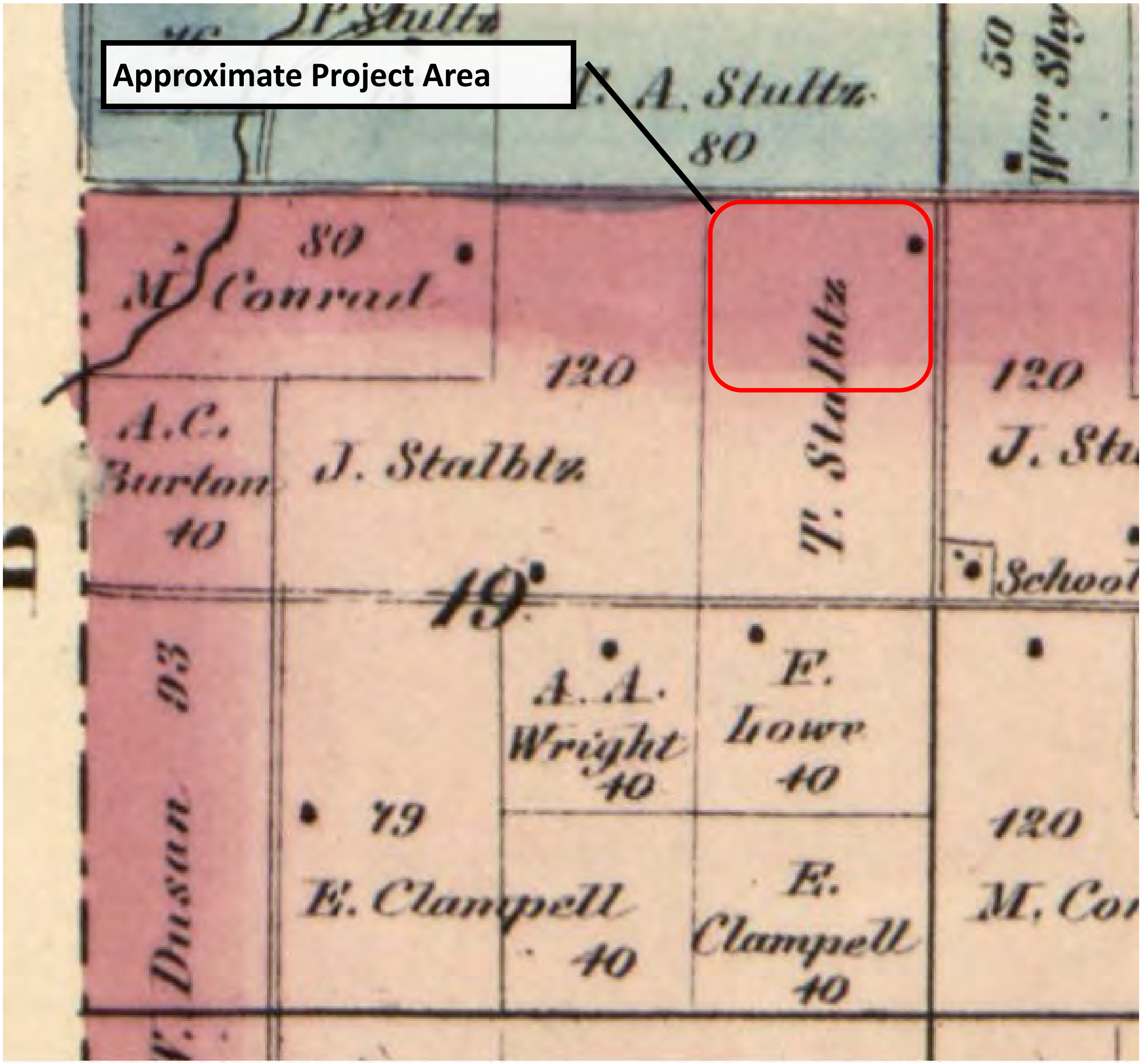
Phase Ia Archaeological Reconnaissance
For the Bear Creek Park Project
Hamilton County, Indiana

APPENDIX A

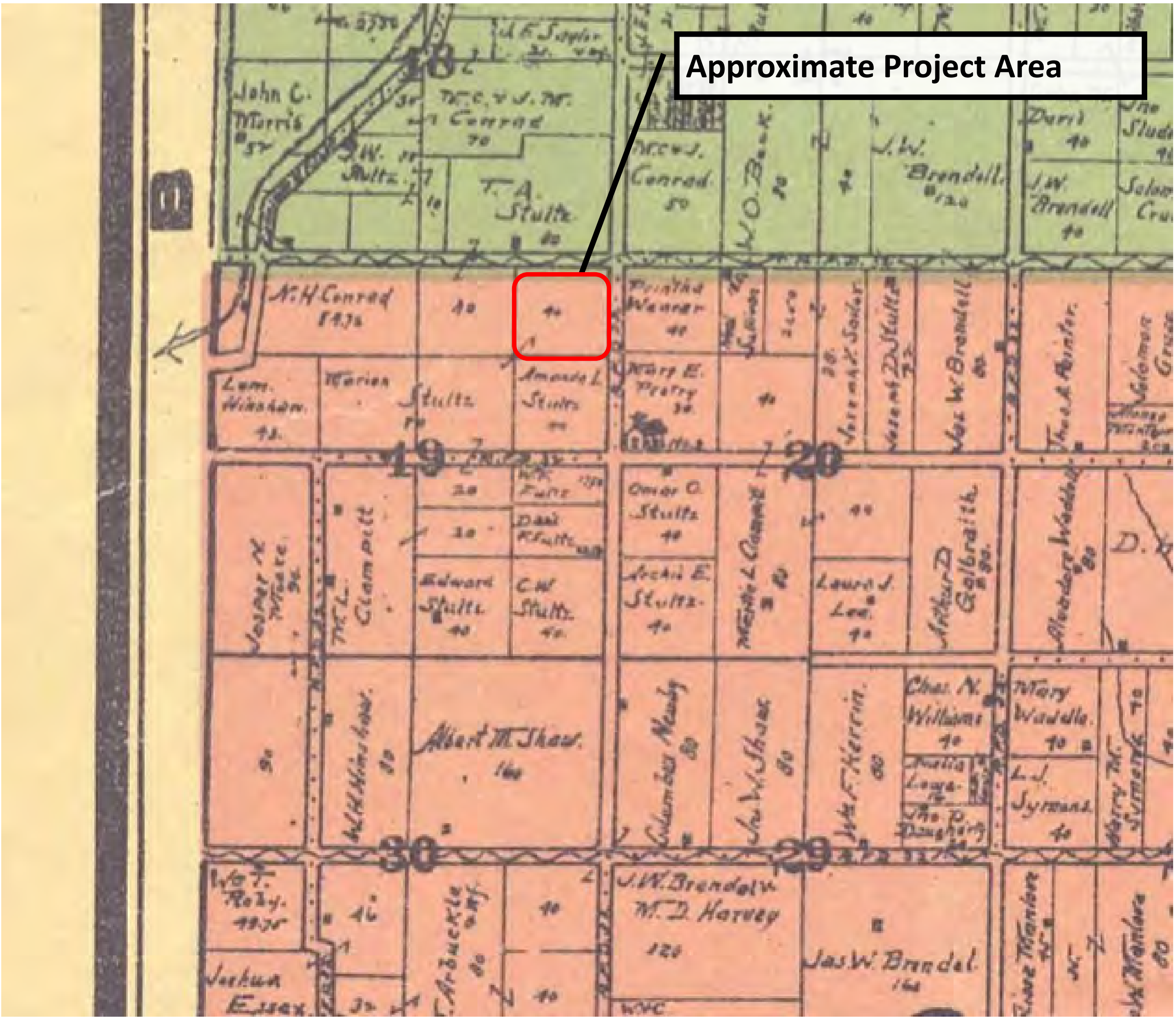
HISTORIC MAPS



Project Number: J0901093

Appendix A: 1866 Map
Phase Ia Archaeological Reconnaissance
Bear Creek Park Project
Carmel Clay Parks & Recreation
Hamilton County, Indiana

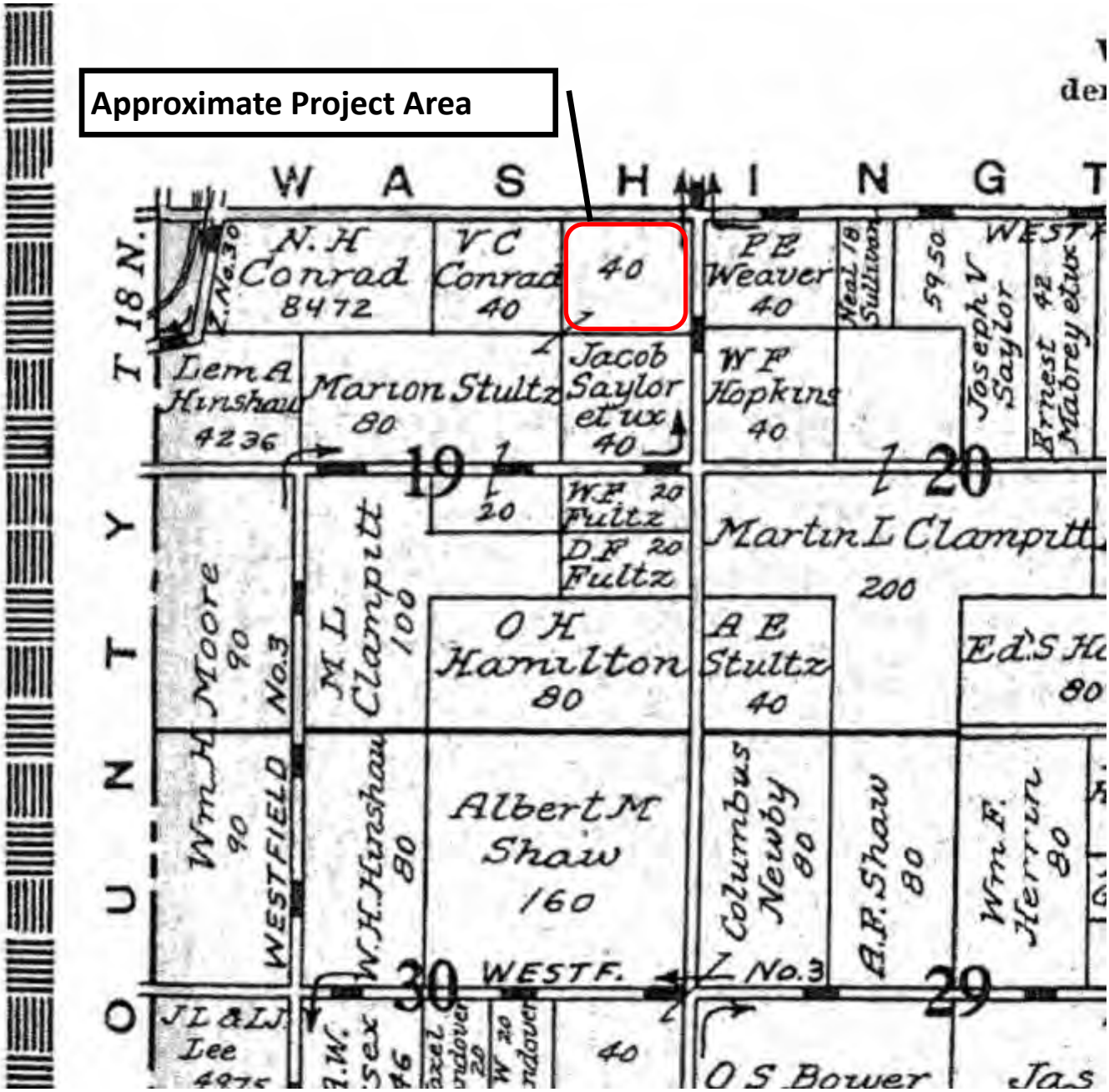
Cardno now Stantec

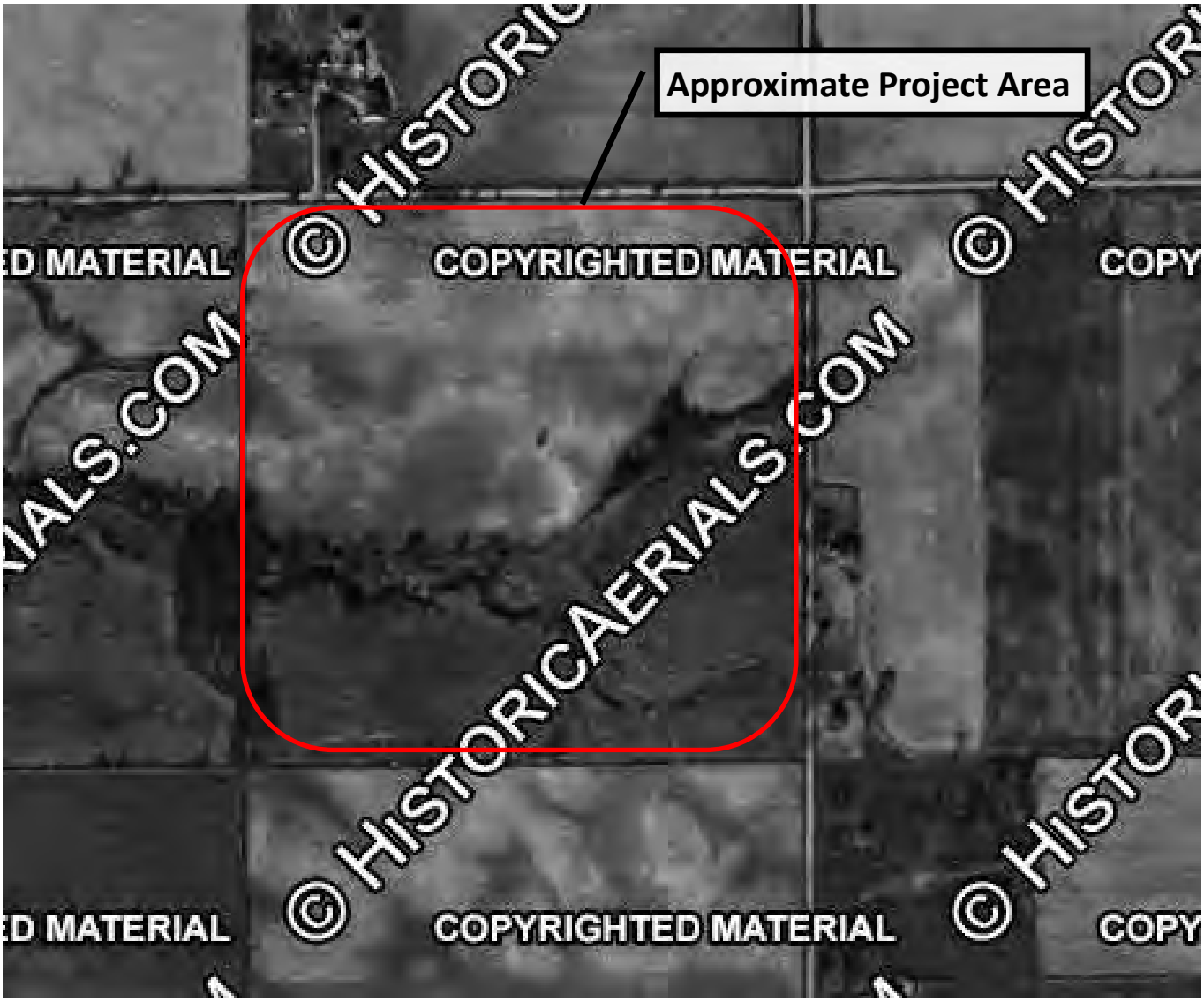


Project Number: J0901093

Appendix A: 1906 Map
Phase Ia Archaeological Reconnaissance
Bear Creek Park Project
Carmel Clay Parks & Recreation
Hamilton County, Indiana

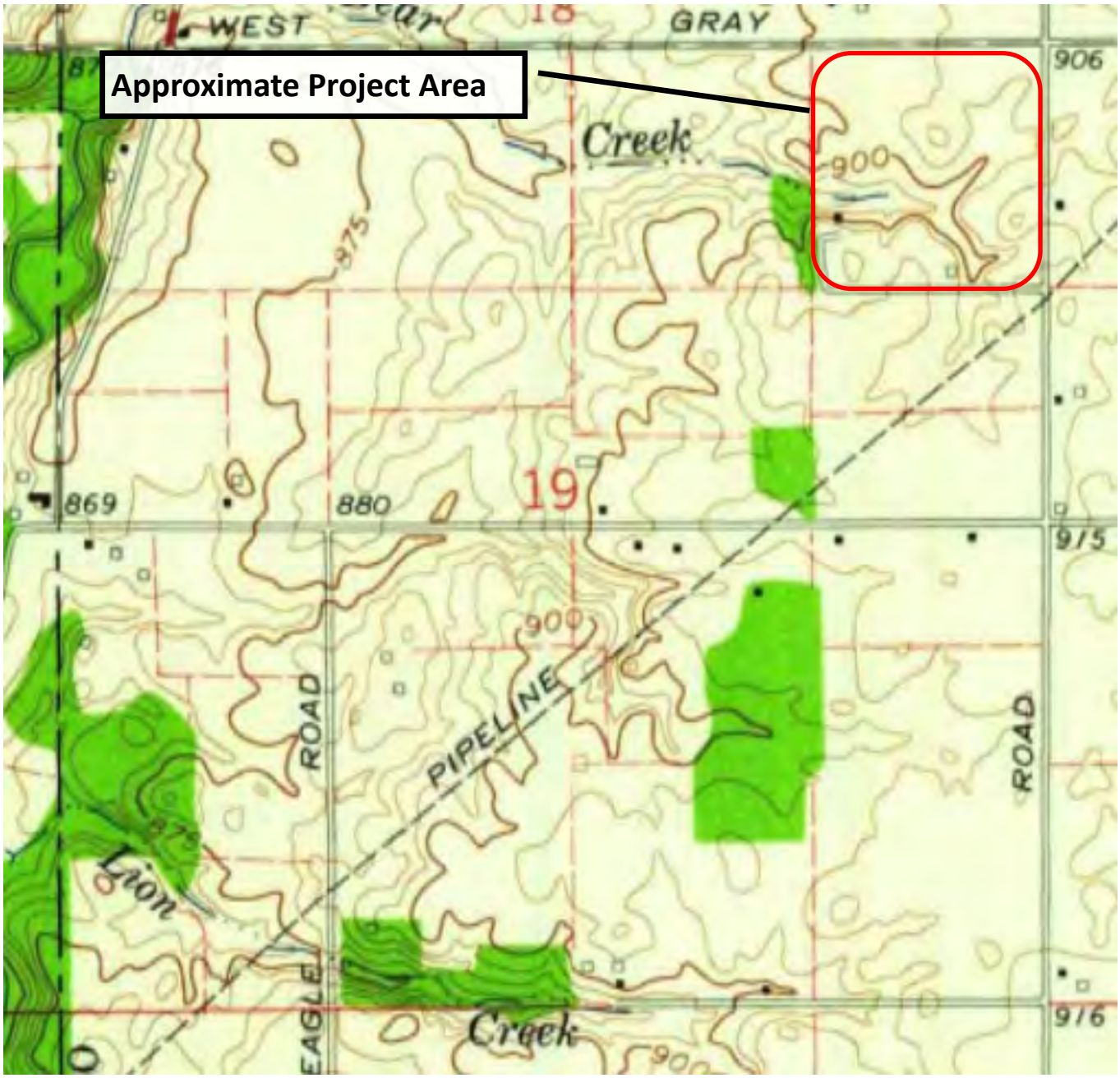
Cardno now Stantec





Appendix A: 1952 Aerial
Phase Ia Archaeological Reconnaissance
Bear Creek Park Project
Carmel Clay Parks & Recreation
Hamilton County, Indiana

Appendix A: 1956 Aerial
Phase Ia Archaeological Reconnaissance
Bear Creek Park Project
Carmel Clay Parks & Recreation
Hamilton County, Indiana


Approximate Project Area
WEST
GRAY
18
906
Creek
900
975
869
880
19
915
900
ROAD
PIPELINE
ROAD
Lion
Creek
916

Phase Ia Archaeological Reconnaissance
For the Bear Creek Park Project
Hamilton County, Indiana

APPENDIX B

PHOTO PAGES

Photo 1. Overview of the native prairie within project area. Photo facing east.

Photo 2. Overview of the remnant woodlot and overgrown agricultural field within project area. Photo facing west.

Photo 3. Overview of the overgrown agricultural field within project area. Photo facing west.

Photo 4. Overview of Bear Creek in incised floodplain within project area. Photo facing northeast.

Photo 5. Example profile of an STP excavated in an area of previous construction disturbance. Soils consist of an A-horizon of 50 cm of 10YR 4/4 silt loam.

Photo 6. Example profile of an STP excavated in the overgrown agricultural field and extant native prairie. Soils consist of an A-horizon of 24 cm of 10YR 4/3 clay loam over hydric clay and inundation with water at 30 cm.

Photo 7. Example profile of an STP excavated in the remnant woodlot. Soils consist of an A-horizon of 32 cm of 10YR 3/2 silt loam over 10YR 5/6 sandy loam.

Photo 8. Example profile of a STP excavated in the remnant woodlot. Soils consist of an A-horizon of 24 cm of 10YR4/2 silt loam over 14 cm of 10YR3/1 silt loam over hydric clay.

Phase Ia Archaeological Reconnaissance
For the Bear Creek Park Project
Hamilton County, Indiana

APPENDIX C

ARTIFACT CATALOG

Site Trinomial	Field Site No.	PN #	Catalog #	Provenience	Level	Depth (cm)	Group	Class	Artifact	Description	Attributes	Count	Weight (gm)	Comment	Date	Ref.
12H1935	FS-1	1	1.1	Surface	-	-	Architecture	Glass	Flat Glass	2.05mm, 1.55mm	aqua	2	2.79		1885, 1843	Moir 1987
12H1935	FS-1	1	1.2	Surface	-	-	Kitchen	Ceramic	Stoneware	salt glaze/Albany		1	41.23	unk., body	1825-1900	Greer 2005
12H1935	FS-1	2	2.1	STP NMS 19	1	0-31	Architecture	Glass	Flat Glass	1.58mm, 1.06mm, 2.17mm	aqua	3	1.23		1846, 1802, 1896	Moir 1987
12H1935	FS-1	2	2.2	STP NMS 19	1	0-31	Kitchen	Ceramic	Whiteware	Edge-decorated hand-painted, non-impressed	blue	1	0.22	unk., rim	1860s-1890s	Samford & Miller 2002
12H1935	FS-1	2	2.3	STP NMS 19	1	0-31	Kitchen	Ceramic	Whiteware	Undecorated		1	0.05	unk., body; 1 side exfoliated	Post 1830	Miller 1991
12H1935	FS-1	2	2.4	STP NMS 19	1	0-31	Misc.	Glass	Container, unk.	Manufacture unknown	solarized	1	0.57		1875-1920	Jones & Sullivan 1989; Lockhart 2006
12H1935	FS-1	3	3.1	STP KDS 18	1	0-28	Architecture	Metal	Late cut nail	fragment	pulled	1	11.08		1835-1880	Nelson 1968
12H1935	FS-1	3	3.2	STP KDS 18	1	0-28	Architecture	Ceramic	Brick	red body		3	4.60			
12H1935	FS-1	4	4.1	STP NMS 19+10E	1	0-15	Kitchen	Ceramic	Stoneware	salt glaze/Albany		1	39.42	unk., body	1825-1900	Greer 2005
12H1935	FS-1	5	5.1	STP NMS 19+5N	1	0-32	Architecture	Glass	Flat Glass	1.71mm, 1.34mm	aqua	2	0.75		1857, 1826	Moir 1987
12H1935	FS-1	5	5.2	STP NMS 19+5N	1	0-32	Kitchen	Ceramic	Whiteware	Undecorated		2	0.88	unk., body	Post 1830	Miller 1991
12H1935	FS-1	5	5.3	STP NMS 19+5N	1	0-32	Misc.	Glass	Container, unk.	Manufacture unknown	1 aqua, 1 colorless	2	1.62	aqua burned		
12H1935	FS-1	6	6.1	STP KDS 18+5E	1	0-27	Architecture	Glass	Flat Glass	1.38mm	aqua	1	0.17		1829	Moir 1987
12H1935	FS-1	6	6.2	STP KDS 18+5E	1	0-27	Misc.	Glass	Container, unk.	Manufacture unknown	aqua	1	0.54	unk., body, paneled		
12H1935	FS-1	7	7.1	STP NMS 19+20E	1	0-10	Architecture	Metal	Indeterminate cut nail	fragment		1	4.14		1790-1880	Nelson 1968
12H1935	FS-1	8	8.1	STP NMS 19+10N	1	0-32	Architecture	Glass	Flat Glass	1.25mm	aqua	1	0.24		1818	Moir 1987
12H1935	FS-1	8	8.2	STP NMS 19+10N	1	0-32	Kitchen	Ceramic	Whiteware	Undecorated		2	1.46	unk., body	Post 1830	Miller 1991
12H1935	FS-1	9	9.1	STP NMS 19+5E	1	0-30	Kitchen	Ceramic	Whiteware	Edge-decorated hand-painted, impressed	blue	1	1.00	unk., body/rim	1800-1860s	Samford & Miller 2002
12H1935	FS-1	9	9.2	STP NMS 19+5E	1	0-30	Kitchen	Ceramic	Whiteware	Undecorated		1	0.52	unk., body	Post 1830	Miller 1991
12H1935	FS-1	9	9.3	STP NMS 19+5E	1	0-30	Misc.	Glass	Container, unk.	Manufacture unknown	aqua	1	2.55	unk., body		

APPENDIX 02 | PUBLIC INPUT MEETING 1

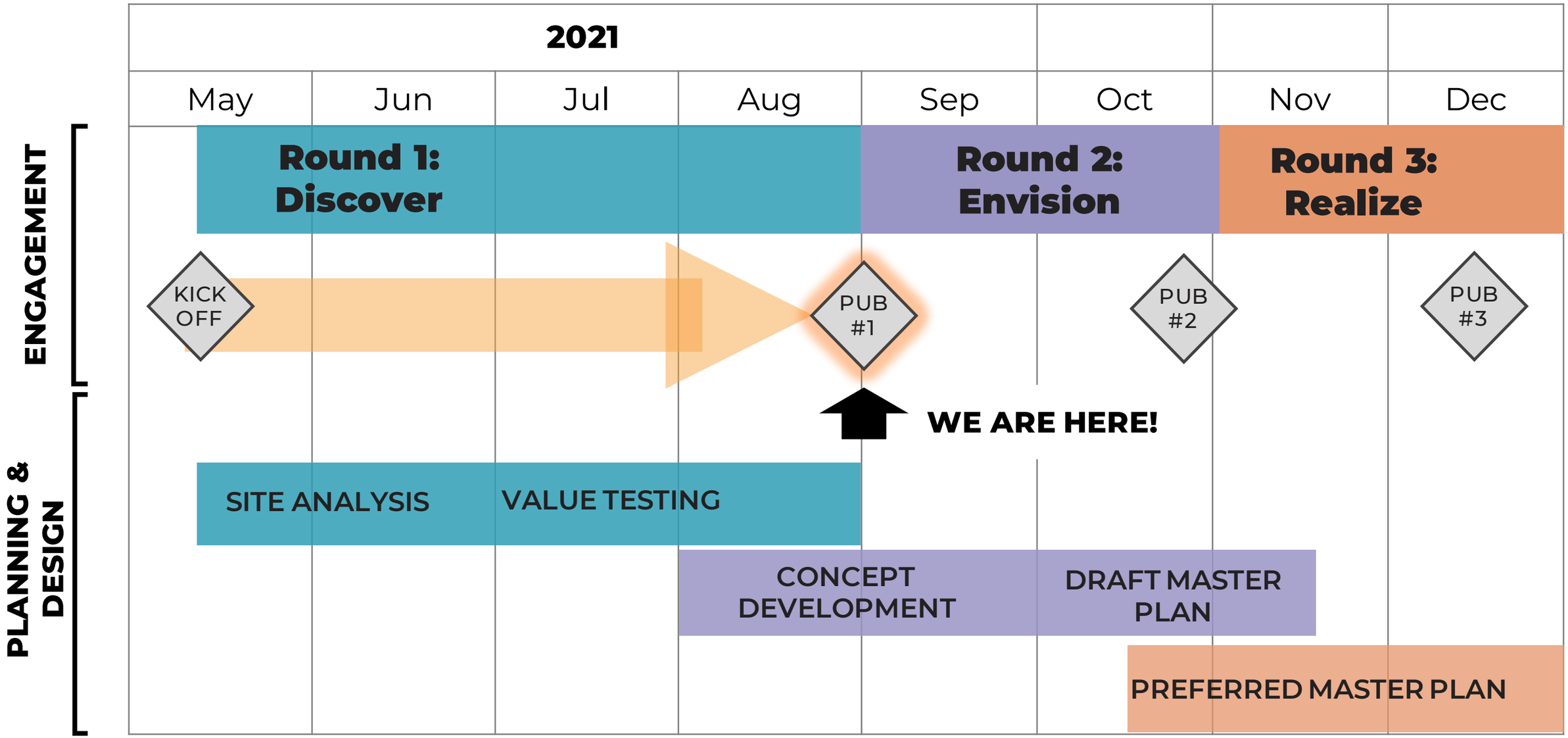
Appendix 02 contains the presentation slides presented at the first Public Input Meeting in Carmel, Indiana, as well as the online survey data gathered from the public.

BEAR CREEK MASTER PLAN

PUBLIC INPUT MEETING 1

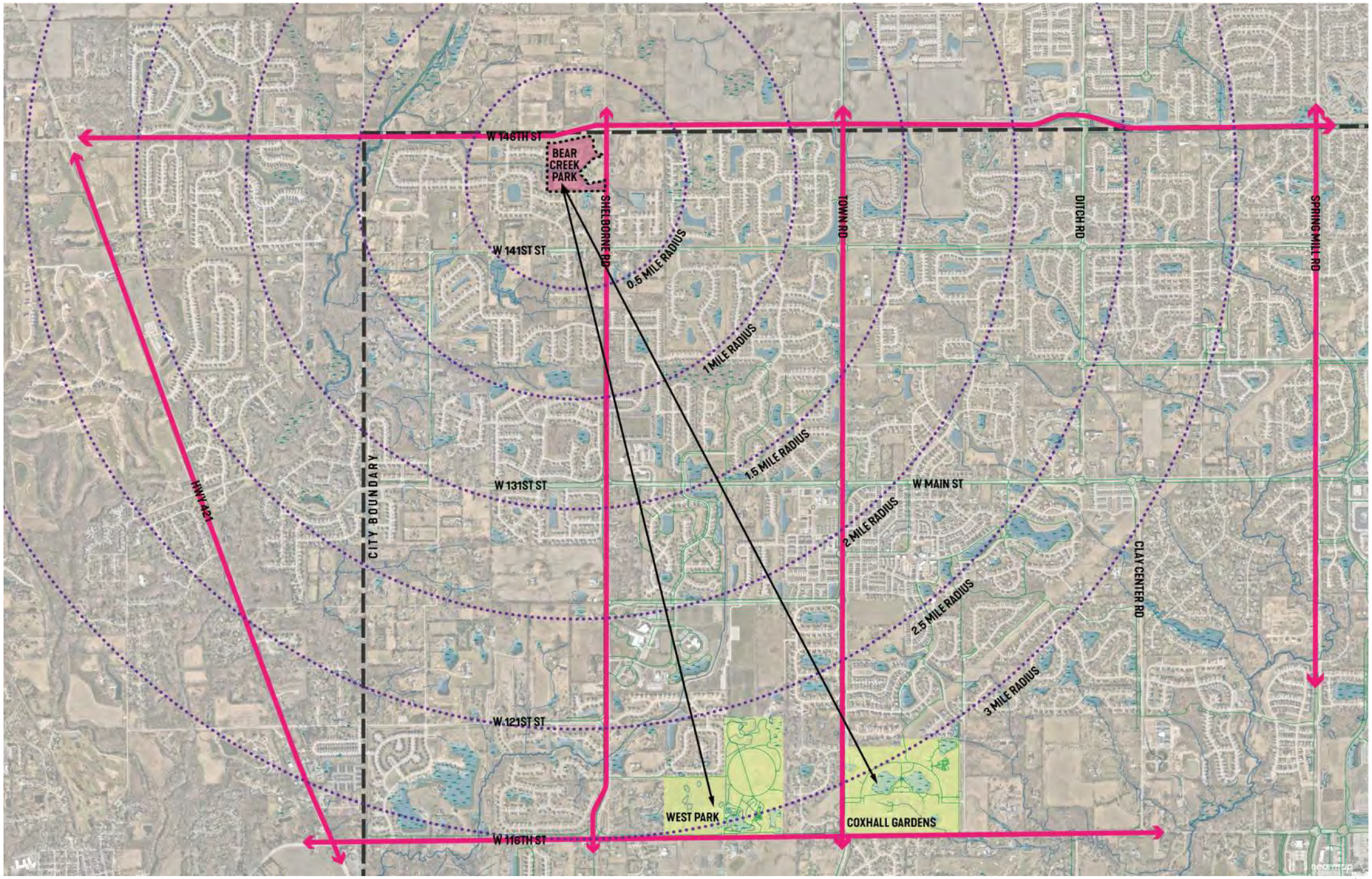
SMITHGROUP

SCHEDULE



PUB = Public Engagement Meeting

WHERE IS BEAR CREEK PARK?



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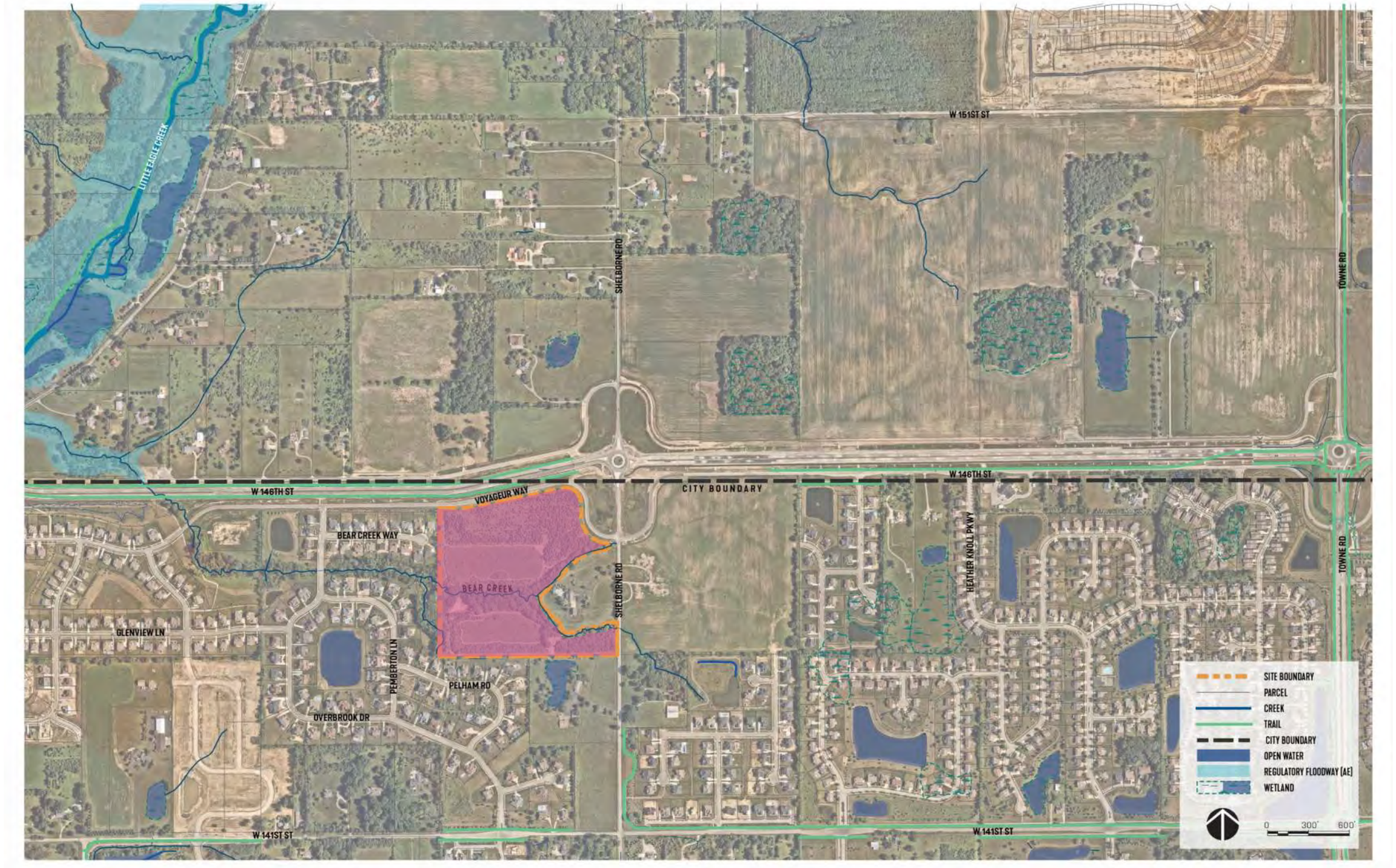
WHERE IS BEAR CREEK PARK?



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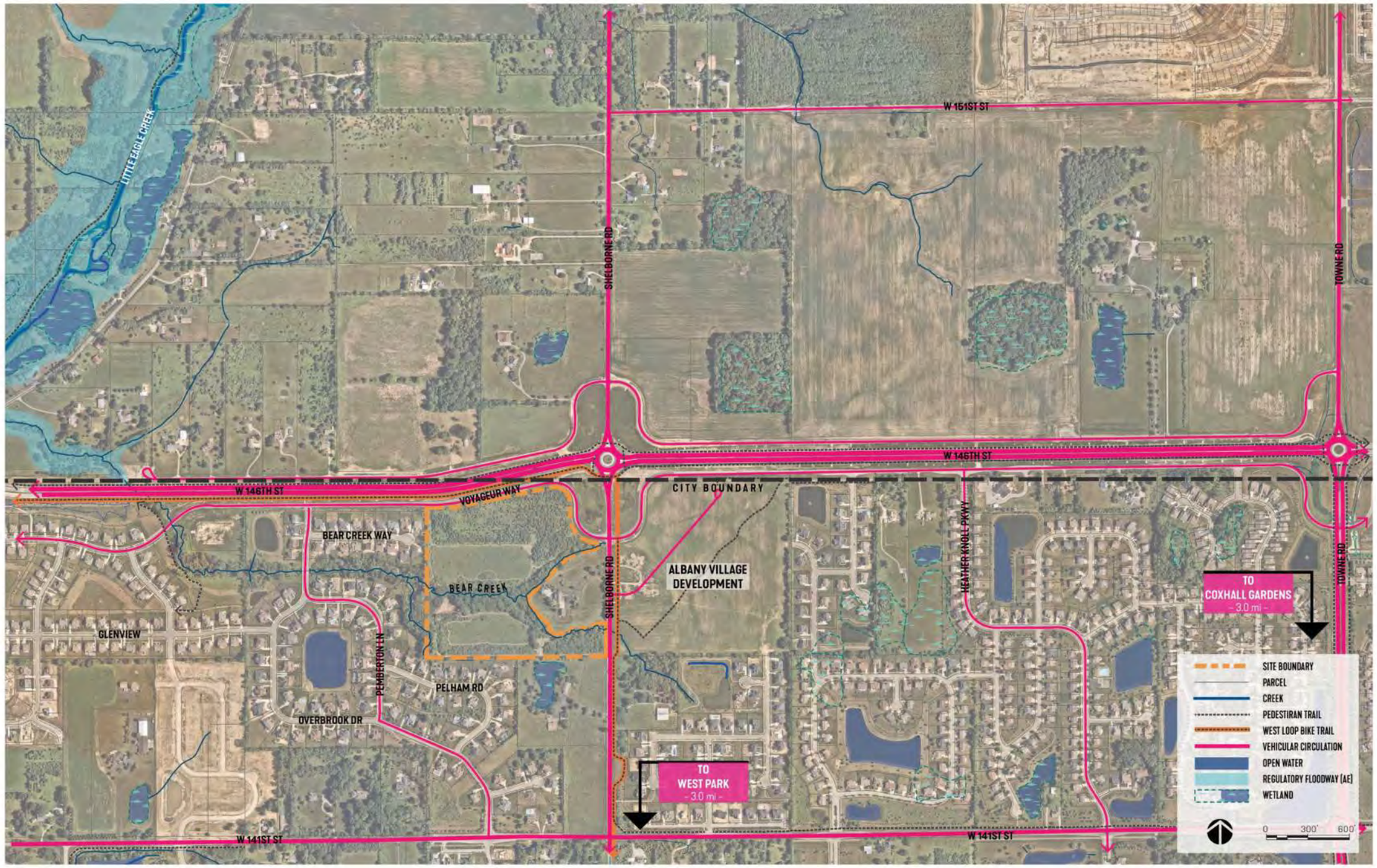
NEIGHBORHOOD ANALYSIS



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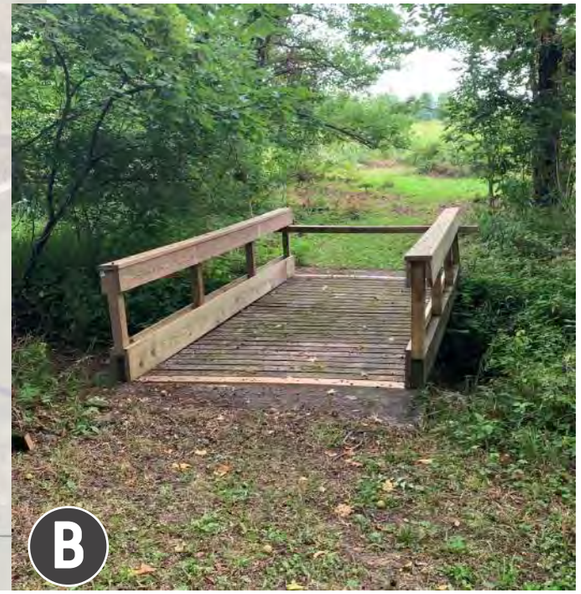
VIRTUAL TOUR



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VIRTUAL TOUR – NORTH SIDE

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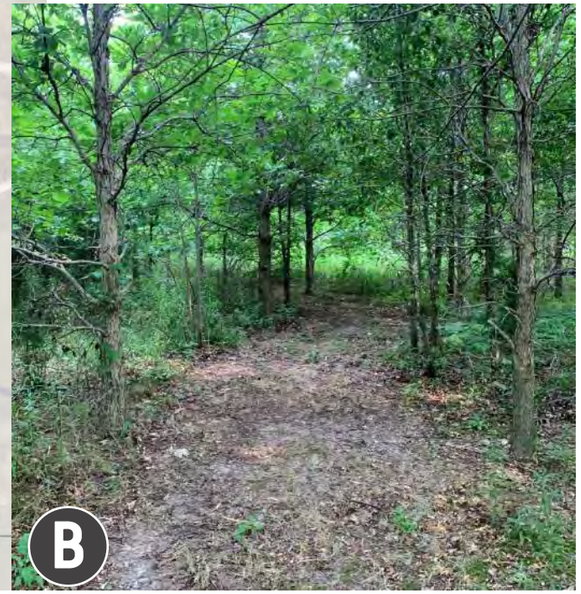
VIRTUAL TOUR



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VIRTUAL TOUR – SOUTH SIDE & BEAR CREEK

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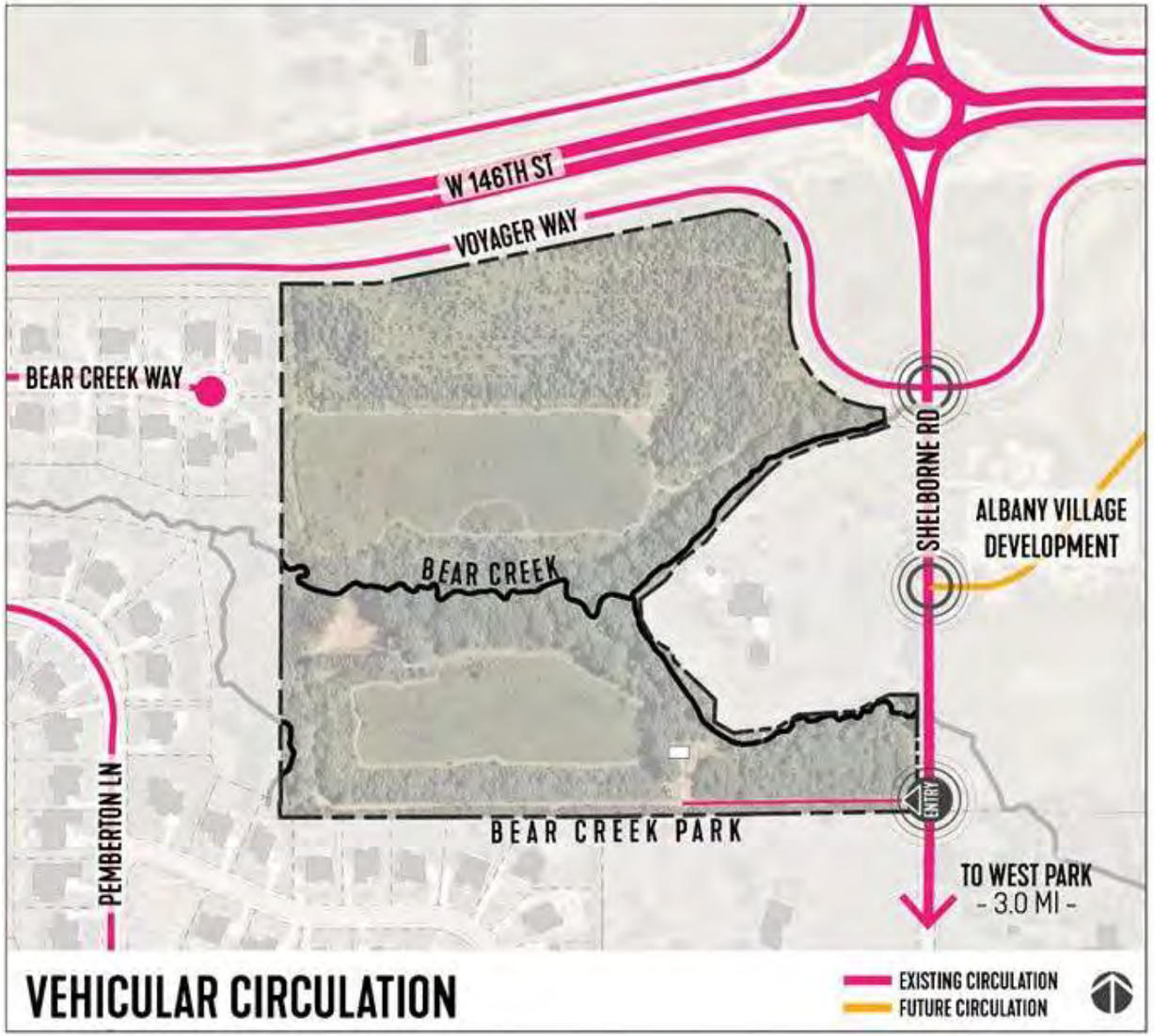
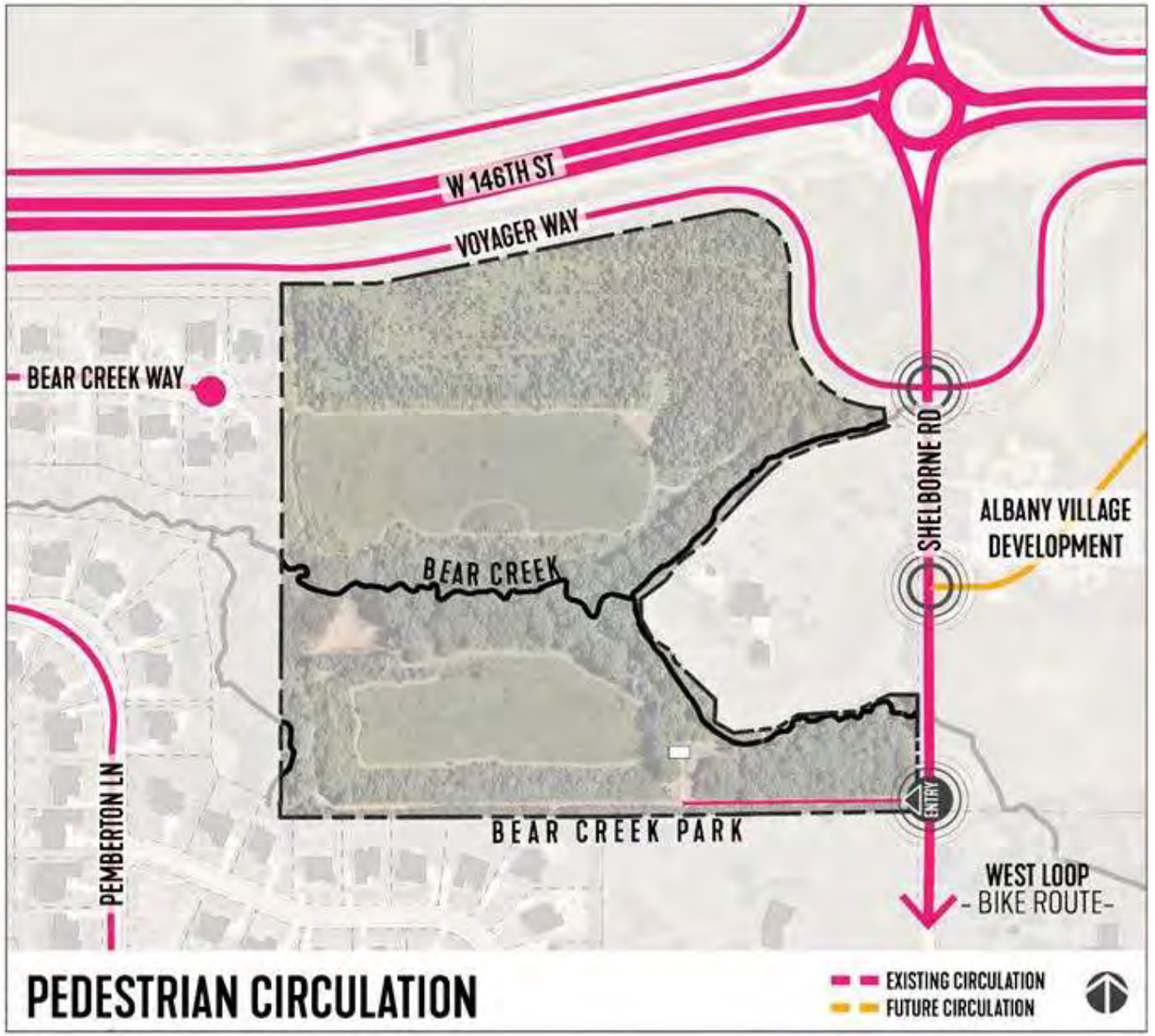
SITE ANALYSIS





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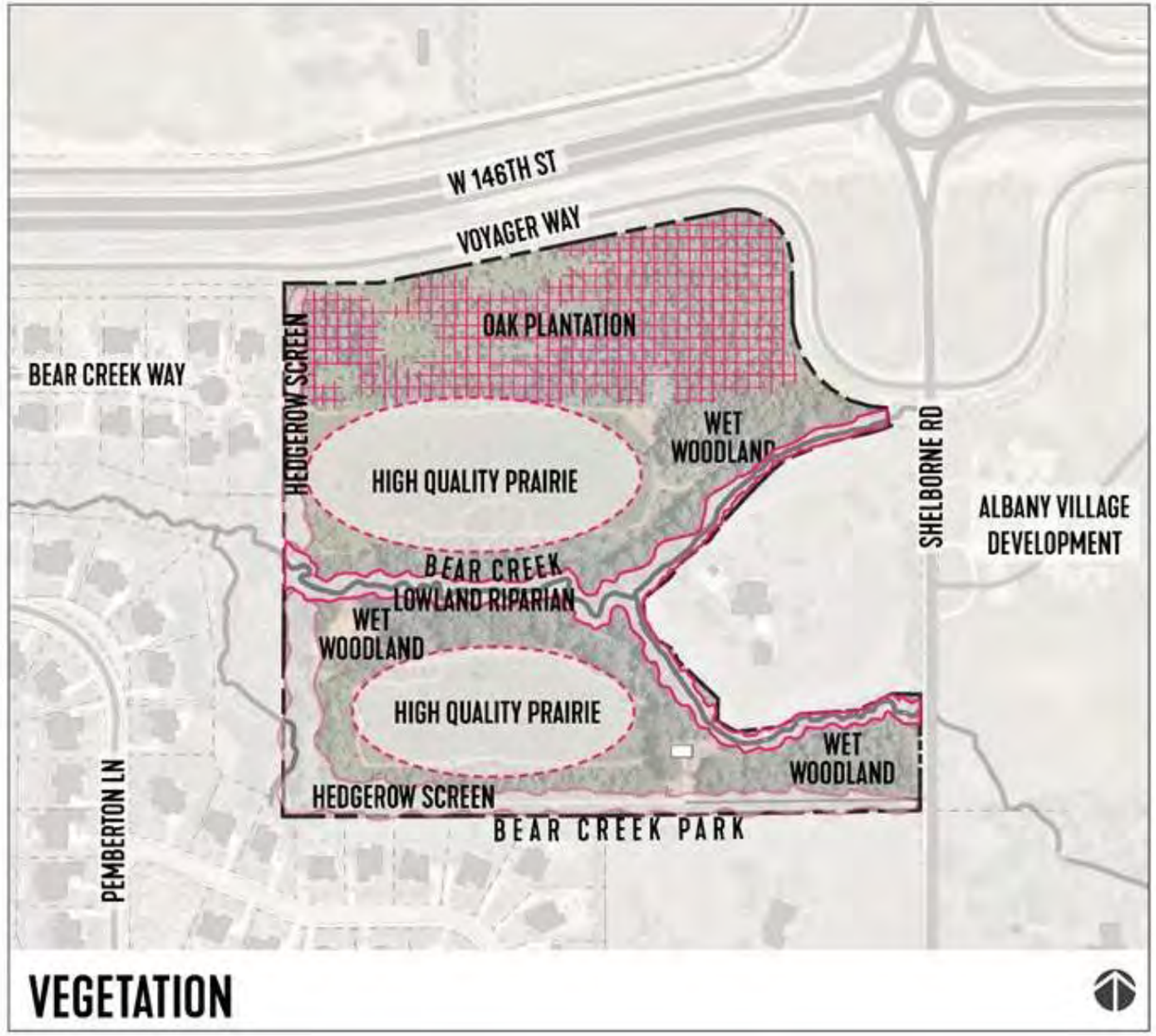
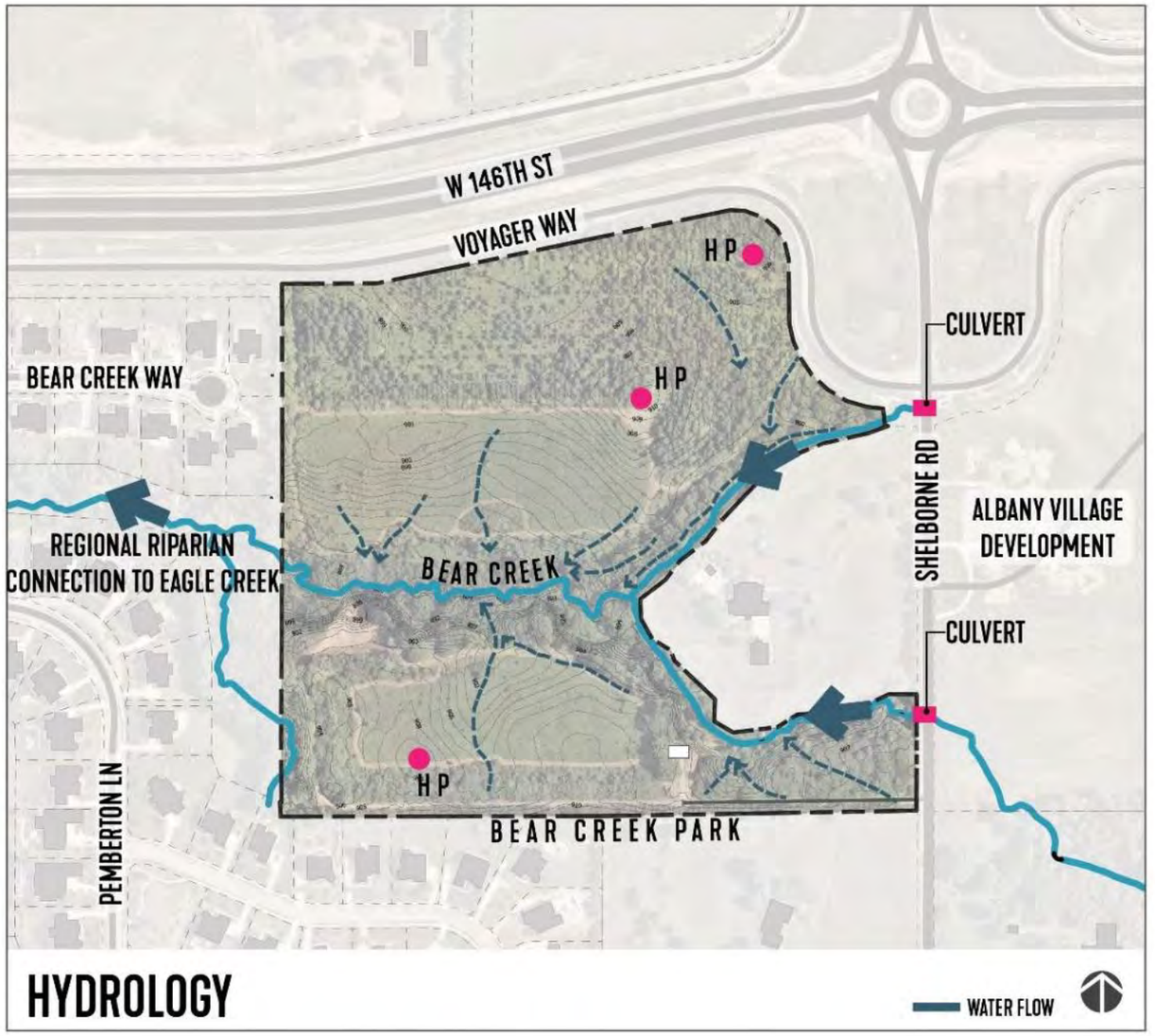
SITE ANALYSIS





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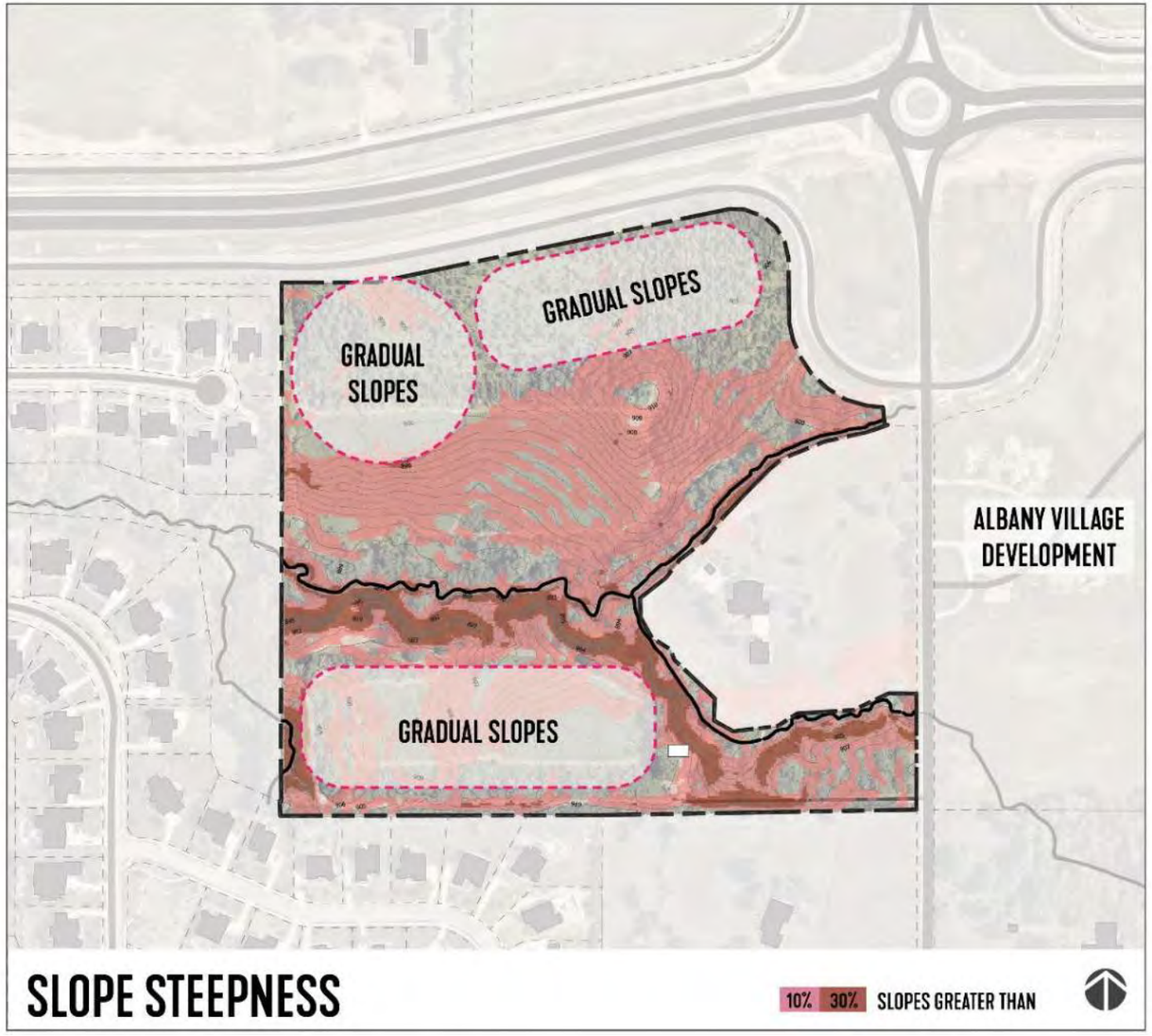
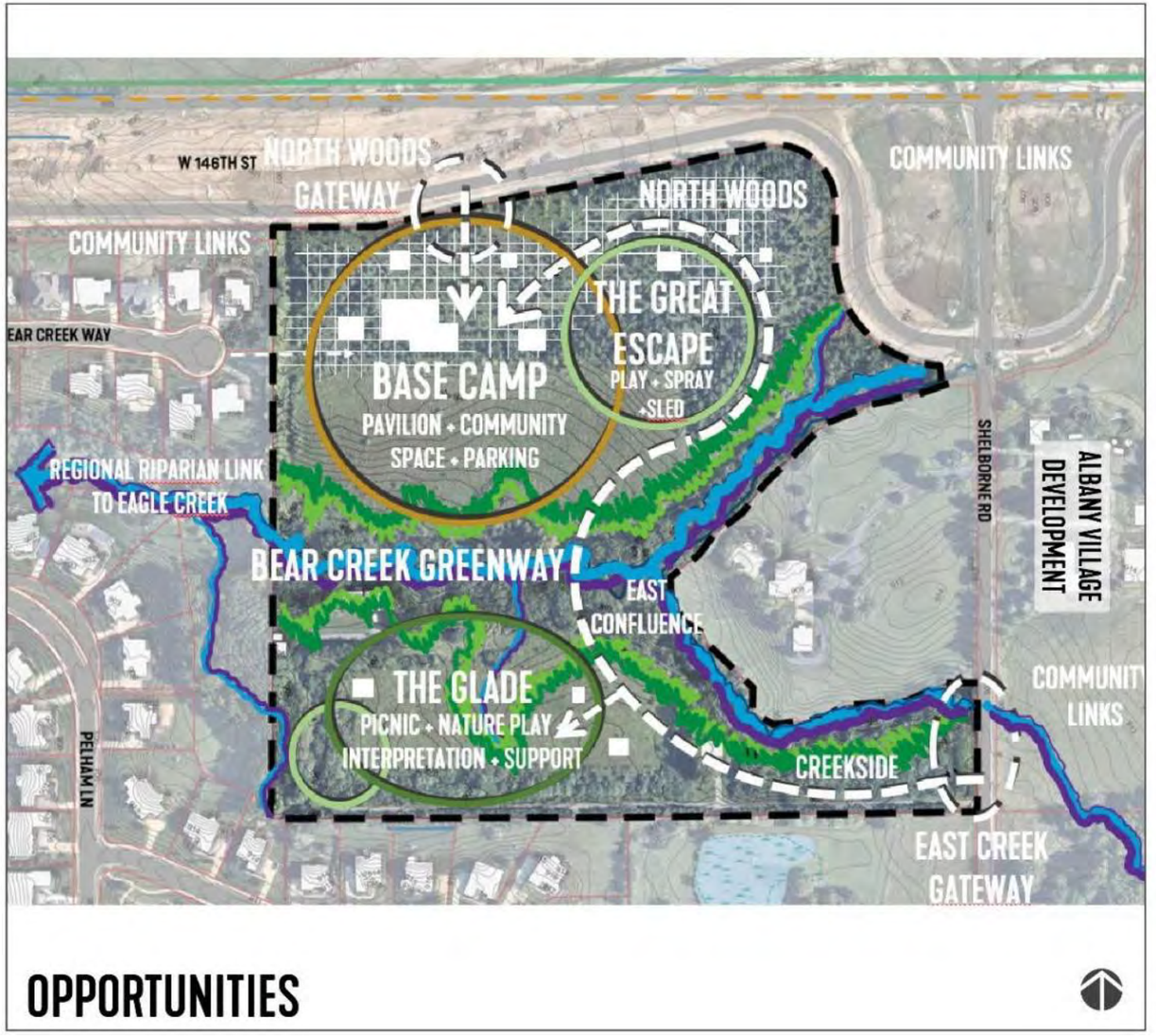
SITE ANALYSIS





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PRELIMINARY SITE PLAN

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VISION TESTING BOARDS – ACTIVATED RECREATION

INSTRUCTIONS

Place **ONE** sticky on your preferred image to the right that you feel is best suited for Bear Creek Park. Additional comments or thoughts can be recorded with a post-it note.

PLANNING THEME

Tapping into the park with varying levels of programming, uses and recreation opportunities to activate spaces and encourage discovery.

DESIGN PRIORITIES

PASSIVE RECREATION

Trails and open spaces that support healthy outdoor activity and meaningful interaction

EXPLORATION

Opportunities for connecting with nature

SUMMER CAMPS & OTHER PROGRAMMING

Supervised, guided activities and engaging park programs

ADVENTURE

Treehouse or zip line experiences

SEASONAL INTEREST

Provide for year-round activity within the park

SOMETHING WE MISSED?

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VISION TESTING BOARDS – ACTIVATED PLAY

INSTRUCTIONS

Place **ONE** sticky on your preferred image to the right that you feel is best suited for Bear Creek Park. Additional comments or thoughts can be recorded with a post-it note.

PLANNING THEME

Tapping into the park with varying levels of programming, uses and recreation opportunities to activate spaces and encourage discovery.

DESIGN PRIORITIES

ADVENTURE PLAY
Timber scramble, rock climbers, and net structures

MUD PLAY
Splash and get dirty

DESTINATION PLAY
Nature-themed play equipment available from manufacturers

WATER PLAY
Nature-based water manipulation, creek play, water wheels or gates

LOOSE-MATERIALS PLAY
Ability to build with branches, stick, rocks, and other natural materials

SOMETHING WE MISSED?

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VISION TESTING BOARDS – ACTIVATED GATHER

INSTRUCTIONS

Place **ONE** sticky on your preferred image to the right that you feel is best suited for Bear Creek Park. Additional comments or thoughts can be recorded with a post-it note.

PLANNING THEME

Tapping into the park with varying levels of programming, uses and recreation opportunities to activate spaces and encourage discovery.

DESIGN PRIORITIES

PARK & PICNIC SHELTER
Facilities, shelters and other gathering spaces

RESTROOM FACILITIES

PARK STRUCTURE / NATURE CENTER
Large facility to support group programming and other events

SOCIAL SPACES
Flexible use outdoor rooms

OPEN LAWN
Unprogrammed turf area

SOMETHING WE MISSED?

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VISION TESTING BOARDS – CONNECTED

INSTRUCTIONS

Place **ONE** sticky on your preferred image to the right that you feel is best suited for Bear Creek Park. Additional comments or thoughts can be recorded with a post-it note.

PLANNING THEME

CONNECTED

Reflect and strengthen the identity of Carmel, the adjacent neighborhoods and parks, and the site to create a meaningful community connection with programming that provides memorable experiences.

DESIGN PRIORITIES

EASY TO ACCESS
Affordable and diverse options to safely get to and from the park

COMMUNITY PARTNERS
Engagement with area schools and faith based organizations

NEIGHBORING
Uses and experiences that support daily neighborhood life and special moments

WI-FI
Support for remote work or school

SOMETHING WE MISSED?

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VISION TESTING BOARDS – ECOLOGICAL

INSTRUCTIONS

Place **ONE** sticky on your preferred image to the right that you feel is best suited for Bear Creek Park. Additional comments or thoughts can be recorded with a post-it note.

PLANNING THEME

ECOLOGICAL

Incorporate strategies and programming that enhance the overall health and well being of the site through meaningful site design and preservation/restoration techniques that engage the community.

DESIGN PRIORITIES

HISTORICAL HABITATS

Preservation, restoration and education of historic habitats

COMMUNITY SCIENCE

Collaboration between scientists and community members to document and collect data for healthy ecosystem monitoring

STREAM RESTORATION

Bank stabilization and habitat enhancement

ECOLOGICAL DIVERSITY

Ecosystem services supported with best management practices

?

SOMETHING WE MISSED?

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VISION TESTING BOARDS – CULTURAL

INSTRUCTIONS

Place **ONE** sticky on your preferred image to the right that you feel is best suited for Bear Creek Park. Additional comments or thoughts can be recorded with a post-it note.

PLANNING THEME

Celebrate the diverse and unique character of Carmel and the region by weaving community and cultural opportunities into public open space.

DESIGN PRIORITIES

ACCESSIBLE
Equitable programming to promote inclusion and shared experiences

GUIDED TOURS AND CAMPS
Guided activities and engaging park programs

ARTISTIC & WHIMSICAL
Express what it means to be from Carmel

RECUPERATING
Rest and rejuvenation

SOMETHING WE MISSED?

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VISION TESTING BOARDS – CULTURAL

INSTRUCTIONS

Place **ONE** sticky on your preferred image to the right that you feel is best suited for Bear Creek Park. Additional comments or thoughts can be recorded with a post-it note.

PLANNING THEME

CULTURAL

Celebrate the diverse and unique character of Carmel and the region by weaving community and cultural opportunities into public open space.

DESIGN PRIORITIES

SOCIAL
Opportunities for interaction

FAMILIAL
Spaces for gathering with immediate and extended family

FLEXIBLE
Accommodate partner pop-up experiences

EVENTFUL
Partner with outside groups to bring people to the park

SOMETHING WE MISSED?

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VISION TESTING BOARDS – EDUCATIONAL

INSTRUCTIONS

Place **ONE** sticky on your preferred image to the right that you feel is best suited for Bear Creek Park. Additional comments or thoughts can be recorded with a post-it note.

PLANNING THEME

Strengthen imagination and curiosity of nature and the natural systems through outdoor learning activities and programs tailored toward emotional, behavioral, and intellectual development.

DESIGN PRIORITIES

INTEGRATED CURRICULUM

Activities designed for experiential learning; connecting multiple disciplines and topics

STEM

Advancing science learning through hands-on activities

LEARNING SPACES

Outdoor classrooms to promote group education

AUGMENTED REALITY

Tapping technology resources to facilitate interactive learning

SOMETHING WE MISSED?

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WANT TO FIND OUT MORE?

Scan this code to find out more!

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THANK YOU!
SMITHGROUP

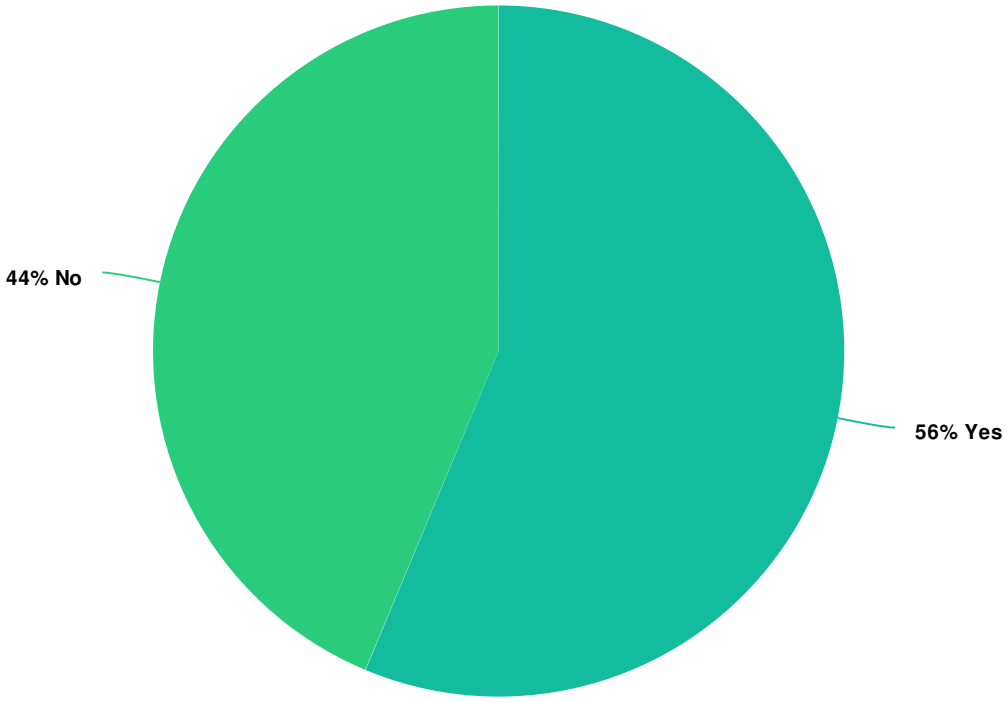
Report for Bear Creek Park Public Input Survey

Response Counts

Completion Rate:	**69.3%**		
	Complete		600
	Partial		266

Totals: 866

1. Are you a resident of Carmel or Clay Township?

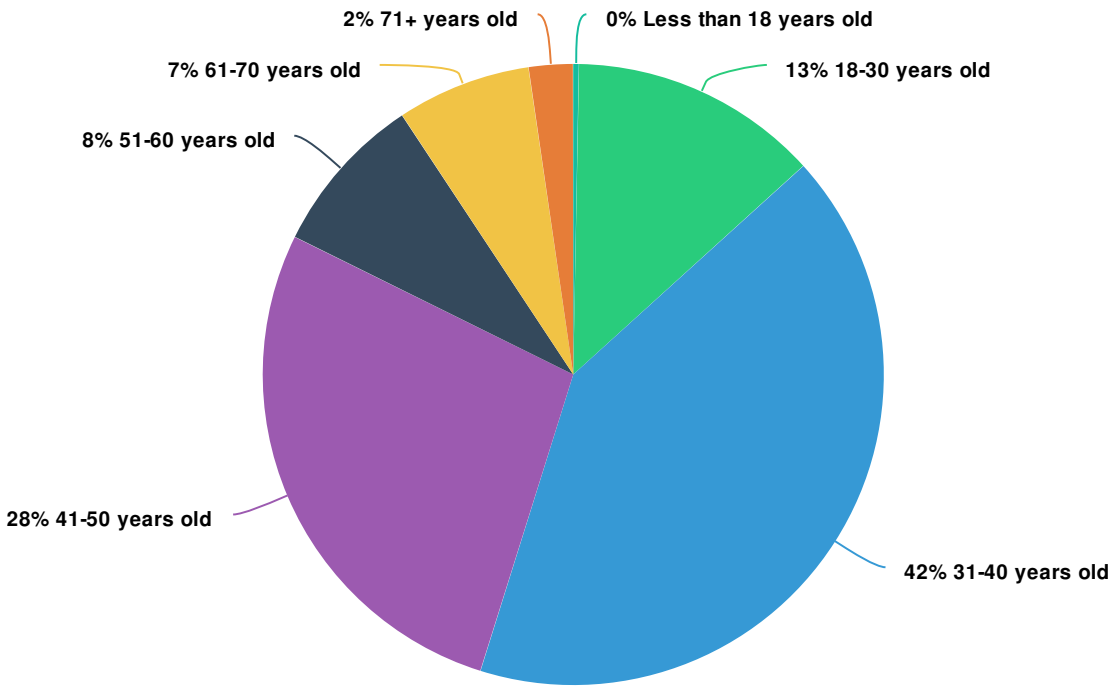


Value	Percent	Responses
Yes	56.3%	454
No	43.7%	353

Totals: 807

2. If not, will you share where you live?

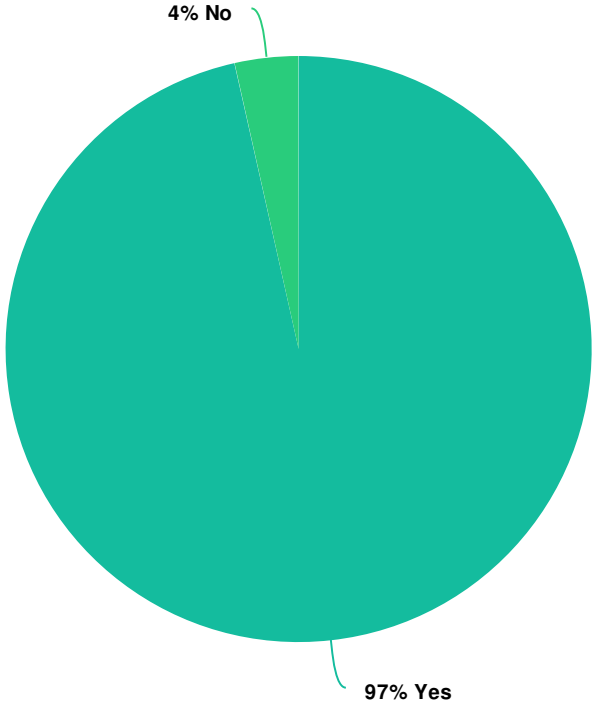
3. Please select the age class that best describes you:



Value	Percent	Responses
Less than 18 years old	0.3%	2
18-30 years old	13.0%	104
31-40 years old	41.6%	332
41-50 years old	27.5%	220
51-60 years old	8.4%	67
61-70 years old	7.0%	56
71+ years old	2.3%	18

Totals: 799

4. Are you a Carmel/Clay Parks visitor?



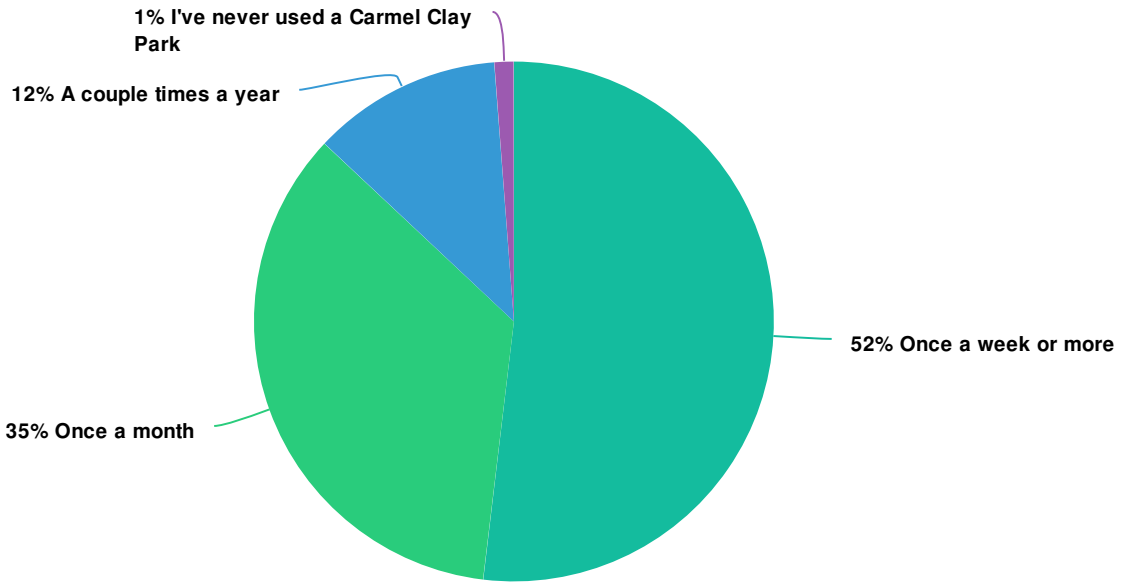
Value	Percent	Responses
Yes	96.5%	721
No	3.5%	26

Totals: 747

5. If yes, which Park(s) do you use most often?

6. What attracts you to that Park?

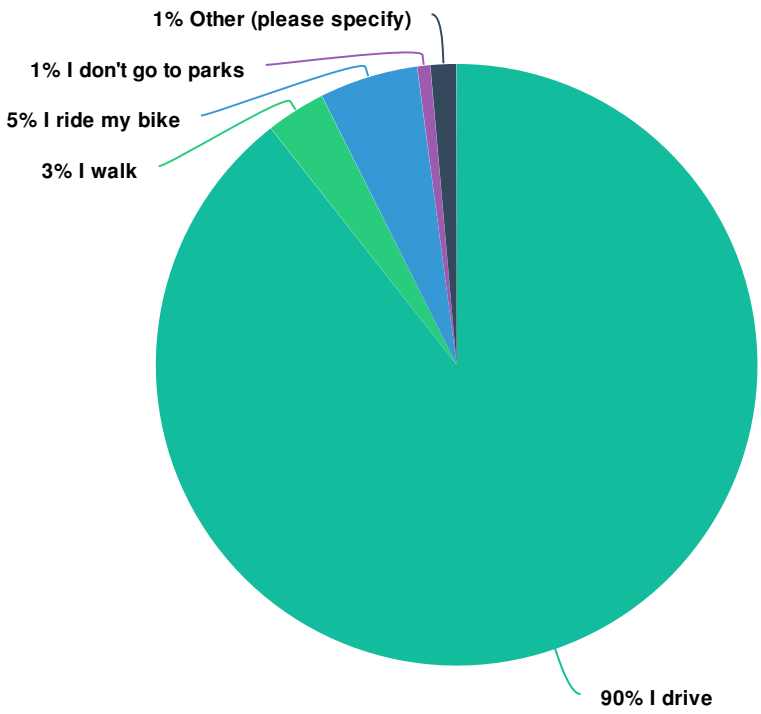
7. How often do you visit/use a Carmel/Clay Park?



Value	Percent	Responses
Once a week or more	51.9%	379
Once a month	35.1%	256
A couple times a year	11.8%	86
I've never used a Carmel Clay Park	1.2%	9

Totals: 730

8. How do you typically travel to and from Carmel/Clay Parks?

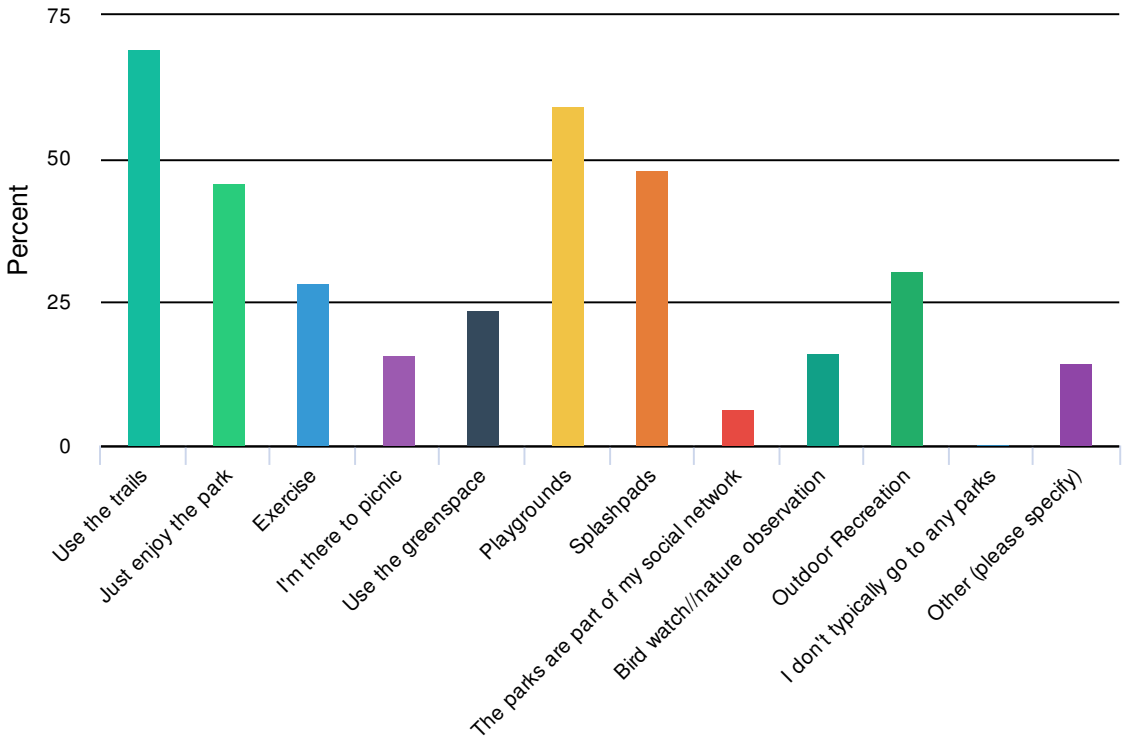


Value	Percent	Responses
I drive	89.5%	647
I walk	3.2%	23
I ride my bike	5.3%	38
I don't go to parks	0.7%	5
Other (please specify)	1.4%	10

Totals: 723

9. Other:

10. What do you typically do when you visit a Carmel/Clay Park? Check all that apply



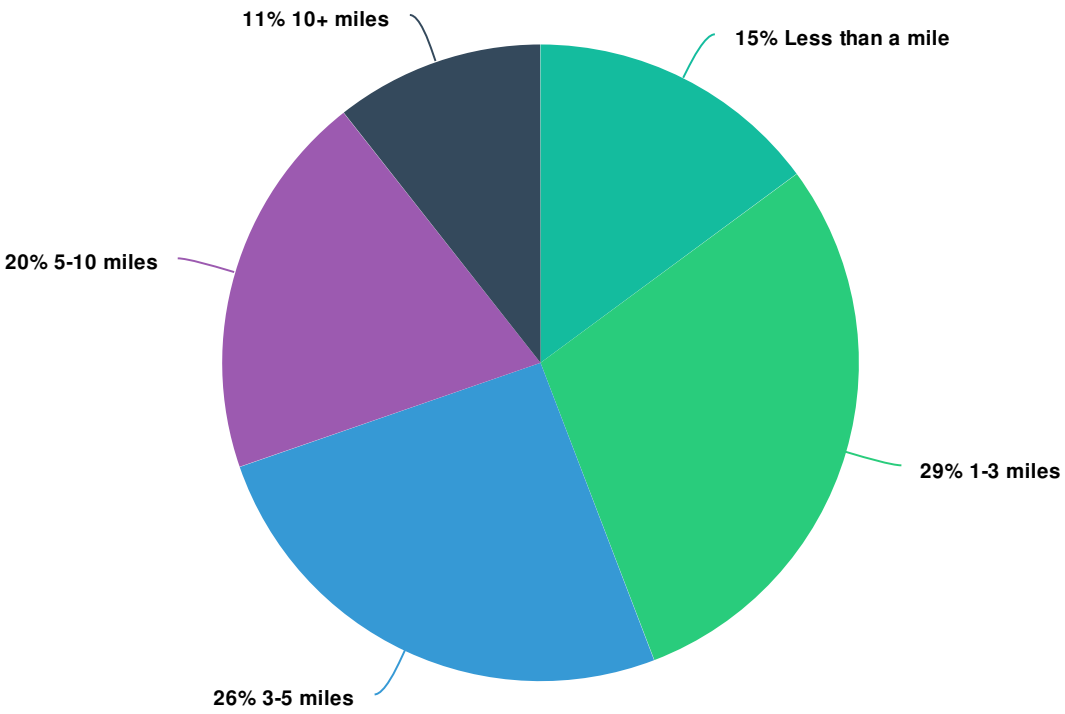
Value	Percent	Responses
Use the trails	69.4%	491
Just enjoy the park	45.7%	323
Exercise	28.4%	201
I'm there to picnic	16.0%	113
Use the greenspace	23.8%	168
Playgrounds	59.4%	420
Splashpads	48.1%	340
The parks are part of my social network	6.4%	45
Bird watch//nature observation	16.3%	115
Outdoor Recreation	30.4%	215
I don't typically go to any parks	0.4%	3
Other (please specify)	14.7%	104

11. Other:

12. What experience are we missing in the Carmel/Clay parks system?

13. How did you learn about Bear Creek Park?

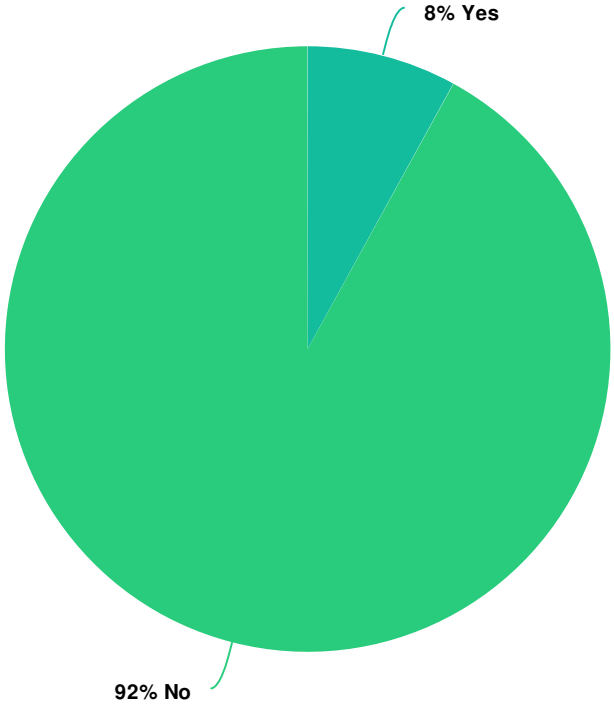
14. How close do you live to Bear Creek Park?



Value	Percent	Responses
Less than a mile	14.9%	98
1-3 miles	29.3%	193
3-5 miles	25.5%	168
5-10 miles	19.7%	130
10+ miles	10.6%	70

Totals: 659

15. Have you visited Bear Creek Park?

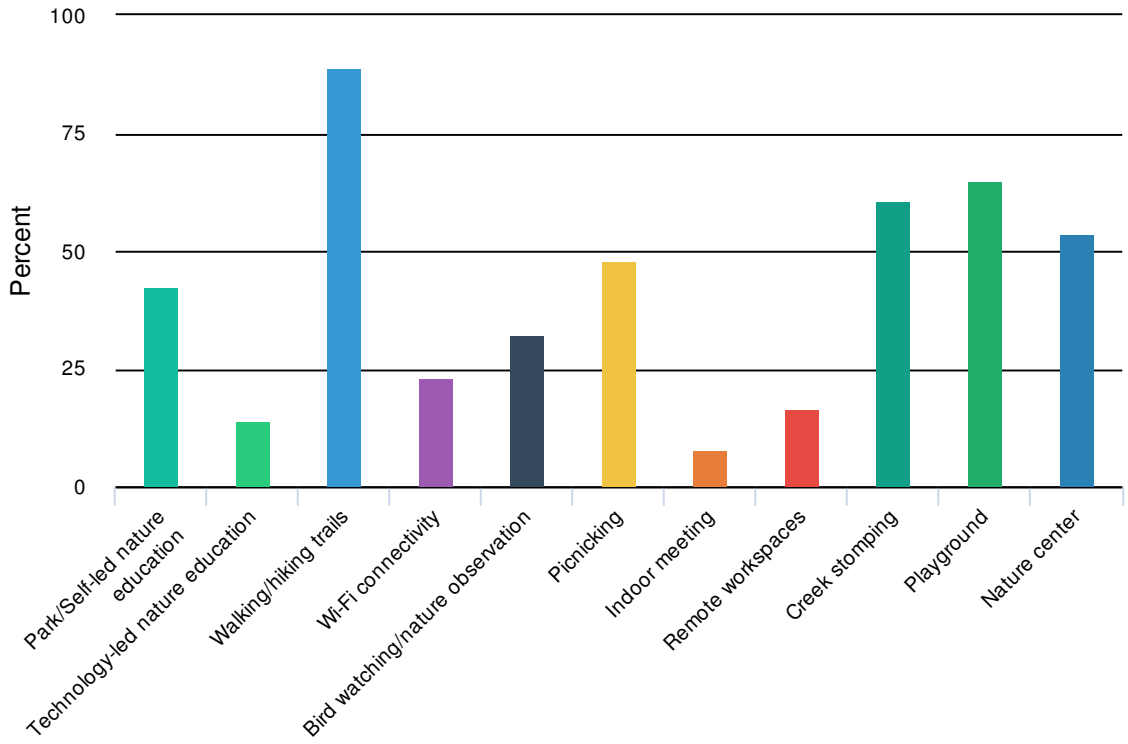


Value	Percent	Responses
Yes	8.0%	52
No	92.0%	601

Totals: 653

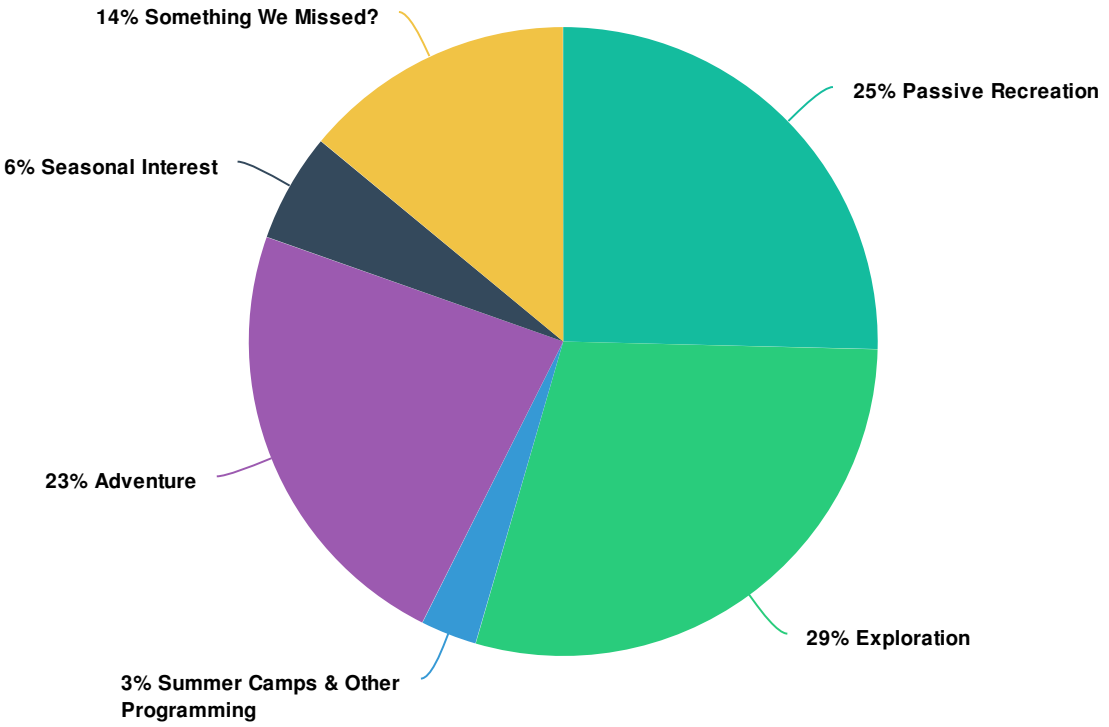
16. If yes, what did you like most about Bear Creek Park?

17. Select the experiences you think you would try at Bear Creek Park (Select all that apply)



Value	Percent	Responses
Park/Self-led nature education	42.7%	261
Technology-led nature education	14.1%	86
Walking/hiking trails	89.0%	544
Wi-Fi connectivity	23.2%	142
Bird watching/nature observation	32.2%	197
Picnicking	47.8%	292
Indoor meeting	8.0%	49
Remote workspaces	16.7%	102
Creek stomping	60.6%	370
Playground	65.0%	397
Nature center	53.7%	328

18. Please select one of the following design priorities that you believe is best suited for Bear Creek Park:

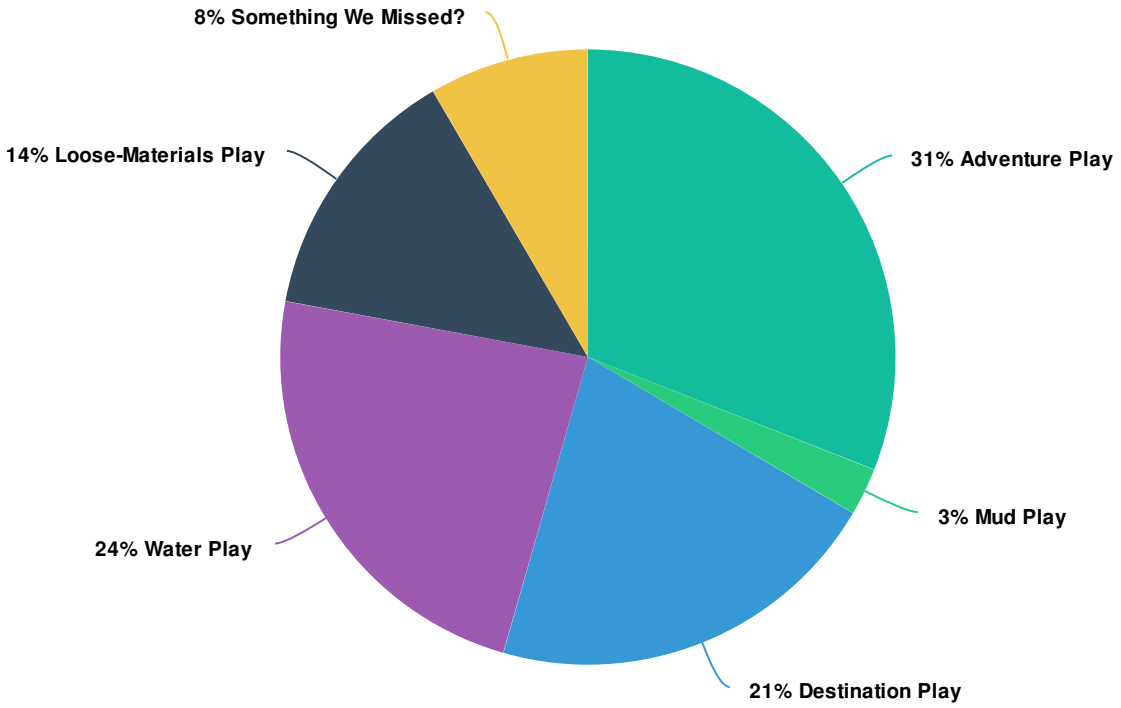


Value	Percent	Responses
Passive Recreation	25.4%	149
Exploration	29.1%	171
Summer Camps & Other Programming	2.9%	17
Adventure	23.0%	135
Seasonal Interest	5.6%	33
Something We Missed?	14.0%	82

Totals: 587

19. Please select one of the following design priorities that you believe is best suited for Bear Creek Park: - comments

20. Please select one of the following design priorities that you believe is best suited for Bear Creek Park:

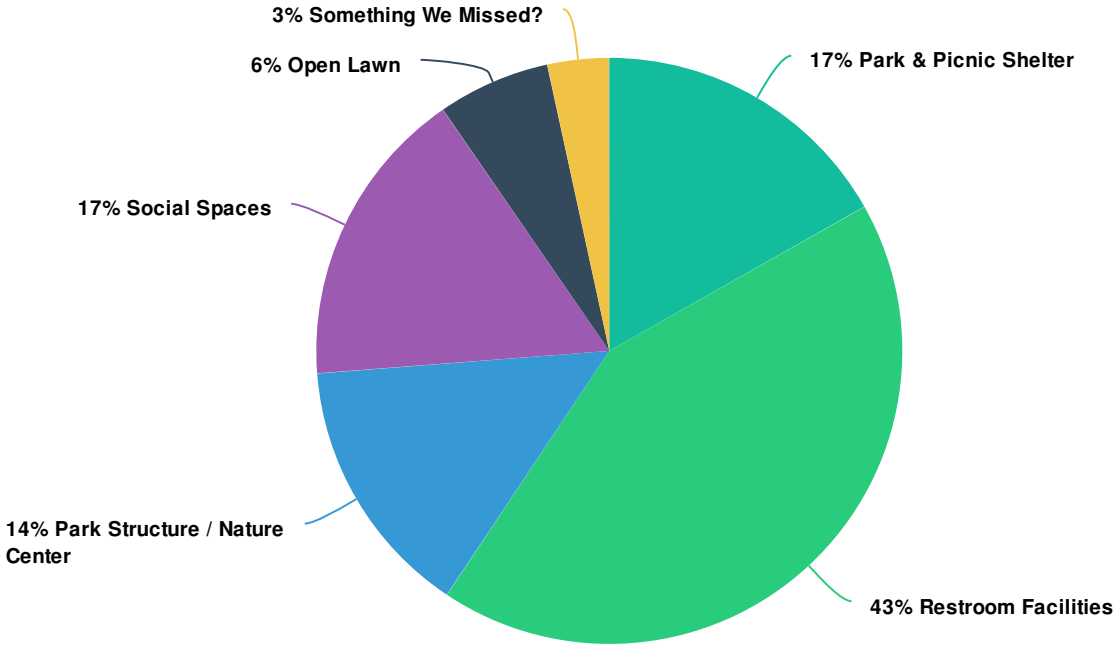


Value	Percent	Responses
Adventure Play	31.0%	177
Mud Play	2.5%	14
Destination Play	21.0%	120
Water Play	23.5%	134
Loose-Materials Play	13.7%	78
Something We Missed?	8.4%	48

Totals: 571

21. Please select one of the following design priorities that you believe is best suited for Bear Creek Park: - comments

22. Please select one of the following design priorities that you believe is best suited for Bear Creek Park:

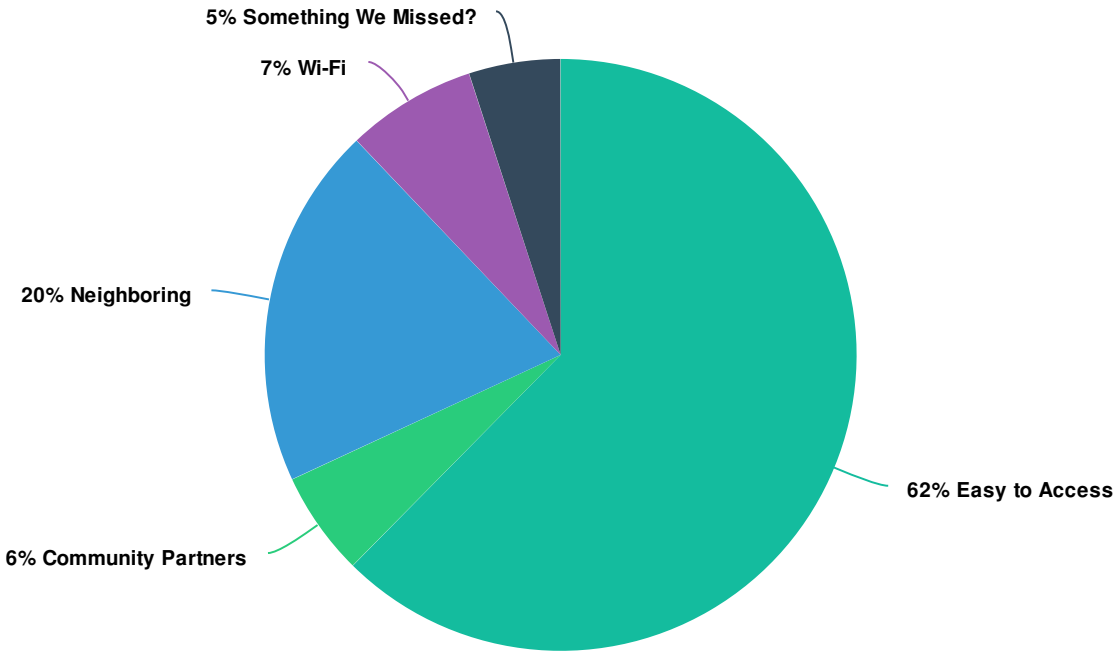


Value	Percent	Responses
Park & Picnic Shelter	16.8%	98
Restroom Facilities	42.5%	248
Park Structure / Nature Center	14.4%	84
Social Spaces	16.6%	97
Open Lawn	6.2%	36
Something We Missed?	3.4%	20

Totals: 583

23. Please select one of the following design priorities that you believe is best suited for Bear Creek Park: - comments

24. Please select one of the following design priorities that you believe is best suited for Bear Creek Park:

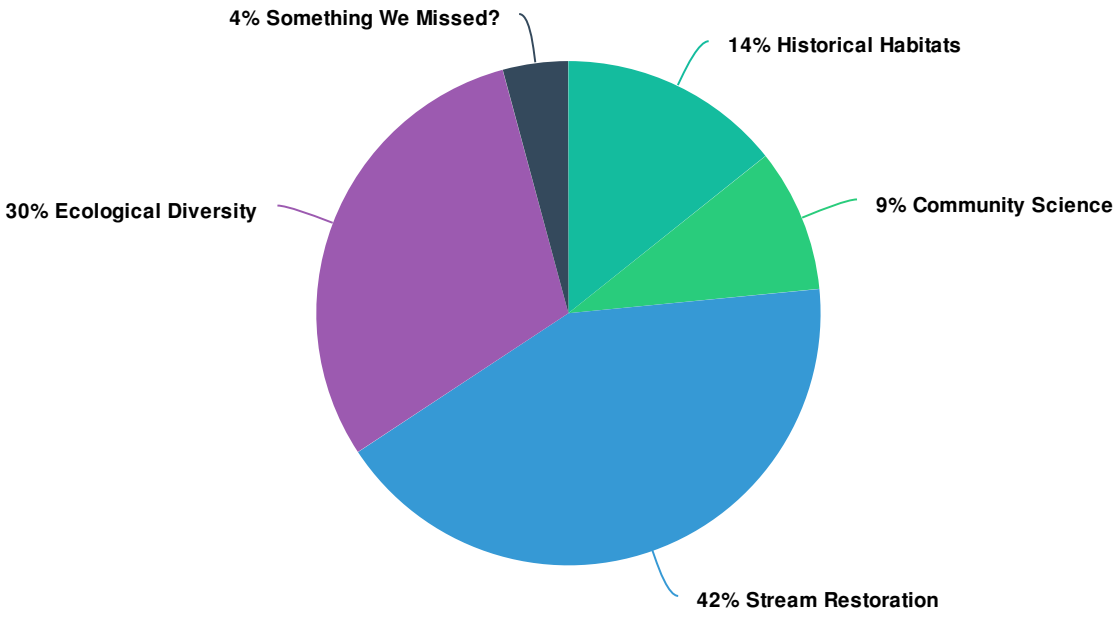


Value	Percent	Responses
Easy to Access	62.4%	360
Community Partners	5.7%	33
Neighboring	19.8%	114
Wi-Fi	7.1%	41
Something We Missed?	5.0%	29

Totals: 577

25. Please select one of the following design priorities that you believe is best suited for Bear Creek Park: - comments

26. Please select one of the following design priorities that you believe is best suited for Bear Creek Park:

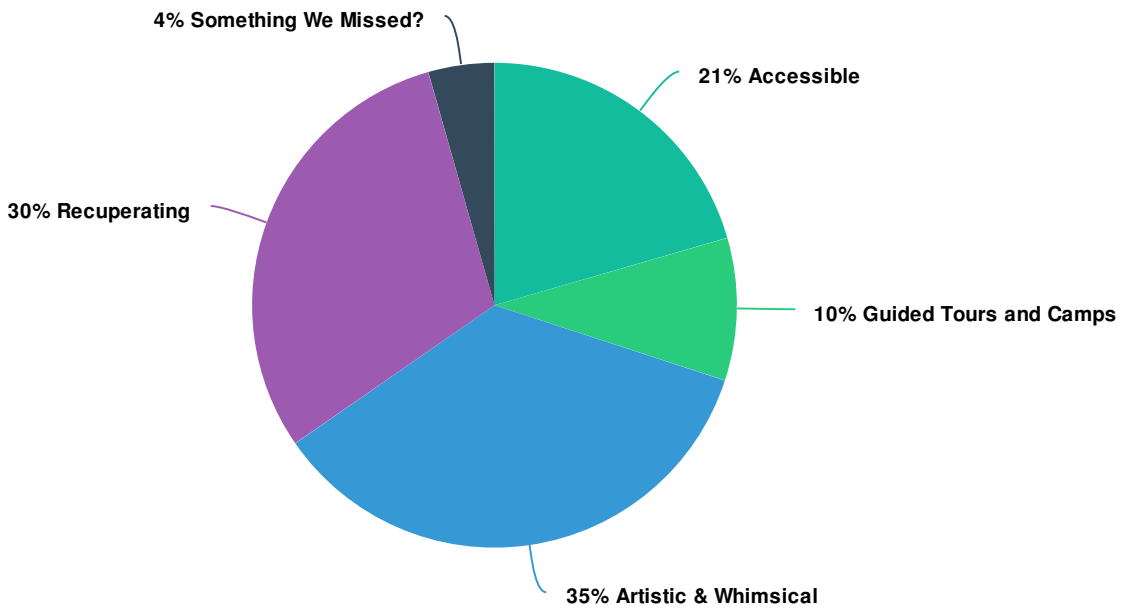


Value	Percent	Responses
Historical Habitats	14.3%	81
Community Science	9.2%	52
Stream Restoration	42.3%	240
Ecological Diversity	30.1%	171
Something We Missed?	4.2%	24

Totals: 568

27. Please select one of the following design priorities that you believe is best suited for Bear Creek Park: - comments

28. Please select one of the following design priorities that you believe is best suited for Bear Creek Park:

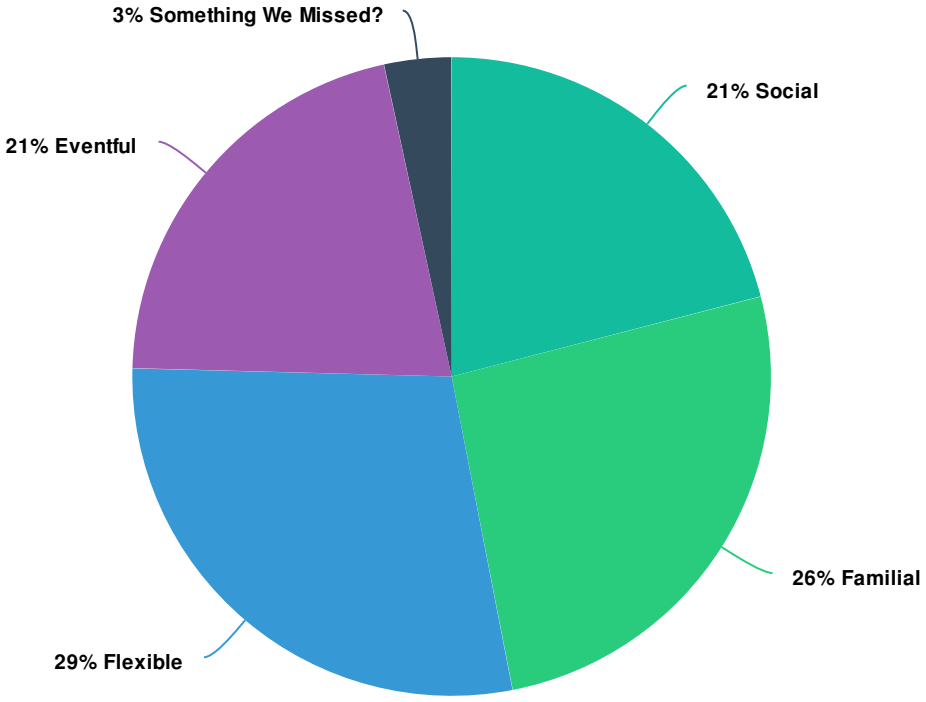


Value	Percent	Responses
Accessible	20.5%	116
Guided Tours and Camps	9.5%	54
Artistic & Whimsical	35.3%	200
Recuperating	30.2%	171
Something We Missed?	4.4%	25

Totals: 566

29. Please select one of the following design priorities that you believe is best suited for Bear Creek Park: - comments

30. Please select one of the following design priorities that you believe is best suited for Bear Creek Park:

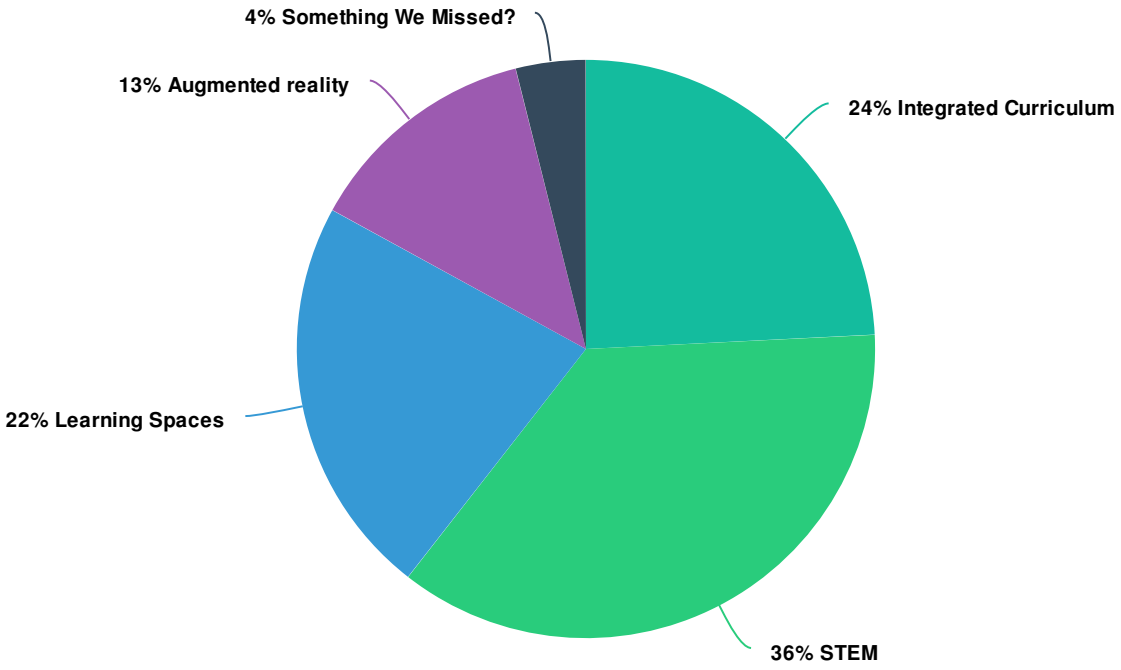


Value	Percent	Responses
Social	21.0%	118
Familial	26.0%	146
Flexible	28.5%	160
Eventful	21.2%	119
Something We Missed?	3.4%	19

Totals: 562

31. Please select one of the following design priorities that you believe is best suited for Bear Creek Park: - comments

32. Please select one of the following design priorities that you believe is best suited for Bear Creek Park:



Value	Percent	Responses
Integrated Curriculum	24.2%	135
STEM	36.3%	202
Learning Spaces	22.4%	125
Augmented reality	13.1%	73
Something We Missed?	3.9%	22

Totals: 557

33. Please select one of the following design priorities that you believe is best suited for Bear Creek Park: - comments

APPENDIX 03 | PUBLIC INPUT MEETING 2

Appendix 03 contains the presentation slides presented at the second Public Input Meeting in Carmel, Indiana, as well as the online survey data gathered from the public.

BEAR CREEK PARK MASTER PLAN

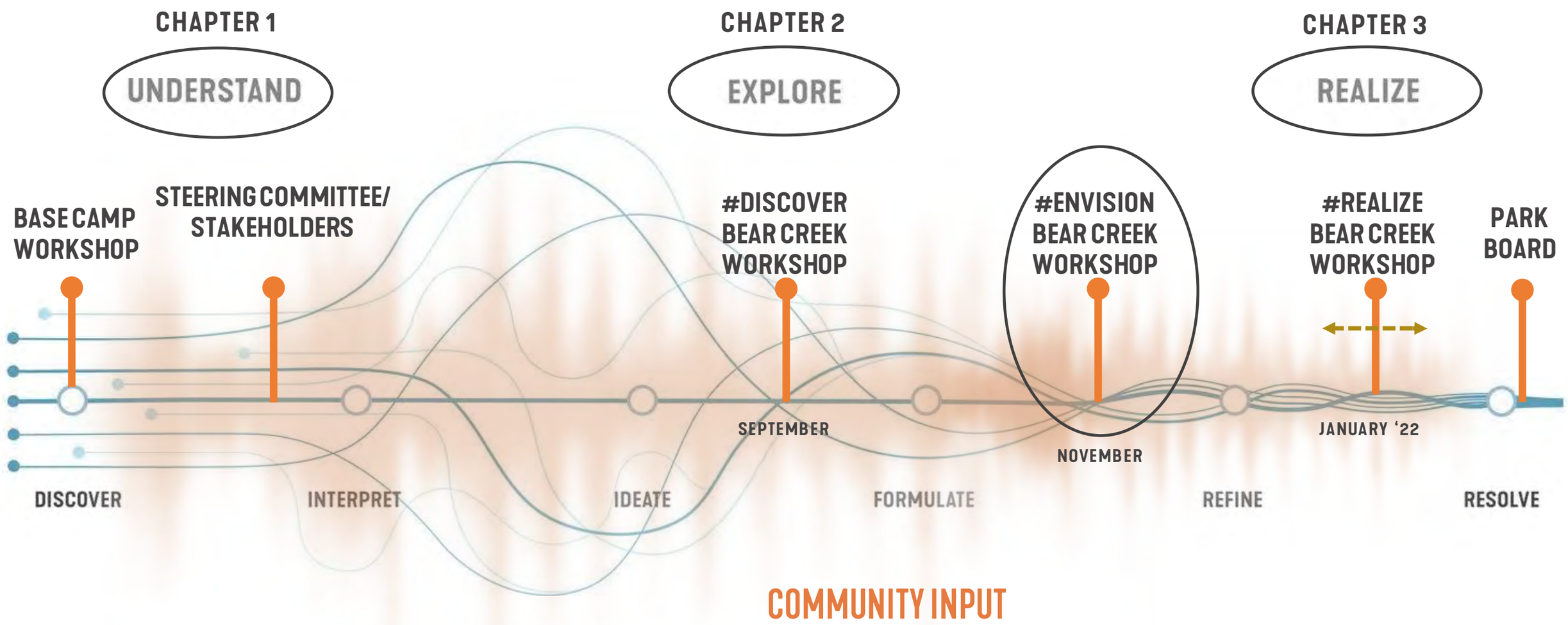
NOVEMBER, 2021

Carmel • Clay Parks & Recreation

SMITHGROUP

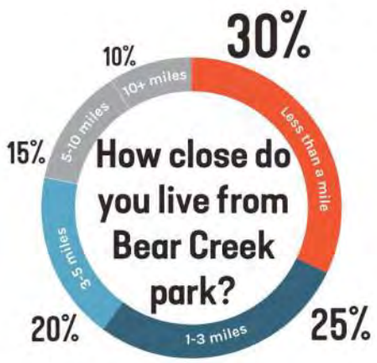
OUR NEXT GREAT ADVENTURE...

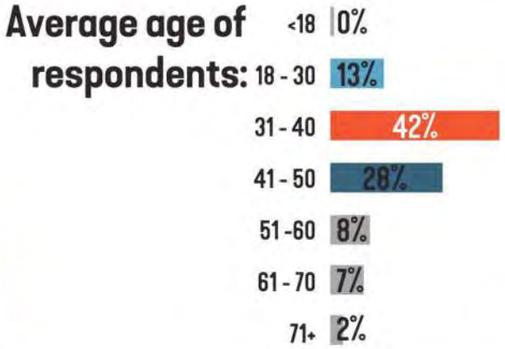
AN INTENTIONAL JOURNEY

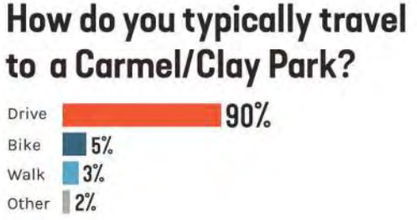


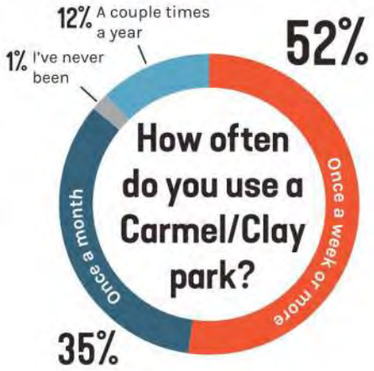
PUBLIC INPUT SUMMARY

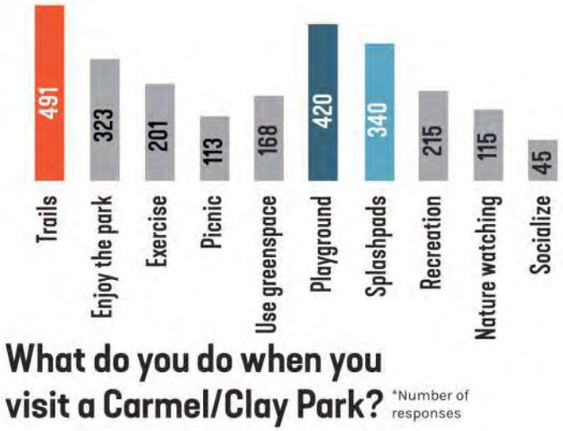
WHAT WE HEARD...











WHAT WE HEARD... PROGRAMMING

"Need **less car parking**. We need to limit cars and **encourage arriving by bike**"

"More **trails**"

"We just love the **wildlife** and **nature**"

"**fire rings** for campfires, **outdoor cooking**..."

"**Kids adventure** stuff"

More **splash pads** and **kids activities**"

"Place for a large family reunion with **kitchen access** and indoor/outdoor **hangout space.**"

"I'd love to see another championship level **disc golf course**"

"**Volleyball, basketball, tennis courts** need to be there"

"**Sitting areas, restrooms**"

E C O L O G I C A L S C A L E

NATURE CENTRIC PROGRAMMING

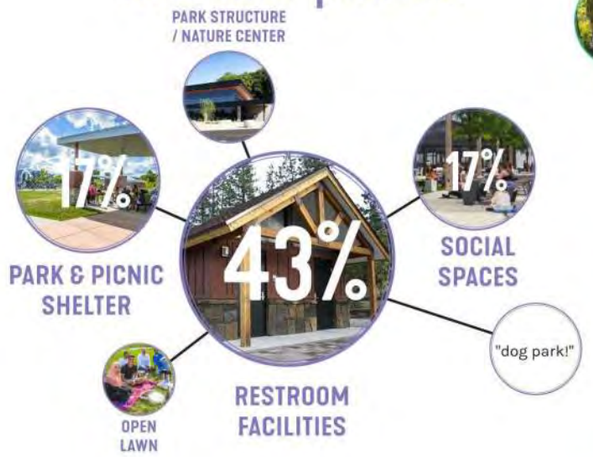
STRUCTURED PROGRAMMING

SMITHGROUP

WHAT WE HEARD... PLANNING THEMES

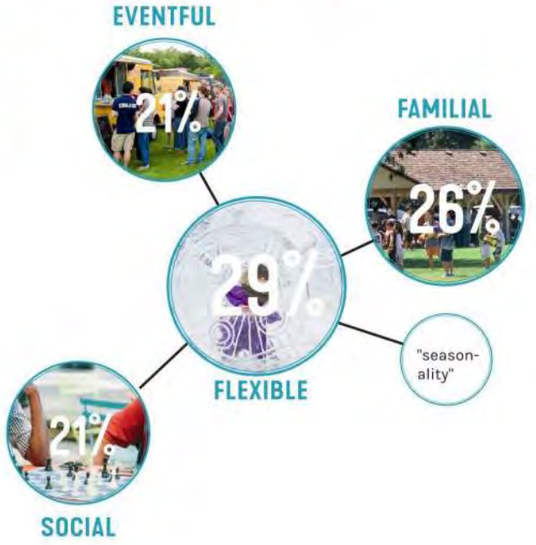
ACTIVATED | RECREATION

ACTIVATED | GATHER



ECOLOGICAL

CULTURAL B

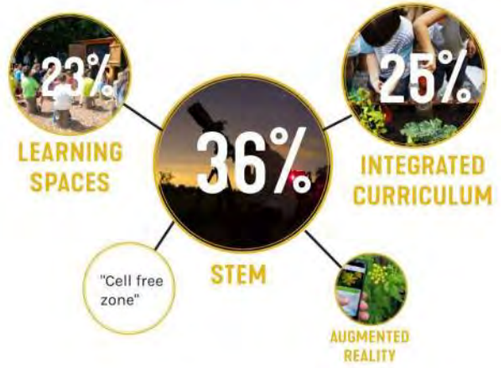


ACTIVATED | PLAY

CONNECTED

CULTURAL A

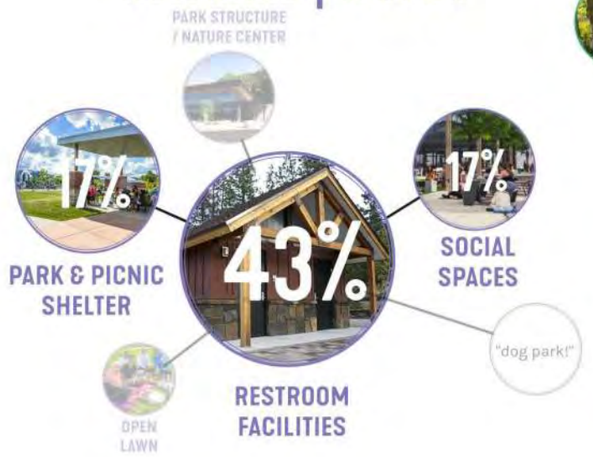
EDUCATIONAL



WHAT WE HEARD... PLANNING THEMES

ACTIVATED | RECREATION

ACTIVATED | GATHER



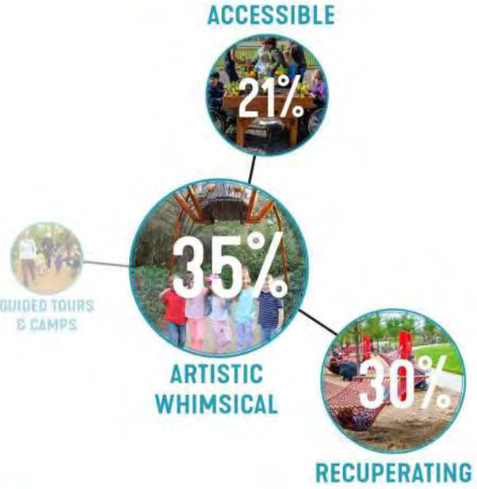
ECOLOGICAL

CULTURAL B

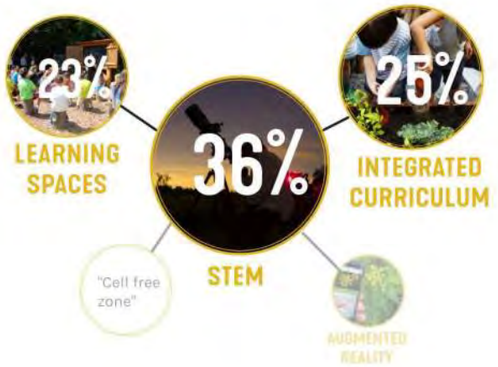
ACTIVATED | PLAY

CONNECTED

CULTURAL A



EDUCATIONAL



WHAT WE HEARD... PLANNING THEMES

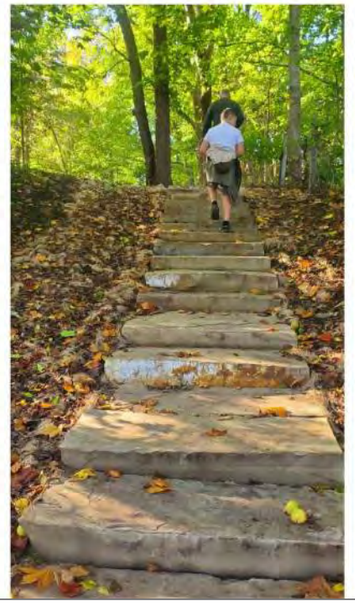
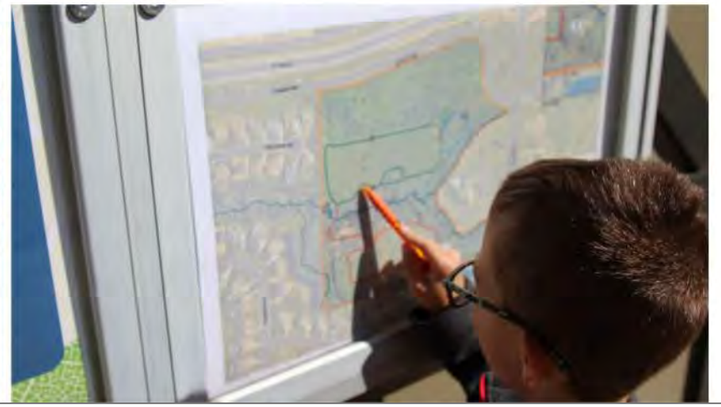
SMITHGROUP

WHAT YOU SAW… PUBLIC SITE VISITS







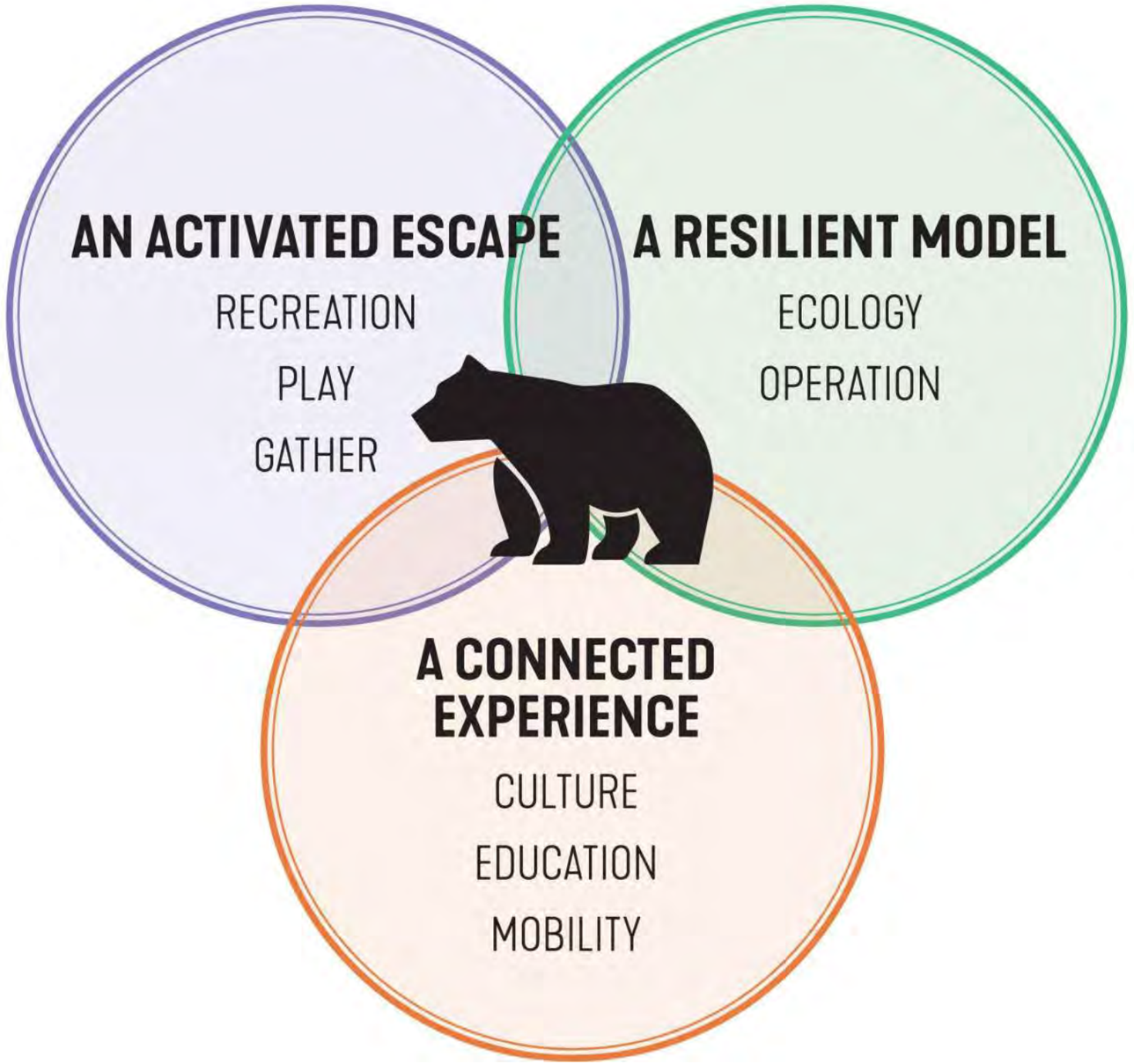



VISION AND DESIGN DRIVERS

VISION AND DRIVERS

VISION

Carmel Clay's most innovative, inclusive, and resilient community park that is grounded in the site's natural fabric and shaped by the northwest side's need for a unique and culturally connected experience.



DESIGN DRIVERS

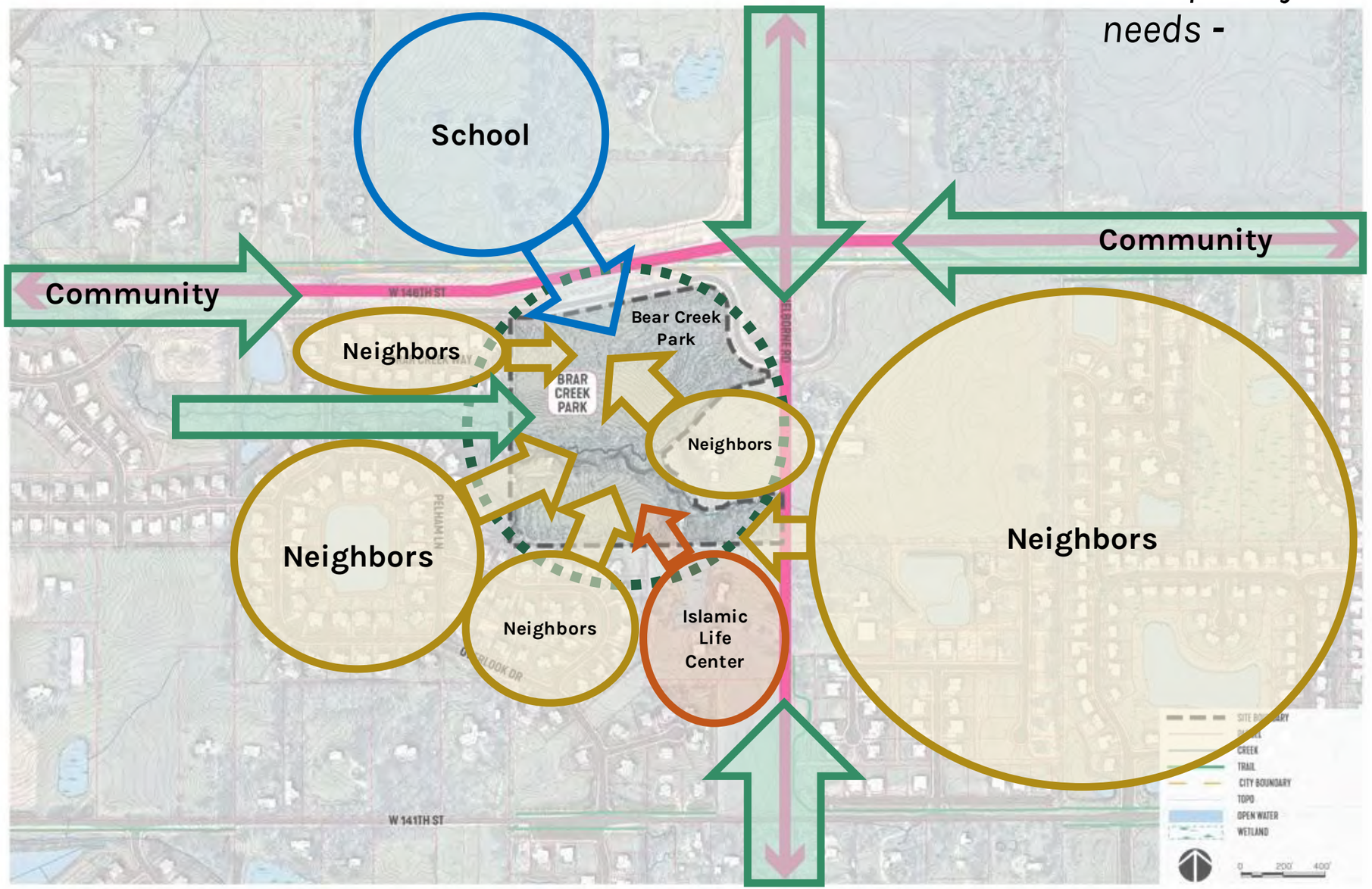
- The People's Park
- Embrace the Bear
- Engage the Bear
- Bear Sightings
- Activity Zones
- Community Rooms
- Celebrate Ecology
- Leverage Disturbance
- A confluence of Corridors

A CONNECTED EXPERIENCE

THE PEOPLE'S PARK

CONNECTED

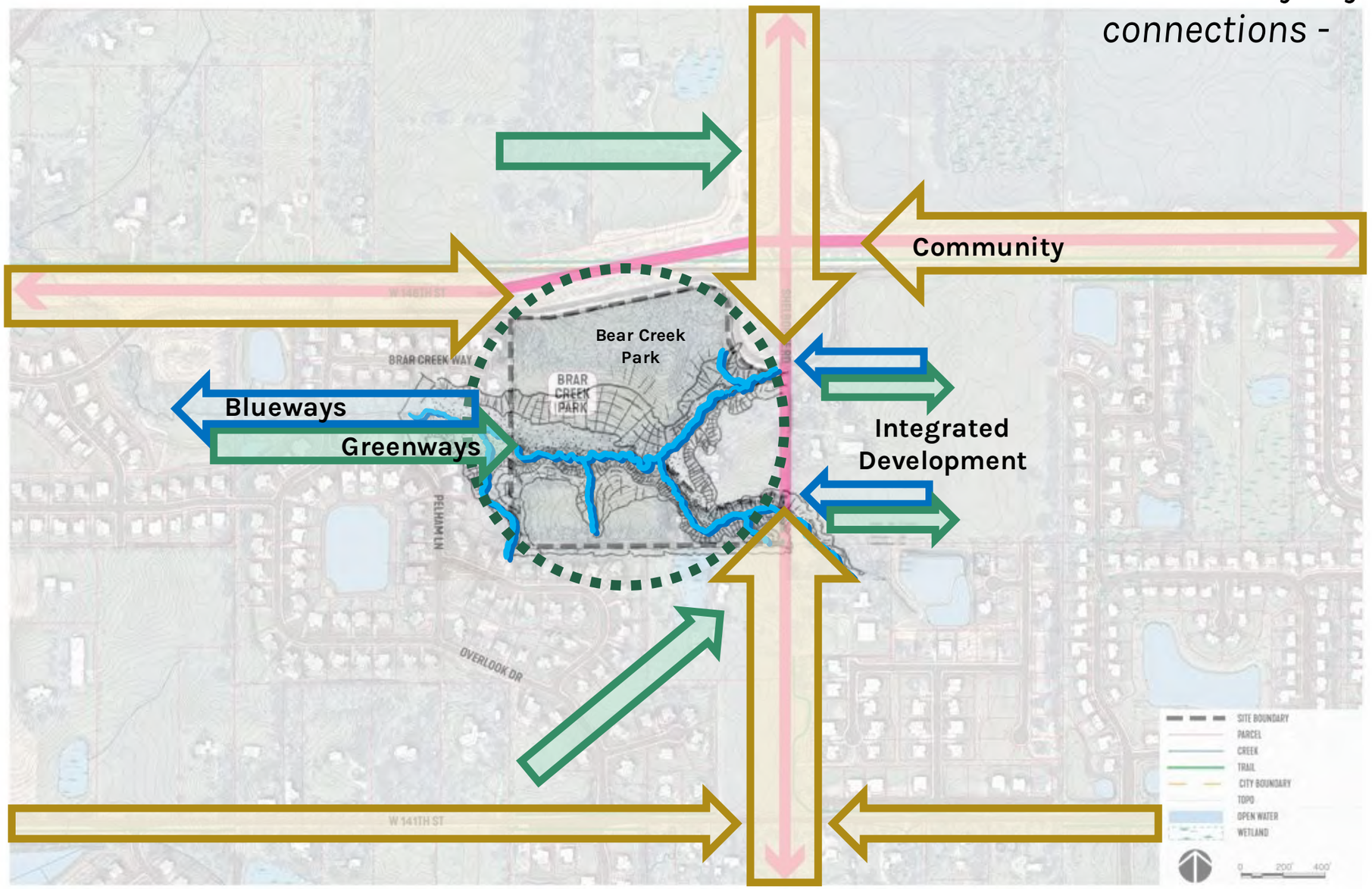
- Shaped by community needs -



A CONFLUENCE OF CORRIDORS

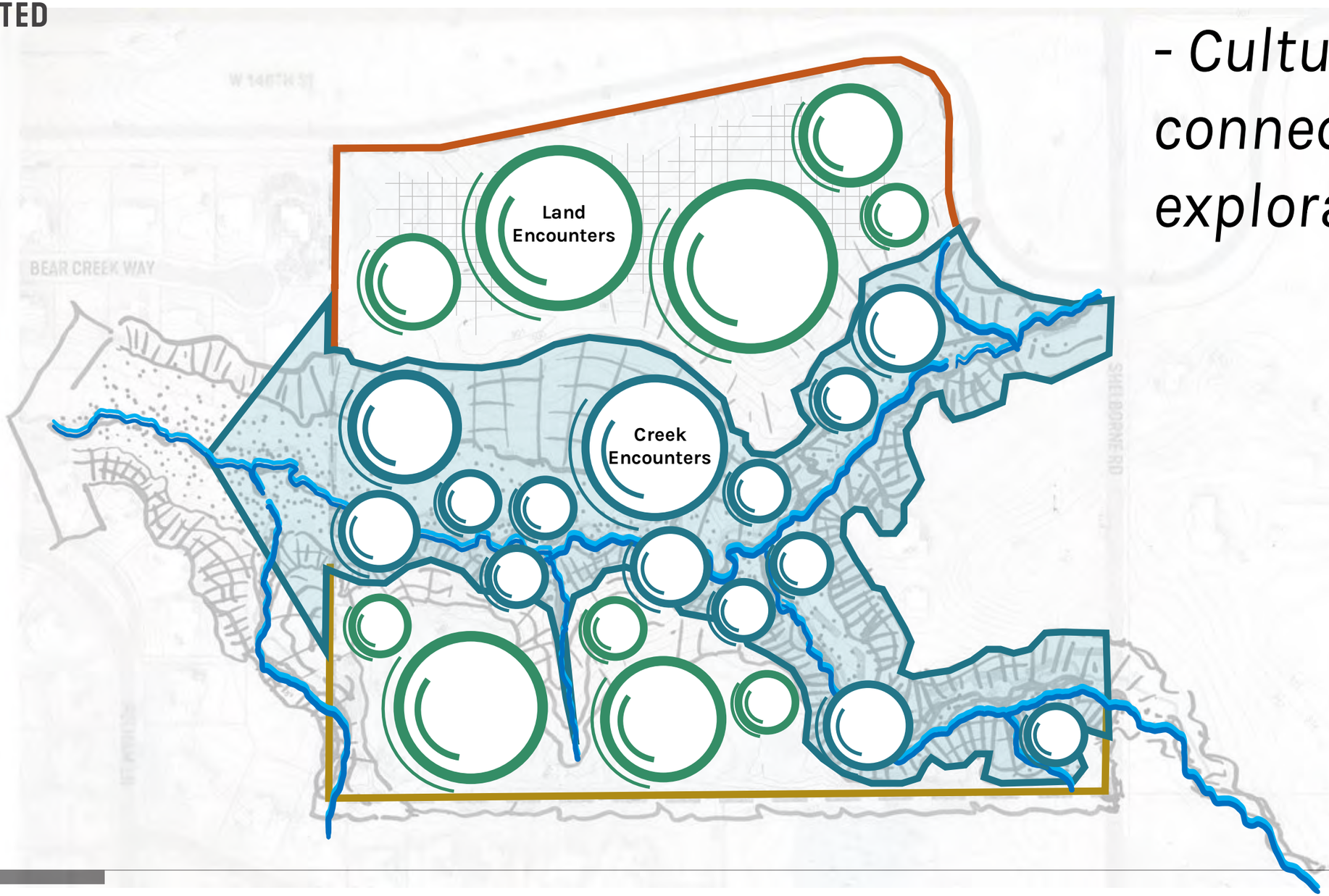
CONNECTED

- Framed by adjacent connections -



BEAR SIGHTINGS

CONNECTED



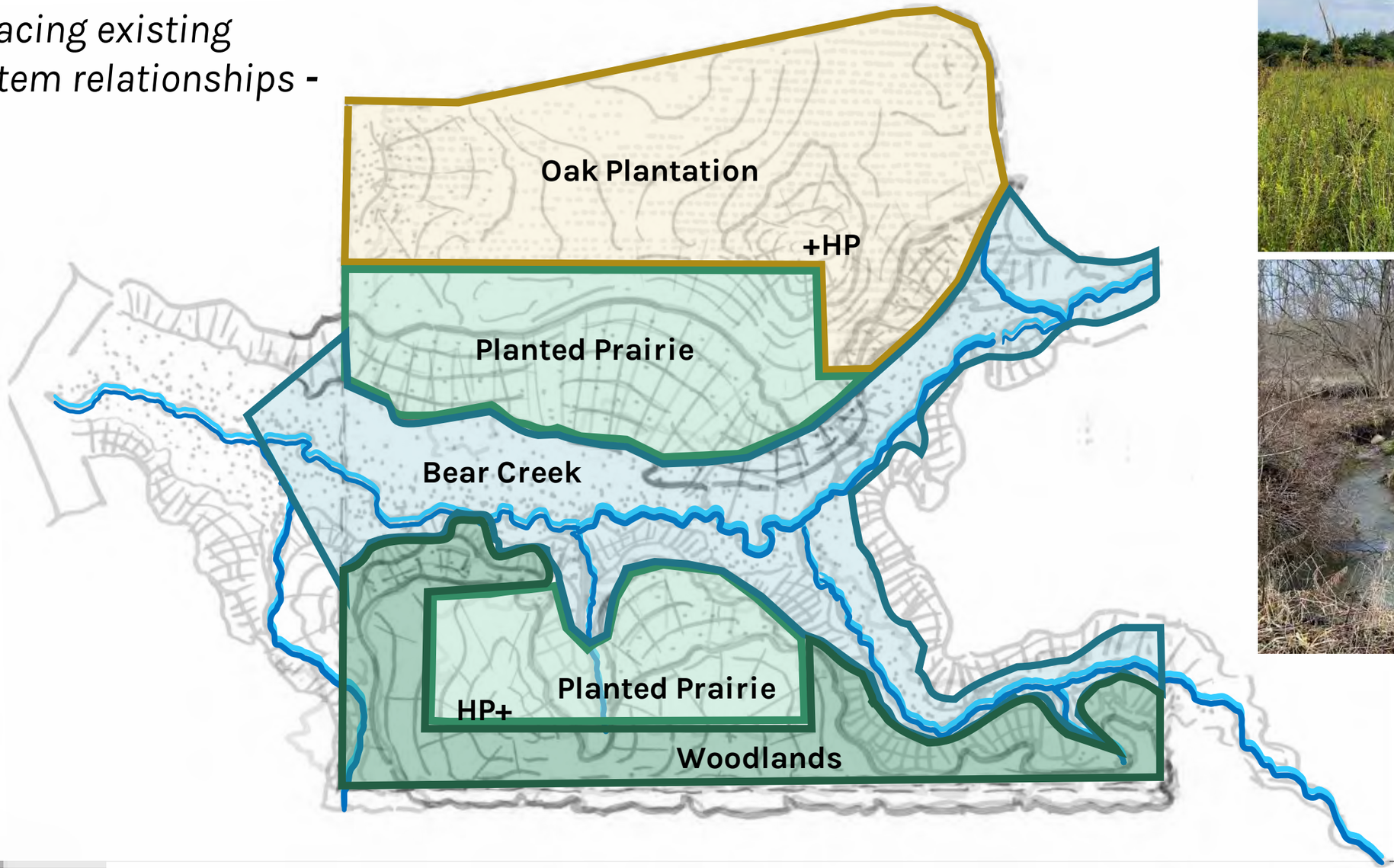
- Culturally connected through exploration -

A RESILIENT MODEL

CELEBRATE ECOLOGY

RESILIENT

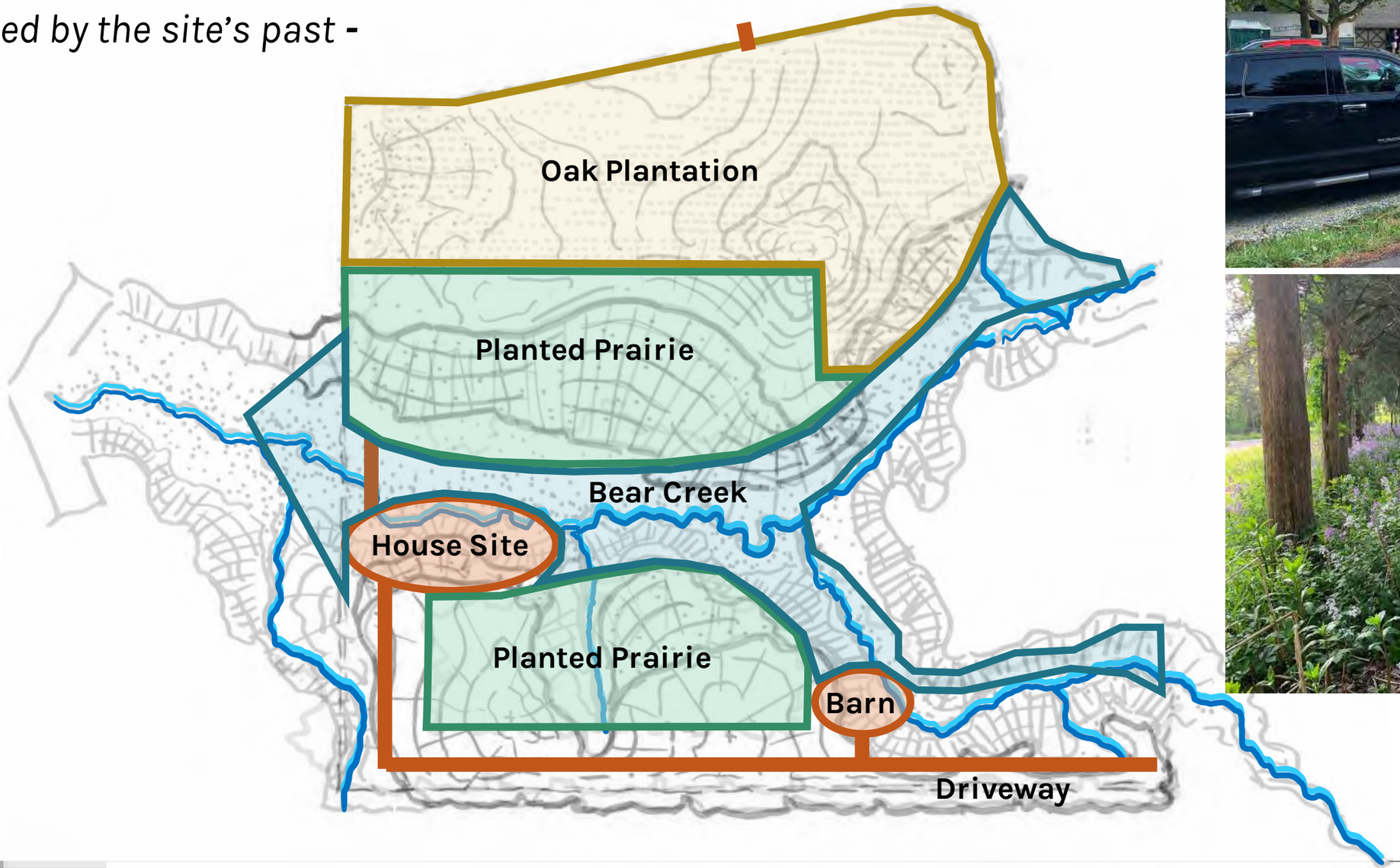
- Embracing existing ecosystem relationships -



LEVERAGE DISTURBANCE

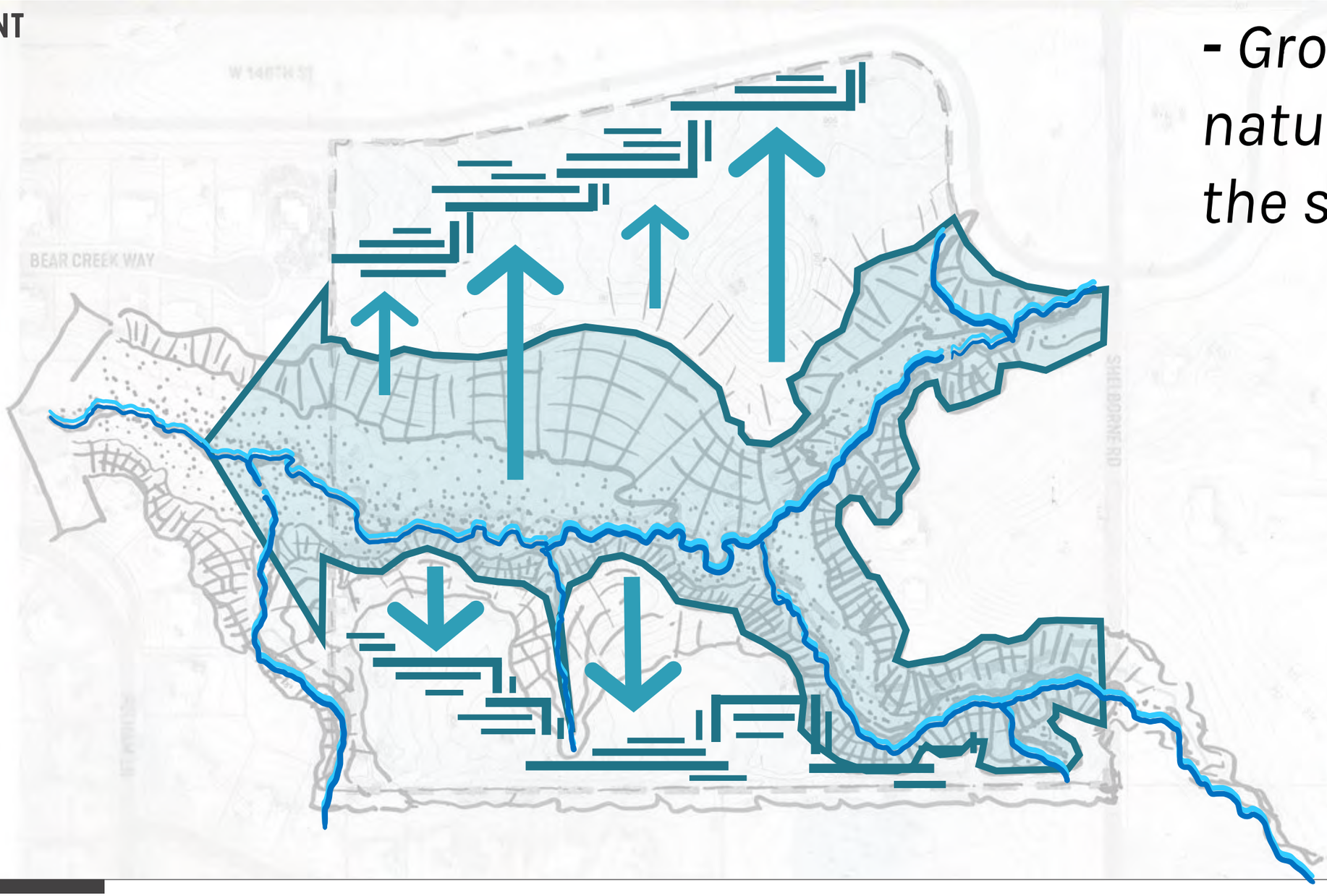
RESILIENT

- Informed by the site's past -



A BIGGER BEAR

RESILIENT



- Grounded in the natural fabric of the site -

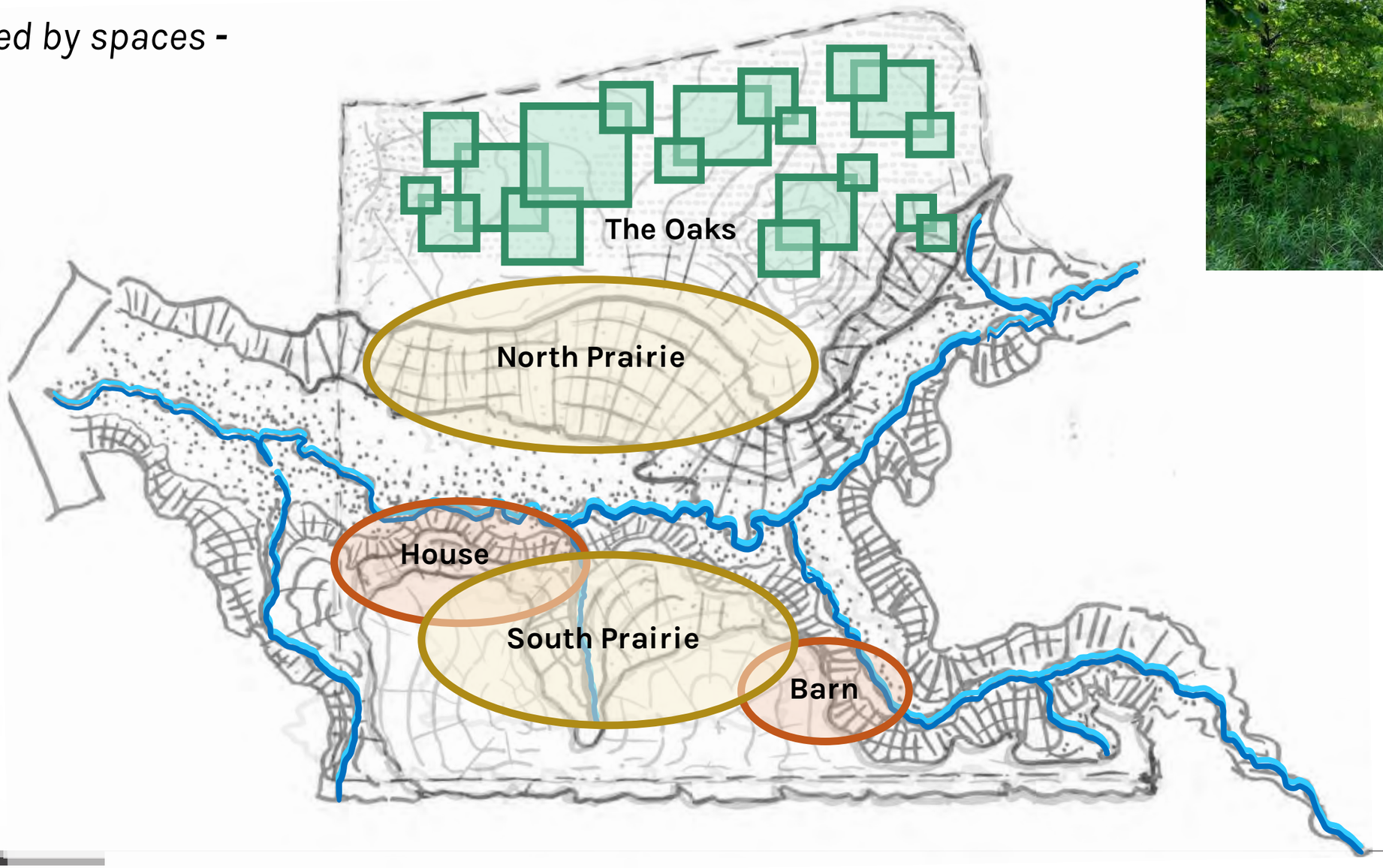
AN ACTIVATED ESCAPE

SMITHGROUP

COMMUNITY ROOMS

ACTIVATED

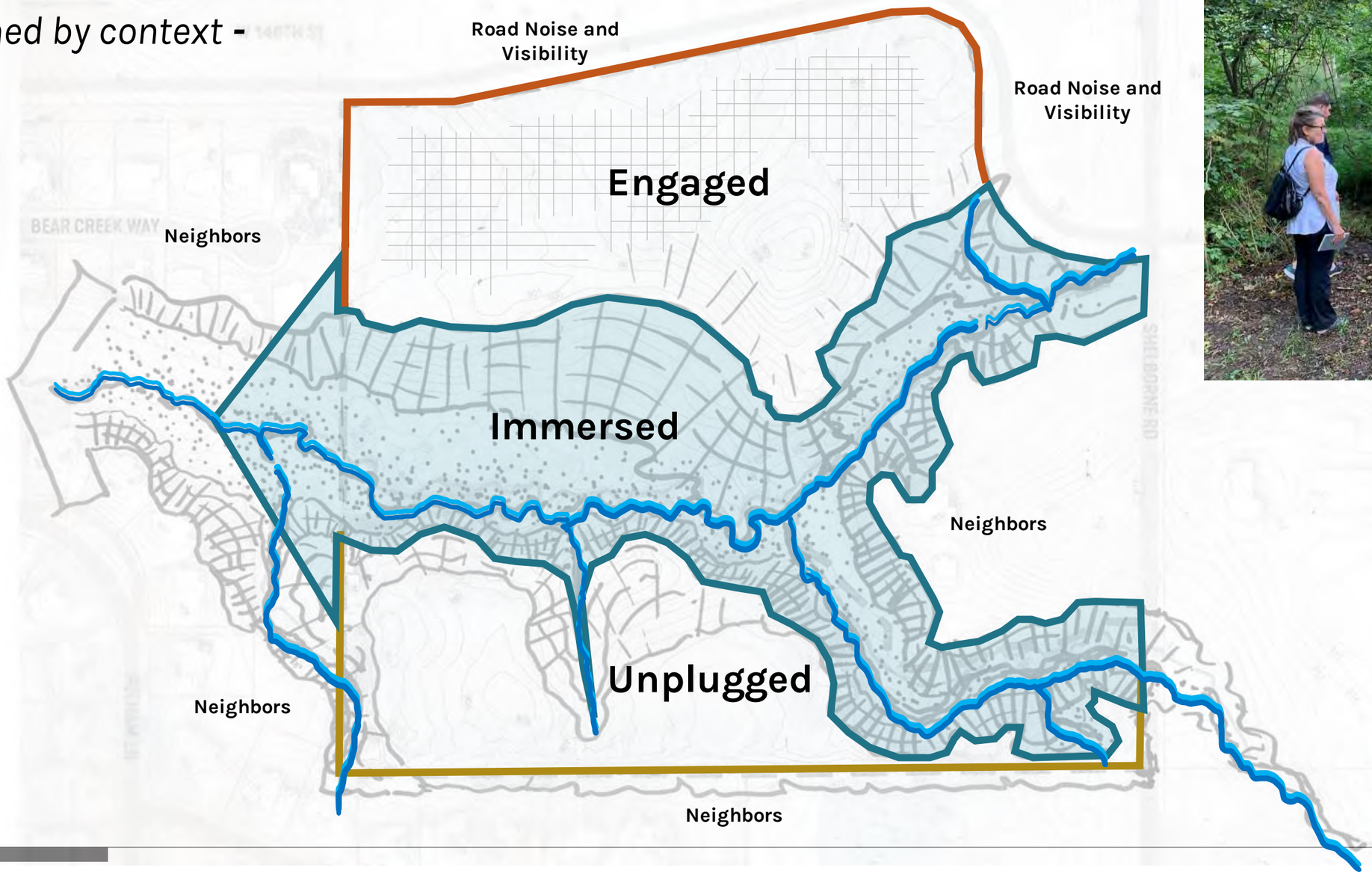
- Defined by spaces -



ACTIVITY ZONES

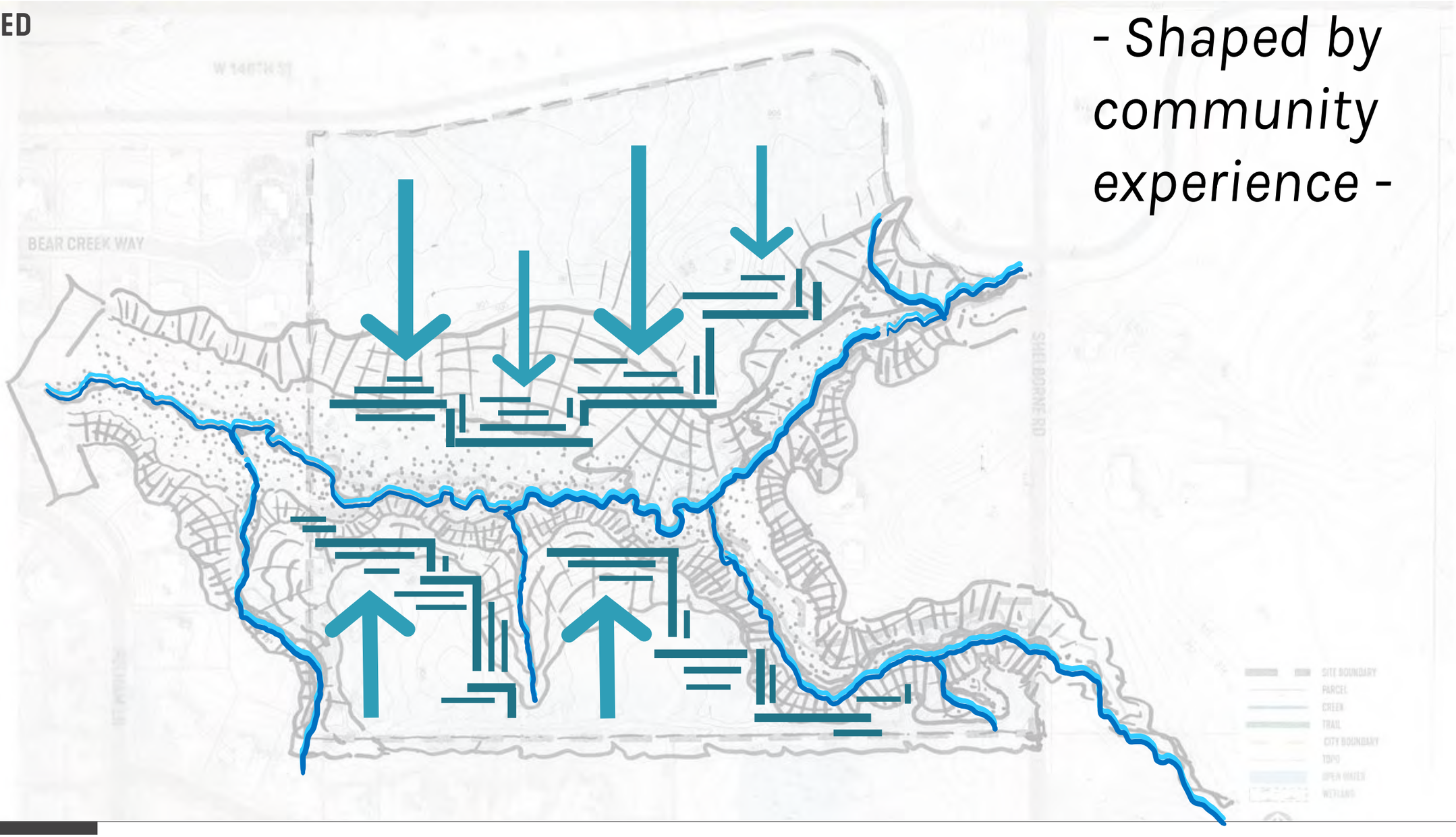
ACTIVATED

- Informed by context -



ENGAGE THE BEAR

ACTIVATED



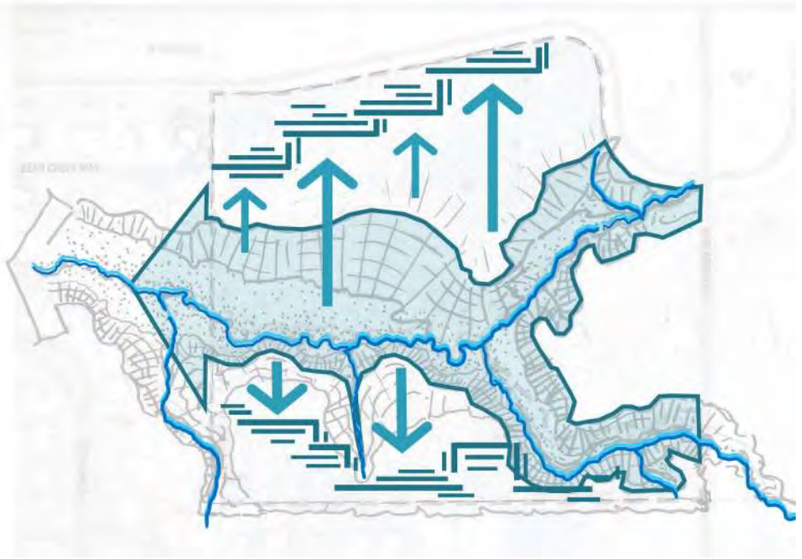
- Shaped by community experience -

BEAR CREEK PARK DESIGN DRIVERS

BEAR SIGHTINGS

CONNECTED

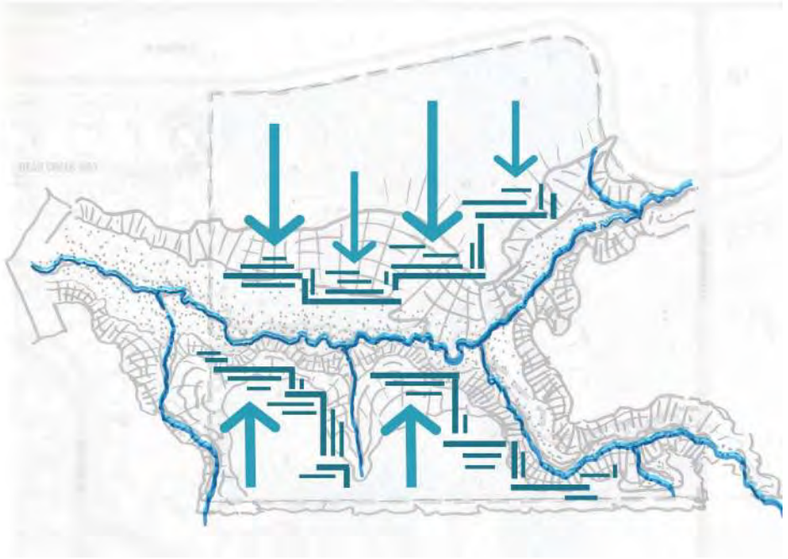
- Culturally connected through exploration -



A BIGGER BEAR

RESILIENT

- Grounded in the natural fabric of the site -



ENGAGE THE BEAR

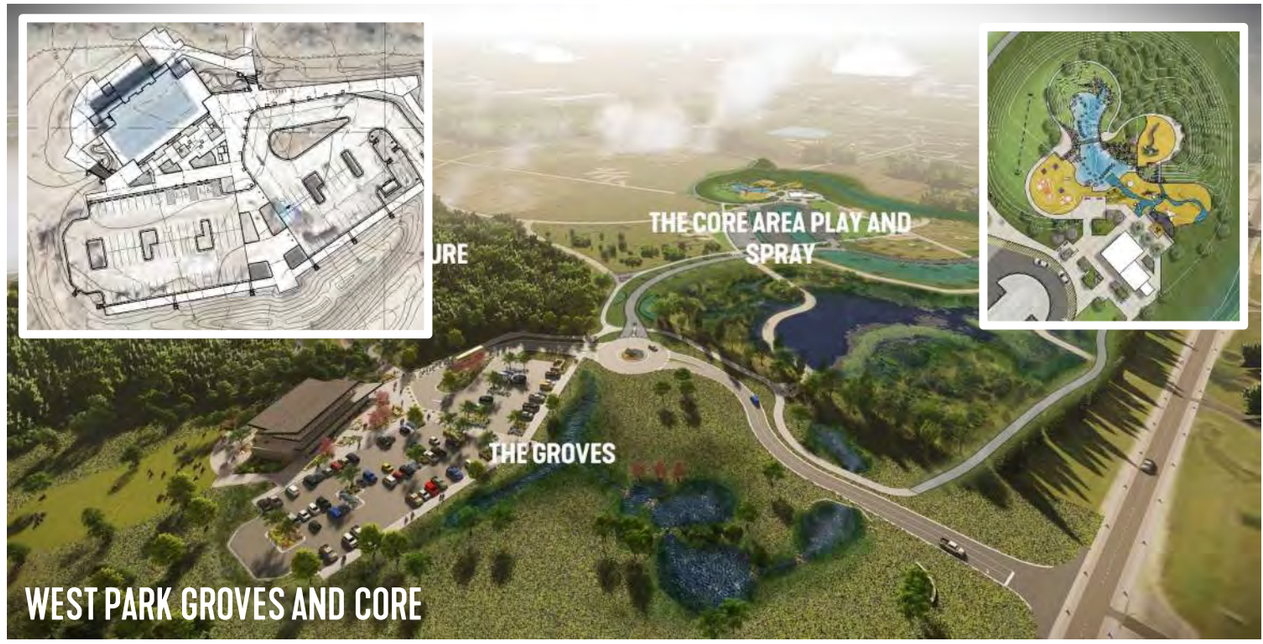
ACTIVATED

- Shaped by community need -


EXPLORE BEAR CREEK
CHAPTER 2

WHAT COULD BE...

WHAT COULD BE...



SHOULD BEAR CREEK PARK HAVE…?

1) PLAYGROUNDS

2) WATER PLAY

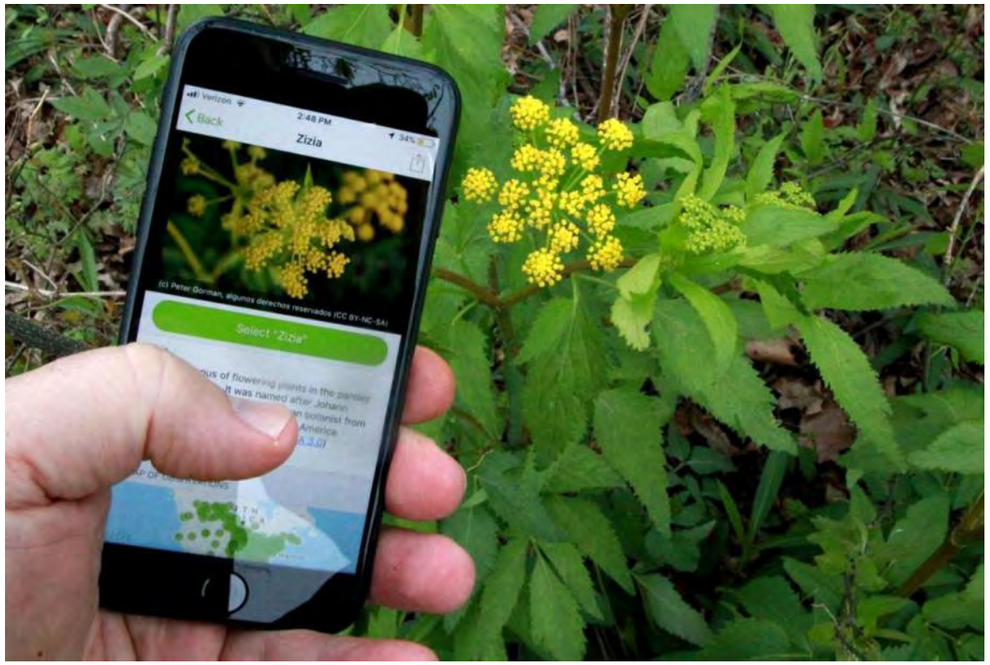
3) TREE HOUSES

4) WINTER GAMES

Carmel • Clay Parks&Recreation SMITHGROUP pros consulting INC. synthesis

SHOULD BEAR CREEK PARK HAVE…?

1) WIFI



2) NATURE APPS

3) NIGHTTIME CAMPING

4) ADVENTURE PLAY

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SHOULD BEAR CREEK PARK HAVE…?

1) TOWER SLIDES

2) SWINGS

3) ZIP LINES

4) MUD PLAY

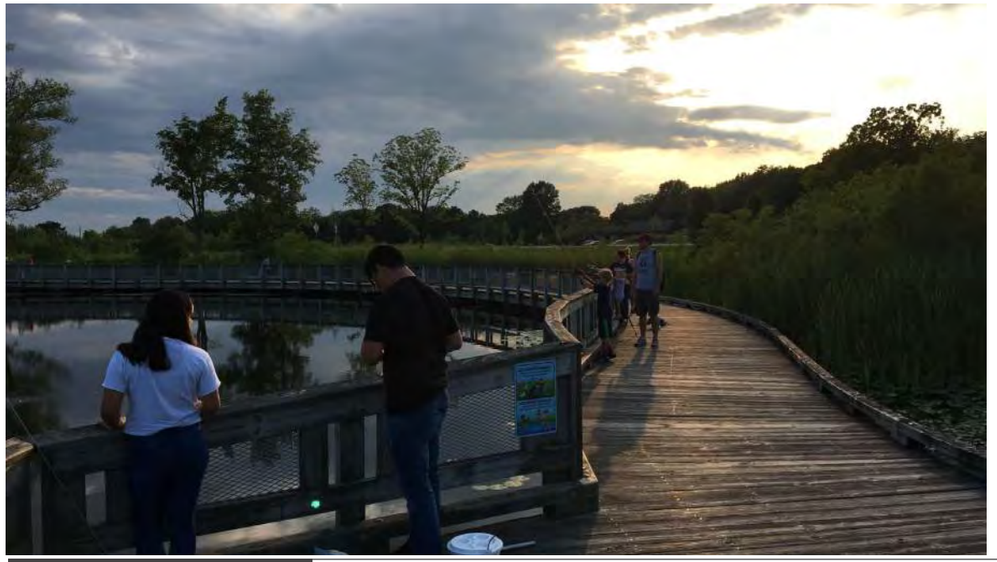
Carmel • Clay Parks&Recreation SMITHGROUP pros consulting INC. synthesis

SHOULD BEAR CREEK PARK HAVE…?

1) INDOOR SPACES

2) PLACES TO LEARN

3) BOARDWALKS



4) NATURE TRAILS

SHOULD BEAR CREEK PARK HAVE...?

1) SPORTS COURTS

2) DISC GOLF

3) SUMMER CAMPS

4) STAR GAZING

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SO, WHAT ELSE DO YOU WANT?

BUILD A BEAR WORKSHOP

PARK PROGRAMMING

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POLL EVERYWHERE

INSTRUCTIONS

Join by Text

1. Text **BEARCREEK** to **22333**
2. Text in your message

Join by Web

1. Go to **PollEv.com/BEARCREEK**
2. Respond to activity

Join by QR Code

*Text address and website are not case sensitive

PROGRAMMING | CONNECTED

BASE PROGRAM


Aggregate Trails


Pedestrian Bridge/ Creek Crossing

Vehicular Entrance


Bus Drop-off


Parking Pod


Gardens


Bike Access


Outdoor Learning Spaces


Interpretive Learning Spaces

Educational Signage


STEM Activities


Small Community Events


Community Art

PROGRAM UPGRADES

Select the **DESIRED** program **UPGRADES** you would like to see added to the base program. You may vote for as many selections as you like.

Paved Trails

Boardwalks

Trailheads

Vehicular Bridge/ Creek Crossing

Vehicular Parkway

Integrate Regional Trail/Greenway

Major Park Gateway

Minor Park Gateway

Augmented Reality/ Virtual Learning

Informational Kiosks

Community Pavilion

Guided Tours and Activities

Integrated Curriculum/ School Partners

Indoor Community Room

Vehicular Drop-off

Respond at **pollev.com/bearcreek**

Text **BEARCREEK** to **22333** once to join, then **A, B, C, D, E, F, G, H, I, J, K...**

BASE PROGRAM

PROGRAM UPGRADES

Select the **DESIRED** program **UPGRADES** you would like to see added to the base program. You may vote for as many selections as you like.

Paved Trails	**A**
Boardwalks	**B**
Trailheads	**C**
Vehicular Bridge/Creek Crossing	**D**
Vehicular Parkway	**E**
Integrated Regional Trail/Greenway	**F**
Major Park Gateway	**G**
Minor Park Gateway	**H**
Augmented Reality/Virtual Learning	**I**
Informational Kiosks	**J**
Community Pavillion	**K**
Guided Tours and Activities	**L**
Integrated Curriculum/School Partners	**M**
Indoor Community Room	**N**
Vehicular Drop-off	**O**

PROGRAMMING | ACTIVATED

BASE PROGRAM


Passive Recreation


Exploration


Picnicking


Seasonal Interest


Flexible Lawn


Plazas/Social Spaces


Toilets


Shade/Shelters


Water Play


Nature Play

PROGRAM UPGRADES

Select the **DESIRED** program **UPGRADES** you would like to see added to the base program. You may vote for as many selections as you like.

Loose Materials Play

Winter Programming

Day Camps

Overnight Camping

Adult Fitness

Mud Play

Disc Golf

Sports Courts

Play Tower/ Climbers

Tactical Program Structures

Zipline

Slides

Swings

Indoor Recreation/ Camps

Tree Houses

Hammocks

Night Sky Viewing

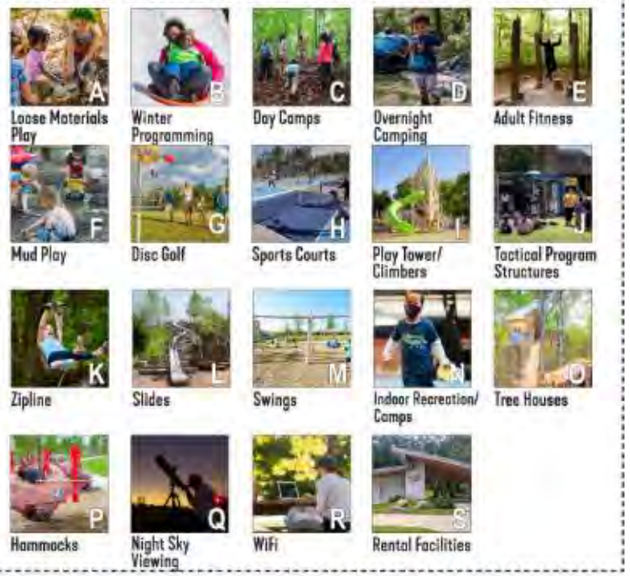
WiFi

Rental Facilities

BASE PROGRAM

PROGRAM UPGRADES

Select the **DESIRED** program **UPGRADES** you would like to see added to the base program. You may vote for as many selections as you like.



Loose Materials Play
Winter Programming
Day Camps
Overnight Camping
Adult Fitness
Mud Play
Disc Golf
Sports Courts
Play Tower/Climbers
Tactical Program Structures
Zipline
Slides
Swings
Indoor Recreation/Camps
Tree Houses
Hammocks
Night Sky Viewing
Wi-Fi
Rental Facilities

BUILD A BEAR WORKSHOP

SMITHGROUP

BUILD A BEAR WORKSHOP

PARK PROGRAMMING

BUILD A BEAR WORKSHOP | COMMUNITY PAVILION

Select which zone you would like to see a Community Pavilion

Zone

Zone

Zone

Zone

No Thank You

BUILD A BEAR WORKSHOP | FLEXIBLE LAWN

Select which zone you would like to see a Flexible Lawn

Zone

Zone

Zone

Zone

No Thank You

BUILD A BEAR WORKSHOP | PICNIC GROVE

Select which zone you would like to see a Picnic Grove

Zone **1**

Zone **2**

Zone **3**

Zone **4**

No Thank You **5**

BUILD A BEAR WORKSHOP | RESTROOM

Select which zone you would like to see a Restroom building

Zone

Zone

Zone

Zone

No Thank You

BUILD A BEAR WORKSHOP | PLAY/SPRAY

Select which zone you would like to see a Play/Spray facility

Zone

Zone

Zone

Zone

No Thank You

BUILD A BEAR WORKSHOP | NATURE PLAY

When poll is active, respond at **pollev.com/bearcreek**

Text **BEARCREEK** to **22333** once to join

Select which zone you would like to see a Nature Playground

Zone

Zone

Zone

Zone

No Thank You

Start the presentation to see live content. For screen share software, share the entire screen. Get help at **pollev.com/app**

BUILD A BEAR WORKSHOP | PARKING (50 CAR)

Select which zone you would like to see a 50 car Parking Lot

Zone

Zone

Zone

Zone

No Thank You

BUILD A BEAR WORKSHOP | PARKING (100 CAR)

Select which zone you would like to see a 100 car Parking Lot

Zone

Zone

Zone

Zone

No Thank You

THANK YOU FOR PARTICIPATING!

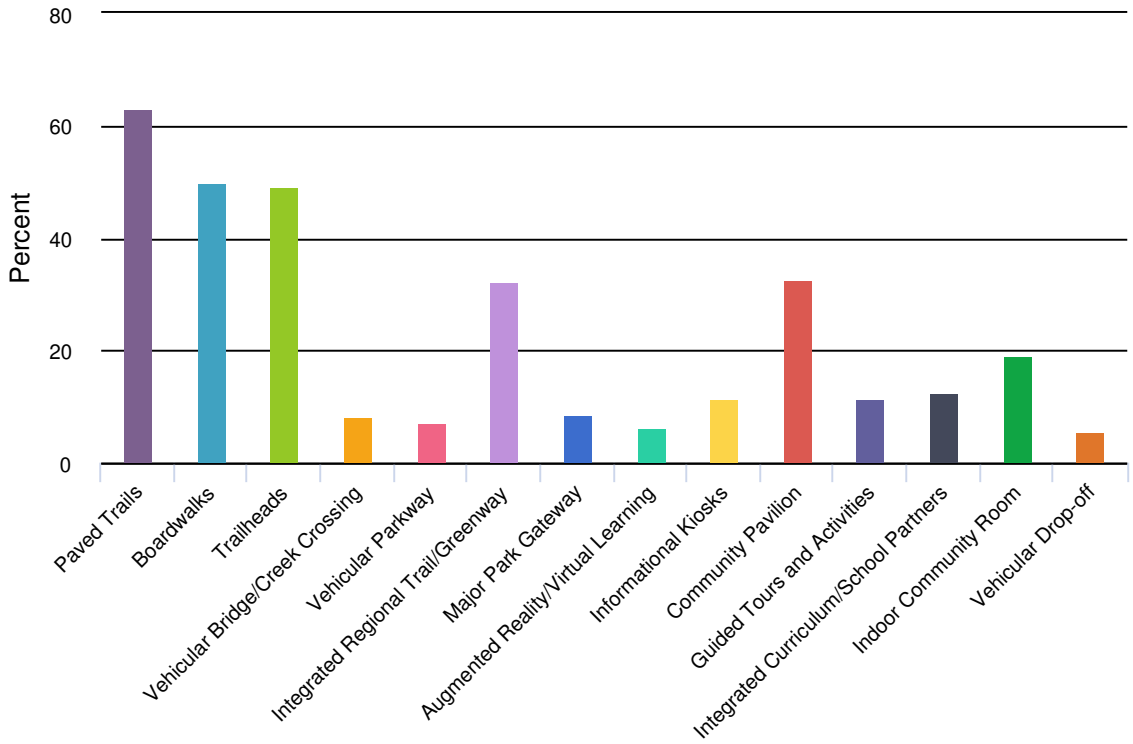
Report for Bear Creek Public Input Survey II

Response Counts

Completion Rate:	**45.4%**		
	Complete		163
	Partial		196

Totals: 359

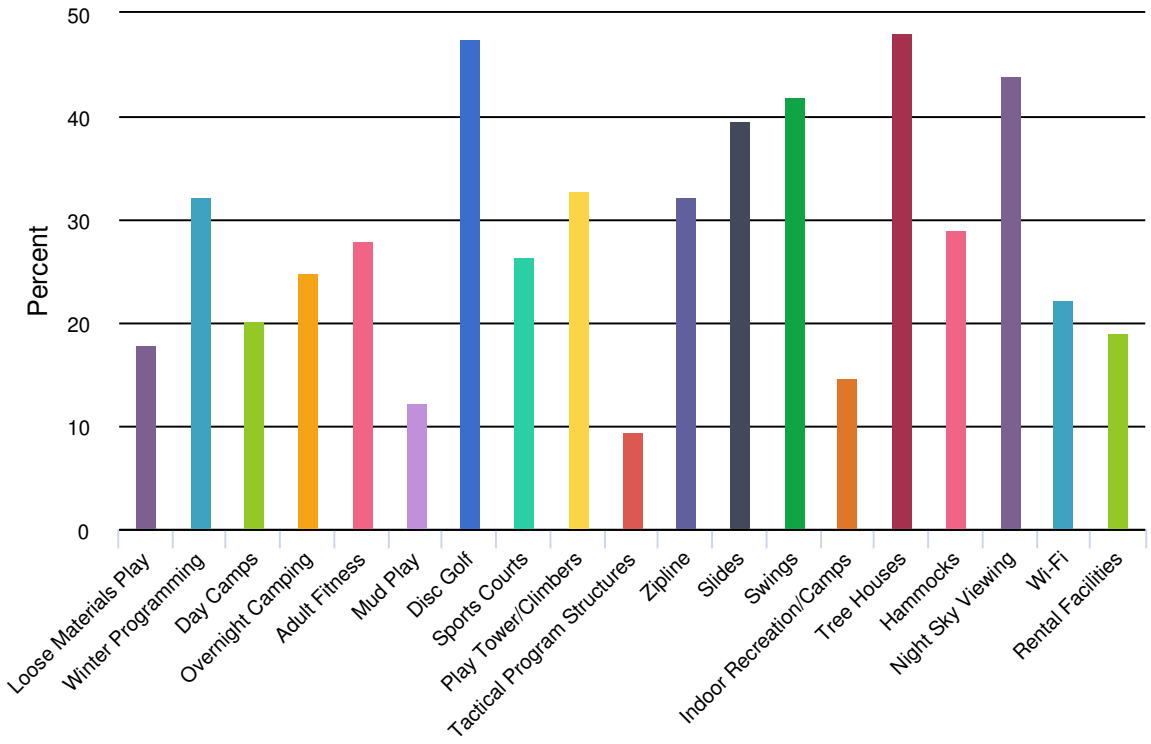
1. The base, "Connected" program are consensus design elements that came out of the previous round of community engagement. We want to know what upgrades you would like to see added to that base programming. Select the desired upgrades you would like added to the base program at Bear Creek Park. You may vote for as many selections as you like.



Value	Percent	Responses
Paved Trails	63.2%	122
Boardwalks	49.7%	96
Trailheads	49.2%	95
Vehicular Bridge/Creek Crossing	8.3%	16
Vehicular Parkway	7.3%	14
Integrated Regional Trail/Greenway	32.1%	62
Major Park Gateway	8.8%	17
Augmented Reality/Virtual Learning	6.2%	12
Informational Kiosks	11.4%	22
Community Pavilion	32.6%	63
Guided Tours and Activities	11.4%	22
Integrated Curriculum/School Partners	12.4%	24
Indoor Community Room	19.2%	37
Vehicular Drop-off	5.7%	11

2. Is there anything you see in the BASE program you don't think should be included in Bear Creek Park?

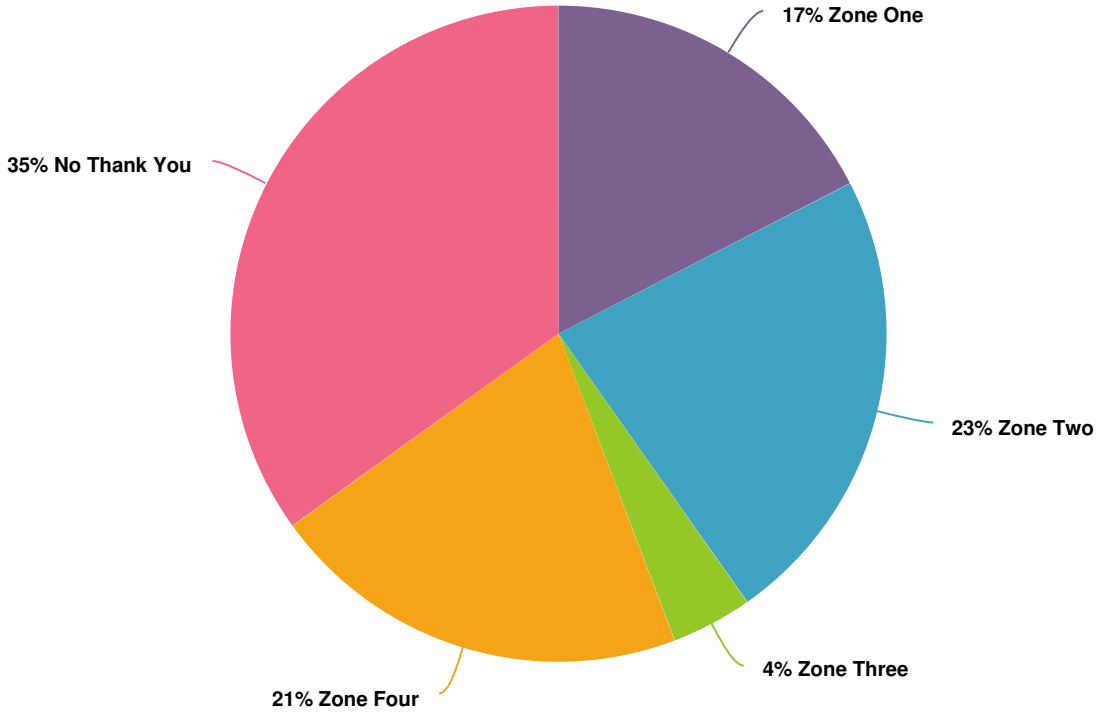
3. The base, "Activated" program are consensus design elements that came out of the previous round of community engagement. We want to know what upgrades you would like to see added to that base programming. Select the desired upgrades you would like added to the base program at Bear Creek Park. You may vote for as many selections as you like.



Value	Percent	Responses
Loose Materials Play	18.0%	34
Winter Programming	32.3%	61
Day Camps	20.1%	38
Overnight Camping	24.9%	47
Adult Fitness	28.0%	53
Mud Play	12.2%	23
Disc Golf	47.6%	90
Sports Courts	26.5%	50
Play Tower/Climbers	32.8%	62
Tactical Program Structures	9.5%	18
Zipline	32.3%	61
Slides	39.7%	75
Swings	41.8%	79
Indoor Recreation/Camps	14.8%	28
Tree Houses	48.1%	91
Hammocks	29.1%	55
Night Sky Viewing	43.9%	83
Wi-Fi	22.2%	42
Rental Facilities	19.0%	36

4. Is there anything you see in the BASE program you don't think should be included in Bear Creek Park?

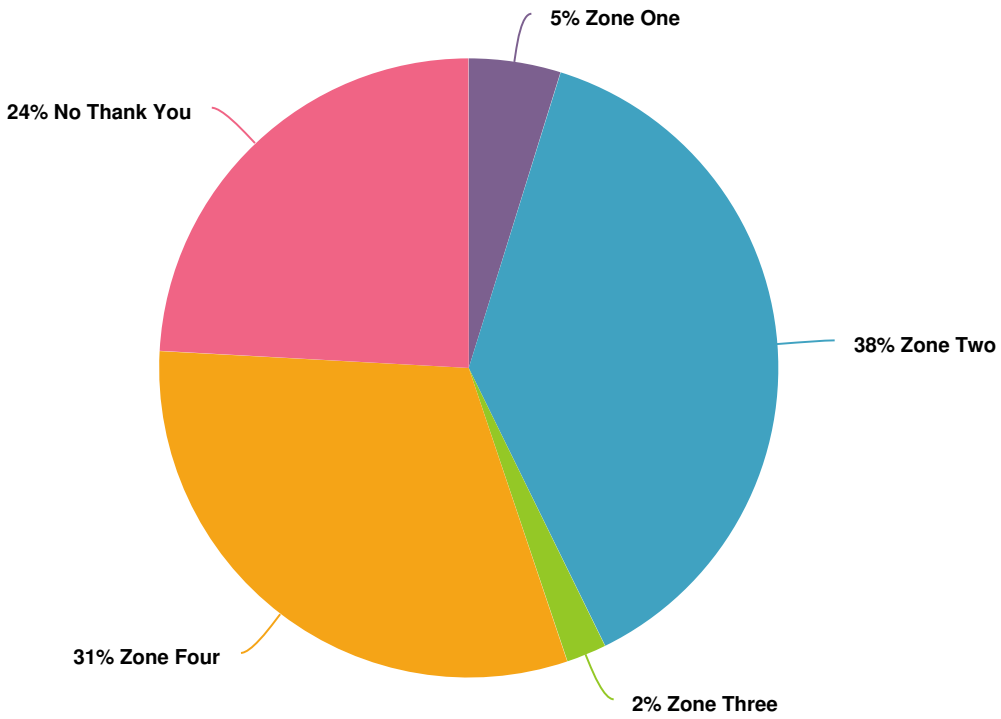
5. Select the desired ZONE you would like to see a COMMUNITY PAVILION. Or select No Thank You if you don't want it.



Value	Percent	Responses
Zone One	17.4%	26
Zone Two	22.8%	34
Zone Three	4.0%	6
Zone Four	20.8%	31
No Thank You	34.9%	52

Totals: 149

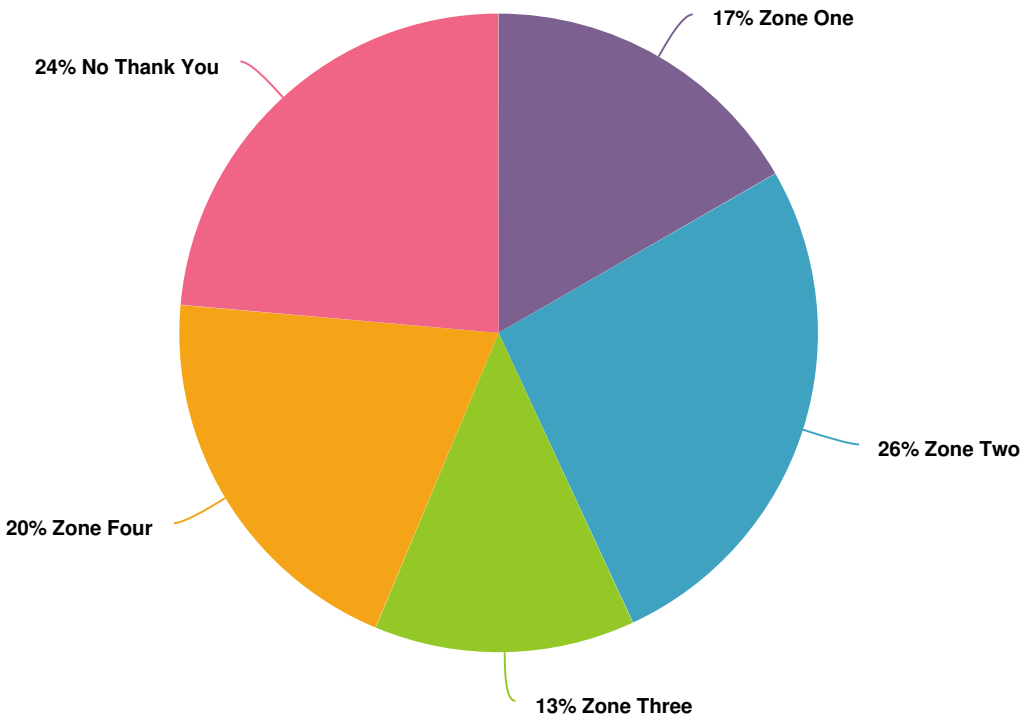
6. Select the desired ZONE you would like to see a FLEXIBLE LAWN. Or select No Thank You if you don't want it.



Value	Percent	Responses
Zone One	4.8%	7
Zone Two	37.9%	55
Zone Three	2.1%	3
Zone Four	31.0%	45
No Thank You	24.1%	35

Totals: 145

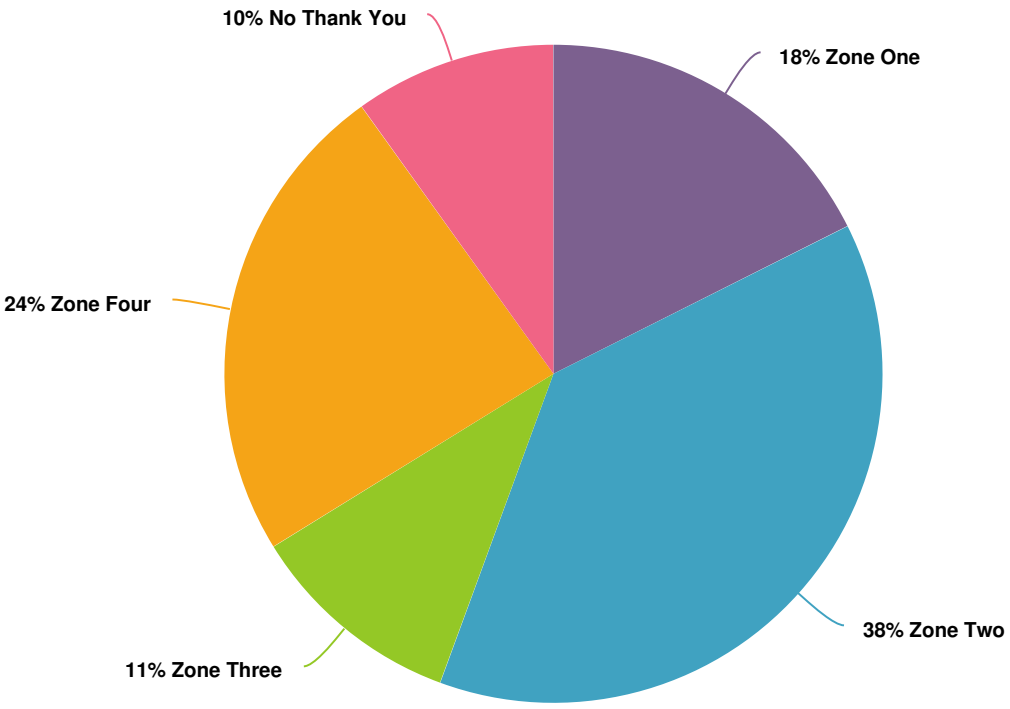
7. Select the desired ZONE you would like to see a PICNIC GROVE. Or select No Thank You if you don't want it.



Value	Percent	Responses
Zone One	16.7%	24
Zone Two	26.4%	38
Zone Three	13.2%	19
Zone Four	20.1%	29
No Thank You	23.6%	34

Totals: 144

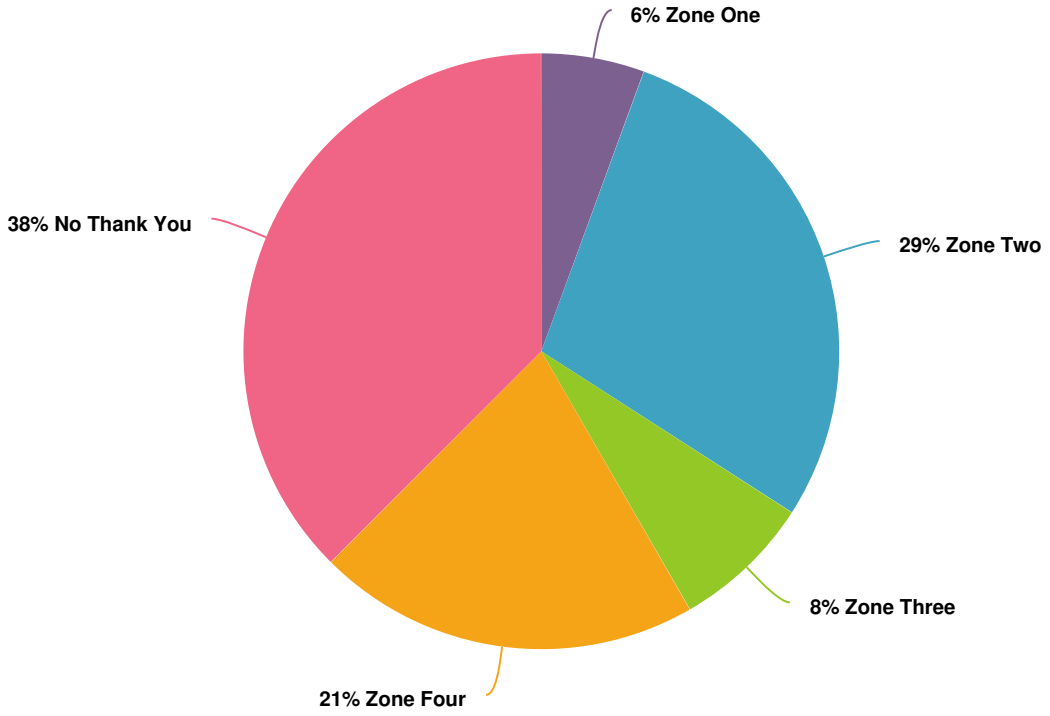
8. Select the desired ZONE you would like to see a RESTROOM building. Or select No Thank You if you don't want it.



Value	Percent	Responses
Zone One	17.6%	25
Zone Two	38.0%	54
Zone Three	10.6%	15
Zone Four	23.9%	34
No Thank You	9.9%	14

Totals: 142

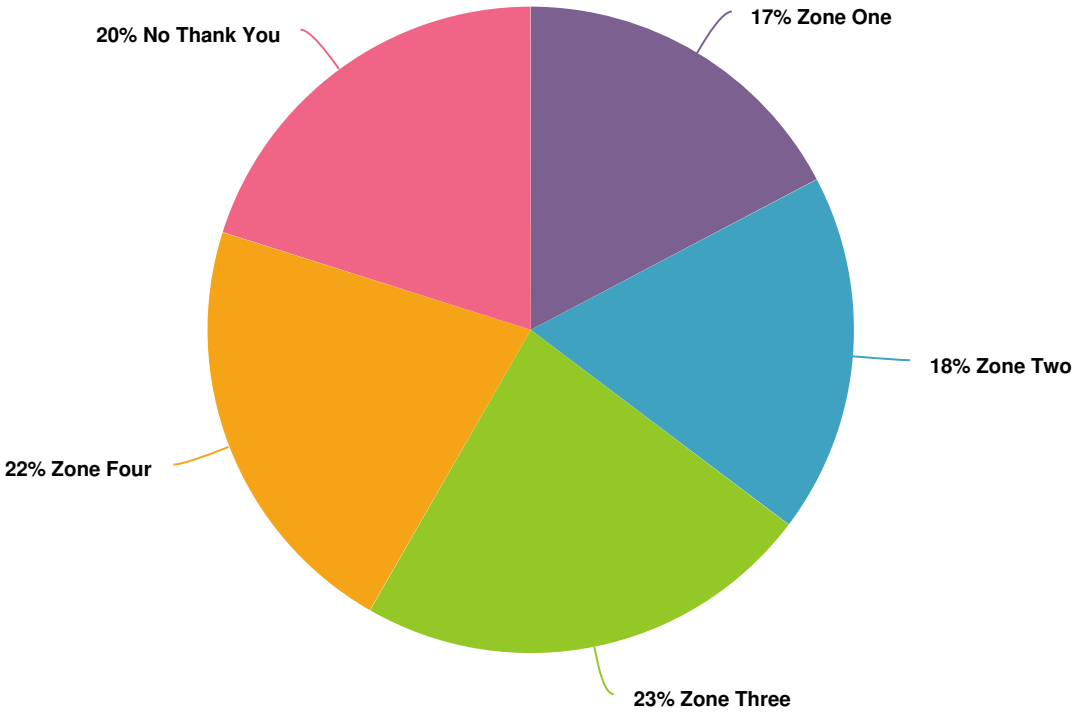
9. Select the desired ZONE you would like to see a PLAY/SPRAY facility. Or select No Thank You if you don't want it.



Value	Percent	Responses
Zone One	5.6%	8
Zone Two	28.5%	41
Zone Three	7.6%	11
Zone Four	20.8%	30
No Thank You	37.5%	54

Totals: 144

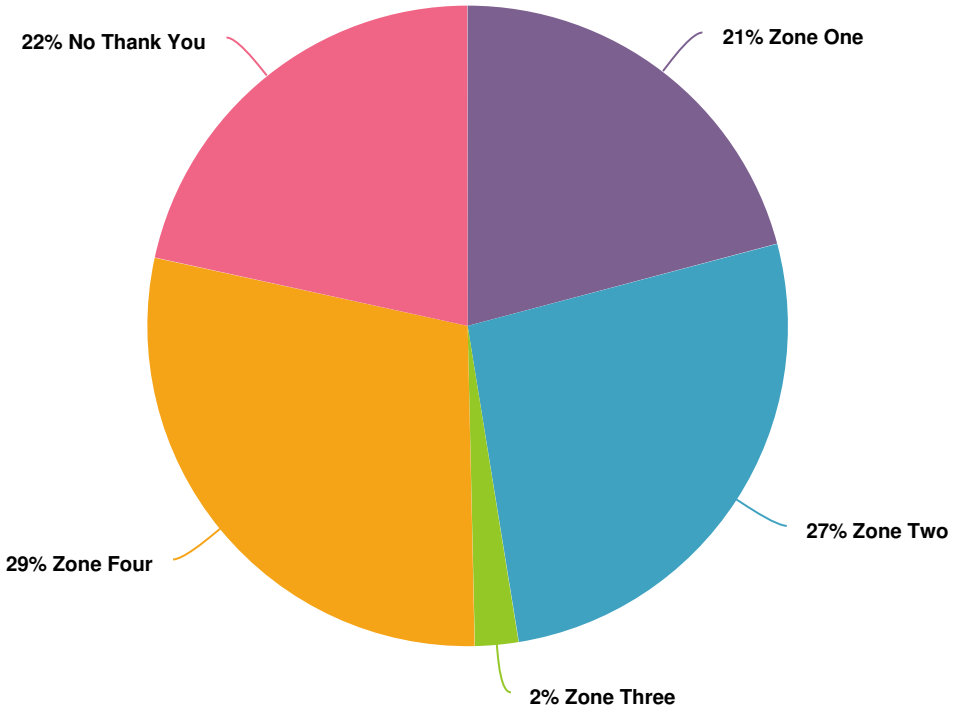
10. Select the desired ZONE you would like to see a NATURE PLAYGROUND. Or select No Thank You if you don't want it.



Value	Percent	Responses
Zone One	17.3%	24
Zone Two	18.0%	25
Zone Three	23.0%	32
Zone Four	21.6%	30
No Thank You	20.1%	28

Totals: 139

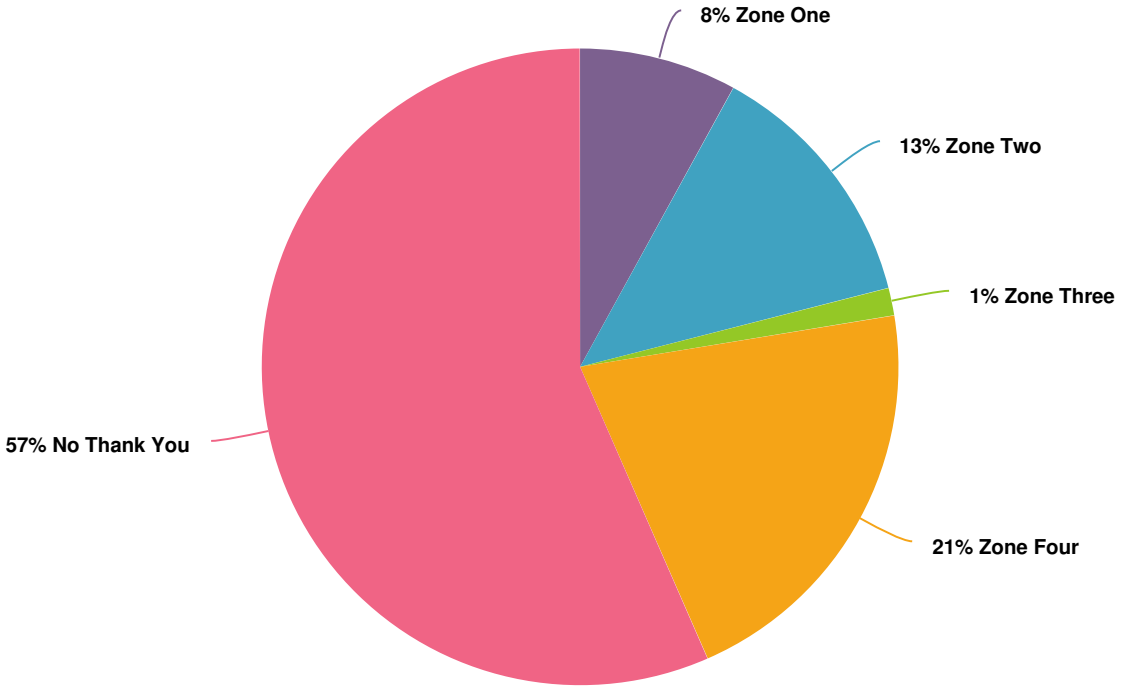
11. Select the desired ZONE you would like to see a 50 car PARKING LOT. Or select No Thank You if you don't want it.



Value	Percent	Responses
Zone One	20.9%	29
Zone Two	26.6%	37
Zone Three	2.2%	3
Zone Four	28.8%	40
No Thank You	21.6%	30

Totals: 139

12. Select the desired ZONE you would like to see a 100 car PARKING LOT. Or select No Thank You if you don't want it.



Value	Percent	Responses
Zone One	8.0%	11
Zone Two	13.0%	18
Zone Three	1.4%	2
Zone Four	21.0%	29
No Thank You	56.5%	78

Totals: 138

APPENDIX 04 | PUBLIC INPUT MEETING 3

Appendix 04 contains the presentation slides presented at the third Public Input Meeting in Carmel, Indiana, as well as the online survey data gathered from the public.

BEAR CREEK MASTER PLAN

JANUARY, 2022

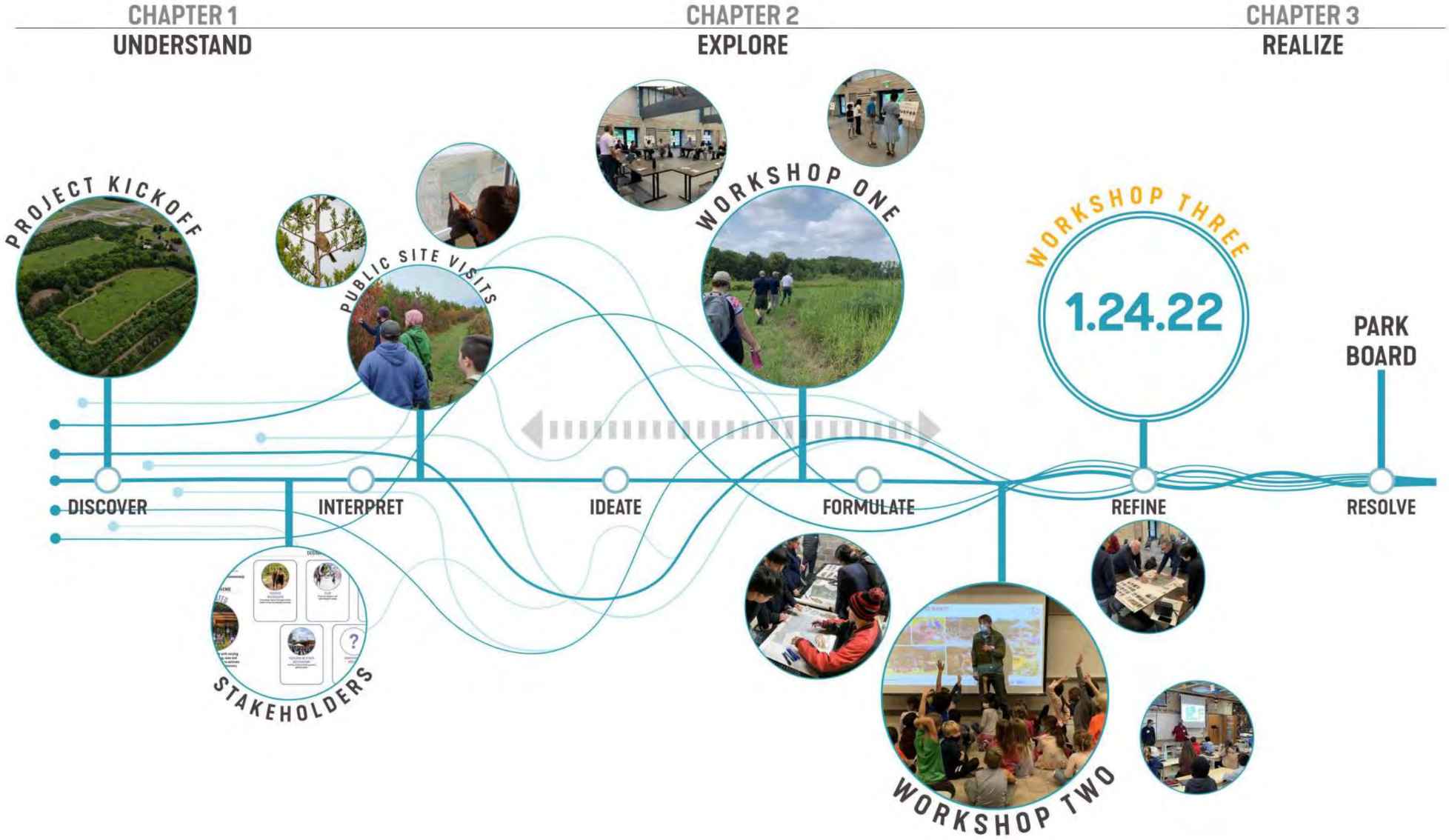
Carmel • Clay Parks & Recreation

SMITHGROUP

OUR NEXT GREAT ADVENTURE...

AN INTENTIONAL JOURNEY

A PROVEN PROCESS



MEETING AGENDA & PURPOSE

1. REVIEW WHAT WE LEARNED IN PUBLIC INPUT MEETING #2

2. SHARE DESIGN ALTERNATIVES FOR THE PARK

3. IDENTIFY THE PARTS OF A PREFERRED CONCEPT

PUBLIC INPUT SUMMARY

WHAT WE HEARD... PROGRAMMING

"Need **less car parking**. We need to limit cars and **encourage arriving by bike**"

"More **trails**"

"We just love the **wildlife** and **nature**"

"**fire rings** for campfires, **outdoor cooking**..."

"**Kids adventure** stuff"

More **splash pads** and **kids activities**"

"Place for a large family reunion with **kitchen access** and indoor/outdoor **hangout space.**"

"I'd love to see another championship level **disc golf course**"

"**Volleyball, basketball, tennis courts** need to be there"

"**Sitting areas, restrooms**"

E C O L O G I C A L S C A L E

NATURE CENTRIC PROGRAMMING

STRUCTURED PROGRAMMING

SMITHGROUP

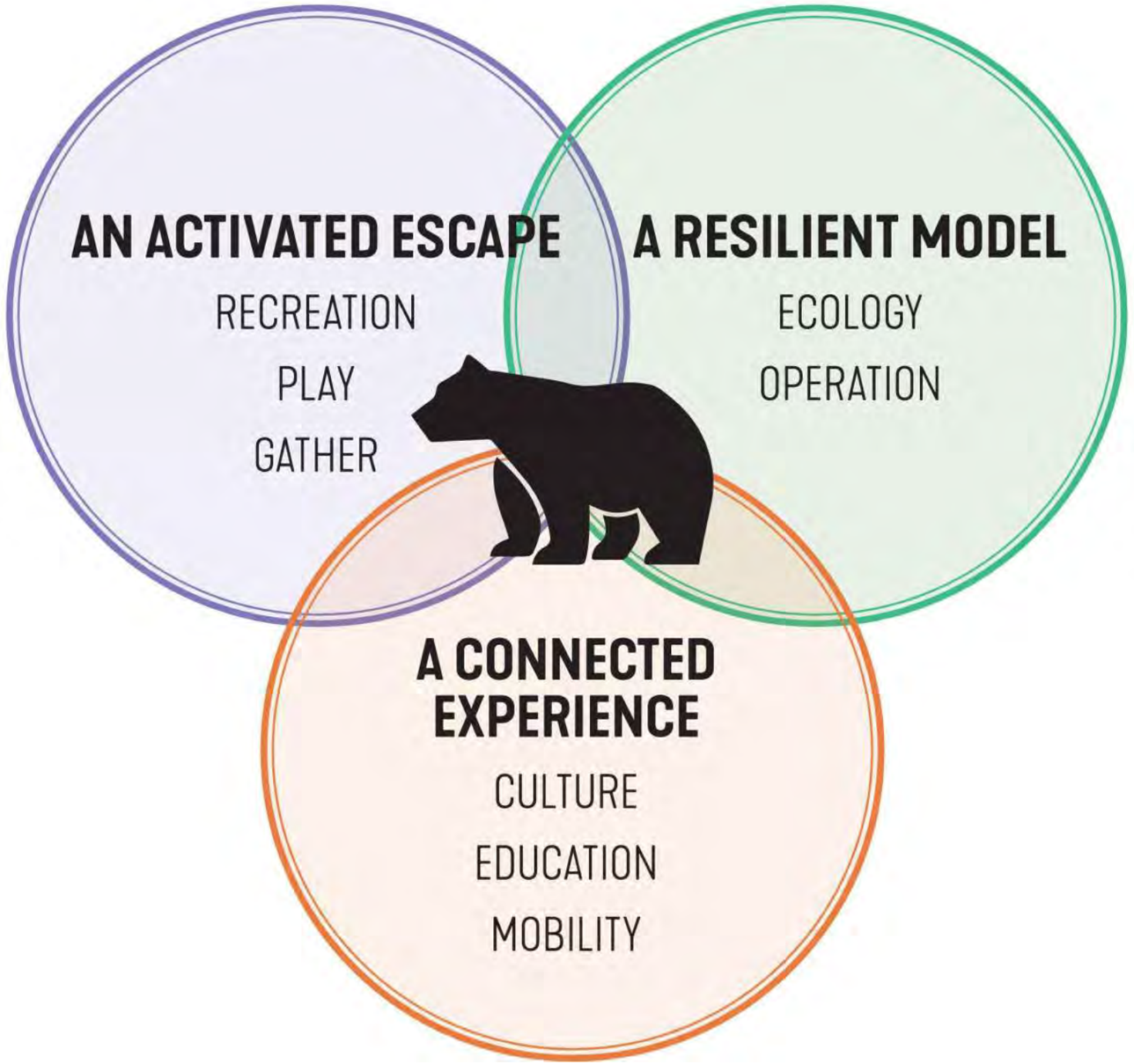
WHAT WE HEARD... PLANNING THEMES

SMITHGROUP

VISION AND DRIVERS

VISION

Carmel Clay's most innovative, inclusive, and resilient community park that is grounded in the site's natural fabric and shaped by the northwest side's need for a unique and culturally connected experience.



DESIGN DRIVERS

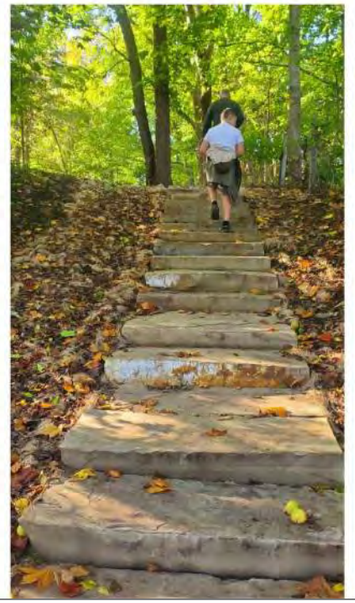
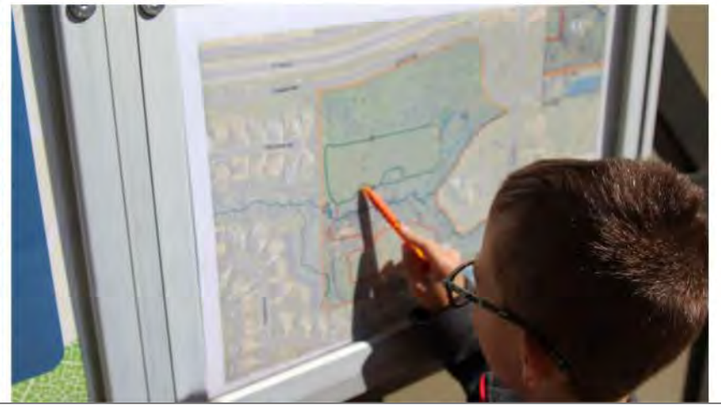
- The People's Park
- Embrace the Bear
- Engage the Bear
- Bear Sightings
- Activity Zones
- Community Rooms
- Celebrate Ecology
- Leverage Disturbance
- A confluence of Corridors

WHAT YOU SAW… PUBLIC SITE VISITS





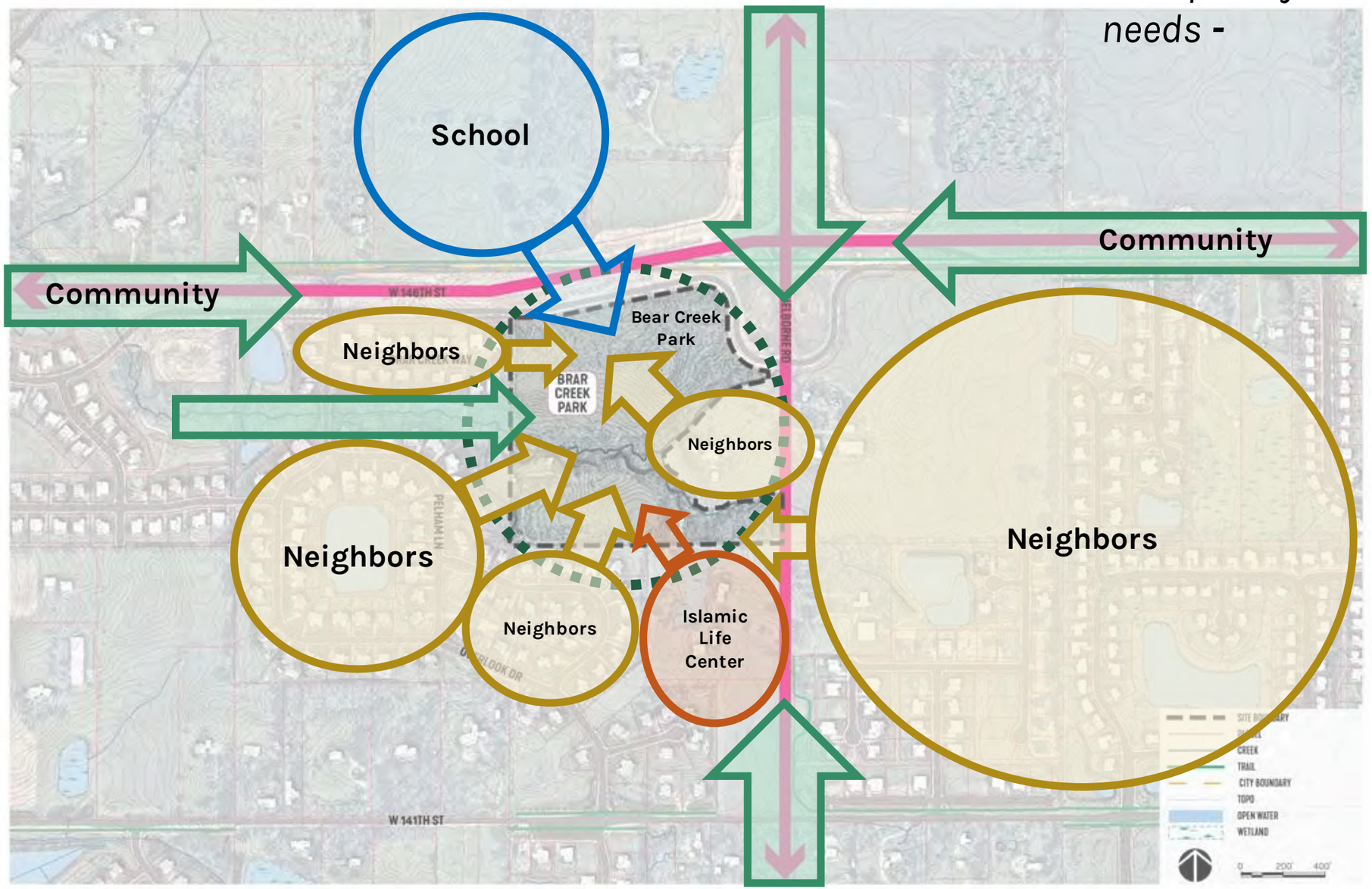


THE PEOPLE'S PARK

CONNECTED

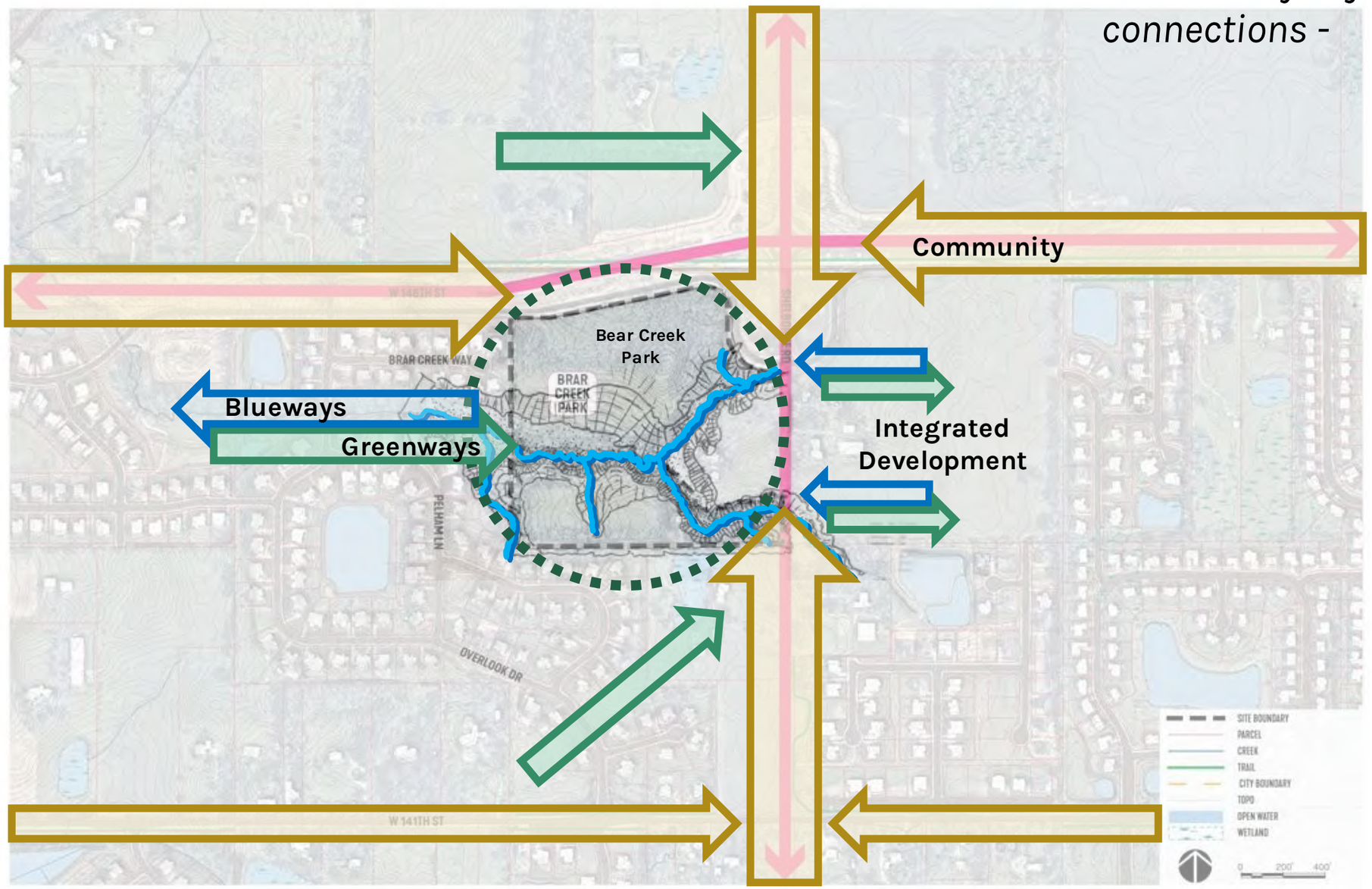
- Shaped by community needs -



A CONFLUENCE OF CORRIDORS

CONNECTED

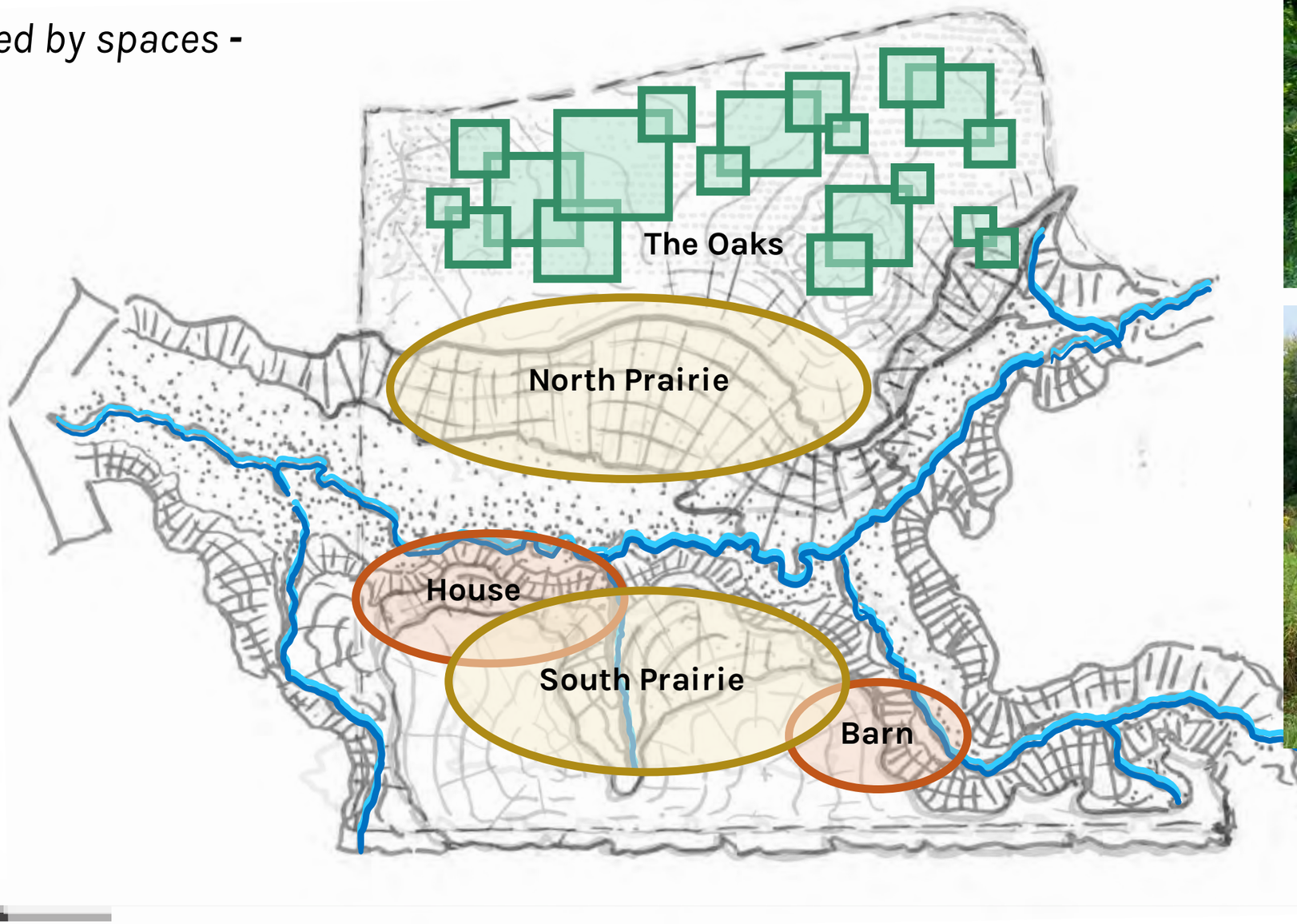
- Framed by adjacent connections -



COMMUNITY ROOMS

ACTIVATED

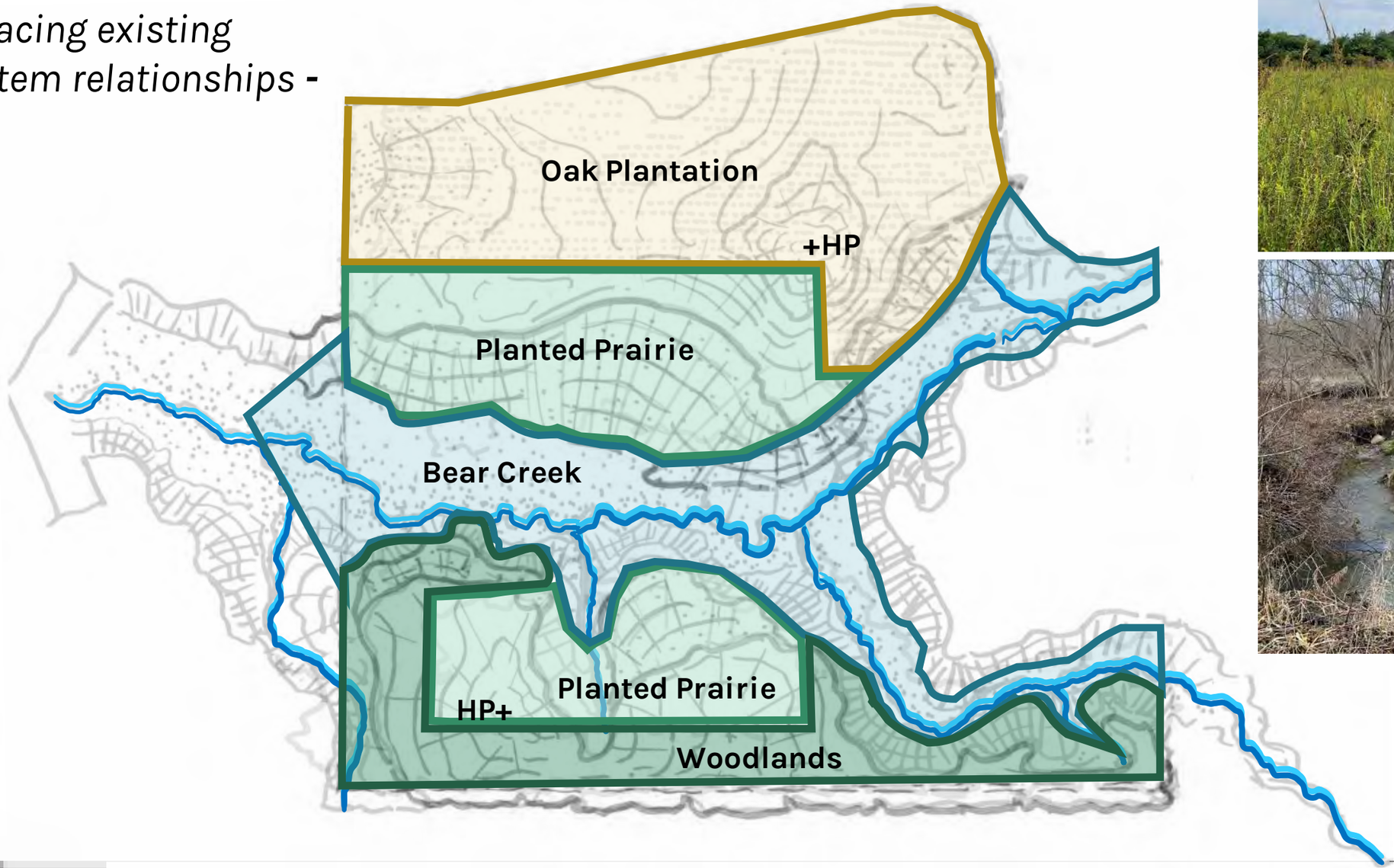
- Defined by spaces -



CELEBRATE ECOLOGY

RESILIENT

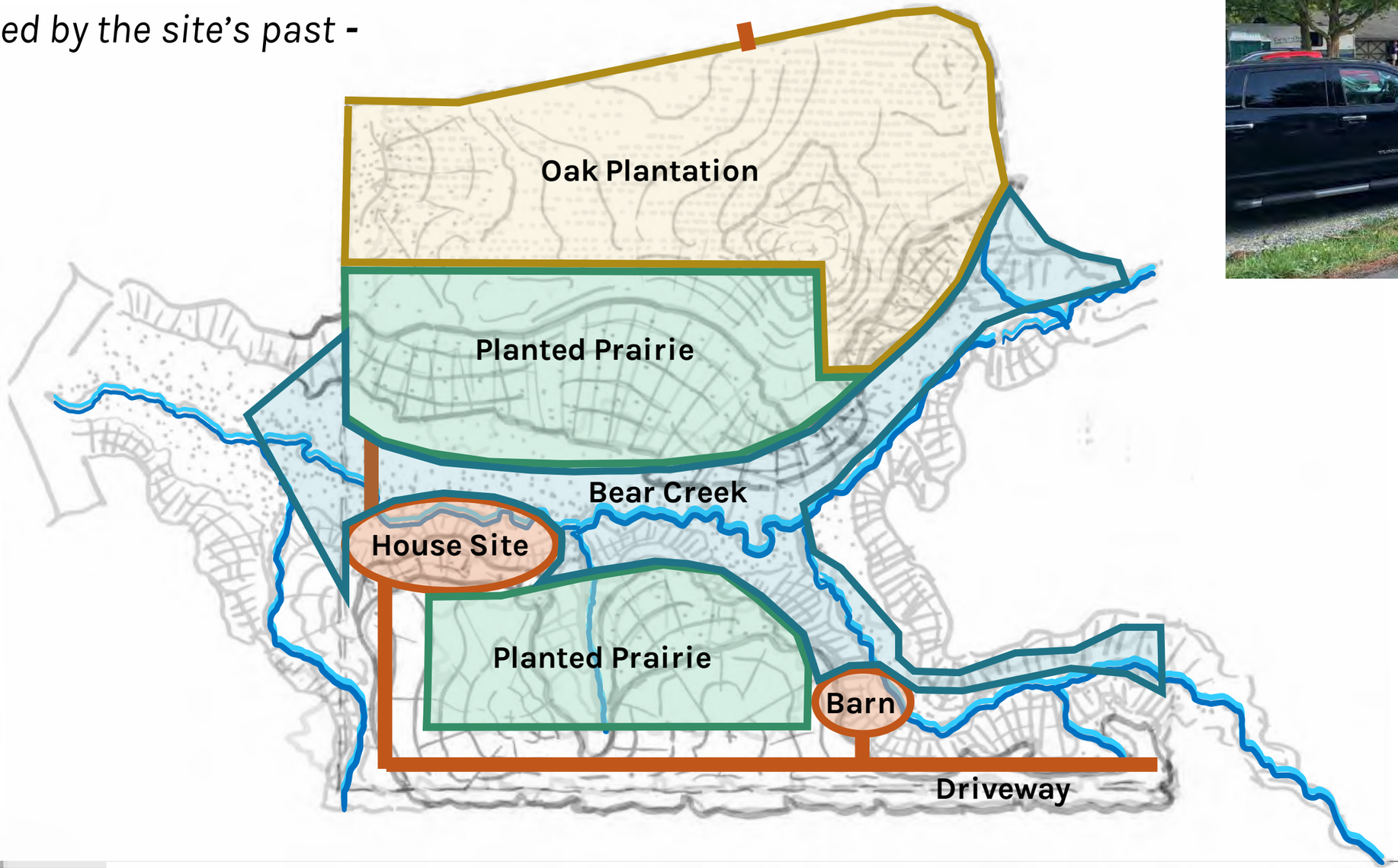
- Embracing existing ecosystem relationships -



LEVERAGE DISTURBANCE

RESILIENT

- *Informed by the site's past* -



WHAT YOU TOLD US . . . HOW TO USE THE SITE

ZONE 1

a) Access
b) Parking
c) Restrooms

ZONE 2

a) Community Pavilion
b) Flexible Lawn
c) Picnic Grove
d) Restrooms
e) Play

ZONE 3

a) Restoration
b) Nature Play

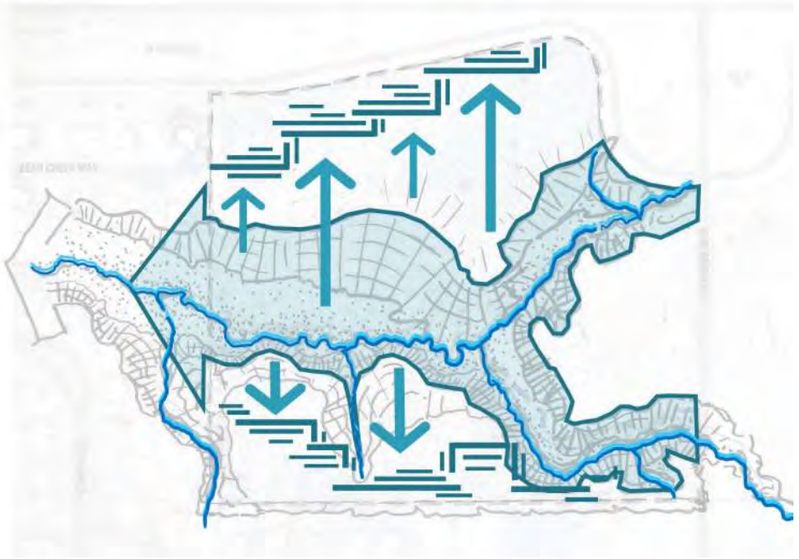
ZONE 4

a) Access
b) Parking
c) Community Pavilion
d) Flexible Lawn
e) Picnic Grove
f) Restrooms
g) Play

A CONNECTED EXPERIENCE
A RESILIENT MODEL
AN ACTIVATED ESCAPE

SMITHGROUP

DESIGN DRIVERS



A BIGGER BEAR

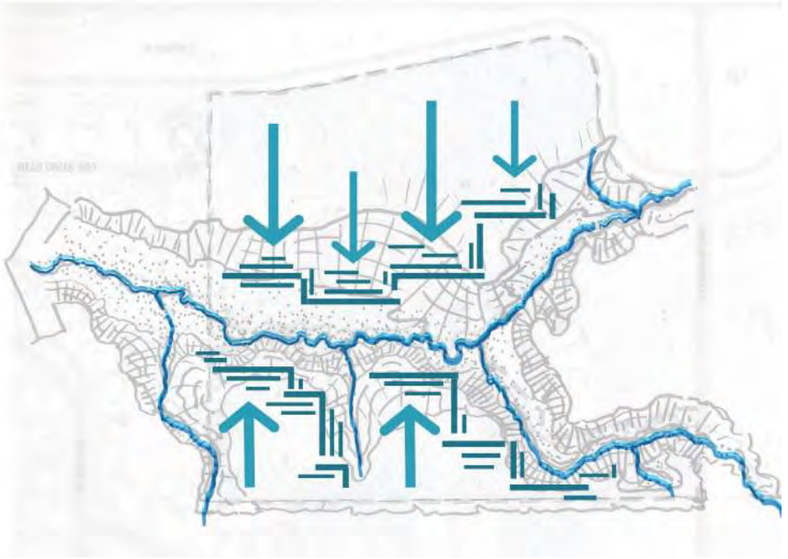
RESILIENT

- Grounded in the natural fabric of the site -

BEAR SIGHTINGS

CONNECTED

- Culturally connected through exploration -



ENGAGE THE BEAR

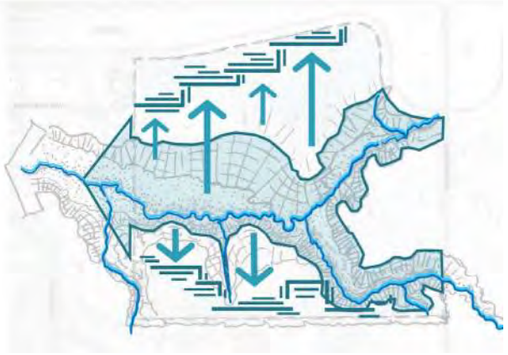
ACTIVATED

- Shaped by community need -

ALTERNATIVES DEVELOPMENT

DESIGN LEVER: GRADING & TERRAIN

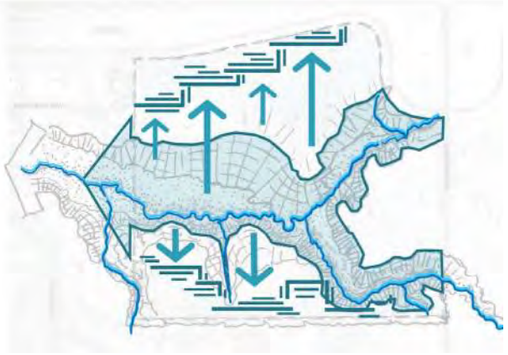
A BIGGER BEAR (3 BIGGER BEARS)



ALTERNATIVES DEVELOPMENT

DESIGN LEVER: ECOLOGY & CREEK GEOMETRY

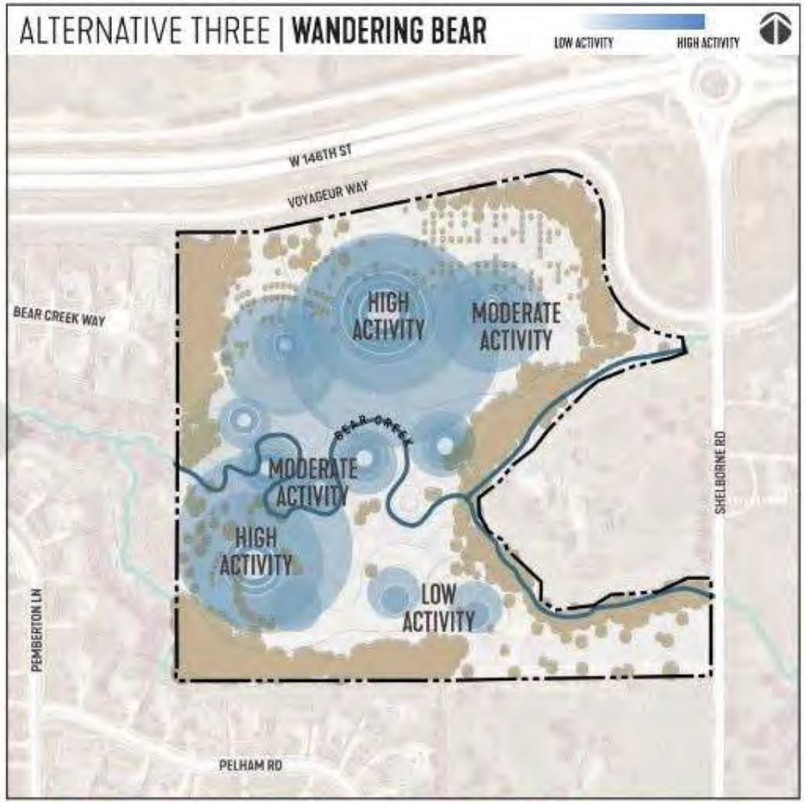
A BIGGER BEAR (3 BIGGER BEARS)



ALTERNATIVES DEVELOPMENT

DESIGN LEVER: ACTIVITY HUBS

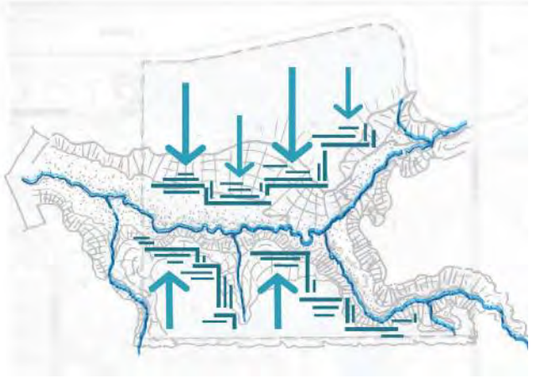
BEAR SIGHTINGS



ALTERNATIVES DEVELOPMENT

DESIGN LEVER: ACCESS & CONNECTIONS

ENGAGE THE BEAR



BUILDING OPPORTUNITIES

GATHERING PLACES

ALTERNATIVE ONE | SINGLE BUILDING

ALTERNATIVE TWO | SEPARATE BUILDINGS

ALTERNATIVE THREE | CAMPSITE CLUSTER

ALTERNATIVE FOUR | MOBILE CAMP

BUILDING OPPORTUNITIES

ADVENTURE PLACES

ALTERNATIVE ONE | TREEHOUSE
ACTIVE/PASSIVE

ALTERNATIVE TWO | TOWER ELEMENTS
ACTIVE

ALTERNATIVE THREE | GATHERING
ACTIVE/PASSIVE

ALTERNATIVE FOUR | CONNECTIONS
ACTIVE

BUILDING OPPORTUNITIES

LIVING SPACES

ALTERNATIVE ONE | AMPHITHEATER

ALTERNATIVE TWO | REFUGE

ALTERNATIVE THREE | ART INSTALLATION

ALTERNATIVE FOUR | FAMILY ACTIVITY

ALTERNATIVE FOUR | ACTIVITY

CONCEPT ALTERNATIVES

AT A GLANCE

BEAR TOWERS

1. NORTH CAMPUS
2. NORTH PARKING WITH DROPOFF
3. SOUTH TOWER
4. SOUTH PARKING WITH DROPOFF
5. OUTDOOR CLASSROOMS
6. NATURE PLAY (PLAYGROUND)
7. WATER PLAY
8. BOARDWALK
9. PRAIRIE TRAIL
10. WOODLAND TRAIL
11. RIDGE TRAIL / OVERLOOKS
12. VEGETATIVE BUFFER
13. GATEWAY/ENTRY FEATURE
14. RESTORED TRIBUTARY AND BLUFF
15. PICNIC GROVE WITH FLEX LAWN
16. PARK ROAD
17. NORTH TOWER AT OBSERVATION KNOLL

AREA OF IMPACT VS. RESTORATION

IMPACT:	RESTORATION
18% of Site	82% of Site

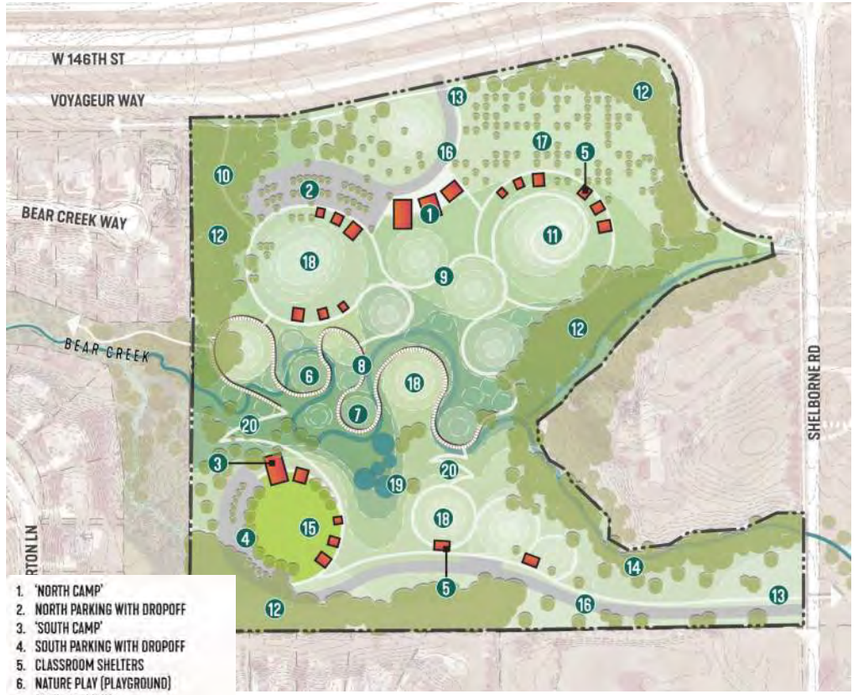
BRAIDED BEAR

1. 'NORTH CAMP'
2. NORTH PARKING WITH DROPOFF
3. 'SOUTH CAMP'
4. SOUTH PARKING WITH DROPOFF
5. OUTDOOR CLASSROOM
6. CANOPY PLAY
7. CREEK STOMPING
8. BOARDWALK WITH INTERPRETIVE KIOSKS
9. PRAIRIE TRAIL
10. WOODLAND TRAIL
11. OVERLOOK
12. VEGETATIVE BUFFER
13. GATEWAY/ENTRY FEATURE
14. RESTORED TRIBUTARY AND BLUFF
15. EVENT LAWN
16. PARK ROAD
17. OAK GROVE ROOMS
18. PEDESTRIAN UNDERPASS
19. VEHICULAR BRIDGE
20. PICNIC SHELTER

AREA OF IMPACT VS. RESTORATION

IMPACT:	RESTORATION
20% of Site	80% of Site

WANDERING BEAR



1. 'NORTH CAMP'
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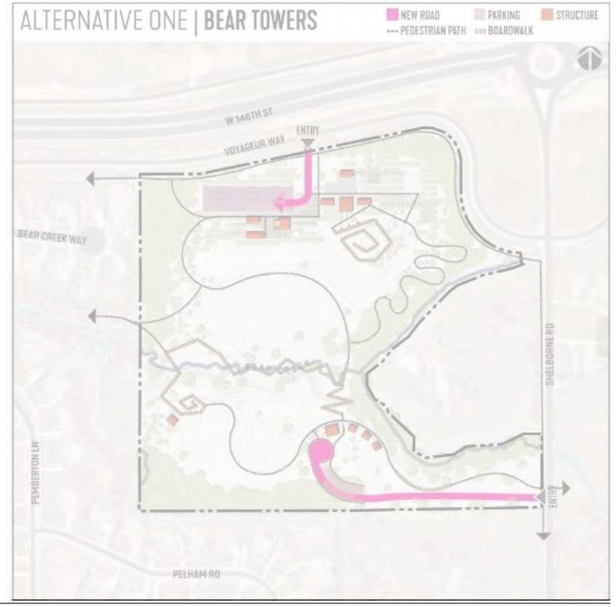
AREA OF IMPACT VS. RESTORATION

IMPACT:	RESTORATION
20% of Site	80% of Site

BEAR TOWERS



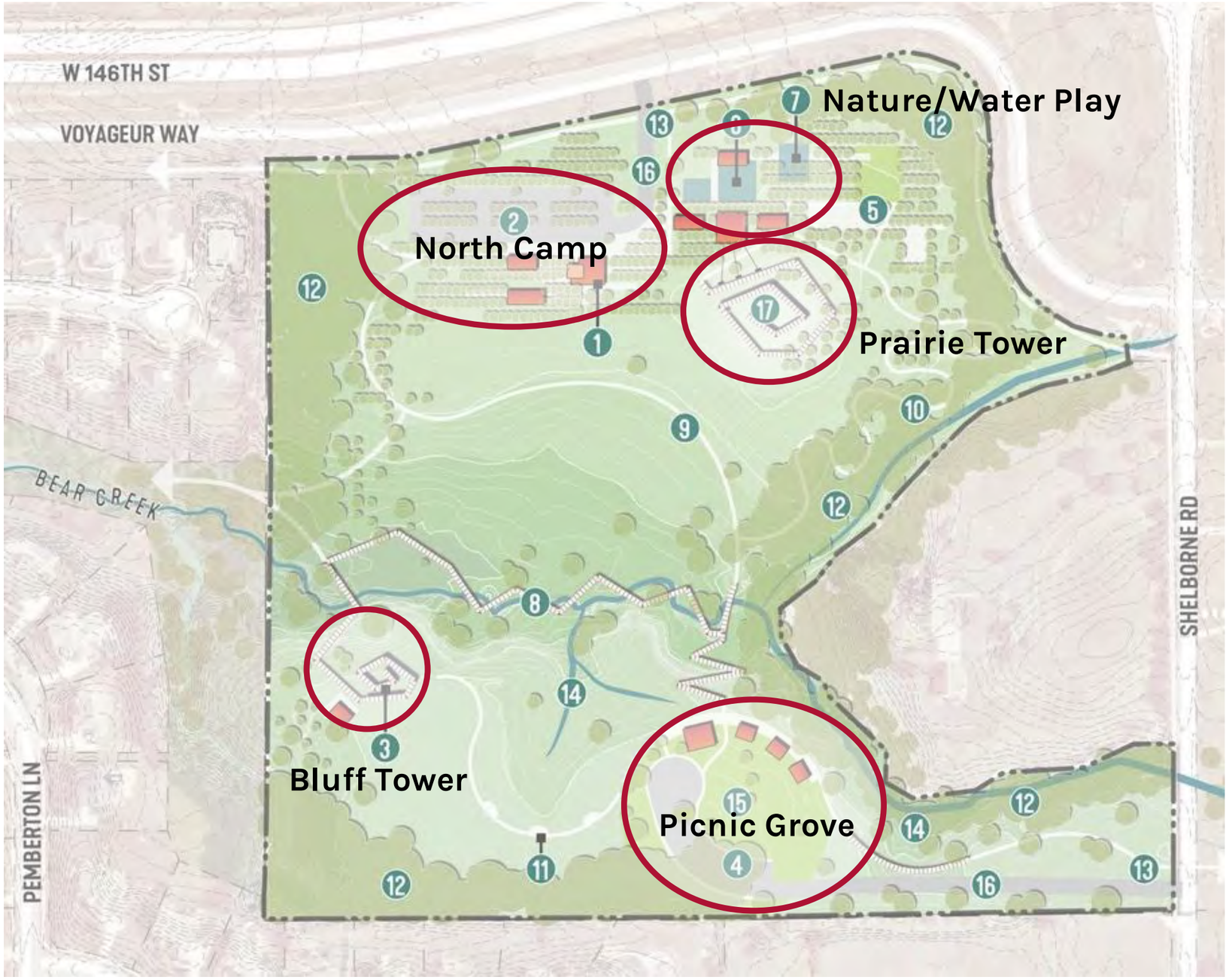
SMITHGROUP

BEAR TOWERS

SMITHGROUP

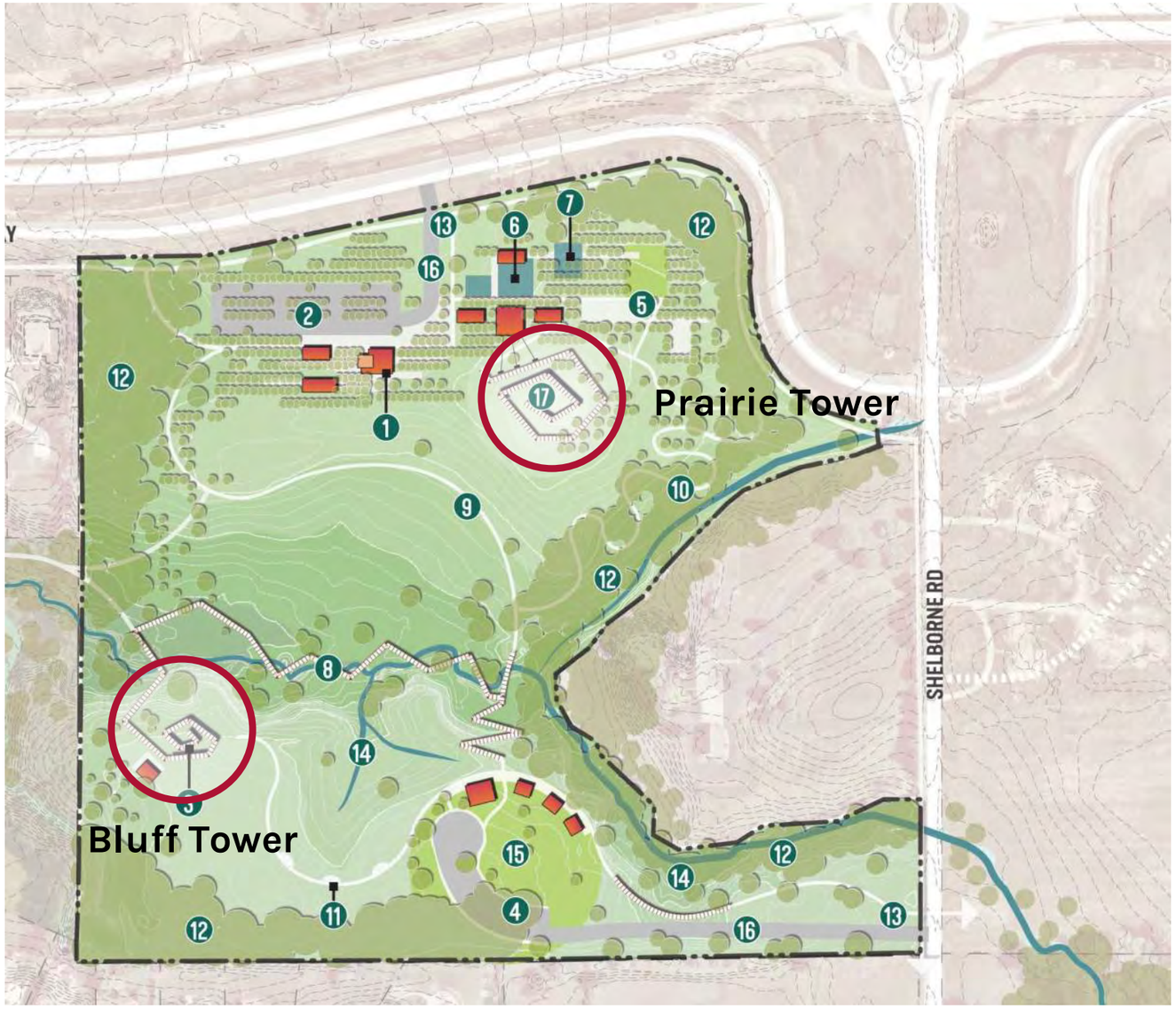
BEAR TOWERS

KEY DESIGN FEATURES



ALTERNATIVE 1

BEAR TOWERS



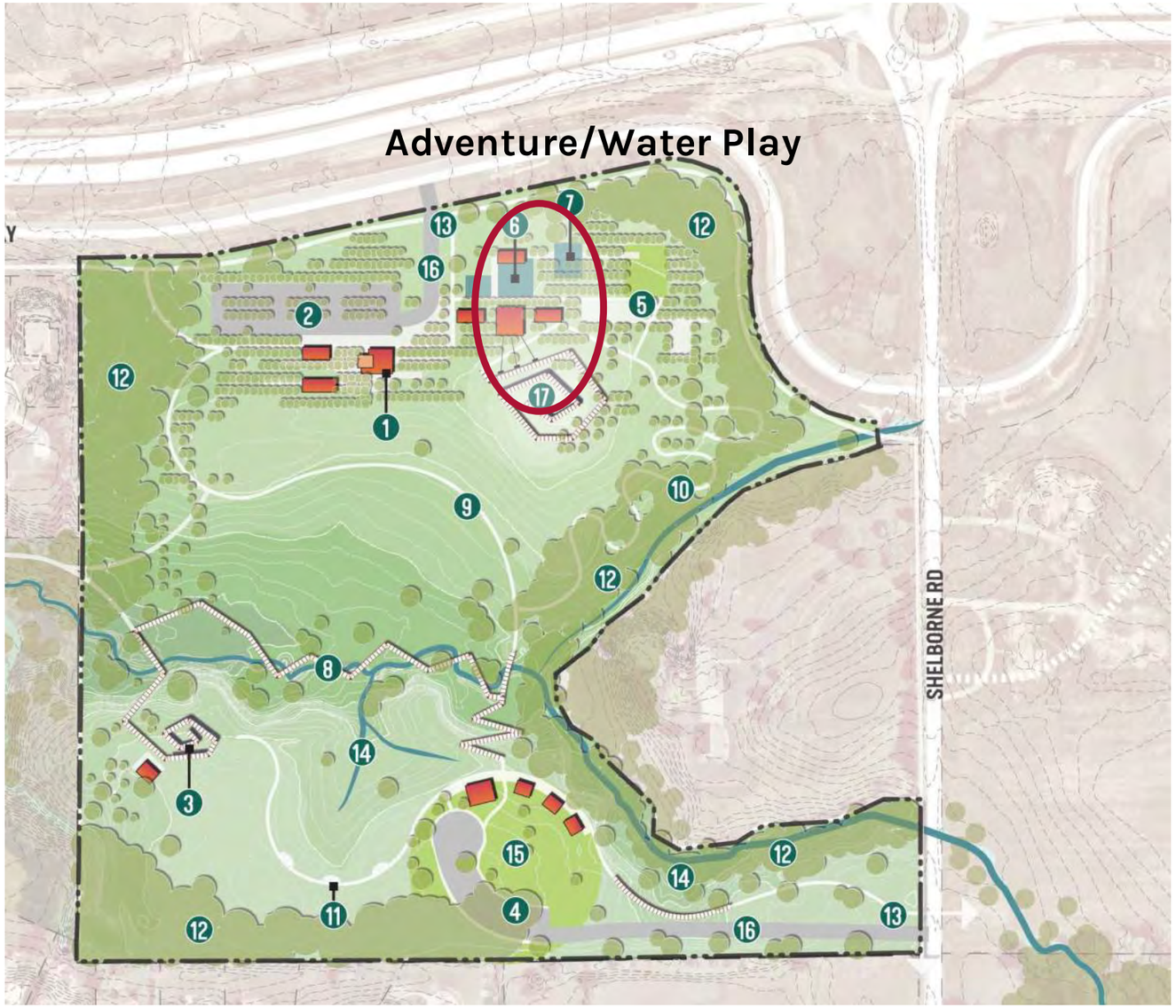
ALTERNATIVE 1

BEAR TOWERS

SMITHGROUP

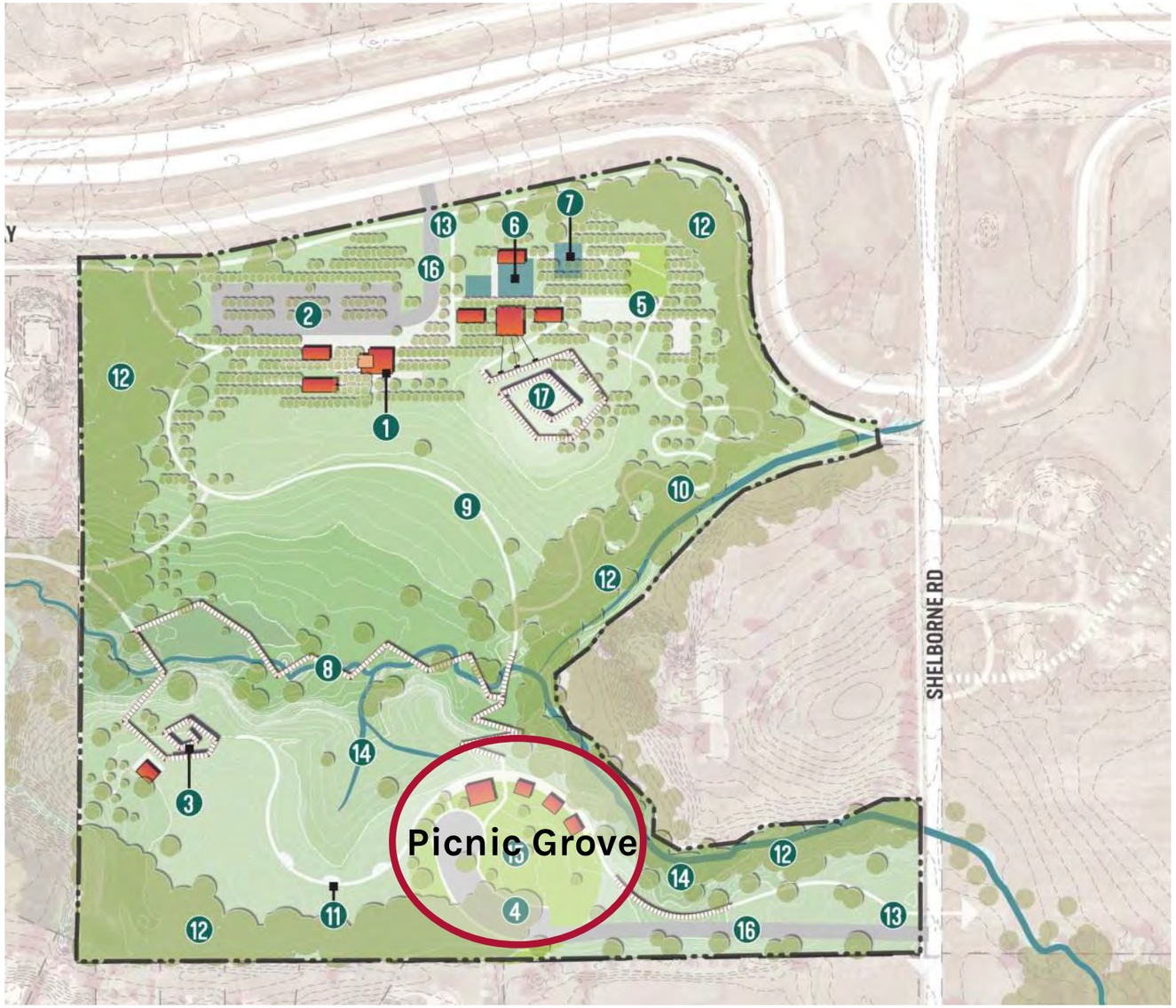
ALTERNATIVE 1

BEAR TOWERS



ALTERNATIVE 1

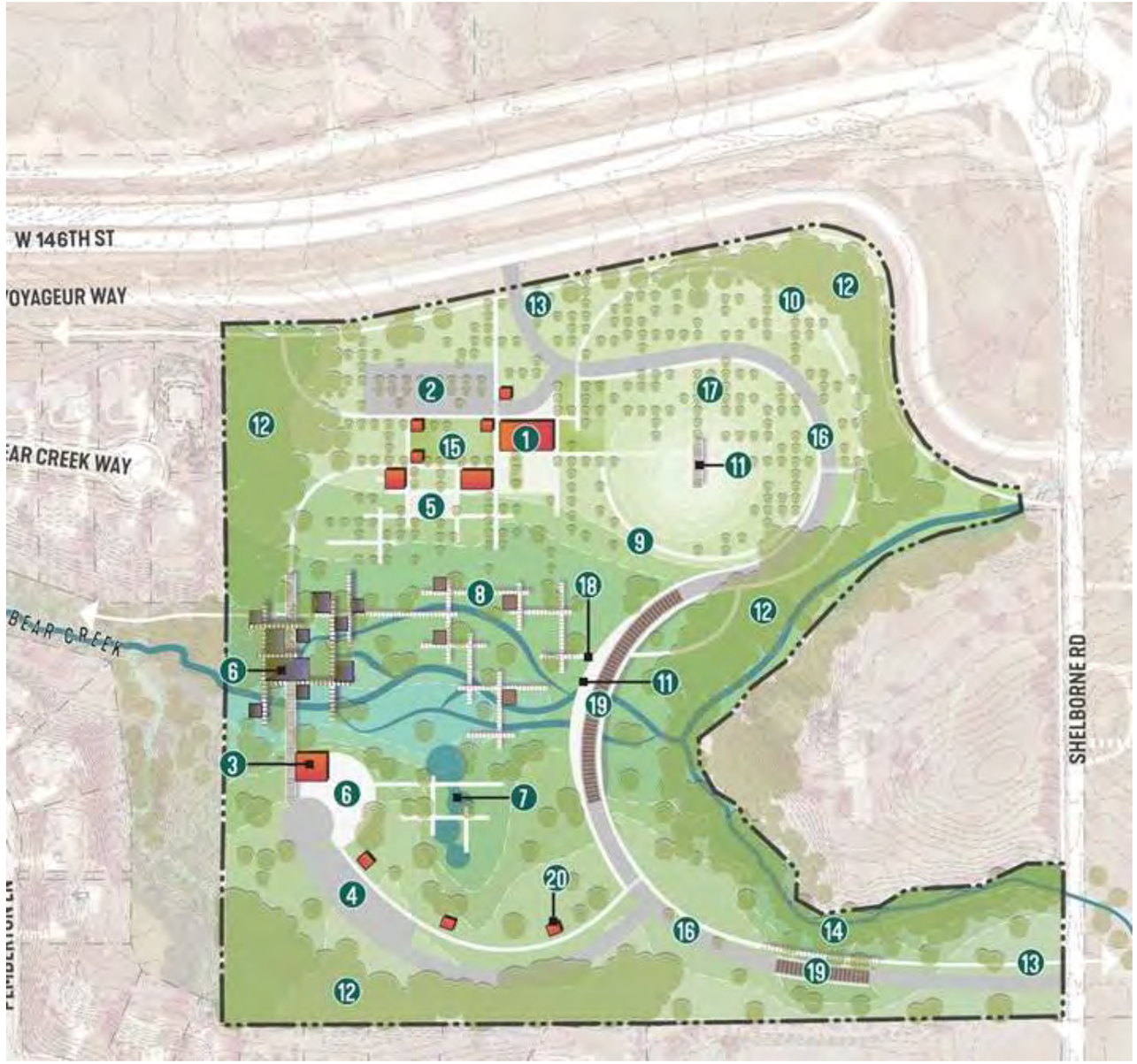
BEAR TOWERS

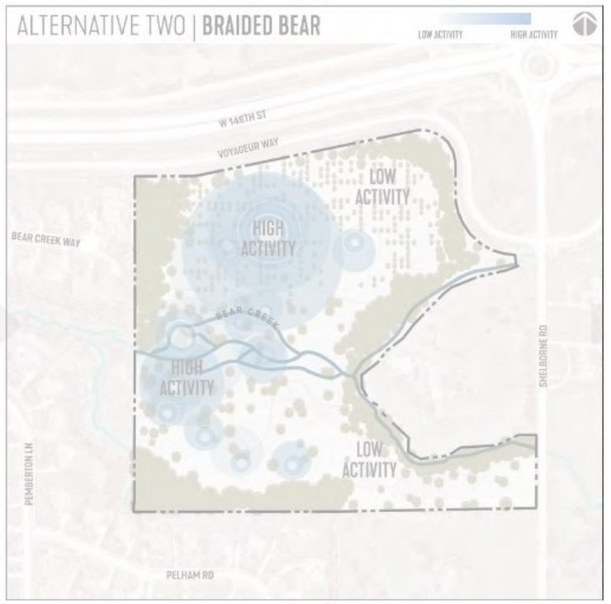


ALTERNATIVE 1

BEAR TOWERS

BRAIDED BEAR





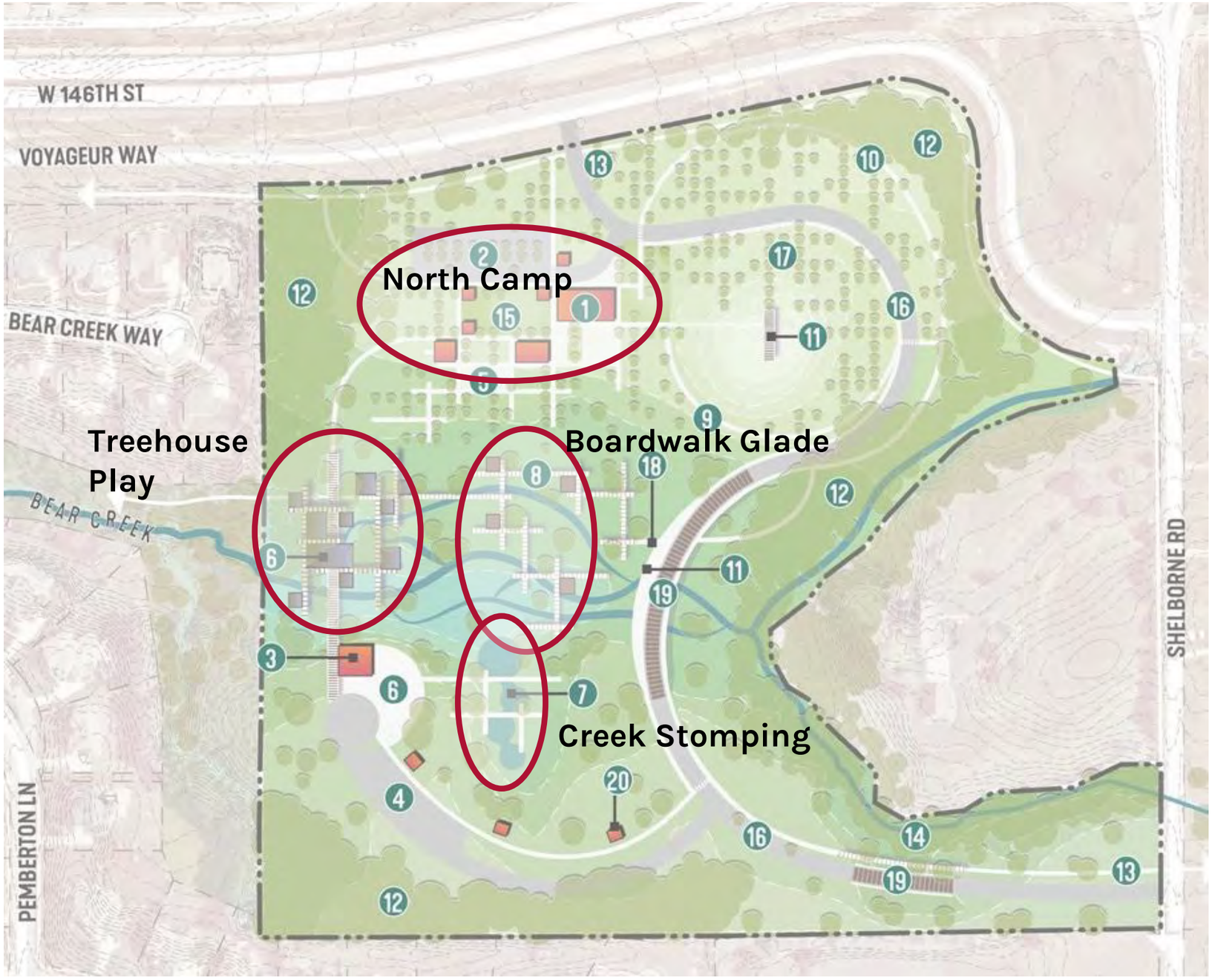
SMITHGROUP

BRAIDED BEAR

SMITHGROUP

BRAIDED BEAR

KEY DESIGN FEATURES

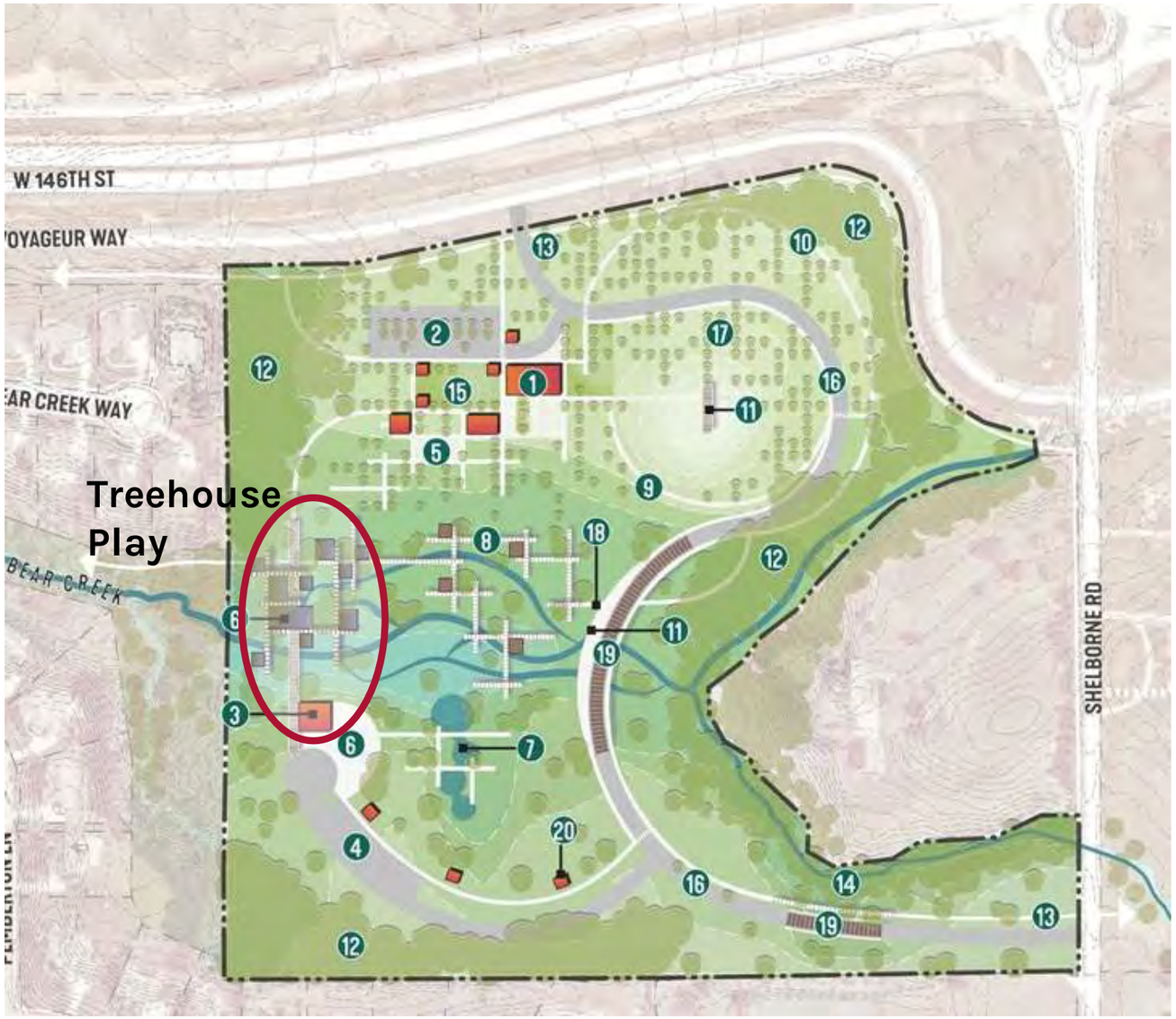


ALTERNATIVE 2

BRAIDED BEAR

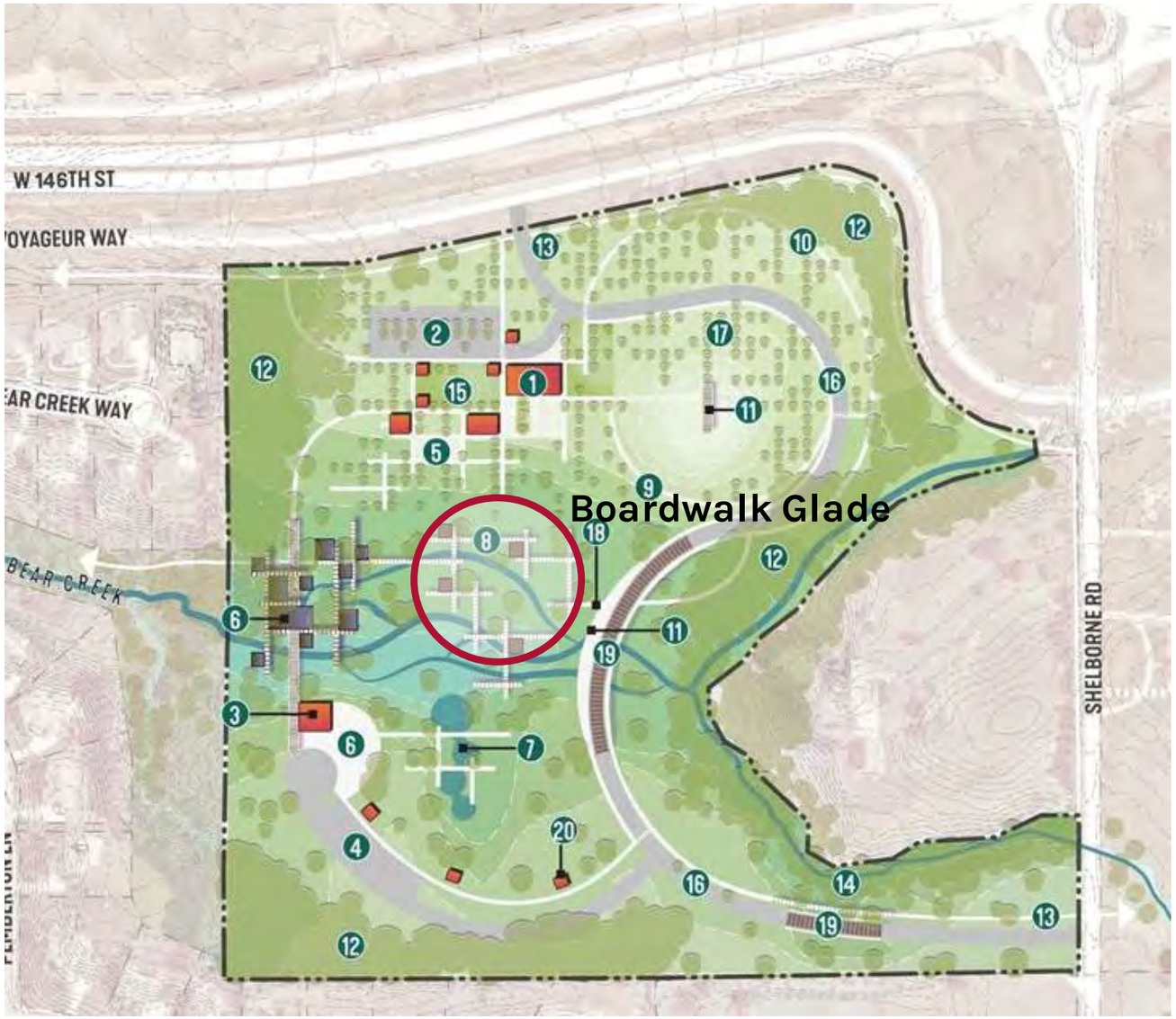
ALTERNATIVE 2

BRAIDED BEAR



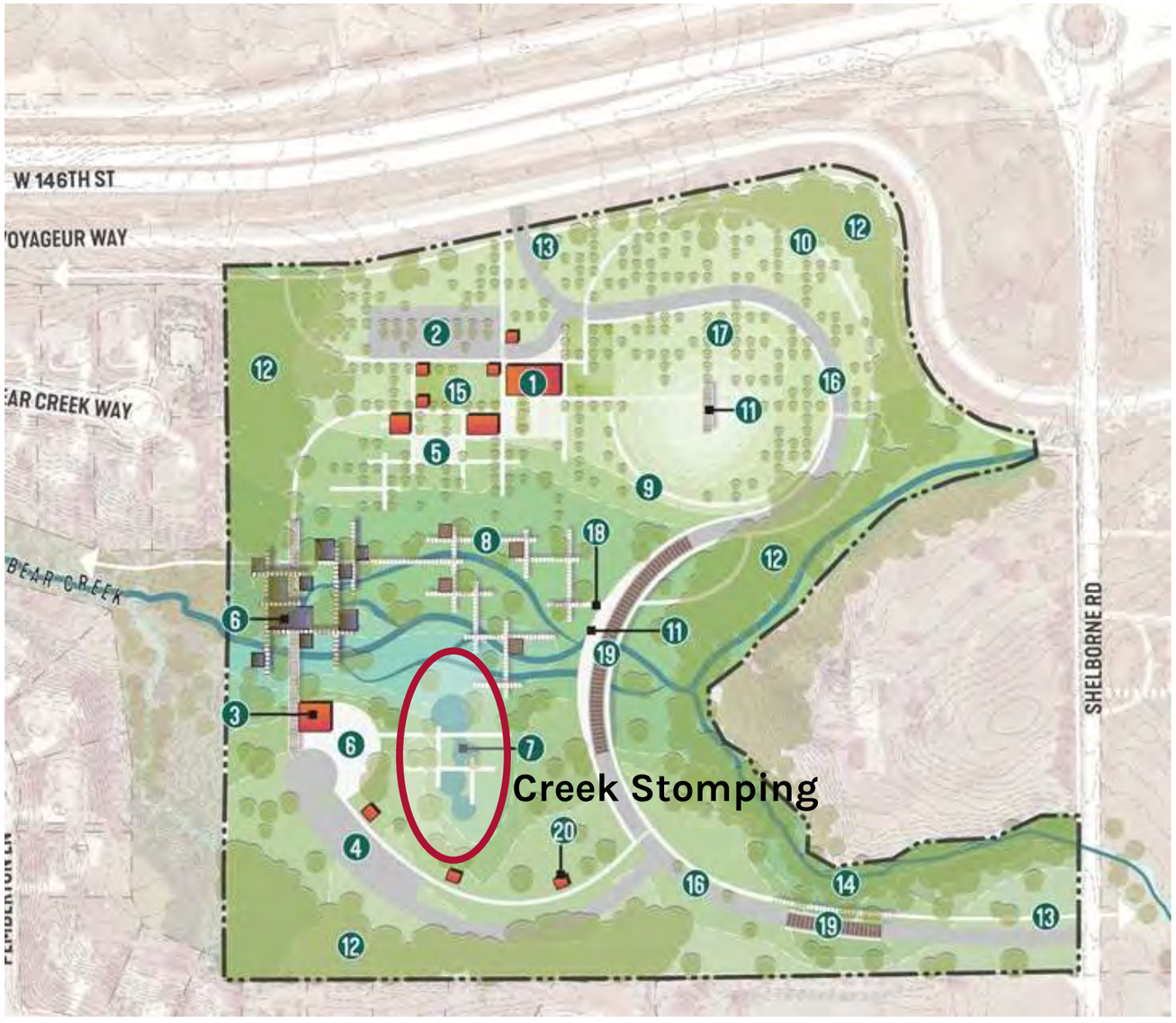
ALTERNATIVE 2

BRAIDED BEAR



ALTERNATIVE 2

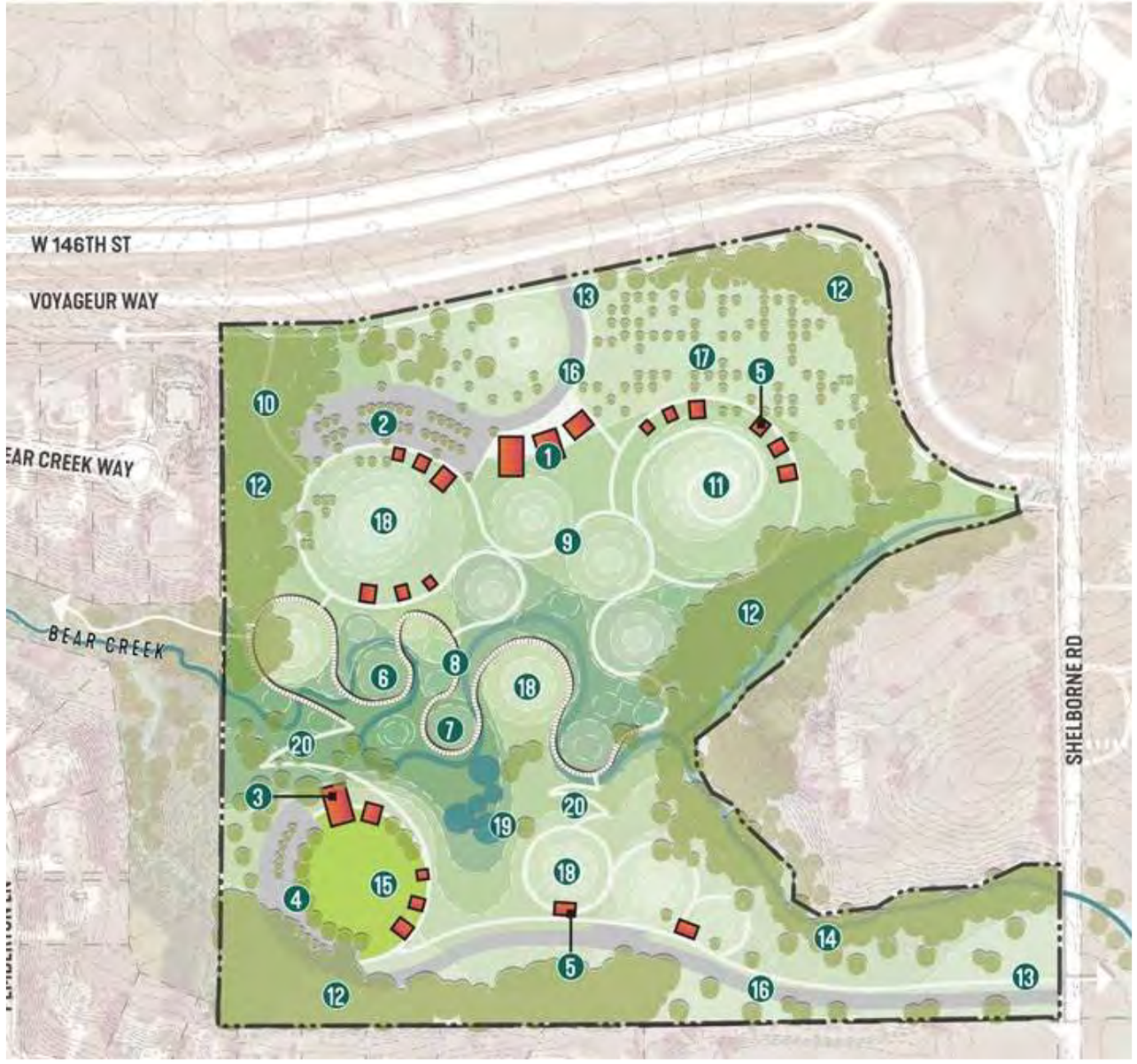
BRAIDED BEAR

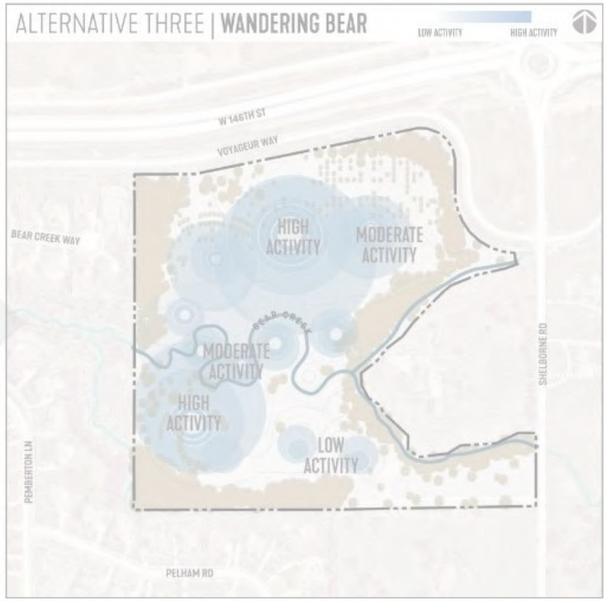


ALTERNATIVE 2

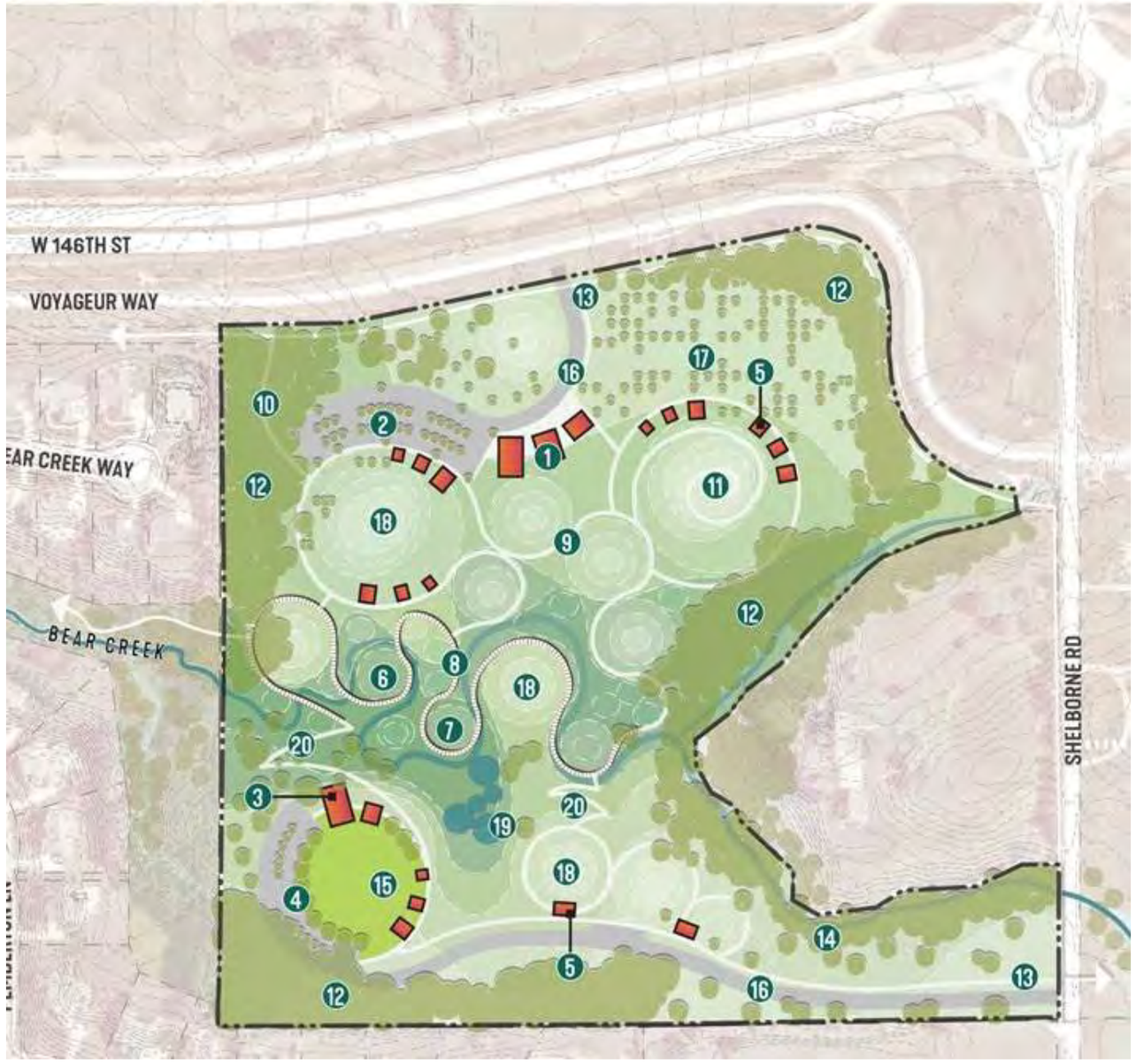
BRAIDED BEAR

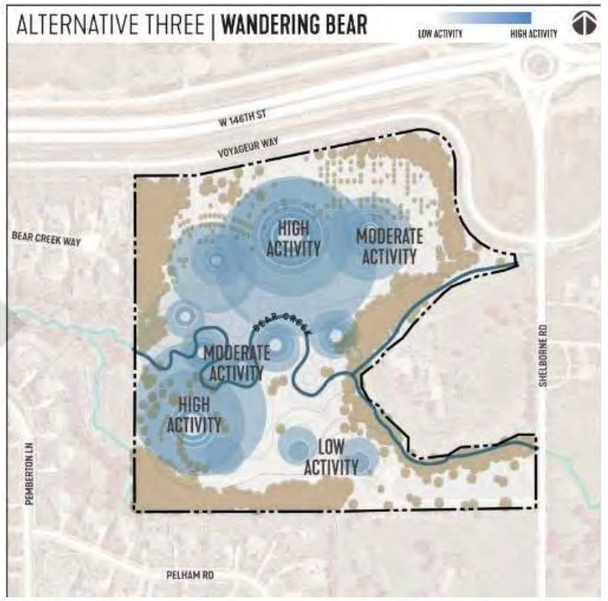
WANDERING BEAR





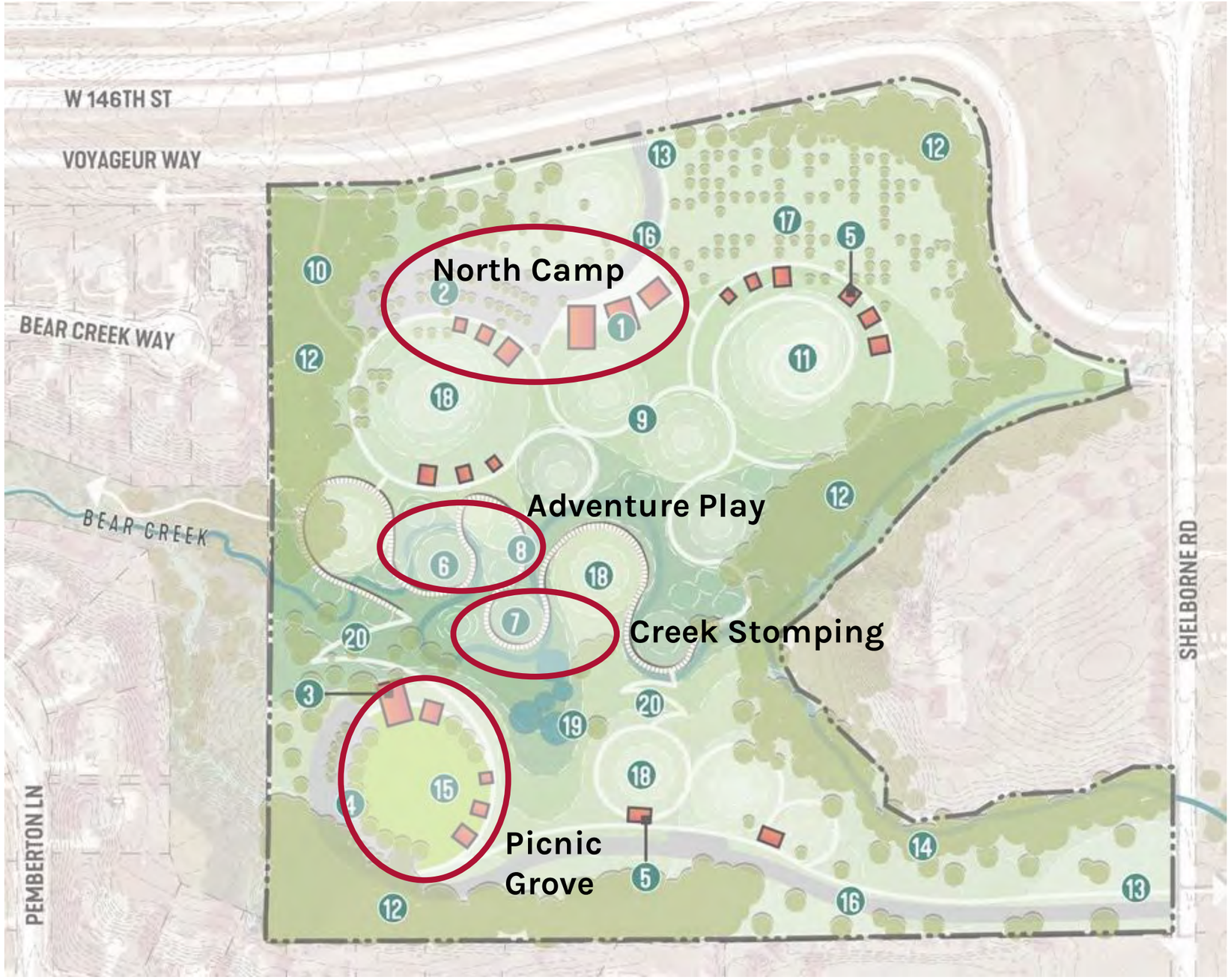
WANDERING BEAR





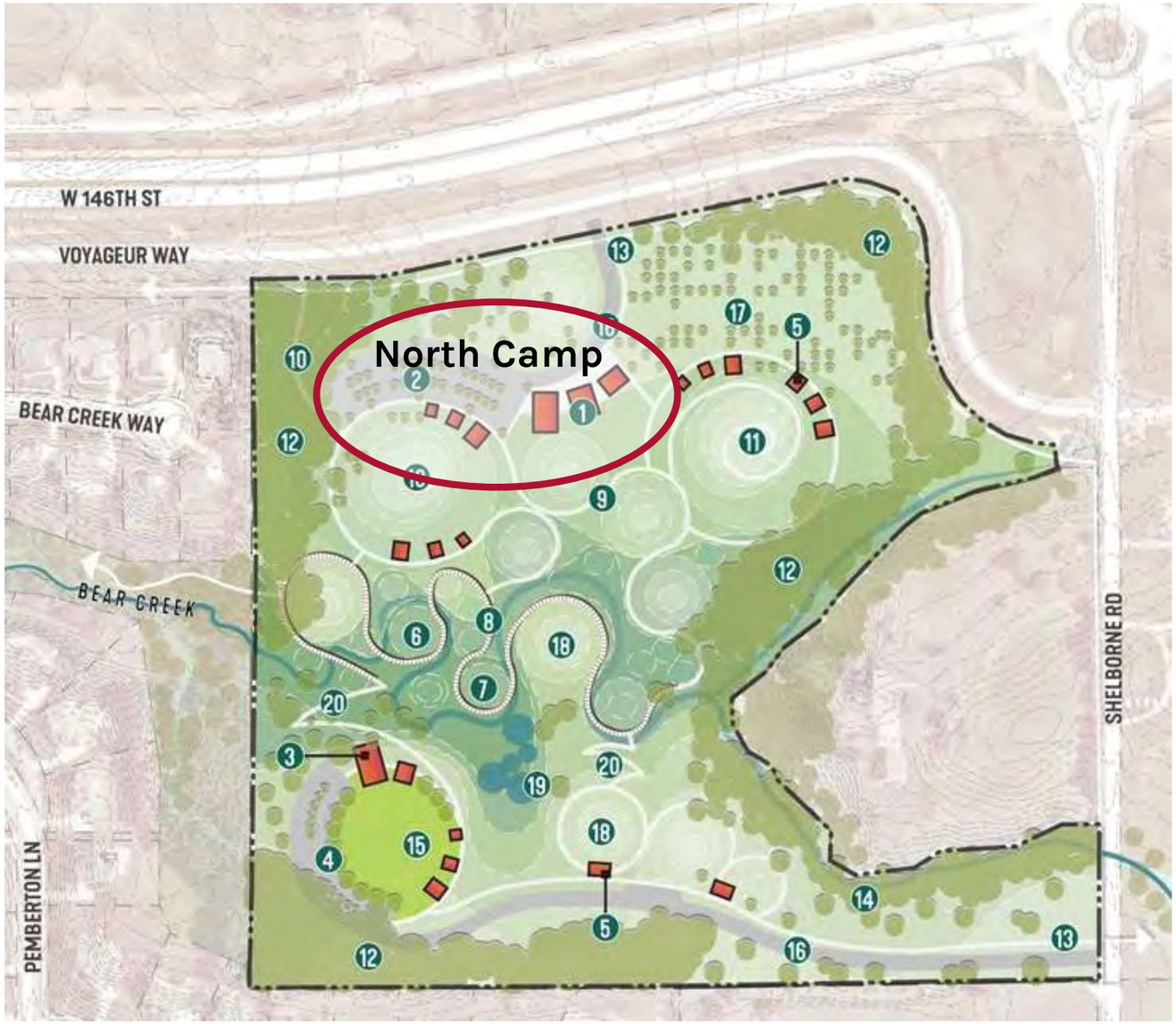
WANDERING BEAR

KEY DESIGN FEATURES



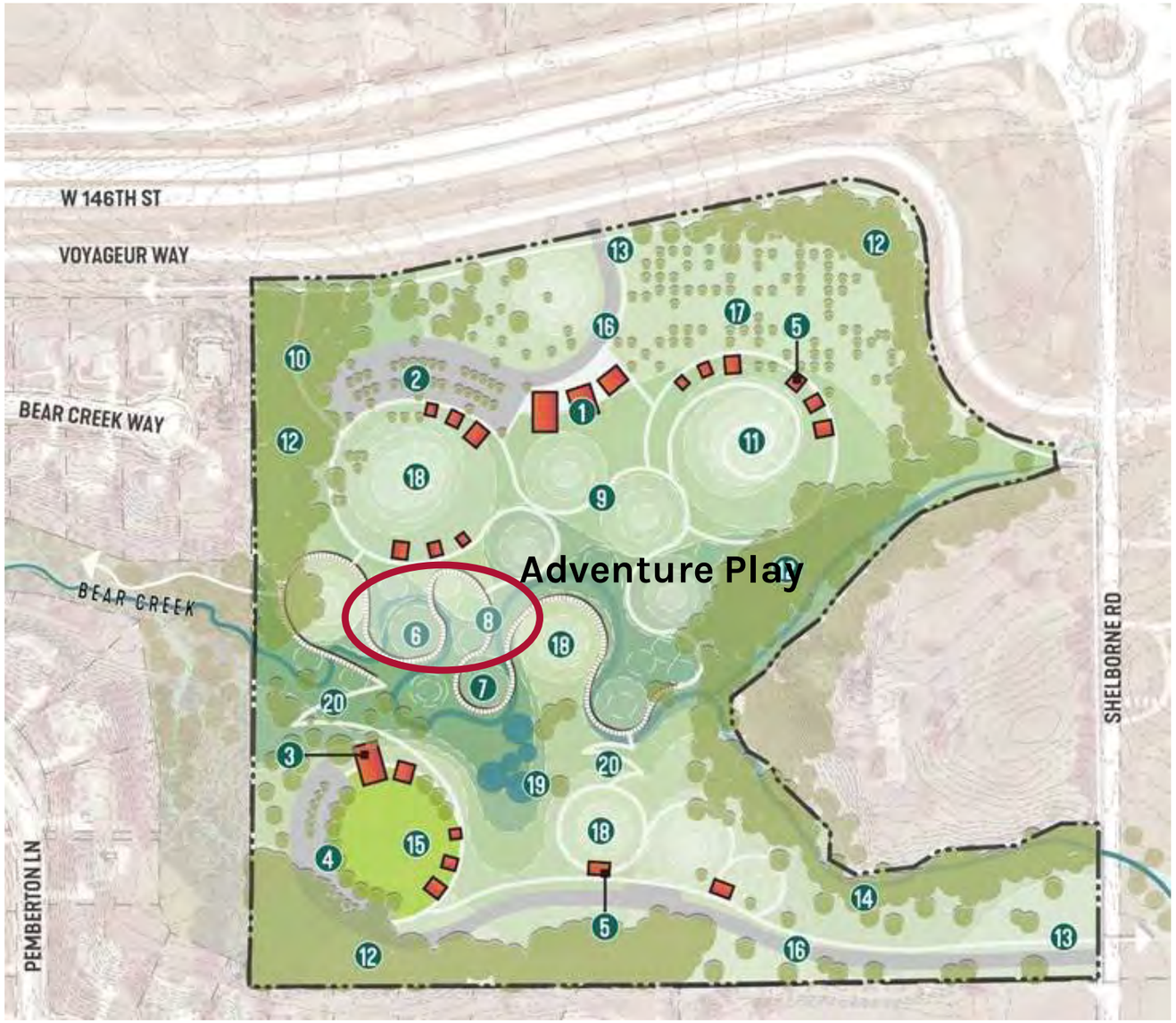
ALTERNATIVE 3

WANDERING BEAR



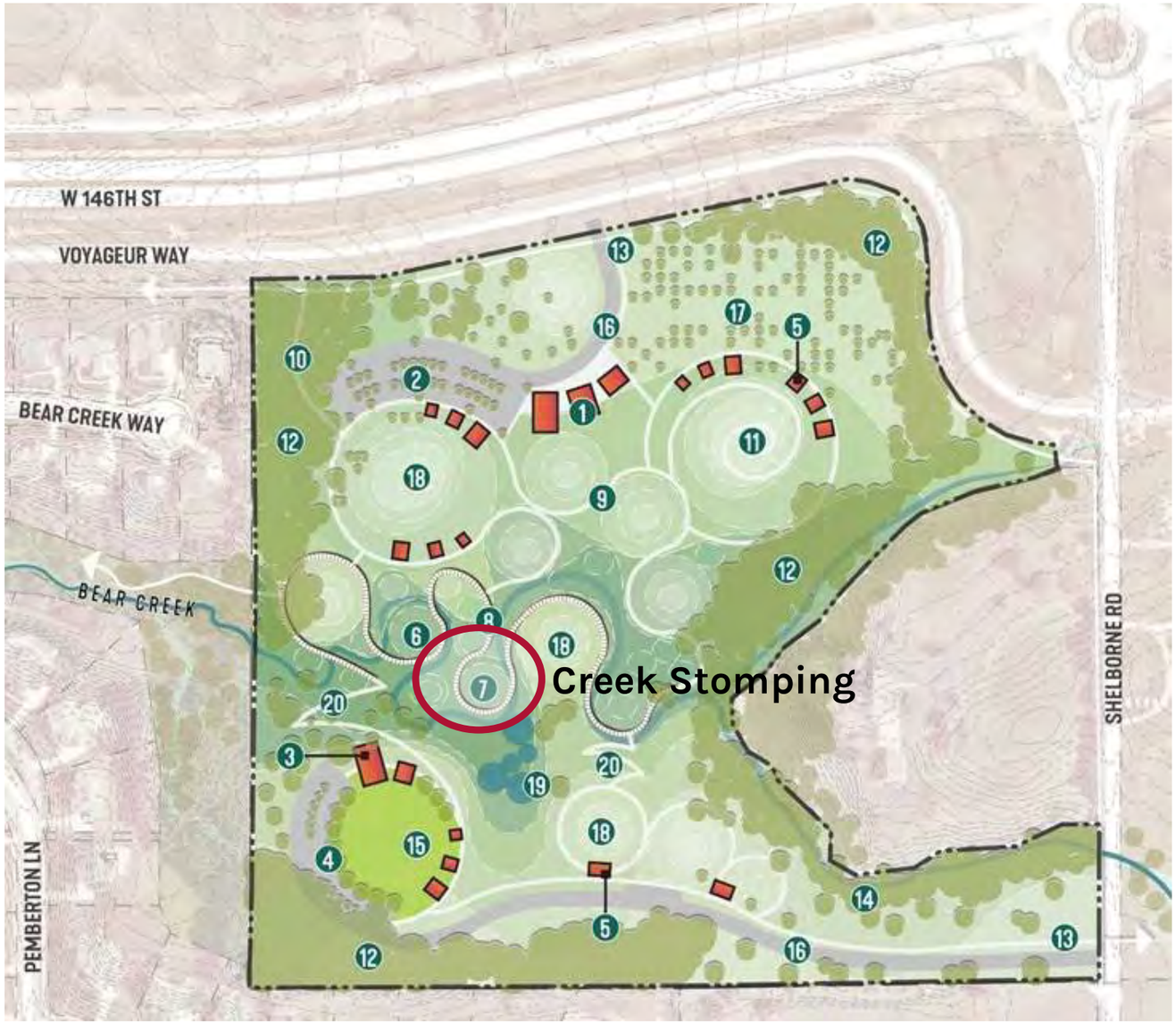
ALTERNATIVE 3

WANDERING BEAR



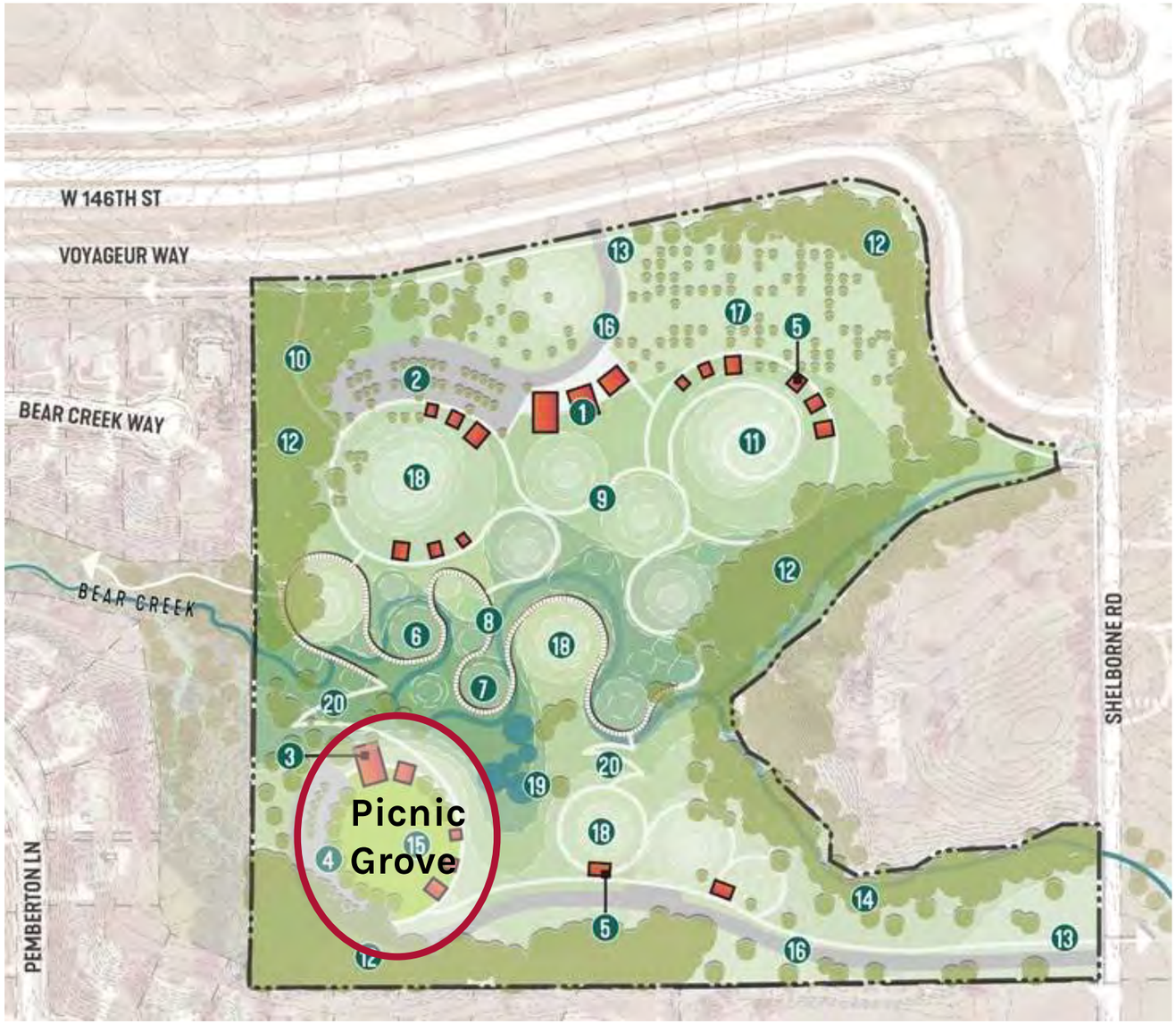
ALTERNATIVE 3

WANDERING BEAR



ALTERNATIVE 3

WANDERING BEAR



ALTERNATIVE 3

WANDERING BEAR

CONCEPT ALTERNATIVES

AT A GLANCE

BEAR TOWERS

1. NORTH CAMPUS
2. NORTH PARKING WITH DROPOFF
3. SOUTH TOWER
4. SOUTH PARKING WITH DROPOFF
5. OUTDOOR CLASSROOMS
6. NATURE PLAY (PLAYGROUND)
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15. PICNIC GROVE WITH FLEX LAWN
16. PARK ROAD
17. NORTH TOWER AT OBSERVATION KNOLL

AREA OF IMPACT VS. RESTORATION

IMPACT:	RESTORATION
18% of Site	82% of Site

BRAIDED BEAR

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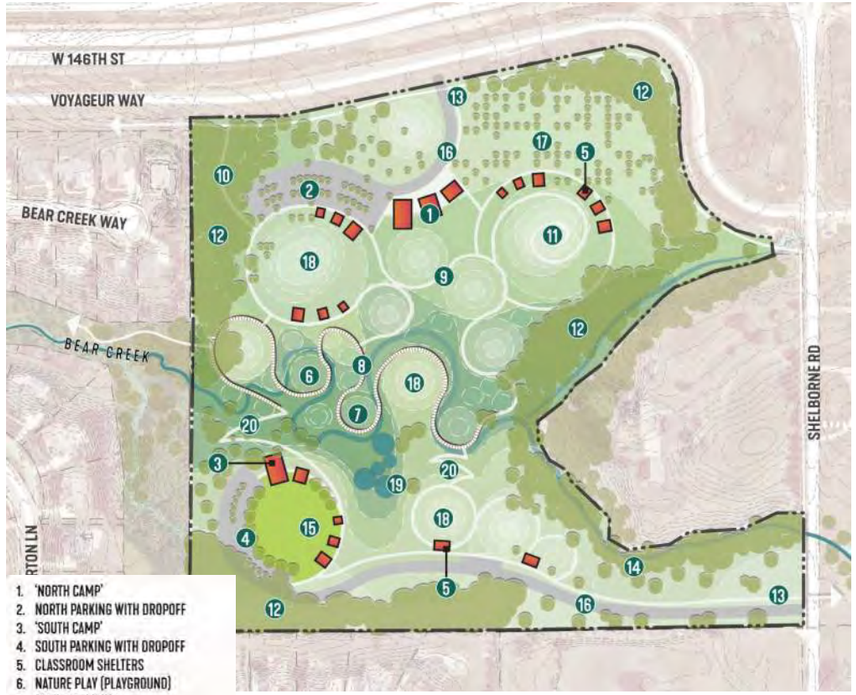
18. PEDESTRIAN UNDERPASS
19. VEHICULAR BRIDGE
20. PICNIC SHELTER

AREA OF IMPACT VS. RESTORATION

IMPACT:	RESTORATION
20% of Site	80% of Site

WANDERING BEAR



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19. TRIBUTARY POOLS
20. BLUFF CLIMB

AREA OF IMPACT VS. RESTORATION

IMPACT:	RESTORATION
20% of Site	80% of Site

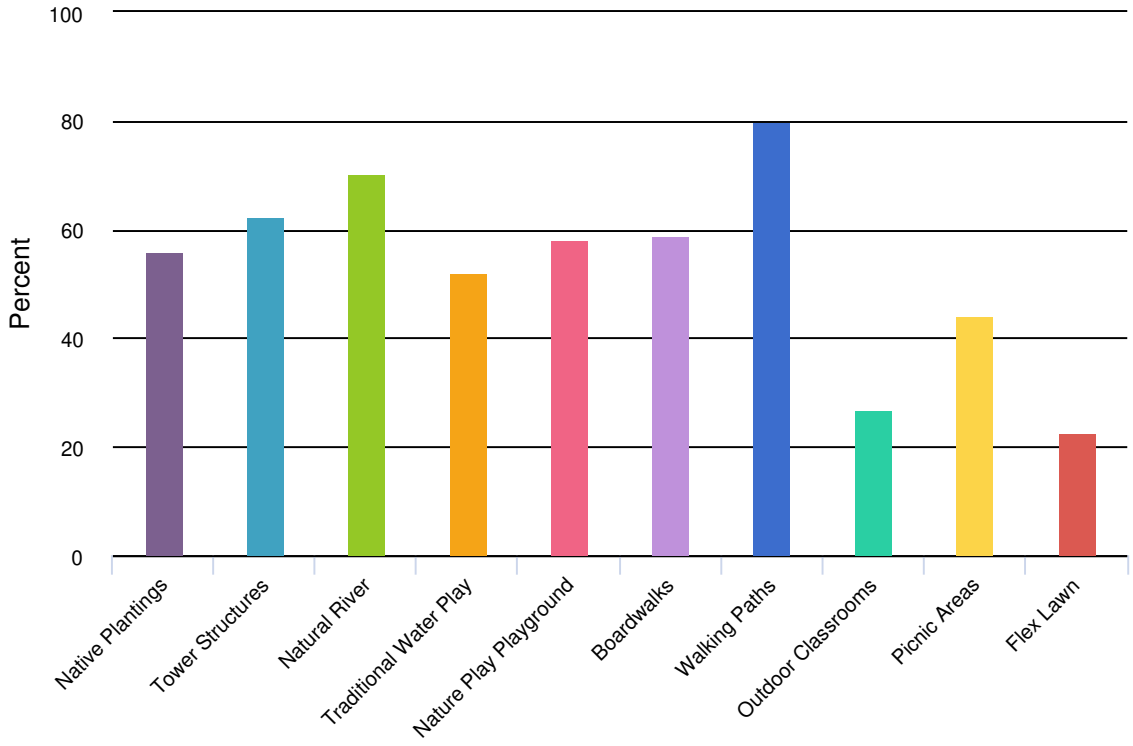
Report for Bear Creek Park Concepts Public Input Survey III

Response Counts

Completion Rate:	**49.4%**		
	Complete		119
	Partial		122

Totals: 241

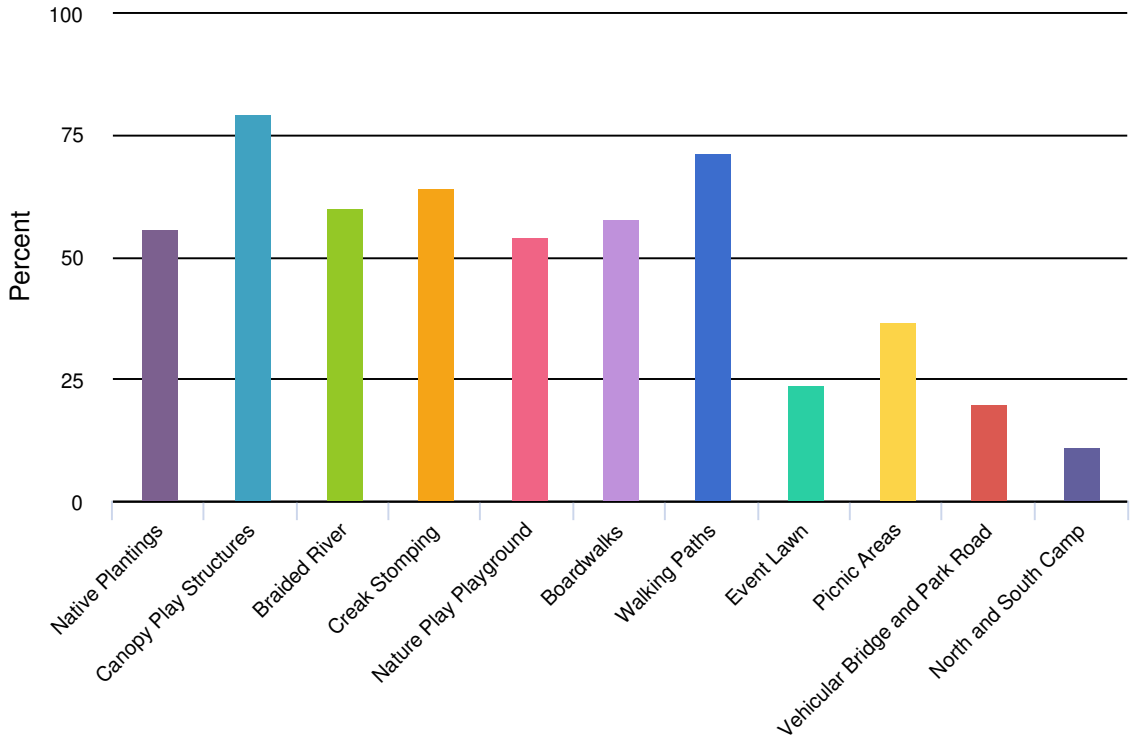
1. Select each item that you like about the above concept plan.



Value	Percent	Responses
Native Plantings	56.0%	79
Tower Structures	62.4%	88
Natural River	70.2%	99
Traditional Water Play	51.8%	73
Nature Play Playground	58.2%	82
Boardwalks	58.9%	83
Walking Paths	80.1%	113
Outdoor Classrooms	27.0%	38
Picnic Areas	44.0%	62
Flex Lawn	22.7%	32

2. In a few sentences or less, tell us what you like and dislike about each concept.

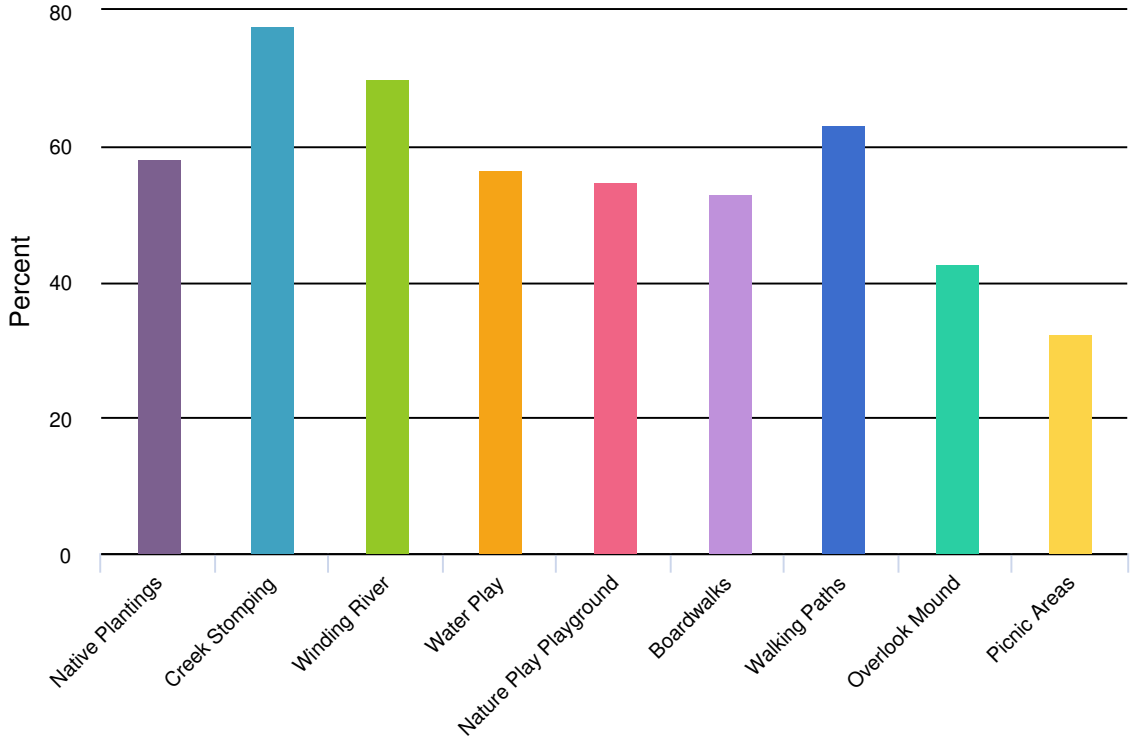
3. Select each item that you like about the above concept plan.



Value	Percent	Responses
Native Plantings	55.6%	70
Canopy Play Structures	79.4%	100
Braided River	60.3%	76
Creak Stomping	64.3%	81
Nature Play Playground	54.0%	68
Boardwalks	57.9%	73
Walking Paths	71.4%	90
Event Lawn	23.8%	30
Picnic Areas	36.5%	46
Vehicular Bridge and Park Road	19.8%	25
North and South Camp	11.1%	14

4. In a few sentences or less, tell us what you like and dislike about each concept.

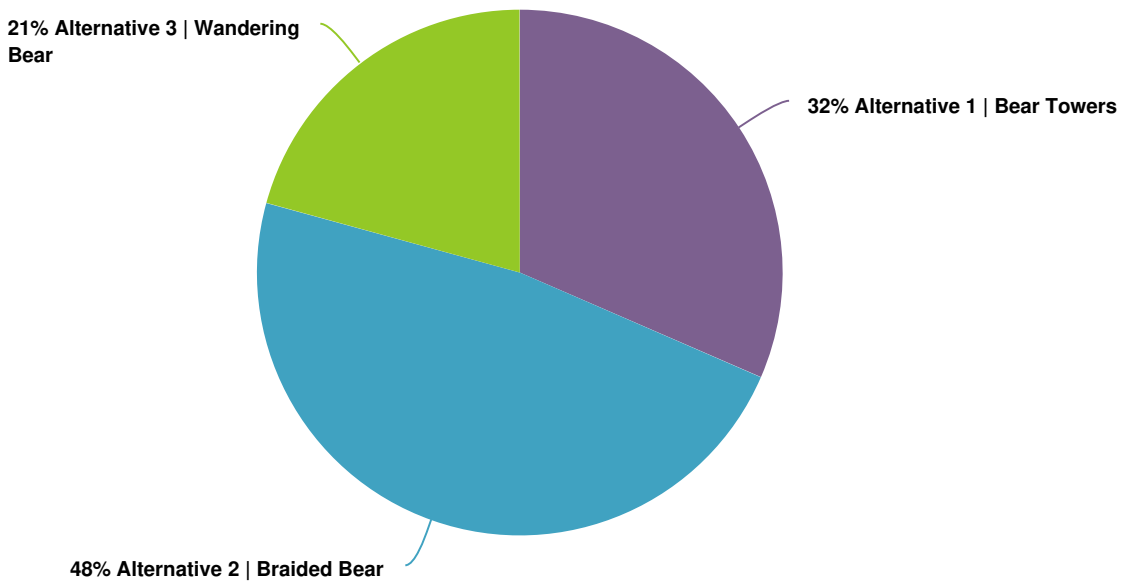
5. Select each item that you like about the above concept plan.



Value	Percent	Responses
Native Plantings	58.1%	68
Creek Stomping	77.8%	91
Winding River	70.1%	82
Water Play	56.4%	66
Nature Play Playground	54.7%	64
Boardwalks	53.0%	62
Walking Paths	63.2%	74
Overlook Mound	42.7%	50
Picnic Areas	32.5%	38

6. In a few sentences or less, tell us what you like and dislike about each concept.

7. Please identify your preferred Concept Alternative by selecting the appropriate box below.



Value	Percent	Responses
Alternative 1 | Bear Towers	31.5%	35
Alternative 2 | Braided Bear	47.7%	53
Alternative 3 | Wandering Bear	20.7%	23

Totals: 111

8. Please share any comments you have about the Alternatives in the box below.