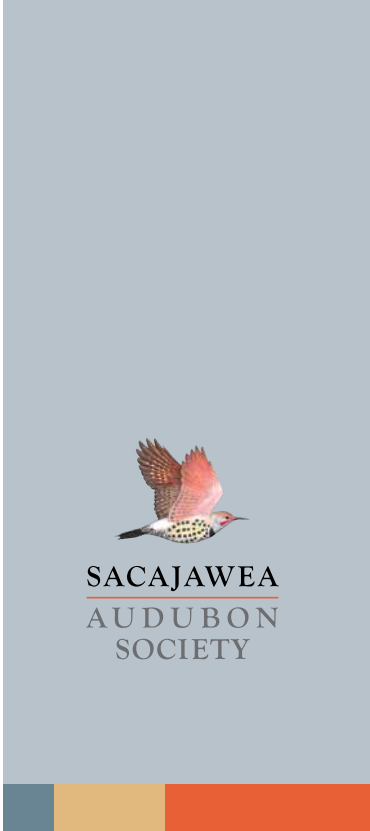


Photo looking northwest. Teesdale, Utah

INDRELAND AUDUBON WETLAND PRESERVE



SACAJAWEA
AUDUBON
SOCIETY

VISION 2.0

IMAGINE



Concept: Avery Howard, MSU



Concept: Tiffani Finley, MSU



Concept: Tiffani Finley, MSU

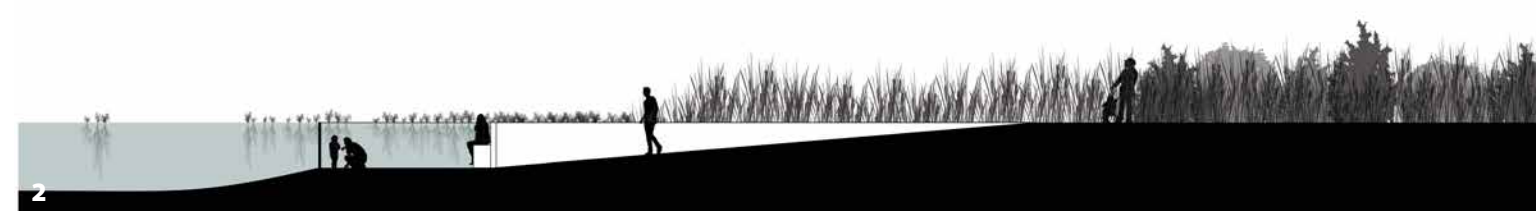


Concept: Tiffani Finley, MSU

IMAGINE being greeted at the east end of Bozeman by a beautiful wetland oasis teeming with birds and other wildlife. Through the tenacity and vision of Sacajawea Audubon Society (SAS) and the cooperation and generosity of Ileana Indreland and Mike Delaney, this dream is about to become reality after nearly 40 years of community-wide efforts.

In late 2018 and early 2019 SAS was gifted 32.4 acres of wetland property from Indreland and Delaney with assistance from John Murdoch. An additional approximately seven acres are in the process of being purchased. This entire 40+/-acre site has been designated the Indreland Audubon Wetland Preserve (IAWP).

Preliminary concepts shown in this document are for illustrative purposes only. Innovative ideas were provided by Montana State University School of Architecture students under the direction of Professor Bradford Watson.

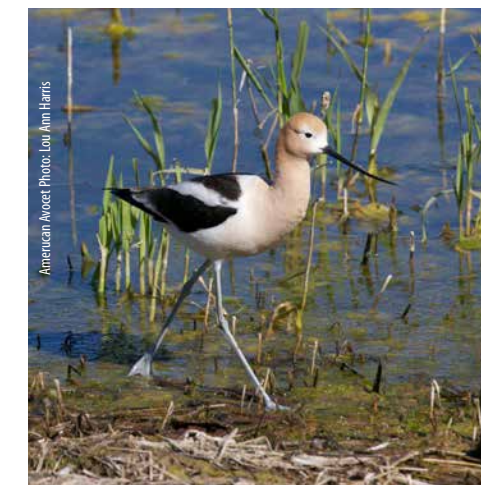


VISION STATEMENT

The Indreland Audubon Wetland Preserve (IAWP) was set aside by Sacajawea Audubon Society (SAS) to conserve and enhance a wetland community in an urban setting. The site will serve as an environmental study area offering education about wetland ecology accessible to all ages. SAS aims to document the effect of human influence on wetland communities and inspire the conservation, restoration, and enhancement of wetlands. SAS strives to have positive impacts on wetland conservation that extends beyond the Gallatin watershed.



Beaver Photo: Ronan Donovan



American Avocet Photo: Lou Ann Harris



Sandhill Crane Photo: Ronan Donovan

GOALS

Goal 1: Create a wetland community that serves as habitat for diverse wildlife species.

Goal 2: Monitor the site to ensure that management decisions do not adversely affect the wetland.

Goal 3: Showcase the role of beaver as a keystone species in creating wetland habitat.

Goal 4: Create educational opportunities to learn about hydrology, ecology and history.

Goal 5: Create a natural laboratory for scientific investigation.

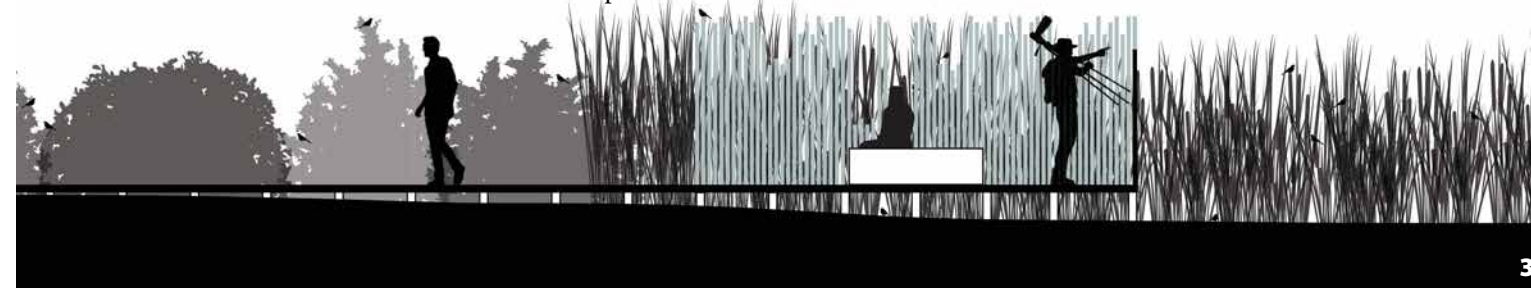
Goal 6: Encourage critical thinking about ecology and environmental issues.

Goal 7: Provide for visitor access and infrastructure consistent with conserving the wetland resource while offering a place of respite in an urban area.

Goal 8: Explore alternative methods of weed control, with the intent of avoiding the use of herbicide.

Goal 9: Contribute to wetland conservation in the Gallatin watershed by establishing a wetland bank.

Goal 10: Develop an outreach program that extends beyond the Gallatin watershed.





SACAJAWEA AUDUBON SOCIETY

SACAJAWEA AUDUBON SOCIETY (SAS) is a non-profit grassroots membership organization, serving the northern Greater Yellowstone Ecosystem of Montana since 1967. Through strong leadership, SAS has steadily grown to nearly 1000 members. SAS builds on an interest in birds to promote the conservation of our natural environment through enjoyment, education and action.

Conservation and education are central to SAS's mission. The IAWP provides a unique opportunity to be used as an outdoor educational resource in Gallatin County. Its proximity to Bozeman's vibrant downtown, Bozeman Health Campus, and Bozeman Public Library make it an ideal location to reach area residents, young and old.

SAS is an all-volunteer organization. Our 50+ years of success is built upon the shoulders of our exceptionally dedicated volunteers, who donate over 14,000 hours of their time each year. Through the commitment and passion of our membership, SAS is proud of our many accomplishments, a partial list of which is presented below.

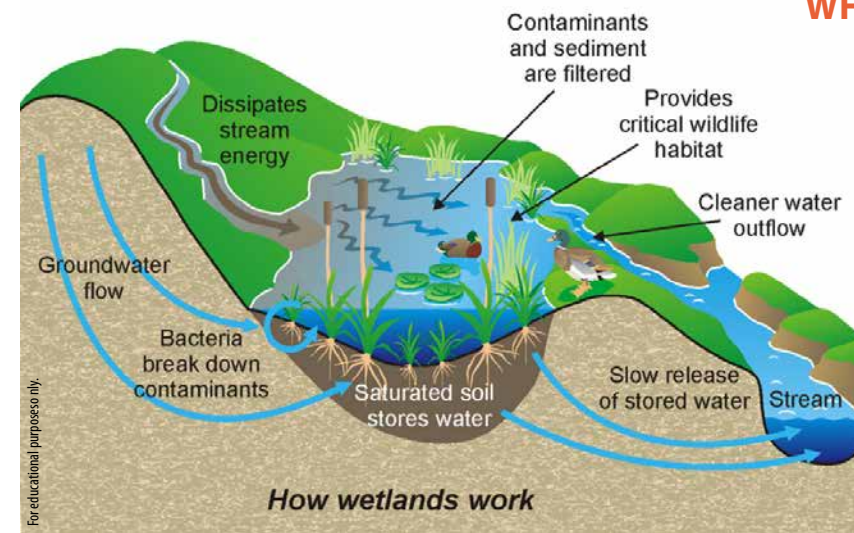
sacajaweaudubon.org



50+ YEARS OF ACCOMPLISHMENTS & COLLABORATION

- Annual World Migratory Bird Day Festival
- Annual Bridger Raptor Festival, educational activities and 30th anniversary Raptor Survey
- Missouri Headwaters State Park Peregrine Trail
- Bird-Friendly Landscaping and Invasive Weed Control
- 70+ American Kestrel nest boxes
- 300+ Mountain Bluebird nest boxes
- 20 field trips and 15 Bird Walks offered free to the public every year
- Collaborated with other organizations to create the East Gallatin Recreation Area, the Kirk Hill Nature Area, and the Lee Metcalf Wilderness Area

Over its many years, SAS has also forged strong and successful relationships with local and regional public, private and non-profit entities. These relationships are invaluable and will be key in this important project. The community enthusiasm for the entire scope of our vision for the IAWP is incredible!



WHERE HAVE ALL THE WETLANDS GONE?

NATIONAL WETLAND POLICY, under the Clean Water Act, requires that when wetlands are destroyed, they must be replaced or restored elsewhere; a process known as “mitigation.” Why aren't we seeing this in the Gallatin Valley? Where did all the wetlands go? Unfortunately, many of this valley's wetlands have been lost to development. As it stands, the lion's share of mitigation for our destroyed wetlands are replaced in a private “wetland bank” that is in a watershed outside the Gallatin Valley. Whenever this happens, our community forever loses these critical natural resources.

SACAJAWEA AUDUBON SOCIETY'S goal is to contribute to wetland conservation in the Gallatin watershed by establishing a “wetland bank” at IAWP for these three reasons:

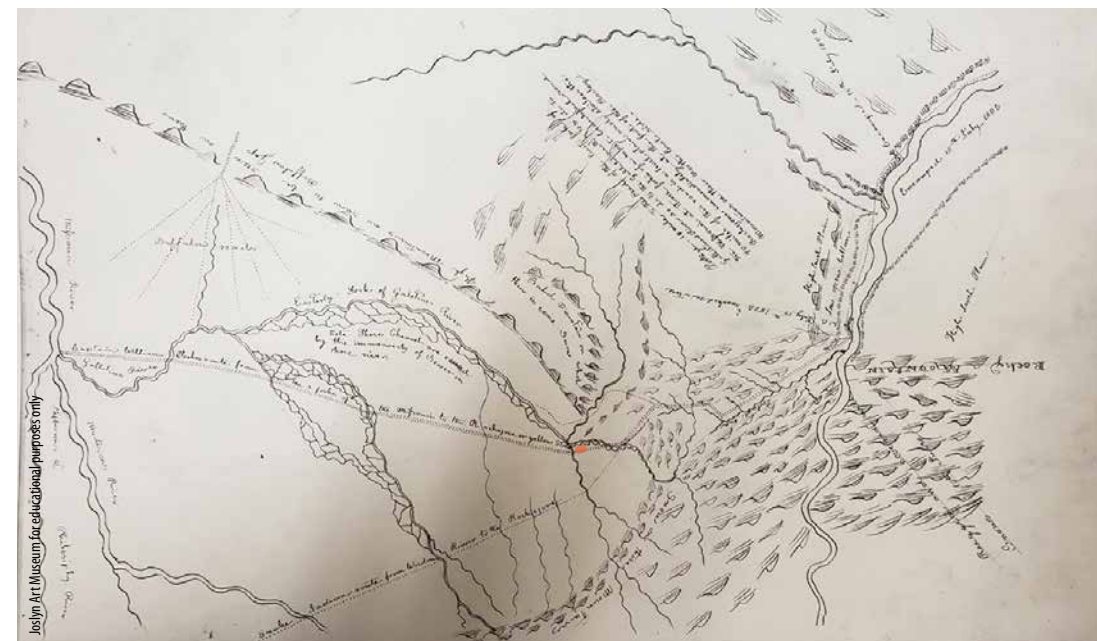
ECONOMICAL - Creating a financial incentive for restoring, creating, enhancing and/or preserving local wetlands, and returning funds spent on mitigation to the impacted community.

ECOLOGICAL - Restoring and enhancing critical wetland functions of wildlife habitat, soil quality and water quality. This will occur locally, for the benefit of the surrounding area.

EDUCATIONAL - Demonstrating methods to restore ecological function to wetlands and develop mitigation programs provides countless educational opportunities to learn about wildlife, conservation, and wetlands.

THE NATIVE AMERICANS that relied upon the abundant resources of the Gallatin Valley once knew it as the “Valley of Flowers.” Throughout recorded history this general area has been a travel corridor - from bison and game trails, to the Bozeman Trail, to railroads and now the interstate highway.

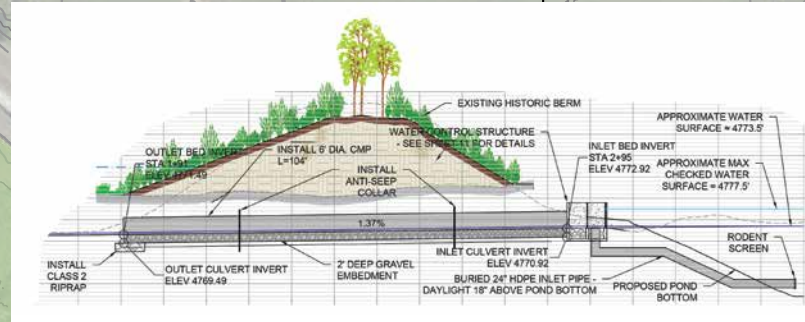
The IAWP goal to showcase the role of beaver as a keystone species in creating wetland habitat was inspired by Captain William Clark's journal entry July 14, 1806. There has been much discussion on how Clark's journal entry implies the Gallatin Valley was thick with beaver dams and multiple threaded river channels, making it impassable by boat. What is notable are his last words of the day, “much beaver Sign &c. Camped.”



This Clark-Maxamillian Map was drawn by Prince Maxamillian around 1810, four years after the completion of the Lewis and Clark Expedition. The map was made from Clark's notes, sketch maps and other information provided by Clark. The area in the center with all the braided river channels is the main and east fork of the Gallatin River. Approx. IAWP location is marked in orange

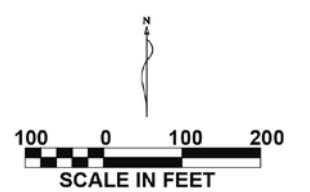
70% DESIGN CONCEPT PLAN

for illustrative purposes only v. 02/2021

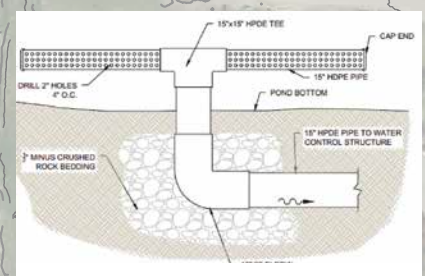
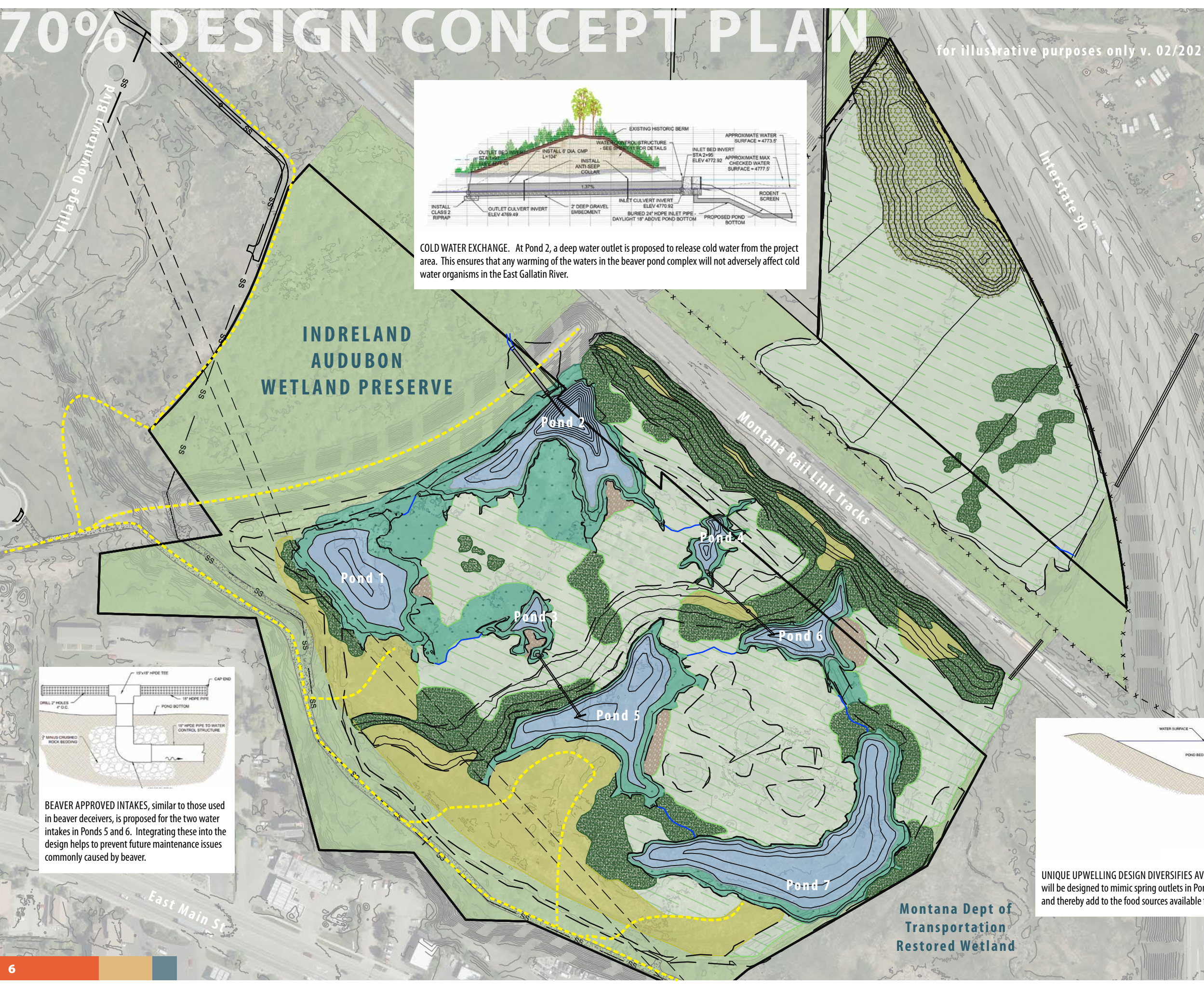


COLD WATER EXCHANGE. At Pond 2, a deep water outlet is proposed to release cold water from the project area. This ensures that any warming of the waters in the beaver pond complex will not adversely affect cold water organisms in the East Gallatin River.

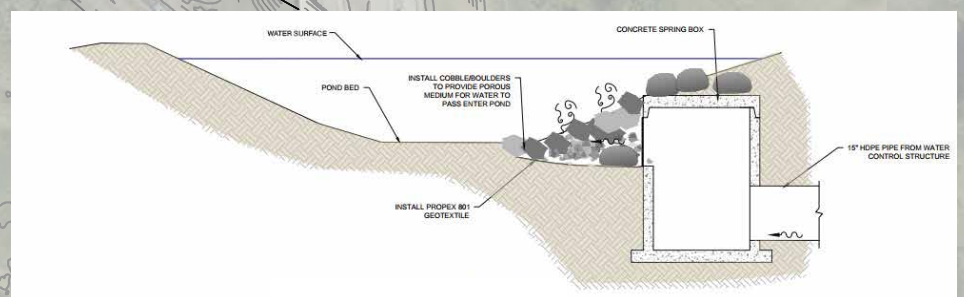
LEGEND	
	EXISTING CONTOUR MAJOR (10')
	EXISTING CONTOUR MINOR (2')
	PROPERTY BOUNDARY
	EXISTING FENCE
	EXISTING SEWER
	PROPOSED CONTOUR (2')
	PROPOSED CONNECTING SWALE
	PROPOSED GRADING EXTENT
	PROPOSED TRAIL
	PROPOSED ASPEN / COTTONWOOD
	PROPOSED SHRUBS
	PROPOSED WET MEADOW
	PROPOSED MARSH
	PROPOSED GRAVEL BAR
	PROPOSED OPEN WATER
	BERM WITH UPLAND VEGETATION
	PRESERVED AREA
	WATER CONVEYANCE STRUCTURE



INDRELAND AUDUBON WETLAND PRESERVE



BEAVER APPROVED INTAKES, similar to those used in beaver deceivers, is proposed for the two water intakes in Ponds 5 and 6. Integrating these into the design helps to prevent future maintenance issues commonly caused by beaver.



UNIQUE UPWELLING DESIGN DIVERSIFIES AVAILABLE HABITAT. The outlet of the culverts through the water control berm will be designed to mimic spring outlets in Ponds 3 and 4. This will provide additional habitat niches for macroinvertebrates and thereby add to the food sources available for waterfowl and wading birds.



Montana Dept of Transportation Restored Wetland



Marsh Wren Photo: Sandy Pittendriigh



Toad Photo: Benan Dopovan



Beaver Photo: Benan Dopovan

Key Partners in Wetland Preservation

DUCKS UNLIMITED is proud to be a partner with Sacajawea Audubon Society to help give wings to the Indreland Audubon Wetland Preserve. The vision to restore this vital wetland corridor to benefit wildlife and people and serve as a living classroom for generations to come, ties in perfectly with the Ducks Unlimited wetlands conservation mission.

MONTANA AQUATIC RESOURCES SERVICES (MARS) is honored to be a partner with the Sacajawea Audubon Society to protect and restore the Gallatin Valley's important wetlands. GALLATIN WATERSHED COUNCIL is excited to assist with community outreach and volunteer programming. The IAWP will inspire the hearts and minds of many, and is a model for watershed stewardship in an urban setting. The team at CONFLUENCE CONSULTING knows that this project is a good fit because of the inspired nature of the SAS Board, as well as their vision to transform the site based on the work of our region's greatest ecosystem architect – the beaver and their incredible wetland complexes. Major financial pledge provided by THE KENDEDA FUND.

THE WETLAND PRESERVATION PROJECT (WPP) was initiated to accomplish SAS's mission to protect and restore increasingly rare wetland habitat in our region, and to provide educational opportunities and enjoyment for generations to come. The IAWP is the first of our wetland protection projects.

Our fundraising goal is to raise \$6.6 million over the next two years. Our budget includes land acquisition, wetland restoration and enhancement, design and construction of a nature center, visitor amenities, and stewardship and long-term maintenance by SAS.

SAS Wetland Preservation Project Committee

- Chris Nixon – Chairperson chrisnixon@sacajaweaaudubon.org 406-544-4901
- Loreene Reid – Wetland Campaign loreener@sacajaweaaudubon.org 406-600-6666
- Billy Burton – Wetland Design billyburton@sacajaweaaudubon.org
- Travis Kidd – Wetland Education traviskidd@sacajaweaaudubon.org
- John Edwards – Committee Member johmedwards@sacajaweaaudubon.org
- Forrest Rowland – Committee Member forrestrowland@sacajaweaaudubon.org
- Aaron Clausen – Committee Member aaronclausen@sacajaweaaudubon.org
- Lilly Deford – Committee Member lillydeford@sacajaweaaudubon.org



We need your help to create the largest enhanced educational urban wetlands in Montana. Join us in creating this legacy!

bozemanwetlands.org

DREAM BIG



Concept: Jakub Galczynski, MSU



Concept: Tiffani Finley, MSU



Photo: Lou Ann Harris

WE ENVISION the wetlands as a gateway to conservation. The IAWP will provide unique opportunities for experiencing wildlife through use of strategically placed, non-obtrusive blinds and observation points, and “windows in the wetlands” to view aquatic activity.

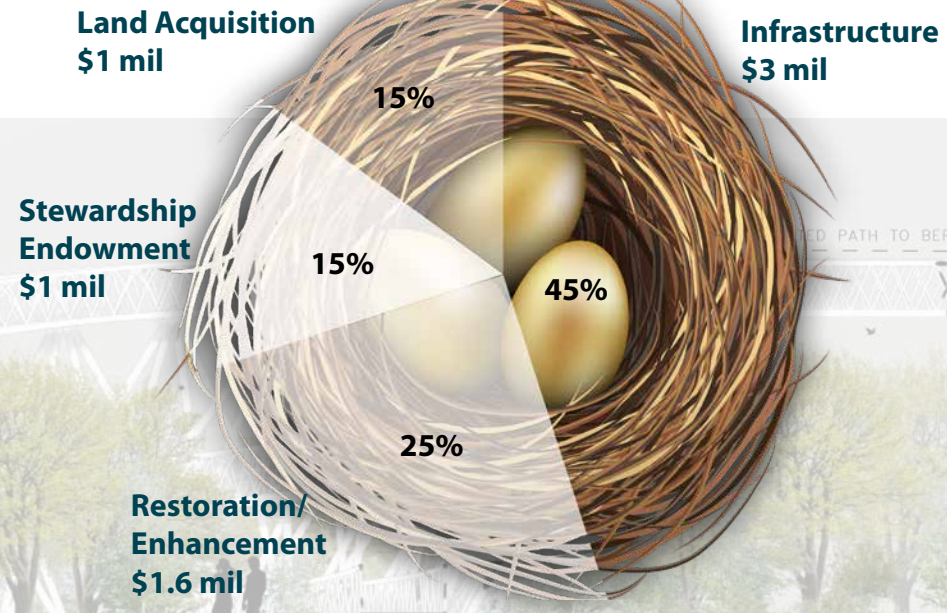
A nature center in Bozeman has been a community dream for decades. SAS plans to turn this dream into a reality by building an innovative, sustainable nature center of architectural importance in close proximity to the restored wetlands. Its size and scope will be dictated by community support and its location.

There is tremendous potential for building trail connectivity and safe wildlife corridors within and adjacent to the IAWP in the future.

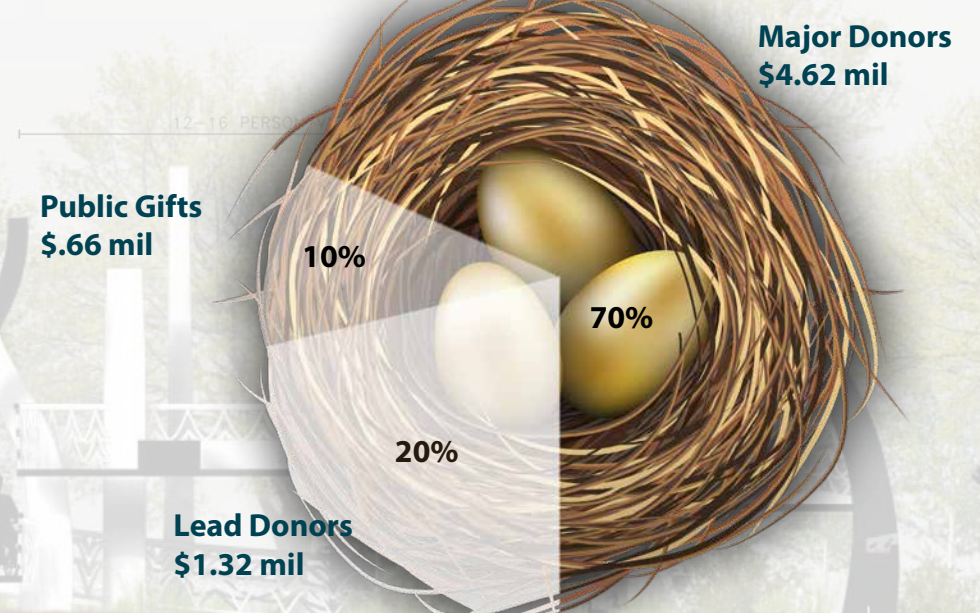
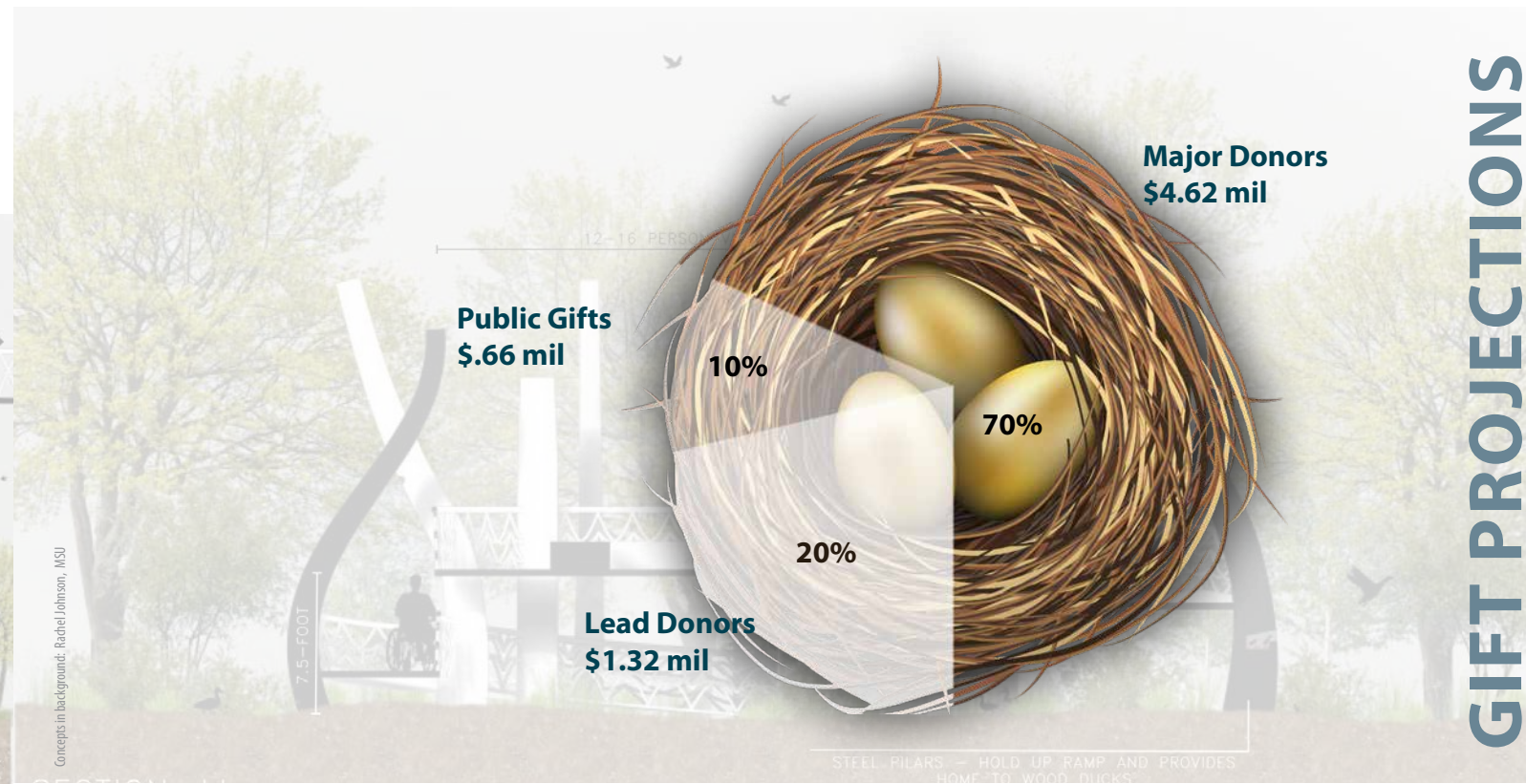


Concept: Avery Howard, MSU

BUDGET



Concepts in background: Rachel Johnson, MSU



GIFT PROJECTIONS

TIMELINE

2018-20 2021 2022 2023

Land Gifts

- Indreland /Delaney donate 24 +/- acres
- Indreland/Delaney & Murdoch Trust add adjacent 7 +/- acres to west



Campaign Readiness



Leadership Gift Phase



Major Gift Phase



Public Phase



Appreciation Phase

Land Acquisition

- Purchase additional 7-acre property to north



Design

- Complete intermediate restoration design to 70%
- Collaborate with City sewer line relocation



Design

- Complete design to 100%



Permitting

- Apply and secure necessary permits with relevant agencies

Wetland Banking

- Create instrument
- Secure Corps of Engineers approval



Construction Bids

- Bid package for construction contract
- Solicit 3 bids
- Select contractor



Restoration/Enhancement

- Coordinate with construction contractor
- Restoration and monitoring



Infrastructure

- Finish trails, blinds, view-points, platforms
- Provide interpretive signage
- Nature Center design and construction

FUNDING

PROJECT TASKS

Information subject to change without notice.



Photo looking east: Travis Kidd

INDRELAND AUDUBON WETLAND PRESERVE

SAS Board of Directors

- Chris Nixon – President
- John Edwards – Vice President
- Mary Schlosser – Treasurer
- Emma Narotzky – Secretary
- Billy Burton
- Aaron Clausen
- Travis Kidd
- Loreene Reid
- Forrest Rowland
- Vicki Saab



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