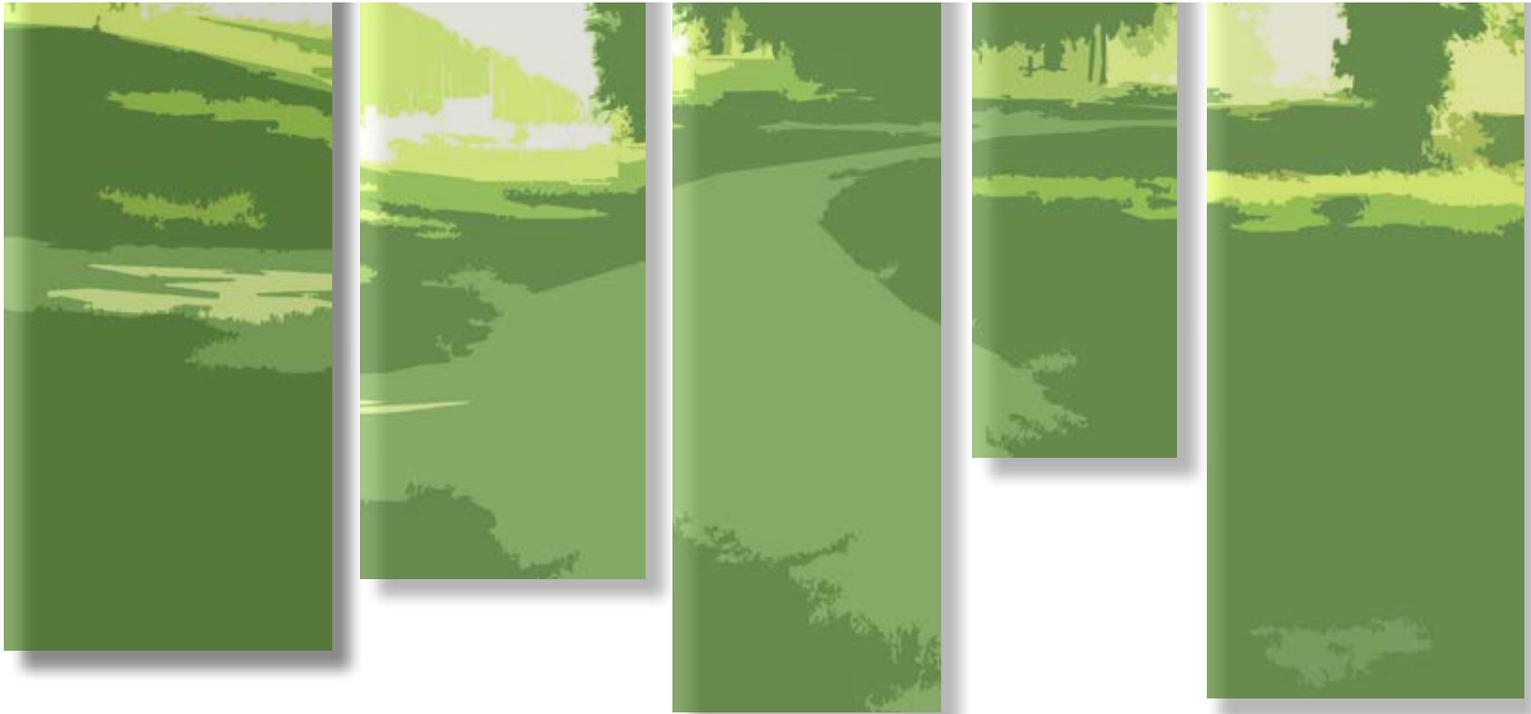




NORTH RIVERFRONT PARK MASTERPLAN



PREPARED FOR THE CITY OF SAINT LOUIS BOARD OF PUBLIC SERVICE

ARCTURIS
together we create

+





ACKNOWLEDGEMENTS

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Adopted by: City of St. Louis Planning Commission as a Topical Plan, October 1, 2014

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INTRODUCTION

NORTH RIVERFRONT PARK is located less than 10 miles north of the Gateway Arch in the north east portion of St. Louis City along the Mississippi River, bound by Riverview Drive on the west, Spring Garden Drive to the North and adjacent to Scranton Avenue on the south. The park is approximately 112 acres in size and is owned by the City of St. Louis Water Division, which maintains the Chain of Rocks Water Treatment Plant located just north of the park. The City of St. Louis Parks Department currently maintains the landscape of the park.

The park is primarily utilized by residents of both St. Louis City and St. Louis County, due to its close proximity to the City/County line and its accessibility from Interstate 270. Many park visitors spend their time fishing in the stocked lake or along the banks of the River, while other guests walk or bike the North Riverfront Trail or take in the “quiet beauty” offered by the park. North Riverfront Park is one of the few places in St. Louis where you can actually get down to the Mississippi River and touch the water, however existing amenities at the park are limited and the rise and fall of the Mississippi River leaves the park susceptible to flooding.

In January of 2010, the City of St. Louis began the process of creating the North Riverfront Park Masterplan with the desire to enhance the current aesthetics and amenities in the park while maintaining its unique setting along the river.



View looking North



View looking South

MASTERPLAN PROCESS

The North Riverfront Draft Masterplan was developed with the involvement of the community, the steering committee, and the City of St. Louis. Additional input was received through coordination with a project completed in the spring of 2010, "Public Art and Ecology: A Watershed Project." The project is a "community-based, landscape scale public art project that will contribute to the cultural development of St. Louis, create a greater understanding of environmental issues related to the Mississippi River watershed, and serve as a functioning work in the watershed." North Riverfront Park was identified as the site for this project.

Through the input from all of these entities over several months, along with research and data collection, preliminary concept design and final concept design, the Masterplan document was developed. The Masterplan document will be a valuable resource for the city and community to guide the park in its development as well as to use for implementing new, or modifying existing elements within the park.

Three separate meetings were held with the members of the steering committee to obtain their comments and input to the material presented at the public meetings. Each steering committee meeting was followed by a public meeting that provided the opportunity for comment on the concepts and material presented, which was incorporated into the Masterplan document. The first meetings, held in February 2010, were used to gather information from the steering committee and public to determine what they liked about North Riverfront Park and what opportunities were available to make the park more unique. Common themes and phrases emerged from these meetings which included:

- Open view of the river
- Trails and connections
- Ability to touch the water
- Improved parking
- Connection with nature
- Educational potential
- Water systems
- Maintainable and sustainable

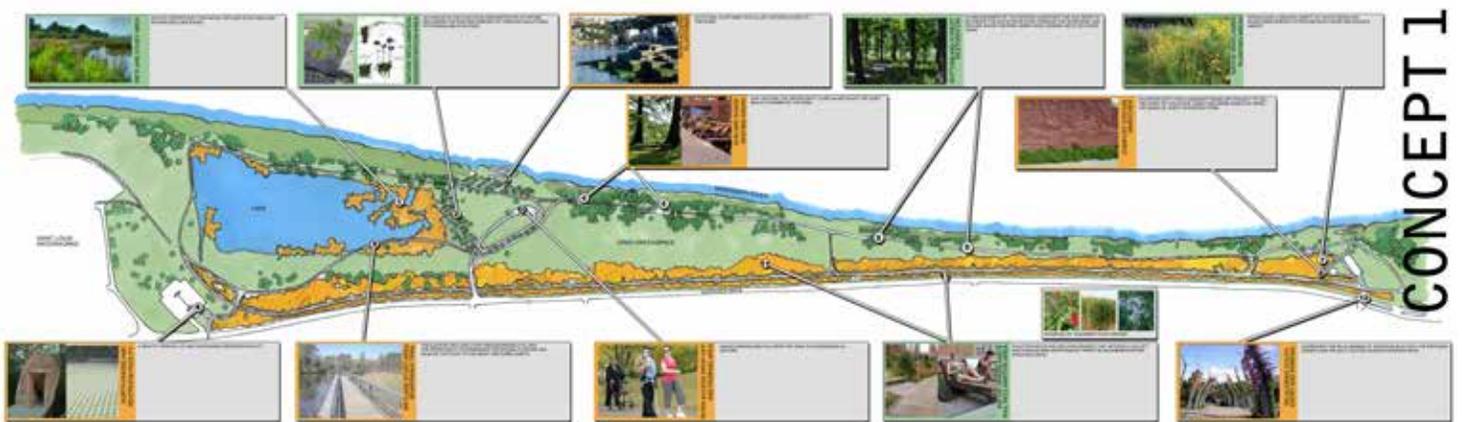


Quiet Beauty

MASTERPLAN PROCESS

Two preliminary concepts were developed based on the information received at the first meetings and were presented to the steering committee on March 16 and to the public on April 10 for review and comment. The themes of the two preliminary concepts are defined below, larger-scale details of the plan appear within proposed elements and guidelines section of the report.

Concept 1 enhances and restores the existing native Missouri riverfront landscape by recreating the naturally occurring bottomland forest and wet grasslands.



Concept 2 introduces multiple programmed elements that can support a wide variety of uses for park visitors.





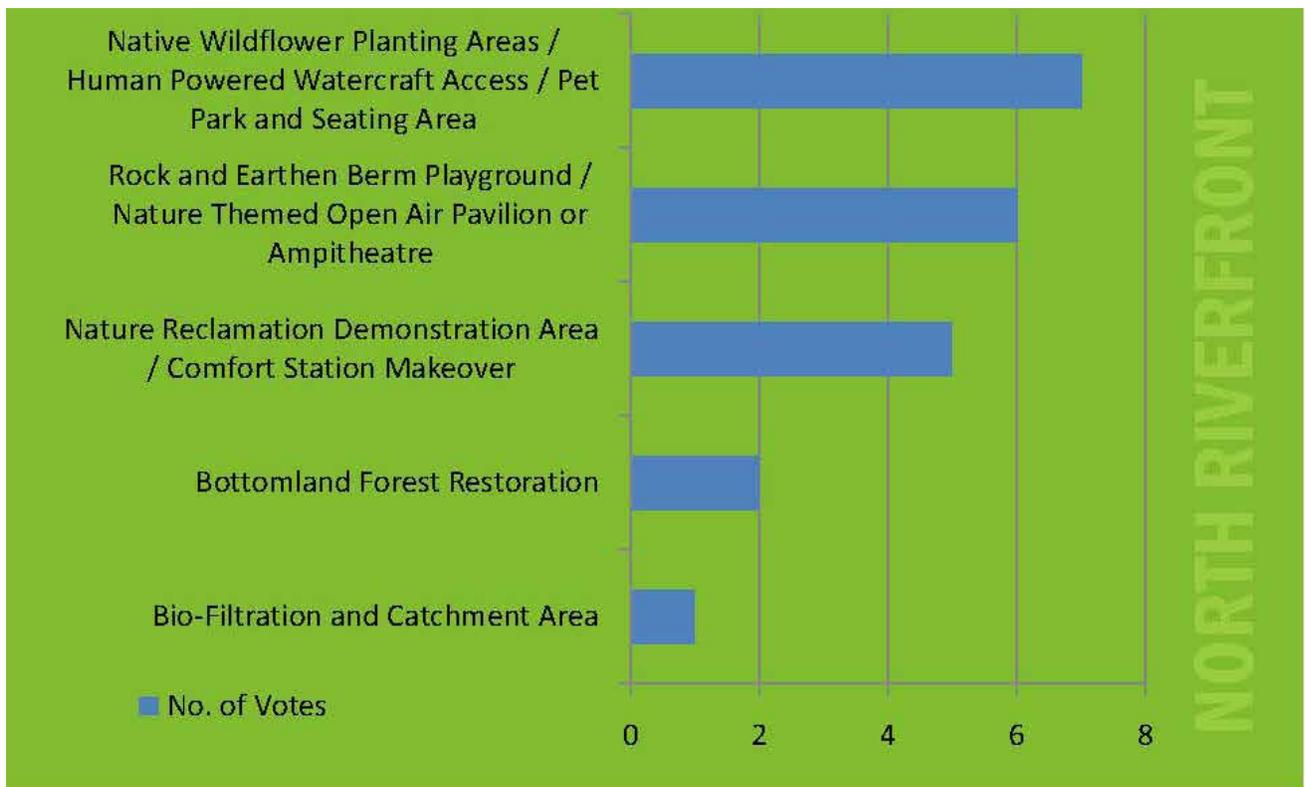
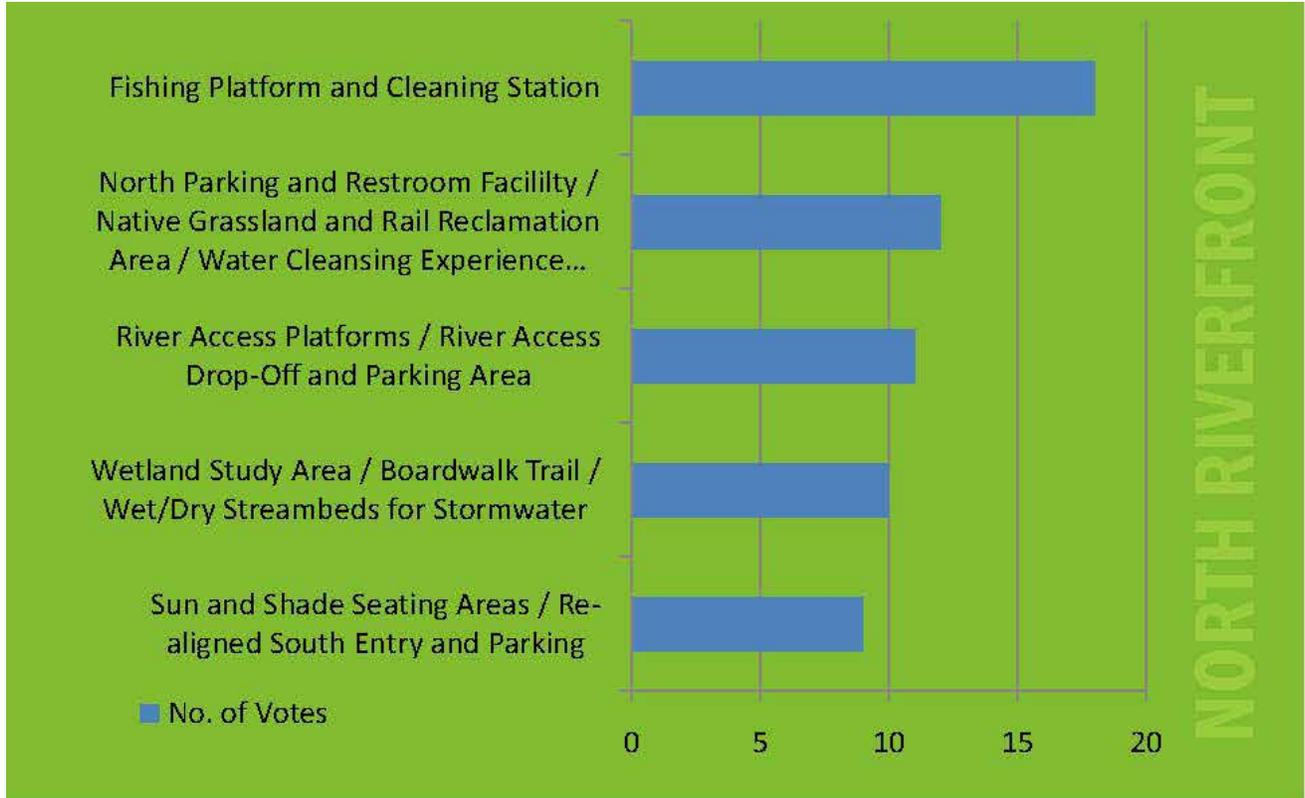
MASTERPLAN PROCESS

The public was also given the opportunity to add additional comments on the concepts presented.

- “Please use this opportunity to create educational, artistic, unique, beautiful opportunities for visitors to understand the watershed and water cleaning (natural and man-made) processes.”
- “Boardwalk through wetland area is great.”
- “Would also like to see a floating island.”
- “Please preserve views of the river. We worry that large trees will obstruct our enjoyment of the river as we drive by.”
- “Strongly believe the park should be a mix of user-friendly features and natural surroundings.”

The community meeting gave the public the opportunity to choose eight elements they wanted to see included in the Masterplan document. The graphs on the following page show the number of votes received for each element presented in the second meeting.

MASTERPLAN PROCESS



MASTERPLAN PROCESS

The results of the voting and the comments received from the community participants helped shape the final Masterplan. The Draft Final Masterplan was presented to the steering committee on April 27 and to the public on May 26. Additional changes and comments were incorporated into the plan and opinions of probable costs were developed for each of the included plan elements.



DETAILS

Public Meeting #1 – February 27

- PUBLIC INPUT /DESIGN IDEAS

Steering Committee Meeting #2 – March 16

Public Meeting #2 – April 10

- CONCEPT REVIEW

Steering Committee Meeting #3 – April 27 -

Public Meeting #3 – May 26

- PLAN ROLLOUT

Live on the Rock Concert – May 28

Draft Final Report Due – June 15

Final Report Due – July 2

Plans Published and Available to Public – July 23

Present Final Report to St. Louis Planning Commission – Fall 2010

NORTH RIVERFRONT

HISTORY AND CONTEXT

Pictures dating back to the 1800's show the openness of land along the Mississippi River near what is now known as North Riverfront Park. The Chain of Rocks Water Treatment Plant, located just north of the park was opened in 1894, but it wasn't until 1980 when the Water Division acquired North Riverfront Park. The treatment plant got its name from a large shoal, or rocky rapids that made that portion of the Mississippi River very dangerous to navigate. After the treatment plant was built, the Water Department wanted to showcase its waterworks to the public, so it began to landscape the grounds surrounding the plant. In addition, the City acquired approximately 30 acres of land on the bluff above the waterworks plant and Chain of Rocks Park became a popular destination for families. The focal point of the park was the waterworks river intake tower that was framed by the landscaping on the bluff. A second tower was constructed in 1913, east of the original tower. Water from the muddy Mississippi flowed into the towers and through a tunnel cut in the solid rock to the plant, where it was pumped into a series of sedimentation basins and filter beds. After the mud settled out in the basins, the water was distributed through the piping system throughout the city. Three of these water lines run through the park. Many changes and modifications have been made to the waterworks plant since its' initial construction, however, St. Louis still gets its drinking water from the muddy Mississippi.



HISTORY AND CONTEXT

St. Louis is located at the heart of the Missouri-Mississippi Watershed which drains 40% of the continental United States.



Global Impact

North Riverfront Park is located less than 10 miles north of St. Louis on the Mississippi River, which puts it in a unique position to create a positive impact on the watershed, and to the community by showcasing the importance of water through an ecological stormwater treatment project. The Environmental Protection Agency is directing the State of Missouri to raise water quality standards for the St. Louis segment of the Mississippi River. The new standards will require the nearly 30 mile stretch of river from North Riverfront Park to the mouth of the Meramec River to be clean enough for swimming, fishing and other recreational activities.

HISTORY AND CONTEXT



Regional Access

Due to its location on the Mississippi River and its proximity to the water treatment plant, North Riverfront Park has the opportunity to become a unique destination for park users and to educate the public on the importance of water and water cleaning processes.



Local Participation

HISTORY AND CONTEXT

The 112 acre park has several existing amenities including a fishing lake, a restroom facility, a bicycle/pedestrian trail, parking areas, and a small amphitheater which are used by the surrounding communities and county users. There is an existing boat ramp that has been silted in due to the river and is no longer usable. The park is accessible by pedestrians from the neighborhood across Riverview Drive, however, traffic along Riverview can be quite heavy and fast, creating an unsafe atmosphere for crossing into the park. The park is accessible by bicycle enthusiasts pedaling along the St. Louis Riverfront Trail which runs adjacent to the Mississippi River between the Laclede's Landing area north to the Old Chain of Rocks Bridge. The North Riverfront Park Lake is a popular destination for area anglers and was named the Best Fishing Hole in St. Louis by the Riverfront Times Magazine in 2008. It is stocked on a regular basis by the Missouri Department of Conservation.



INFRASTRUCTURE HISTORY

The existing infrastructure conditions in North Riverfront Park are considered to be fair at best. The park accommodates a public green space that stretches from Scranton Ave approx. 1.70 miles along Riverview Drive to the St. Louis Water Division, formerly known as the Chain of Rocks Plant. This land, situated in the flood plain and owned by the St. Louis Water Division, has incurred numerous infrastructure additions and modifications throughout the years. More particularly speaking, the sewers, utilities, parking lots, boat ramp, fishing pond and pathways have performed for many years with satisfactory service and have been the key elements that attract visitors to North Riverfront Park. Some of the infrastructure was built as early as 1887, at the time in which the Chain of Rocks water treatment plant was built. Over the years much of the infrastructure has been the subject of disrepair. The infrastructure in North Riverfront Park will require a significant investment to bring it up to standards for safety, and to create an attraction destination with functionality and modern aesthetics.

EXISTING STORM DRAINAGE CONDITIONS

The existing surface drainage of storm water in North Riverfront Park has become a major issue of concern. The majority of the grates, inlets, manholes and underground sewer pipes are in immediate need of some type of repair or replacement. Areas within the park are deemed unusable and potentially unsafe due to ponding and minor flooding during storm events. The continuous ponding areas have also added additional stress to the landscaping, and added inconveniences during general use and public events.

Currently, the majority of the storm water sheet flows from the east side of Riverview Drive through the park and is discharged into the river. Storm water from the west side of Riverview is captured via roadway ditches and conveyed across Riverview and through the park in a series of reinforced concrete pipes, reinforced concrete boxes, pvc pipes, ductile iron pipes, and brick tunnels. These systems discharge into the river. Some of the pipe ends and headwalls are completely silted in.

The area south of the north entrance is the location of a multiple pipe drainage system. This area also contains an unsightly combination of cast iron piping, gravel, bricks, rock, asphalt and concrete and has been a location of constant erosion and maintenance. The safety of the public is also a major concern. The existing cast iron pipes are used to convey storm water from the double inlets and roadside swales along Riverview Drive to a drainage channel across the railroad tracks. The drainage channel consists of an asphalt, gravel and concrete slope on one side and a stone wall on the other. The channel discharges into a 7'x 6' reinforced concrete box which discharges into the river.

The rest of the storm water on site is captured into a system of inlets, grates and culverts then conveyed to the river. The grates and inlets within the park collect water from nearby swales. These swales will need to be re-graded to provide positive flow to all inlet and grates. Maintenance of the sewer system within the park is currently the responsibility of The City of St. Louis.

STORM DRAINAGE RECOMMENDATIONS

The primary goals of the proceeding recommendations are to improve the parks storm water surface drainage and upgrade the storm sewer systems. An inventory of the existing storm structure and pipe conditions shall be taken and evaluated to determine the necessary corrective action to perform and provide complete rehabilitation of the storm system.

Special attention shall be given to the area south of the north entrance. This area shall be redesigned to maximize public safety and minimize erosion and maintenance. Consider piping the drainage in this area and re-grading to provide bio-swales or an infiltration basin.

To accommodate the long term needs of the park, a storm sewer analysis to determine the drainage areas, depth, capacities and size of all infrastructure shall be determine. Structures and storm sewers pipes may require cleaning and CCTV to help determine the conditions and capacities of the existing system. An effective maintenance plan shall be implemented.

EXISTING GRADING CONDITIONS

The existing grading conditions in North Riverfront Park are the culprit of excessive ponding in swales, at storm pipe inlets and outlets, pathways, grassy areas and parking lots. Low grassy areas tend to be unsightly when mowed after rain events. Paths are deemed impassable and ponding creates the ideal breeding ground for mosquitoes. Areas along the river bank contain unsightly mud pits, ponding and erosion.

GRADING RECOMMENDATIONS

North Riverfront Park will require general grading adjustments to provide a safe and aesthetically pleasing park. The primary goal of the proceeding recommendations are, to improve safety and improve surface drainage. All swale and ditches are to be modified or constructed to provide positive drainage. All new construction shall provide positive drainage to storm structures and/or natural discharge points in a way to minimize damage to landscaping. Consideration shall be given to provide natural areas to treat polluted water prior to discharging into the combined sewer system. To prevent water pollution, native species of vegetation shall be provided to reduce the need for pesticides and fertilizers. Establish and maintain vegetative strips around water bodies to filter out pollutants washed off by the surrounding landscape. Soil erosion shall be reduced by improving soil resources through structural control practices such as vegetative plantings, and alteration of landscape maintenance operations.

Consideration shall be given to provide some type of riverbank treatment. These grading adjustments are required to improve surface flow to inlet structures, grates or natural discharge points.

EXISTING UTILITIES CONDITIONS

The utilities in the park consist of overhead electric, lighting and underground waterlines. Running north and south parallel to Riverview Drive on the east, lies 3-78" waterlines. These lines are the main water supply lines that provide water to the City of St. Louis. Under no circumstances shall these lines or the earth around them be disturbed. Generally speaking, the utilities within North Riverfront Park are considered to be in fair condition and will require minimal upgrades and additions to accommodate the new attraction elements and provide the needs of today's visitors and events within the park.

UTILITY RECOMMENDATIONS

When providing additions to the utilities, consider providing underground utilities within utility corridors, to minimize disruption to the landscaping. Additions to utilities should include path lighting, parking lot lighting, water fountains and electric to all building structures and park attraction elements.

SECURITY EXISTING CONDITIONS

Existing security within North Riverfront Park is limited to police patrol and minimal pedestrian lighting. Concerns with vandalism continue to be an issue in North Riverfront Park.

SECURITY RECOMMENDATIONS

A variety of security methods were taken into consideration to insure the safety to the public, structures and amenities in the park. The most effective way to divert vandalism is to improve lighting and activities in the park. Since one of North Riverfront Park's features is its open space topography and lack of large structures, visibility of activities greatly deters vandalism. Along with lighting, it is recommended both routine security patrols of the park and a neighborhood awareness program be implemented.

EXISTING PATHWAY CONDITIONS

The existing paths are in fair condition despite a few path deficiencies including but not limited to, minor settling, poor drainage and cracking. Some areas of settlement are impassable after a major storm event. The existing asphalt path used by the jogging/walking community meanders along the river edge and throughout others areas of the park. The existing paths vary in widths from 8' to 12' and may be considered a safety hazard in some areas due to ponding, cracks, deterioration and a few sinkholes. The existing path limits the access to the full park experience.

PATHWAY RECOMMENDATIONS

The proposed paths shall be upgraded to a minimum width of 8 feet for pedestrian traffic and 15' for vehicle traffic. The path surface shall be asphalt or concrete which will need less maintenance than a soft surface pavement due to the flooding that happens within the park. Consider providing resting/seating areas along the path at overlooks and informational nodes for children, the elderly and disabled persons.

EXISTING REST AREA / AMPHITHEATER

The existing rest area/amphitheater located northeast of the south parking lot, serves as a multi-functional amenity. The pinkish colored concrete area is in good condition and accommodates a few different functions as its location lends itself to a resting area for those who jog, walk, or run on the North Riverfront Trail. The trail splits this area into 2 portions as it meanders through. It has a water fountain, bike rack, way finding signage and also provides a podium used for educational information and viewing maps as you proceed along the trail. The tiered design also lends itself for entertainment as an amphitheater. With the addition of a bike rack, water fountain, signage and the trail running through it, the use as an aesthetically pleasing and functional amphitheater is questionable.

REST AREA / AMPHITHEATER RECOMMENDATIONS

The existing rest area/amphitheater can be modified and incorporated in to the master plan as a bicycle trail head/rest area for the North Riverfront Trail or redesigned to be an addition to the picnic/family gathering area.

RAILROAD HISTORY

Just east and parallel to Riverview Drive lies the existing railroad tracks. *When the St. Louis Water Division built the new water purification plant in 1894 on the Mississippi River at Chain of Rocks (just south of the present-day Interstate 270 bridge), it also built a railroad line along the river to carry materials and workers northward from the city. At first the Water Division contracted with the Chicago Burlington & Quincy Railroad to run steam-powered trains over the line, then in 1902 it electrified the line and began to operate it directly. In addition to carrying Water Works employees, the line carried nearby residents to a connection with a city streetcar line, and city residents to a popular park at the Water Works.

The Water Works streetcars were discontinued in 1935-36 in favor of buses, but the line and cars were not dismantled. Service was restored in 1944, for Water Works employees only, because of wartime gasoline and tire shortages, and finally ended for good in 1955.



PARK INFRASTRUCTURE

The Museum of Transportation received three of the remaining cars, and eventually restored #10 to full operating condition. It began operation in summer 2002.

*Information obtained from the St. Louis, Missouri Museum of Transportation.

BOAT RAMP

North Riverfront Park has points along its boundaries that allow for river access features such as a boat ramp and possibly a marina. Both of these options were explored in the planning process. A boat ramp currently exists in the park however, since the time of installation; the boat ramp has been buried by silt deposition from the river. This is the result of the lack of dredging maintenance and the result of a sunken barge just upstream from the current docking area. The sunken barge is located approximately 20 feet off the river bank and the river has realigned itself according to the barge. This realignment moved the natural silt deposition area approximately 50-75 feet from the original area, which has left the existing ramp nonfunctional.

This plan includes a new boat ramp element. The new boat ramp will include a newer parking lot that is limited to just boat drop off vehicles and trailers. It will replace the old boat ramp and, therefore, dredging and regular maintenance will be required in order to assure proper functioning of the ramp. Along with preliminary dredging, the boat ramp will need to be designed using concrete that will need to be anchored to the bank and the surrounding bank will need to be protected with large rock to prevent erosion. This element will be expensive to implement, but will serve as an attraction for boaters around the city.

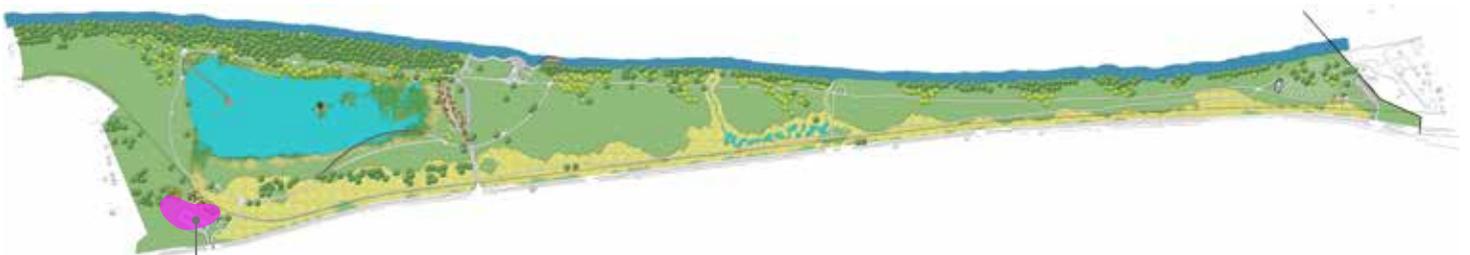
During the planning process, a marina was also considered. The design team met with the United States Army Corps of Engineers (USACE) and also met with a marina owner. Both indicated that a large flow diversion structure would be required. This structure would be close to 30 feet tall and cut the park in half. The marina owner commented that in order to have a successful marina there is need for auxiliary facilities such as restrooms, gas station, and attractions such as restaurants or landmarks. A marina would also come at a high construction cost and high maintenance fee.

FLOODING

According to FEMA FIRM map North Riverfront Park exists in the Mississippi River floodplain and the river stage has the potential to fluctuate as much as 30 feet in this area. Therefore any element chosen for construction will need to be able to withstand flooding conditions. Additionally any storm water solution or "green" element that is implemented will also need to take flooding into consideration. Flooding issues can be especially expensive if they are not taken into account in the design phase.

PROPOSED ELEMENTS AND GUIDELINES

The elements chosen for inclusion in the North Riverfront Park Masterplan were determined at the second public meeting. After the public meeting the two concepts presented were combined into a final design which was introduced at the last steering committee and public meeting. The elements included in the final design are presented on the following pages, and should also include educational signage appropriately designed for each element within the park.



Indicates potential location for proposed element. An enlargement of each numbered area is provided on the following pages.

1

NORTH PARKING AND RESTROOM FACILITY



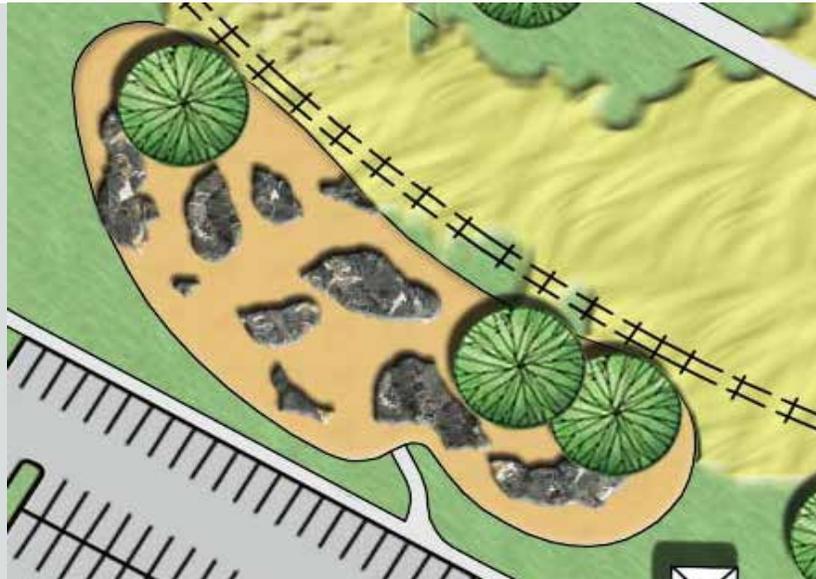
A HEALTHY PARKING LOT AND SUSTAINABLE RESTROOM FACILITY.

This area will showcase advances in sustainable parking and restrooms by providing a parking surface that allows for stormwater infiltration and a toilet facility that is minimally reliant on the city sanitary sewer system. Parking systems could include a permeable paver system, as shown below, or a newer system, such as permeable asphalt or concrete, that will have the look of traditional surfaces, while providing a highly enhanced infiltration capability. The proposed restroom facility could be an artistic, eye-catching building that is sculptural in nature, but uses low impact technologies such as composting, to reduce the dependence on the city sanitary systems.



2

ROCK AND EARTHEN BERM PLAYGROUND



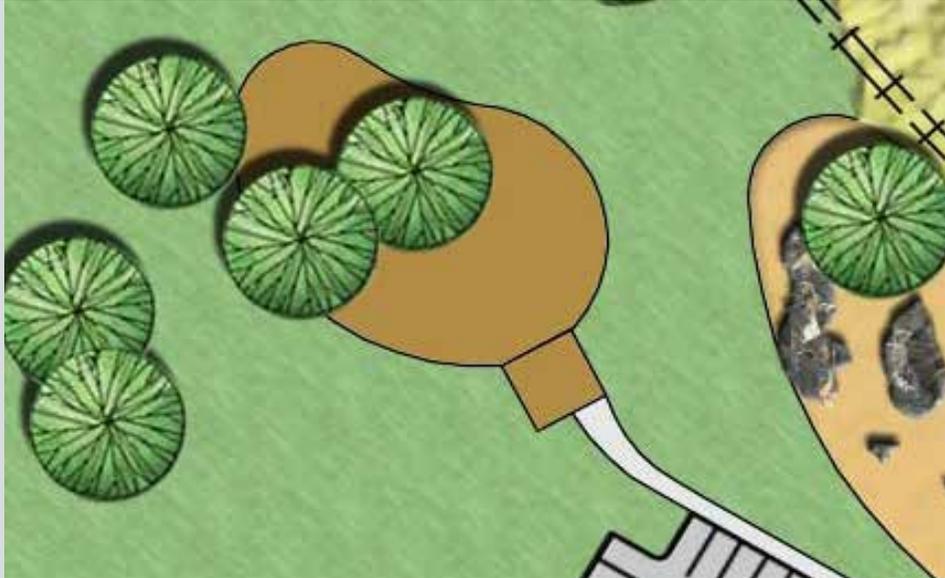
AN INNOVATIVE ALTERNATIVE TO TRADITIONAL PLAY EQUIPMENT THAT ALLOWS CHILDREN AND ADULTS ALIKE TO EXPERIENCE NATURE'S PLAY STRUCTURES.

This alternative play area will introduce new play technologies and systems that could range from simple berms and natural Missouri rock, to cast concrete "rock structures" that would simulate natural rock out-croppings. These structures will give children, teens, and adults an opportunity to explore and climb within a area that is contained and easily monitored by parents and guardians. This area could incorporate native landscaping and a simple, crushed aggregate surface.



3

PET PARK AND SEATING AREA



A DEDICATED, EASILY ACCESSIBLE AREA THAT GIVES PARK USERS AN OPPORTUNITY TO ENJOY THE PARK WITH THEIR FOUR LEGGED FRIENDS.

The pet park will consist of a fenced in area that gives owners a chance to unhook the leash and let their domesticated animals run loose and socialize with other animals. Simple amenities, such as benches, permanent water bowls, and a hose bib will allow for full use of this area. Signage would be required to indicate park and city information and rules regarding the use of the pet park. The pet park should be designed in accordance with all city ordinances that govern dog parks.



4

FISHING PLATFORMS AND CLEANING STATION



AN AREA DEDICATED TO LAKE AND RIVER FISHING THAT IS ACCESSIBLE, ARTISTIC, ACCOMMODATES MANY VISITORS, AND PROVIDES A FISH CLEANING STATION.

This area will provide much needed fishing facilities for the many anglers that frequent this park. The new fishing platforms will give increased access to the lake and river for fishing. The addition will accommodate increased angler population, as well as provide a fish cleaning station. This station will allow anglers to clean their catch on-site. The fish cleaning station will require a source of water to allow the fishermen to quickly clean the area which will reduce the resulting odor. The station should be made of stainless steel and the use of a grinder pump for the disposal of entrails should be considered. Maintenance will be a necessary component of this element. A vehicular access route will be provided for stocking the lake.



5

FLOATING ISLAND WITH SCULPTURAL AERIE



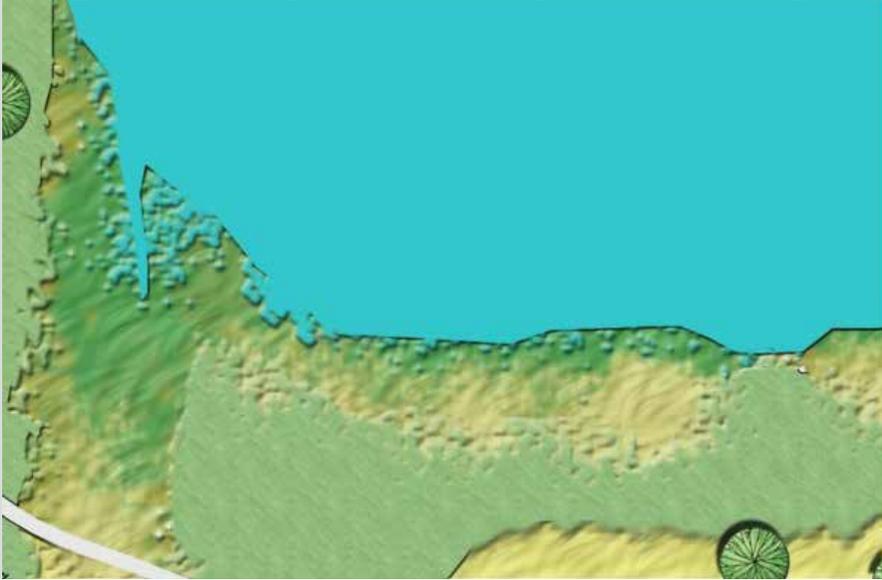
AN OPPORTUNITY FOR A FLOATING ISLAND THAT WOULD PROVIDE FILTRATION FOR A HEALTHIER LAKE. INCLUDES A SCULPTURAL ELEMENT PROVIDING A RESTING PLACE FOR MIGRATORY BIRDS ALONG THE MISSISSIPPI FLYAWAY.

This sculptural element will become a park landmark as well as provide shelter and retreat for migratory birds. The floating island will assist in the continual filtration and cleaning of the lake and fish habitat.



6

WETLAND STUDY AREA



ARTISTIC OPPORTUNITY FOR NATIVE WETLAND STUDY AREA AND NATURALIZED LAKE EDGES

A feature that will exist at various points along the lake edge, the wetland study area will reintroduce native plant species that exist in similar habitats along lake sides throughout the state of Missouri. The plantings will soften and naturalize the lake edge while also stabilizing the eroding bank. A renewed lake edge will provide habitat for wildlife and present an educational opportunity for children and adults alike. Careful consideration will have to be given in the selection of plant species due to the fluctuations in the lakes water level. The "Riverfront Habitat Restoration Master Plan" document should be used as a reference.



7

WATER CLEANSING EXPERIENCE AREA



AN INTERACTIVE ART PROJECT, COMBINING RECREATION, EDUCATION, AND EXERCISE THAT DEMONSTRATES THE FILTRATION PROCESSES THE WATER PLANT USES TO TRANSFORM WATER FROM THE MUDDY MISSISSIPPI INTO CLEAN, CLEAR DRINKING WATER.

Utilizing various methods, from passive planting filters, to active treddle pumps and play structures, this area will give visitors a chance to experience the cleansing process first hand. The understanding generated here will educate visitors on water processes, and the importance of these processes to our everyday lives.



8

BOAT ACCESS AND PARKING



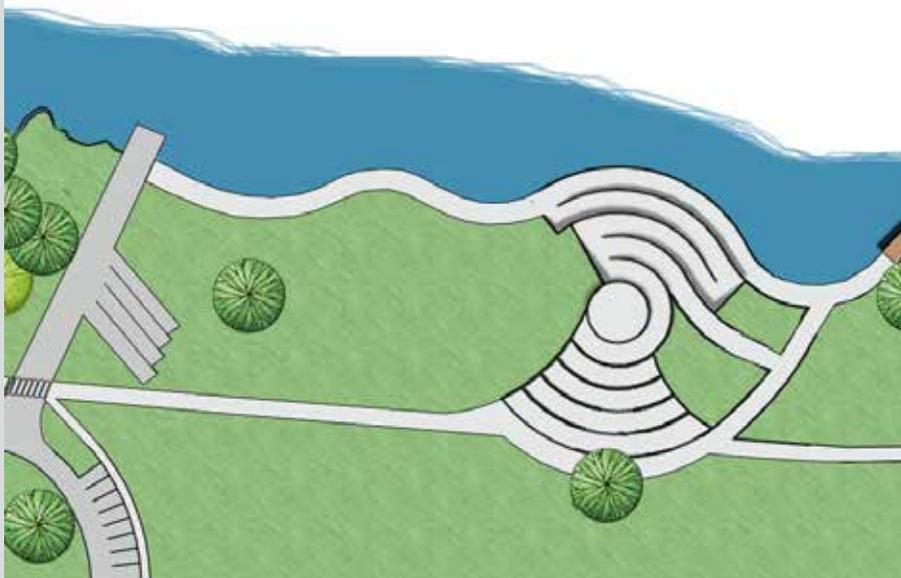
BOAT ACCESS FOR RECREATIONAL AND EMERGENCY WATERCRAFT. INCLUDES SHORT TERM PARKING FOR BOAT TRAILERS

A newly designed boat ramp will provide users with the opportunity to access and explore the great river that borders the park. This element will provide easy access for boats of all sizes. Limited temporary parking will also be available. The installation of a new boat ramp on the Mississippi River will require dredging and maintenance to avoid a build-up of silt.



9

RIVER ACCESS PLATFORMS



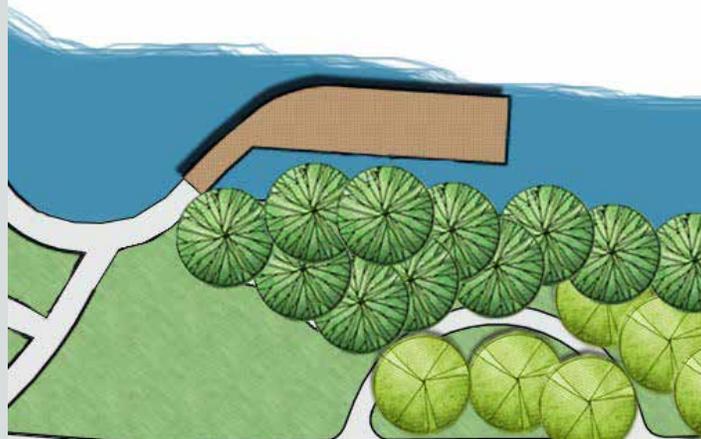
SCULPTURAL PLATFORMS THAT ALLOW VISITORS ACCESS TO THE RIVER.

These platforms will provide access to the river for pedestrians. There are so few places in the region for park users to experience the river on a human scale. These sculptural platforms will allow ADA access to the riverfront and seating for users to enjoy the mighty Mississippi. Although the platforms shown are circular in nature, they could be linear and the design of the platforms will have to take into account the velocity of the river, the varying level of the water and the existing bank conditions.



10

HUMAN POWERED WATERCRAFT ACCESS



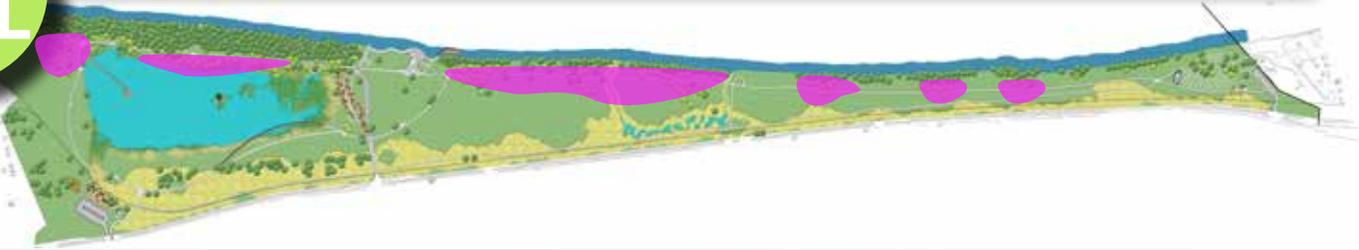
ACCESS POINT FOR KAYAKING AND CANOEING POSSIBLY CONNECTED TO THE TERRACED ACCESS PLATFORMS.

This smaller scale boat access will allow for easy access to the river via small human-powered craft such as canoes and kayaks. Access in this manner would need to be highly monitored due to safety concerns.



11

BOTTOMLAND FOREST RESTORATION



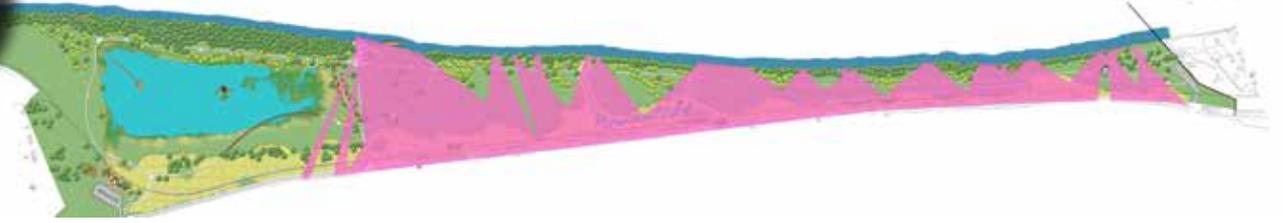
AN ENHANCEMENT OF THE EXISTING LANDSCAPE THAT WILL BEGIN TO RE-CREATE THE NATIVE ECO-SYSTEM, STABILIZE THE RIVER BANK, AND PROVIDE SHADE FOR PARK USERS WHILE FRAMING SELECTED RIVER VIEWS.

The river bank will be returned to its natural habitat of bottomland forest. The addition of the native tree species will help to stabilize the river bank and prevent any future erosion due to river flow and flooding. The health of the existing trees shall be maintained by removing poor trees and replacing them with native species. The area of new trees will be limited as to preserve existing viewsheds, but the principles put in place could be used elsewhere in the park as well.



11

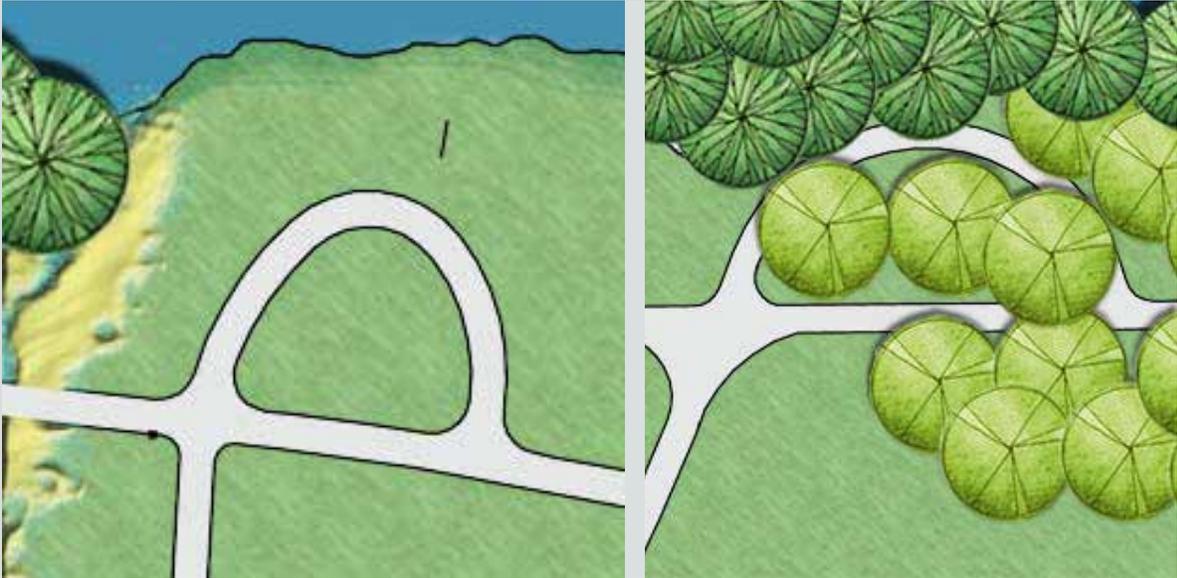
RIVER VIEW DIAGRAM



This diagram depicts the view corridors seen from Riverview Drive, illustrating the placement of native tree species in areas currently planted will not block the communities views of the river. It is important to the community and park users that the “windows to the river” remain.

12

SUN AND SHADE SEATING AREAS



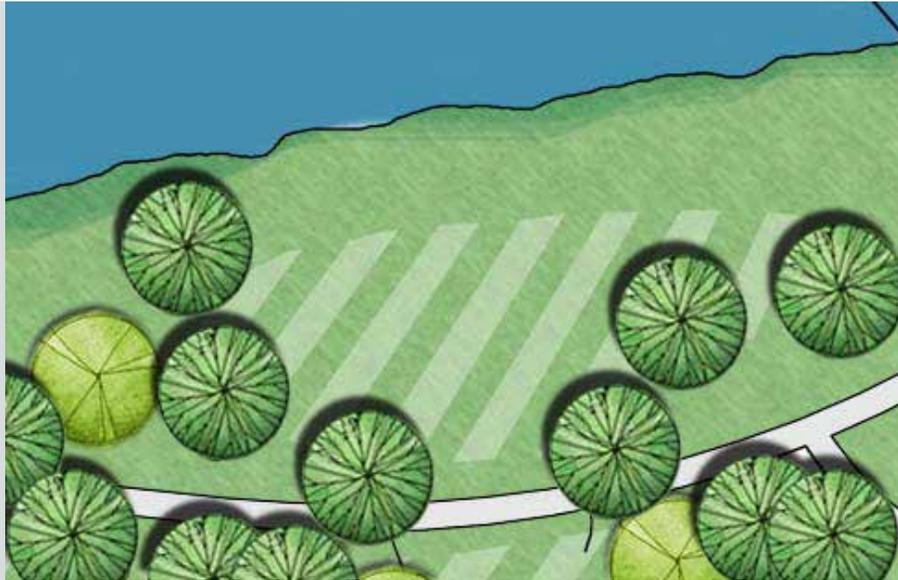
AREAS GIVE VISITORS THE OPPORTUNITY TO RELAX AND ENJOY THE QUIET BEAUTY OFFERED BY THE PARK.

Simple paved and non paved areas will provide seating and rest stops for park and trail users throughout the park. Creating these small areas will give people variety in seating types and atmosphere so that each park visit can become a unique experience.



13

COMMUNITY INSPIRED PLAYGROUND



A COMMUNITY ORIENTED RECREATIONAL AREA DEFINED BY THE INTERACTION OF ART AND PLAY.

The marriage of public art and play equipment will generate a unique and iconic play structure that will draw park users from across the area. This area will allow for traditional play activities in a non-traditional setting. New structures could be generated from public input, student collaboration, and artist donations.



14

OPEN PICNIC AND GATHERING AREA



A PICNIC AND FAMILY GATHERING AREA.

This open area will provide space and amenities for the most basic park use, a picnic. Providing interesting structures and tables that accommodate families and groups of all sizes will create yet another destination within the park. The lawn in the picnic area should be mowed on a regular basis and an irrigation system shall be designed and installed to give the area a well manicured look.



15

EXPANDED SOUTH PARKING AREA



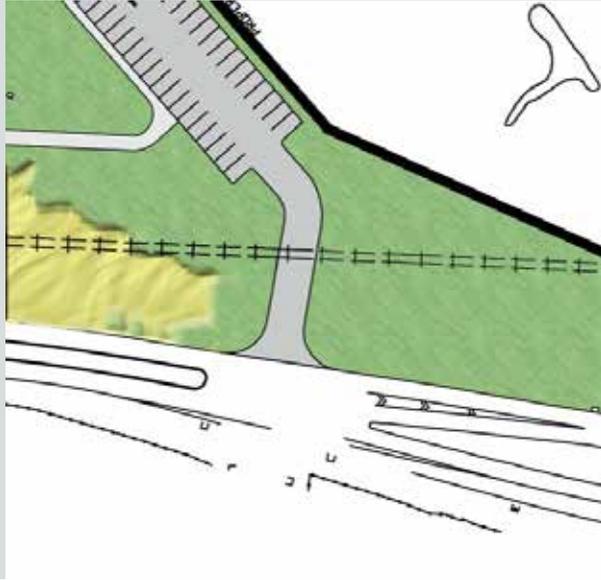
PROVIDE ADDITIONAL SUSTAINABLE PARKING TO ACCOMMODATE THE HIGHLY PROGRAMMED SPACES AND USES AT THE SOUTH END.

This expansion of the south parking area will accommodate the many active elements in the south end of the park. This lot, similar to the proposed north parking lot will utilize sustainable practices and allow for stormwater infiltration, through the use of rain gardens, bio-swales and/or pervious pavement.



16

RE-ALIGNED SOUTH ENTRY



COORDINATE THE RE-ALIGNMENT OF SCRANTON BLVD. WITH FUTURE DEVELOPMENTS ACROSS RIVERVIEW DRIVE WHILE PROVIDING A SCULPTURE ENTRY FEATURE INTO THE PARK.

This revised entrance will utilize the existing entrance at Scranton Drive and provide a better traffic pattern along Riverview Drive. The realigned entry will create a safer entry experience for visitors and provide an opportunity to create a new identity for the park and more firmly announce the entry into the park grounds. This new entry feature will include plantings and built structures that will give the park entry a bold new look.



17

COMFORT STATION MAKEOVER



AN OPPORTUNITY FOR A COMMUNITY BASED ART PROJECT TO TELL THE STORY OF THIS PLACE, USING TILES MADE FROM CLAY FROM THE BANKS OF NORTH RIVERFRONT PARK.

This mainly aesthetic renovation will create a public art project that will tell the story of the park and region through local materials. Clay from the site itself could clad the building and breathe new life into a structure that has been in disrepair for some time.



18

NATIVE WILDFLOWER PLANTING AREA



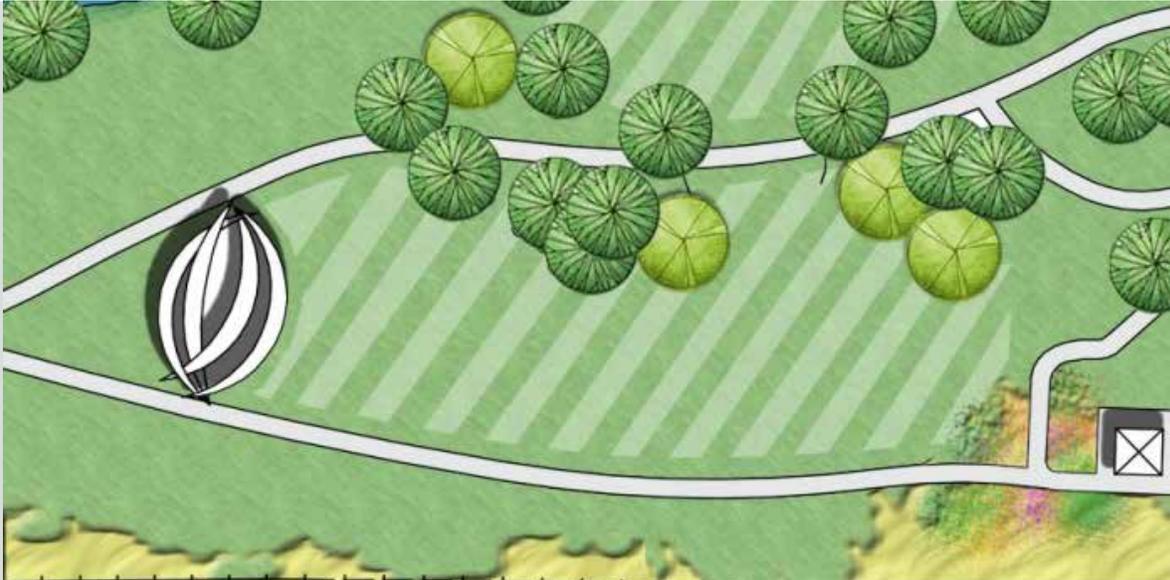
INTRODUCING A GREATER VARIETY OF NATIVE GRASSES AND WILDFLOWER SPECIES TO PROVIDE BOLD COLOR AND WILDLIFE HABITAT.

A rich planting of native wildflowers will introduce a burst of color into the south end of the park. The plantings will help to stabilize the hillside and provide a great visual interest. This type of planting could be introduced at various locations throughout the park in order to diversify the plantings and coincide with city park native planting initiatives, that require 20% of every park to return to prairie or savannah areas that will be cut only once a year.



19

NATURE THEMED OPEN AIR PAVILLION / AMPHITHEATER



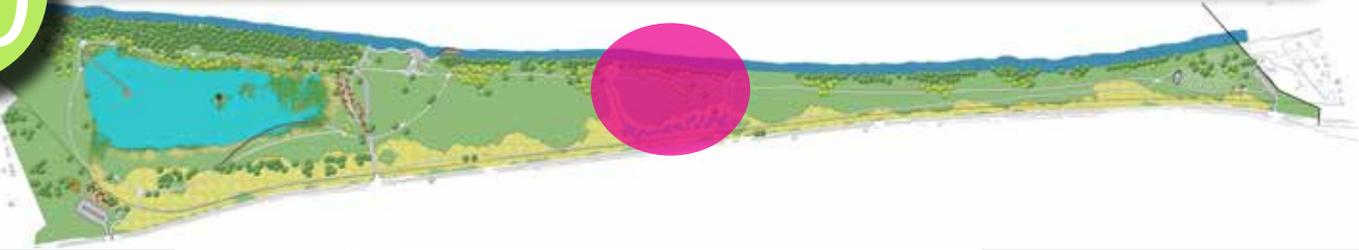
A GATHERING SPACE FOR THE COMMUNITY AND REGION. POTENTIAL USES COULD INCLUDE PERFORMANCES, PARTIES, AND REUNIONS.

This new multi-use structure will be an exciting new venue for the City of Saint Louis. Large enough to accommodate concerts and productions but intimate enough for family gatherings and reunions, this structure will help to generate revenue for the park and other improvements. The lawn in this area would be manicured and irrigated to withstand heavy use. A portion of the surrounding trail should be designed to allow for vehicular access to the pavilion for unloading equipment. An area for restrooms for large events should be included, as well as event parking and a water source. Sustainable energy sources such as solar should be considered.



20

ARTISTIC STORMWATER FILTRATION



A NATURAL STORMWATER FILTRATION SYSTEM USING STREAM BEDS AND NATIVE PLANT MATERIALS AS WATER CLEANSERS TO TREAT RUNOFF FROM THE NEIGHBORHOOD AND RIVERVIEW DRIVE. DURING DRY PERIODS, VISITORS CAN FOLLOW PATHWAYS THROUGH THE AREA TO EXPERIENCE THE PROCESS FIRST HAND.

This demonstration area will highlight the ability to hold and treat stormwater on site. This area will be sized based on studies to determine the amount of stormwater runoff coming from the neighborhood and Riverview Drive. This area will include native plantings that will assist in filtration and infiltration. The areas will direct any additional runoff towards the river and not into the storm sewers.



21

EXERCISE PATH WITH SCULPTURAL STATIONS



AN EXERCISE PATH THAT INCLUDES UNIQUE SCULPTURAL EXERCISE STATIONS DESIGNED AND BUILT AS COMMUNITY BASED ART PROJECTS. INDIVIDUAL STATIONS CAN BE PHASED OVER TIME AND BASED ON VARIOUS THEMES THAT REFER TO THE COMMUNITY AND THE PARK.

This approximately 1 1/4 mile interactive path will feature physical and mental activities that will challenge users as they stroll, walk or jog around the lakeside path. The stations will be community designed and built and should result in functional public art projects that envelop community pride and encourage physical activity.



22

RIVER ACCESS DROP-OFF AND PARKING AREA



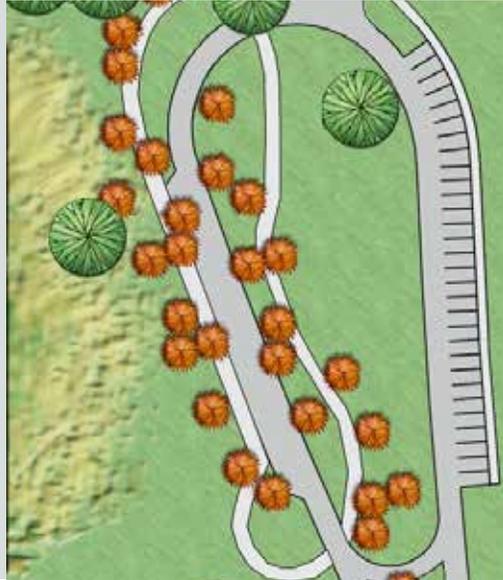
LIMITED PARKING AND FULL DROP-OFF AREA TO ACCOMMODATE ALL VISITORS.

This central drop-off area will provide easy access to the river and boat access for visitors of all activity levels. Parking for approximately 30 cars and spaces for daily use by boating enthusiasts will be provided. A sidewalk from the parking lot to the trail will allow for safe access into the park. A widened roadway will accommodate daily parking for horse trailers.



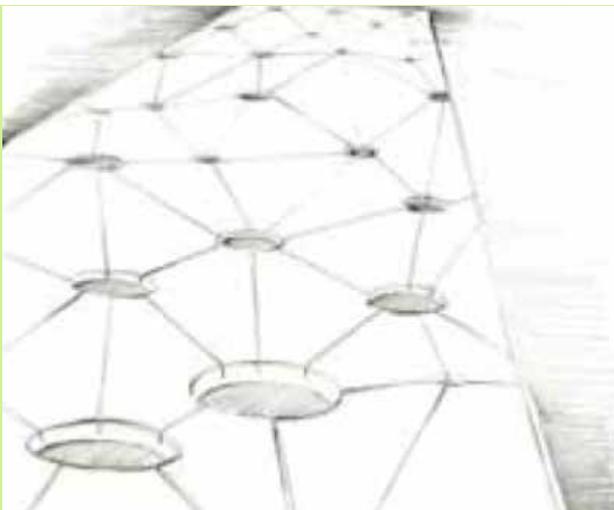
23

NATURE RECLAMATION DEMONSTRATION AREA



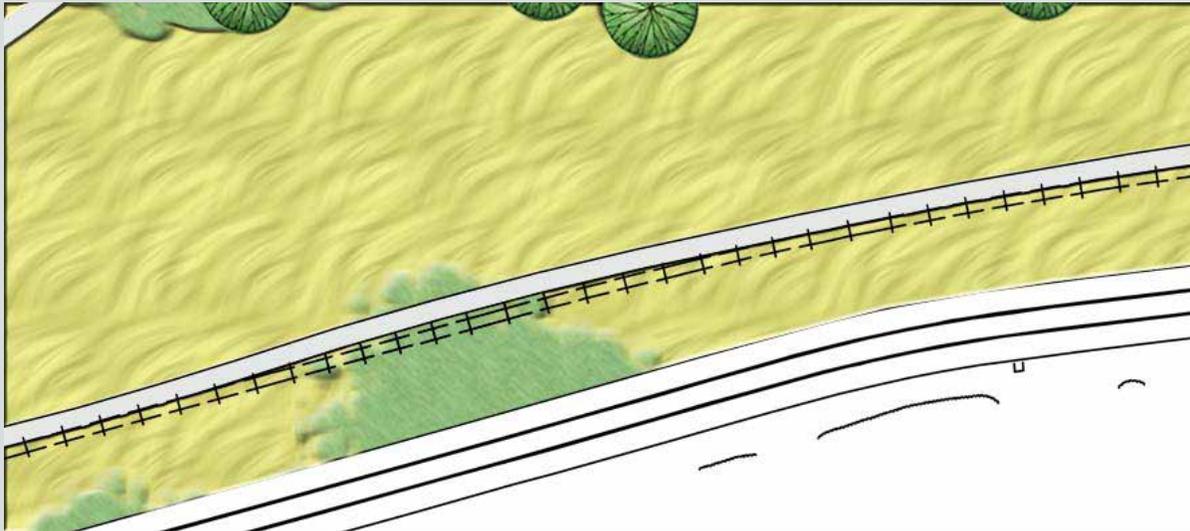
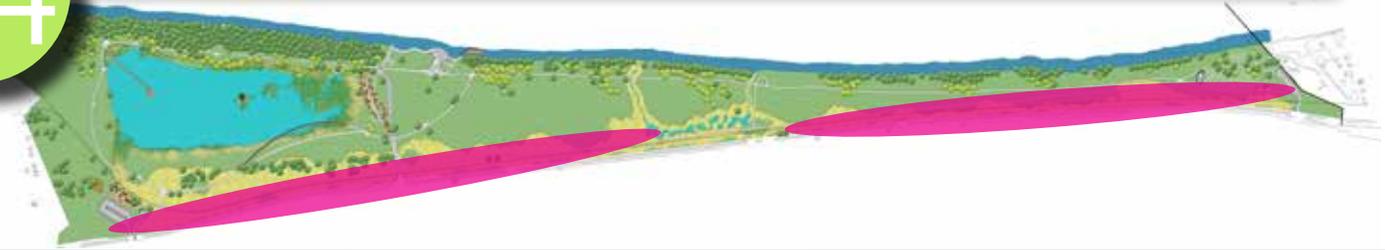
AN INNOVATIVE AND EVOCATIVE DEMONSTRATION OF NATURE RECLAIMING THE EXISTING PARKING LOT THROUGH SCULPTURAL PATTERNING AND PLANTINGS.

This innovative project will highlight nature's ability to reclaim land and the natural destructive process. An interpretive trail will guide visitors through the reclamation area and give them a first hand view of nature's comeback. The experience will be different each time as the old pavement disappears and the planting takes hold. Educational signage should be a component of this element and should address the progression of reclamation over time. The selection of planting materials should take into account the community's desires to maintain open view corridors to the river.



24

NATIVE GRASSLAND BIO-FILTRATION AND RAIL RECLAMATION AREA



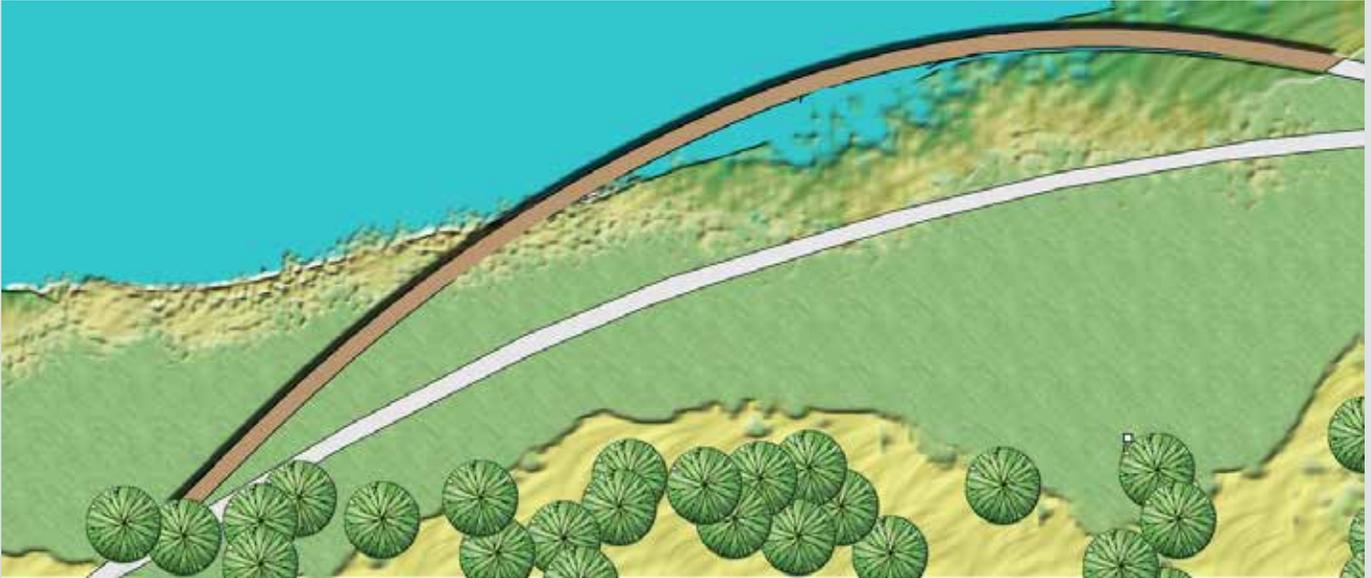
SCULPTED NATIVE AND WETLAND GRASSES THAT NATURALLY COLLECT AND FILTER STORM WATER RUNOFF FROM THE NEIGHBORHOOD AND RIVERVIEW DRIVE.

These large swaths of native grasslands will provide a visual buffer from Riverview Drive, in an effort to preserve the quiet beauty of the park. The grasslands will assist in catching and filtering the stormwater runoff from Riverview Drive and will reduce maintenance in the park. These plantings will also be in line with the new native planting plans for the City of Saint Louis, that require 20% of every park to return to prairie areas or savannahs that will be cut only once a year. Pathways through the grasses from the West to the East side of the park would be established with occasional mowing.



25

WETLAND AREA BOARDWALK TRAIL



THE ELEVATED WETLAND STUDY AREA BOARDWALK ALLOWS THE OPPORTUNITY TO EXPERIENCE THE NATURAL PLANTING AND WILDLIFE THAT EXIST IN THIS NEWLY RESTORED HABITAT.

This new trail segments will bring park users out over the restored wetland habit and lake. This feature is part of the wetland study area and exercise trail loop. The trail will give visitors another chance to experience the diverse landscape and habitat of the park.





IMPLEMENTATION AND OPINION OF PROBABLE COSTS

The implementation of park elements should be phased over time as funding becomes available. The amount of funding will play a key component in the implementation of each element, however, after each element is constructed the park should look complete. The site of the park, the chosen elements included in the masterplan and the location of the elements within the park allow for great flexibility in implementation strategies.

It is recommended that infrastructure and access improvements occur before programmed elements are built.

The north parking lot and restroom facility should be built prior to other improvements on the north end of the park such as the pet park, fishing platforms, or rock playground so that users will have a place to park and access the amenities. The re-aligned south entry and expanded south parking area should be implemented in an earlier phase as well, to allow for the increased need for parking for the programmed elements, such as the amphitheater/open air pavilion.

The remainder of the elements can be installed as the appropriate source of and amount of funding become available, giving great flexibility to the community to undertake projects within their budgetary constraints.

The costs presented in the following pages provide a general opinion of probable construction costs for the individual elements and actual costs will vary based on the final design of the elements. The costs are based on information gathered by the design team doing the masterplan development phase of work. Costs are based on the year 2010 construction unit costs and are subject to market fluctuation.

1

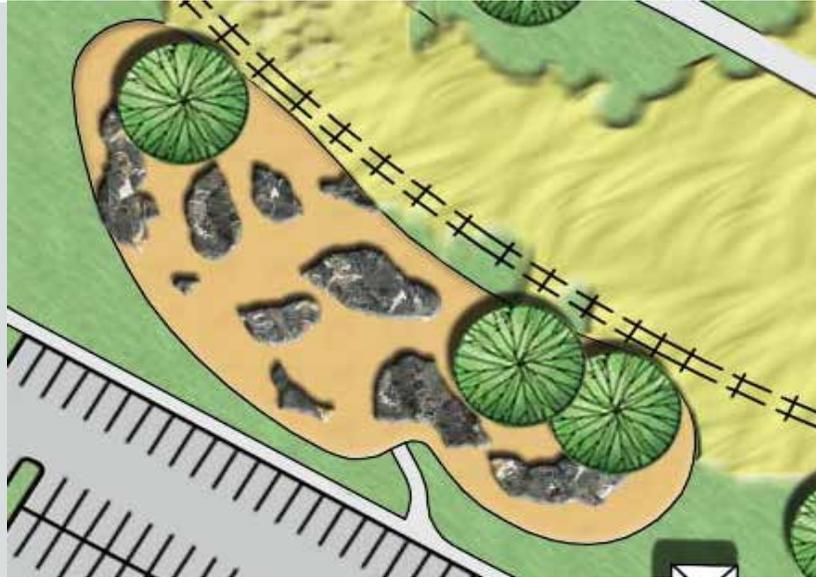
NORTH PARKING AND RESTROOM FACILITY



Item	Quantity	Unit		Unit Cost		Subtotal
Grading and Excavation	1	AL	@	\$5,000.00	=	\$5,000.00
Pervious Pavement/Pavers and Base Material	30000	SF	@	\$10.00	=	\$300,000.00
Paved Sidewalk	2206	SF	@	\$4.00	=	\$8,824.00
Composting Toilet	1	EA	@	\$2,000.00	=	\$2,000.00
Toilet Enclosure	1	AL	@	\$40,000.00	=	\$40,000.00
Lighting - Cobra Head Lights and Electrical Conduit/Wire/Connections	10	EA	@	\$4,000.00	=	\$40,000.00
Trash Receptacle	2	EA	@	\$1,000.00	=	\$2,000.00
Landscaping	1	AL	@	\$10,000.00		\$10,000.00
Design Cost (10%)	1	LS	@	\$40,782.40	=	\$40,782.40
Authorized Contingencies (15%)	1	LS	@	\$67,500.00	=	\$67,500.00
				Total Cost	=	\$516,106.40

2

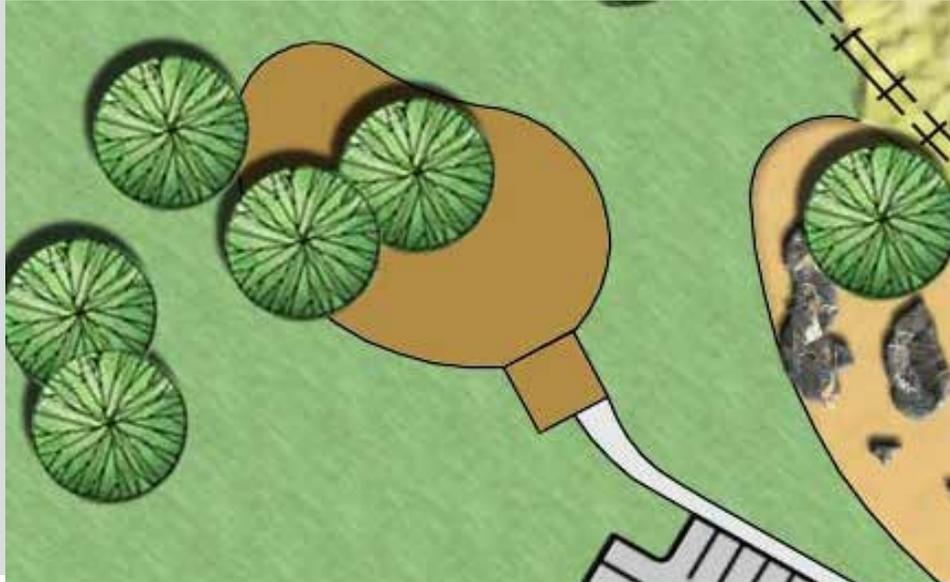
ROCK AND EARTHEN BERM PLAYGROUND



Item	Quantity	Unit		Unit Cost	=	Subtotal
Grading and Excavation	1	AL	@	\$8,000.00	=	\$8,000.00
Rubber Playground Surface Pavement and Base Material	21500	SF	@	\$16.00	=	\$344,000.00
Paved Sidewalk	300	SF	@	\$4.00	=	\$1,200.00
Boulders	1	AL	@	\$7,000.00	=	\$7,000.00
Trees	1	AL	@	\$5,000.00	=	\$5,000.00
Trash Receptacle	1	EA	@	\$1,000.00	=	\$1,000.00
Lighting - Cobra Head Lights and Electrical Conduit/Wire/Connections	3	EA	@	\$4,000.00	=	\$12,000.00
Design Cost (10%)	1	LS	@	\$37,820.00	=	\$37,820.00
Authorized Contingencies (15%)	1	LS	@	\$62,500.00	=	\$62,500.00
				Total Cost	=	\$478,520.00

3

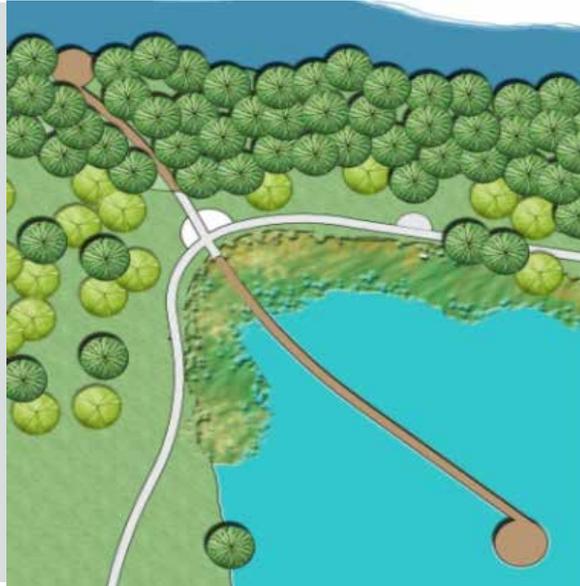
PET PARK AND SEATING AREA



Item	Quantity	Unit		Unit Cost		Subtotal
Grading and Excavation	1	AL	@	\$7,000.00	=	\$7,000.00
Chat Surface Material	200	CY	@	\$40.00	=	\$8,000.00
Chain Link Fence	400	LF	@	\$30.00	=	\$12,000.00
Benches	6	EA	@	\$1,500.00	=	\$9,000.00
Landscape Items	1	AL	@	\$5,000.00	=	\$5,000.00
Trash Receptacle	1	EA	@	\$1,000.00	=	\$1,000.00
Lighting - Cobra Head Lights and Electrical Conduit/Wire/Connections	3	EA	@	\$4,000.00	=	\$12,000.00
Design Cost (10%)	1	LS	@	\$5,400.00	=	\$5,400.00
Authorized Contingencies (15%)	1	LS	@	\$9,000.00	=	\$9,000.00
				Total Cost	=	\$68,400.00

4

FISHING PLATFORMS AND CLEANING STATION



Item	Quantity	Unit		Unit Cost		Subtotal
Removal of Improvements	1	LS	@	\$20,000.00	=	\$20,000.00
Grading and Excavation	1	AL	@	\$15,000.00	=	\$15,000.00
Benches	6	EA	@	\$1,500.00	=	\$9,000.00
Fish Cleaning Station	1	AL	@	\$15,000.00	=	\$15,000.00
Fishing Platforms (2)	1	AL	@	\$100,000.00	=	\$100,000.00
Heavy Stone Bank Protection	500	SY	@	\$150.00	=	\$75,000.00
Trash Receptacle	1	EA	@	\$1,000.00	=	\$1,000.00
Landscape Items	1	AL	@	\$2,500.00	=	\$2,500.00
Lighting - Cobra Head Lights and Electrical Conduit/Wire/Connections	6	EA	@	\$4,000.00	=	\$24,000.00
Design Cost (10%)	1	LS	@	\$26,150.00	=	\$26,150.00
Authorized Contingencies (15%)	1	LS	@	\$43,500.00	=	\$43,500.00
				Total Cost	=	\$331,150.00

5

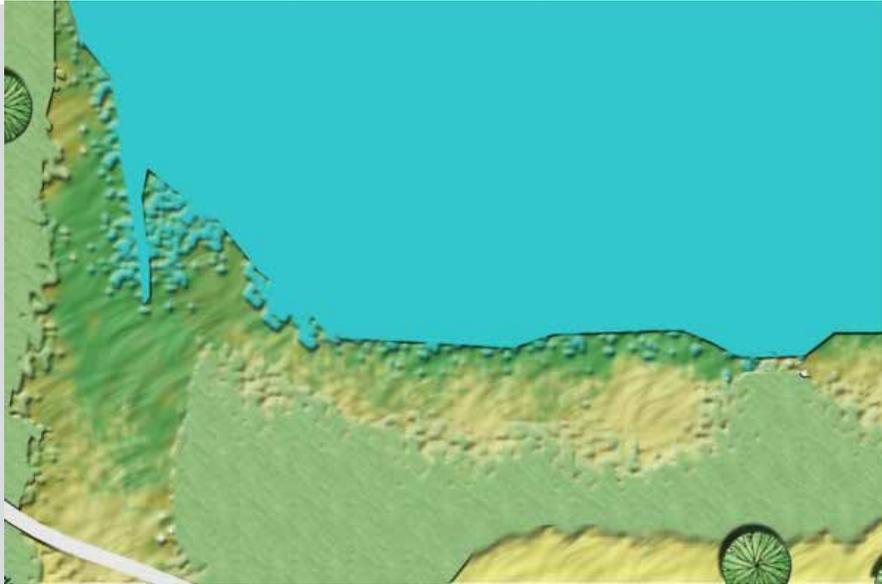
FLOATING ISLAND WITH SCULPTURAL AERIE



Item	Quantity	Unit		Unit Cost		Subtotal
Floating Island	1	AL	@	\$220,000.00	=	\$220,000.00
Sculpture	1	AL	@	\$125,000.00	=	\$125,000.00
Design Cost (10%)	1	LS	@	\$34,500.00	=	\$34,500.00
Authorized Contingencies (15%)	1	LS	@	\$57,000.00	=	\$57,000.00
				Total Cost	=	\$436,500.00

6

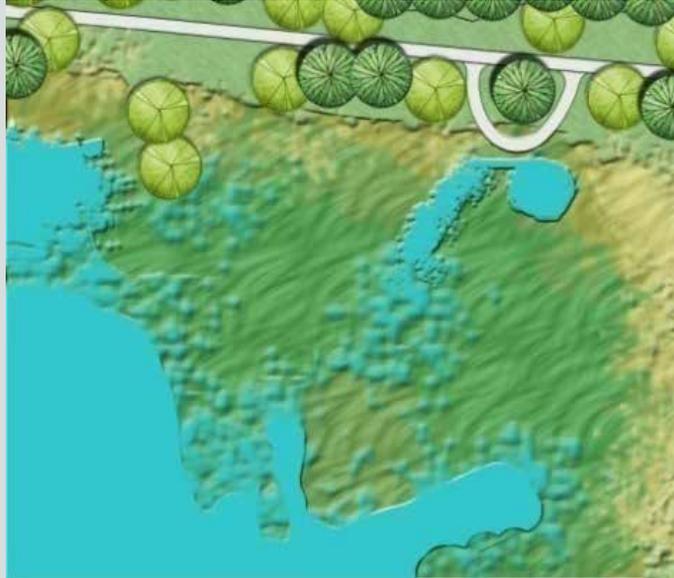
WETLAND STUDY AREA



Item	Quantity	Unit		Unit Cost		Subtotal
Removal of Improvements	1	LS	@	\$20,000.00	=	\$20,000.00
Grading and Excavation	1	AL	@	\$15,000.00	=	\$15,000.00
Benches	5	EA	@	\$1,500.00	=	\$7,500.00
Signage	1	AL	@	\$5,000.00	=	\$5,000.00
Plantings	1	AL	@	\$35,000.00	=	\$35,000.00
Landscape Improvements	1	AL	@	\$5,000.00	=	\$5,000.00
Design Cost (10%)	1	LS	@	\$8,750.00	=	\$8,750.00
Authorized Contingencies (15%)	1	LS	@	\$14,500.00	=	\$14,500.00
				Total Cost	=	\$110,750.00

7

WATER CLEANSING EXPERIENCE AREA



Item	Quantity	Unit		Unit Cost		Subtotal
Grading and Excavation	1	AL	@	\$15,000.00	=	\$15,000.00
Chat Surface Material	100	CY	@	\$40.00	=	\$4,000.00
Water Cleansing Props (Treadle Pump, Merry Go Round Pump)	1	AL	@	\$95,000.00	=	\$95,000.00
Bio-Water Filtration Devices	1	LS	@	\$60,000.00	=	\$60,000.00
Pipes and Hoses	1	LS	@	\$25,000.00	=	\$25,000.00
Trash Receptacle	1	EA	@	\$1,000.00	=	\$1,000.00
Lighting - Cobra Head Lights and Electrical Conduit/Wire/Connections	3	EA	@	\$4,000.00	=	\$12,000.00
Plantings	1	AL	@	\$10,000.00	=	\$10,000.00
Landscape Improvements	1	AL	@	\$5,000.00	=	\$5,000.00
Educational Signage	1	AL	@	\$5,000.00	=	\$5,000.00
Design Cost (10%)	1	LS	@	\$23,200.00	=	\$23,200.00
Authorized Contingencies (15%)	1	LS	@	\$38,500.00	=	\$38,500.00
				Total Cost	=	\$293,700.00

8

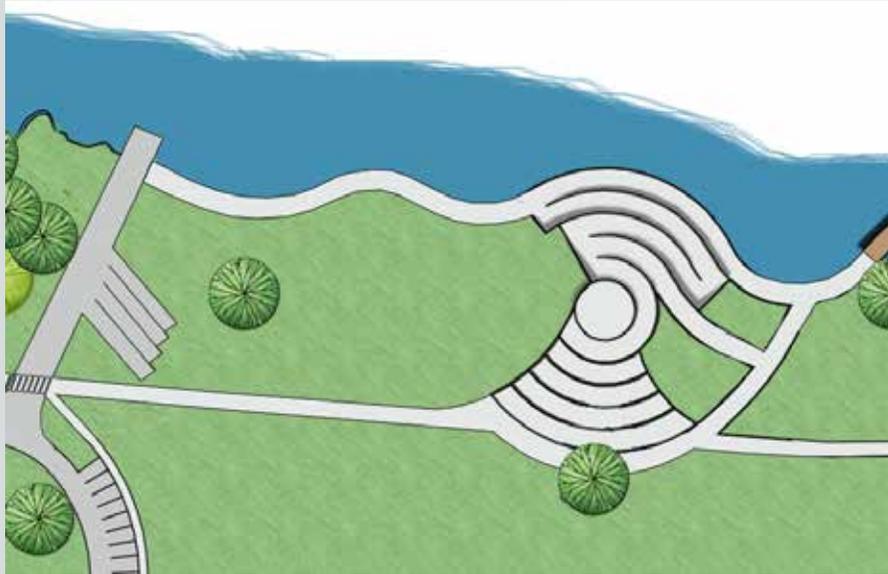
BOAT ACCESS AND PARKING



Item	Quantity	Unit		Unit Cost		Subtotal
Removal of Improvements	1	AL	@	\$20,000.00	=	\$20,000.00
Grading and Excavation	1	AL	@	\$25,000.00	=	\$25,000.00
River Dredging and Excavation	1	AL	@	\$1,000,000.00	=	\$1,000,000.00
Heavy Stone Bank Revetment (Toe Protection)	700	SY	@	\$150.00	=	\$105,000.00
Concrete Access Structure	1	LS	@	\$30,000.00	=	\$30,000.00
Pavement and Base Material	5500	SF	@	\$10.00	=	\$55,000.00
Trash Receptacle	1	EA	@	\$1,000.00	=	\$1,000.00
Lighting - Cobra Head Lights and Electrical Conduit/Wire/Connections	3	EA	@	\$3,000.00	=	\$9,000.00
Plantings	1	AL	@	\$5,000.00	=	\$5,000.00
Landscape Improvements	1	AL	@	\$5,000.00	=	\$5,000.00
Design Cost (10%)	1	LS	@	\$125,500.00	=	\$125,500.00
Authorized Contingencies (15%)	1	LS	@	\$207,500.00	=	\$207,500.00
				Total Cost	=	\$1,588,000.00

9

RIVER ACCESS PLATFORMS



Item	Quantity	Unit		Unit Cost		Subtotal
Removal of Improvements	1	AL	@	\$10,000.00	=	\$10,000.00
Grading and Excavation	1	AL	@	\$25,000.00	=	\$25,000.00
Heavy Stone Bank Revetment (Toe Protection)	800	SY	@	\$150.00	=	\$120,000.00
Concrete Access Structure (Concrete Material and Structural Piles)	1	LS	@	\$250,000.00	=	\$250,000.00
Pavement and Base Material	5500	SF	@	\$10.00	=	\$55,000.00
Sidewalk - 8' Wide Pavement and Base Material	3500	SF	@	\$6.00	=	\$21,000.00
Lighting - Cobra Head Lights and Electrical Conduit/Wire/Connections	3	EA	@	\$3,000.00	=	\$9,000.00
Plantings	1	AL	@	\$5,000.00	=	\$5,000.00
Landscape Improvements	1	AL	@	\$5,000.00	=	\$5,000.00
Design Cost (10%)	1	LS	@	\$50,000.00	=	\$50,000.00
Authorized Contingencies (15%)	1	LS	@	\$82,500.00	=	\$82,500.00
				Total Cost	=	\$632,500.00

10

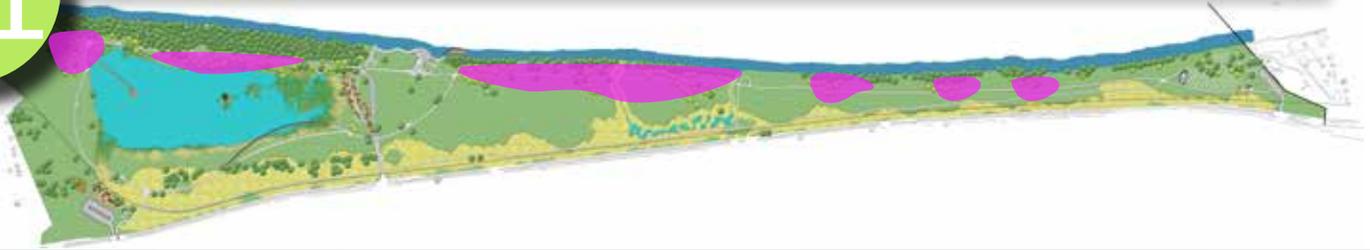
HUMAN POWERED WATERCRAFT ACCESS



Item	Quantity	Unit		Unit Cost		Subtotal
Removal of Improvements	1	AL	@	\$20,000.00	=	\$20,000.00
Grading and Excavation	1	AL	@	\$25,000.00	=	\$25,000.00
Heavy Stone Revetment (Bank and Toe Protection)	450	SY	@	\$150.00	=	\$67,500.00
Docking Feature	1	SL	@	\$250,000.00	=	\$250,000.00
Sidewalk - 8' Wide Pavement and Base Material	3000	SF	@	\$6.00	=	\$18,000.00
Trash Receptacle	1	EA	@	\$1,000.00	=	\$1,000.00
Plantings	1	AL	@	\$5,000.00	=	\$5,000.00
Landscape Improvements	1	AL	@	\$5,000.00	=	\$5,000.00
Design Cost (10%)	1	LS	@	\$39,150.00	=	\$39,150.00
Authorized Contingencies (15%)	1	LS	@	\$65,000.00	=	\$65,000.00
				Total Cost	=	\$495,650.00

11

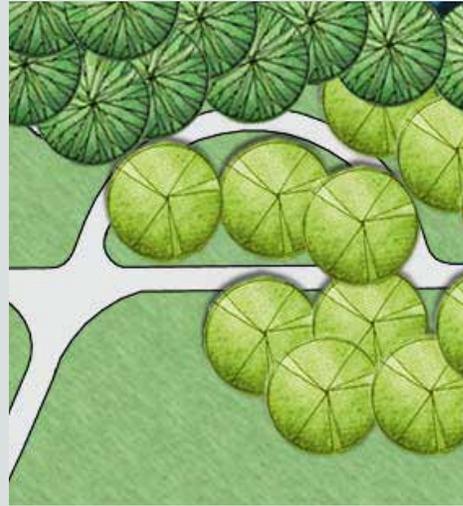
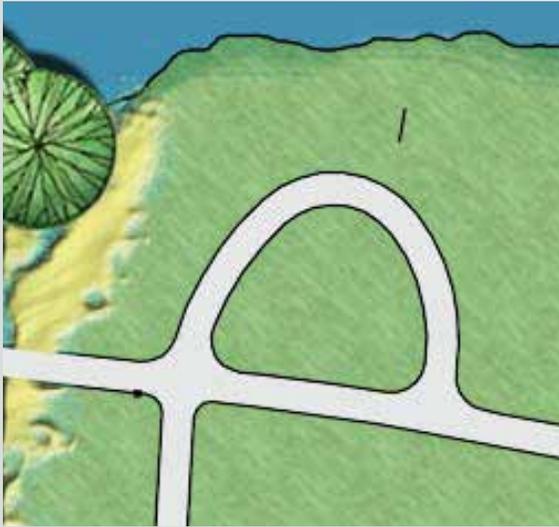
BOTTOMLAND FOREST RESTORATION



Item	Quantity	Unit		Unit Cost		Subtotal
Clearing	1	AL	@	\$15,000.00	=	\$15,000.00
Trees	1	AL	@	\$70,000.00	=	\$70,000.00
Landscape Enhancements	1	AL	@	\$5,000.00	=	\$5,000.00
Authorized Contingencies (15%)	1	LS	@	\$13,500.00	=	\$13,500.00
				Total Cost	=	\$103,500.00

12

SUN AND SHADE SEATING AREAS



Item	Quantity	Unit		Unit Cost		Subtotal
Clearing	1	AL	@	\$5,000.00	=	\$5,000.00
Grading and Excavation	1	AL	@	\$5,000.00	=	\$5,000.00
Sidewalk - 8' Wide Pavement and Base Material	4500	SF	@	\$6.00	=	\$27,000.00
Benches	15	EA	@	\$1,500.00	=	\$22,500.00
Trash Receptacle	2	EA	@	\$1,000.00	=	\$2,000.00
Lighting - Cobra Head Lights and Electrical Conduit/Wire/Connections	2	EA	@	\$10,000.00	=	\$20,000.00
Plantings	1	AL	@	\$5,000.00	=	\$5,000.00
Landscape Improvements	1	AL	@	\$5,000.00	=	\$5,000.00
Design Cost (10%)	1	LS	@	\$9,150.00	=	\$9,150.00
Authorized Contingencies (15%)	1	LS	@	\$15,500.00	=	\$15,500.00
				Total Cost	=	\$116,150.00

13

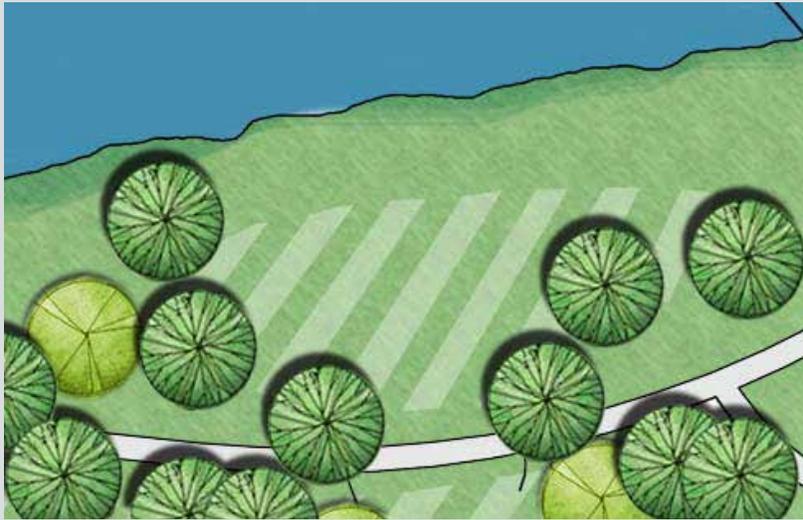
COMMUNITY INSPIRED PLAYGROUND



Item	Quantity	Unit		Unit Cost		Subtotal
Clearing	1	AL	@	\$5,000.00	=	\$5,000.00
Grading and Excavation	1	AL	@	\$10,000.00	=	\$10,000.00
Rubber Playground Surface Pavement and Base Material	4000	SF	@	\$16.00	=	\$64,000.00
Play Feature 1	1	AL	@	\$10,000.00	=	\$10,000.00
Play Feature 2	1	AL	@	\$15,000.00	=	\$15,000.00
Play Feature 3	1	AL	@	\$20,000.00	=	\$20,000.00
Play Feature 4	1	AL	@	\$30,000.00	=	\$30,000.00
Benches	4	EA	@	\$1,500.00	=	\$6,000.00
Trash Receptacle	1	EA	@	\$1,000.00	=	\$1,000.00
Lighting - Cobra Head Lights and Electrical Conduit/Wire/Connections	6	EA	@	\$3,002.00	=	\$18,012.00
Plantings	1	AL	@	\$20,000.00	=	\$20,000.00
Landscape Improvements	1	AL	@	\$5,000.00	=	\$5,000.00
Design Cost (10%)	1	LS	@	\$20,401.20	=	\$20,401.20
Authorized Contingencies (15%)	1	LS	@	\$34,000.00	=	\$34,000.00
				Total Cost	=	\$258,413.20

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OPEN PICNIC AND GATHERING AREA



Item	Quantity	Unit		Unit Cost		Subtotal
Clearing	1	AL	@	\$5,000.00	=	\$5,000.00
Grading and Excavation	1	AL	@	\$5,000.00	=	\$5,000.00
Picnic Tables	4	EA	@	\$1,500.00	=	\$6,000.00
Artist Features	1	AL	@	\$5,000.00	=	\$5,000.00
Benches	4	EA	@	\$1,500.00	=	\$6,000.00
Trash Receptacle	1	EA	@	\$1,000.00	=	\$1,000.00
Lighting - Cobra Head Lights and Electrical Conduit/Wire/Connections	2	EA	@	\$3,500.00	=	\$7,000.00
Lawn Area	1	AL	@	\$25,000.00	=	\$25,000.00
Landscape Improvements	1	AL	@	\$5,000.00	=	\$5,000.00
Irrigation (Pumps etc)	1	AL	@	\$30,000.00	=	\$30,000.00
Design Cost (10%)	1	LS	@	\$9,500.00	=	\$9,500.00
Authorized Contingencies (15%)	1	LS	@	\$16,000.00	=	\$16,000.00
				Total Cost	=	\$120,500.00

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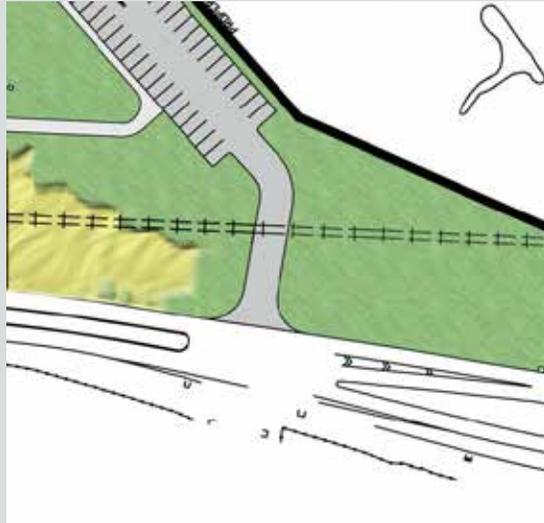
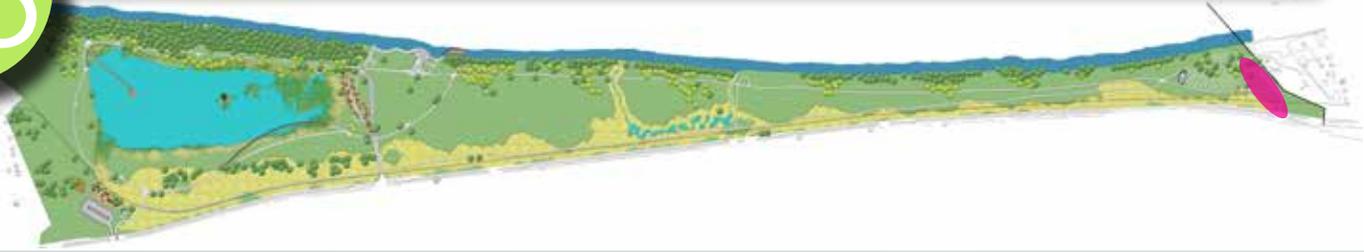
EXPANDED SOUTH PARKING AREA



Item	Quantity	Unit		Unit Cost		Subtotal
Removal of Improvements	1	AL	@	\$10,000.00	=	\$10,000.00
Grading and Excavation	1	AL	@	\$15,000.00	=	\$15,000.00
Pervious Pavement/Pavers and Base Material	15000	SF	@	\$10.00	=	\$150,000.00
Underdrains	1	LS	@	\$5,000.00	=	\$5,000.00
Plantings	1	AL	@	\$5,000.00	=	\$5,000.00
Soils	1	AL	@	\$5,000.00	=	\$5,000.00
Lighting - Cobra Head Lights and Electrical Conduit/Wire/Connections	10	EA	@	\$3,500.00	=	\$35,000.00
Trash Receptacle	3	EA	@	\$1,000.00	=	\$3,000.00
Design Cost (10%)	1	LS	@	\$22,800.00	=	\$22,800.00
Authorized Contingencies (15%)	1	LS	@	\$38,000.00	=	\$38,000.00
				Total Cost	=	\$288,800.00

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RE-ALIGNED SOUTH ENTRY



Item	Quantity	Unit		Unit Cost		Subtotal
Removal of Improvements	1	AL	@	\$15,000.00	=	\$15,000.00
Grading and Excavation	1	AL	@	\$15,000.00	=	\$15,000.00
Pervious Pavement/Pavers and Base Material	4000	SF	@	\$10.00	=	\$40,000.00
Architectural Feature for Entryway	1	AL	@	\$70,000.00	=	\$70,000.00
Lighting - Cobra Head Lights and Electrical Conduit/Wire/Connections	4	EA	@	\$3,500.00	=	\$14,000.00
Plantings	1	AL	@	\$10,000.00	=	\$10,000.00
Soils	1	AL	@	\$5,000.00	=	\$5,000.00
Trash Receptacle	2	EA	@	\$1,000.00	=	\$2,000.00
Design Cost (10%)	1	LS	@	\$17,100.00	=	\$17,100.00
Authorized Contingencies (15%)	1	LS	@	\$28,500.00	=	\$28,500.00
				Total Cost	=	\$216,600.00

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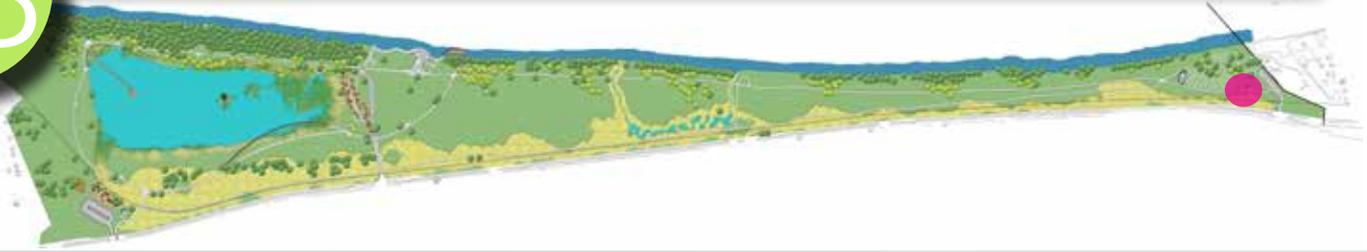
COMFORT STATION MAKEOVER



Item	Quantity	Unit		Unit Cost		Subtotal
Clay Excavation, Refinement and Artistic Design (Long Term)	1	AL	@	\$75,000.00	=	\$75,000.00
Environmentally Based Mural (Short Term)	1	AL	@	\$12,000.00	=	\$12,000.00
Restroom Improvements	1	AL	@	\$15,000.00	=	\$15,000.00
Trash Receptacle	2	EA	@	\$1,000.00	=	\$2,000.00
Design Cost (10%)	1	LS	@	\$10,400.00	=	\$10,400.00
Authorized Contingencies (15%)	1	LS	@	\$17,500.00	=	\$17,500.00
				Total Cost	=	\$131,900.00

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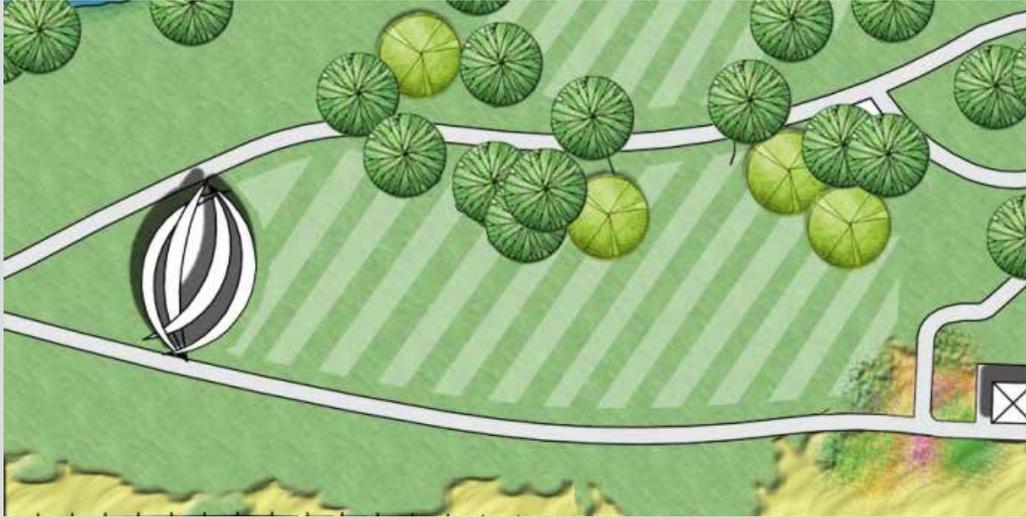
NATIVE WILDFLOWER PLANTING AREA



Item	Quantity	Unit		Unit Cost		Subtotal
Grading and Excavation	1	AL	@	\$5,000.00	=	\$5,000.00
Soils	2	AL	@	\$5,000.00	=	\$10,000.00
Plantings	1	AL	@	\$10,000.00	=	\$10,000.00
Design Cost (10%)	1	LS	@	\$2,500.00	=	\$2,500.00
Authorized Contingencies (15%)	1	LS	@	\$4,500.00	=	\$4,500.00
				Total Cost	=	\$32,000.00

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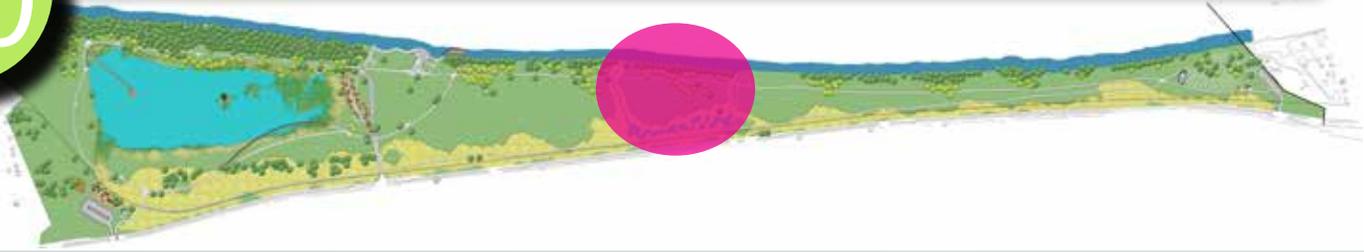
NATURE THEMED OPEN AIR PAVILLION / AMPHITHEATER



Item	Quantity	Unit		Unit Cost		Subtotal
Amphitheater	1	AL	@	\$200,000.00	=	\$200,000.00
Lighting - Cobra Head Lights and Electrical Conduit/Wire/Connections	10	EA	@	\$4,000.00	=	\$40,000.00
Lawn Area	1	AL	@	\$100,000.00	=	\$100,000.00
Plantings	1	AL	@	\$10,000.00	=	\$10,000.00
Irrigation (Pumps etc)	1	AL	@	\$45,000.00	=	\$45,000.00
Design Cost (10%)	1	LS	@	\$39,500.00	=	\$39,500.00
Authorized Contingencies (15%)	1	LS	@	\$65,500.00	=	\$65,500.00
				Total Cost	=	\$500,000.00

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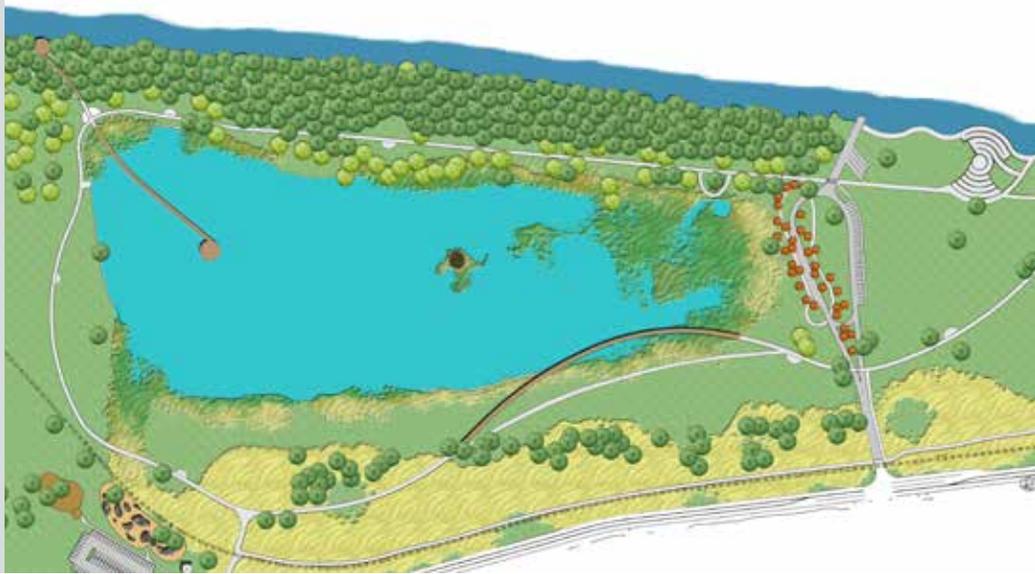
ARTISTIC STORMWATER FILTRATION



Item	Quantity	Unit		Unit Cost		Subtotal
Grading and Excavation	1	AL	@	\$70,000.00	=	\$70,000.00
Filtration Geosynthetics	6	EA	@	\$50,000.00	=	\$300,000.00
Boulders	40	Ton	@	\$400.00	=	\$16,000.00
Pathways	1	AL	@	\$50,000.00	=	\$50,000.00
Trash Receptacle	12	EA	@	\$1,000.00	=	\$12,000.00
Landscape Improvements	1	AL	@	\$75,000.00	=	\$75,000.00
Lighting - Cobra Head Lights and Electrical Conduit/Wire/Connections	10	EA	@	\$4,000.00	=	\$40,000.00
Design Cost (10%)	1	LS	@	\$56,300.00	=	\$56,300.00
Authorized Contingencies (15%)	1	LS	@	\$93,000.00	=	\$93,000.00
				Total Cost	=	\$712,300.00

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EXERCISE PATH WITH SCULPTURAL STATIONS



Item	Quantity	Unit		Unit Cost		Subtotal
Sculptural Station 1	1	AL	@	\$10,000.00	=	\$10,000.00
Sculptural Station 2	1	AL	@	\$10,000.00	=	\$10,000.00
Sculptural Station 3	1	AL	@	\$10,000.00	=	\$10,000.00
Sculptural Station 4	1	AL	@	\$10,000.00	=	\$10,000.00
Sculptural Station 5	1	AL	@	\$10,000.00	=	\$10,000.00
Sculptural Station 6	1	AL	@	\$10,000.00	=	\$10,000.00
Sculptural Station 7	1	AL	@	\$10,000.00	=	\$10,000.00
Authorized Contingencies (15%)	1	LS	@	\$10,500.00	=	\$10,500.00
				Total Cost	=	\$80,500.00

22

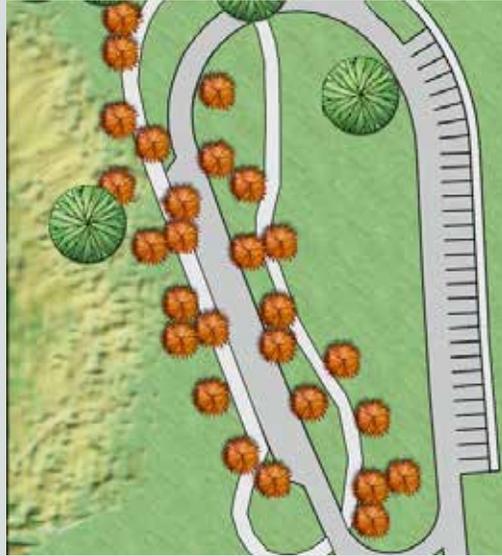
RIVER ACCESS DROP-OFF AND PARKING AREA



Item	Quantity	Unit		Unit Cost		Subtotal
Removal of Improvements	1	AL	@	\$140,000.00	=	\$140,000.00
Grading and Excavation	1	AL	@	\$50,000.00	=	\$50,000.00
Pavement and Base Material	33000	SF	@	\$6.00	=	\$198,000.00
Plantings	1	AL	@	\$5,000.00	=	\$5,000.00
Mulching	1	AL	@	\$5,000.00	=	\$5,000.00
Lighting - Cobra Head Lights and Electrical Conduit/Wire/Connections	20	EA	@	\$3,500.00	=	\$70,000.00
Trash Receptacle	4	EA	@	\$1,000.00	=	\$4,000.00
Design Cost (10%)	1	LS	@	\$47,200.00	=	\$47,200.00
Authorized Contingencies (15%)	1	LS	@	\$78,000.00	=	\$78,000.00
				Total Cost	=	\$597,200.00

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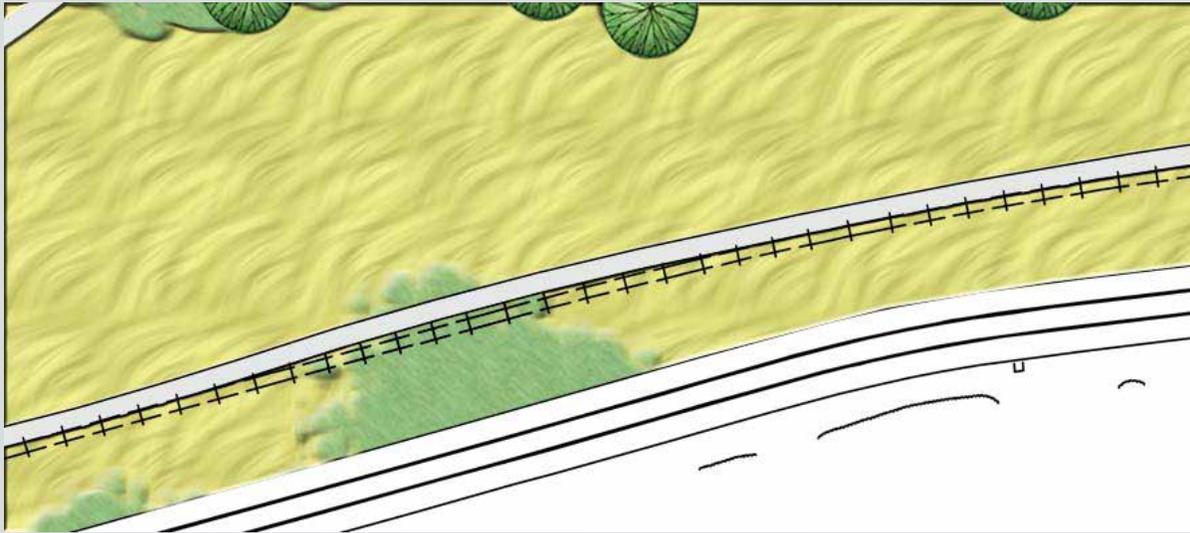
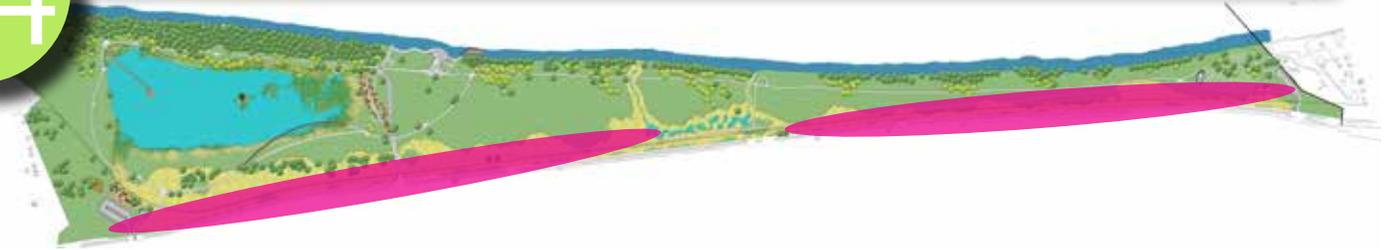
NATURE RECLAMATION DEMONSTRATION AREA



Item	Quantity	Unit		Unit Cost		Subtotal
Removal of Improvements	1	AL	@	\$5,000.00	=	\$5,000.00
Grading and Excavation	1	AL	@	\$5,000.00	=	\$5,000.00
Sidewalk - 8' Wide Pavement and Base Material	8500	SF	@	\$6.00	=	\$51,000.00
Plantings	1	AL	@	\$15,000.00	=	\$15,000.00
Soils	1	AL	@	\$5,000.00	=	\$5,000.00
Lighting - Cobra Head Lights and Electrical Conduit/Wire/Connections	4	EA	@	\$3,500.00	=	\$14,000.00
Trash Receptacle	2	EA	@	\$1,000.00	=	\$2,000.00
Design Cost (10%)	1	LS	@	\$9,700.00	=	\$9,700.00
Authorized Contingencies (15%)	1	LS	@	\$16,500.00	=	\$16,500.00
				Total Cost	=	\$123,200.00

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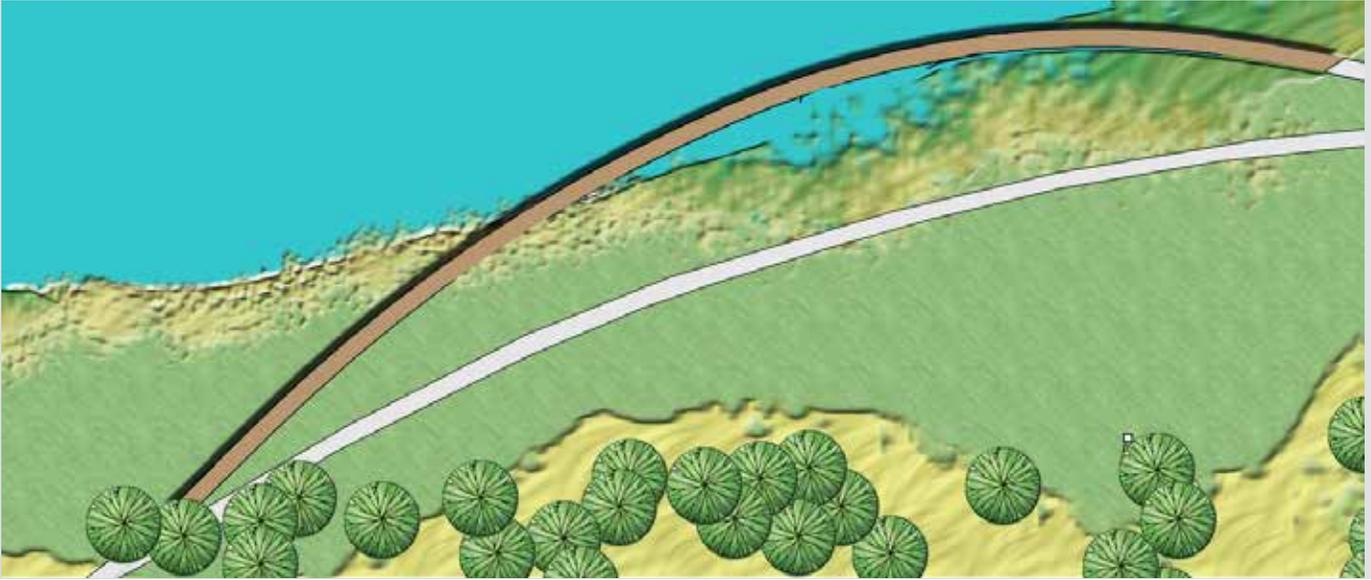
NATIVE GRASSLAND BIO-FILTRATION AND RAIL RECLAMATION AREA



Item	Quantity	Unit		Unit Cost		Subtotal
Grading and Excavation	1	AL	@	\$50,000.00	=	\$50,000.00
Filtration Geosynthetics, Rock, Sand	1	AL	@	\$350,000.00	=	\$350,000.00
Boulders	40	Ton	@	\$400.00	=	\$16,000.00
Trash Receptacle	12	EA	@	\$1,000.00	=	\$12,000.00
Landscape Improvements	1	AL	@	\$100,000.00	=	\$100,000.00
Native Plantings	1	AL	@	\$200,000.00	=	\$200,000.00
Design Cost (10%)	1	LS	@	\$72,800.00	=	\$72,800.00
Authorized Contingencies (15%)	1	LS	@	\$120,500.00	=	\$120,500.00
				Total Cost	=	\$921,300.00

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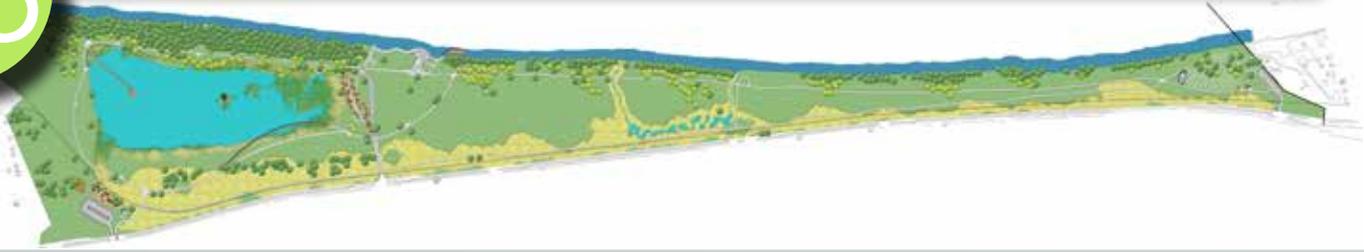
WETLAND AREA BOARDWALK TRAIL



Item	Quantity	Unit		Unit Cost		Subtotal
Grading and Excavation	1	AL	@	\$15,000.00	=	\$15,000.00
Boardwalk (Materials, Piles)	1	LS	@	\$100,000.00	=	\$100,000.00
Signage	1	AL	@	\$5,000.00	=	\$5,000.00
Plantings	1	AL	@	\$20,000.00	=	\$20,000.00
Landscape Improvements	1	AL	@	\$5,000.00	=	\$5,000.00
Design Cost (10%)	1	LS	@	\$14,500.00	=	\$14,500.00
Authorized Contingencies (15%)	1	LS	@	\$24,000.00	=	\$24,000.00
				Total Cost	=	\$183,500.00

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INFRASTRUCTURE IMPROVEMENTS



Item	Quantity	Unit		Unit Cost		Subtotal
Mobilization/Demobilization	1	LS	@	\$30,000.00	=	\$30,000.00
Erosion and Sediment Control	1	LS	@	\$12,500.00	=	\$12,500.00
Protection and Restoration	1	LS	@	\$20,000.00	=	\$20,000.00
Grading/Fill (Includes an increase of 10% for Shrinkage)	25,000	CY	@	\$16.00	=	\$400,000.00
Storm Sewers	1	LS	@	\$65,000.00	=	\$65,000.00
Utilities	1	LS	@	\$85,000.00	=	\$85,000.00
Design Cost (10%)	1	LS	@	\$61,250.00	=	\$61,250.00
Authorized Contingencies (15%)	1	LS	@	\$101,500.00	=	\$101,500.00
				Total Cost	=	\$775,250.00

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PATHWAYS

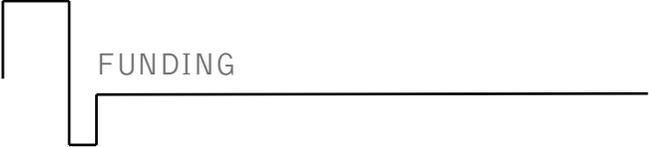


Item	Quantity	Unit		Unit Cost		Subtotal
Removal of Improvements	1	AL	@	\$175,000.00	=	\$175,000.00
Grading and Excavation	1	AL	@	\$45,000.00	=	\$45,000.00
Sidewalk - 10' Wide Pavement and Base Material	3000	SY	@	\$20.00	=	\$60,000.00
Sidewalk - 8' Wide Pavement and Base Material	16,445	SY	@	\$15.00	=	\$246,675.00
Lighting - Cobra Head Lights and Electrical Conduit/Wire/Connections	50	EA	@	\$3,000.00	=	\$150,000.00
Design Cost (10%)	1	LS	@	\$67,667.50	=	\$67,667.50
Authorized Contingencies (15%)	1	LS	@	\$112,000.00	=	\$112,000.00
				Total Cost	=	\$856,342.50



GOVERNANCE

To ensure that the intentions and goals of North Riverfront Park are implemented per the Master Plan, the establishment of the North Riverfront Park Advisory Board is recommended. The purpose of the Advisory Board is to review all proposed construction documents to determine if it is compliant with the North Riverfront Park Masterplan. The Board can also provide comments and determine if non compliant improvements are beneficial to the park. The Advisory board cannot veto a project but can recommend the change of improvements through the St. Louis Planning Commission. The advisory board shall also pursue avenues for funding and keep the public informed of progress. The members of the Board shall be appointed, and shall include citizens and ex officio members such as the Alderwoman, St. Louis City Parks Department representative, Water Department representative, City of St. Louis Planning and Development Agency representative etc ...



FUNDING

Since North Riverfront Park is not owned by the City of St. Louis Parks Department, but by the Water Division some typical sources of funding from the City Parks Department are not available.

An evaluation of financing alternatives and methods for development of major improvements was conducted. This evaluation included:

- Identification and definition of potential funding sources.
- Identification of individual grants available through federal, state, and other sources.

TYPES AND DEFINITIONS

Parks and Recreation projects are funded in a multitude of manners. Methods of financing projects in Missouri communities are identified for consideration in funding Park projects. These methods and their definitions follow.

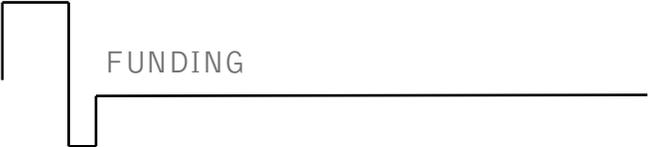
ACTIVITY / USER FEES

This is a dedicated user fee established by ordinance for the purpose of constructing and maintaining recreation facilities and programs. The fee applies to all organized activities that require a paid registration or reservation of some type. Fees are based on the activity. For example, charging the users to launch their boat or human powered watercraft, or charging a fee for reserving and using the amphitheater. The enticement is that it is the users that pay and the funds are earmarked for the facilities that generate the revenue.

The creation of a not-for-profit organization, like Forest Park Forever or the Central Park Conservancy, could be a valuable tool for fund raising and processing funds contributed for park improvements. Park lovers who desire a means of contributing to the enhancement, upkeep, and promotion of North Riverfront Park, could give to the “Friends of North Riverfront Park” organization and feel confident that their gifts would be utilized in North Riverfront Park.

FOUNDATIONS / GRANTS / GIFTS

These funding opportunities can be from private or public sources which promote specific causes, activities or issues. Offers a variety of means to fund capital projects including capital campaigns, gift catalogs, fundraisers, endowments, sales of items, and Federal or State grant programs. Included in this document is a summary of various grants that are available to parks and recreation agencies and co-sponsored organizations.



FUNDING

LAND AND WATER CONSERVATION FUND (LWCF)

Grants available to cities, counties and school districts to be used for outdoor recreation projects. Projects require a 55 percent match. All funded projects are taken under perpetuity by the National Park Service and must only be used for outdoor recreational purposes. Development and renovation projects must be maintained for a period of 25 years or the life of the manufactured goods. Grant cap has been set at \$150,000. Division of State Parks & Historic Preservation

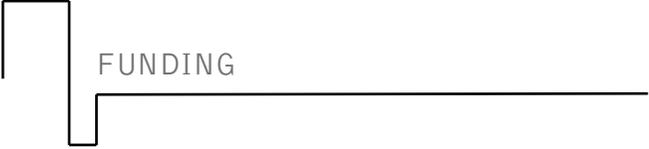
Department of Natural Resources
P.O. Box 176
Jefferson City, MO 65102-0176
Telephone: 573-751-2479
<http://www.ncrc.nps.gov/lwcf>

WHITAKER FOUNDATION PARK GRANTS

The Whitaker Foundation encourages the preservation and use of parks and promotes the enrichments of lives through the arts. The Foundation encourages organizations with interesting ideas, initiatives, and projects that fall within their guidelines to apply for a grant funds. Specifically, they are interested in projects that: enhance lives through the arts and preserve and encourage use of urban parks. Grantees must be located within 50 miles of the Gateway Arch.

There are two ways to approach the Foundation for funding. The first is by Letter of Inquiry and the second is through the submission of a full proposal and a completed Whitaker Foundation Proposal Summary form. Applicants must contact the Foundation before submitting a full proposal.

Whitaker Foundation
308 North 21st Street, Suite 400
St. Louis, MO 63103
Telephone: 314-241-4352
www.thewhitakerfoundation.org
Email Contacts: Executive Director - Christy E. Gray - cgray@thewhitakerfoundation.org
Administrative Assistant - Betsy Kellerman - bkellerman@thewhitakerfoundation.org



FUNDING

TRIMGRANT

TRIM is a cost-share tree care program administered by the Missouri Department of Conservation in cooperation with the Missouri Community Forest Council. Through this program, funds are available for communities to inventory, remove high-risk trees, train workers, prune and plant trees.

Community Forestry Coordinator
Forestry Division
Missouri Department of Conservation
P.O. Box 180
Jefferson City, MO 65102-0180
<http://www.conservation.state.mo.us/>

COMMUNITY STEWARDSHIP GRANT PROGRAM

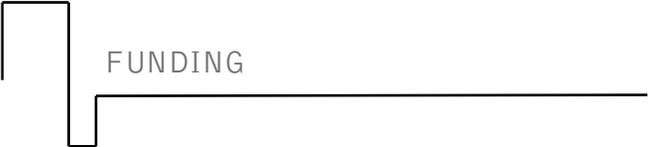
The objectives of the Community Stewardship Grant Program are to provide support for open space management, wildlife habitat improvement, and community land stewardship, and to engage urban residents in community conservation through volunteer efforts to improve open space.

Missouri Department of Conservation
Powder Valley Conservation Nature Center
11715 Cragwold Road
St. Louis, MO 63122
Contact: Erin Shank, Urban Wildlife Biologist - 314-301-1506

NATIONAL FISH& WILDLIFE FOUNDATION

Five-Star Restoration Challenge Program provides modest financial assistance on a competitive basis to support community-based wetland, riparian, and coastal habitat restoration projects that build diverse partnerships and foster local natural resource stewardship through education, outreach and training activities.

Lacy Reimer Alison
Assistant Program Director
Lacy.Alison@nfwf.org
<http://www.nfwf.org>



FUNDING

RECREATIONAL TRAILS PROGRAM (RTP)

Grants to be used for motorized or non-motorized trail development, renovation, maintenance and/or the development/renovation of trailheads. Projects require a minimum match of 20 percent. All projects must be maintained for a period of 25 years. Grant requests up to \$100,000 are eligible. Eligible applicants include cities and counties, schools, and private, non-profit, and for-profit businesses.

MISSOURI TRANSPORTATION ENHANCEMENTS PROGRAM

This program provides funding through a competitive selection process for transportation related activities other than routine highway and bridge construction. Funds are distributed through the East West Gateway Coordinating Council. There are enhancement dollars available for transportation related projects including bicycle and pedestrian trails, rail depot rehabilitation, landscaping, beautification and streetscape enhancements.

East-West Gateway Coordinating Council
The Gateway Tower
One South Memorial Drive, Suite 1600
St. Louis, MO 63102-1714
Telephone: 1-314-421-4220
Contact: Jason Lange, Planning and Programming
<http://www.ewgateway.org/>

INTERLOCAL AGREEMENT

Contractual relationships entered into between two or more local units of government and/or between a local unit of government and a non-profit organization for the joint usage/development of a program or facility.

PUBLIC-PRIVATE PARTNERSHIPS

The term "public-private partnership" refers to a cooperative venture between the public and private sectors, built on the expertise of each partner, that best meets clearly defined public needs through the appropriate allocation of resources, risks and rewards. Potential funding sources or partners may include the Great Rivers Greenway District, or US Army Corps of Engineers.



MAINTENANCE

The City of St. Louis currently helps maintain North Riverfront Park, but due to increased budgetary constraints on the department, additional funding and resources that will be required to care for the implemented elements will have to come from a different source. The Grace Hill AmeriCorps Trail Rangers also help maintain the Park with the direct financial support of the Missouri Department of Conservation and some additional support from The Confluence Partnership and other grants. This program engages disadvantaged local residents in conservation and should be maintained and expanded in the future.

The park users will need to help maintain North Riverfront Park with the help of a volunteer corps. The volunteers could help maintain the plantings, pick up trash, and maintain the fish cleaning station. Partnerships and endowments could be sought as funding opportunities for long-term maintenance of the park. A not-for-profit organization could also be formed to help collect and distribute funds designated for park maintenance.

Maintenance within the park will be very costly when flooding occurs as the trails, boardwalks and stormwater filtration elements will need to be cleaned, and the maintenance needs of the park will have to be continually evaluated as elements are implemented into North Riverfront Park.