



HISTORIC



NATURAL



SOCIAL



ICONIC

MARCH 2016

WOODLAND PARK

CONNECTIVITY STUDY + FRAMEWORK PLAN



(RIGHT): Existing Trail at Eastern Lawn South of Community Center;
(TOP): Little White Oak Bayou



WOODLAND PARK

CONNECTIVITY STUDY + FRAMEWORK PLAN

MARCH 2016

A STUDY DONE FOR MEMORIAL HEIGHTS REDEVELOPMENT
AUTHORITY AND REINVESTMENT ZONE NO. 5

BY:  & 



(TOP): Existing Trail along Houston Ave

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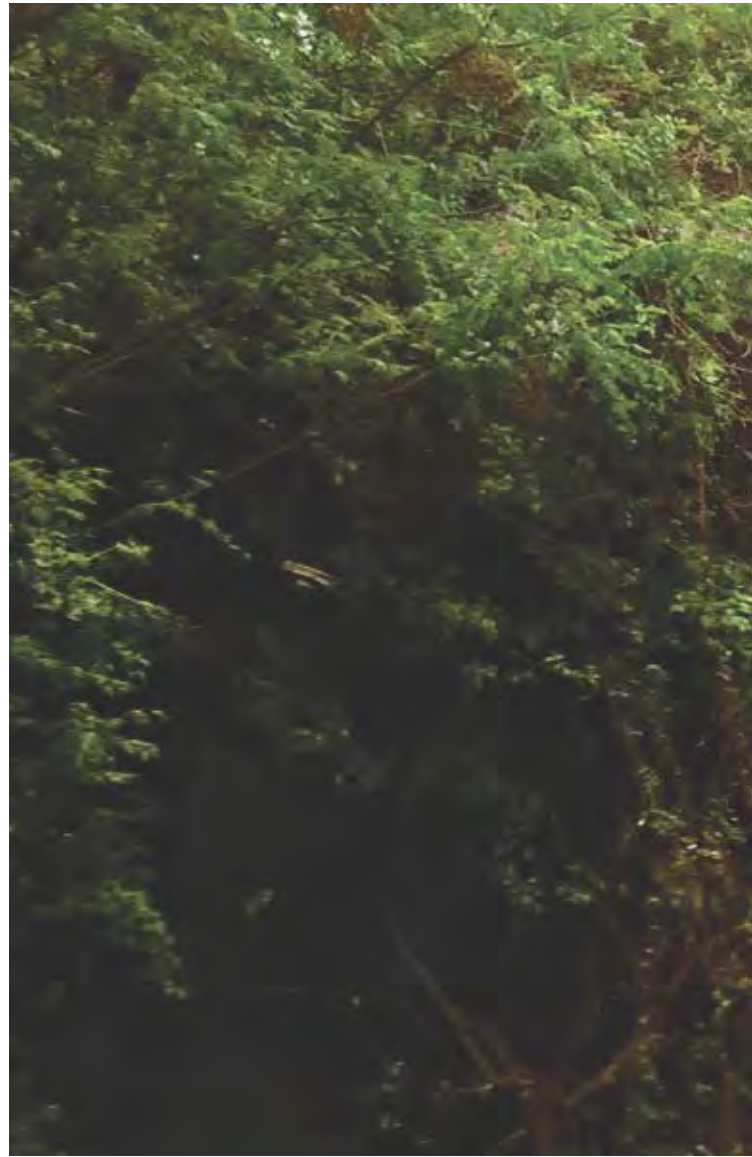
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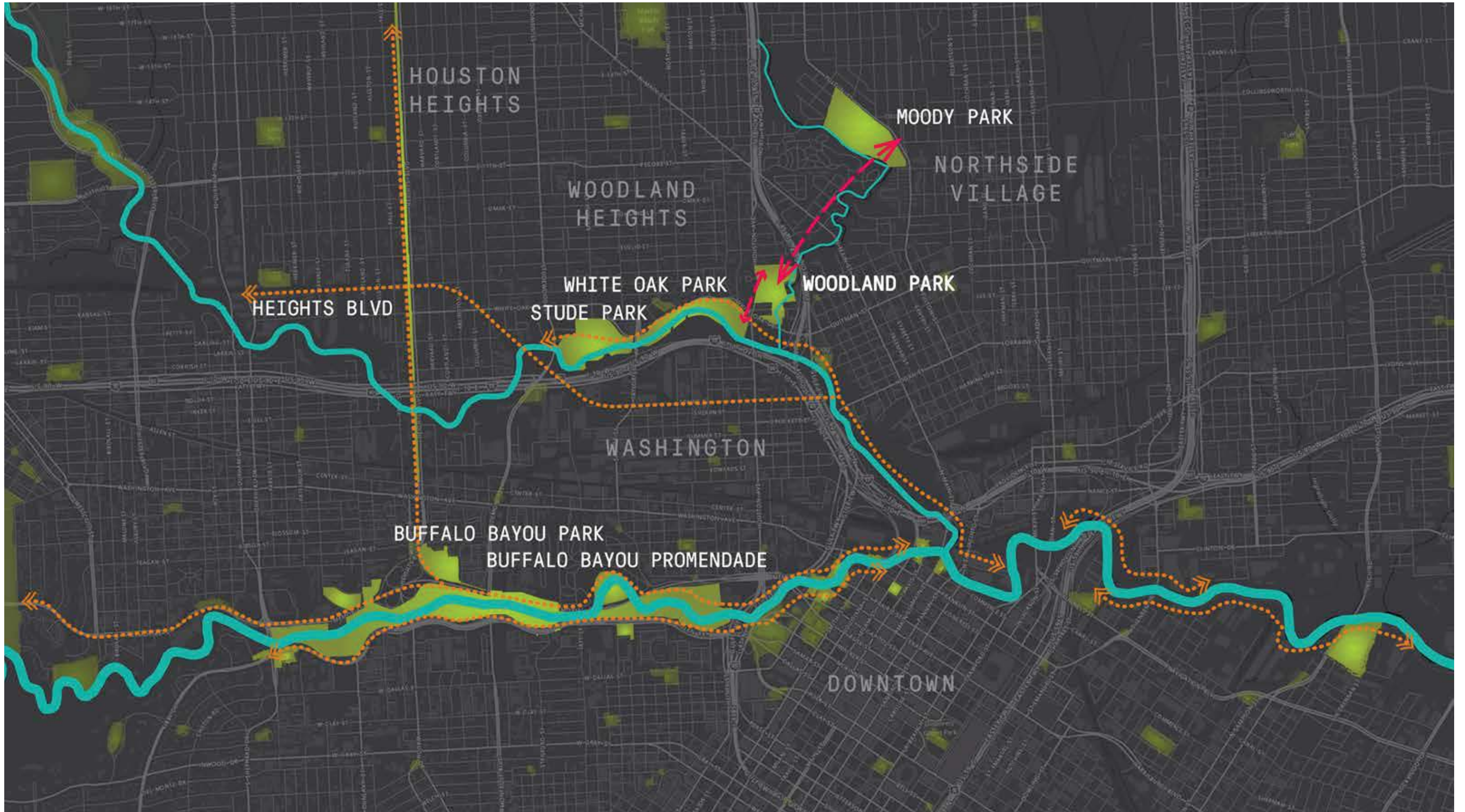


(RIGHT): Existing Trail at Eastern Lawn South of Community Center;
(TOP): TXDOT Outfall Little White Oak Bayou



PROJECT BACKGROUND

1



GREENWAY SYSTEMS CONTEXT

EXECUTIVE SUMMARY

BUILDING NEIGHBORHOOD CONNECTIONS

Woodland Park is the second oldest park in Houston, situated at the confluence of two bayous and the convergence point of two bustling freeways. The park is near but not connected to the White Oak Hike and Bike Trail, a major pedestrian and bikeway artery.

The Memorial Heights ReDevelopment Authority engaged the Houston Parks Board and SWA to identify a primary circulation route connecting the park to the multi-purpose trail while keeping potential future opportunities for park development in mind to ensure connections made now would be long-lived.

Another goal of the project was for the framework plan to take advantage of Woodland Park's existing natural features while maximizing opportunities for recreation, creating a variety of experiences within and through the park.

The design team began the project by identifying key opportunities and constraints to various routes of connectivity. It quickly became apparent that land ownership issues, floodway designation and slope conditions would make building a trail near the bayou an accessibility and maintenance challenge.

However, a unique opportunity arose from the process to create a gateway for the Woodland Heights neighborhood as well as the park. The team unlocked the opportunity once it started looking at the existing five-way intersection of Houston Ave and White Oak Dr. in terms of pedestrian safety.

The team presented the re-design of this intersection as an out-of-the box solution to park's pedestrian connectivity problems. The proposal garnered support from the Memorial Heights Reinvestment Zone and several city departments including: City of Houston Parks and Recreation, Planning and Public Works Departments.

The final design proposals from SWA include two alternates which look to the future of the park in terms of program development which is supported by the proposed trail alignments. One incorporates many of the existing conditions actively used by park visitors today and the other looks to re-organizing program within the park to increase legibility.



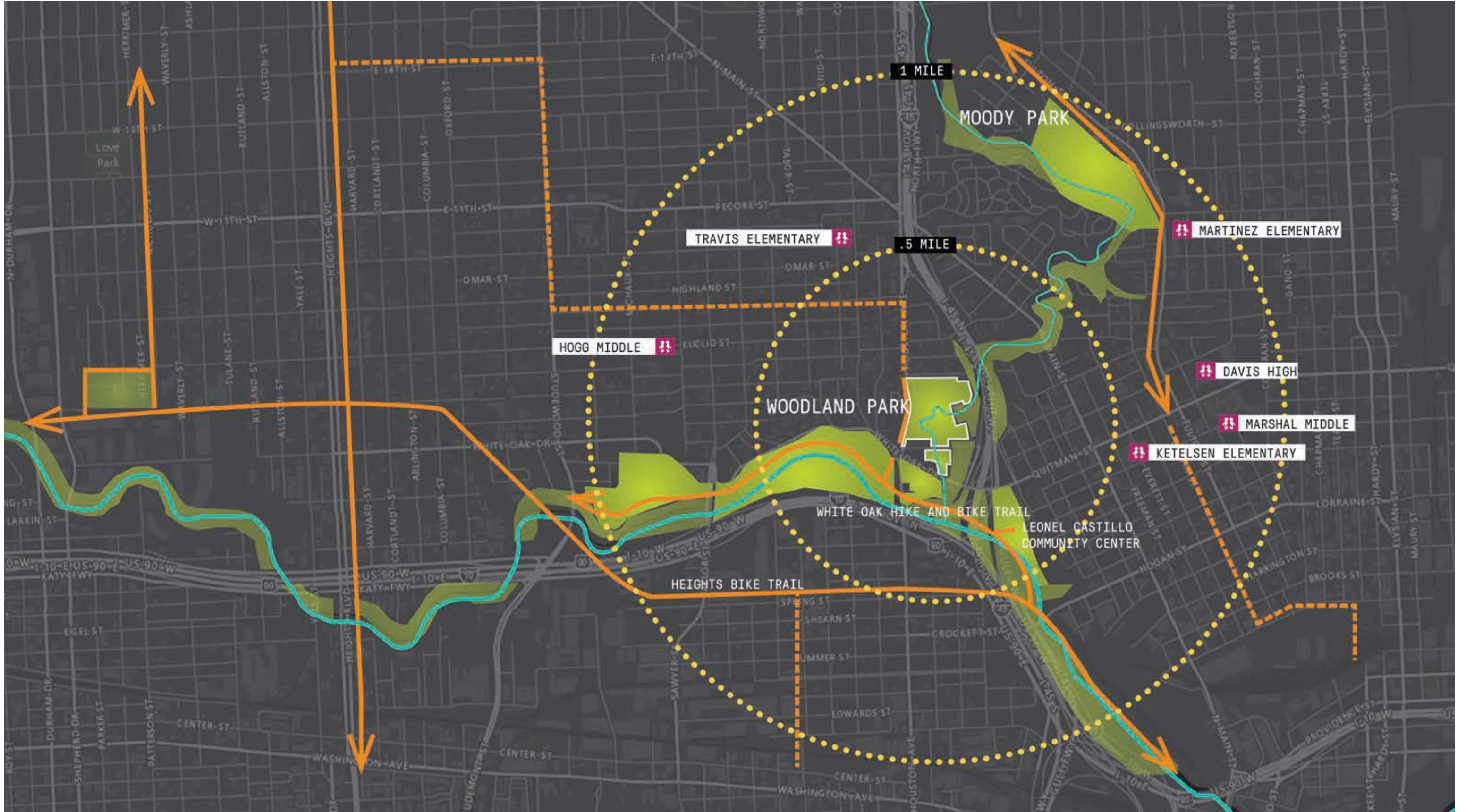
GOAL: Take Advantage of Woodland Park's Existing Natural Features While Maximizing Opportunities for Active Recreation



GOAL: Create a Variety of User Experiences Within and Through the Park



GOAL: Safe Multi-Purpose Trail from Woodland Park to White Oak Hike and Bike



SITE CONTEXT



PROJECT CONTEXT

PARKS AND PEOPLE

Woodland Park sits at the vertex point of a larger chain of parks and greenways that stitches together several neighborhoods including Woodland Heights, Northside Village, Houston Heights and Washington Ave. Also located within a mile of the park are six different schools that could benefit from connectivity improvements.

While the greenspaces are adjacent to each other, following White Oak Bayou and Little White Oak Bayou, pedestrian access is not necessarily contiguous.

The White Oak Bayou Hike and Bike Trail is a major multi-modal circulation artery stringing Hogg Park, Freed Park, White Oak Park and Stude Park from East to West. Woodland Park is the next critical link in this green chain, with the potential to connect all the way to Moody Park in the future.

This patchwork of parks threaded together by two bayous is critical to the health of the neighborhoods surrounding it because it provides opportunities for both active and passive recreation as well as opportunities for ecosystem services. Studies have proven, children with access to greenspace are more likely to perform better in school.

Woodland Park stands out from them because of its unique character facets. The north side of the park is dedicated to active recreation and community engagement while the interior of the park provides visitors with a unique opportunity to experience nature in a slightly wilder state. Nature trails weave around Little White Oak Bayou through bottomland forest.



Promenade at Highland Park



The House at Highland Park, Woodport, Tex.

PARK HISTORY

HIGHLAND PARK

Public parks were a rarity at the turn of the last century. So when the Houston Electric Company announced in 1903 that they would build a grand new park there was considerable interest from the citizens of Houston. Highland Park, the park's original name, was to be built on 30 acres of the Beauchamp Springs tract between Houston Ave. and Little White Oak Bayou at 212 Parkview. The Houston Electric Company said it would spare no expense in making this the finest park in the South and invested \$30,000 in its construction.

Early on a restaurant and a dance pavilion were constructed to accommodate up to 1,000 people. A dam across Little White Oak Bayou was built which created a large artificial lake to accommodate small motor boats. A streetcar line was also installed that deposited park goers right at the entrance of the park.

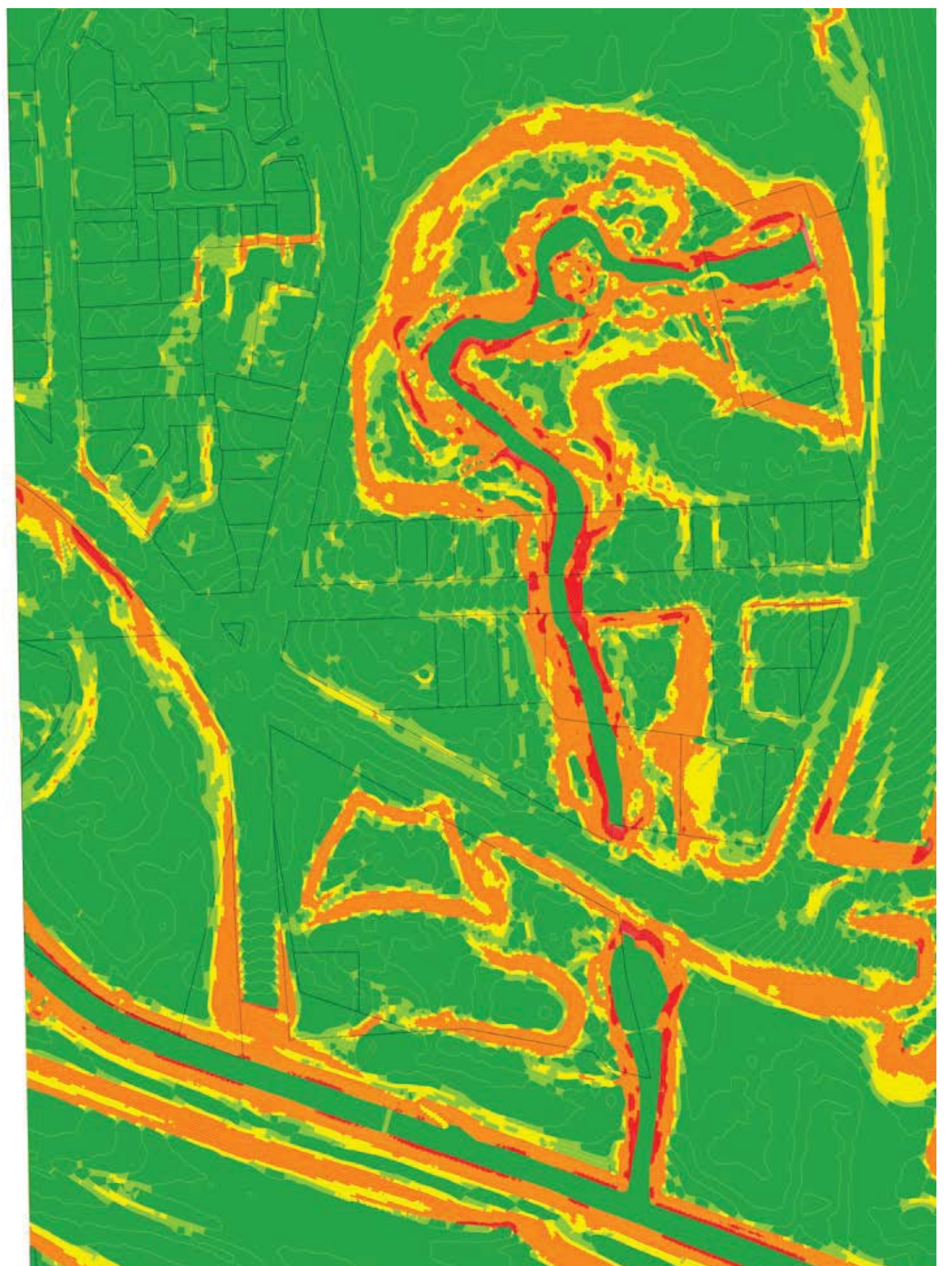
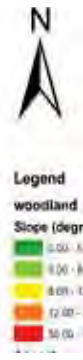
This was only the second park in the entire city and was just a short cable car ride from our bustling downtown. It attracted thousands on the weekends because of its host of activities including music concerts, concessions, rides, and boating, not to mention its beauty. Some 5,000 people were reported to have attended its grand opening on July 4, 1903!

The park was very successful and continued to thrive from 1903 to the end of the decade. It was purchased by the city in 1911 and was renamed Woodland Park in 1914. In 1915, Houston's first zoological collection started at Woodland Park with a pair of ostriches paid for by penny donations from Houston school children. Within one year, Woodland Park had collected up to 60 specimens and park attendance had increased to as many as 500 persons on Sundays. In 1916, the Department of Public Parks was created and the construction of a shelter building and a swimming pool were completed under the first parks bond issue.





TOPOGRAPHY



SLOPE



Little White Oak Bayou Outlook

SITE ANALYSIS

OBSERVATIONS + DATA

The design team studied Woodland Park and its context through several site visits, using available data from the City of Houston GIS database and surveyed conditions provided by the Houston Parks and Recreation Department.

Topographic and slope analysis played a key role in the development of the framework plan alternatives. Knowing that the scope of this project did not include a hydrological study of Little White Oak Bayou, proposed circulation alignments were laid out in areas with stable and accessible slopes. These slopes are represented in green in the diagram on the left page. Failing slopes along Little White Oak Bayou are a problem that will have to be studied and addressed in the future.

A study of land ownership and property boundaries was also conducted as part of the site analysis. This also factored into the final proposed trail alignment as certain trail routes were not practical due to ownership conflicts, which will be discussed further in the constraints section.



East Meadow Trail



Bridge over Wrightwood Ave.





EXISTING CONDITIONS CHARACTER

One of things that makes Woodland Park so special and enables it to draw visitors from more than its immediate neighborhood is that within the park there exists a variety of landscape characters that contribute to a variety of experiences within the park.

The Northern section of the park, adjacent to Parkview St. and residences functions very much as an active community park. The playground nestled underneath the canopy of live oaks is almost always active with families. Directly adjacent to the playground, the basketball court is highly used as is the neighboring tennis court which was recently resurfaced with city council district funds. The community center anchors the space, providing a central nexus. These spaces are actively used by the neighborhood and by visitors and provided strong fasteners for the framework plan.

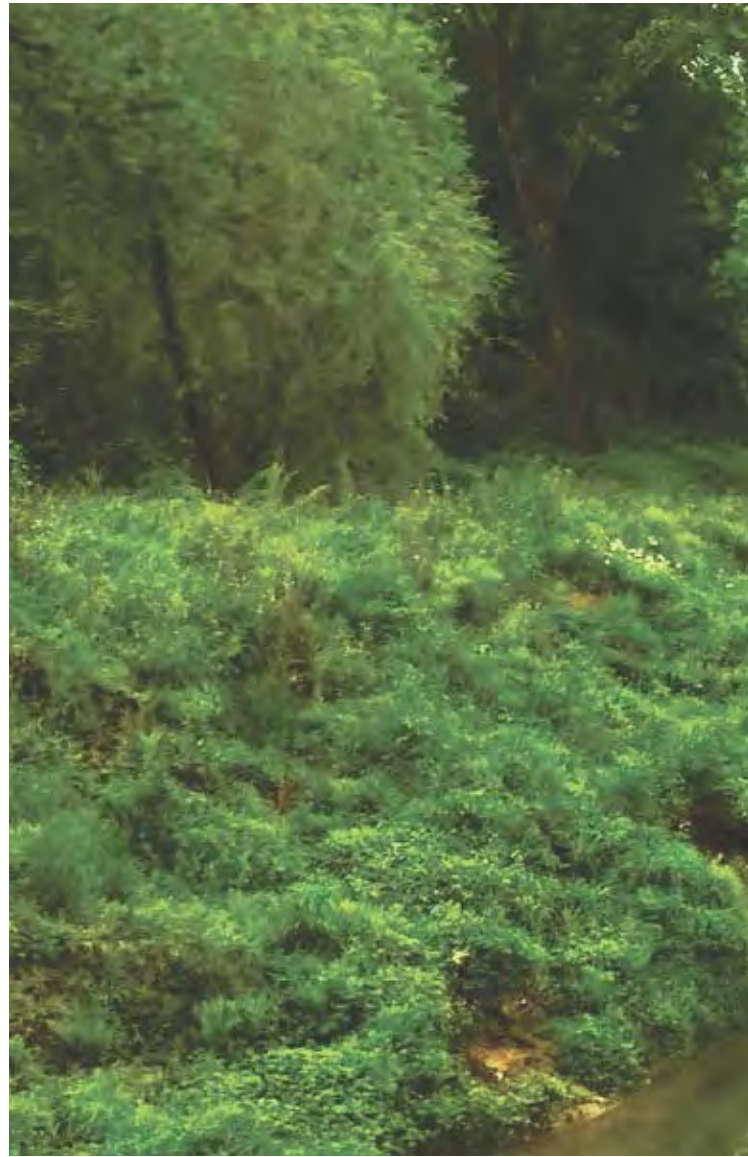
The western edge of the park is bordered by majestic live oaks that provide a moment of iconic procession from the intersection of Houston Ave. and White Oak Dr. to the northwest gateway of the park. The framework plan seeks to mark this gateway as a legible threshold into the park and terminate the ribbon of live oaks.

At the heart of the park lies a network of foot paths hugging the banks of Little White Oak Bayou, which winds through rich bottomland forest. Not many neighborhood parks in Houston offer the opportunity to be completely immersed in a rich natural setting, so close to the urban hustle and bustle.





(RIGHT): Existing Trail at Eastern Lawn South of Community Center;
(TOP): Little White Oak Bayou



CONNECTIVITY STUDY

2



UPLAND FOREST



MEADOW



BOTTOMLAND FOREST



LAWN AND TREES



RIPARIAN FOREST



TURF





CONSTRAINTS + OPPORTUNITIES WOODLAND PARK

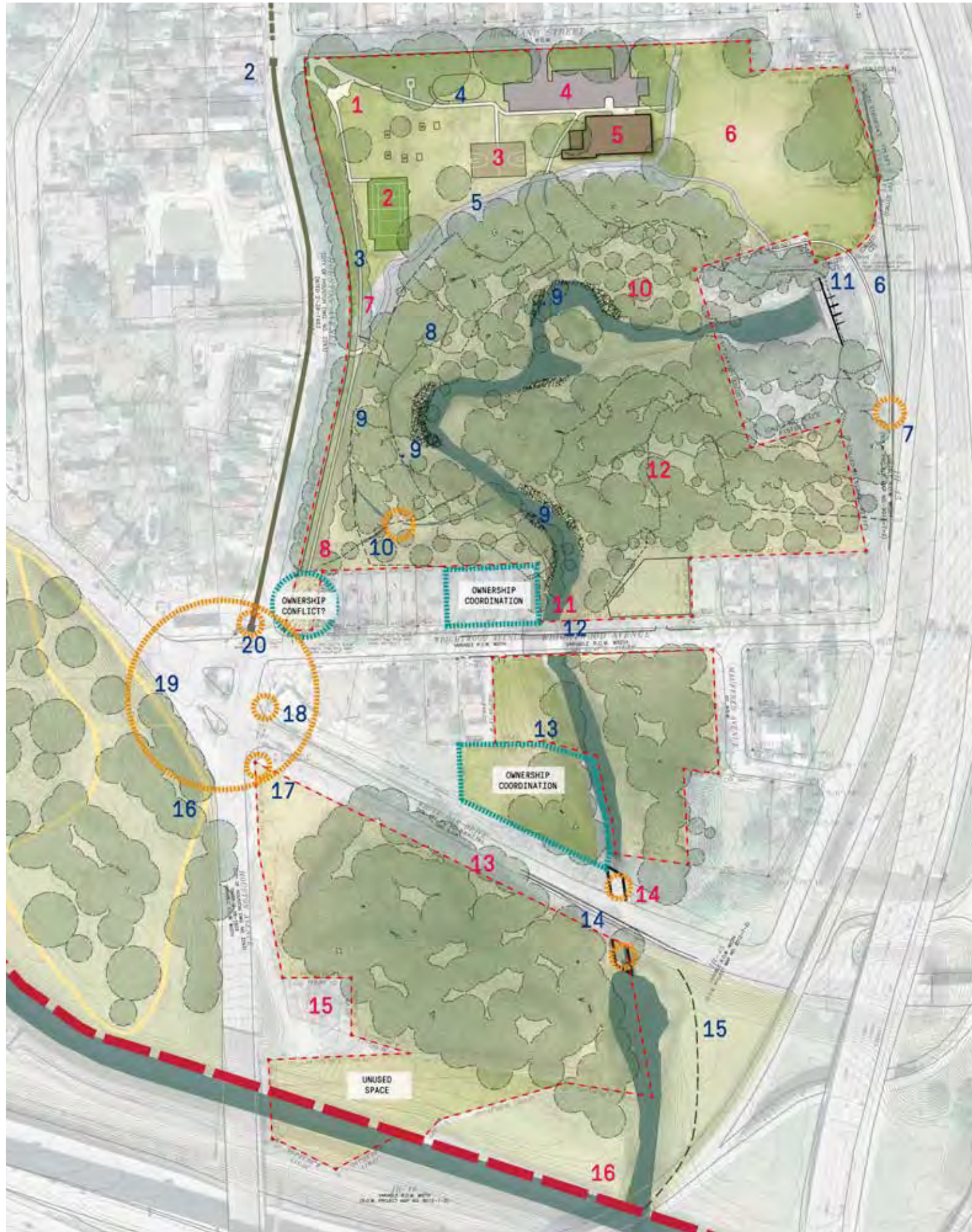
Opportunities abound in Woodland Park that arise from the park's distinctive character, natural features, prominent situation along the eastern edge of Houston Ave. and location at a critical neighborhood nexus.

One opportunity for a dramatic and compelling improvement comes out of the site's most looming constraint. In its current state, the intersection of Houston and White Oak is dangerous for pedestrians for multiple reasons. The first being a pedestrian has to navigate a 5-way intersection that is roughly 3/4 of an acre in size without signalized crossings. The second issue confronting pedestrians is the double free right turn from the east bound lanes of White Oak Drive. Almost half of the current intersection can be reclaimed for the realm of the pedestrian in attempts to provide a safe, signalized 4-way intersection.

Another opportunity to be considered in this study is the enhancement of existing sidewalk along Houston Avenue and its development into the Houston Avenue Promenade terminating at the northwest entry to the park. The promenade in combination with the improvements to the northwest entryway of the park are intended to raise the visibility and profile of the park from the active street.

An important constraint to be considered in the future but is outside of the scope of this study is the bank stability of Little White Oak Bayou. The bayou tributary is a wonderful opportunity for a connecting nature trail but would require thorough hydrology and engineering studies.



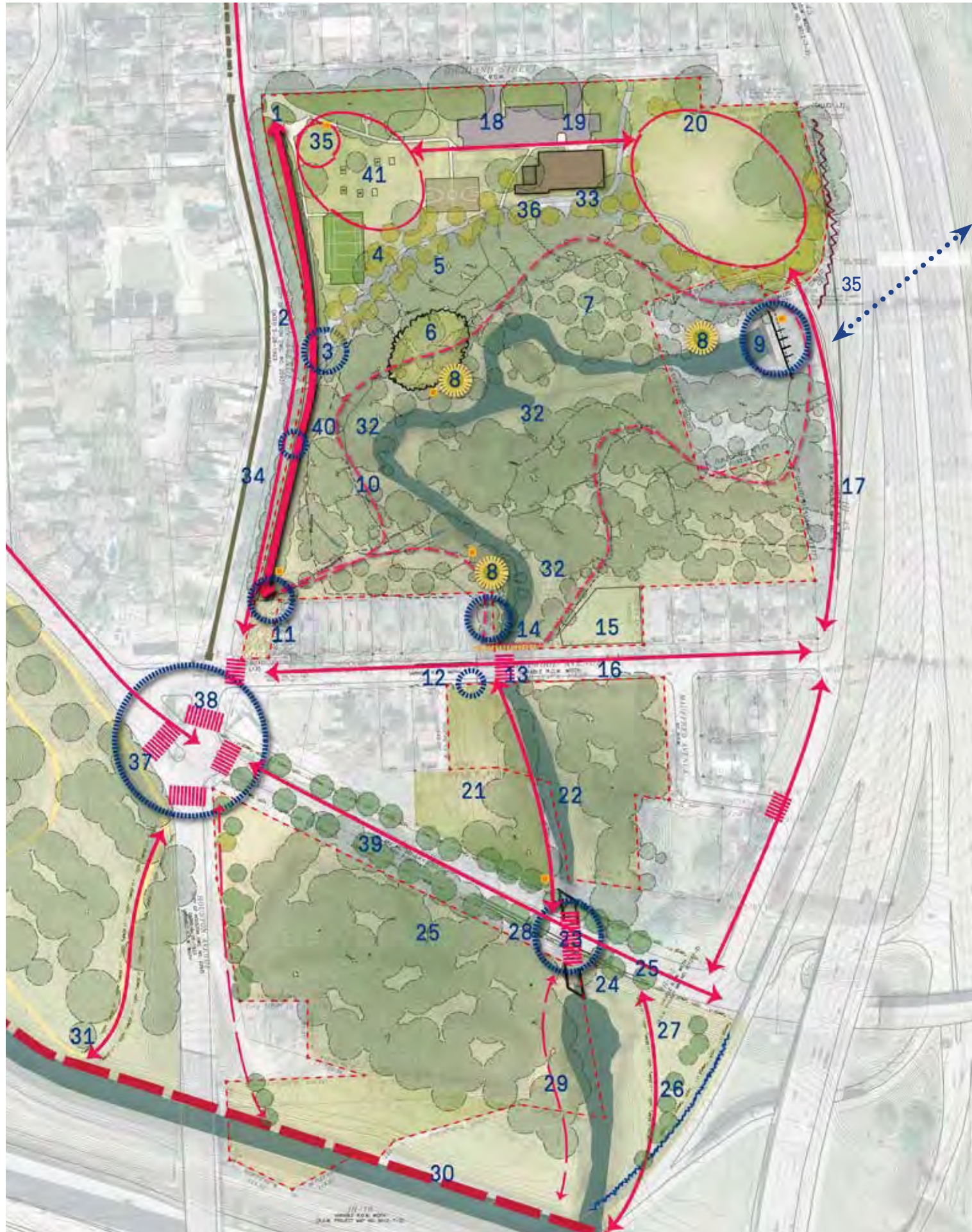


TRAIL CONSTRAINTS

1. NO CLEARLY MARKED BIKE LANE
2. INADEQUATE BIKE LANE MARKING/SIGNAGE
3. PATH TOO NARROW; POOR CONDITION
4. EAST-WEST PARK PATH DOES NOT OFFER CLEAR PEDESTRIAN PATH AT PARKING LOT / POOR GEOMETRY
5. PATHWAY SAFETY- NO LIGHTING, UN-SAFE, LOW VISIBILITY, NO WAYFINDING
6. NARROW PATH, POOR SAFETY/VISIBILITY, NO WAYFINDING
7. PATHWAY ENDS
8. NATURE PATH: NEEDS IMPROVEMENT, WAYFINDING, ESTABLISH HIERARCHY
9. UNSAFE/STEEP TRAIL CONDITIONS
10. PATH IMPEDES DRAINAGE
11. UNSAFE CONDITION AT OUTFALL/OVERLOOK
12. BRIDGE IN POOR CONDITION; INADEQUATE VEHICULAR/PEDESTRIAN CONNECTIVITY, UNPLEASANT SMELL, CHAIN LINK FENCE UNSIGHTLY
13. NO CURRENT PEDESTRIAN CONNECTION
14. EXISTING WALK TOO NARROW/INADEQUATE
15. EXISTING CUT THROUGH- NO TRAIL
16. NON-ACCESSIBLE TRAIL CONNECTION
17. NO PEDESTRIAN CROSSING
18. POOR SAFETY FOR PEDESTRIANS
19. FREE RIGHT FOR CARS DANGEROUS FOR PEDESTRIANS
20. BIKE LANE ABRUPTLY ENDS
21. NO IMPROVED TRAILS

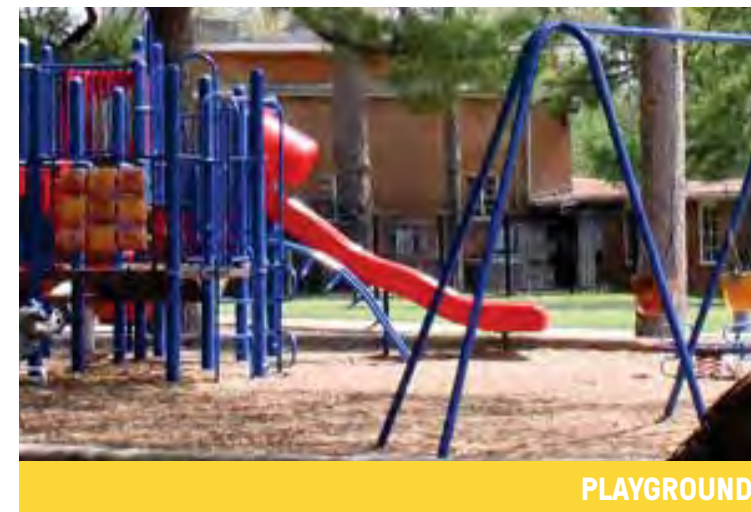
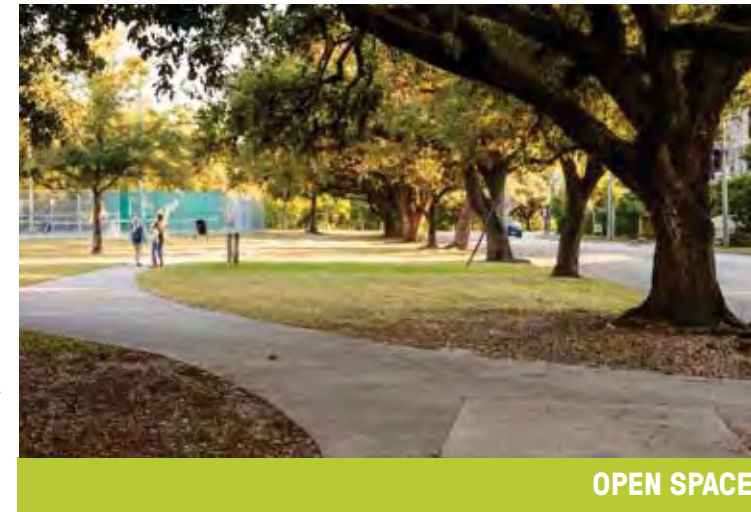
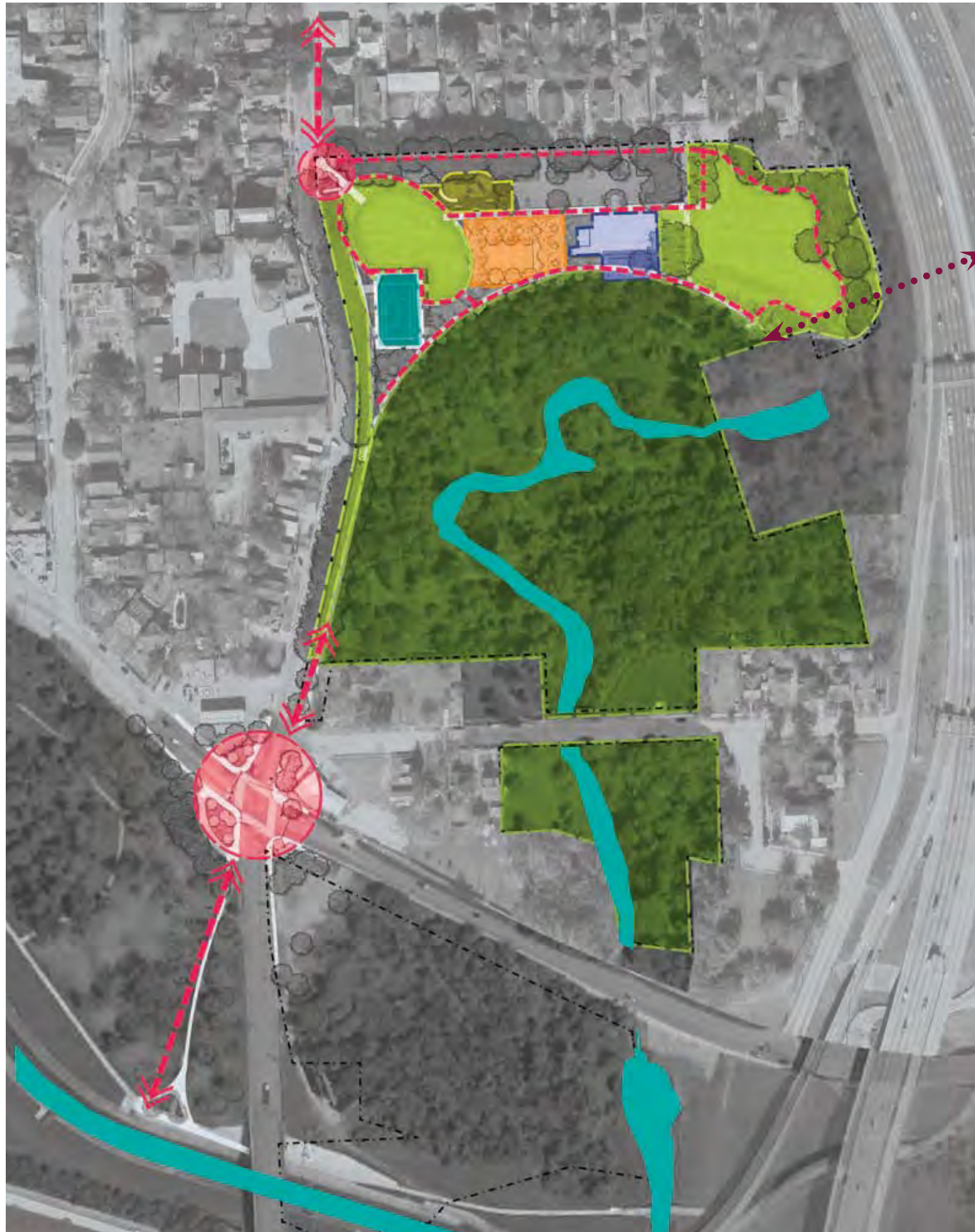
CHARACTER ISSUES

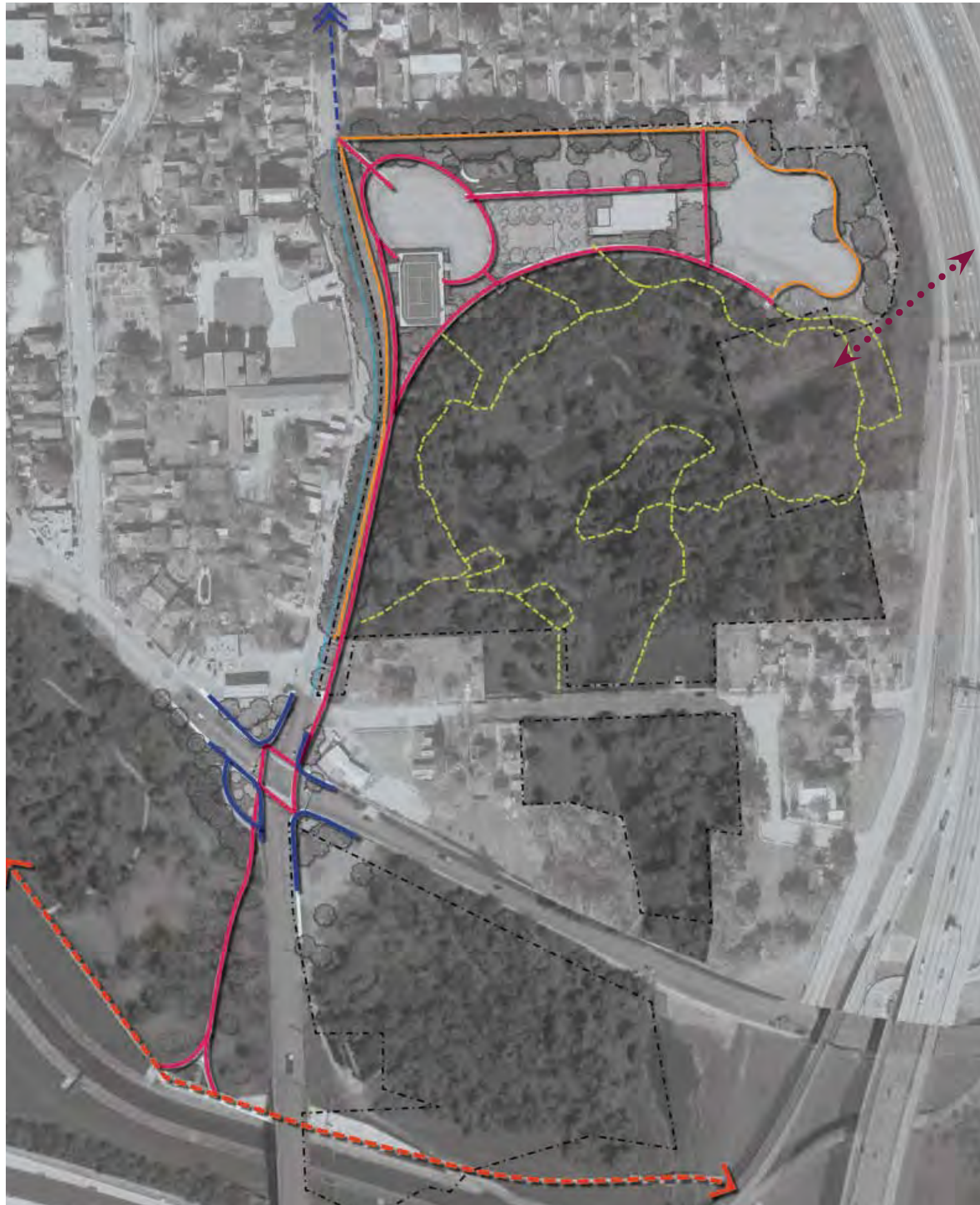
1. 'GATEWAY' TO PARK AND LAWN AREA LACKS SPACIAL DEFINITION AND CLARITY
2. TENNIS COURT NEEDS RECONDITIONING; VISUALLY INTEGRATE INTO LARGER PARK LANDSCAPE
3. BASKETBALL COURT NEEDS TO BE INTEGRATED INTO DESIGN OF PARK; BUFFER COURT FROM ADJACENT 'PASSIVE' TRAIL USE
4. PARKING LOT IMPEDES CONNECTIVITY BETWEEN EAST AND WEST SIDES OF UPPER PARK;
5. NARROW ENTRY TO RECREATION BUILDING; LANDSCAPE IN NEED OF RENOVATION
6. RECREATION LAWN LACKS SPACIAL DEFINITION SUFFERS FROM NOISE AND VISUAL IMPACT OF ADJACENT FREEWAY
7. VEHICULAR SERVICE GATE UNSIGHTLY; PATH CONDITION POOR; LACK OF WAYFINDING SIGNAGE AT SOUTH GATEWAY TO UPPER PARK
8. GATEWAY TO PARK FROM WHITE OAK DRIVE INTERSECTION LACKS WAYFINDING SIGNAGE
9. SEVERE BANK EROSION/UNSTABLE BANKS
10. INVASIVE PLANTINGS AT MEADOW OVERLOOK
11. EXISTING VEHICULAR BRIDGE IN POOR CONDITION; VEHICULAR RAILS/PEDESTRIAN PATHS UNSAFE
12. NO SAFE PEDESTRIAN CROSSING OR CONNECTIVITY BETWEEN WOODLAND AND FREED PARKS
13. PEDESTRIAN SIDEWALK ALONG WHITE OAK TOO CLOSE TOO TRAFFIC/INADEQUATE WIDTH
14. LACK OF OVERSTORY VEGETATION AT OUTFALL TO WHITE OAK BAYOU; NEEDS VISUAL BUFFER TO ADJACENT FREEWAY STRUCTURES
15. STEEP SLOPES AND LOW VISIBILITY IMPEDE POTENTIAL TRAIL CONNECTION TO WHITE OAK TRAIL SYSTEM
16. BRIDGE RAILS COULD BE UPGRADED TO IMPROVE CHARACTER OF TRAILS
19. FREE RIGHT FOR CARS DANGEROUS FOR PEDESTRIANS
20. BIKE LANE ABRUPTLY ENDS
21. NO IMPROVED TRAILS



OPPORTUNITIES

1. ESTABLISH GATEWAY: PARK MONUMENT, ORNAMENTAL PLANTINGS, IMPROVED PEDESTRIAN GATHERING, WAYFINDING
2. HOUSTON AVENUE PROMENADE: RE-BUILD EXISTING SIDEWALK, WIDEN PATH WITH DECOMPOSED GRANITE UNDER LIVE OAKS TO CURB; POTENTIAL STREET FESTIVAL SPACE
3. UPPER PARK SOUTH GATEWAY: WAYFINDING/ IMPROVED PEDESTRIAN PATH
4. ORNAMENTAL TREE PLANTINGS TO BUFFER TENNIS AND BASKETBALL COURTS
5. OPEN VIEW TO LITTLE WHITE OAK; PROVIDE OVERLOOK WITH SEATING AND INTERPRETIVE SIGNAGE
6. LOWLAND MEADOW VEGETATION MANAGEMENT PROGRAM
7. LOWLAND MEADOW VEGETATION MANAGEMENT PROGRAM
8. OUTFALL BASIN MEADOW OVERLOOK; PROVIDE SEATING/INTERPRETIVE SIGNAGE
9. STORM WATER OUTFALL OVERLOOK; PROVIDE SEATING/INTERPRETIVE SIGNAGE; PROVIDE ACCESSIBLE CONNECTION TO UPPER PARK PROMENADE TRAIL; IMPROVED ACCESS FOR WATER QUALITY SAMPLING
10. IMPROVED NATURE TRAIL; MULCH PATH
11. LOWER PARK SOUTH GATEWAY; SMALL MONUMENT AND WAYFINDING SIGNAGE; IMPROVED ACCESS TRAIL AT SLOPE
12. EXISTING PEDESTRIAN SIDEWALK; PROVIDE REQUIRED IMPROVEMENTS FOR ACCESSIBILITY
13. POTENTIAL MID-BLOCK CROSSING AT WRIGHTWOOD
14. UTILIZE EXISTING BRIDGE INFRASTRUCTURE FOR PEDESTRIAN BRIDGE CROSSING OFFSET FROM WRIGHTWOOD VEHICULAR BRIDGE;
15. POTENTIAL SOUTH PARKING LOT
16. POTENTIAL ON-STREET PARKING
17. EXTEND EXISTING CONCRETE WALK TO CONNECT TO WRIGHTWOOD
18. RE-ORGANIZE PARKING LOT TO ALLOW FOR IMPROVED PEDESTRIAN CONNECTION; EVALUATE PARKING NEEDS; RELOCATE DUMPSTER TO EAST SIDE OF PARKING LOT AND PROVIDE FENCED ENCLOSURE
19. E-W CONNECTOR WALK / CENTRAL PARK AXIS
20. PEDESTRIAN LOOP TRAIL WITH SUPPLEMENTAL TREE PLANTINGS TO DEFINE SPACE AND BUFFER I45
21. WEST BANK MEADOW
22. CENTRAL PEDESTRIAN PATH CONNECTION - ADA ACCESSIBLE
23. UTILIZE EXISTING INFRASTRUCTURE FOR N/S OVERLOOKS; INTERPRETIVE SIGNAGE
24. PROVIDE SPECIMEN, RIPARIAN TREE PLANTINGS AT SLOPE/EDGE OF LWO OUTFALL
25. PEDESTRIAN CROSSWALK AT EXISTING STOP SIGN
26. ACCESSIBLE TRAIL CONNECTION
27. SPECIMEN TREE PLANTINGS TO BUFFER FREEWAY INFRASTRUCTURE
28. POTENTIAL STAIR CONNECTION TO EAST FREED PARK TRAIL
29. EAST FREED PARK NATURE TRAIL CONNECTOR
30. EXISTING WHITE OAK TRAIL
31. WAYFINDING SIGNAGE
32. BANK STABILIZATION
33. SOUTH EVENT DECK/OVERLOOK; INTEGRATE WITH EXISTING PARK RECREATION ARCHITECTURE; PROVIDE SEATING/ INTERPRETIVE SIGNAGE
34. EXISTING BIKEWAY
35. FUTURE CONNECTION TO MOODY PARK AS PART OF FUTURE TXDOT DESIGN WORK ON I-45.





CIRCULATION

EXISTING CIRCULATION



EXISTING WHITE OAK HIKE & BIKE TRAIL



EXISTING NATURE TRAIL



EXISTING BIKE LANE



EXISTING SIDEWALK TOWARDS MOODY

PROPOSED CIRCULATION



DG WALK



CONCRETE WALK



SIDEWALK IMPROVEMENTS



FUTURE CONNECTION TO MOODY PARK

PROGRAM + CIRCULATION

WOODLAND PARK

After carefully considering the opportunities and constraints around the park, it became evident that the most effective means of connecting Woodland Park to the White Oak Bayou Hike and Bike Trail is to improve the existing north and south trail spur that leads to the intersection of Houston Ave and White Oak Drive, improve the safety of the intersection itself and enhance the existing connection along the east side of Houston Ave.

Making the intersection safe for pedestrian crossing dramatically improves connectivity not only between the trail system and the park, but also begins to set up the opportunity for connectivity from the trail system all the way to Moody Park through the use of existing sidewalk connections.

Within the park itself, the circulation network defines two separate lawns and expands the walkway between the existing parking lot and community center to a comfortable dimension. This strong east to west move helps to reinforce the distinct characters of the east and west lawns.

With regards to program, the existing uses have generally been left in place and made more legible by incorporating the new trail system as a framing device for different zones.



Existing Northwest Park Entrance



FRAMEWORK PLAN

3





SURVEYED PARK BOUNDARY

TIRZ BOUNDARY

1. 4-WAY INTERSECTION AT HOUSTON AVE AND WHITE OAK DR
2. IMPROVED ADA ACCESSIBLE CONNECTION TO EXISTING WHITE OAK HIKE AND BIKE TRAIL
3. PEDESTRIAN ZONE + WAY FINDING
4. SIGNAL POLE REPLACEMENT+ CROSSWALKS
5. WHITE OAK HIKE AND BIKE TRAIL CONNECTION
6. SOUTH EAST OVERLOOK
7. IMPROVED HOUSTON PROMENADE
8. NORTHWEST PARK ENTRANCE
9. FIREFLY AMENITY
10. GREAT LAWN
11. WOODLAND TRAIL
12. OVERLOOK
13. DECOMPOSED GRANITE EXERCISE LOOP
14. IMPROVED COMMUNITY CENTER WALKWAY
15. COMMUNITY CENTER OVERLOOK
16. PICNIC PLAZA
17. PLAZA AT BASKETBALL COURT

**FRAMEWORK PLAN
WOODLAND PARK**

Part of the intent of this study is to provide a plan for base improvements that allow for the development of future park improvements.

The design team investigated scenarios that looked at two sets of development options for the park beyond the basic improvements outlined in this study.

The first framework plan scenario retains all of the major park elements such as the tennis court, basketball court and playground in their current location but incorporates landscape elements that provide a frame for their situation.

Starting at the northwest gateway, visitors to the park are greeted by a set of seat walls marking the entrance. A berm planted with short prairie grasses wraps around the great lawn providing the perfect backdrop for movie night.

The existing tennis court is located at the southwest corner of the great lawn. Improvements around the court include short evergreen shrubs and marked entrances.

The improvements at the basketball court include a bosque of shade trees to provide comfort for those waiting their turn to play.

Improvements to the eastern side of the park include a decomposed granite trail and seeded meadow under the beautiful live oaks that visually buffer the park from the homes and highway and decrease mowing and maintenance costs.

A 10' wide trail hugging the top of the slope connects the east and west sides of the park improvements connecting into the Houston Promenade trail connection, running north and south to the improved Houston and White Oak intersection.





SURVEYED PARK BOUNDARY

TIRZ BOUNDARY

1. 4-WAY INTERSECTION AT HOUSTON AVE AND WHITE OAK DR
2. IMPROVED ADA ACCESSIBLE CONNECTION TO EXISTING WHITE OAK HIKE AND BIKE TRAIL
3. SECONDARY CONNECTION TO EXISTING HIKE AND BIKE TRAIL
4. MEADOW GRASS PLANTING
5. CROSSING AT WRIGHTWOOD
6. WHITE OAK DR MULTI-PURPOSE TRAIL CONNECTION
7. IMPROVED HOUSTON PROMENADE
8. NORTHWEST PARK ENTRANCE
9. FIREFLY AMENITY
10. GREAT LAWN
11. WOODLAND TRAIL
12. OVERLOOK
13. DECOMPOSED GRANITE EXERCISE LOOP
14. IMPROVED COMMUNITY CENTER WALKWAY
15. BASKETBALL COURT ORCHARD
16. PICNIC PLAZA
17. EXISTING TENNIS COURT

**FRAMEWORK PLAN
ALTERNATE
WOODLAND PARK**

The alternative framework plan responds to more pronounced changes in the park, redistributing some programmatic elements.

The idea of having two large lawns on either side of the community center still structures the scheme but in this iteration, the tennis courts are moved to the eastern side of the park, opening up views of the great lawn from Houston Ave. In replacement of the tennis court, the area southwest of the now complete ellipse becomes an ideal spot to picnic with views into the forest and bayou.

This scheme also allows for a small eastward expansion of the parking-lot. All other elements described in the framework plan would remain in place.





SURVEYED PARK BOUNDARY

TIRZ BOUNDARY

1. 4-WAY INTERSECTION AT HOUSTON AVE AND WHITE OAK DR
2. IMPROVED ADA ACCESSIBLE CONNECTION TO EXISTING WHITE OAK HIKE AND BIKE TRAIL
3. PEDESTRIAN ZONE + WAY FINDING
4. SIGNAL POLE REPLACEMENT+ CROSSWALKS
5. WHITE OAK HIKE AND BIKE TRAIL CONNECTION
6. SOUTH EAST OVERLOOK
7. IMPROVED HOUSTON PROMENADE
8. NORTHWEST PARK ENTRANCE
9. FIREFLY AMENITY
10. GREAT LAWN
11. WOODLAND TRAIL
12. OVERLOOK
13. DECOMPOSED GRANITE EXERCISE LOOP
14. IMPROVED COMMUNITY CENTER WALKWAY
15. COMMUNITY CENTER OVERLOOK

BASIC IMPROVEMENTS PLAN
WOODLAND PARK

The recommendations for the initial connectivity improvements focus on laying out the armature for the framework plans to be developed as additional funding becomes available for park development.

One priority for the basic improvements plan is to make the north and south connection from the White Oak Bayou Hike and Bike Trail to the intersection of Houston Ave and White Oak ADA accessible. In its current state, part of the trail is surfaced with asphalt at a 10% slope.

That trail leads up to a reconfigured intersection with a 4-way stop and clearly marked crossings.

The intersection anchors one end of the Houston Ave. promenade which terminates at the northwest gateway of the park.

The northwest park gateway provides structure for the great lawn, defined by the elliptical paths at its perimeter. The great lawn is locked into place by the east-west community center expanded walkway and the woodland trail that hugs the top of the slope just to the south. Both the community center expanded walkway and the southern woodland trail connect into the decomposed granite trail that defines the eastern lawn.





HOUSTON + WHITE OAK INTERSECTION WOODLAND PARK

In its current state, the five-way intersection presents a danger both to drivers and pedestrians. Drivers must figure out the choreography of having cars cross three streets at oblique angles to one another. The intersection itself is cluttered with small islands containing utilities, signals and neighborhood monuments.

The proposal for the improved intersection includes simplifying the intersection into a more traditional four-way intersection by removing the unsignalized crossing along Wrightwood. Also removed from the intersection are the two free-right turn lanes coming from east-bound White Oak Dr.

In addition to more generous sidewalks, the new intersection turns some of the land back over to the pedestrian and park realm with generous plantings of stately magnolia trees, creating a gateway into the neighborhood in addition to being places for people to pause.



--- SURVEYED PARK BOUNDARY

- - - TIRZ BOUNDARY

1. 4-WAY INTERSECTION AT HOUSTON AVE AND WHITE OAK DR
2. IMPROVED ADA ACCESSIBLE CONNECTION TO EXISTING WHITE OAK HIKE AND BIKE TRAIL
3. SECONDARY CONNECTION TO EXISTING HIKE AND BIKE TRAIL
4. MEADOW GRASS PLANTING
5. CROSSING AT WRIGHTWOOD
6. WHITE OAK DR MULTI-PURPOSE TRAIL CONNECTION
7. IMPROVED HOUSTON PROMENADE





NORTHWEST GATEWAY WOODLAND PARK

Currently the northwest corner of the park is bathed in shadows from the striking live oaks that frame it. Passerby's get a glimpse of the slightly awkward sidewalk tie-in and the lawn beyond.

The intent behind the improvements in the northwest corner is to create a gateway for the park and raise visibility and awareness.

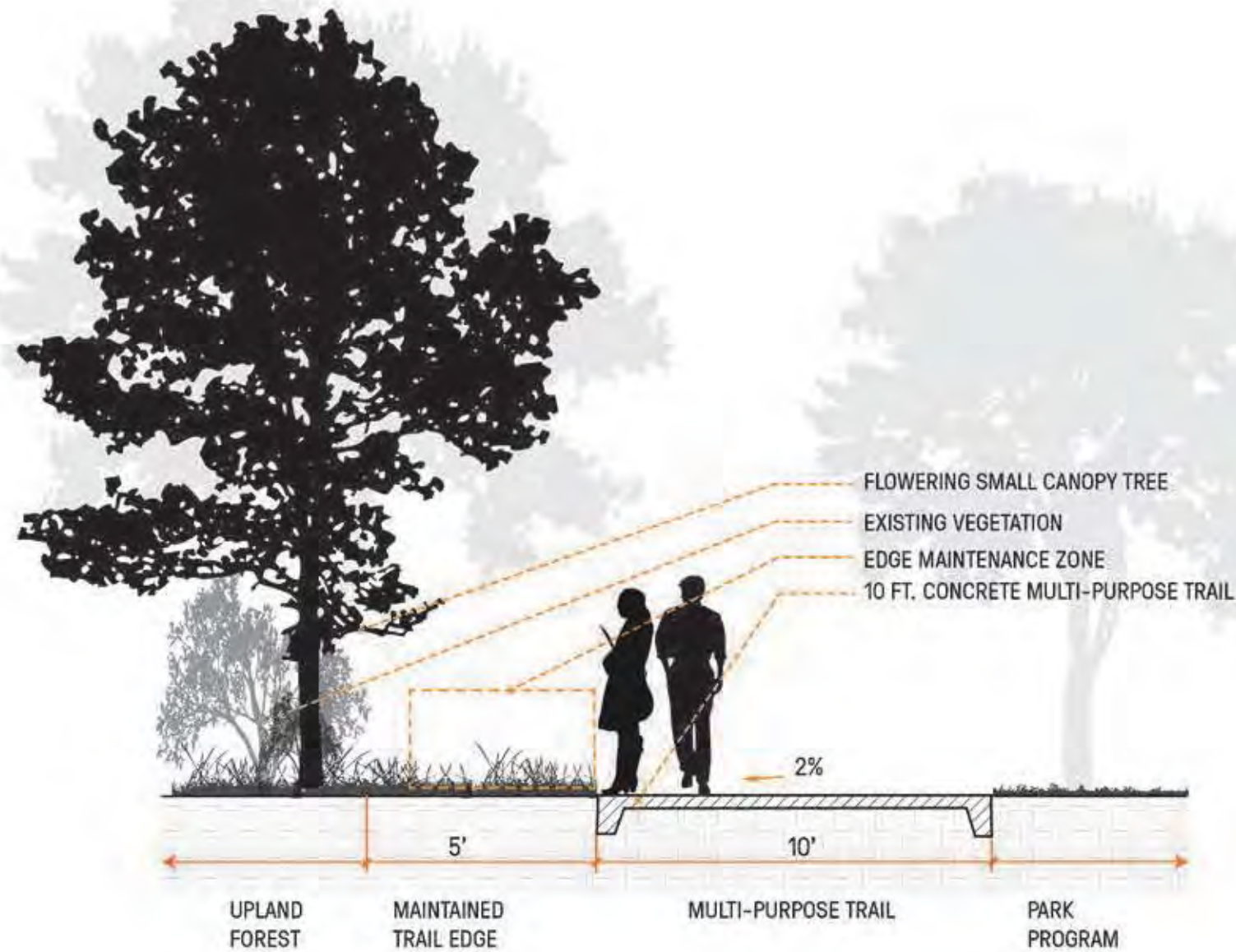
Signage for the park is incorporated into low seat walls clad in brick, taking a note from the character of materials in Woodland Heights. Just past the brick wall threshold, the concrete walkway leading out into the great lawn is inscribed with the rich history of the park, sand-blasted into the concrete. The walkway pins in place the elliptical pathway that defines the great lawn. The great lawn is hugged by a low, crescent shaped berm planted with short prairie-grass wildflower mix designed for minimum mowing and maintenance.

The berm serves a dual purpose, both providing a frame for the great lawn and creating a platform for a forthcoming firefly lighting amenity, to be gifted to the park from the Friends of Woodland Park community group.

The gateway itself caps off the Houston Promenade. The promenade widens at the point where it meets the gateway, allowing for the space to be lightly programmed, tying back into the history of the park.

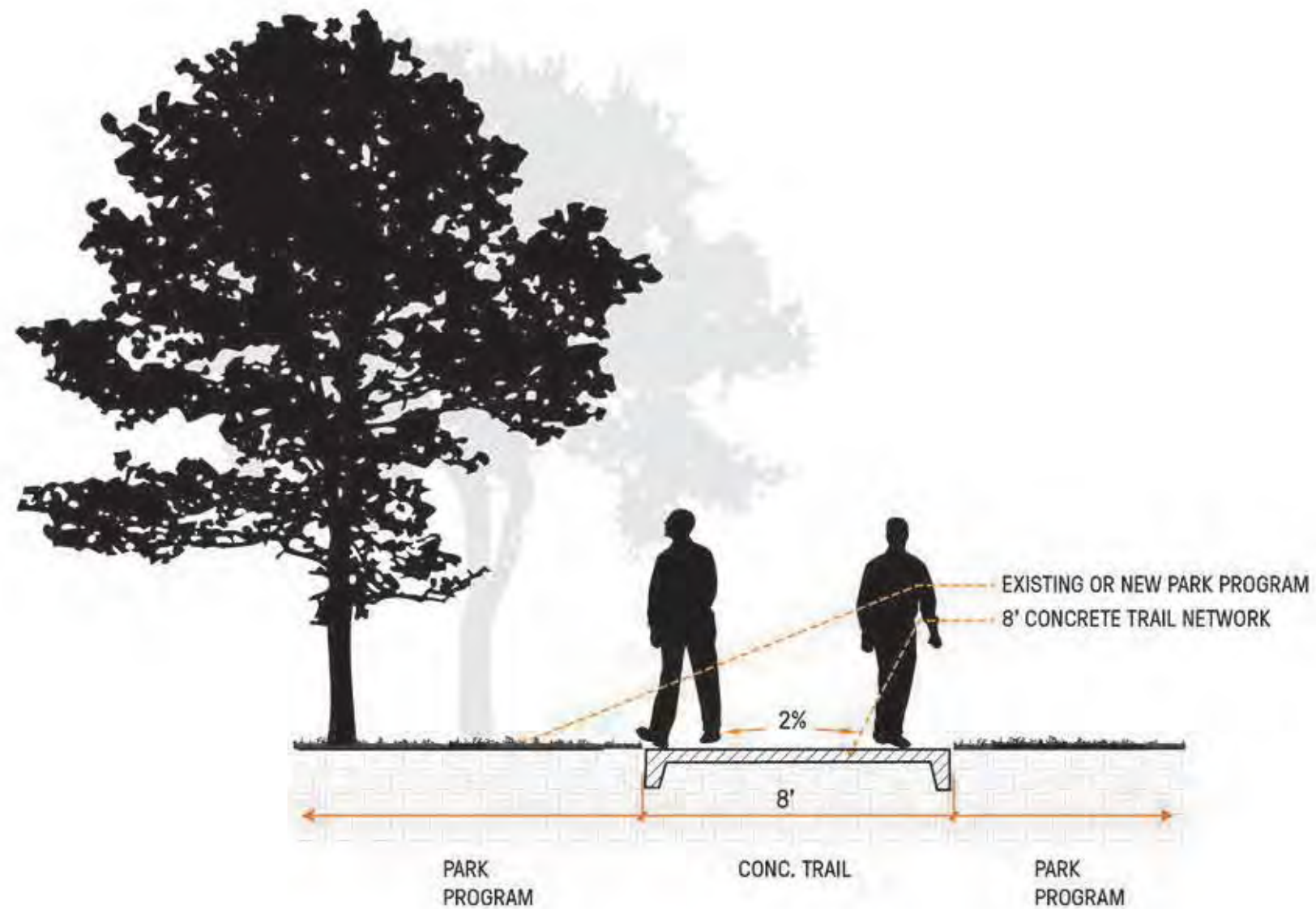
PRIMARY TRAIL MULTI-PURPOSE HIKE AND BIKE

The multi-purpose trail is intended to be a generous concrete pathway suitable for both bikes and pedestrians. Part of the primary trail loop divides the more natural forest interior of the park from the managed and programed area of the northern section. On the side of the forest, a 5' management zone is recommended along the trail. This zone would be kept clear of large dense shrubs, with large canopy trees and low groundcover kept in place with minimal mowing and maintenance.



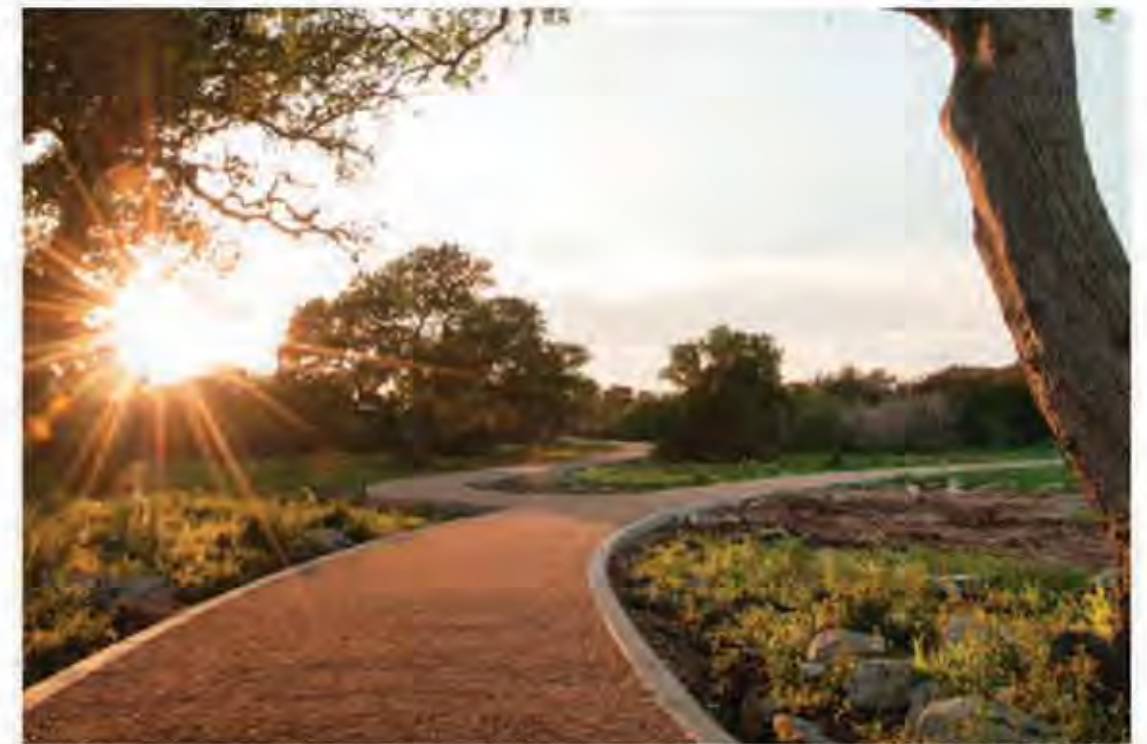
INTERIOR CIRCULATION PARK WALKWAYS

The typical width of the park interior circulation is 8'. The exception being the walkway in front of the community center which expands out to a generous 12' space, connecting the east lawn to the great lawn.



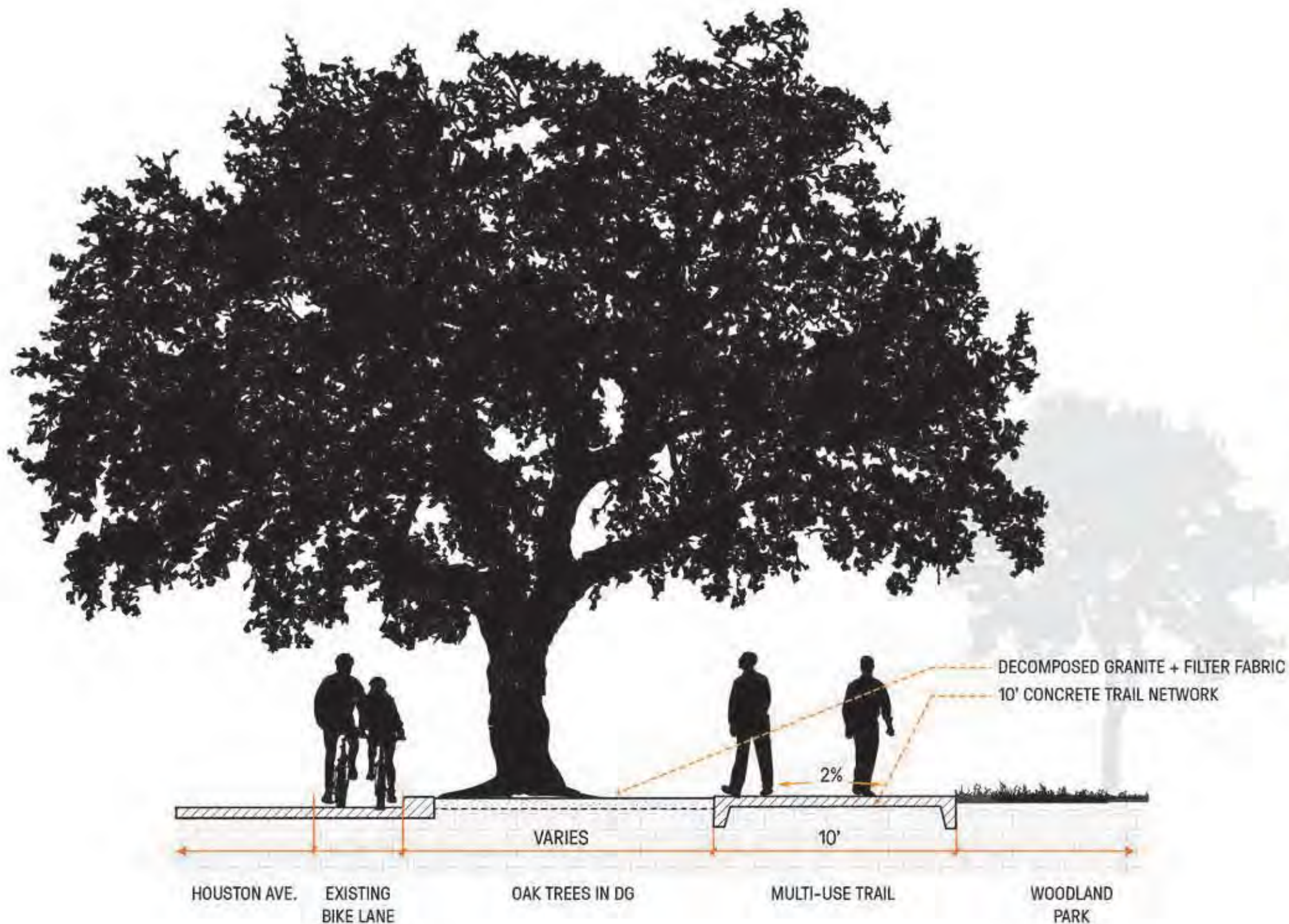
SECONDARY TRAIL DECOMPOSED GRANITE TRAIL

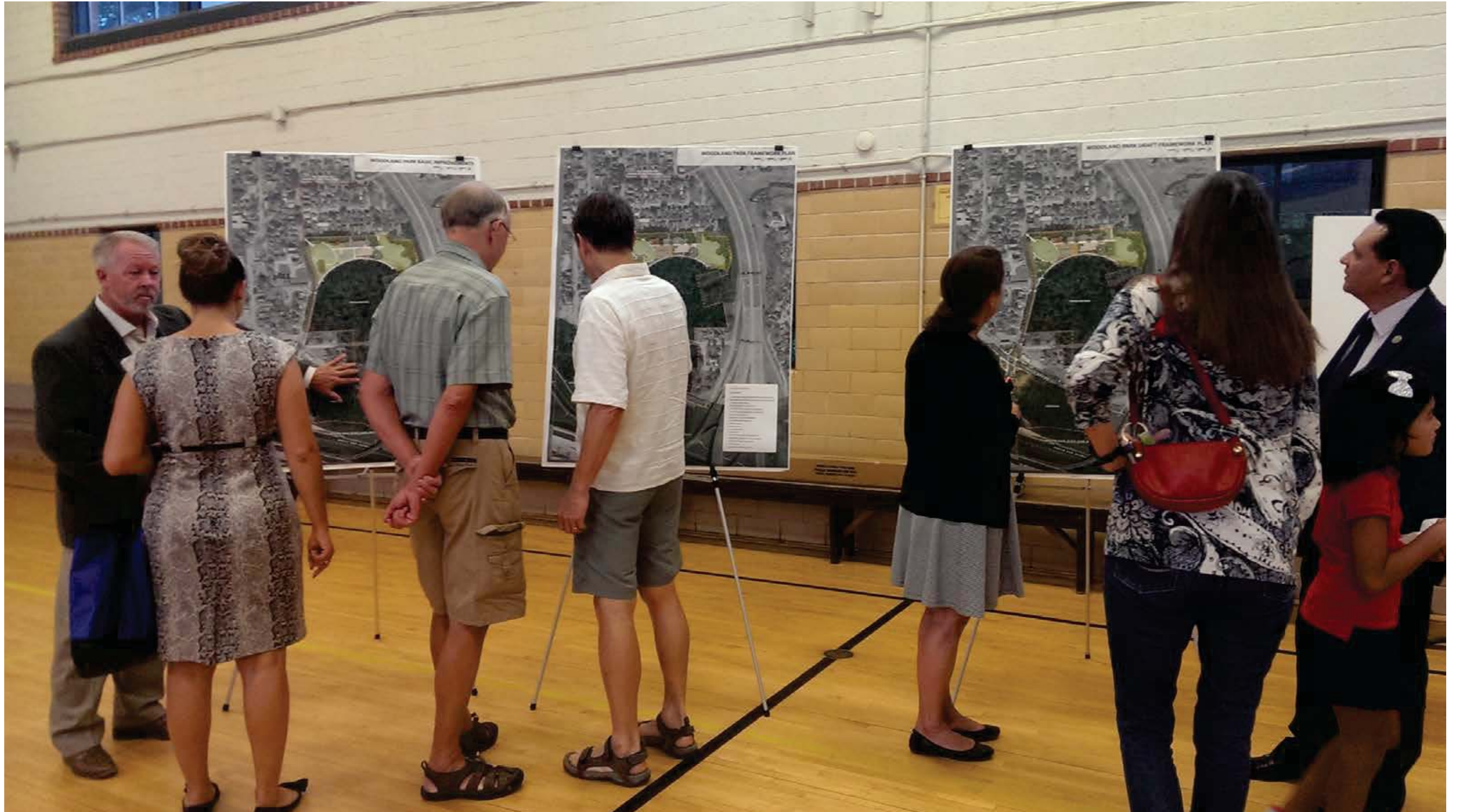
The decomposed granite trail wraps around the eastern edge of the park defining the open lawn. As a buffer between the homes bordering the park on the east and the trail itself, the portion of the turf underneath the live oaks will be converted into a shade grass prairie for reduced mowing and maintenance.



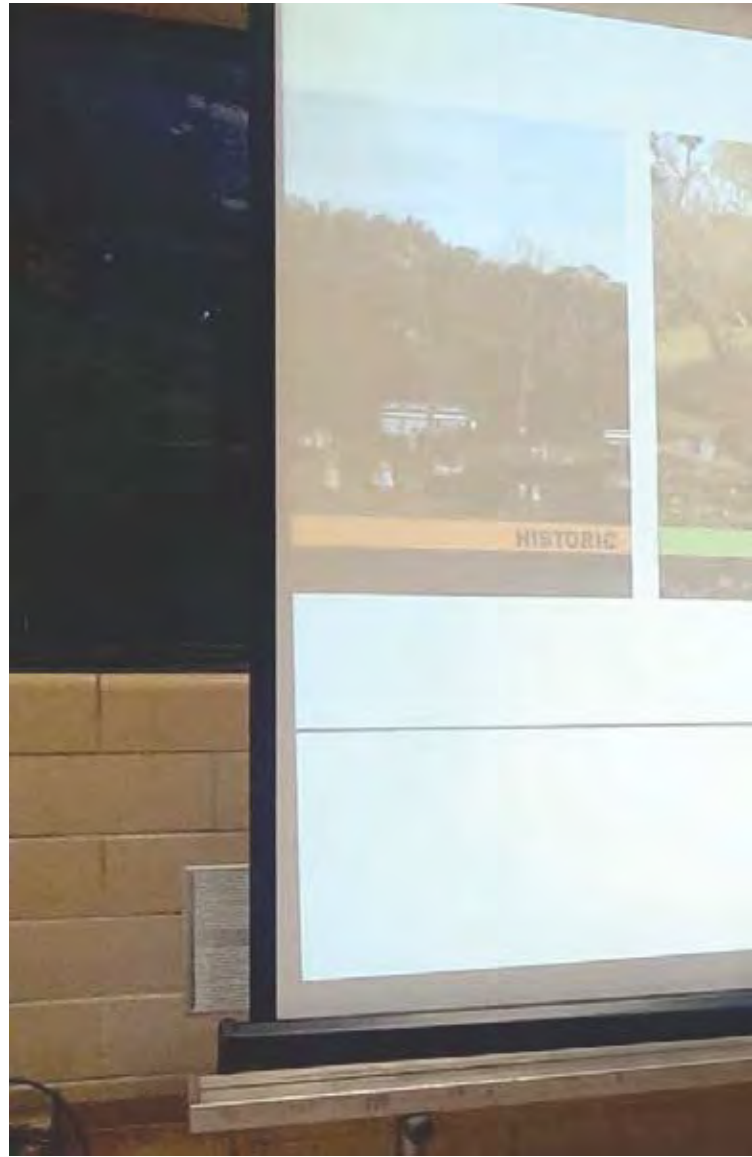
HOUSTON AVE PROMENADE FROM INTERSECTION TO GATEWAY

The Houston Ave Promenade is a nod back to the park's history along a bustling cable car route into the heart of the city. A wide 10' multi-purpose trail runs parallel to Houston Ave, connecting the intersection to the park proper. A row of grand live oaks buffers the trail from the street. Between the multi-purpose trail and the road sits decomposed granite paving, providing programable spill-over space along the trail.





(RIGHT): SWA presentation;
(TOP): Council Member Ed Gonzales and Public Review of Alternatives



STAKEHOLDER ENGAGEMENT



(RIGHT): Framework Plan Alternatives;
(TOP): Friends of Woodland Park , MHRA Board, and Houston Parks Board

PUBLIC ENGAGEMENT COMMUNITY MEETING

On October 13, 2015, the design team along with Memorial Heights Redevelopment Authority and Reinvestment Zone and their consultant, Houston Parks Board, met with neighbors, elected officials and the Friends of Woodland Park in a public meeting held at the park's community center.

At the meeting stakeholders were presented with the site analysis, challenges and opportunities, and resulting three alternatives found in the preceding sections. Generally, neighbors were excited to see the possibilities for Woodland Park, in particular the safe connection from White Oak Hike and Bike Trail to the park itself.

Some attendees expressed interest in understanding the potential connection from Woodland Park to the portion of Little White Oak Bayou on the eastern side of I-45. One resident remembered there being a pedestrian bridge connection from Parkview to Embury street. Apparently the bridge was torn down after it was damaged from a truck collision. The bridge was never re-built.

It was revealed to the public that at the time, another connectivity study was in the process of completion, looking at the connection to Moody Park from Woodland Park, using existing sidewalk connections such as North Street Bridge.





CITY OF HOUSTON

The design team met with the COH Planning and Development Department and the COH Public Works and Engineering departments shortly after developing the first framework alternative draft.

At the meeting there was support and interest in increasing the connectivity between the park and the hike and bike trail for bicyclist and pedestrians. At the time of this study, the City was beginning to review potential bikeways. This study was very timely.

Another major point captured at this meeting was the support of the changes to the Houston-White Oak intersection. Members of Planning and PWE did not feel like the proposal to turn the intersection into a traditional four-way stop intersection and removing the two free right turn lanes would impact traffic flow negatively.

One proposal that was brought up at this meeting was to introduce a round-about in this location instead of an intersection. The design team did pursue this as an option but it was not viable given the spatial constraints needed to make the round about functional. That alternative was passed over in favor of further development of the intersection.

At the request of the MHRA HPB engaged AIA Engineers, Inc. to further study the intersection proposal and to develop an independent proposed cost for that work. As part of that task AIA engaged staff from COH-DPW to get their reaction to the changes and recommendations on what to include in the estimated cost. As a result of those discussions AIA provided two estimates of cost. One with the new signalization and lane revisions utilizing the existing intersection surface per their instructions from PWE and an alternative cost to totally rebuild the intersection including all new paving and curbs.

HOUSTON PARKS AND RECREATION DEPARTMENT

The design team met with HPARD several times throughout the study process. HPARD is very supportive of the alternatives presented in this study and will continue to look for ways to push forward some of the ideas for park improvements that fall outside of scope of this project as funds become available in the future.

After the first meeting with HPARD when the design team presented the challenges/ opportunities and first diagram of program, the director of the parks department requested an alternative for the project where the tennis courts moved to the east side in the long term future as a way to allow for more space at the great lawn as well as provide visibility.

Another idea incorporated into the framework plan championed by HPARD is the expansion of the east-west walkway in front of the community center. The current walkway is very narrow and does not provide adequate space between cars and the building.

Lastly, HPARD will continue to be involved with Friends of Woodland Park as the development of the light amenity occurs. -

MEMORIAL HEIGHTS RDA BOARD MEETINGS

At the mid-project review, the design team presented members of the Memorial Heights RDA and the Friends of Woodland Park with the site analysis completed and the challenges and opportunities that resulted from the analysis and observations.

To connect Woodland Park to the White Oak Hike and Bike Trail, multiple options might have been developed as opportunities. However, to make sense of the opportunities and move forward with a decision of which of the multiple alternates to be developed, opportunities needed to be weighed against the constraints. Two main opportunities for connectivity stood out, the opportunity and its constraints explained as follow.

OPPORTUNITY: MULTI-PURPOSE TRAIL ALONG LITTLE WHITE OAK BAYOU TO ITS CONFLUENCE WITH WHITE OAK BAYOU.

CONSTRAINTS:

- A. BANK INSTABILITY
- B. TOPOGRAPHY
- C. ACCESSIBILITY
- D. LAND OWNERSHIP
- E. UNCERTAINTY OVER I-45 FUTURE

OPPORTUNITY: MULTI-PURPOSE TRAIL ALONG HOUSTON AVE + INTERSECTION IMPROVEMENT

CONSTRAINTS:

- A. ROW DIMENSIONS
- B. REGULATORY AGENCY COORDINATION/APPROVAL
- C. COST

Discussion focused on how feasible the constraints would be to overcome in a reasonable time frame for the project. The constraints for the multi-purpose trail along Little White Oak Bayou would not allow for a connectivity project to be built in the near future, mostly due to land ownership conflicts outside of the park's boundaries. One land conflict in particular did not have a resolution in sight, not because of ownership but rather because of the multi-year difference in project time lines.

At the confluence point of Little White Oak Bayou and White Oak Bayou where a connector trail along LWOB would tie into the hike and bike trail, the trail would have to go on the eastern bank of the bayou because the western bank goes through Freed Park which has deed restrictions making a trail through there an impossibility.

The eastern bank presents a problem because it is on TXDOT Right-of-Way and with the improvements being made to I-45, the parcel's future is uncertain. Any improvements made there in the short-term might conflict with TXDOT's long-term future plans. Topographically, this option presents a problem as well because the parcel HPARD owns in between Wrightwood Ave and White Oak Dr. is challenging to build a trail on because in the lower portion, of accessibility issues.

Ultimately Memorial Heights RDA agreed to pursue the intersection improvements and Houston Promenade as the primary route for connectivity. By improving the intersection, Memorial Heights RDA not only creates a recreational amenity for the community, but also provides a gateway and improves the safety and infrastructure of the neighborhood at large.

The design team developed the Framework Plan alternative scenarios with this idea moving forward.

Final review occurred at a public board meeting of the Memorial Heights RDA and TIRZ 5 with members of the Friends of Woodland Park.

REGULATORY ENGAGEMENT INDIVIDUAL AGENCY MEETING SUMMARY

Throughout the completion of the study, Houston Parks Board and the design team met with a variety of regulatory agencies, sharing developing ideas and collecting feedback from them.

Large moves proposed in this study, such as the intersection re-design have the support of several departments in the City of Houston such as the Planning and Development Department, and Public Works and Engineering.

At the time of completion of this study, the City of Houston was initiating their own study of the intersection.

Houston Parks and Recreation Department expressed an interest in the potential alternatives for the future development of Woodland Park, particularly the relocation of the tennis courts to the eastern side of the community center, allowing the great lawn ellipse to be completed.





(TOP): View to Little White Oak Bayou from nature trail

A

COST ESTIMATE

- A. WHITE OAK TRAIL CONNECTION TO WHITE OAK AND HOUSTON INTERSECTION
- B. WOODLAND PARK BASIC CIRCULATION PLAN IMPROVEMENTS
- C. ALTERNATIVES

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DRAFT

NOTE: These estimated costs are for construction costs and contingency only.

Costs do NOT include cost of topographic survey, geotechnical studies, environmental studies, final construction documents, presented in this study. construction testing, construction or project management. Those cost can vary from 20-25 % of the totals

location	quantity	unit cost	total cost
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PROJECT: WHITE OAK AND HOUSTON INTERSECTION

WHITE OAK TRAIL CONNECTION TO WHITE OAK AND HOUSTON INTERSECTION

Item	Quantity	Unit	Unit Cost	Total Cost	Notes
Site Prep					
Asphalt Trail Removal	4,500	sq. ft.	\$ 2.50	\$ 11,250	300 lf
Fine Grading	7,500	sq. ft.	\$ 0.15	\$ 1,125	7500 sq. ft.
Concrete- Curb Ramp Removal	1	each	\$ 2,500.00	\$ 2,500	
Tree Care During Construction	1	each	\$ 5,000.00	\$ 5,000	
Hardscape					
10 ft. Concrete Trail	4,500	sq.ft	\$ 8.00	\$ 36,000	
Curb Ramp Replacement	1	ls	\$ 3,000.00	\$ 3,000	
Fixtures					
Wayfinding Signage	1	ea	\$ 5,000.00	\$ 5,000	
				\$ 63,875	

WHITE OAK AND HOUSTON INTERSECTION

Item	Quantity	Unit	Unit Cost	Total Cost	Notes
AIA Cost Estimate General Items					
Traffic Signal Installation	1	ls	\$ 250,000.00	\$ 250,000	
Street Cut Permits	1	ls	\$ 500.00	\$ 500	
Floodplain Permits	1	ls	\$ 3,500.00	\$ 3,500	
Blast cleaning pavement markers 6" wide lines	1,562	lf	\$ 0.50	\$ 781	
Blast cleaning pavement symbols (arrows and words)	1,733	sf	\$ 2.00	\$ 3,466	
Removal Raised Pavement Markers All Types	1	ls	\$ 500.00	\$ 500	
Raised Pav Marker TY II C-R	25	ea	\$ 3.80	\$ 95	
Thermoplastic Pavement Marking 4" wide (White)	1,103	lf	\$ 0.70	\$ 772	
Thermoplastic Pavement Markings, Yellow Curb	459	lf	\$ 0.70	\$ 321	
Thermoplastic Pavement Marking symbol ARROW	8	ea	\$ 100.00	\$ 800	
Thermoplastic Pavement Marking symbol ONLY	7	ea	\$ 100.00	\$ 700	
AIA Cost Estimate Alternate 1- Paving and Drainage Items (EXISTING ROADWAY SURFACE REMAINS)					
Traffic Control and Regulation	1	ls	\$ 5,000.00	\$ 5,000	
Remove Existing Sign and Post Assembly	10	ea	\$ 150.00	\$ 1,500	
Ground Mounted Sign and Post Assembly	10	ea	\$ 350.00	\$ 3,500	
Tree and plant protection	1	ls	\$ 1,000.00	\$ 1,000	
Inlet Protection Barrier	14	lf	\$ 25.00	\$ 350	
Precast Manhole	2	ea	\$ 5,500.00	\$ 11,000	
Adjusting Manholes and Inlets	4	ea	\$ 500.00	\$ 2,000	
Removing and Disposing of Concrete Pavement and Subgrade	932	sy	\$ 45.00	\$ 41,940	
Removing and Disposing of Existing Sidewalk and Wheelchair Ramps	298	sy	\$ 45.00	\$ 13,410	
Removing and Disposing of Existing Inlets	4	ea	\$ 1,000.00	\$ 4,000	
Removing Park Sign	1	ea	\$ 500.00	\$ 500	
Relocate Existing Utilities	3	ea	\$ 3,750.00	\$ 11,250	
Roadway Excavation with or without subgrade (18")	137	cy	\$ 35.00	\$ 4,795	
Portland Cement Stabilized Subgrade 8" thick	273	sy	\$ 45.00	\$ 12,285	
Precast Inlets	2	ea	\$ 5,500.00	\$ 11,000	
Reinforced concrete pavement	273	sy	\$ 120.00	\$ 32,760	
Horizontal Dowel 18"	480	ea	\$ 15.00	\$ 7,200	
Reinforced concrete curb and gutter	486	lf	\$ 10.00	\$ 4,860	
Site Prep					
Roadway Median Removal	2,200	sq. ft.	\$ 1.00	\$ 2,200	
Fine Grading	17,900	sq. ft.	\$ 0.15	\$ 2,685	
Soil Replacement	1,000	cy	\$ 20.00	\$ 20,000	17900 sq. ft. +/- 18"
Relocate Light Poles	2	ea	\$ 10,000.00	\$ 20,000	
Salvage Existing Clock	1	ls	\$ 3,000.00	\$ 3,000	
Salvage Existing Sign	1	ls	\$ 3,000.00	\$ 3,000	
Hardscape					
12 ft. Concrete Sidewalk	9,420	sq.ft	\$ 8.00	\$ 75,360	
Houston Ave. Trail North of Intersection	4,800	sq.ft	\$ 8.00	\$ 38,400	
Pedestrian Concrete	2,000	sq. ft.	\$ 8.00	\$ 16,000	
Monument Walls	275	lf	\$ 350.00	\$ 96,250	Additional Walkways
Cast Stone Cap	275	lf	\$ 50.00	\$ 13,750	24" HT Brick Veneer
Restore/Relocate Sign	1	allow	\$ 7,500.00	\$ 7,500	
Restore/Relocate Clock	1	allow	\$ 10,000.00	\$ 10,000	
Softscape					
Turf	5,250	sq.ft	\$ 0.50	\$ 2,625	
Soil Prep	87	cy	\$ 40.00	\$ 3,480	6" depth
Planter Curb	500	lf	\$ 10.00	\$ 5,000	Conc. Curb
Ornamental Trees	30	ea	\$ 400.00	\$ 12,000	30 gal *by Trees for Houston
Street Trees	20	ea	\$ 600.00	\$ 12,000	65 gal *by Trees for Houston
Meadow Seeding	2,300	sq. ft.	\$ 0.75	\$ 1,725	
Meadow Soil Prep	28	cy	\$ 40.00	\$ 1,120	2300 sq. ft.
Landscape Drainage	1	allow	\$ 20,000.00	\$ 20,000	
Amenities					
Signage + Graphics	1	allow	\$ 25,000.00	\$ 25,000	
Electrical Service	1	allow	\$ 25,000.00	\$ 25,000	For clock tower replacement

SUB-TOTAL IMPROVEMENTS \$ 821,880

TOTAL INTERSECTION IMPROVEMENTS

Construction Cost	\$885,755
11% General Conditions	\$97,433
Subtotal	\$983,188
20% Contingency	\$196,638
Total	\$1,179,826

INTERSECTION ALTERNATIVE 2 (COMPLETE INTERSECTION RE-BUILD- NEW CONCRETE)

Item	Quantity	Unit	Unit Cost	Total Cost
AIA Cost Estimate Alternate 2- Paving and Drainage Items (Complete Rebuild)				
Traffic Control and Regulation	1	LS	\$ 15,000.00	\$ 15,000
Remove Existing Sign and Post Assembly	11	EA	\$ 150.00	\$ 1,650
Ground Mounted Sign and Post Assembly	11	EA	\$ 350.00	\$ 3,850
Tree and plant protection	1	LS	\$ 1,000.00	\$ 1,000
Inlet Protection Barrier	14	LF	\$ 25.00	\$ 350
Precast Manhole	2	EA	\$ 5,500.00	\$ 11,000
Adjusting Manholes and Inlets	12	EA	\$ 500.00	\$ 6,000
Removing and Disposing of Concrete Pavement and Subgrade	3,717	SY	\$ 45.00	\$ 167,265
Removing and Disposing of Existing Sidewalk and Wheelchair Ramps	477	SY	\$ 45.00	\$ 21,465
Removing and Disposing of Existing Inlets	7	EA	\$ 1,000.00	\$ 7,000
Removing Park Sign	2	EA	\$ 500.00	\$ 1,000
Relocate Existing Utility	3	EA	\$ 3,750.00	\$ 11,250
Roadway Excavation with or without subgrade (6")	1,859	CY	\$ 35.00	\$ 65,065
Lime Stabilized Subgrade 6"	3,717	SY	\$ 10.00	\$ 37,170
Precast Inlets	6	EA	\$ 5,500.00	\$ 33,000
Reinforced concrete pavement	3,717	SY	\$ 120.00	\$ 446,040
Horizontal Dowels 18"	300	EA	\$ 15	\$ 4,500
Reinforced concrete curb and gutter	789	LF	\$ 10.00	\$ 7,890
Remove AIA Alternate 1 Paving and Drainage	1	ls	\$ (168,350.00)	\$ (168,350)
ALTERNATIVE 2 - COMPLETE INTERSECTION AND SIGNAL RE-BUILD (BY AIA)				
AIA Alternate 2 - AIA Alternate 1			\$ 672,145	\$ 672,145
11% General Conditions			\$73,936	\$73,936
Subtotal			\$746,081	\$746,081
20% Contingency			\$149,216	\$149,216
Total			\$895,297	\$895,297



SURVEYED PARK BOUNDARY
TIRZ BOUNDARY

- 4-WAY INTERSECTION AT HOUSTON AVE AND WHITE OAK DR
- IMPROVED ADA ACCESSIBLE CONNECTION TO EXISTING WHITE OAK HIKE AND BIKE TRAIL
- PEDESTRIAN ZONE + WAY FINDING
- SIGNAL POLE REPLACEMENT+ CROSSWALKS
- WHITE OAK HIKE AND BIKE TRAIL CONNECTION

REFER TO PG. 33 FOR FULL BASIC IMPROVEMENTS PLAN

PROJECT: WOODLAND PARK BASIC CIRCULATION PLAN IMPROVEMENTS

HOUSTON PROMENADE				
HOUSTON PROMENADE				
<u>Site Prep</u>				
Concrete Sidewalk Removal	5,700 sq.ft	\$ 2.50	\$	14,250
Fine Grading	14,250 sq.ft	\$ 0.15	\$	2,138
Clearing + Grubbing Vegetation: DG + Sidewalk	22,300 sq.ft	\$ 1.00	\$	22,300
Selective Removal Vegetation: 8' Buffer	7,600 sq.ft	\$ 0.50	\$	3,800
Tree Care During Construction	1 ls.	\$ 20,000.00	\$	20,000
				<i>14250 sq sft</i>
				<i>Buffer east of sidewalk</i>
<u>Hardscape</u>				
10 ft. Concrete Sidewalk	5,700 sq.ft	\$ 8.00	\$	45,600
Curb Ramp Replacement	1 ea	\$ 3,000.00	\$	3,000
Decomposed Granite Paving	10,000 sq.ft	\$ 6.00	\$	60,000
				<i>To North from trail split.</i>
SUB-TOTAL IMPROVEMENTS				\$ 171,088

WOODLAND PARK GATEWAY				
WOODLAND PARK GATEWAY				
<u>Demolition</u>				
Mass Grading (Including Berms)	133 cy	\$ 35.00	\$	4,655
Fine Grading	35,000 sq.ft.	\$ 0.15	\$	5,250
Concrete- Curb Ramp Removal	1 ea	\$ 1,000.00	\$	1,000
Concrete Sidewalk Removal	1,500 sq.ft	\$ 2.50	\$	3,750
Tree Removal	1 ls	\$ 12,500.00	\$	12,500
Tree Care During Construction	1 ls.	\$ 5,000.00	\$	5,000
				<i>Brick Veneer</i>
<u>Hardscape</u>				
Entryway Pavers	2,400 sq.ft	\$ 20.00	\$	48,000
Monument Walls	60 lf	\$ 350.00	\$	21,000
Monument Wall Graphics	1 allow	\$ 12,000.00	\$	12,000
Berm Retaining Walls	50 lf	\$ 400.00	\$	20,000
Curb Ramp Replacement	1 ea	\$ 3,000.00	\$	3,000
Conc. Edge at Berm	500 lf	\$ 18.00	\$	9,000
Cobble French Drain at Berm	500 sq.ft	\$ 20.00	\$	10,000
				<i>Great Lawn</i>
<u>Softscape</u>				
Turf Grass	35,000 sq.ft	\$ 0.50	\$	17,500
Shade Trees at Walk	9 ea	\$ 600.00	\$	5,400
Ground Cover	2,400 sq.ft	\$ 7.00	\$	16,800
Irrigation	37,400 sq.ft	\$ 1.50	\$	56,100
Irrigation Controller	1 allow	\$ 5,000.00	\$	5,000
Water Service	1 allow	\$ 7,500.00	\$	7,500
Meadow Berm Planting	4,000 sq.ft	\$ 7.00	\$	28,000
<u>Fixtures</u>				
Electrical Service	1 ls	\$ 10,000.00	\$	10,000
Lighting at Entry Monument	1 ls	\$ 15,000.00	\$	15,000
				<i>Electrical extension by HPARD</i>
SUB-TOTAL IMPROVEMENTS				\$ 306,455

NORTH PARK INTERIOR CIRCULATION IMPROVEMENTS				
NORTH PARK INTERIOR CIRCULATION IMPROVEMENTS (BASIC IMPROVEMENTS)				
<u>Site Prep</u>				
Fine Grading	52,000 sq.ft	\$ 0.15	\$	7,800
Parking Lot Curb Removal	250 lf	\$ 2.00	\$	500
Parking Lot Surface Demo	14,000 sq.ft	\$ 5.00	\$	70,000
Concrete Sidewalk Removal	10,600 sq.ft	\$ 2.50	\$	26,500
Asphalt Trail Removal	10,200 sq.ft	\$ 1.50	\$	15,300
Picnic Table Slab demolition	8 ea	\$ 500.00	\$	4,000
Selective Vegetation Removal (Forest Edge)	60,000 sq.ft	\$ 0.50	\$	30,000
Clearing + Grubbing (New Sitework)	35,000 sq.ft	\$ 0.75	\$	26,250
Tree Removal	3 ea	\$ 800.00	\$	2,400
Fine Grading	14,000 sq.ft.	\$ 0.15	\$	2,100
				<i>52000 sq.ft</i>
				<i>Conc. Parking Lot</i>
<u>Hardscape</u>				
Parking Lot Curb Replacement	250 lf	\$ 10.00	\$	2,500
Parking Lot Re-Striping	1 allow	\$ 10,000.00	\$	10,000
Concrete Sidewalk	8,800 sq.ft	\$ 8.00	\$	70,400
South Walkway (10' Concrete Trail)	9,750 sq.ft.	\$ 8.00	\$	78,000
Northwest Bayou Overlook	1 allow	\$ 15,000.00	\$	15,000
South Bayou Overlook	1 allow	\$ 15,000.00	\$	15,000
DG Trail	3,160 sq.ft.	\$ 6.00	\$	18,960
DG Trail Con. Edge	550 lf	\$ 18.00	\$	9,900
Drainage	1 ls	\$ 80,000.00	\$	80,000
				<i>Thining Along Woodland Trail</i>
				<i>Concrete Paving w/seatwall</i>
				<i>Concrete Paving w/seatwall</i>
				<i>Event Lawn and Existing Problem A</i>

NOTE: These estimated costs are for construction costs and contingency only. Costs do NOT include cost of topographic survey, geotechnical studies, environmental studies, final construction documents, construction testing, construction or project management. Those cost can vary from 20-25 % of the totals presented in this study.

<u>Softscape</u>				
Re-Turf disturbed area	28,000 sq.ft	\$ 0.50	\$	14,000
Ornamental Trees along South Walkway	30 ea	\$ 400.00	\$	12,000
Shade Tree at Parking Lot	1 ea	\$ 600.00	\$	600
Irrigation	42,500 sq.ft	\$ 1.50	\$	63,750
Tree Bubblers	31 ea	\$ 150.00	\$	4,650
Meadow Seeding	29,000 sq.ft	\$ 0.75	\$	21,750
				<i>30 g</i>
				<i>65 g</i>
				<i>inc. compost amendment</i>
<u>Amenities</u>				
Wayfinding Signage	1 allow	\$ 25,000.00	\$	25,000
Relocate Existing Trash Receptacle	3 ea	\$ 250.00	\$	750
Relocate Existing Pedestrian Area light	1 allow	\$ 3,500.00	\$	3,500
Relocated Grill	1 ea	\$ 500.00	\$	500
Relocated Picnic Tables	8 ea	\$ 2,000.00	\$	16,000
Benches	10 ea	\$ 3,500.00	\$	35,000
				<i>80,750</i>

SUB-TOTAL IMPROVEMENTS \$ 682,110

TOTAL BASIC CIRCULATION PLAN IMPROVEMENTS	
Construction Cost	\$1,159,653
11% General Conditions	\$127,562
Subtotal	\$1,287,214
20% Contingency	\$257,443
TOTAL	\$1,544,657



- SURVEYED PARK BOUNDARY**
- TIRZ BOUNDARY**
1. 4-WAY INTERSECTION AT HOUSTON AVE AND WHITE OAK DR
 2. IMPROVED ADA ACCESSIBLE CONNECTION TO EXISTING WHITE OAK HIKE AND BIKE TRAIL
 3. PEDESTRIAN ZONE + WAY FINDING
 4. SIGNAL POLE REPLACEMENT+ CROSSWALKS
 5. WHITE OAK HIKE AND BIKE TRAIL CONNECTION
 6. SOUTH EAST OVERLOOK
 7. IMPROVED HOUSTON PROMENADE
 8. NORTHWEST PARK ENTRANCE
 9. FIREFLY AMENITY
 10. GREAT LAWN
 11. WOODLAND TRAIL
 12. OVERLOOK
 13. DECOMPOSED GRANITE EXERCISE LOOP
 14. IMPROVED COMMUNITY CENTER WALKWAY
 15. COMMUNITY CENTER OVERLOOK
- REFER TO PG. 33 FOR FULL BASIC IMPROVEMENTS PLAN

NOTE: These estimated costs are for construction costs and contingency only. Costs do NOT include cost of topographic survey, geotechnical studies, environmental studies, final construction documents, construction testing, construction or project management. Those cost can vary from 20-25 % of the totals presented in this study.

ALTERNATIVE:

NORTH PARK FUTURE FRAMEWORK PLAN IMPROVEMENTS BY OTHERS				\$ 986,183
Site Prep				
Parking Lot Addition-Curb Cut Removal	60 lf	\$ 5.00	\$ 300	
Parking Lot Addition- Site Clearing	12,500 sq.ft	\$ 0.75	\$ 9,375	
Tennis Court Slab Demolition	955 sq.ft	\$ 5.00	\$ 4,775	
Tennis Court- Fence Demolition	370 lf	\$ 2.25	\$ 833	
Tennis Court Lights Demolition	4 ea	\$ 1,000.00	\$ 4,000	
Tennis Court Abandon Electrical	1 ls	\$ 4,000.00	\$ 4,000	
Hardscape				
Parking Lot Addition- Curb Replacement	60 lf	\$ 10.00	\$ 600	
Parking Lot Addition- Conc Paving	9,000 sf	\$ 13.00	\$ 117,000	
Community Center Porch/Overlook Plaza	1 allow	\$ 50,000.00	\$ 50,000	
Mulch at Playground Area	9,500 sq. ft.	\$ 2.00	\$ 19,000	
Plaza at Basketball Court	11,900 sq. ft.	\$ 20.00	\$ 238,000	
DG at Picnic Area	5,300 sq. ft	\$ 6.00	\$ 31,800	
Tennis Court Relocation	1 ls	\$ 225,000.00	\$ 225,000	
Softscape				
Ground Cover as rendered	30,000 sq.ft	\$ 7.00	\$ 210,000	
Ornamental Trees	10 ea	\$ 400.00	\$ 4,000	30 gal
Shade Trees	28 ea	\$ 600.00	\$ 16,800	65 gal
Irrigation	30,000 sf	\$ 1.50	\$ 45,000	
Tree Bubblers	38 ea	\$ 150.00	\$ 5,700	
Construction Cost				\$986,183
11% General Conditions				\$108,480
Subtotal				\$1,094,663
20% Contingency				\$218,933
Total				\$1,313,595



