

**MEMORANDUM**

To: MCWD Board of Managers
From: Tiffany Schaufler
Date: February 25, 2019
Re: Minnehaha Parkway Regional Trail Master Plan Update

Purpose:

At the February 28, 2019 Policy & Planning Committee (PPC) meeting staff will provide the committee an update on the Minneapolis Park and Recreation Board's Minnehaha Parkway Regional Trail (MPRT) Master Plan and review concept plans recently released for the master plan.

Background:Memorandum of Understanding

At the February 23, 2017 Board of Managers meeting, the Board approved Resolution 17-017 which authorized the District to enter into a Memorandum of Understanding (MOU) with the City of Minneapolis (City) and the Minneapolis Park and Recreation Board (MPRB). The MOU outlines shared priorities and investment strategies to improve the natural and built environments within the Minnehaha Creek subwatershed in Minneapolis.

Integrated Planning of the Minnehaha Creek Subwatershed in Minneapolis

At the same time the MOU was authorized for execution, the Board of Managers authorized staff to develop and issue a request for qualifications (RFQ) in coordination with the City and the MPRB that would retain professional services to 1) advance the design and construction of FEMA funded repairs, and 2) begin implementing the goals and workflow of the MOU by integrating plans and investments for FEMA repairs, stormwater management, flood mitigation, road improvements, planned trail and recreation improvements, and regional park master planning.

The RFQ broke the work into two stages. Stage 1 was led by the District and focused on implementation of the Minnehaha Creek FEMA streambank repairs, carrying out a stormwater management study, and developing an integrated creek corridor concept plan which would serve as a foundation for the Stage 2 work. Stage 2 is being led by MPRB and includes developing a master plan for the Minnehaha Parkway Regional Trail (253 acre regional facility with 5.3 miles of parkway) and developing an associated shared capital improvement plan for short and long-term investment in the Minnehaha Creek corridor.

We collaborate with public and private partners to protect and improve land and water for current and future generations.

Minnehaha Parkway Regional Trail Master Plan

MPRB kicked off their master plan process for the MPRT on July 30, 2018 by convening their first Community Advisory Committee (CAC) meeting (see Attachment 1 for a diagram on the planning/CAC process). The MPRT process to date has included various community engagement activities including a variety of events, an online survey, and a Social Pinpoint website. A summary of the community engagement can be viewed here: https://www.minneapolisparcs.org/wp-content/uploads/2018/12/mprtmp_summary_phase-1_draft.pdf

At the end of October 2018 the CAC met and worked through a corridor-wide visioning exercise. That visioning exercise resulted in the identification of areas that should receive additional design focus. A summary of the CAC's visioning exercise can be viewed here:

https://www.minneapolisparcs.org/asset/zj254y/mprtmp_cac3_attachments_AB.pdf

The diagram in Attachment 2 summarizes the eight areas of focus identified by the CAC and the consultant/agency team. The consultant team then took this diagram and held a two day design charrette with agency staff (MCWD, MPRB, City) to develop concepts within these focus areas.

Design Concepts

These initial park design concepts were created after considering thoughts, ideas, and opinions compiled throughout the last summer and fall from public events, online surveys that gathered hundreds of comments, and discussions with staff from MCWD, City and MPRB. MPRB posted the initial concepts on their website on January 31, 2019 and also debuted them that same night at a community open house at Lynnhurst Recreation Center. MPRB also hosted a second community open house for public review on February 7, 2019 at the Lake Nokomis Community Center. Most recently the design concepts were reviewed and discussed with the CAC at their fourth meeting on February 21, 2019 to solicit input from the CAC and the general public.

The MPRT is sorted into four segments and eight focus areas have been identified within those segments (see map in Attachment 2). One or two preliminary site concepts have been developed for each focus area for a total of 14 concepts. Each concept contains ideas relating to:

- Trail and parkway realignment
- Stormwater infrastructure and potential creek re-meanders
- Natural resource management areas
- Creek access points
- Recreational amenities
- Precedent (example) images to demonstrate ideas

These concepts are not final but rather are the first draft from the design team. The CAC and project team will work over the next few month to gather and synthesize feedback, revise the concepts, and work towards creating a preferred concept for each focus area. The concept plans can be viewed on the MPRB website by clicking on the on the "Segment" links below and are also attached to this memo (see Attachment 3):

- [Segment 1](#): Western Minneapolis border to Lake Harriet
- [Segment 2](#): Girard Avenue to I-35W
- [Segment 3](#): I-35W to Cedar Avenue (Nokomis-Hiawatha Regional Park border)
- [Segment 4](#): Nokomis-Hiawatha Regional Park to Minnehaha Regional Park

We collaborate with public and private partners to protect and improve land and water for current and future generations.

Next Steps:

At the February 28, 2019 PPC meeting, staff will provide the PPC an update on the progress of the MRPB's Minnehaha Parkway Regional Trail master plan process, review concept plans, and discuss next steps in the master plan process.

If there are questions in advance of the meeting, please contact Tiffany Schaufler at tschaufler@minnehahacreek.org or at 952-641-4513.

Attachments:

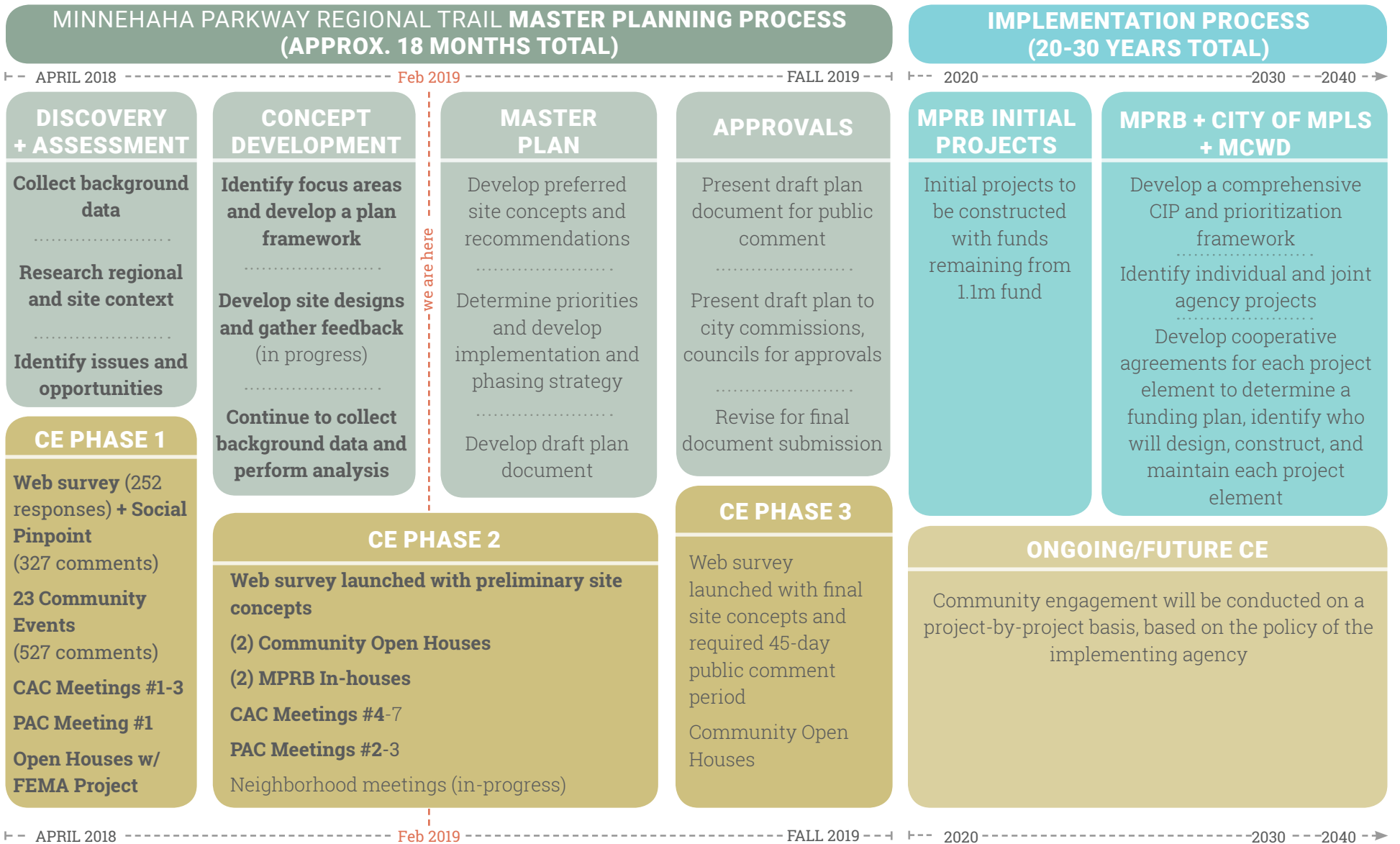
- Attachment 1: Planning Process/CAC Process Diagram
- Attachment 2: MPRT Map - Concept Framework
- Attachment 3: Draft Concept Plans
 - Focus Area 1-1 Concept A
 - Focus Area 1-2 Concept A
 - Focus Area 1-2 Concept B
 - Focus Area 2-1 Concept A
 - Focus Area 2-1 Concept B
 - Focus Area 2-2 Concept A
 - Focus Area 2-2 Concept B
 - Focus Area 3-1 Concept A
 - Focus Area 3-1 Concept B
 - Focus Area 3-2 Concept A
 - Focus Area 3-3 Concept A
 - Focus Area 3-3 Concept B
 - Focus Area 4-1 Concept A
 - Focus Area 4-1 Concept B
 - Outfalls & PIPESHEDS Map
 - Best Management Practices (BMPs): What are they?

We collaborate with public and private partners to protect and improve land and water for current and future generations.

PLANNING PROCESS

Items in bold have already occurred as of 2/21/19

CE = Community Engagement

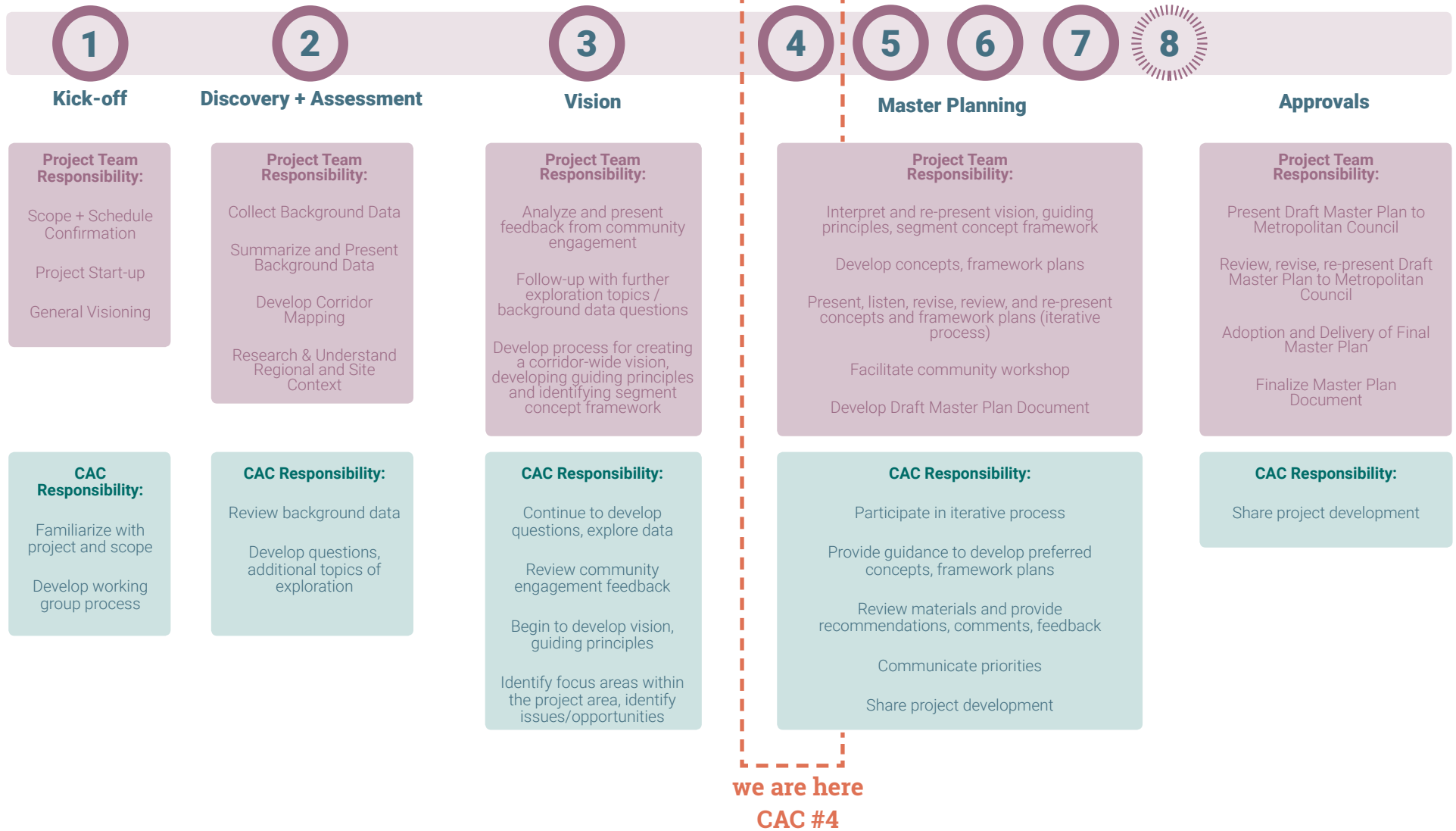


MINNEHAHA PARKWAY REGIONAL TRAIL FEBRUARY 21, 2019 CAC MEETING #4



CAC PROCESS

COMMUNITY ADVISORY COMMITTEE MEETINGS



MINNEHAHA PARKWAY REGIONAL TRAIL
FEBRUARY 21, 2019 CAC MEETING #4

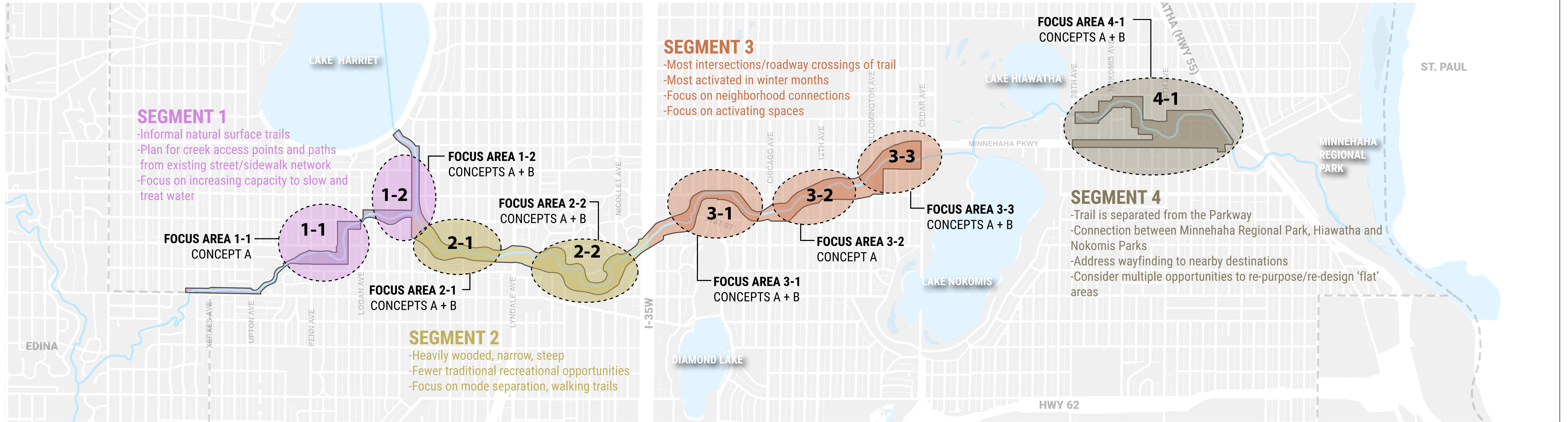


MPRT Concept Framework

Minnehaha Parkway Regional Trail has been split into **4 segments** for the purpose of master planning. Within these segments, **8 focus areas** have been identified and one or two preliminary site concepts have been developed for each. These site concepts are not final; you are invited to view the in-progress concepts and provide your feedback. Below is a key map showing the location of each segment and focus area, as well as a brief summary of existing conditions and ideas for consideration within each segment.

Each concept contains ideas relating to:

- Trail and parkway realignment
- Stormwater infrastructure and potential creek re-meanders
- Natural resource management areas
- Creek access points
- Recreational amenities
- Precedent (example) images to demonstrate ideas



Each concept plan has a key to explain color coded areas and linetypes found on the drawings. Below is the same key with expanded explanations for each symbol:

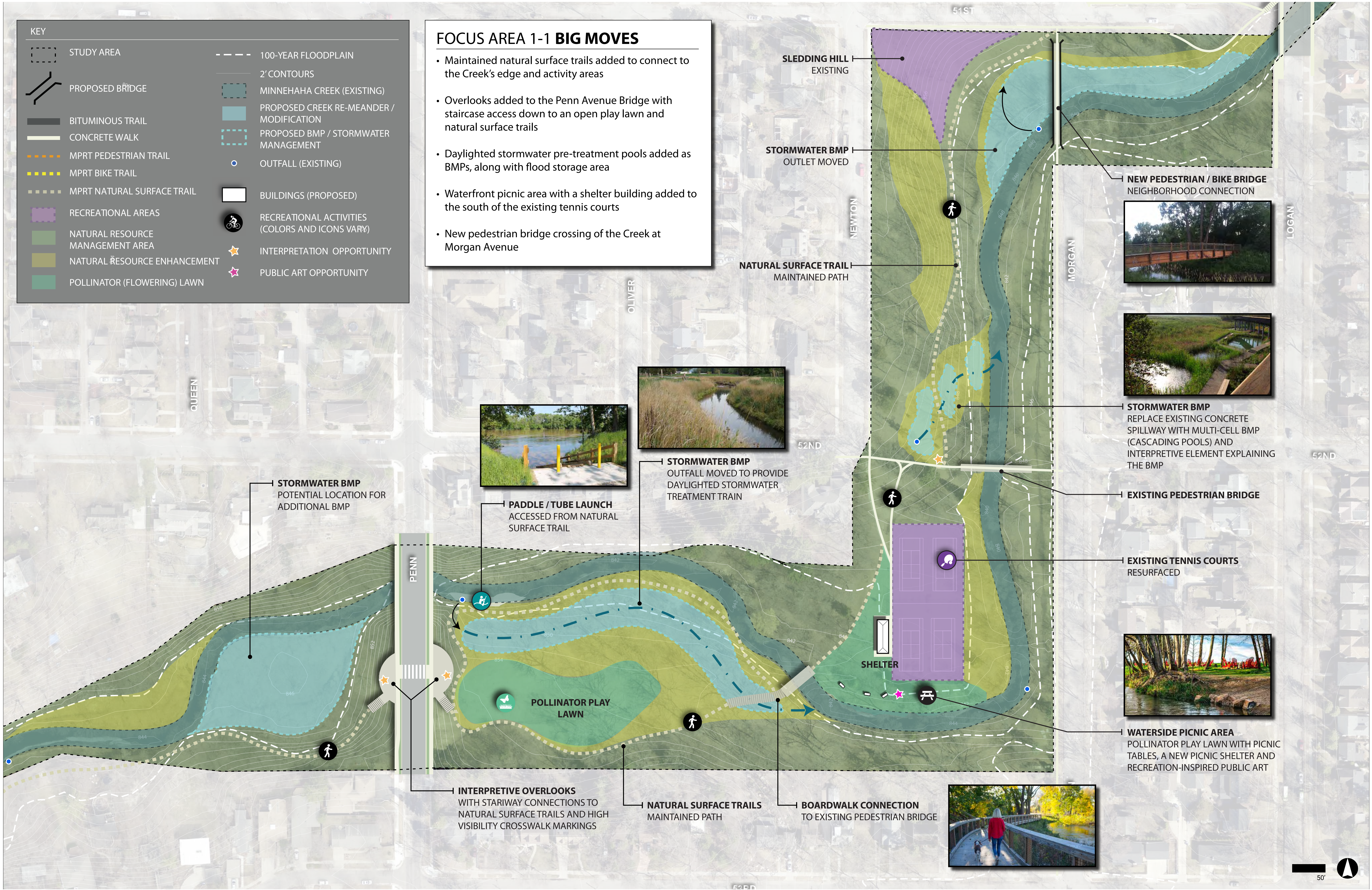
KEY	
	STUDY AREA Area to be studied for the MPRT Master Plan
	PROPOSED BRIDGE Potential locations for new vehicular, pedestrian, or bicycle bridges
	BITUMINOUS TRAIL Asphalt-surfaced trails, intended for either bicyclists and/or pedestrians
	CONCRETE WALK Sidewalks or paths with concrete surfaces, generally intended for pedestrians only
	MPRT PEDESTRIAN TRAIL Designated trail intended for pedestrian use within MPRT
	MPRT BIKE TRAIL Designated trail intended for bicycle use within MPRT
	MPRT NATURAL SURFACE TRAIL Designated natural surface trail (cleared or mowed) intended for pedestrian use within MPRT
	100-YEAR FLOODPLAIN Area of land that is predicted to flood during a 100-year storm, which has a 1% chance of occurring in any given year
	2' CONTOURS Lines on the map indicating land elevation
	MINNEHAHA CREEK (EXISTING) Alignment of Minnehaha Creek as it exists today
	PROPOSED CREEK RE-MEANDER / MODIFICATION Potential new alignment of Minnehaha Creek
	PROPOSED BMP / STORMWATER MANAGEMENT Areas with proposed Best Management Practices (BMPs) for improving stormwater management along the creek
	OUTFALL (EXISTING) End-of-pipe locations for stormwater pipes that empty into Minnehaha Creek
	BUILDINGS (PROPOSED) Footprints of proposed buildings within the study area
	RECREATIONAL AREAS Areas with a primary function of providing recreational opportunities, such as fields, courts, etc.
	NATURAL RESOURCE MANAGEMENT AREA Areas that are currently managed by MPRB for natural resources. Management includes mowing, invasive species removal, tree maintenance, etc.
	NATURAL RESOURCE ENHANCEMENT Proposed areas to have enhanced natural resource management, often with a focus on creating an identified plant community or maintaining wildlife habitat
	POLLINATOR (FLOWERING) LAWN Proposed open areas to have pollinator-friendly lawns with low-growing flowering plant species that require less mowing than typical lawn areas
	RECREATIONAL ACTIVITIES (COLORS AND ICONS VARY) Intended uses or users for an area within the site concept
	INTERPRETATION OPPORTUNITY Area to have interpretive elements to communicate historical or culturally significant areas (type, form, and specific theme to be determined)
	PUBLIC ART OPPORTUNITY Area to have an element of public art (type, form, and theme to be determined)



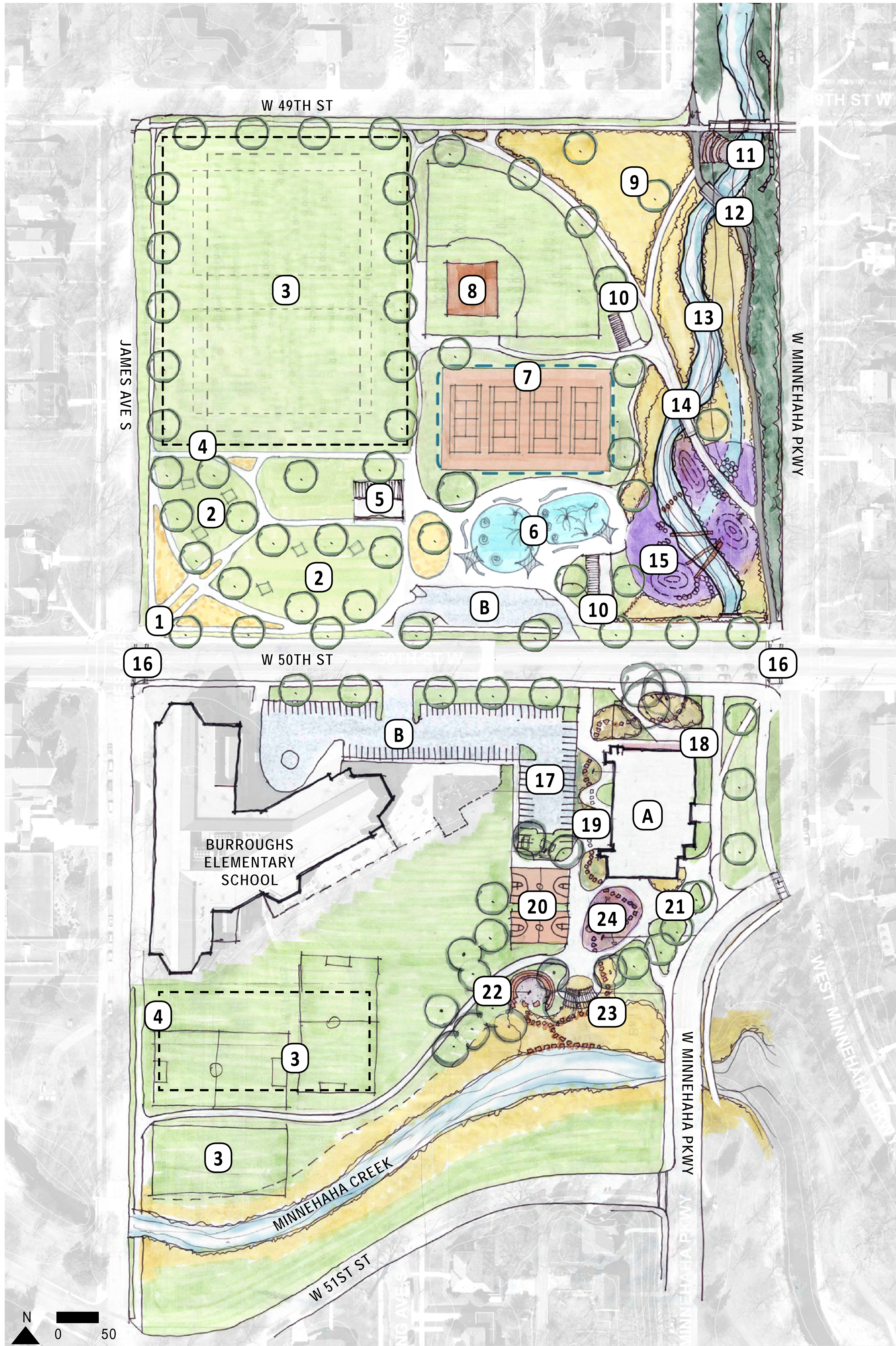
KEY

	STUDY AREA		100-YEAR FLOODPLAIN
	PROPOSED BRIDGE		2' CONTOURS
	BITUMINOUS TRAIL		MINNEHAHA CREEK (EXISTING)
	CONCRETE WALK		PROPOSED CREEK RE-MEANDER / MODIFICATION
	MPRT PEDESTRIAN TRAIL		PROPOSED BMP / STORMWATER MANAGEMENT
	MPRT BIKE TRAIL		OUTFALL (EXISTING)
	MPRT NATURAL SURFACE TRAIL		BUILDINGS (PROPOSED)
	RECREATIONAL AREAS		RECREATIONAL ACTIVITIES (COLORS AND ICONS VARY)
	NATURAL RESOURCE MANAGEMENT AREA		INTERPRETATION OPPORTUNITY
	NATURAL RESOURCE ENHANCEMENT		PUBLIC ART OPPORTUNITY
	POLLINATOR (FLOWERING) LAWN		

- ### FOCUS AREA 1-1 BIG MOVES
- Maintained natural surface trails added to connect to the Creek's edge and activity areas
 - Overlooks added to the Penn Avenue Bridge with staircase access down to an open play lawn and natural surface trails
 - Daylighted stormwater pre-treatment pools added as BMPs, along with flood storage area
 - Waterfront picnic area with a shelter building added to the south of the existing tennis courts
 - New pedestrian bridge crossing of the Creek at Morgan Avenue



****This concept was developed in collaboration with Southwest Service Area Master Plan Project**



**FOCUS AREA 1-2 CONCEPT A
BIG MOVES (DESIGN FEATURES)**

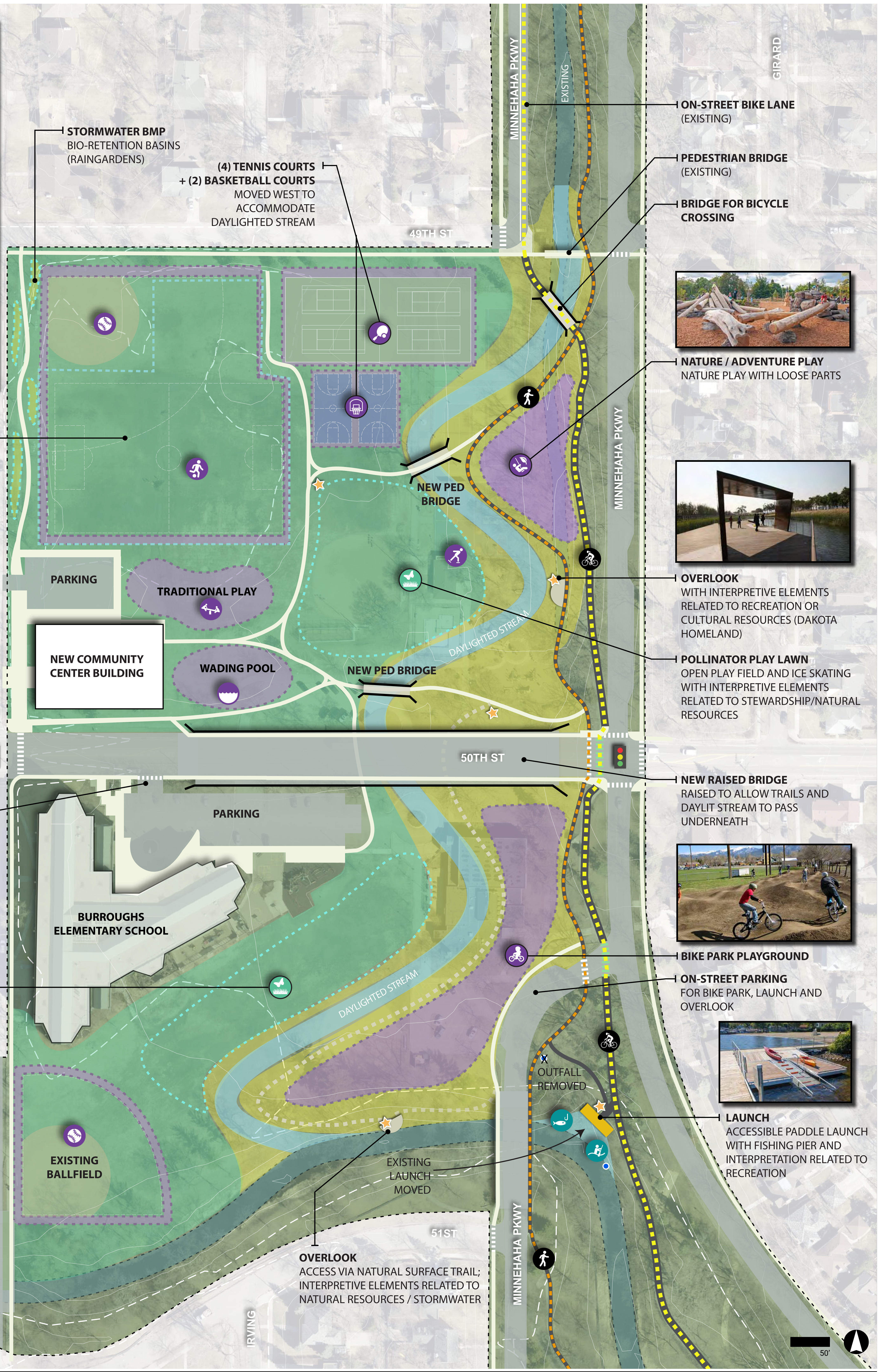
1. PUBLIC ART GATEWAY
2. COMMUNITY GATHERING/PICNIC AREA
3. MULTI-USE FIELDS (5)
4. UNDERGROUND STORMWATER STORAGE
5. RELOCATED WARMING HOUSE/RESTROOM BUILDING
6. SPLASH PAD WITH SHADE STRUCTURES
7. TENNIS COURTS (4) (*winter ice rink*)
8. MULTI-USE DIAMOND
9. NATIVE PLANTINGS/CREEK BUFFER
10. PICNIC SHELTER (2)
11. STEPS TO NEW CREEK MEANDER
12. BIKE TRAIL WITH NEW BRIDGE OVER MEANDER
13. REHABILITATED CREEK MEANDER
14. WALKING LOOP WITH NEW PEDESTRIAN BRIDGE OVER MEANDER
15. NATURE PLAY AREA
16. PEDESTRIAN CROSSING
17. EXPANDED PARKING LOT
18. PUBLIC ART WALL (*on building*)
19. PEDESTRIAN PATH (*extends from 50th St to Creek*)
20. FULL COURT BASKETBALL (2)
21. ENTRY PLAZA
22. OUTDOOR CLASSROOM
23. CREEK OVERLOOK
24. PLAY AREA

EXISTING FEATURES

- A. RECREATION CENTER
- B. SCHOOL PARKING LOT

FOCUS AREA 1-2 CONCEPT B BIG MOVES

- Daylighted stream from Lake Harriet connecting to Minnehaha Creek
- New bridge crossing on 50th Street for vehicles (50th Street), in addition to pedestrian and bicycle bridges throughout
- Lynnhurst Community Center reconstructed on the west side of the park with new playground and wading pool
- Nature / Adventure Play and Bike Park Playground added along the new daylighted stream
- New paddle launch and overlook constructed along the north side of Minnehaha Creek with interpretive elements



BMP: UNDERGROUND STORAGE
EXISTING BALLFIELD AND SOCCER FIELD WITH UNDERGROUND STORMWATER STORAGE BELOW

STORMWATER BMP
BIO-RETENTION BASINS (RAINGARDENS)

(4) TENNIS COURTS + (2) BASKETBALL COURTS
MOVED WEST TO ACCOMMODATE DAYLIGHTED STREAM

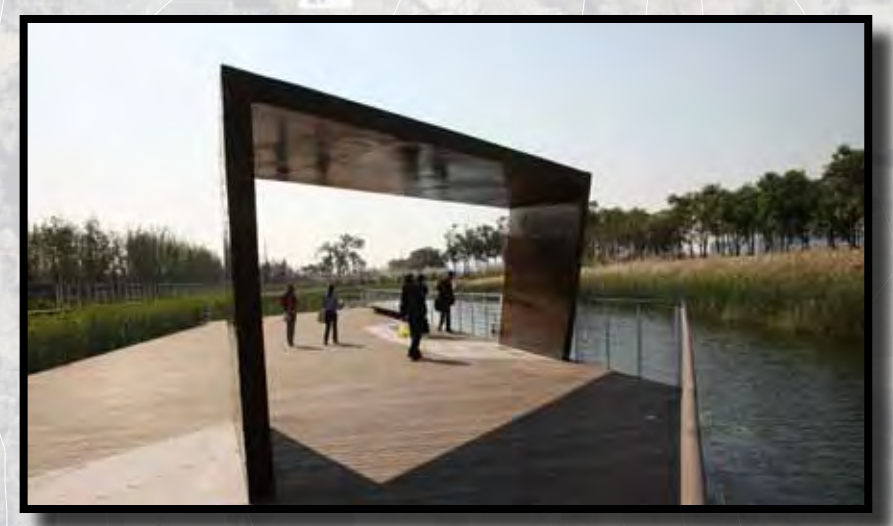
ON-STREET BIKE LANE (EXISTING)

PEDESTRIAN BRIDGE (EXISTING)

BRIDGE FOR BICYCLE CROSSING



NATURE / ADVENTURE PLAY
NATURE PLAY WITH LOOSE PARTS



OVERLOOK
WITH INTERPRETIVE ELEMENTS RELATED TO RECREATION OR CULTURAL RESOURCES (DAKOTA HOMELAND)

POLLINATOR PLAY LAWN
OPEN PLAY FIELD AND ICE SKATING WITH INTERPRETIVE ELEMENTS RELATED TO STEWARDSHIP/NATURAL RESOURCES

PARKING LOT ENTRY
MOVED TO ACCOMMODATE NEW RAISED BRIDGE ALONG 50TH STREET

BURROUGHS ELEMENTARY SCHOOL

POLLINATOR PLAY LAWN
OPEN PLAY FIELD WITH FLOOD STORAGE

NEW RAISED BRIDGE
RAISED TO ALLOW TRAILS AND DAYLIT STREAM TO PASS UNDERNEATH



BIKE PARK PLAYGROUND

ON-STREET PARKING
FOR BIKE PARK, LAUNCH AND OVERLOOK



LAUNCH
ACCESSIBLE PADDLE LAUNCH WITH FISHING PIER AND INTERPRETATION RELATED TO RECREATION

EXISTING BALLFIELD

EXISTING LAUNCH MOVED

OVERLOOK
ACCESS VIA NATURAL SURFACE TRAIL; INTERPRETIVE ELEMENTS RELATED TO NATURAL RESOURCES / STORMWATER

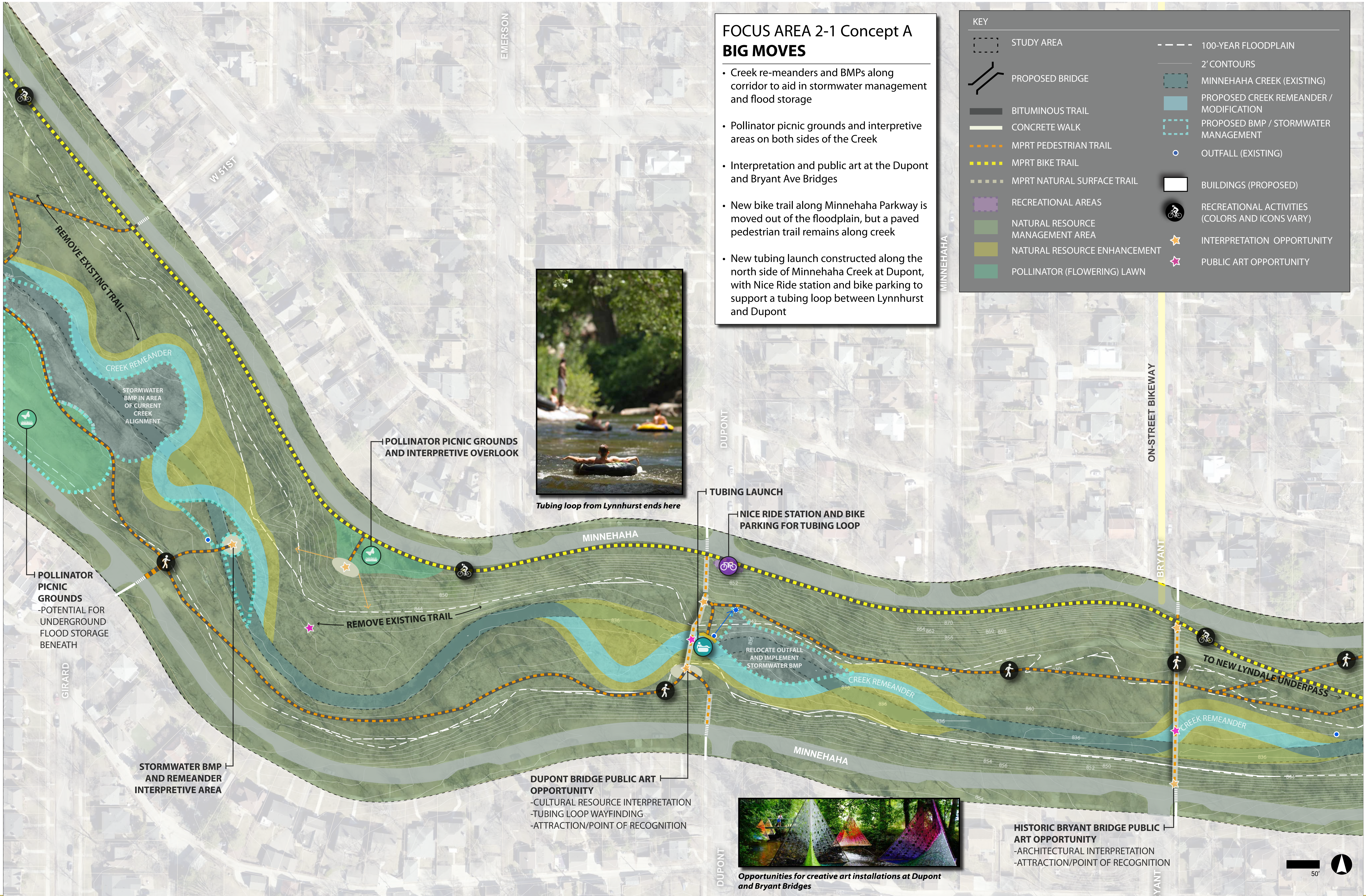
KEY			
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	PROPOSED BRIDGE		2' CONTOURS
	BITUMINOUS TRAIL		MINNEHAHA CREEK (EXISTING)
	CONCRETE WALK		PROPOSED CREEK REMEANDER / MODIFICATION
	MPRT PEDESTRIAN TRAIL		PROPOSED BMP / STORMWATER MANAGEMENT
	MPRT BIKE TRAIL		RECREATIONAL AREAS
	MPRT NATURAL SURFACE TRAIL		NATURAL RESOURCE MANAGEMENT AREA
	BUILDINGS (PROPOSED)		NATURAL RESOURCE ENHANCEMENT
	OUTFALL (EXISTING)		POLLINATOR (FLOWERING) LAWN
	INTERPRETATION OPPORTUNITY		PUBLIC ART OPPORTUNITY
	RECREATIONAL ACTIVITIES (COLORS AND ICONS VARY)		

MINNEHAHA PARKWAY REGIONAL TRAIL FOCUS AREA 1-2 CONCEPT B DRAFT 1/28/19

FOCUS AREA 2-1 Concept A BIG MOVES

- Creek re-meanders and BMPs along corridor to aid in stormwater management and flood storage
- Pollinator picnic grounds and interpretive areas on both sides of the Creek
- Interpretation and public art at the Dupont and Bryant Ave Bridges
- New bike trail along Minnehaha Parkway is moved out of the floodplain, but a paved pedestrian trail remains along creek
- New tubing launch constructed along the north side of Minnehaha Creek at Dupont, with Nice Ride station and bike parking to support a tubing loop between Lynnhurst and Dupont

KEY	
	STUDY AREA
	100-YEAR FLOODPLAIN
	PROPOSED BRIDGE
	BITUMINOUS TRAIL
	CONCRETE WALK
	MPRT PEDESTRIAN TRAIL
	MPRT BIKE TRAIL
	MPRT NATURAL SURFACE TRAIL
	RECREATIONAL AREAS
	NATURAL RESOURCE MANAGEMENT AREA
	NATURAL RESOURCE ENHANCEMENT
	POLLINATOR (FLOWERING) LAWN
	MINNEHAHA CREEK (EXISTING)
	PROPOSED CREEK REMEANDER / MODIFICATION
	PROPOSED BMP / STORMWATER MANAGEMENT
	OUTFALL (EXISTING)
	BUILDINGS (PROPOSED)
	RECREATIONAL ACTIVITIES (COLORS AND ICONS VARY)
	INTERPRETATION OPPORTUNITY
	PUBLIC ART OPPORTUNITY



Tubing loop from Lynnhurst ends here

TUBING LAUNCH
NICE RIDE STATION AND BIKE PARKING FOR TUBING LOOP



Opportunities for creative art installations at Dupont and Bryant Bridges

POLLINATOR PICNIC GROUNDS
-POTENTIAL FOR UNDERGROUND FLOOD STORAGE BENEATH

STORMWATER BMP AND REMEANDER INTERPRETIVE AREA

POLLINATOR PICNIC GROUNDS AND INTERPRETIVE OVERLOOK

DUPONT BRIDGE PUBLIC ART OPPORTUNITY
-CULTURAL RESOURCE INTERPRETATION
-TUBING LOOP WAYFINDING
-ATTRACTION/POINT OF RECOGNITION

HISTORIC BRYANT BRIDGE PUBLIC ART OPPORTUNITY
-ARCHITECTURAL INTERPRETATION
-ATTRACTION/POINT OF RECOGNITION

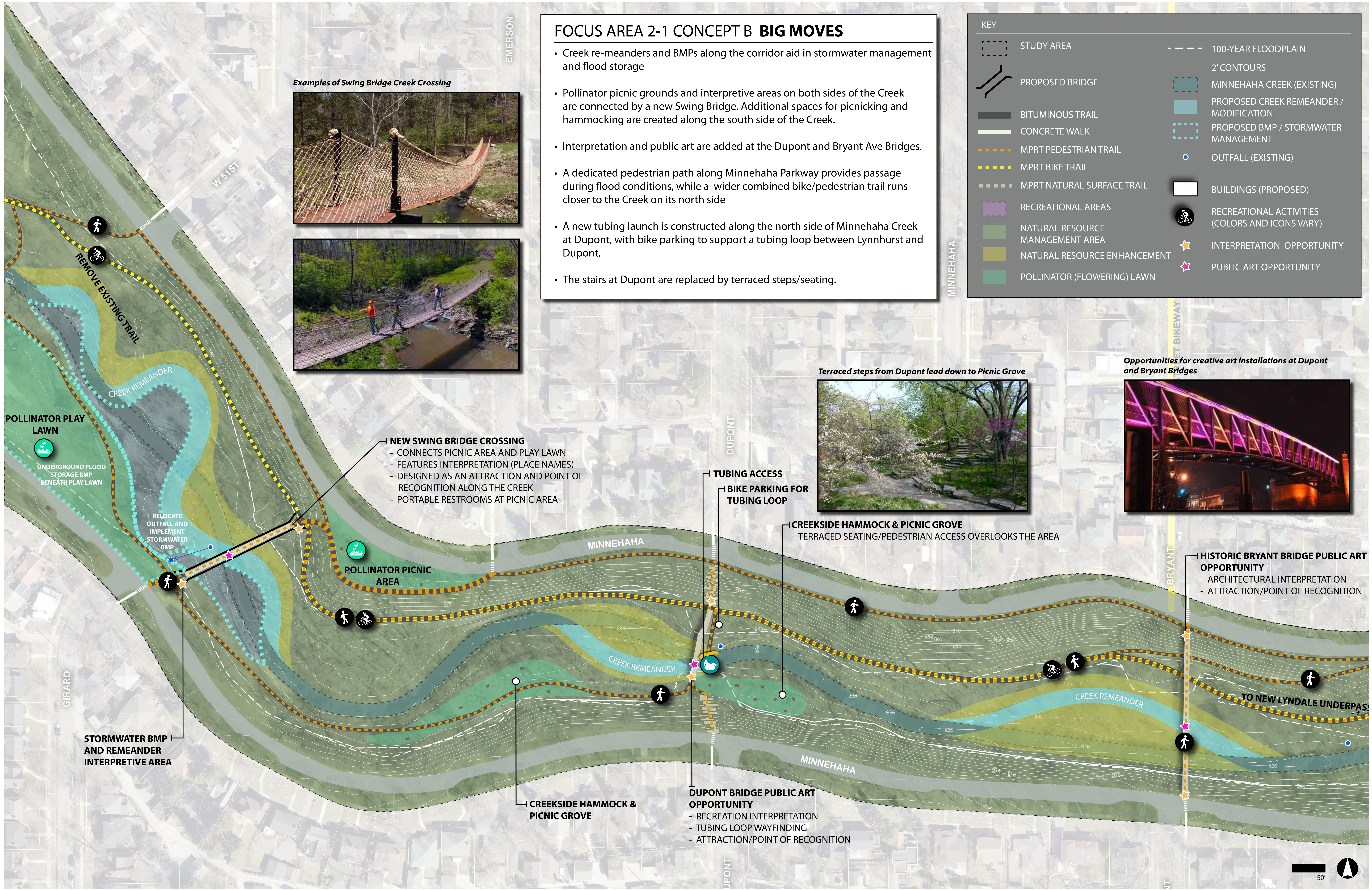


FOCUS AREA 2-1 CONCEPT B **BIG MOVES**

- Creek re-meanders and BMPs along the corridor aid in stormwater management and flood storage
- Pollinator picnic grounds and interpretive areas on both sides of the Creek are connected by a new Swing Bridge. Additional spaces for picnicking and hammocking are created along the south side of the Creek.
- Interpretation and public art are added at the Dupont and Bryant Ave Bridges.
- A dedicated pedestrian path along Minnehaha Parkway provides passage during flood conditions, while a wider combined bike/pedestrian trail runs closer to the Creek on its north side
- A new tubing launch is constructed along the north side of Minnehaha Creek at Dupont, with bike parking to support a tubing loop between Lynnhurst and Dupont.
- The stairs at Dupont are replaced by terraced steps/seating.

KEY	
	STUDY AREA
	100-YEAR FLOODPLAIN
	PROPOSED BRIDGE
	2' CONTOURS
	BITUMINOUS TRAIL
	CONCRETE WALK
	MPRT PEDESTRIAN TRAIL
	MPRT BIKE TRAIL
	MPRT NATURAL SURFACE TRAIL
	RECREATIONAL AREAS
	NATURAL RESOURCE MANAGEMENT AREA
	NATURAL RESOURCE ENHANCEMENT
	POLLINATOR (FLOWERING) LAWN
	MINNEHAHA CREEK (EXISTING)
	PROPOSED CREEK REMEANDER / MODIFICATION
	PROPOSED BMP / STORMWATER MANAGEMENT
	OUTFALL (EXISTING)
	BUILDINGS (PROPOSED)
	RECREATIONAL ACTIVITIES (COLORS AND ICONS VARY)
	INTERPRETATION OPPORTUNITY
	PUBLIC ART OPPORTUNITY

Examples of Swing Bridge Creek Crossing

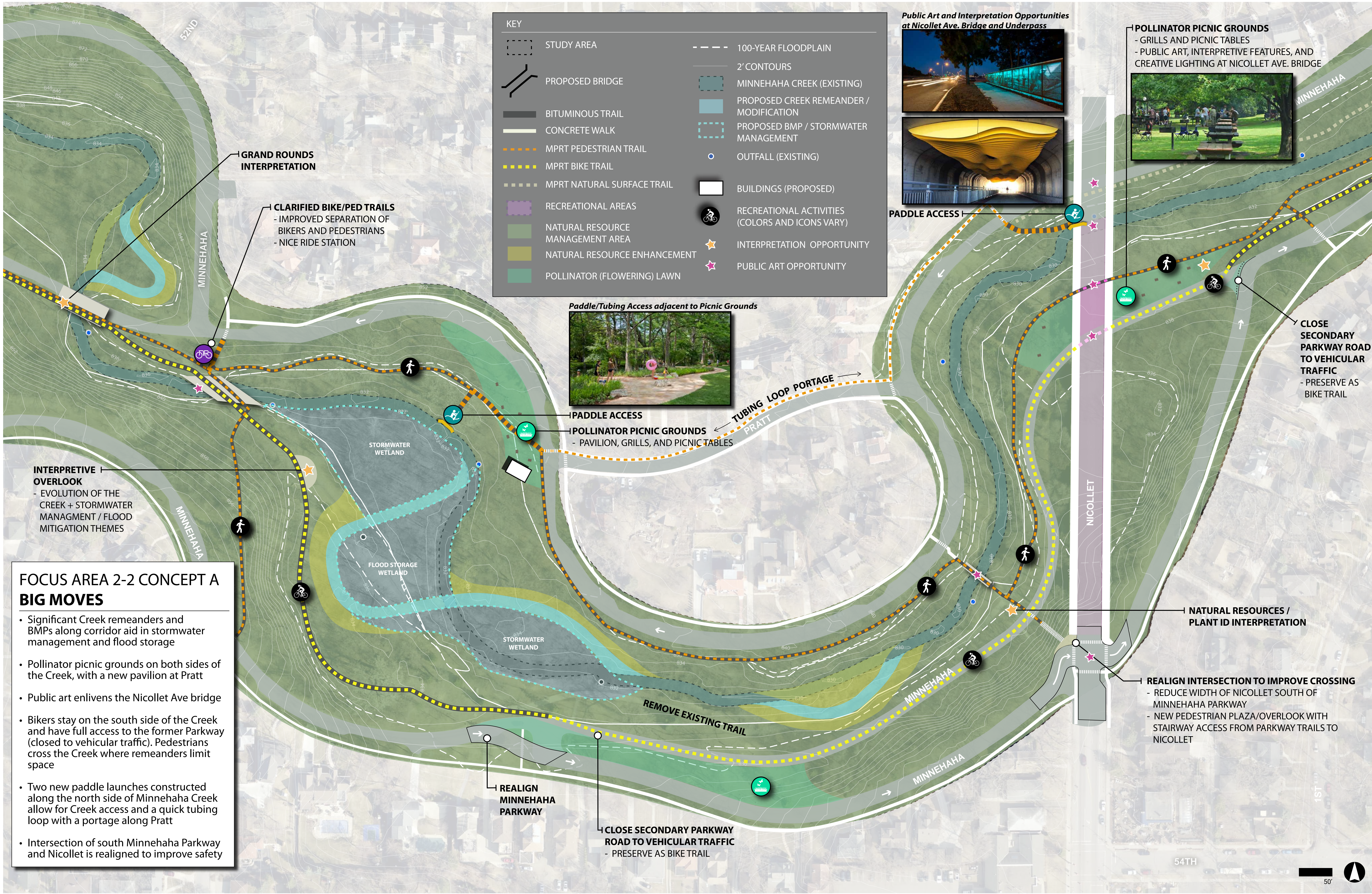


Terraced steps from Dupont lead down to Picnic Grove



Opportunities for creative art installations at Dupont and Bryant Bridges

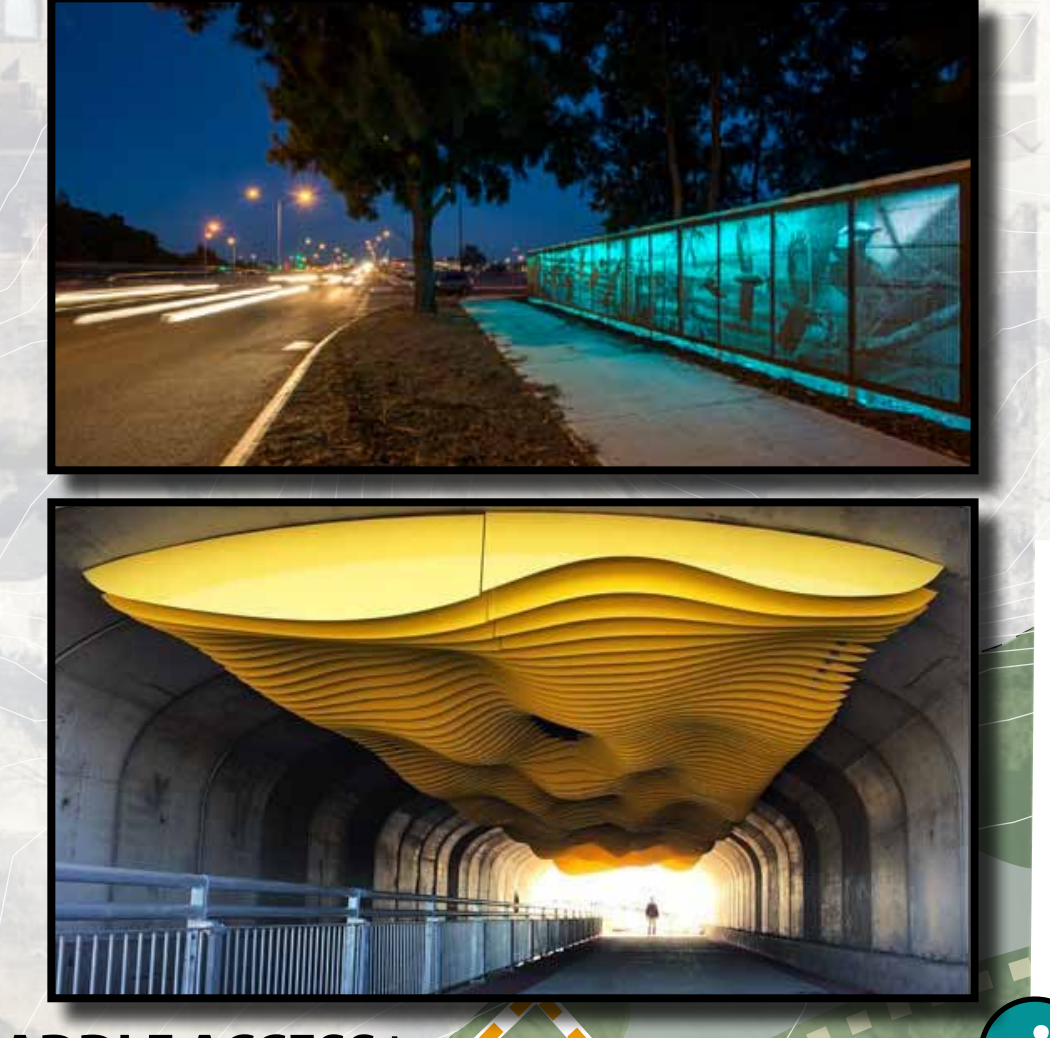




KEY

	STUDY AREA		100-YEAR FLOODPLAIN
	PROPOSED BRIDGE		2' CONTOURS
	BITUMINOUS TRAIL		MINNEHAHA CREEK (EXISTING)
	CONCRETE WALK		PROPOSED CREEK REMEANDER / MODIFICATION
	MPRT PEDESTRIAN TRAIL		PROPOSED BMP / STORMWATER MANAGEMENT
	MPRT BIKE TRAIL		OUTFALL (EXISTING)
	MPRT NATURAL SURFACE TRAIL		BUILDINGS (PROPOSED)
	RECREATIONAL AREAS		RECREATIONAL ACTIVITIES (COLORS AND ICONS VARY)
	NATURAL RESOURCE MANAGEMENT AREA		INTERPRETATION OPPORTUNITY
	NATURAL RESOURCE ENHANCEMENT		PUBLIC ART OPPORTUNITY
	POLLINATOR (FLOWERING) LAWN		

Public Art and Interpretation Opportunities at Nicollet Ave. Bridge and Underpass



PADDLE ACCESS

Paddle/Tubing Access adjacent to Picnic Grounds



PADDLE ACCESS

POLLINATOR PICNIC GROUNDS

FOCUS AREA 2-2 CONCEPT A BIG MOVES

- Significant Creek remeanders and BMPs along corridor aid in stormwater management and flood storage
- Pollinator picnic grounds on both sides of the Creek, with a new pavilion at Pratt
- Public art enlivens the Nicollet Ave bridge
- Bikers stay on the south side of the Creek and have full access to the former Parkway (closed to vehicular traffic). Pedestrians cross the Creek where remeanders limit space
- Two new paddle launches constructed along the north side of Minnehaha Creek allow for Creek access and a quick tubing loop with a portage along Pratt
- Intersection of south Minnehaha Parkway and Nicollet is realigned to improve safety

POLLINATOR PICNIC GROUNDS

- GRILLS AND PICNIC TABLES
- PUBLIC ART, INTERPRETIVE FEATURES, AND CREATIVE LIGHTING AT NICOLLET AVE. BRIDGE



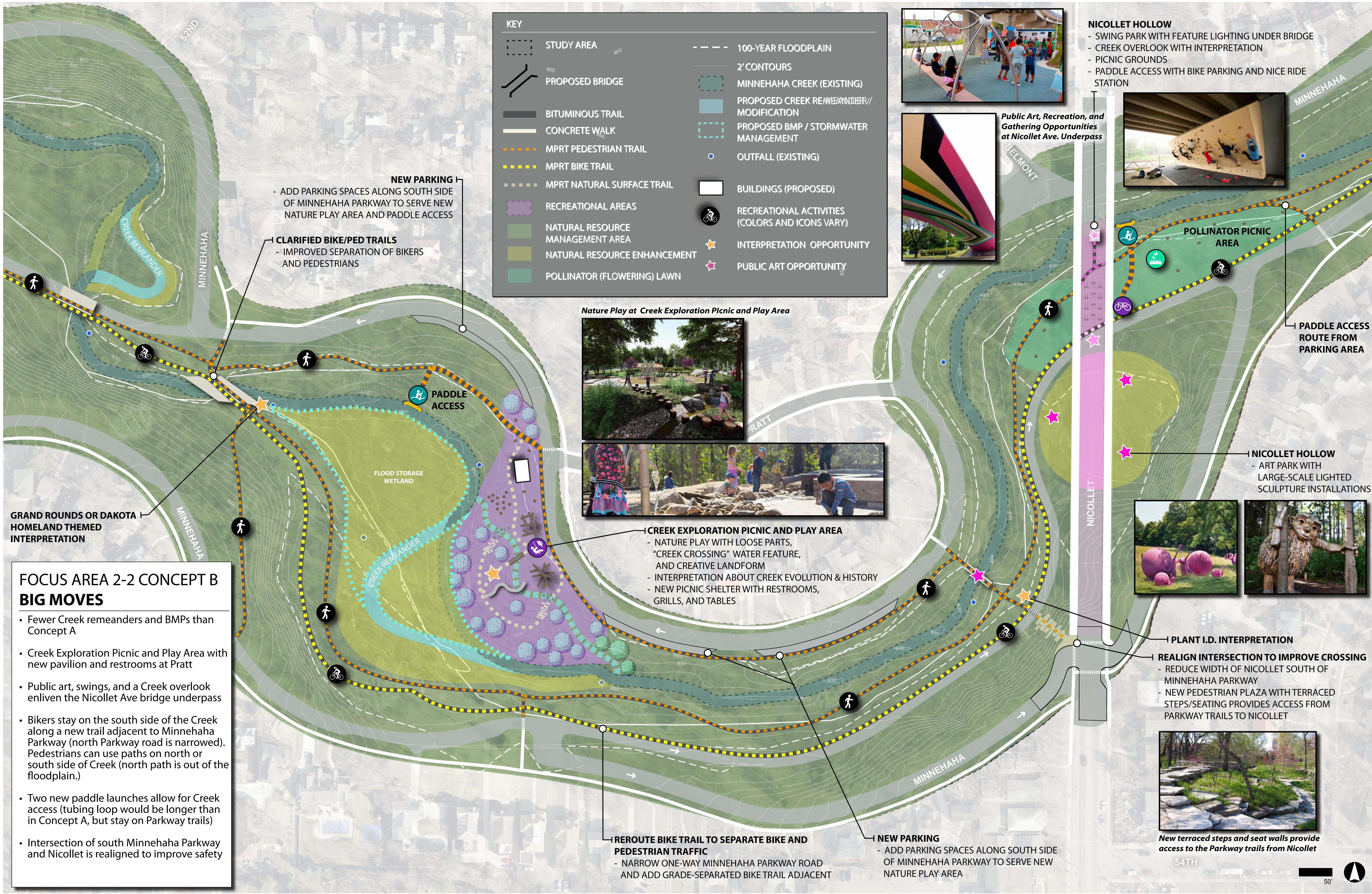
CLOSE SECONDARY PARKWAY ROAD TO VEHICULAR TRAFFIC

- PRESERVE AS BIKE TRAIL

NATURAL RESOURCES / PLANT ID INTERPRETATION

REALIGN INTERSECTION TO IMPROVE CROSSING

- REDUCE WIDTH OF NICOLLET SOUTH OF MINNEHAHA PARKWAY
- NEW PEDESTRIAN PLAZA/OVERLOOK WITH STAIRWAY ACCESS FROM PARKWAY TRAILS TO NICOLLET



KEY

	STUDY AREA		100-YEAR FLOODPLAIN
	PROPOSED BRIDGE		2' CONTOURS
	BITUMINOUS TRAIL		MINNEHAHA CREEK (EXISTING)
	CONCRETE WALK		PROPOSED CREEK REMEANDER// MODIFICATION
	MPRT PEDESTRIAN TRAIL		PROPOSED BMP / STORMWATER MANAGEMENT
	MPRT BIKE TRAIL		OUTFALL (EXISTING)
	MPRT NATURAL SURFACE TRAIL		BUILDINGS (PROPOSED)
	RECREATIONAL AREAS		RECREATIONAL ACTIVITIES (COLORS AND ICONS VARY)
	NATURAL RESOURCE MANAGEMENT AREA		INTERPRETATION OPPORTUNITY
	NATURAL RESOURCE ENHANCEMENT		PUBLIC ART OPPORTUNITY
	POLLINATOR (FLOWERING) LAWN		

NEW PARKING
 - ADD PARKING SPACES ALONG SOUTH SIDE OF MINNEHAHA PARKWAY TO SERVE NEW NATURE PLAY AREA AND PADDLE ACCESS

CLARIFIED BIKE/PED TRAILS
 - IMPROVED SEPARATION OF BIKERS AND PEDESTRIANS

GRAND ROUNDS OR DAKOTA HOMELAND THEMED INTERPRETATION

FOCUS AREA 2-2 CONCEPT B BIG MOVES

- Fewer Creek remeanders and BMPs than Concept A
- Creek Exploration Picnic and Play Area with new pavilion and restrooms at Pratt
- Public art, swings, and a Creek overlook enliven the Nicollet Ave bridge underpass
- Bikers stay on the south side of the Creek along a new trail adjacent to Minnehaha Parkway (north Parkway road is narrowed). Pedestrians can use paths on north or south side of Creek (north path is out of the floodplain.)
- Two new paddle launches allow for Creek access (tubing loop would be longer than in Concept A, but stay on Parkway trails)
- Intersection of south Minnehaha Parkway and Nicollet is realigned to improve safety

Nature Play at Creek Exploration Picnic and Play Area



CREEK EXPLORATION PICNIC AND PLAY AREA
 - NATURE PLAY WITH LOOSE PARTS, "CREEK CROSSING" WATER FEATURE, AND CREATIVE LANDFORM
 - INTERPRETATION ABOUT CREEK EVOLUTION & HISTORY
 - NEW PICNIC SHELTER WITH RESTROOMS, GRILLS, AND TABLES

REROUTE BIKE TRAIL TO SEPARATE BIKE AND PEDESTRIAN TRAFFIC
 - NARROW ONE-WAY MINNEHAHA PARKWAY ROAD AND ADD GRADE-SEPARATED BIKE TRAIL ADJACENT

NEW PARKING
 - ADD PARKING SPACES ALONG SOUTH SIDE OF MINNEHAHA PARKWAY TO SERVE NEW NATURE PLAY AREA



Public Art, Recreation, and Gathering Opportunities at Nicollet Ave. Underpass

NICOLLET HOLLOW
 - SWING PARK WITH FEATURE LIGHTING UNDER BRIDGE
 - CREEK OVERLOOK WITH INTERPRETATION
 - PICNIC GROUNDS
 - PADDLE ACCESS WITH BIKE PARKING AND NICE RIDE STATION



POLLINATOR PICNIC AREA

PADDLE ACCESS ROUTE FROM PARKING AREA

NICOLLET HOLLOW
 - ART PARK WITH LARGE-SCALE LIGHTED SCULPTURE INSTALLATIONS



PLANT I.D. INTERPRETATION

REALIGN INTERSECTION TO IMPROVE CROSSING
 - REDUCE WIDTH OF NICOLLET SOUTH OF MINNEHAHA PARKWAY
 - NEW PEDESTRIAN PLAZA WITH TERRACED STEPS/SEATING PROVIDES ACCESS FROM PARKWAY TRAILS TO NICOLLET



New terraced steps and seat walls provide access to the Parkway trails from Nicollet

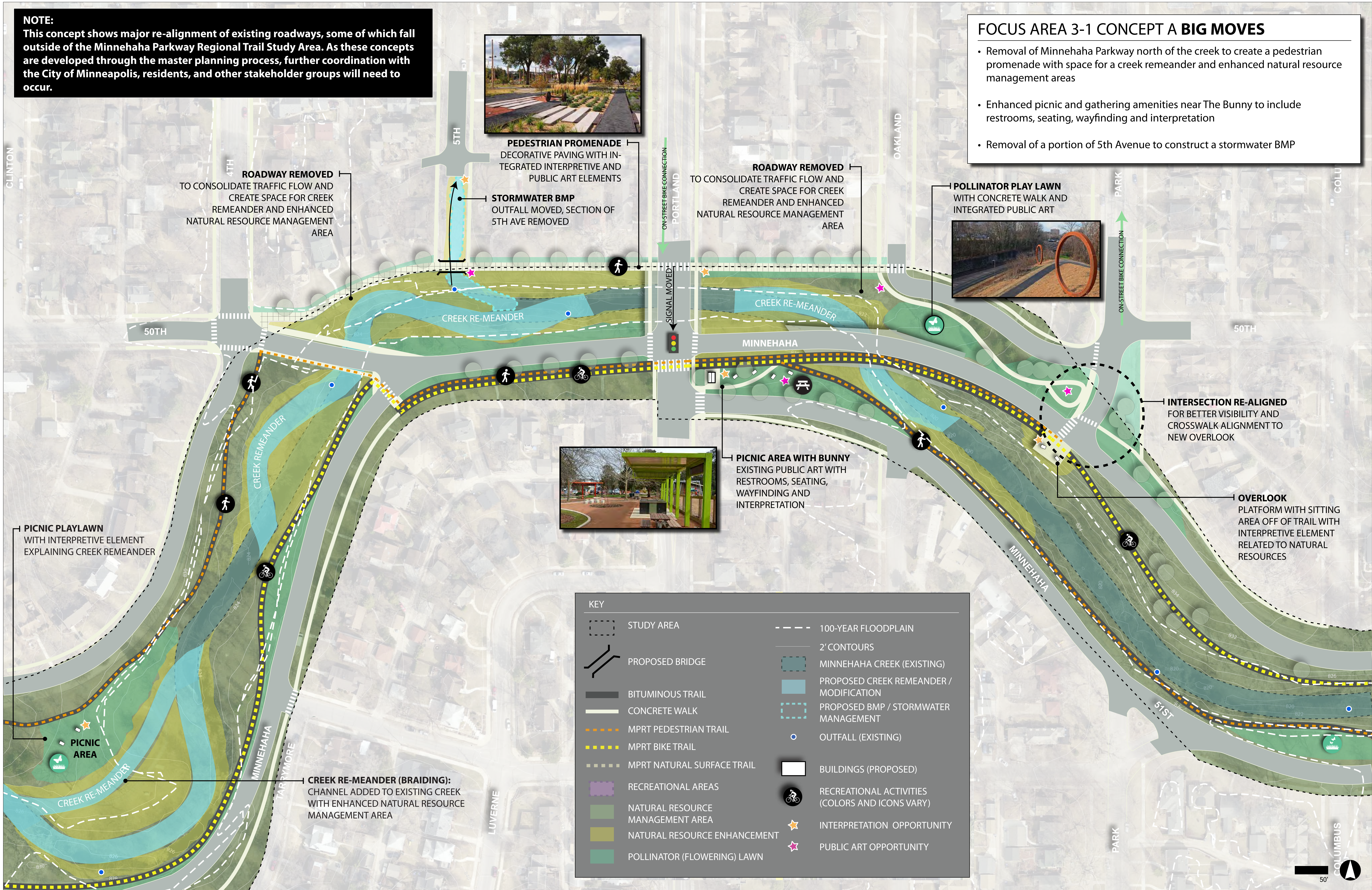
54TH



NOTE:
 This concept shows major re-alignment of existing roadways, some of which fall outside of the Minnehaha Parkway Regional Trail Study Area. As these concepts are developed through the master planning process, further coordination with the City of Minneapolis, residents, and other stakeholder groups will need to occur.

FOCUS AREA 3-1 CONCEPT A BIG MOVES

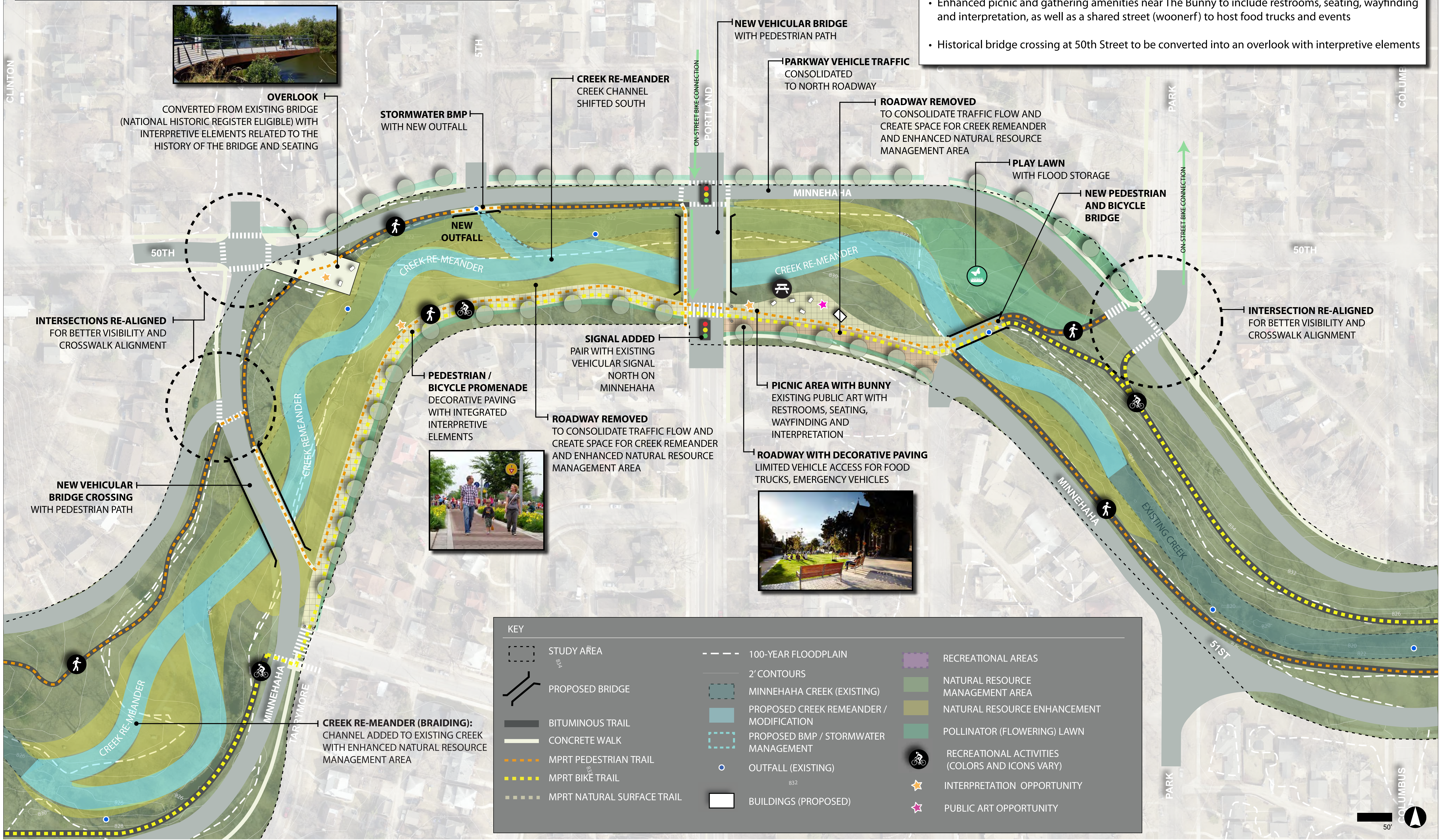
- Removal of Minnehaha Parkway north of the creek to create a pedestrian promenade with space for a creek remainder and enhanced natural resource management areas
- Enhanced picnic and gathering amenities near The Bunny to include restrooms, seating, wayfinding and interpretation
- Removal of a portion of 5th Avenue to construct a stormwater BMP



NOTE:
 This concept shows major re-alignment of existing roadways, some of which fall outside of the Minnehaha Parkway Regional Trail Study Area. As these concepts are developed through the master planning process, further coordination with the City of Minneapolis, residents, and other stakeholder groups will need to occur.

FOCUS AREA 3-1 CONCEPT B BIG MOVES

- Removal of Minnehaha Parkway south of the creek to create a pedestrian promenade with space for a creek remeander and enhanced natural resource management areas
- Enhanced picnic and gathering amenities near The Bunny to include restrooms, seating, wayfinding and interpretation, as well as a shared street (woonerf) to host food trucks and events
- Historical bridge crossing at 50th Street to be converted into an overlook with interpretive elements



KEY					
	STUDY AREA		100-YEAR FLOODPLAIN		RECREATIONAL AREAS
	PROPOSED BRIDGE		2' CONTOURS		NATURAL RESOURCE MANAGEMENT AREA
	BITUMINOUS TRAIL		MINNEHAHA CREEK (EXISTING)		NATURAL RESOURCE ENHANCEMENT
	CONCRETE WALK		PROPOSED CREEK REMEANDER / MODIFICATION		POLLINATOR (FLOWERING) LAWN
	MPRT PEDESTRIAN TRAIL		PROPOSED BMP / STORMWATER MANAGEMENT		RECREATIONAL ACTIVITIES (COLORS AND ICONS VARY)
	MPRT BIKE TRAIL		OUTFALL (EXISTING)		INTERPRETATION OPPORTUNITY
	MPRT NATURAL SURFACE TRAIL		BUILDINGS (PROPOSED)		PUBLIC ART OPPORTUNITY

KEY

	STUDY AREA		100-YEAR FLOODPLAIN
	PROPOSED BRIDGE		2' CONTOURS
	BITUMINOUS TRAIL		MINNEHAHA CREEK (EXISTING)
	CONCRETE WALK		PROPOSED CREEK RE-MEANDER / MODIFICATION
	MPRT PEDESTRIAN TRAIL		PROPOSED BMP / STORMWATER MANAGEMENT
	MPRT BIKE TRAIL		OUTFALL (EXISTING)
	MPRT NATURAL SURFACE TRAIL		BUILDINGS (PROPOSED)
	RECREATIONAL AREAS		RECREATIONAL ACTIVITIES (COLORS AND ICONS VARY)
	NATURAL RESOURCE MANAGEMENT AREA		INTERPRETATION OPPORTUNITY
	NATURAL RESOURCE ENHANCEMENT		PUBLIC ART OPPORTUNITY
	POLLINATOR (FLOWERING) LAWN		

- ### FOCUS AREA 3-2 BIG MOVES
- New pedestrian bridge crossing at 10th Avenue
 - Speed table installed at 12th Avenue to slow traffic and increase visibility of bicyclists and pedestrians
 - Stairway from 12th Avenue bridge to pathways and overlooks alongside a multi-cell treatment train BMP
 - Removal of pedestrian trail section west of 14th Avenue to allow for creek re-meander, BMPs and enhanced natural resource management areas
 - Overlook with interpretive elements along the pedestrian path and pollinator play lawn west of 12th Avenue



SPEED TABLE:
RAISED INTERSECTION WITH HIGH VISIBILITY CROSSWALKS TO SERVE AS TRAFFIC CALMING

NEW PEDESTRIAN BRIDGE
INTERPRETIVE ELEMENT AT THE PEDESTRIAN AND BICYCLE TRAIL CROSSING AND HIGH VISIBILITY CROSSWALK CONNECTING TO NEIGHBORHOOD

PEDESTRIAN TRAIL RE-ROUTED
TO SOUTH SIDE OF CREEK WITH NEW PEDESTRIAN BRIDGE

STORMWATER BMP
OUTLET MOVED

STORMWATER BMP
OUTLETS MOVED

NEW PEDESTRIAN BRIDGE
INTERPRETIVE ELEMENT AT THE PEDESTRIAN AND BICYCLE TRAIL CROSSING AND HIGH VISIBILITY CROSSWALK CONNECTING TO NEIGHBORHOOD

CREEK RE-MEANDER (BRAIDING):
CHANNEL ADDED TO EXISTING CREEK WITH ENHANCED NATURAL RESOURCE MANAGEMENT AREA

POLLINATOR PLAY LAWN



OVERLOOK
ACCESSED FROM PEDESTRIAN TRAIL WITH INTERPRETIVE ELEMENTS

NEW STAIRWAY
CONNECTING TO TRAIL AND 12TH AVENUE BRIDGE

STORMWATER BMP
MULTI-CELL BMP (CASCAING POOLS) AND WITH TRAIL OVERLOOKS ALONG THE PERIMETER WITH INTERPRETIVE ELEMENTS INTEGRATED

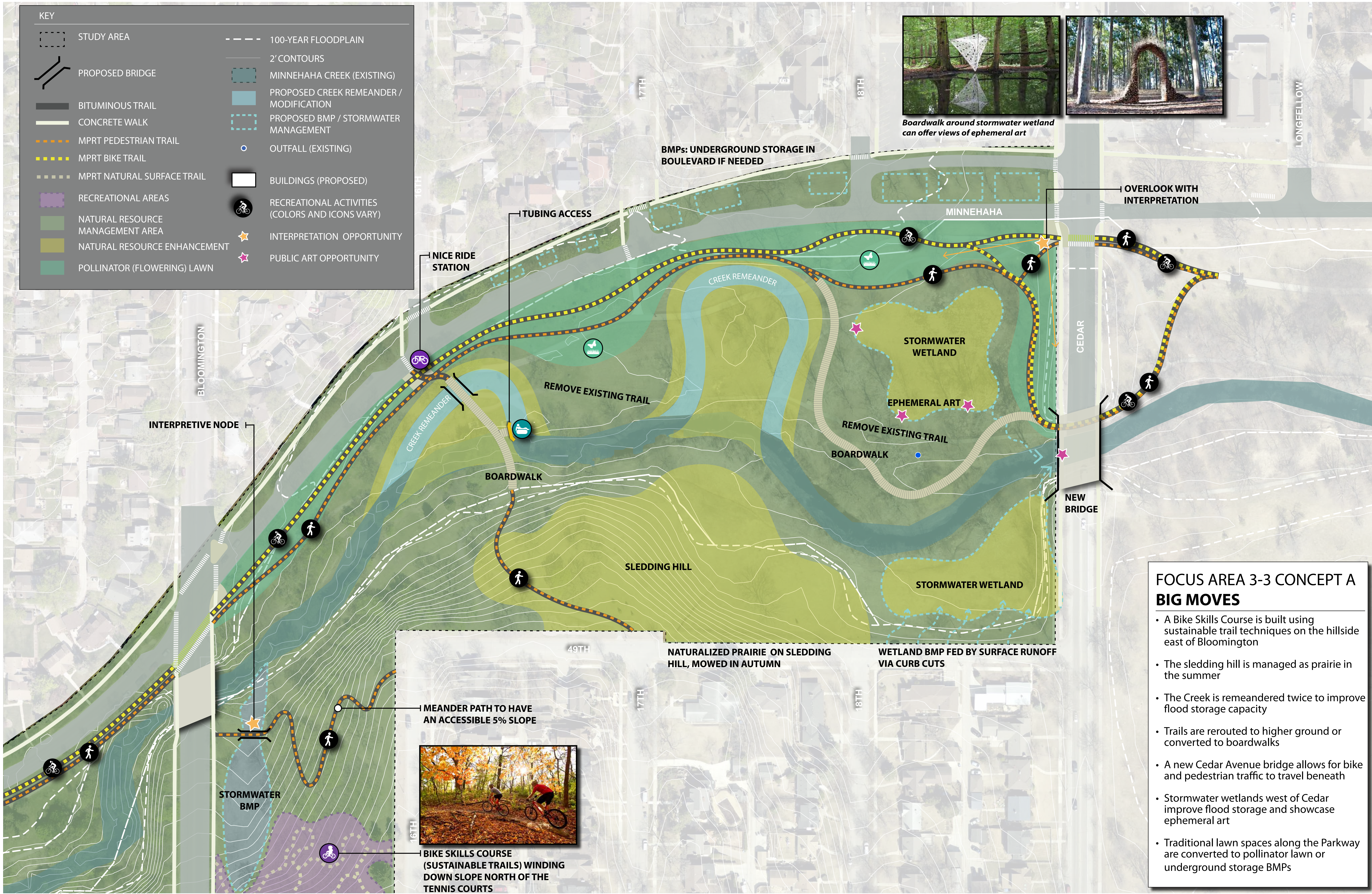


BMP: STORMWATER
OUTLET MOVED



KEY

-  STUDY AREA
-  PROPOSED BRIDGE
-  BITUMINOUS TRAIL
-  CONCRETE WALK
-  MPRT PEDESTRIAN TRAIL
-  MPRT BIKE TRAIL
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-  NATURAL RESOURCE MANAGEMENT AREA
-  NATURAL RESOURCE ENHANCEMENT
-  POLLINATOR (FLOWERING) LAWN
-  100-YEAR FLOODPLAIN
-  2' CONTOURS
-  MINNEHAHA CREEK (EXISTING)
-  PROPOSED CREEK REMEANDER / MODIFICATION
-  PROPOSED BMP / STORMWATER MANAGEMENT
-  OUTFALL (EXISTING)
-  BUILDINGS (PROPOSED)
-  RECREATIONAL ACTIVITIES (COLORS AND ICONS VARY)
-  INTERPRETATION OPPORTUNITY
-  PUBLIC ART OPPORTUNITY



**FOCUS AREA 3-3 CONCEPT A
BIG MOVES**

- A Bike Skills Course is built using sustainable trail techniques on the hillside east of Bloomington
- The sledding hill is managed as prairie in the summer
- The Creek is remeandered twice to improve flood storage capacity
- Trails are rerouted to higher ground or converted to boardwalks
- A new Cedar Avenue bridge allows for bike and pedestrian traffic to travel beneath
- Stormwater wetlands west of Cedar improve flood storage and showcase ephemeral art
- Traditional lawn spaces along the Parkway are converted to pollinator lawn or underground storage BMPs



BIKE SKILLS COURSE (SUSTAINABLE TRAILS) WINDING DOWN SLOPE NORTH OF THE TENNIS COURTS

KEY

-  STUDY AREA
-  PROPOSED BRIDGE
-  BITUMINOUS TRAIL
-  CONCRETE WALK
-  MPRT PEDESTRIAN TRAIL
-  MPRT BIKE TRAIL
-  MPRT NATURAL SURFACE TRAIL
-  RECREATIONAL AREAS
-  NATURAL RESOURCE MANAGEMENT AREA
-  NATURAL RESOURCE ENHANCEMENT
-  POLLINATOR (FLOWERING) LAWN
-  100-YEAR FLOODPLAIN
-  2' CONTOURS
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-  OUTFALL (EXISTING)
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-  PUBLIC ART OPPORTUNITY



PICNIC/PLAY LAWN



NATURE PLAY AREA
-NATURE PLAY WITH LOOSE PARTS
-INTERPRETATION ABOUT CREEK REMEANDERS AND HISTORY
-NEW PICNIC SHELTER WITH RESTROOMS



Art installations visible from new boardwalk



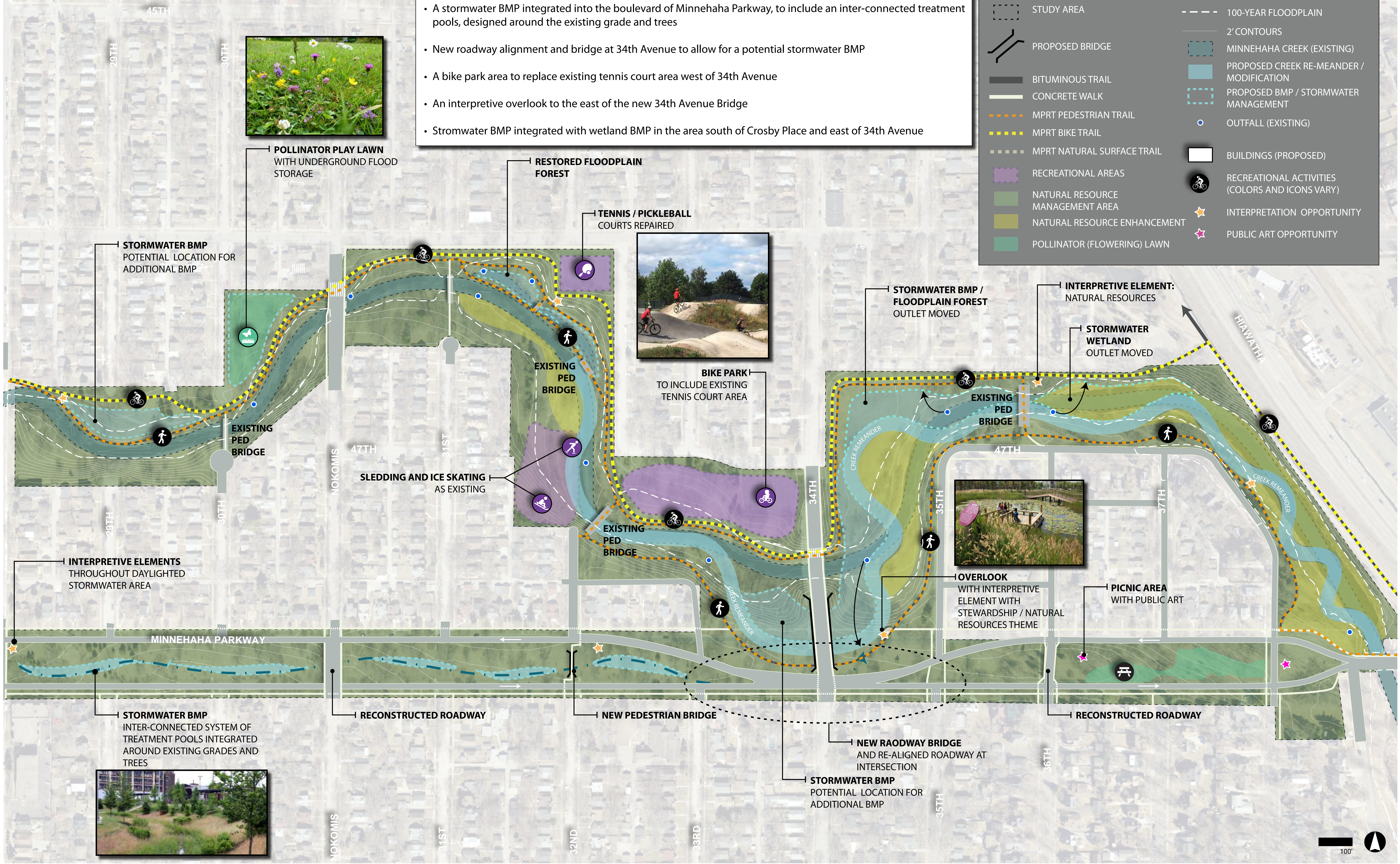
FOCUS AREA 3-3 CONCEPT B BIG MOVES

- A nature play area, paddle access, picnic shelter, and restrooms anchor the north side of the Creek near 17th
- Traditional turf areas along the creek are converted to pollinator lawn
- The Creek is re-meandered once to improve flood storage capacity
- The bike trail is rerouted to higher ground. Pedestrian trails (paved, natural surface, and boardwalk) are available on both sides of the Creek
- A new Cedar Avenue bridge allows for bike and pedestrian traffic to travel beneath
- Wet Meadows and BMPs along the Creek improve water quality, provide habitat, and offer diverse settings to trail users
- A new fishing access point is created east of Cedar

FOCUS AREA 4-1 CONCEPT A **BIG MOVES**

- A stormwater BMP integrated into the boulevard of Minnehaha Parkway, to include an inter-connected treatment pools, designed around the existing grade and trees
- New roadway alignment and bridge at 34th Avenue to allow for a potential stormwater BMP
- A bike park area to replace existing tennis court area west of 34th Avenue
- An interpretive overlook to the east of the new 34th Avenue Bridge
- Stormwater BMP integrated with wetland BMP in the area south of Crosby Place and east of 34th Avenue

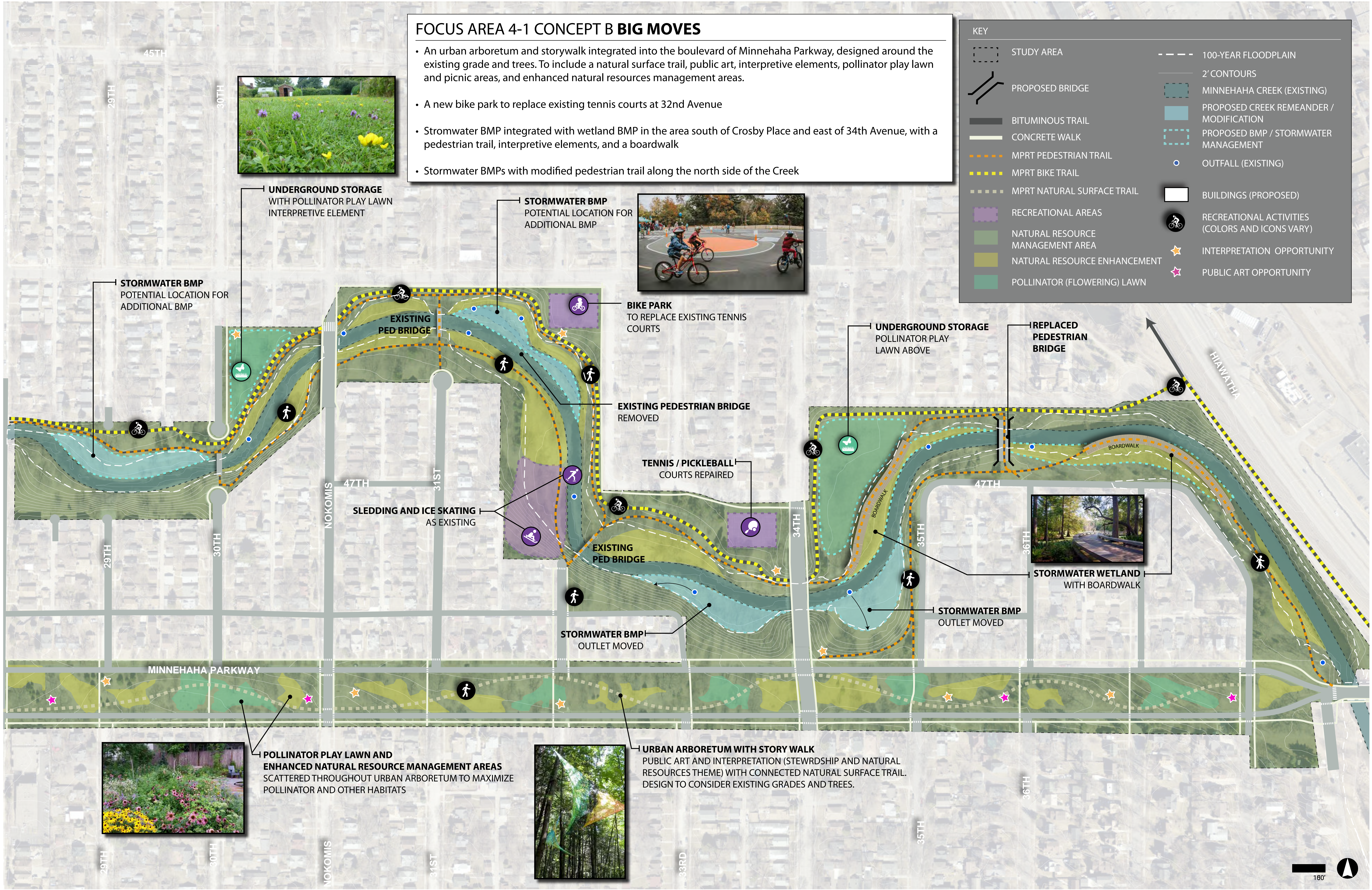
KEY	
	STUDY AREA
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	PROPOSED BRIDGE
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	OUTFALL (EXISTING)
	BUILDINGS (PROPOSED)
	RECREATIONAL ACTIVITIES (COLORS AND ICONS VARY)
	INTERPRETATION OPPORTUNITY
	PUBLIC ART OPPORTUNITY



FOCUS AREA 4-1 CONCEPT B BIG MOVES

- An urban arboretum and storywalk integrated into the boulevard of Minnehaha Parkway, designed around the existing grade and trees. To include a natural surface trail, public art, interpretive elements, pollinator play lawn and picnic areas, and enhanced natural resources management areas.
- A new bike park to replace existing tennis courts at 32nd Avenue
- Stormwater BMP integrated with wetland BMP in the area south of Crosby Place and east of 34th Avenue, with a pedestrian trail, interpretive elements, and a boardwalk
- Stormwater BMPs with modified pedestrian trail along the north side of the Creek

KEY			
	STUDY AREA		100-YEAR FLOODPLAIN
	PROPOSED BRIDGE		2' CONTOURS
	BITUMINOUS TRAIL		MINNEHAHA CREEK (EXISTING)
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	NATURAL RESOURCE ENHANCEMENT		PUBLIC ART OPPORTUNITY
	POLLINATOR (FLOWERING) LAWN		



UNDERGROUND STORAGE WITH POLLINATOR PLAY LAWN INTERPRETIVE ELEMENT



BIKE PARK TO REPLACE EXISTING TENNIS COURTS



STORMWATER WETLAND WITH BOARDWALK



POLLINATOR PLAY LAWN AND ENHANCED NATURAL RESOURCE MANAGEMENT AREAS SCATTERED THROUGHOUT URBAN ARBORETUM TO MAXIMIZE POLLINATOR AND OTHER HABITATS



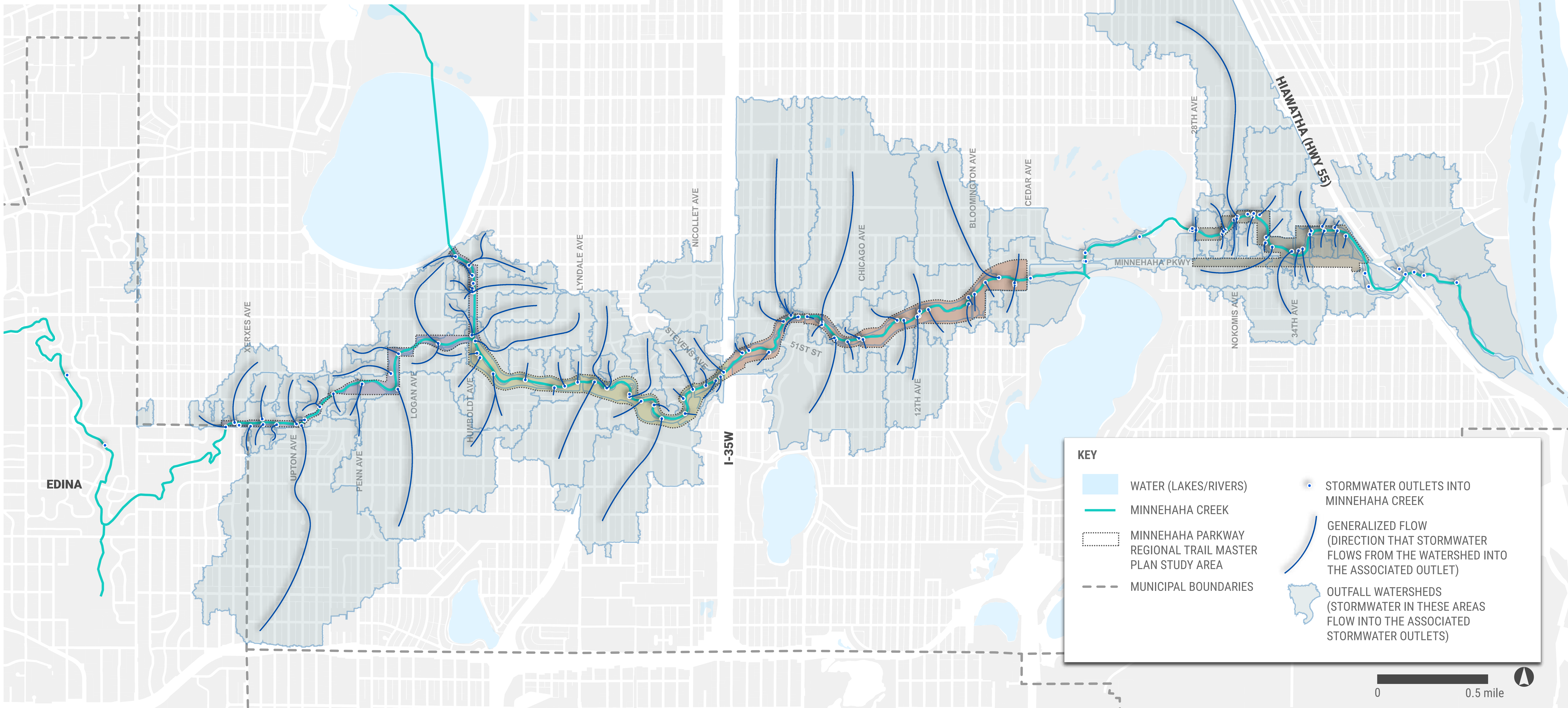
URBAN ARBORETUM WITH STORY WALK PUBLIC ART AND INTERPRETATION (STEWDRSHIP AND NATURAL RESOURCES THEME) WITH CONNECTED NATURAL SURFACE TRAIL. DESIGN TO CONSIDER EXISTING GRADES AND TREES.



OUTFALLS AND PIPESHEDS: WHY DO THEY MATTER?

Outfalls are locations where runoff enters the Creek. The map below shows the area that each outfall drains.

CORRIDOR-WIDE OUTFALL AND PIPESHED MAP



By implementing BMPs and remeandering the creek in strategic locations, we can make the corridor more resilient to flooding (which is projected to happen more frequently and severely over the coming decades), and better store, infiltrate, and clean stormwater to improve water quality.

BEST MANAGEMENT PRACTICES (BMPs): WHAT ARE THEY?

Structural, vegetative, or managerial practices that treat, prevent, or reduce pollution in a water body.

STORMWATER BMPs

Originally, stormwater management addressed potential flooding issues only, and meant moving as much water as possible (volume) off the landscape as quickly as possible (rate). Today, stormwater management has evolved to integrate several additional factors. While still addressing potential flooding, stormwater management today means reducing volumes sent downstream by infiltrating and storing stormwater, reducing rates by filtering and increasing storage, and integrating opportunities to address water quality, conservation, habitat and recreational considerations.



BIORETENTION BASINS (RAINGARDENS)



DETENTION BASINS



MULTI-CELL BMP

UNDERGROUND STORAGE SYSTEMS

Underground storage systems directly contribute to addressing stormwater volume and rate issues by capturing and storing stormwater collected from surrounding impervious areas. Underground storage systems are an effective alternative to surface ponds in areas where space is at a premium, i.e., in urban and park areas. With the stormwater facility below ground, the space above the facility can be used in a normal manner, such as park land.



UNDERGROUND STORAGE SYSTEMS

POLLINATOR PLAY LAWN (HABITATS)

Pollinators are animals that move pollen from the male part of a plant's flower to the female part of the same or another plant, resulting in fertilization. This movement of pollen is necessary for the production of fruits, seeds, and young plants with root systems that stabilize soil and prevent erosion, buffer waterways, store carbon and provide habitat. Bees, butterflies, beetles, moths, bats and birds comprise many of the important species of pollinators. The native plants that comprise pollinator gardens enhance the aesthetics of a park, improving recreational opportunities.



POLLINATOR HABITATS

CREEK RE-MEANDER

The meandering, or curving of a stream is an important factor in the stream's physical (erosion and sediment deposition) and ecological dynamics (habitat). Re-meandering a stream can increase sinuosity (the degree of meandering), which effectively reduces the slope of the stream. A reduction in slope can result in a slowing of streamflow velocities, effectively reducing bank and streambed erosion. Additional natural features can be brought in to enhance stability and habitat, including root wads, rock veins, cedar tree revetments, and others.



CREEK RE-MEANDER EXAMPLES

STORMWATER WETLAND

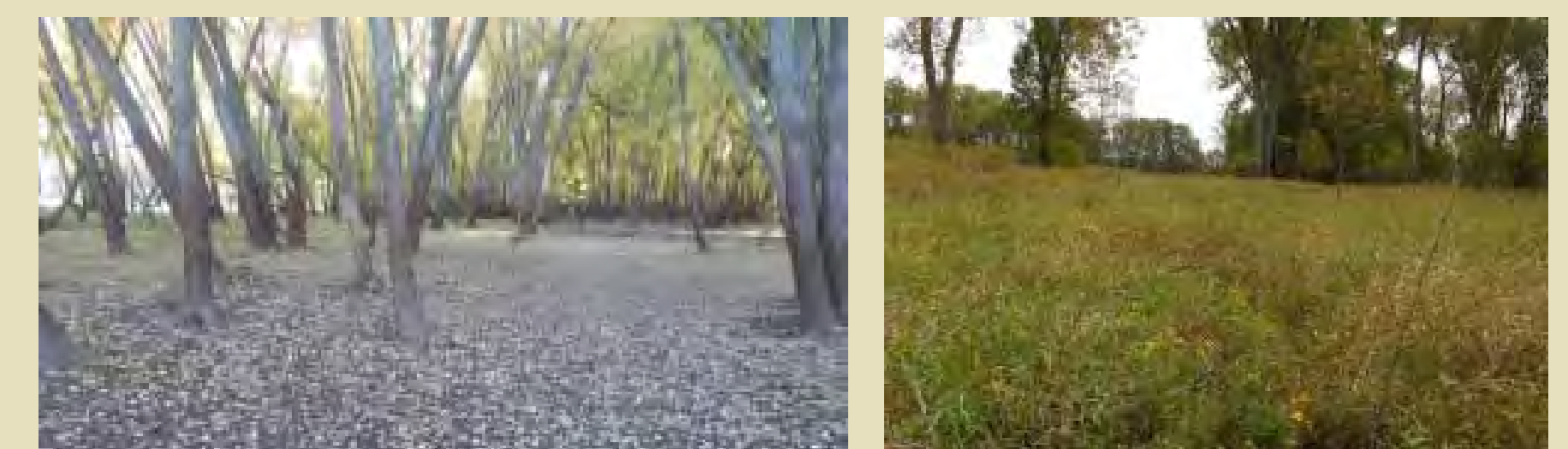
Stormwater wetlands are constructed stormwater management practices that are considered an end-of-pipe best management practice to address water quantity and water quality issues. The storage capacity provided by stormwater wetlands can help reduce downstream stormwater volumes as well as peak runoff rates. Stormwater wetlands offer high pollutant removal efficiencies for pollutants and particulates, including nitrogen, phosphorus, oil and grease – with relatively low maintenance costs.



STORMWATER WETLAND

RESTORED FLOODPLAIN FOREST

Floodplains are an integral part of healthy rivers and streams. They store and slow floodwaters, improve water quality, safeguard people and property, provide vital habitat, recharge groundwater, and provide unique opportunities for recreation. Organic matter from forested floodplains provide sources of energy for aquatic organisms. Shade from streamside vegetation moderates temperatures. Riparian vegetation reduces overland water flow and sediment transport. Nutrient uptake by floodplain vegetation decreases inputs of nutrients into the system.



MATURE (LEFT) AND NEWLY RESTORED (RIGHT) FLOODPLAIN FOREST

RESTORED WETLAND

Wetlands protect and improve water quality, provide fish and wildlife habitat, store floodwaters and attenuate downstream flooding, help maintain surface water flow during dry periods, and enhance recreational opportunities. Restoring wetlands that have been either removed or degraded to the extent that these services are diminished or altogether eliminated results in the reinstatement of these services.



RESTORED WETLAND