



CHARETTE SUMMARY REPORT

SR 429/SR 46 Wekiva Parkway

Final Design of Wekiva River Bridges

February 27, 2014

Financial Project ID: 238275-7-32-02
Lake and Seminole Counties

Prepared for: Florida Department of Transportation, District Five
Prepared by: Figg Bridge Engineers, Inc.





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TABLE OF CONTENTS

	Page No.
TABLE OF CONTENTS	i – iii
1.0 EXECUTIVE SUMMARY	1-1
1.1 Introduction, Goals and Objectives	1-1
1.2 Description	1-2
1.2.1 Bridge Design Workshop	1-2
1.2.2 Final Bridge Design Charette 1	1-2
1.2.3 Final Bridge Design Charette 2	1-3
1.3 Summary of Bridge Preferences Selected.....	1-4
1.3.1 Final Bridge Design Charette 1	1-4
1.3.2 Final Bridge Design Charette 2	1-4
1.4 Bridge Renderings Incorporating Preferences Selected	1-5
2.0 BRIDGE DESIGN WORKSHOP	2-1
2.1 Participant Comments on Native Environment	2-1
2.2 Participant Comments on Important Aspects of the Bridge	2-2
2.3 Participant Comments on Other Suggestions	2-5
3.0 FINAL BRIDGE DESIGN CHARETTE 1	3-1
3.1 Bridge Theme.....	3-1
3.1.1 Description of Options	3-1
3.1.2 Voting Results	3-1



TABLE OF CONTENTS (continued)

3.1.3	Participant Comments on Bridge Theme Preferences.....	3-1
3.2	Bridge Style Preferences	3-3
3.2.1	Description of Options	3-3
3.2.2	Voting Results	3-4
3.2.3	Participant Comments on Bridge Style Preferences	3-5
3.3	Outstandingly Remarkable Value (ORV) Initiatives	3-8
3.3.1	Participant Comments on ORV	3-8
3.4	Participant Comments on Charette.....	3-11
4.0	FINAL BRIDGE DESIGN CHARETTE 2	4-1
4.1	Bridge Pier Shape	4-1
4.1.1	Description of Options	4-1
4.1.2	Voting Results	4-2
4.1.3	Participant Comments on Pier Concept Preferences.....	4-4
4.2	Bridge Color	4-7
4.2.1	Description of Options	4-7
4.2.2	Voting Results	4-7
4.2.3	Participant Comments on Bridge Color Preferences	4-8
4.3	Bridge Railing for Multi-Use Trail	4-11
4.3.1	Description of Options	4-11
4.3.2	Voting Results	4-11
4.3.3	Participant Comments on Bridge Railing Preference for Multi-Use Trail	4-12



TABLE OF CONTENTS (continued)

APPENDICES

Bridge Design Workshop

- A. Sign-In Sheets
- B. Agenda
- C. Presentation
- D. Display Banners
- E. Participant Comment Forms

Final Bridge Design Charette 1

- F. Sign-In Sheets
- G. Agenda
- H. Presentation
- I. Display Banners
- J. Participant Comment Forms

Final Bridge Design Charette 2

- K. Sign-In Sheets
- L. Agenda
- M. Presentation
- N. Display Banners
- O. Participant Comment Forms

1.0 EXECUTIVE SUMMARY

1.1 Introduction, Goals and Objectives

This Charette Summary Report highlights the process and results of a Bridge Design Workshop and two (2) Bridge Design Charettes for the Final Design of the Wekiva River Bridges. A Bridge Design Workshop started the process and was held with the National Park Service (NPS) and Florida Department of Transportation (FDOT).

Following the Bridge Design Workshop, two FIGG Bridge Design Charettes were held with the NPS and Wekiva stakeholders. Each Charette provided a full day of discussion and voting on aesthetic concepts for the proposed Wekiva River Bridges. The process of discussing and determining these aesthetic concept options is called a Design Charette which is like a workshop where consensus preferences are determined by the participating stakeholders.



Schematic of Bridge Design Charette

The goals of this process were:

- Gain input from the stakeholders through open communications throughout design
- Through the Design Charettes, participants come together to select key aesthetic features and incorporate Outstandingly Remarkable Values (ORV's) for the new bridge

The objectives of this process were:

- Develop a solution that recognizes and protects the Outstandingly Remarkable Values (ORV's) of the Wekiva River
- Achieve a design that allows for streamlined Section 7(a) approval
- Create a bridge that is beautiful, functional and complements the landscape with context sensitive design while minimizing contrast

1.2 Description

1.2.1 Bridge Design Workshop

The Bridge Design Workshop was held on June 18, 2013 at the FDOT Urban Office located in Orlando, Florida starting at 2:00 p.m. ET. The FDOT hosted the workshop, with help from consultants FIGG Bridge Engineers, Inc. and GAI Consultants, Inc. Participants included the NPS and the Florida Department of Environmental Protection, and other interested organizations. A copy of the sign-in sheets for the Workshop can be found in Appendix A.

Large banners placed around the room displayed images of various bridge types and aesthetic elements of example features used on other bridges. Participants were encouraged to review the banners as they entered the room and throughout the day, to assist them in discussions concerning developing ideas for project themes and bridge features.

The Workshop began with several presentations including an overview of the goals and objectives for the design of the proposed Wekiva River Bridges, bridge layout and geometry and elements contributing to aesthetically pleasing bridges. The presentations were followed by group discussions on the subject matter presented and then by smaller group brainstorming sessions. During the brainstorming discussions, lists were developed on possible thematic consideration for the aesthetic features. After a presentation of all of the group theme ideas, the Workshop concluded with a discussion of the next steps in the process. A copy of the Agenda can be found in Appendix B. A copy of the presentation can be found in Appendix C and photos of the display banners can be found in Appendix D. The comment forms submitted by the participants are located in Appendix E.

1.2.2 Final Bridge Design Charette 1

Final Design Charette 1 was held on December 11, 2013 in Deland, Florida at the FDOT District 5 Office. The Charette was attended by members of the NPS, Florida Department of Environmental Protection and other interested organizations similar to the Workshop.

As participants arrived at the Charette, they were asked to sign in. There were a total of 32 attendees including participants, FDOT and consultants. A copy of the sign in sheets is included in Appendix F. Inside the Charette presentation room, tables and chairs were arranged to seat six people per table (to allow optimal viewing) with participant notebooks, including agendas and note taking material for each participant. An agenda is included in Appendix G.

The Project Theme and the Bridge Style Preferences were the items discussed at this Charette. Large banners placed around the room displayed images of each of

the four (4) key themes along with other bridge elements to be discussed during the Charette. Participants were encouraged to review the banners as they entered the room and throughout the day, to assist them with selecting their preferences. Photographs of the banners are included in Appendix I.

During the Charette, the attendees were given a brief overview of the project site by video and photographs, site characteristics, and general layout. Then various options were presented and attendees were given time to have open discussion and express opinions about each topic. At the completion of each section, copies of the presentation were distributed to participants to insert into their notebooks for future reference. The presentation is included in Appendix H of this report.

At the conclusion of discussions on each topic, a preference form was distributed to all voting participants. The preferences chosen were shared with all the participants throughout the day.

The preference forms provided space for participants to write in comments or additional thoughts on each topic. All voting forms and written comments were kept for future reference. Copies of the voting forms are included in Appendix J of this report.

1.2.3 Final Bridge Design Charette 2

Final Design Charette 2 was held on January 28, 2014 in Deland, Florida at the FDOT District 5 Office. The Charette was attended by members of the NPS, the Florida Department of Environmental Protection, other interested organizations and several members of the local community.

As was the case for the first Charette, as participants arrived at the Charette, they were asked to sign in. There were a total of 30 attendees including participants, FDOT and consultants. A copy of the sign in sheets is included in Appendix K. Inside the Charette presentation room, tables and chairs were arranged to seat six people per table (to allow optimal viewing) with participant notebooks, including agendas and note taking material. An agenda is included in Appendix L.

Pier concepts, bridge color and bridge railing options were discussed at the second Charette. Large banners placed around the room displayed images of each of these bridge elements and voting options to be discussed during the Charette. Participants were encouraged to review the banners as they entered the room and throughout the day, to assist them with selecting their preferences. Photographs of the banners are included in Appendix N.

During the Charette, the attendees were given a brief overview of the project features and general layout. Then various options were presented and attendees were given time to have open discussion and express opinions about each topic.

At the completion of each section, copies of the presentation were distributed to participants to insert into their notebooks. The presentation is included in Appendix M of this report.

At the conclusion of discussions on each topic, a preference form was distributed to all voting participants. The preferences chosen were shared with all the participants throughout the day.

The preference forms provided space for participants to write in comments or additional thoughts on each topic. All voting forms and written comments were kept for future reference. Copies of the voting forms are included in Appendix O of this report.

1.3 Summary of Bridge Preferences Selected

1.3.1 Final Bridge Design Charette 1

The following is a summary of the preferences determined by the voting participants of Final Design Charette 1. Refer to the results sections of this report for details on each topic. The preferences identified at the Final Design Charette 1 are as follows:

- Project Theme:** Celebration of Trees on the River’s Edge
- Style Preference:** Shape – Angular or Rounded/Organic Shape
 - Texture – Abstract Texture
 - Color – Eco-staining

1.3.2 Final Bridge Design Charette 2

The following is a summary of the preferences determined by voting on Final Design Charette 2 bridge features built off of decisions made at Final Design Charette 1. Refer to the results sections of this report for details on each topic. The preferences identified at the Final Design Charette 2 are as follows:

- Pier Concept:** Pier Concept B
- Color Tone Preferences:** Brown/Tan Tones
 - Lighter Tan or Earthy Blue Tone Underside
- Bridge Railing Preferences:** Fully Open

1.4 Bridge Renderings Incorporating Preferences Selected



Final Rendering of Preferred Pier Concept B



Final Rendering of Bridge Elevation View Looking North



Final Rendering Underneath Bridge Looking West with Light Tan Underside



Final Rendering of Multi-Use Trail Pedestrian Railing on Service Road Bridge

2.0 BRIDGE DESIGN WORKSHOP

2.1 Participant Comments on Native Environment

List 3 or more things that best describe the native environment around the bridge, such as particular types of flora and fauna. This is part of the brainstorming to create possible natural thematic approaches for the bridge design shapes and features.

- Dense vegetation; low-lying trees over the water; river grasses
- Openness of river – looking toward darkness of split river around island; cypress trees; contrast of evergreen & deciduous trees; wildlife that can be seen on approach (Beth Jackson says – What’s not to like?)
- Trees including cypress, cabbage palms, oaks; birds; turtles; ferns; black bears; white-tailed deer; otters; raccoons
- Trees; birds; alligators; turtles; palms; cypress knees & trees; bird nesting
- Trees – oaks, maples, floodplain hardwoods; shrub layer – color; birdlife – large wading birds
- Floodplain hardwoods; palmettos; wading birds
- Cypress/hardwood swamp; cabbage palms; vines; ferns; wading birds; turtles; flowing tannic-colored river water
- Lush aquatic flora; cypress trees & wading birds; surprises around every corner
- Palms; birds; water; blooms; trees
- Hanging vines from leaning trees; wading birds; rippling water
- Trees (floodplain hardwoods); palmettos; ferns; large wading birds
- The abundance of trees & plant life; wildlife such as alligators, turtles & wading birds that utilize the river; the slow flow of the water & the way the sunlight reflects off the surface & the shadows that creates
- Trees; palmettos; ferns; wading birds
- Trees; water – reflections; aquatic plants in water away from shoreline

The following are additional comments provided by the participants during the workshop that pertain to the native environment:

- Trees (Floodplain Hardwoods)
- Palmettos
- Ferns
- Large Wading Birds
- Dense Vegetation
- Low-lying Trees over the Water
- River Grass
- Lush Cypress
- Water Flow & Reflection
- Wildlife
- Lily Pads
- Turtle Shell

2.2 Participant Comments on Important Aspects of the Bridge

Describe considerations that are important to you for this new bridge.

- Pedestrians' view/experience
- Recreational river users' view/experience
- Harmony with nature & blends with the environment
- Should not be of high contrast
- Wide span bridge below tree line
- Water quality
- Provide effective wildlife corridor for terrestrial animals
- Minimize intrusion into river
- Design with visual elements that would maximize river user enjoyment – I like idea of user surprise when below bridge.
- Will there be any access to river adjacent to bridge?
- Blend into the existing environment from river view.

- Less piers vs. shorter/lower bridge
- Tree shape for piers, i.e., cypress tree
- Noise
- The beauty of the bridge will last
- Not to give up integrity over aesthetics
- Minimize tree removal during construction
- Water quality
- Some planter boxes on the bridge
- Wildlife corridors – protecting wildlife from vehicles
- Aesthetics
- No exotics in the landscape
- Sophisticated design
- Agree we should “minimize visual contrast”
- I liked the “celebration of trees at water’s edge”
- I liked the surprise blue under bridge – should be reflective, not comic like.
- Blend with environment
- Like waterside trees for piers
- Like long span at 60’ elevation
- Ecologically-sensitive design provides a functional passageway for wildlife
- Aesthetically blends with surroundings
- Potential impacts to birds
- Aesthetics
- Cohesiveness with natural environment
- Interaction between people and their environment
- I like the idea of the blue ceiling underneath the bridge to look like the sky
- Blending into the environment
- Safety for wildlife

- Wildlife corridors; water quality; aesthetics; restoration of natural habitats (post construction)
- The bridge needs to be designed to disappear into the landscape
- Design of the structure so that it minimizes the impact on the river users' experience.
- Minimization of noise
- Wildlife corridors
- Water quality
- Wildlife protection
- View from the river
- Sound buffering
- Curves of nature – simple design is my choice for the theme so it blends in with the surrounding area

The following are additional comments provided by the participants during the workshop that pertain to important aspects of the bridge:

- Wildlife Corridors
- Water Quality
- Aesthetics
- Restoration of Natural Habitats (post construction)
- Pedestrians' View/Experience
- Recreational River Users' View/Experience
- Harmony with Nature
- Blend in with Environment
- Planter Boxes, etc. on bridge
- Timeless / Beauty
- Plant Life with Piers
- Quiet/Noise Reduction

2.3 Participant Comments on Other Suggestions

Any other ideas or suggestions?

- Organic structural shapes -> celebration of trees at water's edge looks great
- A unique experience for the recreational river users ("surprise") -> Under bridge on bottom of girder an imprinted mural (like a soundwall but unique & more elaborate). Similar to the unique experience that pedestrians experience on the Broadway Bridge with the tile murals. More specifically with the tile murals on the pedestrian walkway the hidden stars that pedestrians really enjoy. And the hidden stars is a very specifically unique experience to only the pedestrians walking/biking over the bridge. I think canoers would love a unique experience while going under the bridge.
- Shade and shadow extremely important
- Remember fire & smoke impact
- Can we have more info on best distance between decks – 10' best?
- Pond on N.E. quad
- Good job thus far – keep those ideas coming . . .
- Like it to be quiet
- Like eco stain
- Like ideas of: piers sculpted like trees (celebration of trees); concrete stains similar to native vegetation/river color; perhaps vines/ferns texture highlights
- Cypress knees provide support for cypress trees – bridge supports could mimic this effect and appearance
- As far as theme – I like the curves of nature. As far as color – should blend with environment.
- Camo the bridge from underneath with vegetation hanging from the bridge
- Celebration of trees at water's edge
- Surprise blue underside bridge

- Coloring & texturing should mimic the dappling effect that occurs when sunlight hits the leaves of the trees.
- Piers could be constructed to look like the buttresses of cypress trees
- I am not worried about views from the road in vehicles because the trip across the river will be a matter of seconds
- I like the natural finish under the bridge rather than the “surprise” - blends in more than the colored panels

The following are additional comments provided by the participants during the workshop that pertain to other suggestions:

- Celebration of Trees at Water’s Edge
- Surprise Blue under Bridge (as long as it’s not cheesy)
- Organic Structural Shapes

3.0 FINAL BRIDGE DESIGN CHARETTE 1

3.1 Bridge Theme

3.1.1 Description of Options

Voters were presented with four theme options based on theme related input received from the Bridge Design Workshop. These themes were “Blooms Along the River”, “Celebration of Trees on the River’s Edge”, “Tribute to Nature on Wekiva”, and “Tribute to Water on Wekiva”. “Blooms Along the River” highlighted the wild flowers that are found along the Wekiva River. “Celebration of Trees on the River’s Edge” celebrated the great variety of tree types in the Wekiva River area. “Tribute to Nature on Wekiva” paid tribute to the wide variety of birds, flora, and animals that inhabit the area around the Wekiva River. “Tribute to Water on Wekiva” celebrated the flow of the water within the river and recreational activities on the river.

3.1.2 Voting Results

NOTE: 1 = Lowest Score (dislike); 10 = Highest Score (like)

Blooms Along the River	=	6.8
Celebration of Trees on the River’s Edge	=	8.2
Tribute to Nature on Wekiva	=	6.0
Tribute to Water on Wekiva	=	4.8

Theme of “Celebration of Trees on the River’s Edge” was identified as the preferred theme.

3.1.3 Participant Comments on Bridge Theme Preferences

Blooms Along the River

- I like the simple design of both bloom examples. Staying away from trying to look like a tree/bloom: more subtle.
- Not sure blue works but the structure is simpler than the tree design. (We do not have the species of lily depicted in the photo, we have yellow cow lily or spatterdock – *nuphar luteum*)
- Blooms are a very minor aspect on the water
- I am of the mindset to keep it simple, but still pleasing to the eye. Not just round or squares.

- Given location of columns (piers) at a significant distance from the river, I do not believe that an artistic treatment is meaningful or a useful expenditure of public funds.
- Natural
- Like blooms a lot
- Designs on piers will only be seen close up. Color & bridge shape will dominate.
- Simple / subtle design
- Not enough knowledge on types of blooms; blooms are not perennial; too difficult to see on piers

Celebration of Trees on the River's Edge

- I like the way this design mimics the appearance of the trees found along the river
- Color will also be an important component of this “tree” design
- When I think of cypress trees, I think of structure and support. I think a vague mimic of cypress on the bridge supports would be thematic and aesthetically pleasing
- Columns/piers will eventually be at least partly covered by vegetation
- Vertical lines reflect shoreline
- Like simplistic design that blends in with environment
- Only if it's not a lot more expensive. #62 or #63 without the hole so there is 3D on approach. For cleaning, they will not be in the river & could be pressure cleaned with water if structurally compromised. Otherwise, leave them alone. Normal aging/graying will look more like trees.
- Like this but don't want it to look too much like a tree. Subtle!
- As long as it is not palm trees

Tribute to Nature on Wekiva

- I like this design, especially the one that mimics a great blue heron standing at the river's edge. It was simple. The ultimate theme that is selected should be kept as simple as possible.
- This is a broad topic and would encompass all of these ideas
- Column designs with relief or crevices may present maintenance problems
- OK
- Wildlife is more popular among those who visit the river

Tribute to Water on Wekiva

- I do not like the blue
- We are already offering tribute to water by considering the users of the water. We should focus on other aspects.
- Unsure of color, but like the design
- Could be effective maintenance consideration
- Like "a little" blue like water reflection
- Focus on water is redundant

General Comment

- The piers will be too far from those who use the river to notice the themes

3.2 Bridge Style Preferences

3.2.1 Description of Options

Stakeholders were presented with options for several elements of style. Options for pier shape types were angular shapes or rounded/organic shapes. For texture, the options were abstract texture or no texture. For the color of the bridge, they were given the option of either utilizing the natural color of the materials used to construct the bridge or to use an eco-stain to blend the bridge into the environment. Examples were shown of each option for each style element as it has been used in existing bridges.

3.2.2 Voting Results

NOTE: 1 = Lowest Score (dislike); 10 = Highest Score (like)

Pier Shape Type

Rounded / organic shape = 5.1

Angular shape = 5.1

Equal Neutral Response

Examples from other Bridges



Rounded/Organic



Angular

Texture

Abstract texture = 6.9

No texture = 5.1



Abstract texture



No texture

Color of the Bridge

Natural Color of Materials = 3.6

Eco-Staining = 8.4



Natural Color



Eco-Staining

“Abstract texture” and “Eco-Staining” of the bridge were identified as Bridge Style Preferences by the participants. The participants were neutral on their preference of Pier Shape Type.

3.2.3 Participant Comments on Bridge Style Preferences

SHAPES - Rounded / Organic Shapes

- Too bland
- Do not like perfection in forms
- No rounded piers, consider rounded box/cantilever
- Kind of boring
- Preferred the rounded pier or sculptural pier structure. Curved/open pier would address to some extent light penetration under the bridge
- I like the organic shape. The example bridge is not attractive.
- I feel this would be too abrupt in the Wekiva setting
- Too wide, not consistent with environment
- I lean more toward curvy, organic lines but not round

SHAPES - Angular Shapes

- Like #62/63 not squared like this (Wabasha)
- Combine
- Vertical angular may be good to repeat linear tree trunks
- More interesting
- I do not think an angular shape reflects the flow of the river, stands out too much
- Maybe example doesn't show well, like angles in tree type design
- I don't like this example for Wekiva but other angular bridges are attractive
- This looks manmade. Would not look good in natural setting
- Too urban – too blocky – not consistent with environment. Prefer tree shape & motif. This seems in contrast to that option.
- Crisp lines will create contrast
- Not for our application

TEXTURE - Abstract Texture

- Like “trees” = 10; bumpy = algae = 2
- Out of character for Wekiva area
- Depends on resolution. Need some texture to avoid contrast
- Consider variegated texture on entire pier. Orient texturing vertically
- I like this better than no texture
- Concerned that if the bridge has abstract texturing that it may increase the growth of mold & algae
- Like texture, natural colors of environment
- I feel this would better capture the façade of tree trunks
- Yes, but more like slide 62 from previous presentation – Subtle
- Texture and lines that complement the trees nearby – Texture in design but not surface texture
- Less depth/layers. More like slide 62. Would the base look like this slide or continue with the design all the way down?

TEXTURE - No Texture

- Smooth = no algae = 10; smooth like example = boring = 3
- It’s OK
- I do not see the need for texture
- If tree is used, this could work.
- This will be more abrasive and unnatural
- Less maintenance in the long run due to less algae/mold growth

COLOR - Natural Color of Materials

- 6 because we’re not using limestone or wood
- Cypress bark might be a good source of color
- Need some color
- I like the staining better
- I feel it needs to have some kind of blending color

- Too stark, inconsistent with environment. Subtle tree-like texture OK if not a maintenance nightmare.
- Sand or limestone would be too bright and contrasting
- Too much contrast

COLOR – Staining

- If really eco-friendly
- OK
- Of natural color
- Variegated staining is essential
- Staining should be done in such a way that bridge blends into the landscape
- I like the idea of coloring the bridge in a way that will reduce its visual impact, however I am nervous that dark, earth tones will make the bridge look old and dingy
- Colors to blend in with natural surroundings. Need color samples for blending. More greys & browns, not so much green, blue under bridge, sky & clouds
- Like natural color in environment
- Undecided what may be the best color
- Conduct the color swatch experiment as described with slide 23 (this presentation) to determine a suitable color – suggest tree bark – not green or brown

General Comments

- The eco stained color like used in the US191 Colorado Bridge, Moab, Utah blends well with the environment
- Also, using the accent in eco-stain texture like variegated stone shown in the Allegheny River Bridge, Pennsylvania really fits well within the natural environment
- A combination of (1) and (2) is the most conducive to blending with the natural environment
- No blue underneath – unnatural
- Steel truss still should be explored as a design option!

3.3 Outstandingly Remarkable Value (ORV) Initiatives

Outstandingly Remarkable Values are items that are important to the Wild and Scenic River designation that has been given to the Wekiva River. The ORV initiatives discussed were “Scenic”, “Recreation”, “Wildlife and Habitat”, “Historic and Cultural”, and “Water Quality and Quantity”. Valuable feedback from the participants was received. The comment forms can be found in Appendix J.

3.3.1 Participant Comments on ORV

How important to you are the Outstandingly Remarkable Values (ORV) for the new bridge? Describe what makes them important.

“Scenic”

- Very important – nature is beauty
- ALL are equally important
- Essential
- Ultimate design needs to blend into the surrounding landscape to minimize the impact on this ORV
- I think it’s more important to be scenic from the river versus the bridge
- Blend into the character of the Wekiva area; make for a more pastoral, pleasant experience
- Already gave my color, etc. comments
- The wider span of the bridge should greatly improve the vista
- Maintain aesthetics
- Scenic views are important BOTH from the ground and the bridge. A glimpse of the river, no matter how short, is worth it to some!
- Very important to keep noise level reduced
- This is a top tier ORV and is important specifically for people on the river and on the bank. I don’t believe the bridge will impact the scenic values when compared to existing bridge.

“Recreation”

- Very important to have people enjoy our resources
- Maintain or enhance aesthetic values as best as possible
- Though important, water quality & quantity is necessary for this value

- Ultimate design needs to blend into the surrounding landscape to minimize the negative impact & to ensure that the user experience is an enjoyable one
- I grew up in Lake County & this area has always had a recreational use for my family
- Provide a larger area of water body to traverse
- There will always be people enjoying the river
- Removal of the bridge supports in the water will improve the experience from the water
- Minimize contrast of structure with environment
- Canoe/kayak, fishing, photography, bird watching
- Very important that unobstructed passage allow use of river during construction
- Also a top tier ORV, access to the river is important to our citizens

“Wildlife and Habitat”

- Very important to preserve what habitat is left
- As discussed, cannot lessen the wildlife corridor due to the lack of it now
- I believe that considering greater height for the bridge structure will substantially benefit wildlife habitat, enable light to reach the island and reduce noise impacts
- All are connected
- Increasing the span widths will have a positive impact on the movement of wildlife through the region
- Continue to protect & improve wildlife habitat
- Protect habitat and provide needed transportation facilities
- Construction will be disturbing. End product will hopefully be lots better
- The expansion of the corridor will be a great improvement for all wildlife
- 1750’ span good – need additional span on Seminole County side
- Well considered, so far
- The proposed improvement will provide a tremendous benefit to wildlife/habitat and habitat connectivity when compared to the existing condition.

“Historic and Cultural”

- Very important cultural resources!
- Not applicable for this location
- This is an education issue – traditional forms & colors are important
- Do not destroy the wild & scenic character of the river
- Maintain the rural character of the Wekiva area
- Not applicable at this location as far as we know. There may be mastodon bones or ancient canoes or more modern artifacts. Wouldn't hurt to have ARM around & have construction workers keep an eye out for artifacts.
- Let's create history with a successful project that can meet these goals.
- Very important
- The ORV is a lower tier ORV in the bridge area

“Water Quality and Quantity”

- Don't want to degrade an OFW and Wild and Scenic River
- Most important value. River MF&L is set at 150 CFS – this week it was at 130 CFS
- Storm water design needs to meet or exceed the criteria to ensure that the water quality is not impacted
- It's pristine, let's keep it that way
- Do not negatively reduce water quality or quantity; provide protection to this valuable asset
- Extremely important
- Retention ponds, natural contour, natural vegetation, fence not necessary on state lands
- Ensure no turbidity violations during construction
- Minimize erosion, people getting out of their boats to access the land under the bridge
- Also important to sustain the “Scenic”, “Recreation” and “Wildlife/Habitat” components

Other comments

- All ORV's are important – see Mgmt. Plan for details

3.4 Participant Comments on Charette

At the conclusion of Final Design Charette 1, the participants were asked for comments about the Charette. The comment forms can be found in Appendix J.

What did you think about today's activities towards creating your new bridge?

- Very informative – somewhat redundant on some issues
- I am not an expert on bridge building but it's nice you appreciate our opinion
- Excellent job; planning process was well done
- Very informative and productive to narrow down design & concerns
- It is really great to have the opportunity to be so involved in the planning
- Very good job

What parts of today's activities were most meaningful to you?

- Discussion of group
- Discussion of bridge elements
- Obtaining votes/surveys for design that can be put to use immediately
- When the group was able to have open discussion and discuss thoughts and ideas
- Height seems optimal!

If you could give the bridge designers one piece of advice in consideration of your new bridge, what would that advice be?

- Consolidated width
- Try to continue to keep the focus of the process on the design of bridge
- Don't try to please everyone, perhaps fewer choices are better
- There is a need to address other issues such as impacts to the island and access which may impact the profile
- Avoid alternatives that impact the island

Any other ideas or comments?

- Thank you for understanding our area and spending so much time on a thorough understanding

4.0 FINAL BRIDGE DESIGN CHARETTE 2

4.1 Bridge Pier Shape

Stakeholders were presented with four pier concepts based on the project theme selected at the first Charette, "Celebration of Trees on the River's Edge". All four pier concepts were of pier shapes that flared transversely from the pier base to extended vertical elements that framed the superstructure, and each concept was developed to represent a "Celebration of Trees on the River's Edge."

4.1.1 Description of Options

Pier Concept A consisted of a wide pier with multiple layers representing crossing trees. The innermost layer on the pier included surface texture which was an abstract representation of tree surfaces.

Pier Concept B consisted of multiple layers appearing like trees fanning out transversally. While this concept did not include surface texturing, the multiple layers of the pier created texturing using the depth of the different layers. This pier was more slender at the top of the pier.



Pier Concept A



Pier Concept B

Pier Concept C consisted of a uniformly curved pier but included surface texturing on all of the pier faces. The texture on the recessed portion of the pier was made up of large scale tree-like texturing while the rest of the pier was made up of smaller scale tree-like texturing.

Pier Concept D consisted of abstract shapes inspired by the occasional cypress tree that is seen along the Wekiva River. This pier shape is made up of organic lines to mimic the natural lines that occur in nature.



Pier Concept C

Pier Concept D

4.1.2 Voting Results

Rather than voting on a scale of 1 to 10, it was decided to rank the concepts in order of preference with #1 representing the participant’s top choice. The results for the average ranking for the first round of voting are provided below. Concepts with lowest ranking are the preferred options.

Round 1

<u>Pier Concept</u>	<u>Avg. Rank</u>
Concept A	2.67
Concept B	2.17
Concept C	3.17
Concept D	2.00

Because the results of Round 1 voting showed a preference for concepts B and D, a second round of votes were taken for Pier Concepts B and D only. Of the 15 participants who voted in Round 2, eight (8) preferred Pier Concept B while seven (7) preferred Pier Concept D. Therefore, Pier Concept B was identified as the preferred pier shape. After Pier Concept B was identified as the preferred pier concept, the group was asked if there was anyone who was opposed to Pier Concept B being used for the bridge. There were no comments or opposition from the participants to Pier Concept B.



Preferred Pier Concept B – Isometric View



Preferred Pier Concept B – Underneath View

4.1.3 Participant Comments on Pier Concept Preferences

Round 1 Comments

Pier Concept A

- Bulky wide shape
- Sides of superstructure are too wide
- A little busy & crowded
- I like the fact that this design reflects the character of the forest, random, scattered, non-uniform. The lines mimic the lines of the forest the best.
- Still like this the best. Unless the cypress one can be adjusted per artwork. Then I'd like the cypress.
- Overall close second, but 3-D rendering shows it as being pretty big and noticeable
- Like form
- Good pattern – reflects much of river edge

Pier Concept B

- Fits the overall appearance of the rivers edge
- Like, but given the scale, I think would look too much like “giant” palms
- Like slimmer style with the shapes
- Favorite
- I like design of side on superstructure box girder
- I feel this design would look the best with the surroundings
- Less busy but the bridge looks heavy at top
- This design is too pointy, not enough curves
- Looks like cattails not palm boots to me
- Mimics tree trunks and cabbage palm boot pattern. 3-D rendering illustrates relative delicateness and minimal visibility overall
- Looks too much like a palm frond and I don't like the thickness
- Like form
- Good pattern would be very good. Graceful

Pier Concept C

- 1970's aesthetic!
- Want texture though – model doesn't show
- Dislike
- Good scale, mimics how tree is shaped; textured
- Too symmetrical
- Nah
- Like this one
- Not as busy as #1 but not graceful
- Don't like Form 4 industrial
- Looks too busy. Looks like someone making poor copy – an imitation
- Texturizing did not play well

Pier Concept D

- This fits in a way that shows the strength of the structure as a mature cypress
- Keeping in mind the actual size and scale of the pier, this shape works best.
- Concerned about wide bottom thickness
- Dislike! Looks like a uterus!
- Sides of superstructure box girder too thick. Incorporate sides of Pier Concept B into this version.
- Good shape, also mimics natural shape of cypress without being too much.
- This does not make me think of a tree
- I suggested/wanted cypress but the center of this is empty/boring. The bottom is very cool with 4" difference in thickness. See my artwork.
- Like the cypress look but overall something doesn't win out over A & B
- Subtle and graceful but when the shrub layer grows up we won't see the bottom so I think the image will be lost
- Like buttressing

- Like boldness. Recall strength in form
- I prefer this because it mimics the buttressing in cypress

Other Comments

- Kudos to all of you for your patience with group! Well done!!!

Round 2 Comments (Pier Concepts B & D only)

Pier Concept B

- While it's not supposed to be a tree, it is representational enough that it would look unnatural in its actual size and scale, too narrow at base.
- Complements trees
- Less visually distracting and eye catching
- My 1st choice

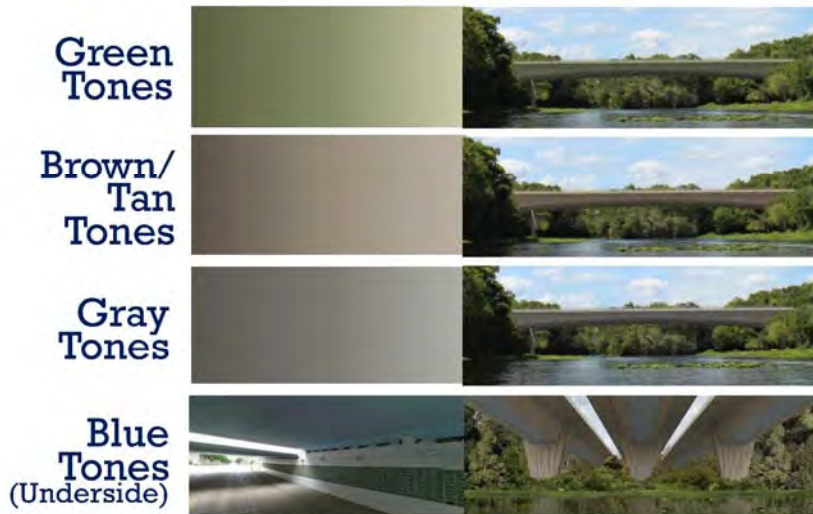
Pier Concept D

- Simple & clean design.
- Size is more in scale with what it represents. Provides visual "weight".
- Too bulky and uniform
- Large bulky – looks like bridge pillar
- Too bulky. Tries to mimic nature not repeat form, line, color, texture.
- My 2nd choice
- I like this better with tweaks from previous vote
- Box girder area too "pier like". Upright edge could be rounded too.

4.2 Bridge Color

Stakeholders were presented with three (3) color tone options based on the selection of eco-staining for the bridge during the first Charette. The stakeholders were also given the option of the utilization of a light, earthen blue stain on the underside of the superstructure to blend into the sky and provide a surprise for recreational users of the Wekiva River.

4.2.1 Description of Options



4.2.2 Voting Results

NOTE: 1 = Lowest Score (dislike); 10 = Highest Score (like)

Green Tones = 6.4

Brown/Tan Tones = 7.9

Gray Tones = 5.3

The Brown/Tan Tones were identified as the preferred option as shown by the results above.



Blue Tones (underside of superstructure)

Yes	=	8
No	=	5
Neutral	=	2

Blue Tones
(Underside)



Blue Tones were to be further evaluated along with the lighter neutral tones.

4.2.3 Participant Comments on Bridge Color Preferences

Green Tones

- Thinking of appearance as darker
- Too much contrast in the winter months
- Darker shades could work, but it is generally very difficult to reproduce Mother Nature’s green
- Over seasons it will look weirdly out of place
- Might try some green on a higher vertical section of the bridge
- Green seems to blend well best for the various views
- My 1st choice. My preference would be medium dark/light.
- Could the superstructure be more this tone and the piers be more the brown/tan tones (tree trunk vs. foliage)
- Green tones make the structure disappear into background. 1st Choice!!
- Medium color on top, lighter underneath
- Light green
- Green on green is hard to blend – can be very contrasting. Shades would help to kill contrast.
- Lightest end of range
- Would look starkly in contrast to vegetation (or lack) in winter

Brown/Tan Tones

- Lighter end of the scale darker end of scale
- Use lighter tone underneath the bridge surface. Avoid darker end of tone for the bridge face.
- Shadows dominate natural landscape. Darker browns best for facing & piers.
- This may match best in any season
- Stain a few upright sections with grey tones, combine brown/tan with grey tones – if concept B is preferred pier
- I do feel the lighter of these tones would look the best (middle area designated)
- Seems to have the most contrast to greenspace
- My 2nd choice
- Could the piers be more this tone and the superstructure more green tones (tree trunk vs. foliage)
- If this is chosen I like the darker shades.
- Light gray perhaps on bottom
- Light to medium brown
- Brown – with black – not with reds – is most neutral. Green & Brown work well together.
- Ash-brown tone (not gold) this would be the best “4 season” choice. Use slight variations on the planes of the piers and lighter on the underside of the box.

Gray Tones

- Darker end of scale
- Use lighter tone underneath the bridge surface. Avoid darker tone for the bridge face.
- IF (not likely) the cypress pier wins, this might look best
- Stain a few upright sections with grey tones, combine brown/tan with grey tones – if concept B is preferred pier. Also see how background (recessed area) would look with brown/tan tone

- Grays are a close second in my mind
- Least favorite
- Goes too much back to concrete gray
- Least favorite, existing bridge is a gray tone & it doesn't look good.
- Light to medium
- If use gray – why stain?
- Only if a warm gray.

Blue Tone (Underside)

- Consider lighter shades of preferred tone.
- Maybe. If it can be done without looking like strips from underneath OR at a distance.
- Include the strips that are on each side of what is depicted as blue in this image
- I do think the band of blue looks good while underneath
- I like the potential for decreased insect damage and the breakup of the giant structure from underneath.
- Keep it subtle
- Not blue or white but lighter shade of chosen tone
- Only if not a strip effect. Like idea of lighter underneath!
- Maybe; depends on final colors
- Would prefer lighter under bridge of same bridge color.
- Yes if underside of entire structure
- No. However, lighter (slightly) under the box.

Other comments

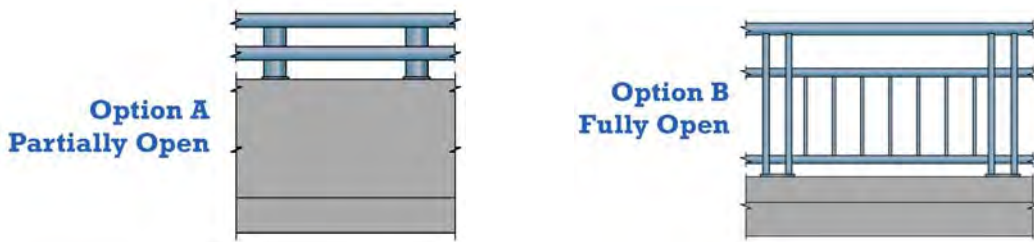
- Underside – Lighter color/shade of Chosen tone
- Yes. Makes sense – once again, without striping

4.3 Bridge Railing for Multi-Use Trail

Stakeholders were presented with the choice of a fully open pedestrian railing or a partially open pedestrian railing. This railing is to be used on the southern edge of the Multi-Use Trail on the service road bridge. All other barrier rails feature an FDOT standard concrete railing.

4.3.1 Description of Options

The fully open railing option is 42” tall and has vertical bars with open spaces between them mounted on a 6” (min) concrete curb. The partially open railing option is also 42” tall, but has two bullet rails mounted on a 27” concrete parapet.



4.3.2 Voting Results

NOTE: 1 = Lowest Score (dislike); 10 = Highest Score (like)

Option A – Partially Open	=	2.4
Option B – Fully Open	=	9.9

The fully open pedestrian rail was identified as the preferred option as shown by the results above.



Preferred Option B – Fully Open Pedestrian Rail

4.3.3 Participant Comments on Bridge Railing Preference for Multi-Use Trail

Option A – Partially Open

- Not inviting
- 2nd choice

Option B – Fully Open

- Best!
- Green color
- Like green railing but a lot depends on color choice
- Open airy concept allows pedestrian & bicyclists to see river
- This provides a better view for drivers and pedestrians. The view from the water does not impact my decision, the difference from the water is negligible.
- This should look better from the water. Better view of the river from the trail.
- My 1st choice
- Nice
- Would like vertical rails to extend to top rail with no middle horizontal rail