



I-4 Ultimate in Progress

Interdisciplinary Coordination



Celebrating 100 Years of Innovation, Mobility and Economic Development

Interdisciplinary Coordination at its Finest

Manifested in the Aesthetics on I-4 Ultimate



- How FDOT produced the Contract Documents (**owner**)
- How I4MP produced a Technical Proposal (**developer**)
- How we are Executing (**together**)



Innovative Solutions for tomorrow's transportation needs

The Project

The Challenge

The Contract

The Proposals

The Result

Overview

- The Project
- The Challenge
- The Contract
- The Proposals
- The Results



The Project

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The Project



The Project The Challenge The Contract The Proposals The Result



I-4 Ultimate Project West of Kirkman Road to East of SR 434	
Length:	38.18 Miles
Construction Cost:	Approximately \$2 Billion
Routes:	18 Miles (Including Pedestrian Crossing)
	38 Interchanges
	22 Interchanges
Interchanges:	22 Interchanges
Pedestrian Crossings:	3 Miles (Bikeway/Bus)



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- **Availability Payment Deal - 40 Year Term**
 - Concessionaire Finances
 - Concessionaire Designs and Builds
 - Concessionaire Operates and Maintains
 - FDOT retains Toll Revenue
 - FDOT pays back Concessionaire
 - Payback is performance based



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NEPA Commitments

- Neighborhood Cohesion
- Minimize Impacts
- Design Treatments

To minimize neighborhood and community cohesion impacts and improve the quality of life adjacent to the interstate, the use of urban design treatments, noise barrier walls, enhanced pedestrian access, and relocation efforts in the vicinity of the I-4/SR 408 (East/West Expressway) Interchange are being proposed as part of the Preferred Alternative. These urban design treatments may include:

- Ensuring that bridge structures are architecturally compatible with the design and with all other design elements;
- Reducing visual effect of retaining walls and noise walls using landscaping, texture, color, or lighting;
- Providing landscaping where possible;
- Including aquatic plantings and fountains for stormwater treatment ponds;
- Painting the right-of-way fence to blend into the surrounding context;
- Incorporating public art into appropriate areas;
- Placing utilities underground, where feasible; and
- Ensuring that color and finish of sign columns compliment surrounding vertical structure elements.



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59M visitors per year

More than the populations of Texas, New York and Pennsylvania combined

1:3 jobs in Central Florida is linked to the tourism industry

\$52B in economic activity per year



The Project

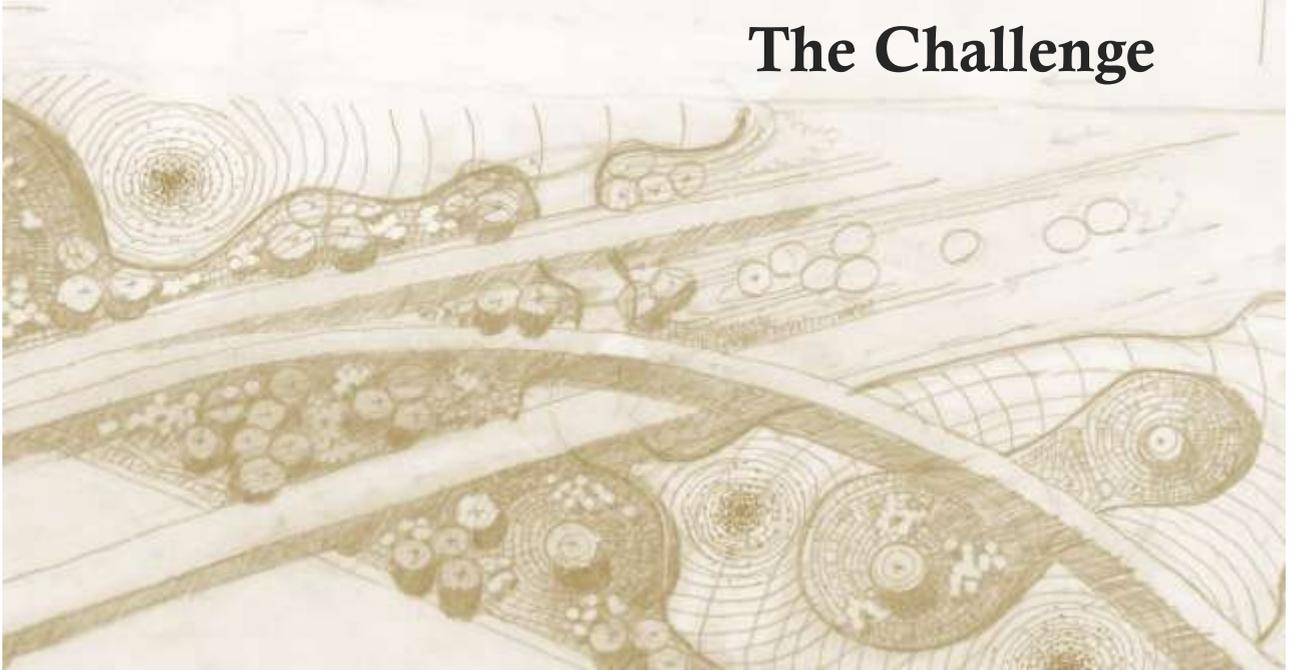
The Challenge

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The Proposals

The Result

The Challenge



The Project

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- Ananth Prasad's Industry Forum Speech
 - Signature Corridor
 - Florida Experience
- Secretary Noranne Down's Challenge
 - Bold and Memorable!
- Harmonize Elements of Design
- 1.5% Project Cost in Landscaping



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- Interdisciplinary CO/D5/Consultant Team
- Brainstorming Sessions
- Design Charrettes
- Concept Workshops



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- Air
- Light
- Water
- Landscape
- Color
- Art



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Air



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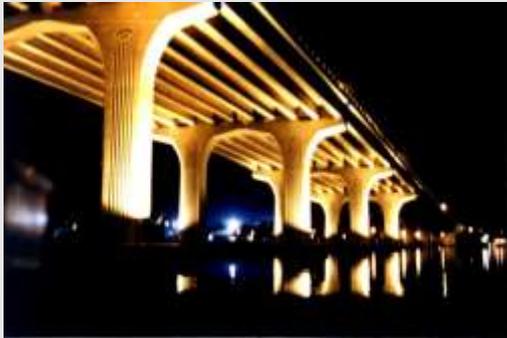
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Light



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Water



The Project

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Landscape



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Color



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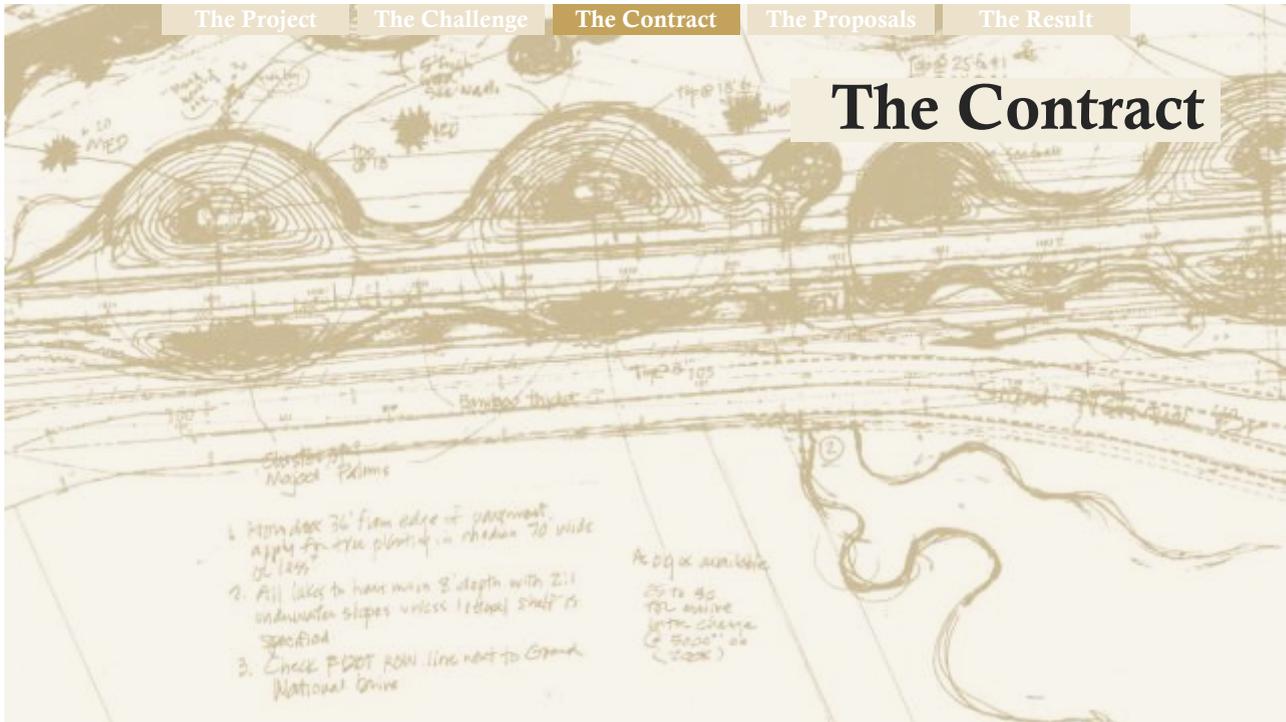
The Proposals

The Result

Art



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The Project The Challenge **The Contract** The Proposals The Result

- Develop Non-Prescriptive Criteria
- Provide Reference Example for Expectations
- Require a Deliverable in the Technical Proposal
- Tailor Scoring Criteria to Ensure Desired Outcome

2014 Water Technology Expo

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Minimum Plant Palette Requirements

Plant Type (1)	Minimum Species Required	Minimum Quantity	Minimum Installed Size
Specimen Palms	4	300	20' Clear Trunk
Palms	4	5,000	16' Clear Trunk
Canopy Tree	6	3,000	20' Height x 12' Spread, 6" Caliper
Flowering Trees	4	2,000	12-14' Height x 8-10' Spread
Transitional Wetland Trees	2	700	20' Overall, 6" Caliper
Buffer Trees	2	3,500	15' Overall
Native Shrubs	6	40,000	3 Gallon, 30" Height x 24" Spread

Non-Prescriptive Criteria

- Identification of Priority Areas
- Ratings of Interchanges
- Plant Palette Requirements
- Bridge Do's and Don'ts
- Make Metal Structures Disappear
- Highlight Priority Areas with Lighting
- FDOT's Beautification Guidelines



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Reference Example

- Short Eight Page Summary
- Highlights State's Vision
- Show level of Commitment
- Get the Creative Juices Flowing



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M) Preliminary Aesthetics Master Plan

- Layout of proposed corridor landscaping (including species and sizing)
- Aesthetics treatments at each of the following locations depicting adherence to aesthetic agreements (where applicable) including, but not limited to retaining walls, sound barriers, bridges, landscaping, lighting, signals and signing:
 - SR 408 interchange
 - Downtown viaduct including Garland Avenue and Hughey Street
 - Maitland Boulevard and Maitland Boulevard Pedestrian Crossing
 - SR 436
 - Grand National Drive
 - Fairbanks Avenue
 - Pedestrian Underpass at SR 436
- Conceptual Gateway Feature Design at SR 50 / Ivanhoe
- Proposed luminaire and poles types including those with special requirements dictated in the local agreements
- Any additional aesthetic treatments indicative of a "Signature Corridor" included as part of the Proposal such as decorative lighting, water features, hardscaping, special grading, etc.

Technical Proposal Requirements

- Define the deliverable
- Require specific areas to be highlighted
- Don't overextend the bidders
- Require only what you need to score



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K) The degree to which the Proposer's Preliminary Aesthetics Master Plan:

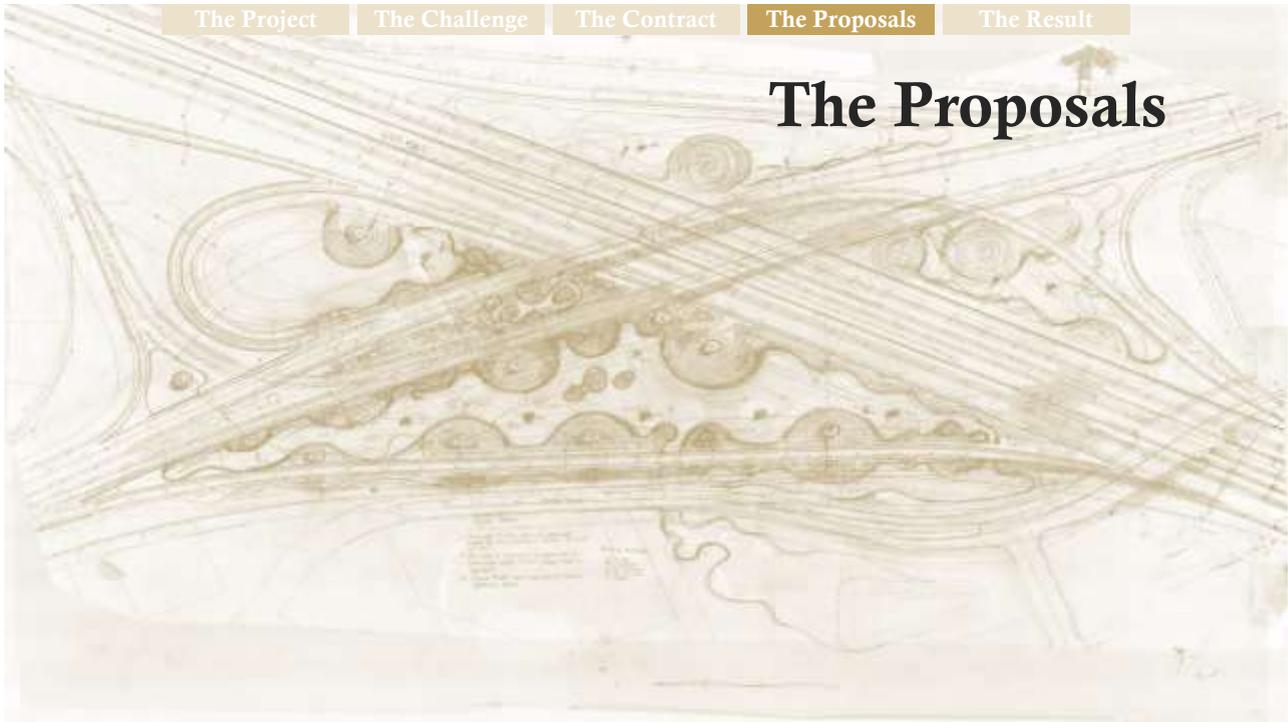
- 1) adheres to the stipulations and requirements contained in the Technical Requirements and agreements with various local governing and maintaining agencies;
- 2) expresses Florida's distinctive sense of place (the "Florida Experience") through intentional design, construction, and maintenance strategies that will create lasting visual appeal with an optimum expenditure of costs; and
- 3) provides coordinated approach to the comprehensive aesthetic of the corridor.

Scoring Criteria

- Show you mean business
- Set aside points for aesthetics
- Difficult to define criteria
- Eye of the beholder

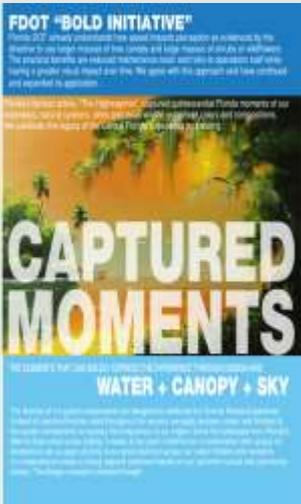


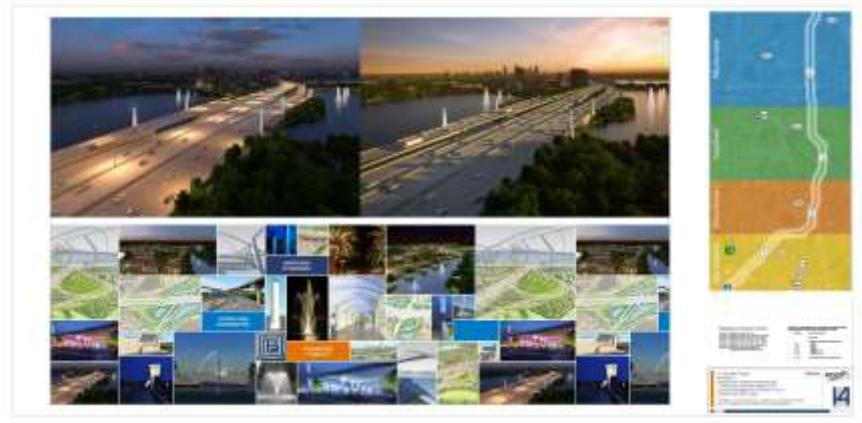
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- Four Proposals Received
- All Teams Understood FDOT's Goals
- Four Distinctly Different Interpretations
- Integration of Art and Science
- Talent is Unprecedented in Highway Design

 *Innovative Solutions for tomorrow's transportation needs*

The Project	The Challenge	The Contract	The Proposals	The Result
 <p>1 SR 50 LOOKING SOUTHEAST NOT TO SCALE</p>  <p>2 SR 50 LOOKING SOUTHEAST NOT TO SCALE</p>	 		   	<p>FDOT "BOLD INITIATIVE"</p> <p>Florida DOT annually understands how road projects are supported in accordance with the response to our major projects of the Florida and large projects of 2014. In addition, the project funding for related infrastructure from various sources is increasing and will continue to grow in the future. The goal with this approach will be to provide and expand to applicants.</p>  <p>CAPTURED MOMENTS</p> <p>WATER + CANOPY + SKY</p>
 <p>2014 Water Transport Solutions <i>Innovative Solutions for tomorrow's transportation needs</i></p>				

The Project	The Challenge	The Contract	The Proposals	The Result
<h2>I4MP Partners Proposal Highlights</h2>				
				<ul style="list-style-type: none"> • Proposal included 7 Packages, covering all disciplines separately, and sub-divided into the 4 Areas illustrated. • Aesthetics was a 'corridor-wide' approach, covering all Areas and Communities.
 <p>2014 Water Transport Solutions <i>Innovative Solutions for tomorrow's transportation needs</i></p>				

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I4MP Partners Proposal Highlights



- Aesthetics proposal defined the features and elements along the corridor via a master matrix.
- Specific locations illustrated in context using 3D graphic vignettes and text clarifications where necessary.



The Project

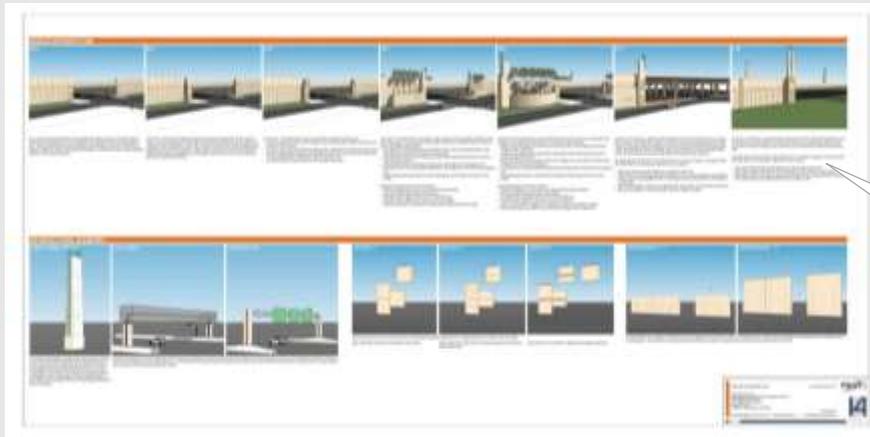
The Challenge

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I4MP Partners Proposal Highlights



Graphics and text describe treatments by type



The Project

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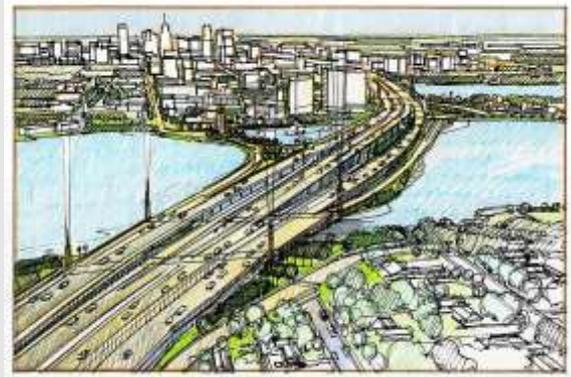
The Proposals

The Result

I4MP Partners Proposal Highlights



Study sketches refined into 3D computer simulations for further design clarity



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The Project

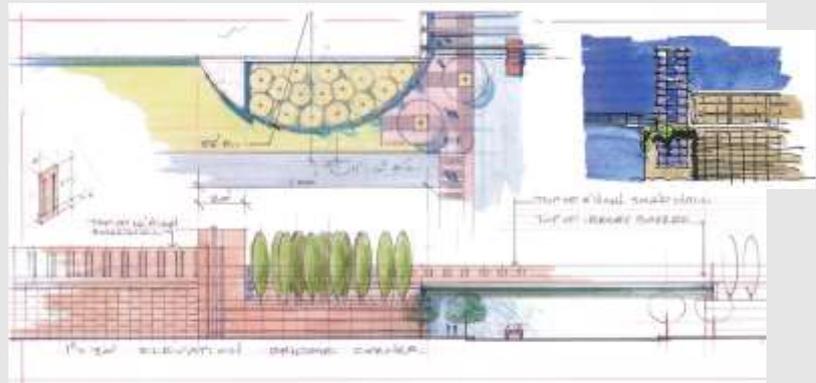
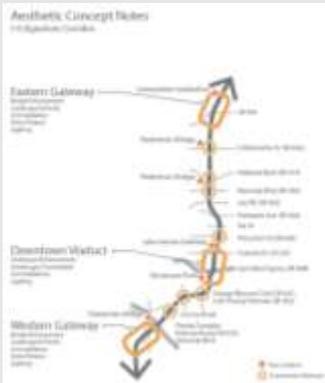
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I4MP Partners Proposal Highlights



Corridor priorities established to organize theme implementation. Numerous studies progressed to select extent of theme elements that would be included in design package.



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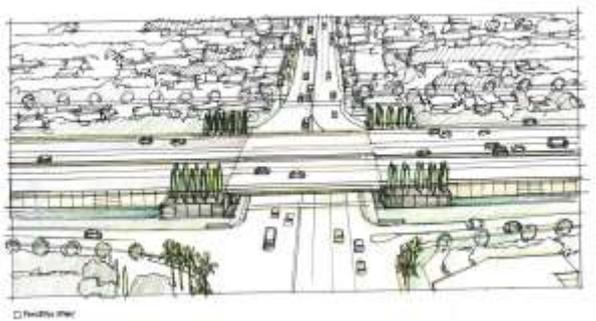
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I4MP Partners Proposal Highlights



Individual interchange studies conducted to refine more specific design elements implementation possible and appropriate based on context and engineering limitations.



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I-4 Mobility Partners Approach

I4MP's Interpretation

- Aesthetics Agreements
- Highlighting Florida
- Landscape
- Hardscape
- Bridges
- Suggestions (lighting, fountains, etc.)

The Results (I4MP)

- Interdisciplinary Reviews
- Working Sessions between FDOT and Concessionaire (CJV)
- Aesthetics Agreements with Locals



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Integration of Design Theme & Concepts

- A family of treatments that build upon each other
- Prioritized by interchange hierarchy and/or available spatial opportunity
- Adaptable by Community standards, but maintaining the corridor-wide theme
- Recognizable 'patterns' repeated for the traveler/user reinforce sense of place and confidence



The Project

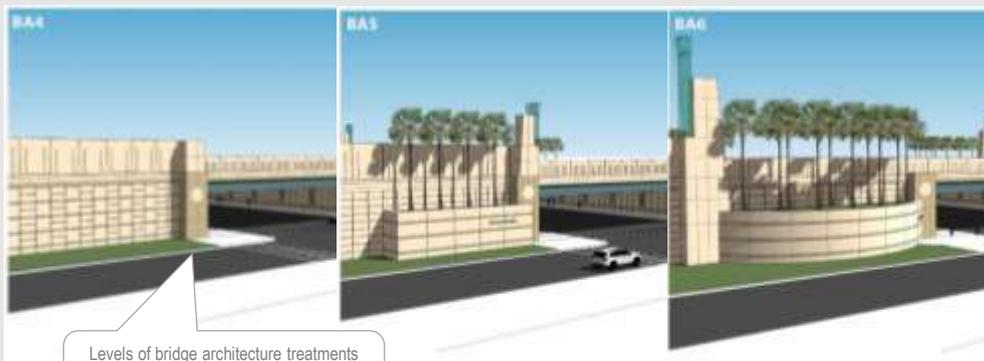
The Challenge

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Integration of Design Theme & Concepts



Levels of bridge architecture treatments build on levels in the existing aesthetic agreements and guidelines.



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Integration of Design Theme & Concepts

- All aspects and components evaluated for potential cost - v - recognition - v - benefit
- Lasting image after leaving the corridor
- Bridge Structures lead the design theme



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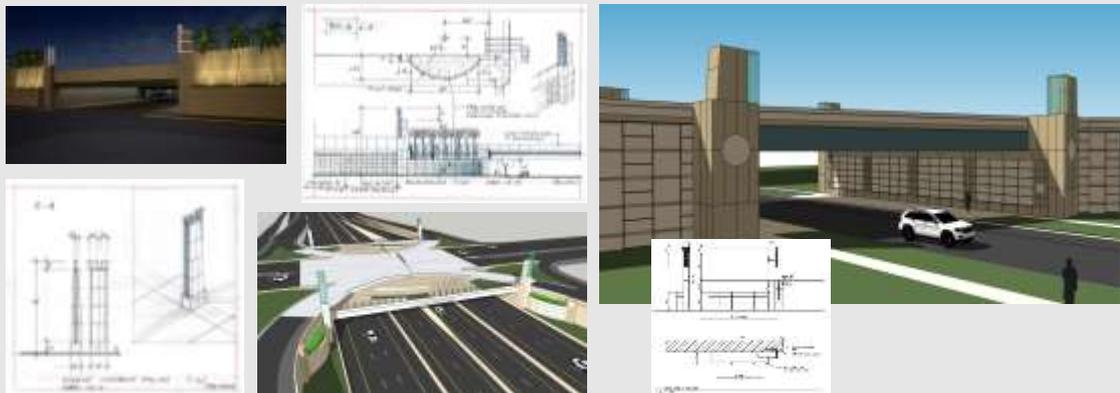
The Challenge

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Integration of Design Theme & Concepts



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Integration of Design Theme & Concepts

- Design Challenges are comprehensive but all related
- Walls to establish visual 'calm' throughout the varied context passing through – but allowing unique community identities to be recognized
- Drainage and storm-water as visual amenities / unique to Florida



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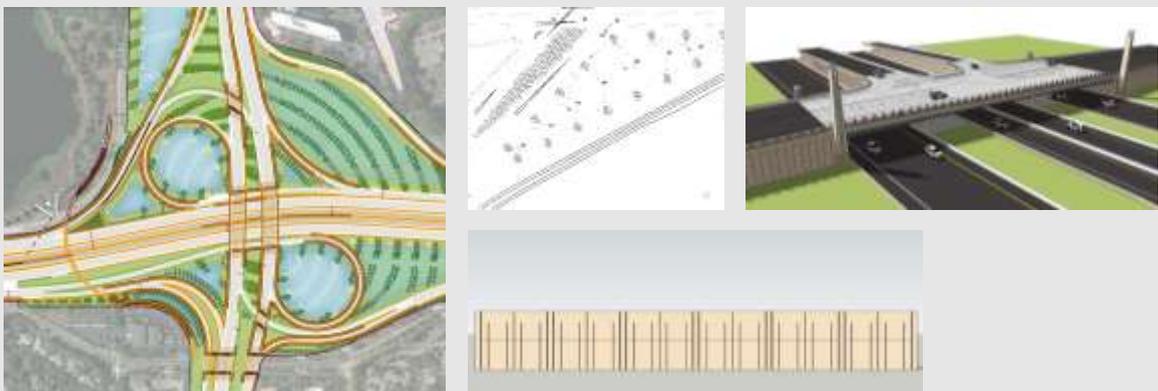
The Challenge

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The Result

Integration of Design Theme & Concepts



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A 'Bold' approach

- Lasting impact on all visitors and resident users
- Spend where the impact is evident / inside and outside contexts both need to be considered
- Florida's unique greenways-to-blueways relationship / interior, not just coastal



The Project

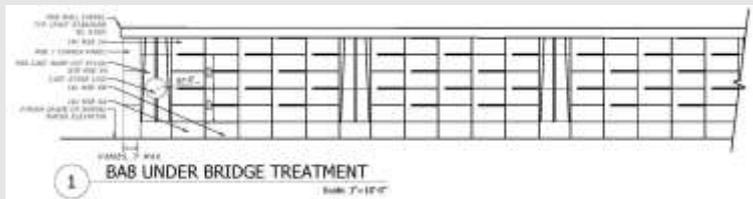
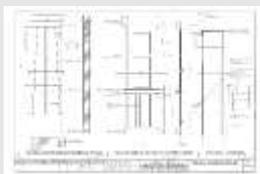
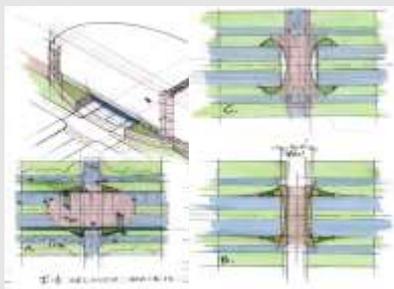
The Challenge

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A 'Bold' approach



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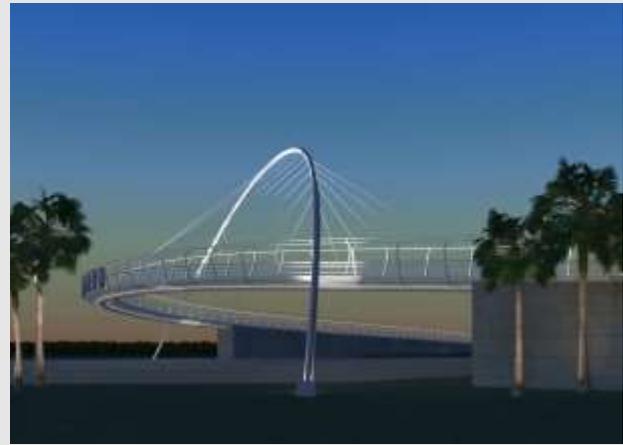
The Challenge

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A 'Bold' approach



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A 'Bold' approach

- Celebrate the sunshine
- Lighting to expand the vision throughout the entire day, even offer something special/different at night
- Landscape
 - Natives, of course
 - But also proven 'winners' and signature Florida identity materials



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A 'Bold' approach

CANOPY TREES



SIGNATURE PALMS



FLOWERING TREES



STANDARD PALMS



The Project

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A 'Bold' approach

Landscape images to clarify the forms, colors and textures of the species in the design palette.

TRANSITIONAL WETLAND TREES



BUFFER TREES



NATIVE SHRUBS & GRASSES



NATIVE SHRUBS & GRASSES



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A 'Bold' approach

Landscape

- Maintenance profile part of the design process
- Recognize limitations of irrigation
- Maturity = Value = Authenticity
- Allow for change



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The 'Bold' approach

MU - Plant Schedule Area 5 Only_3-15-2015						
BULBID TREE	CODE	BOTANICAL NAME	COMMON NAME	TYPICAL SPECIFICATIONS	QTY	REMARKS
	1D	LIRIODENDRON EXCELSUM TH	AMERICAN BELLFLOWER TREE	12-18" x 30" Spc., 4" Cal.	108	FIELD GROWN
	JK	SEK OYAKA	AMERICAN HOLY	12-18" x 30" Spc., 4" Cal.	108	FIELD GROWN
	JL	LIRIODENDRON EXCELSUM TH	AMERICAN BELLFLOWER TREE	12-18" x 30" Spc., 4" Cal.	108	FIELD GROWN
	K	PRUNUS ELAESTICA	BLACK CHERRY	12-14" DBH x 8' Spc., 3" Cal.	213	6"ig containerized
	W	PRUNUS PRAENENSIS	BRITISH BERRY	12-14" DBH x 8' Spc., 3" Cal.	104	6"ig containerized
	WE	PRUNUS PRAENENSIS MAJOR	BRITISH BERRY	12-18" x 30" Spc., 4" Cal.	80	FIELD GROWN
CANOPY TREES	CODE	BOTANICAL NAME	COMMON NAME	TYPICAL SPECIFICATIONS	QTY	REMARKS
	MS	SPYRUS SYLVATICA	SPYRUS	20-18" x 22" Spc., 4" Cal.	81	200g Containerized or Field Grown
	OS	QUERCUS SPANNA	SPANISH BELLFLOWER	20-18" x 22" Spc., 4" Cal.	113	200g Containerized or Field Grown
	OV	QUERCUS VIRGINIANA	SOUTHERN LIVE OAK	20-18" x 22" Spc., 4" Cal.	85	200g Containerized or Field Grown
	UP	ULMUS AMERICANA FLORIBUNDUS	FLORIDA ELM	20-18" x 22" Spc., 4" Cal.	81	200g Containerized or Field Grown
FLOWERING TREES	CODE	BOTANICAL NAME	COMMON NAME	TYPICAL SPECIFICATIONS	QTY	REMARKS
	S	SEDF CARYOPHYLLACEAE	STARBUSS	12-14" DBH x 8' Spc., 4" Cal.	65	200g cont. or Field Grown PPS
	SP	LAVASTROSCAMMUNDA PINE	CRAPPE MYRTLE MULTI TRUNK	12-14" DBH x 8' Spc., Multi-trunk	31	6"ig containerized
	SR	LAVASTROSCAMMUNDA PINE	RED CANK MYRTLE MULTI TRUNK	12-14" DBH x 8' Spc., Multi-trunk	37	6"ig containerized
	SW	LAVASTROSCAMMUNDA WHITE	WHITE CANK MYRTLE MULTI TRUNK	12-14" DBH x 8' Spc., Multi-trunk	41	6"ig containerized
	SM	LAVASTROSCAMMUNDA MAJORELLE	CRAPPE MYRTLE LAVENDER	12-14" DBH x 8' Spc., 3-trunked	40	6"ig containerized
	MS	MASTIXIS GRANDIFLORA	SOUTHERN BAYONNE	12-14" DBH x 8' Spc., 4" Cal.	65	200g cont. or Field Grown PPS



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The 'Bold' approach

Color Palette

- Not really modified significantly
- Strong community identity and 'buy in' already established
- Integration with other adjacent but off-corridor improvements
- Only lightened accents to 'brighten' the palette some



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Constructability & Interdisciplinary Reviews

- Constructability Reviews (CR's) at 60% and 90%
- Interdisciplinary Reviews (IDR's) at Master Plan & 90% stage
- Once sessions are opened, they remain as primary review 'home' through RFC
 - Postings and updates used to inform all disciplines of revisions for verification from initial and interim comments



The Project

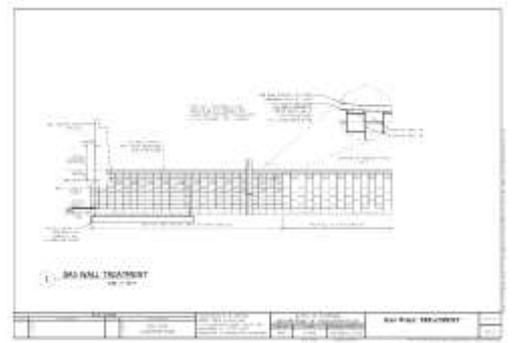
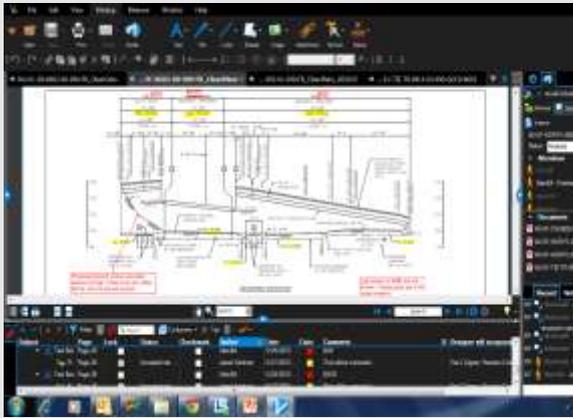
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Constructability & Interdisciplinary Reviews



Cross-discipline review example; checking details before plans are issued for formal review by the CJV and FDOT.



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Constructability & Interdisciplinary Reviews

- After review periods are completed, Comment Resolution meeting(s) scheduled to agree on revisions before proceeding – saves time and frustration
- All CR & IDR sessions must have all comments 'cleared' before QC/QA and final Audit
- Additionally, reconciliation between comments generated in CR and IDR must be addressed if conflicts develop before Audit.



The Project

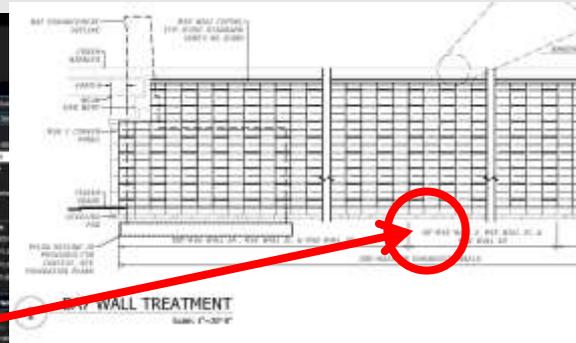
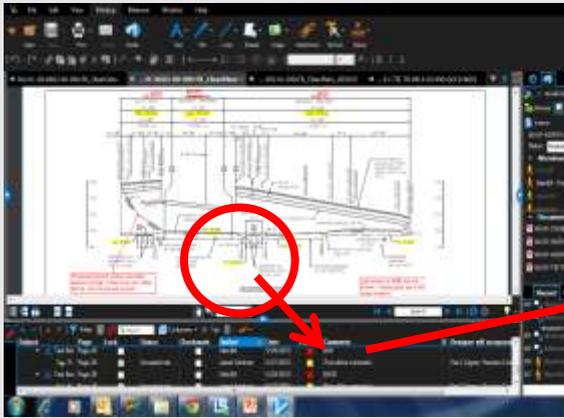
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Constructability & Interdisciplinary Reviews



Process allows for clear understanding of design intent of the plans before RFC and construction phase, limiting RFI's.



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Working Sessions

- Weekly Design Team Internal Corridor-wide (CW) progress status and coordination meetings
 - Includes all Area Managers and Discipline Leads
- Area Specific meetings separated and scheduled separately
 - Allows group to 'drill down' to specific design coordination issues
- Some Areas then even hold Discipline specific focus meetings
 - Area Small Group Structures Meeting, for example



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Aesthetics Agreements & Revisions

- Existing Agreements with municipalities (and Counties) affect all disciplines, not just aesthetics, though they frequently set standards of materials, treatments, finishes, etc.
 - Revised Agreements resulting from Master Plan process further expanded discipline-wide affects in the design phase
 - Concept extension to Support their vision
- Art Endowment Fund



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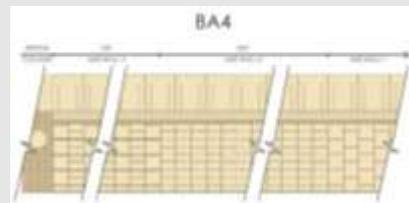
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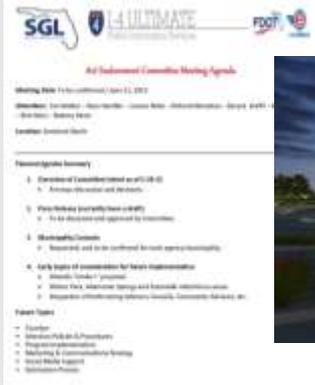
Aesthetics Agreements & Revisions



Prepared revised exhibits for amended Aesthetic Agreements depicting new standards in overall theme.



Art Endowment Fund



Summary

- Interdisciplinary Coordination Key to Success of I-4 Ultimate
 - FDOT - Contract Development
 - Concessionaire/Contractor/Designer – Executing the Contract
- All Disciplines need to be involved
 - Interaction in both large and small groups
 - Integration leads to efficiency
- The Results
 - Time/Cost Savings
 - Unprecedented Signature Corridor



Questions?



Stan Geda, RLA



March 3, 1932 - December 26, 2013