

3.2 PATHWAY COMPONENTS



“Everglades has no single feature, no prominent point of interest now or ever. It is a mosaic of many things seen, smelled, heard and endured.”

– Daniel Beard, first superintendent of Everglades National Park, 1950

Introduction

A path as complex and long as ROGG is made up of hundreds of individual components, each specially designed to meet a need, constraint or opportunity. For this feasibility study and master plan, these components have been developed through broad public involvement and input from public agencies with direct ownership and/or land management responsibilities within the ROGG Study Area.

Typical components are grouped by either location within the cross-section of the U.S. 41 ROW or by function of the component, i.e. trailheads, hubs and wayfinding. This section does not evaluate the feasibility of the individual component, however, most concepts were refined based on input provided by stakeholders and public agency review. The follow is a summary of pathway components documented in this section:

- **Typical Cross-Sections** – This section includes typical cross-sections of existing conditions found throughout the ROGG Study Area as well as 25 various concepts for locating ROGG within or parallel to U.S. 41 ROW.
- **Crossings** – This section provides typical plans of highway or driveway crossings applicable to conditions throughout the ROGG Study Area.
- **Trailheads** – This section provides typical plans for a hierarchy of trailheads that rely on existing or proposed facilities along U.S. 41.
- **Hubs and Gateways** – This section provides plans for typical hubs, multimodal hubs and gateways for conditions present along U.S. 41.
- **Wayfinding** – This section provides examples of pathway wayfinding per adopted standards for Miami-Dade County.

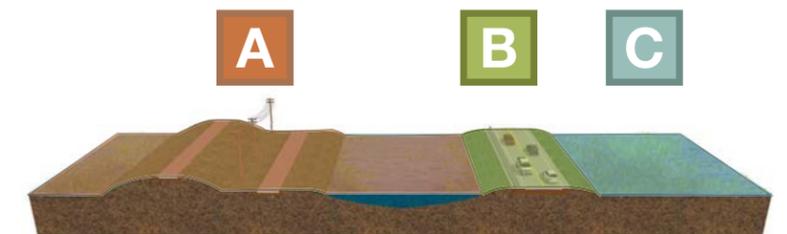
3.2.1 Typical Cross-Sections

Due to the complexity of the ROGG Study Area, cross-sections are the best tool to illustrate the unique existing conditions found in each segment of the study area with proposed concepts. Two primary categories of cross-sections are identified in this section: existing conditions, and conceptual. As in the existing conditions, the conceptual cross-sections are not intended to be applied as one type of path development across the entire 75 miles, but instead applied to a specific condition and location. To this end, the conceptual cross-sections are presented in three categories, shown below; A) Levee and Canal, B) Highway and Shoulders, C) Separated Path.

All conceptual cross-sections is analyzed for feasibility in Section 3.3 of this study.

Location of Path Alternatives

- A. Levee and Canal
- B. Highway and Shoulders
- C. Separated Path

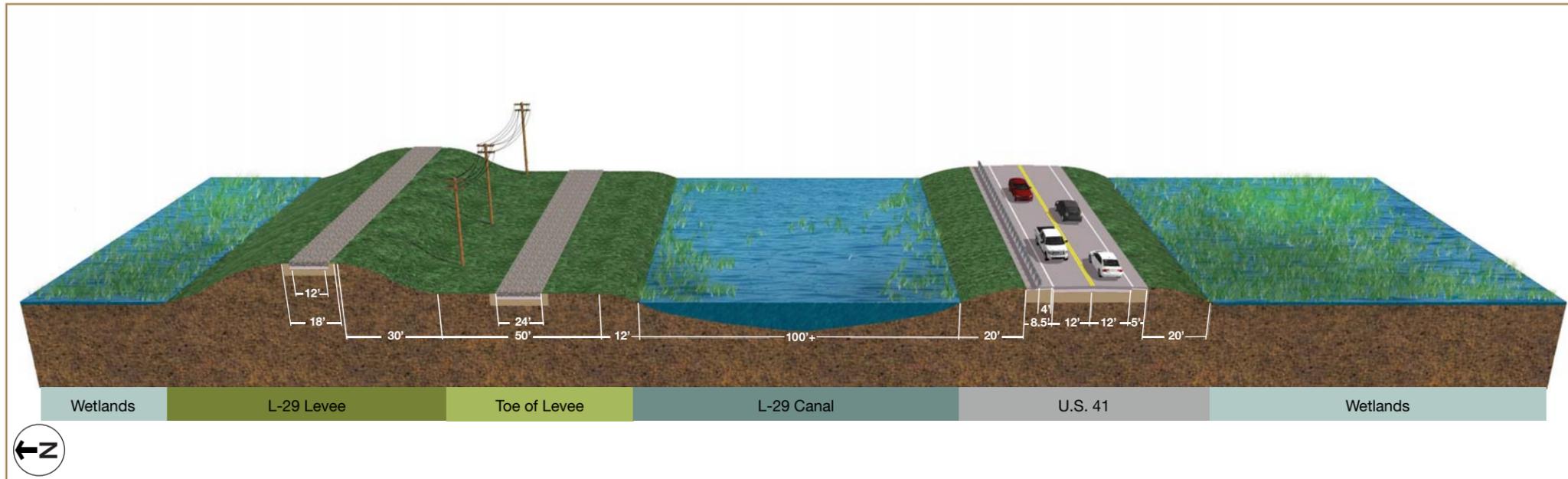


Existing Conditions with Locations of Trail Alternatives

Existing Conditions Cross-Sections

Through wide variations of ROW width, existence of canal(s) and water flow restoration efforts, existing conditions throughout the 75-mile ROGG Study Area are vast and ever-changing. In order to summarize existing conditions, the planning team identified seven cross-sections that represent typical conditions found through the study area.

ROGG East - Existing Levee/ Canal Condition

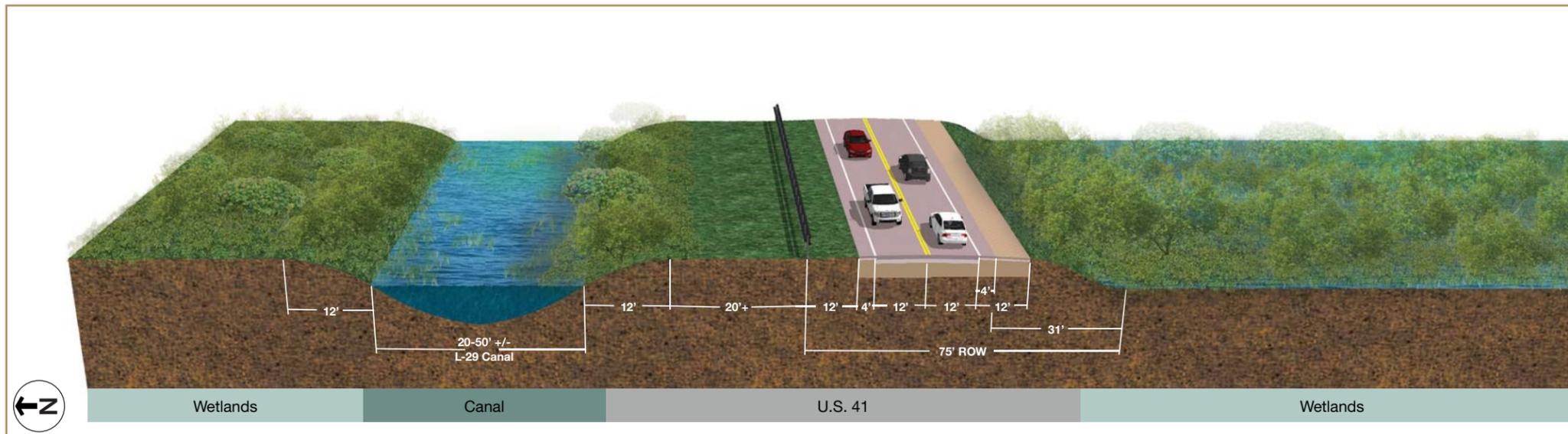


Description

Represents typical conditions for approximately 11 miles of the eastern end of the ROGG Study Area, between Spillway S333/ValuJet Flight 592 Memorial and L-30 Canal. The existing Levee/Canal cross-section identifies the following elements:

- Constrained highway embankment of approximately 78 feet,
- Two 12' travel lanes with 5' shoulder on south side and 8.5' on north side with guardrail barrier,
- Designated wetland directly south of U.S. 41 embankment,
- 100'+ width canal directly north of the highway embankment,
- Toe of levee with a width of approximately 60'+ with a 24'+ wide publicly accessible gravel maintenance road and utility line directly south of levee,
- A levee (L-29) is located north of the utility line and has a 12' gravel road on top with public access.

ROGG East - Existing Canal/ Cable Barrier Condition



Description

Represents typical conditions for approximately 6 miles of the ROGG Study Area between Shark Valley Entrance at Everglades National Park and Spillway S333/ValuJet Flight 592 Memorial. The existing Canal/ Cable Barrier cross-section identifies the following elements:

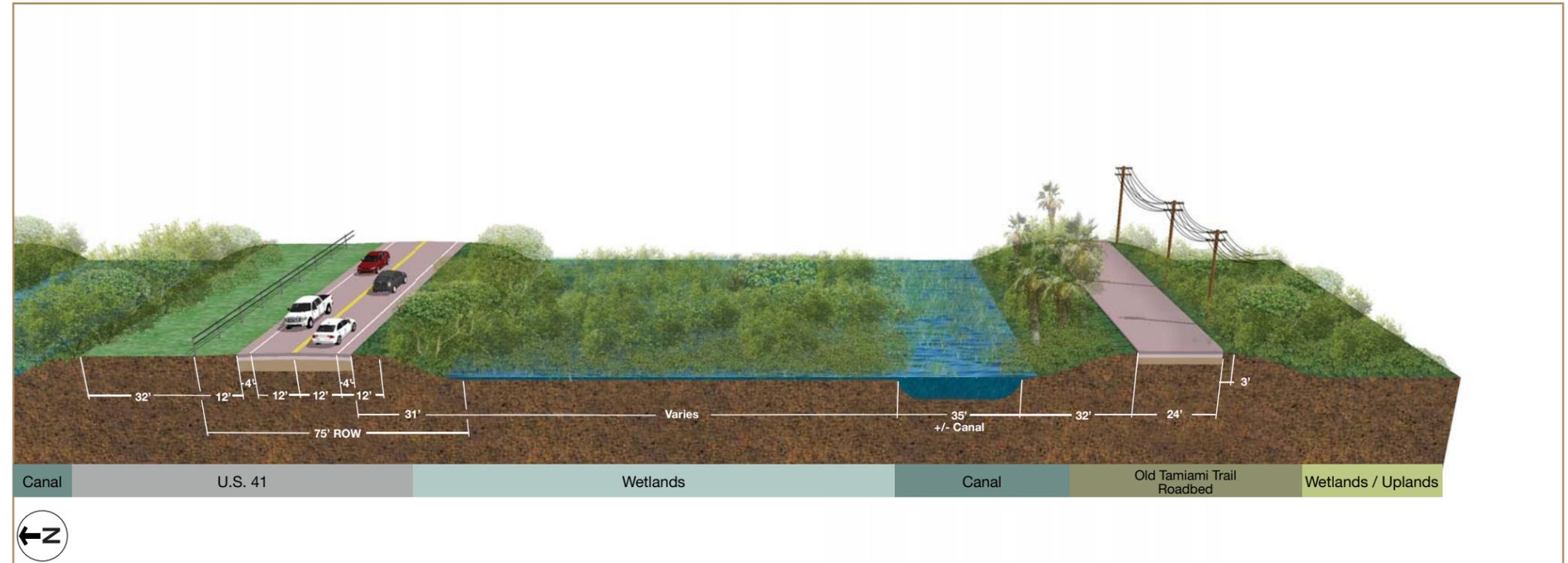
- Constrained U.S. 41 ROW of approximately 75 feet,
- Designated wetland directly south of U.S. 41 embankment,
- Two 12' travel lanes with paved 4' shoulders on north and south side,
- Stabilized gravel shoulder on south side used for informal parking near destinations,
- 50'+ width canal directly north of the highway embankment,
- 20'+ wide maintained area between cable barrier and canal bank, north of U.S. 41 ROW.

ROGG East - Old Tamiami Trail Condition

Description

Represents typical conditions for approximately 6.3 miles of the ROGG Study Area between Spillway S12B and Spillway S333/ValuJet Flight 592 Memorial. The existing Old Tamiami Trail cross-section identifies the following elements:

- Separation from U.S. 41 and Old Tamiami Trail of approximately 350' with a mix of invasive and vegetative overgrowth,
- 24' + wide unmaintained Old Tamiami Trail roadbed,
- Utility line on south side of Old Tamiami Trail,
- Invasive and vegetative overgrowth along Old Tamiami Trail roadbed,
- 35'+ canal on north side of Old Tamiami Trail.

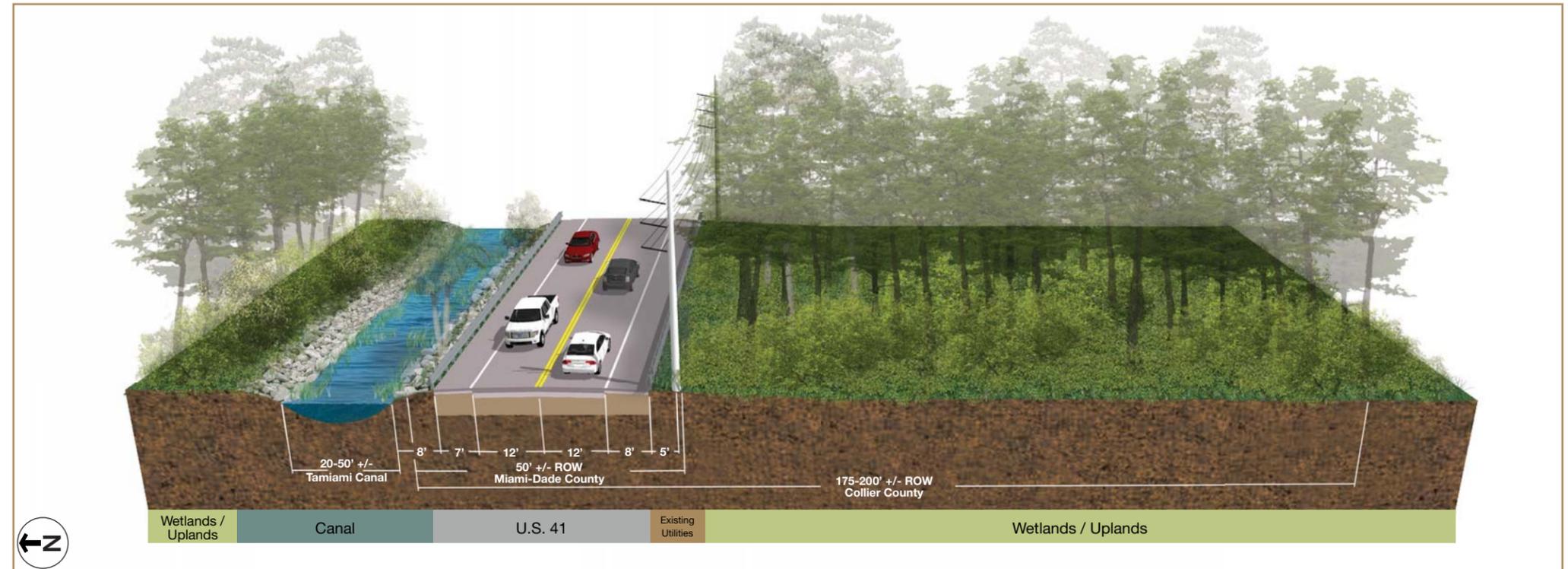


ROGG East and Central - Forty Mile Bend to BICY Oasis Visitor Center Condition

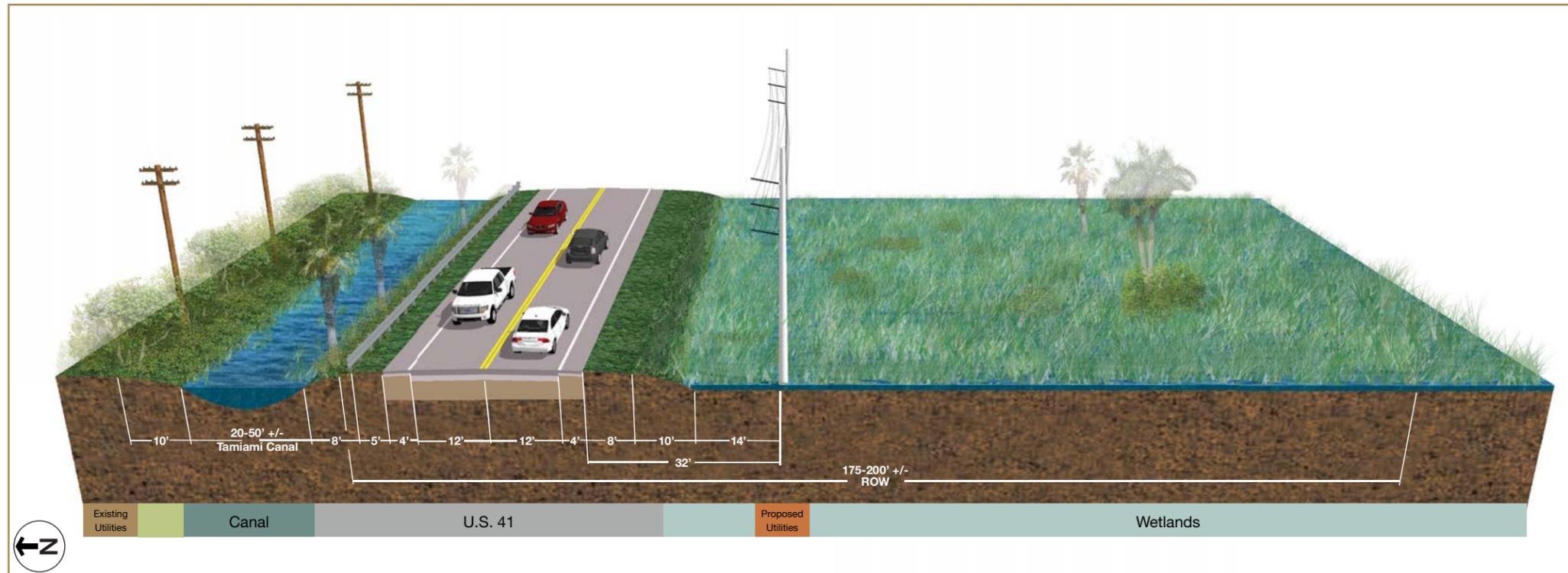
Description

Represents typical conditions for approximately 15 miles of the ROGG Study Area between Forty Mile Bend and BICY Oasis Visitor Center with some additional conditions through cypress strands in ROGG Central and West. The existing Forty Mile Bend to BICY Oasis Visitor Center cross-section identifies the following elements:

- Constrained U.S. 41 ROW of approximately 50' in Miami-Dade County, expanding to 175'+ in Collier County,
- Two 12' travel lanes with 7-8' paved shoulders and guardrail barriers within Miami-Dade County and four foot shoulders and guardrail on canal side of U.S. 41 in Collier County.
- Utility line on south side of U.S. 41 ROW in Miami-Dade County,
- Approximate 8' foot canal bank between canal side guardrail and Tamiami Canal,
- 20'+ canal on north side of U.S. 41 ROW.



ROGG Central and West - Existing Canal and Marsh Condition

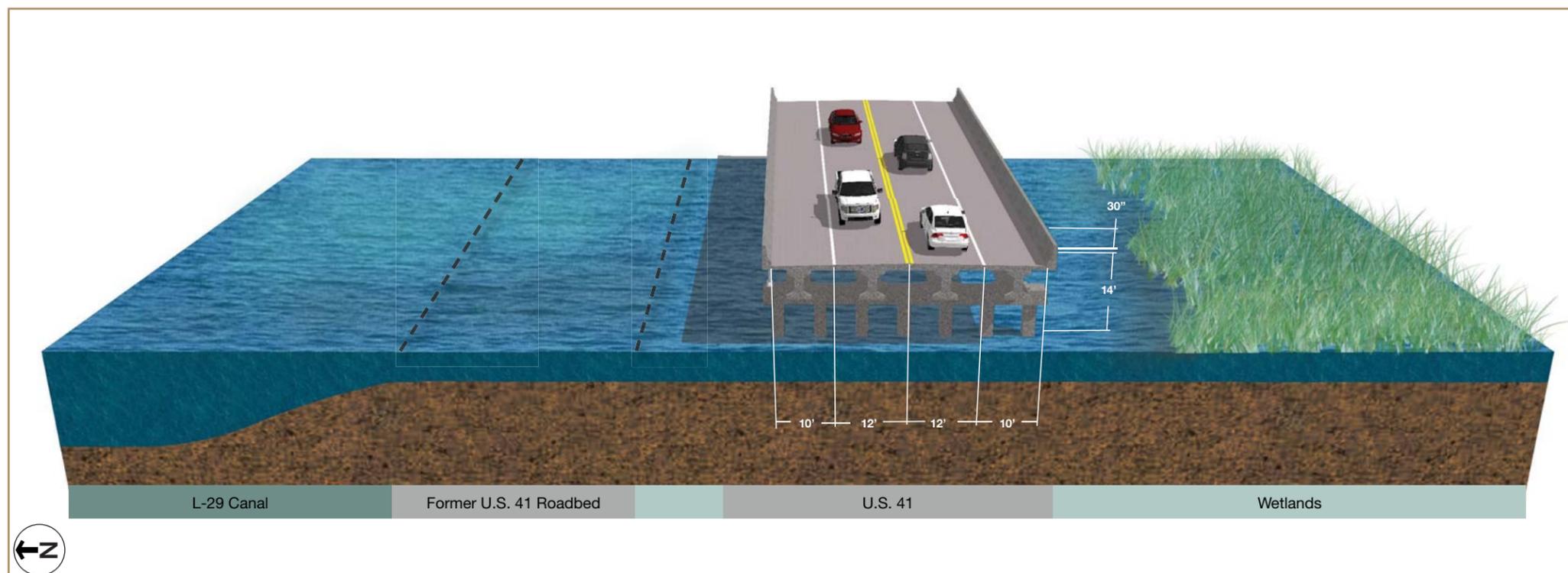


Description

Represents typical conditions for approximately 35.5 miles of the ROGG Study Area between BICY Oasis Visitor Center to Corey Billie's Airboat Rides in ROGG West. This condition is typical mixed with the Forty Mile Bend to BICY Oasis Visitor Center conditions. The existing Canal and Marsh cross-section identifies the following elements:

- 175-200' +/- U.S. 41 ROW throughout Collier County,
- Two 12' travel lanes with 4' shoulders and guardrail on canal side of U.S. 41,
- Utility line on north side of Tamiami Canal from ROGG West to Eleven Mile Road, proposed to be removed,
- Proposed utility line on south from S.R. 29 to Eleven Mile Road, 32' maximum from edge of U.S. 41,
- Approximate 8' canal bank between canal side guardrail and Tamiami Canal,
- 20' +/- canal on north side of U.S. 41 ROW.

ROGG East - Existing 1.1 Mile Bridge Condition



Description

Represents typical conditions for approximately 1.1 miles at the location of the existing 1.1 Mile Bridge. The existing 1.1 Mile Bridge cross-section identifies the following elements:

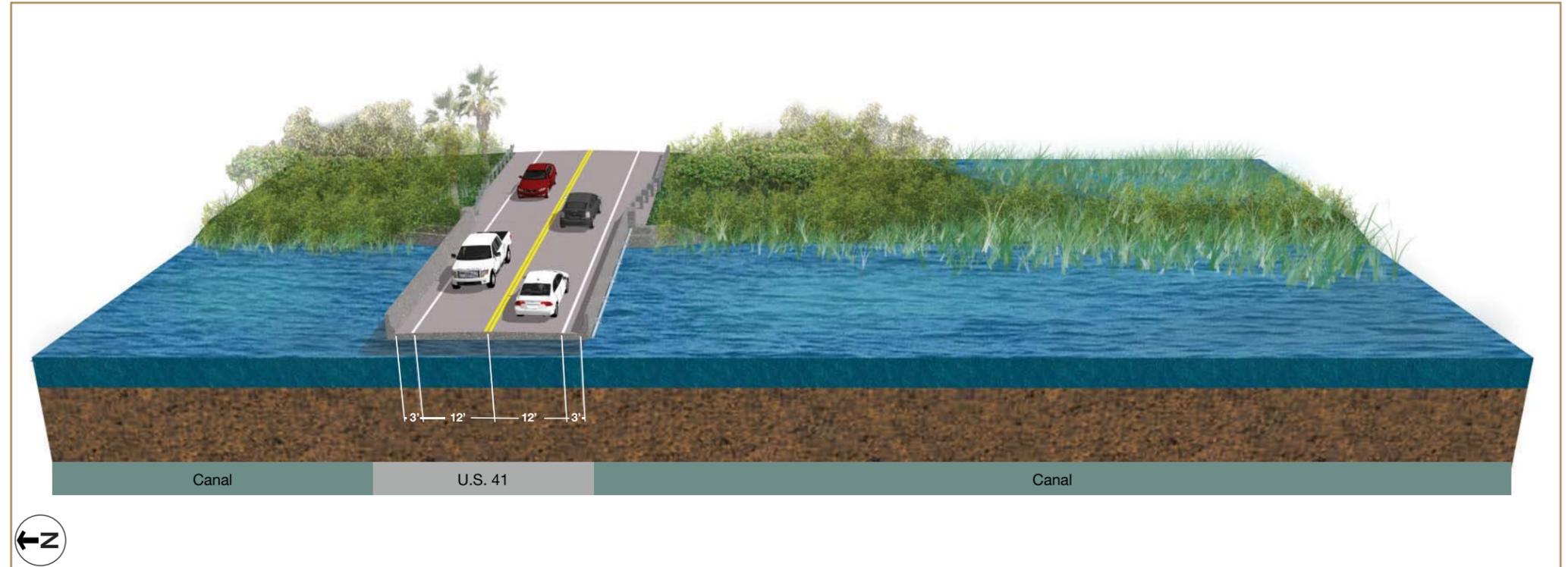
- Current conditions for 1.1 mile bridge of the Mod Waters Project,
- Two 12' travel lanes with ten foot shoulders,
- Located directly south of former U.S. 41 roadbed,
- L-29 Canal adjacent to former U.S. 41 roadbed.

ROGG Central and West - Existing Bridge Condition

Description

Represents typical conditions for approximately 72 bridges and culverts throughout ROGG Central and West as well as similar conditions for 4 water control structures (S12) in the ROGG East area. The existing Bridge cross-section identifies the following elements:

- Narrowest existing conditions for entire Study Area,
- Two 12' travel lanes with three foot shoulders,
- Bridges are typically located in northern 1/4 of U.S. 41 ROW,
- Bridges in ROGG Central recently renovated with new curbs and guardrails on edges,
- Bridges cannot support cantilevered path due to construction type,
- Bridges are typically 50-100' in length.



Conceptual Cross-Sections

A Levee and Canal Typical Cross-Sections

Type 'A' typical cross-sections focus on concepts involving the L-29 or Tamiami Canals and areas north of the canal.

Path on Top of Levee



Description

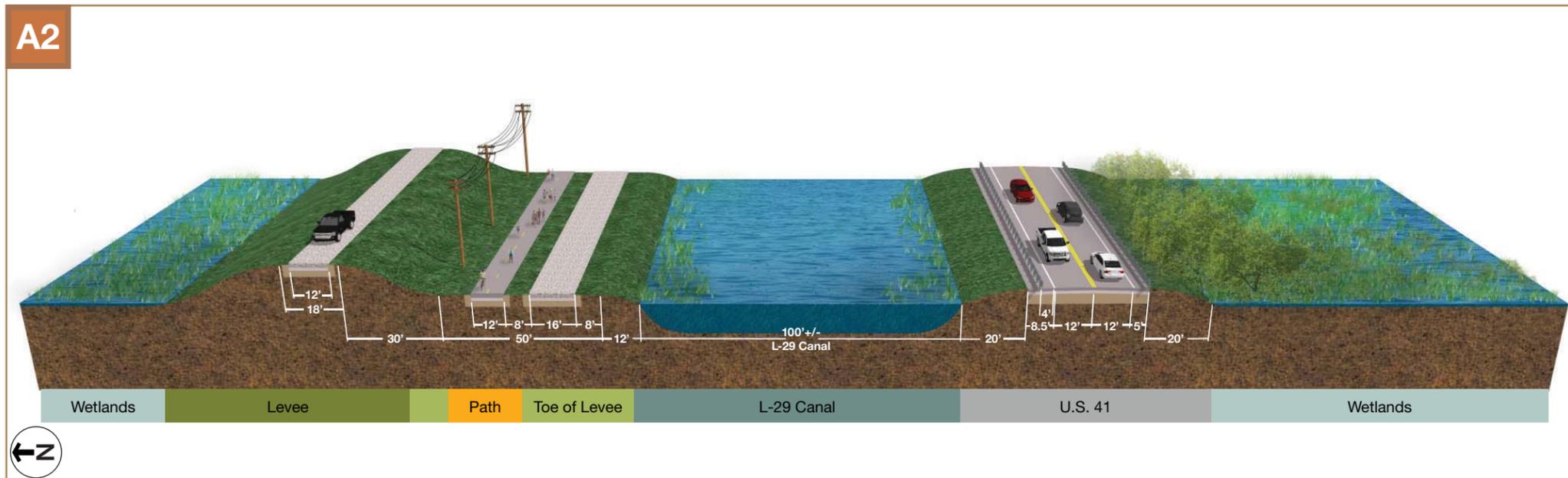
The 'Path on Top of Levee' concept is applicable primarily in the ROGG East area and includes the following elements:

- 12' hard-surface path located on top of existing levee,
- 2' stabilized shoulders on either side of path,
- Separation of primary public motorized-vehicle traffic to toe-of-levee maintenance road,
- Typically provides unobstructed views of the surrounding landscape and provides maximum separation of pathway users from traffic on U.S. 41.

Feasibility Notes:

- SFWMD generally does not approve hard-surface pavement for levee top paths/trails due to increased maintenance needs,
- Few connection points between levee and U.S. 41,
- Public motorized vehicles may prefer to drive on path.

Path on Toe of Levee



Description

The 'Path on Toe of Levee' concept is applicable primarily in the ROGG East area and includes the following elements:

- 12' hard-surface path located at toe of existing levee,
- 2' stabilized shoulders on either side of path,
- Separation of primary public motorized-vehicle traffic to top-of-levee maintenance road and adjacent 16' gravel maintenance road,
- 8' spatial separation between path and adjacent maintenance road,
- Provides a high-level of separation from U.S. 41 traffic.

Feasibility Notes:

- Few connection points between levee and U.S. 41,
- Public motorized vehicles may prefer to drive on path as paved surface is smoother than gravel maintenance road.

Path on North Side of Canal

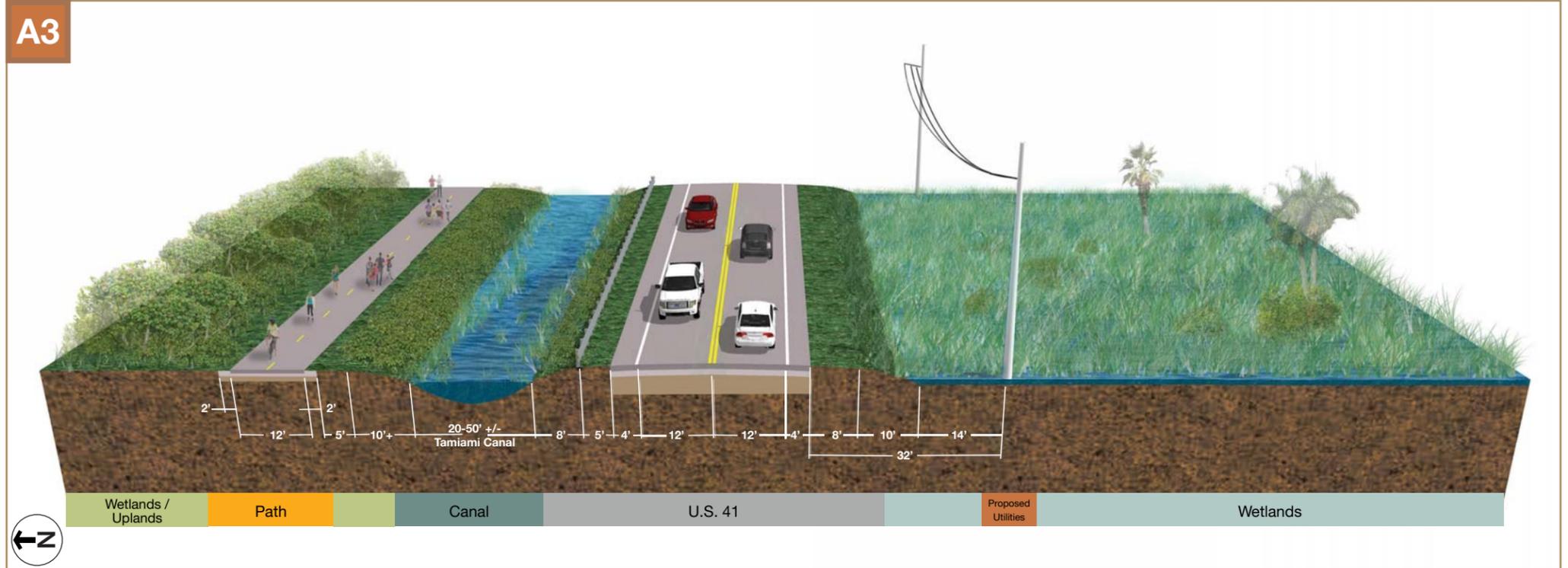
Description

The 'Path on North Side of Canal' concept is potentially applicable in select areas and includes the following elements:

- 12' hard-surface path located on north side of existing Tamiami Canal,
- 2' stabilized shoulders on either side of path,
- Minimum 15 foot spatial separation between path and Tamiami Canal,
- Potential for a high-level experience for users due to proximity to Tamiami Canal,
- Provides a high-level of separation from U.S. 41 traffic.

Feasibility Notes:

- Few connection points between path and U.S. 41,
- Existing utility lines run in approximate route,
- Extensive invasive and vegetation overgrowth exists,
- May have significant impact on designated wetlands were new fill or berming is required.



Floating Boardwalk Path

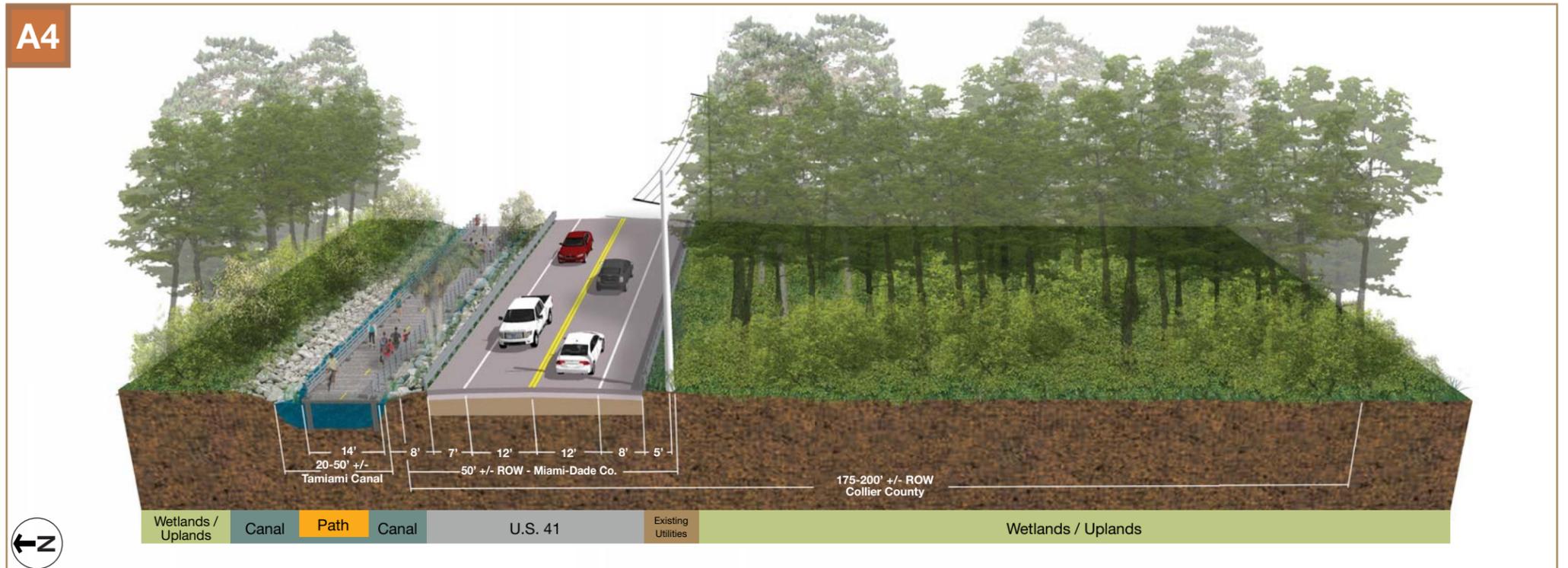
Description

The 'Floating Boardwalk Path' concept is potentially applicable in select areas and includes the following elements:

- 14' hard-surface floating path located on existing Tamiami Canal,
- 2' shy-zone on canal side of path,
- Floating boardwalk would raise and lower depending upon seasonal and tidal flow of Tamiami Canal,
- Provides a high-level of separation from U.S. 41 traffic.

Feasibility Notes:

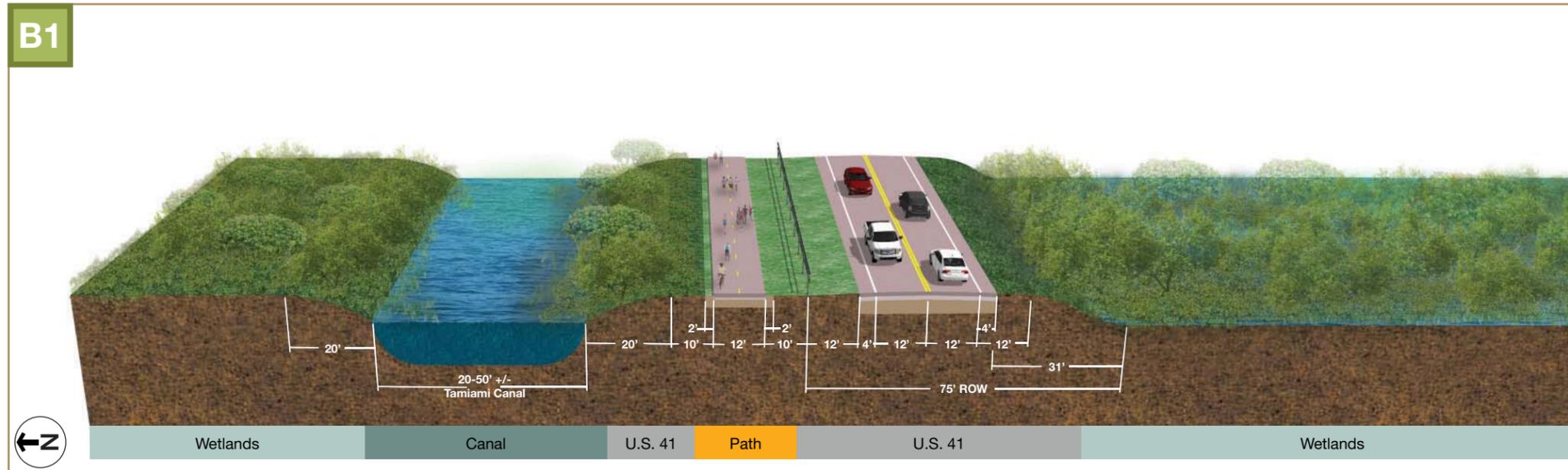
- Few connection points between path and U.S. 41,
- Extensive invasive and vegetation overgrowth exists,
- Seasonal and/or tidal water levels and driveway crossings may present significant design challenges,
- May have significant impact on canal conditions due to shadowing effect of boardwalk,
- Construction, though minimized due to boardwalk design, may have significant impact on canal and would require use of railing on both side of path.



B Highway and Shoulder Typical Cross-Sections

Type 'B' typical cross-sections focus on concepts involving the U.S.41 embankment and bridges.

Path Between Cable Barrier and Canal



Description

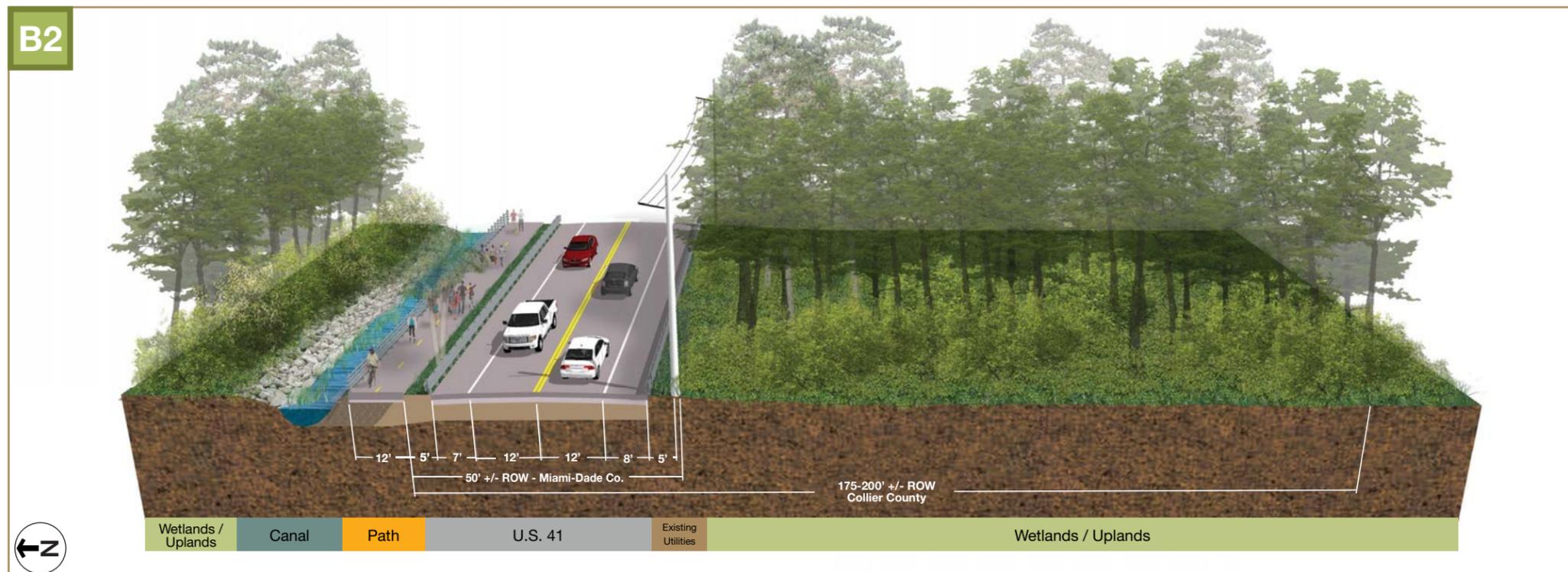
The 'Path Between Cable Barrier and Canal' concept is potentially applicable in ROGG East and includes the following elements:

- 12' hard-surface pathway between existing cable barrier and Tamiami Canal,
- 2' stabilized shoulders on either side of path,
- Spatial allowance for minimum meandering of pathway,
- Provides a medium-level of separation with spatial and physical barrier from U.S. 41 traffic.

Feasibility Notes:

- Few connection points between path and U.S. 41,
- Few opportunities for new trailhead or rest areas/stops without impact to cable barrier,
- Design challenges for private properties, mostly airboat vendors primarily west of the Shark Valley Entrance at ENP.

Path on Partially Filled Canal



Description

The 'Path on Partially Filled Canal' concept is potentially applicable in select areas and includes the following elements:

- 12' hard-surface pathway on partial fill within Tamiami Canal,
- Provides a high-level experience for users with opportunities for up-close observation of Tamiami Canal,
- Provides a medium-level of separation with physical barrier from U.S. 41 traffic.

Feasibility Notes:

- Few connection points between path and U.S. 41,
- Few opportunities for new trailhead or rest areas/stops,
- Requires use of railing when adjacent to open water or drops greater than 30" in height,
- Potentially high cost of fill, railing and mitigation requirements due to impacts to Tamiami Canal,
- Design challenges for driveway and highway crossings connections.

Path on Sheet Pile Wall Adjacent to Canal

Description

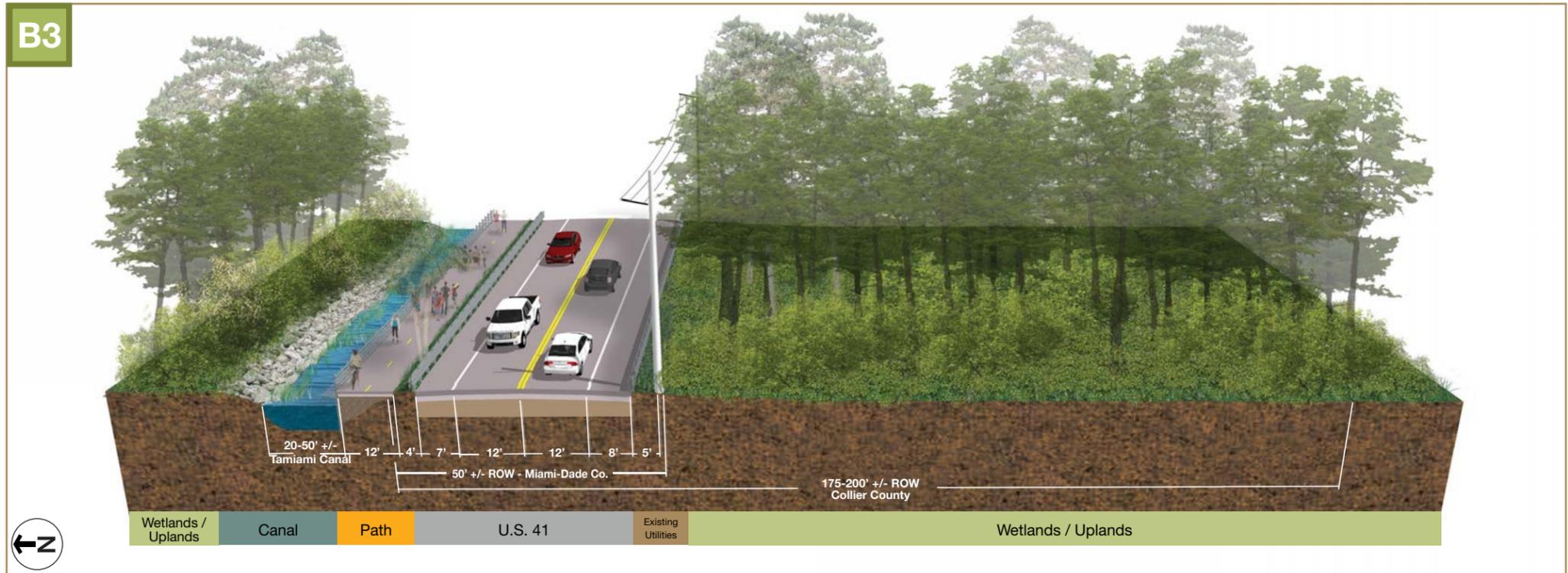
The 'Path on Sheet Pile Wall Adjacent to Canal' concept is potentially applicable in select areas and includes the following elements:

- 12' hard-surface pathway on partial fill with sheet-pile wall within Tamiami Canal,
- Provides a high-level experience for users with opportunities for up-close observation of Tamiami Canal,
- Provides a medium-level of separation with physical barrier from U.S. 41 traffic.

Feasibility Notes:

- Few connection points between path and U.S. 41,
- Few opportunities for new trailhead or rest areas/stops,
- Requires use of railing when adjacent to open water or drops greater than 30" in height,
- Potentially high cost of fill, railing and mitigation requirements due to impacts to Tamiami Canal,
- Design challenges for driveway and highway crossings connections.

B3



Path Cantilevered on Sheet Pile Wall Adjacent to Canal

Description

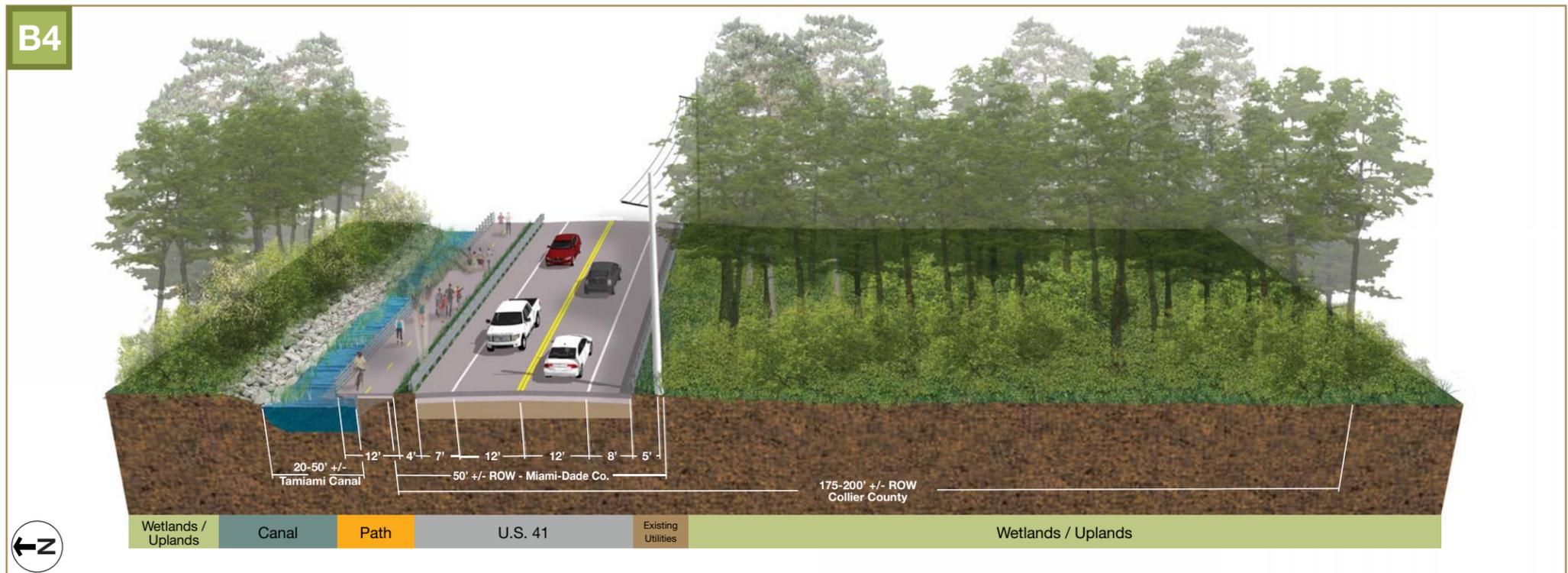
The 'Path Cantilevered on Sheet Pile Wall Adjacent to Canal' concept is potentially applicable in select areas and includes the following elements:

- 12' hard-surface pathway cantilevered with sheet-pile wall within Tamiami Canal,
- Provides a high-level experience for users with opportunities for up-close observation of Tamiami Canal,
- Provides a medium-level of separation with physical barrier from U.S. 41 traffic.

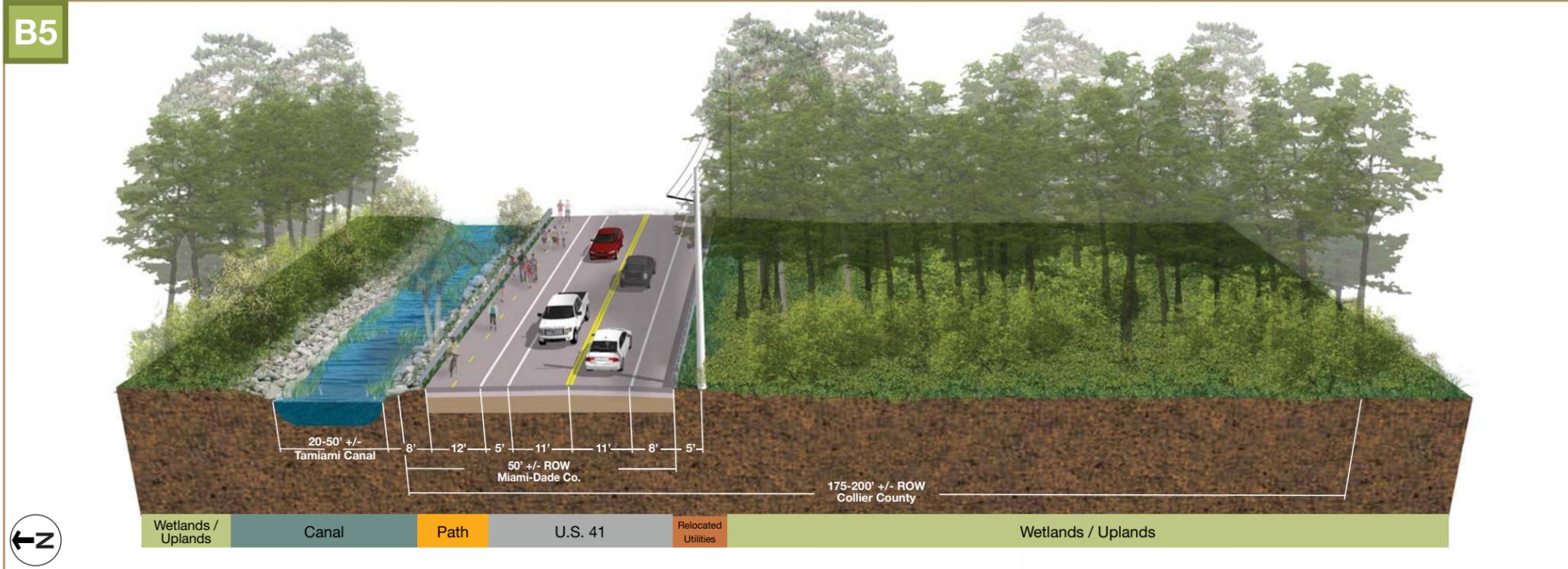
Feasibility Notes:

- Few connection points between path and U.S. 41,
- Few opportunities for new trailhead or rest areas/stops,
- Requires use of railing when adjacent to open water or drops greater than 30" in height,
- Potentially high cost of sheet pile, cantilevered trail and mitigation requirements due to impacts to Tamiami Canal,
- Design challenges for driveway and highway crossings connections.

B4



Path on North-side of Highway/ Lanes Shift



Description

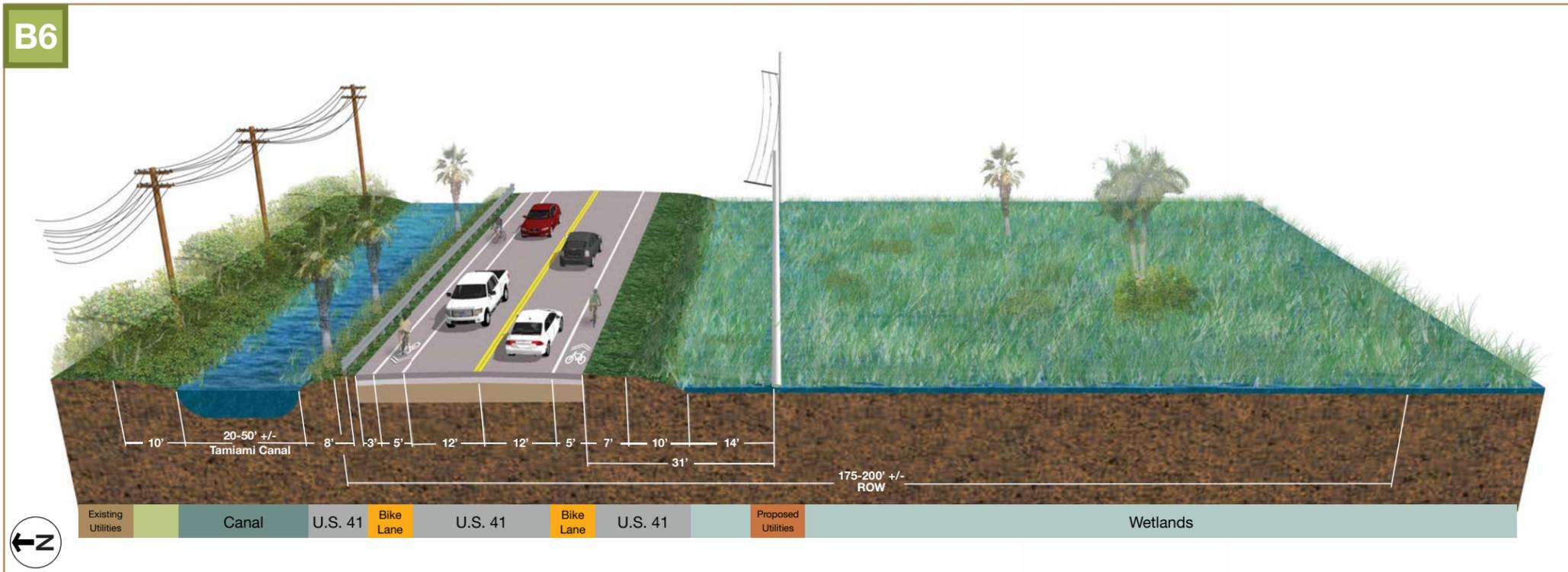
The 'Path on North-side of Highway/ Lanes Shift' concept is potentially applicable in select areas and includes the following elements:

- 12' hard-surface pathway on U.S. 41 located on north-side of highway,
- Provides a low-level experience for users highlighted by opportunities for close-up observation of the Tamiami Canal,
- Provides a low-level of separation with minimally required spatial separation from U.S. 41 traffic.

Feasibility Notes:

- Few opportunities for new trailhead or rest areas/stops,
- Potentially high cost of expanding U.S. 41 roadbed by eight feet to the south-side and relocating existing utilities,
- Lack of ability to treat stormwater run-off from pathway and highway prior to entry into Tamiami Canal,
- Design challenges for driveway and highway crossings connections.,
- Creates additional width for animals to cross travel lanes adjacent to guardrail.

On-Road Bike Facilities



Description

The 'On-Road Bike Facilities' concept is potentially applicable in select areas and includes the following elements:

- Minimum bike facilities located on U.S. 41,
- Provides a low-level experience for cyclist,
- Provides a low-level of separation with minimally required 5' bike lanes.

Feasibility Notes:

- Lacks pedestrian facilities,
- Bike lanes may be blocked by vehicles parking on shoulder of U.S. 41.
- Potential low cost of implementation for vast stretches of ROGG Study Area with one-foot expansion of existing paved shoulders,
- Significant constraints at existing bridges due to three-foot shoulders on bridges with a potentially high-cost of widening bridges.

Path on South-side of Highway/ Lanes Shifted

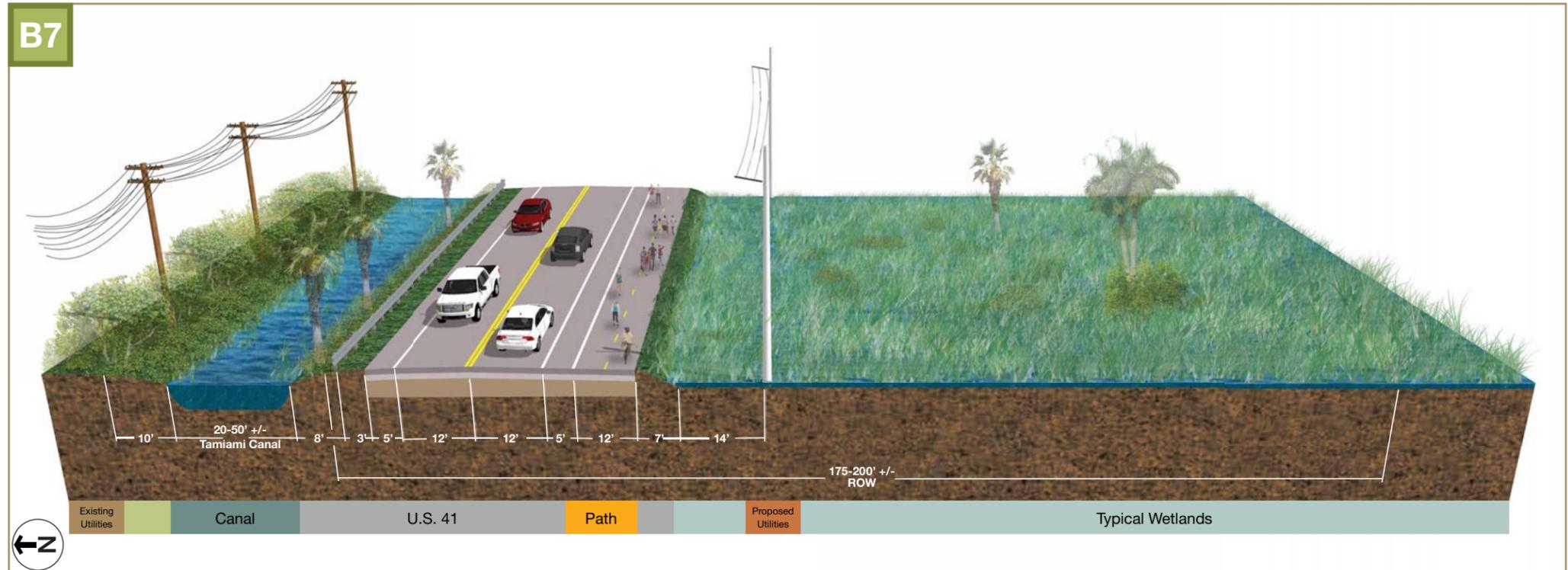
Description

The 'Path on South-side of Highway/ Lanes Shift' concept is potentially applicable in select areas and includes the following elements:

- 12' hard-surface pathway on U.S. 41 located on south-side of highway,
- Provides a low-level experience for users highlighted by opportunities to observe open views to the south of highway,
- Provides opportunity to locate proposed new utility lines further from U.S. 41,
- Provides a low-level of separation with minimally required spatial separation from U.S. 41 traffic.

Feasibility Notes:

- Path may be partially blocked by vehicles parking on shoulder of U.S. 41,
- Potentially low to medium cost of expanding U.S. 41 roadbed by eight feet to the south-side and relocating existing utilities,
- Design challenges for driveway and highway crossings connections.



Path on Steep Fill within Maintained ROW

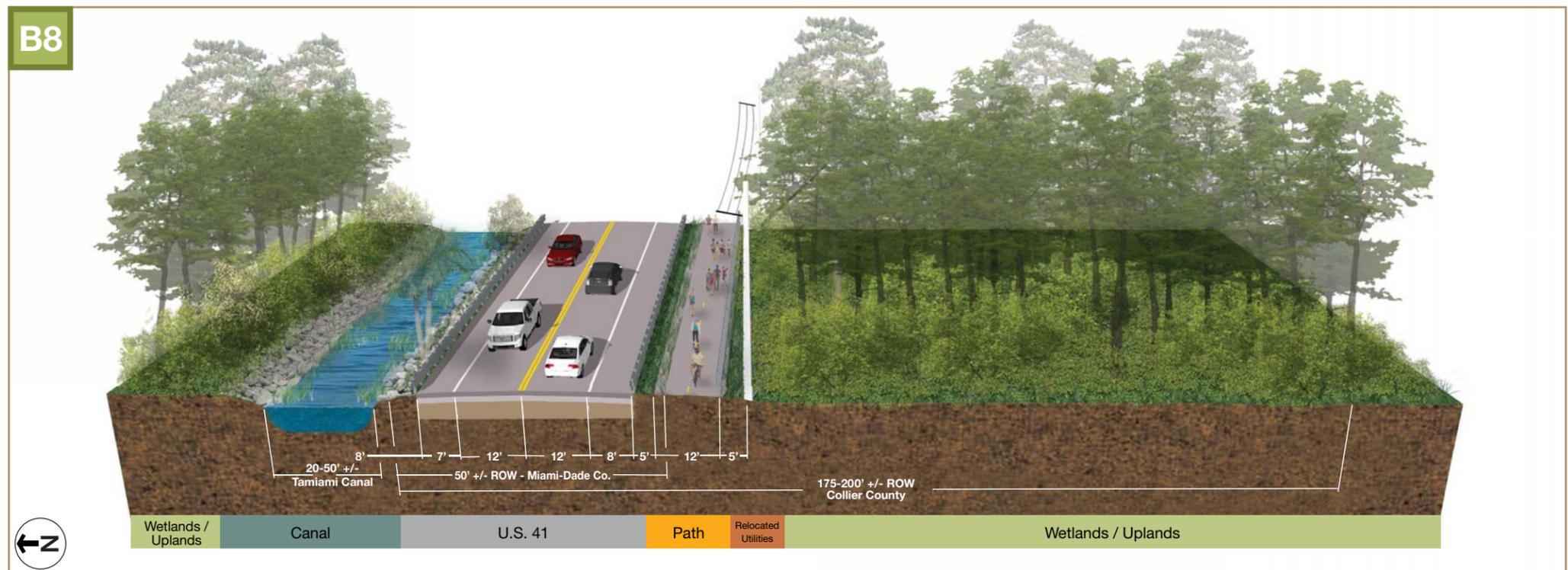
Description

The 'Path on Steep Fill within Maintained ROW' concept is potentially applicable in select areas and includes the following elements:

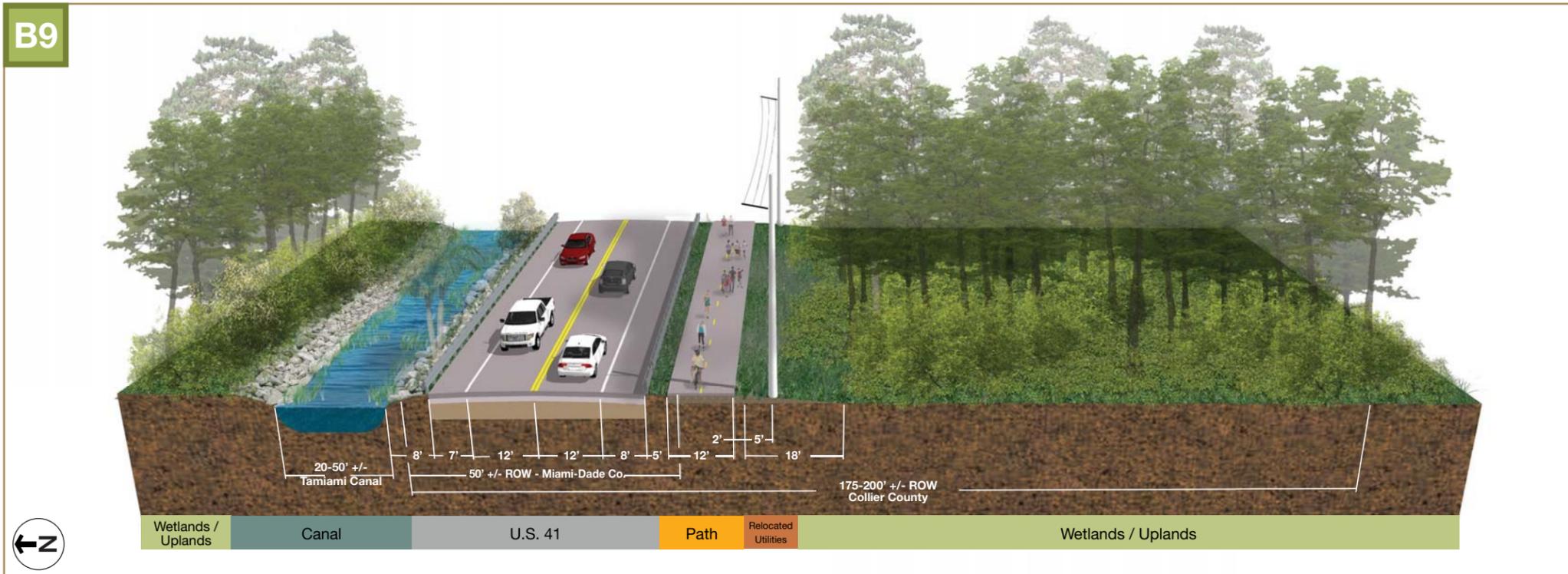
- 12' hard-surface pathway on U.S. 41 located on south-side of highway,
- Provides a low to medium-level experience for users highlighted by opportunities to observe views to the south of highway,
- Provides a medium-level of separation with physical barrier separation from U.S. 41 traffic.

Feasibility Notes:

- Potentially medium cost of relocating existing utilities, retaining wall and railing should height from trail surface to existing grading is greater than 30",
- Design challenges for driveway and highway crossings connections.



Path on Expanded Shoulder



Description

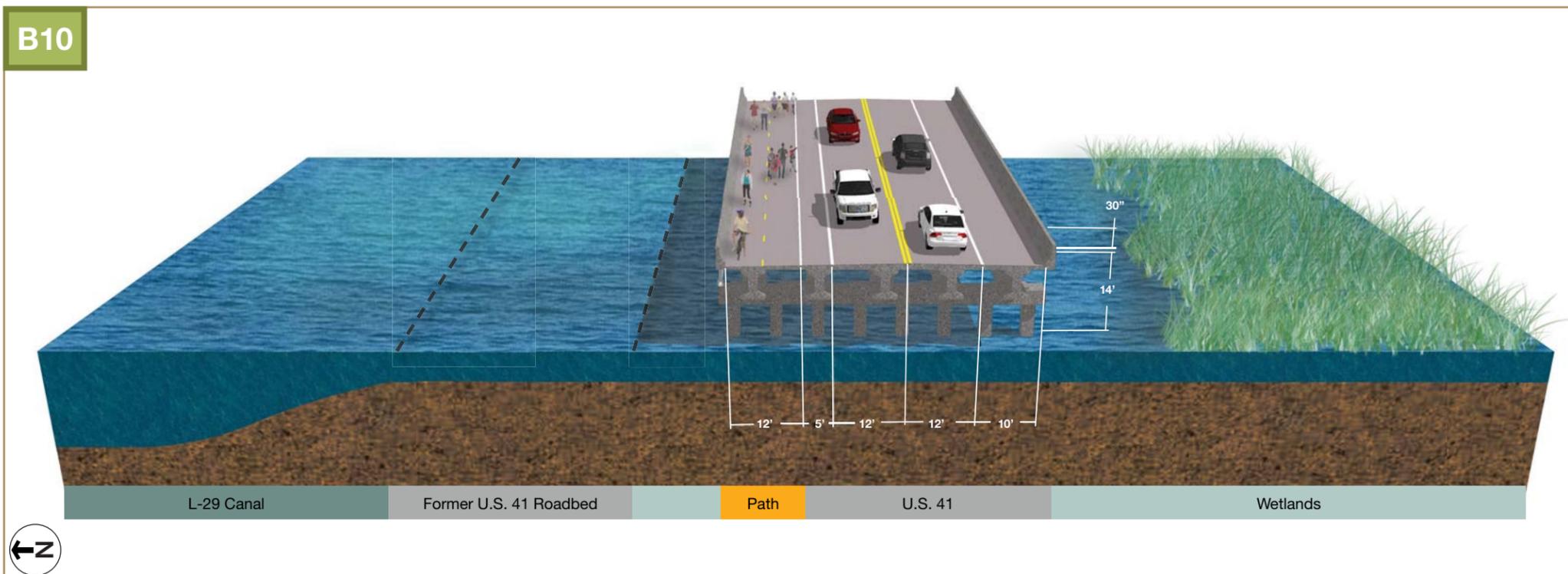
The 'Path on Expanded Shoulder' concept is potentially applicable in select areas and includes the following elements:

- 12' hard-surface pathway on U.S. 41 located on south-side of highway,
- Provides a low to medium-level experience for users highlighted by opportunities to observe open views to the south of highway,
- Provides a medium-level of separation with physical barrier separation from U.S. 41 traffic.

Feasibility Notes:

- Potentially low to medium cost of relocating existing utilities, additional fill and grading, mitigation and railing should height from trail surface to existing grading is greater than 30".

Path on Proposed Bridge



Description

The 'Path on Proposed Bridge' concept is potentially applicable in select areas in ROGG East and includes the following elements:

- 12' hard-surface pathway on proposed U.S. 41 bridges,
- Provides a low to medium-level experience for users highlighted by opportunities to observe views from the bridge to the north,
- Provides a low-level of separation with minimum spatial separation from U.S. 41 traffic.

Feasibility Notes:

- Potentially high-level of cost due to construction costs of expanding the highway bridge to accommodate 7' additional width,
- Path may be partially blocked by vehicles parking on shoulder of U.S. 41.

Path Next to Existing or Proposed Bridge/ Separate Facility

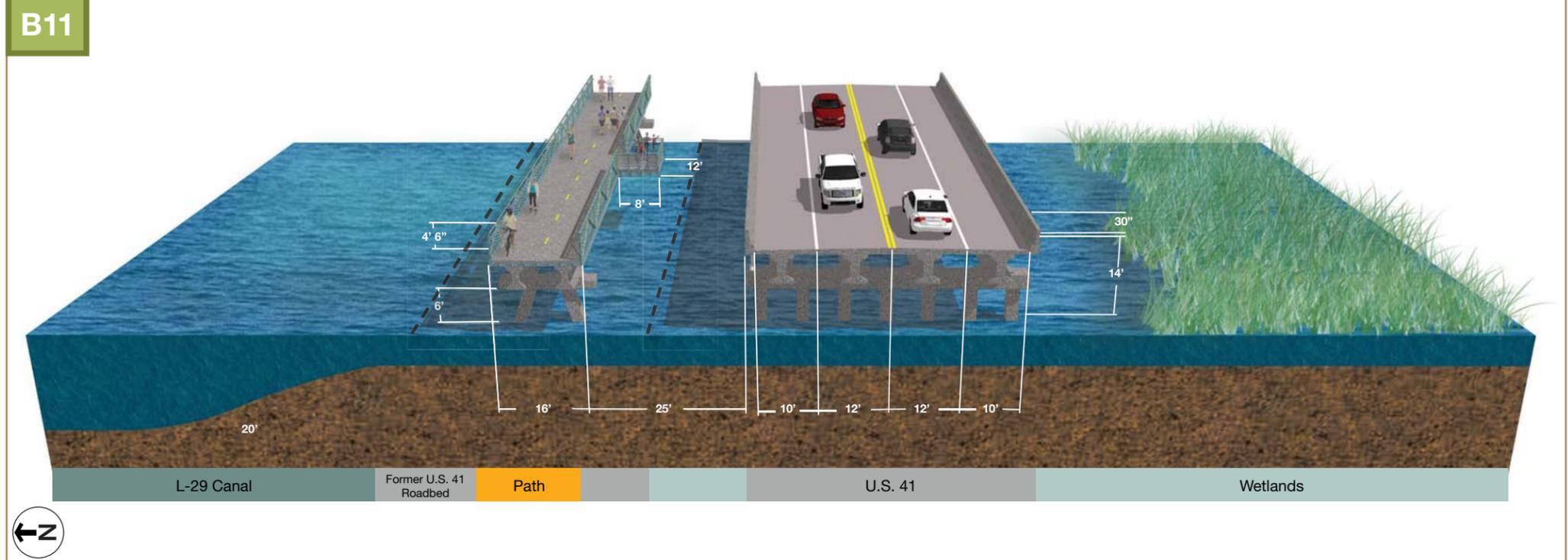
Description

The 'Path Next to Existing or Proposed Bridge/ Separate Facility' concept is potentially applicable in select areas in ROGG East and includes the following elements:

- 16' hard-surface boardwalk path next to proposed or existing U.S. 41 bridges,
- 2' shy-zones on both sides of boardwalk,
- Provides a medium to high-level experience for users highlighted by opportunities to observe views from the bridge to the north,
- Opportunity to include projecting fishing platforms from boardwalk,
- Provides a medium to high-level of separation with physical separation from U.S. 41 traffic.

Feasibility Notes:

- Potentially high-level of cost due to construction costs for separate boardwalk facilities,
- Boardwalk would have to be designed to coordinate with ongoing CEPP restoration efforts and proposed projects.



Path Next to Existing Bridge/ Separate Facility

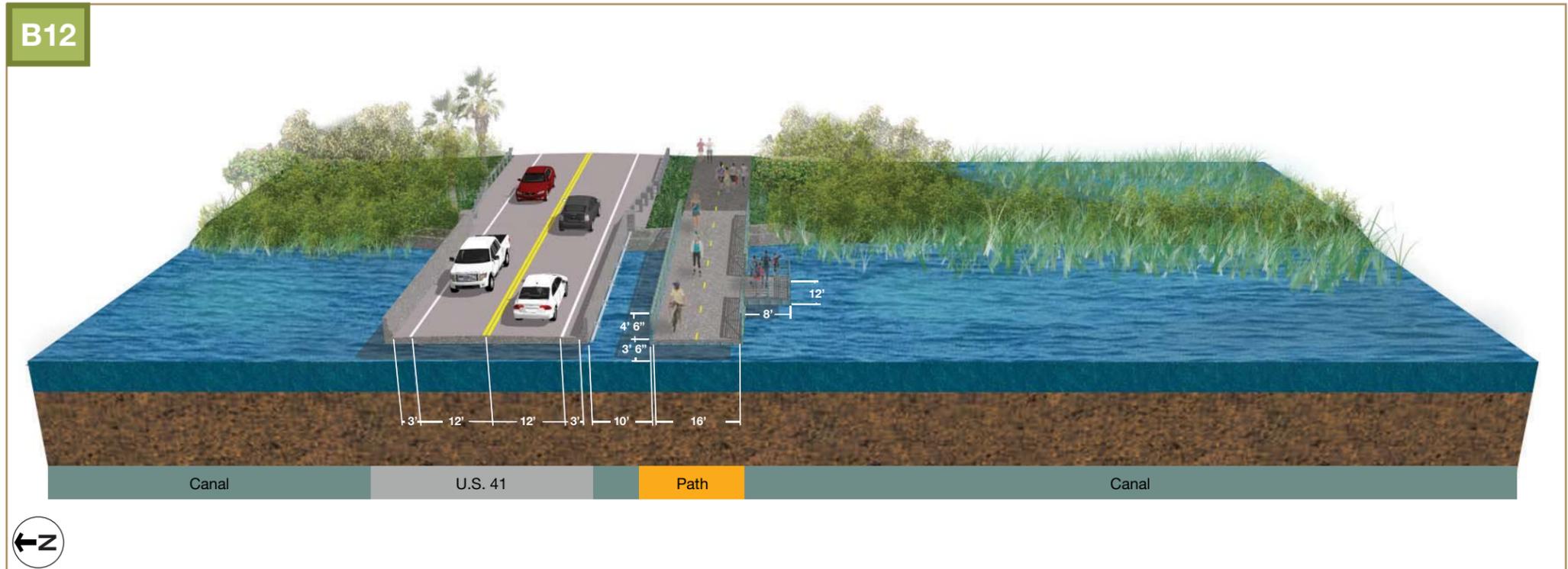
Description

The 'Path Next to Existing Bridge/ Separate Facility' concept is potentially applicable where existing bridges and spillways are located and includes the following elements:

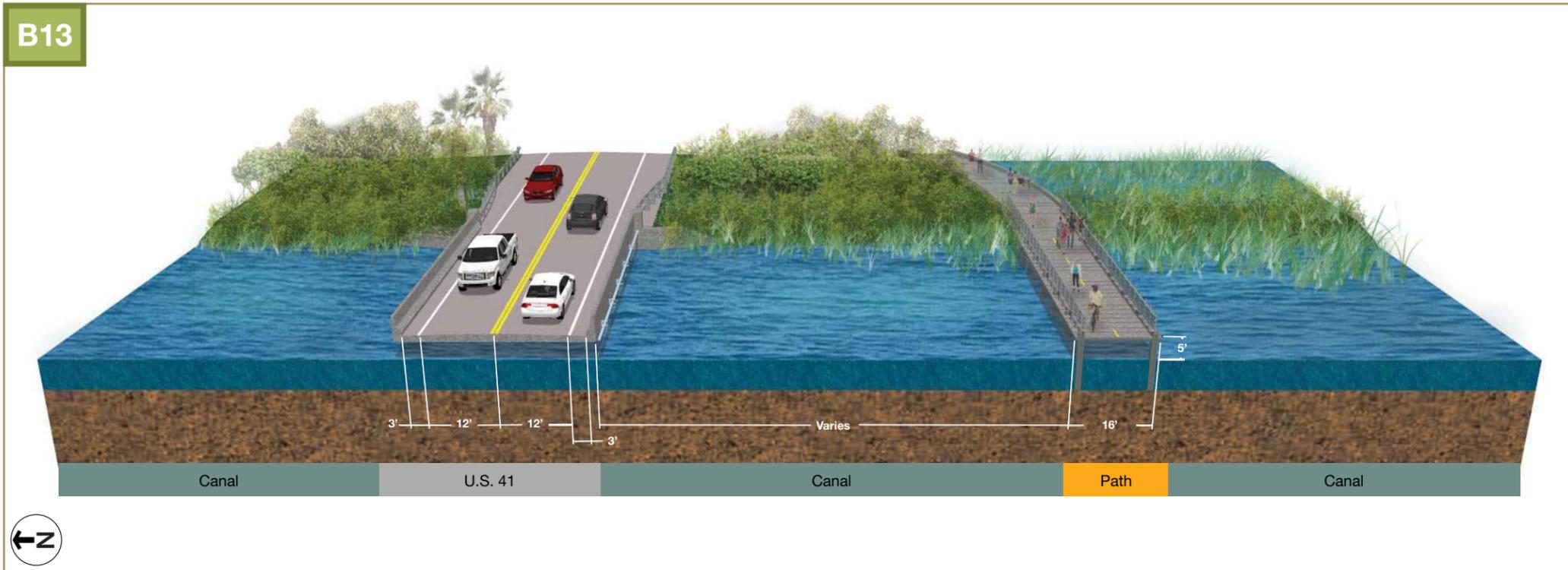
- 16' hard-surface bridge next to existing U.S. 41 bridges,
- 2' shy-zones on both sides of boardwalk,
- Provides a medium to high-level experience for users highlighted by opportunities to observe open views from the bridge to the south,
- Opportunity to include projecting fishing platforms from boardwalk,
- Provides a medium to high-level of separation with physical separation from U.S. 41 traffic.

Feasibility Notes:

- Potentially high-level of cost due to construction costs for separate bridge facilities,
- Mitigation impact from extending existing bridge headwalls, shadowing of canal and construction.



Path on Separate Boardwalk Facility Next to Existing Bridge



Description

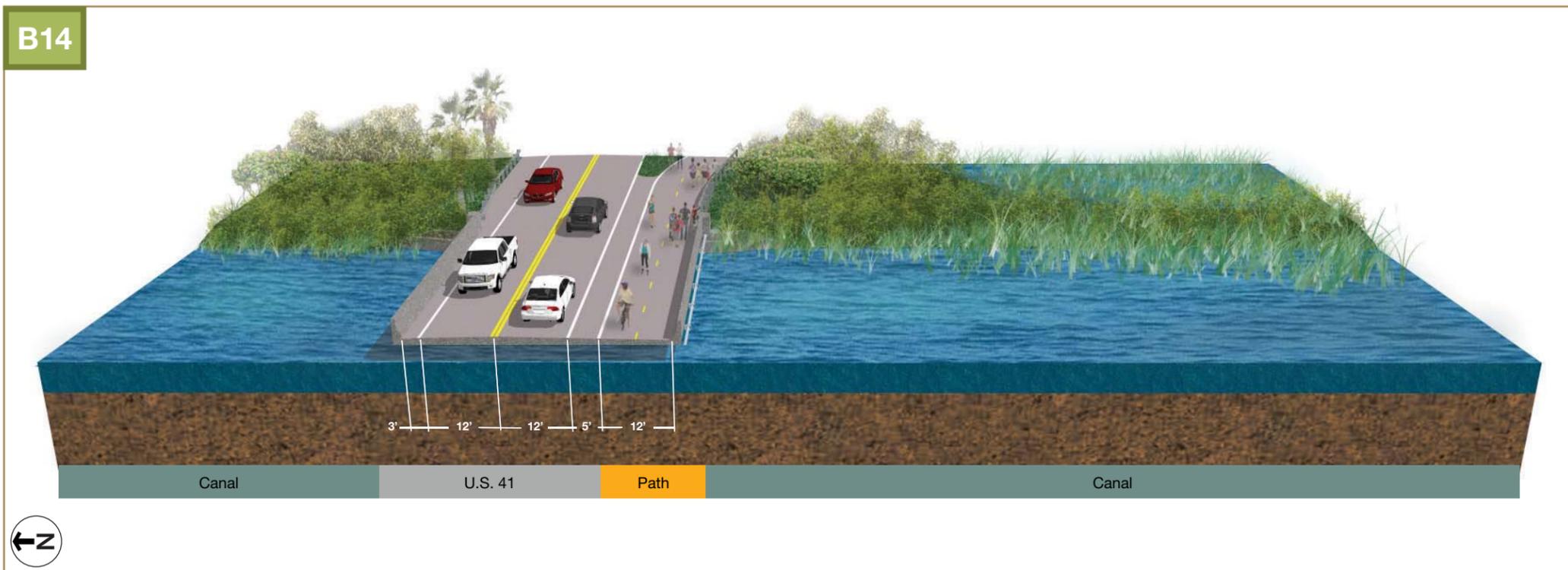
The 'Path Next to Existing Bridge/ Separate Facility' concept is potentially applicable where existing bridges and spillways are located and includes the following elements:

- 16' hard-surface boardwalk path near existing U.S. 41 bridges,
- Two foot shy-zones on both sides of boardwalk,
- Provides a medium to high-level experience for users highlighted by opportunities to observe open views from the bridge to the north and south,
- Opportunity to include projecting fishing platforms from boardwalk,
- Provides a high-level of separation with physical and spatial separation from U.S. 41 traffic.

Feasibility Notes:

- Potentially medium-level of cost due to construction costs for separate boardwalk facilities,
- Mitigation impact from shadowing of canal and construction.

Path on Widened Bridge



Description

The 'Path on Widened Bridge' concept is potentially applicable where existing bridges are located and includes the following elements:

- 12' hard-surface path on widened or expanded existing or new bridges,
- 5' spatial separation from U.S. 41 travel lanes,
- Provides a low-level experience for users highlighted by opportunities to observe views from the bridge to the south,
- Provides a low-level of separation with minimum spatial separation from U.S. 41 traffic.

Feasibility Notes:

- Potentially high-level of cost due to construction costs for widened or new bridge facilities,
- Mitigation impact from expansion of existing bridge headwalls, shadowing of canal and construction.

C Separated Path and Old Tamiami Trail

Type 'C' typical cross-sections focus on concepts involving separated paths south of U.S. 41.

Description

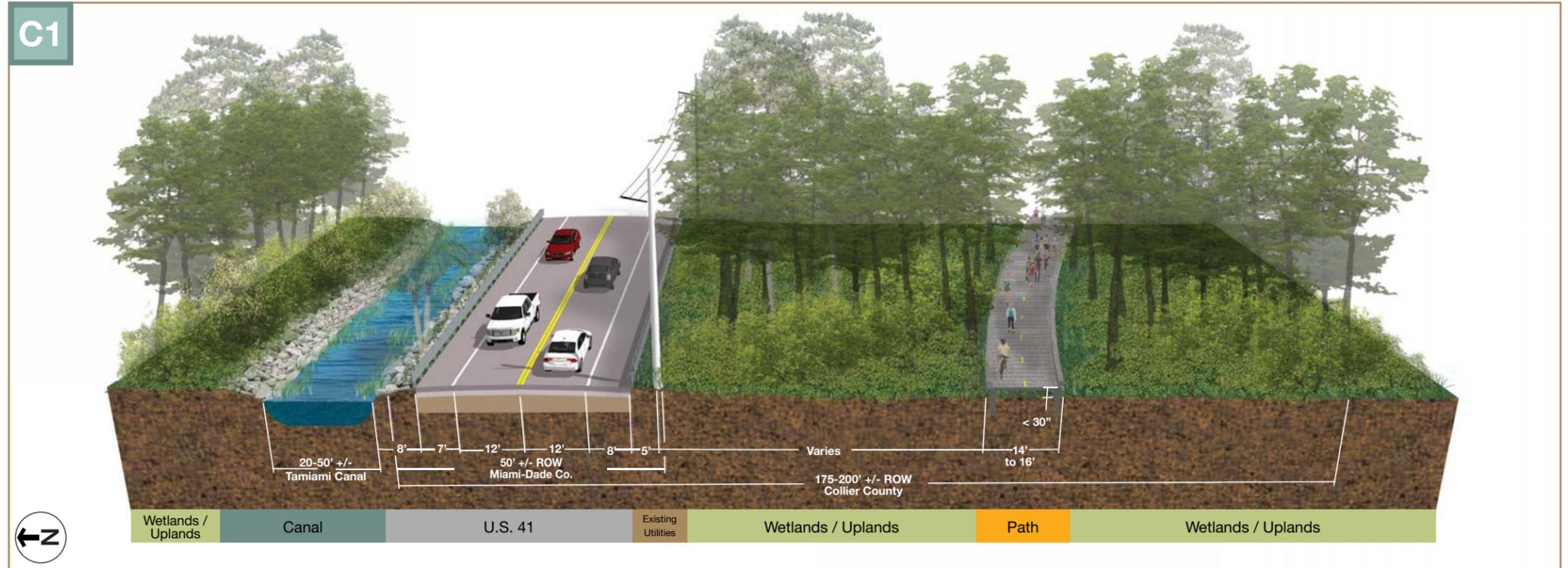
The 'Path on Low Boardwalk Facility' concept is potentially applicable in select areas in ROGG Central and West and includes the following elements:

- 14-16' hard-surface boardwalk path,
- 2' shy-zones on both sides of boardwalk,
- Provides a high-level experience for users highlighted by opportunities to observe open views from the boardwalks to the north and south,
- Route can respond to environmental constraints easily,
- In areas with a height less than 30" from path surface to existing grade, railing is not required,
- Provides a high-level of separation with physical and spatial separation from U.S. 41 traffic.

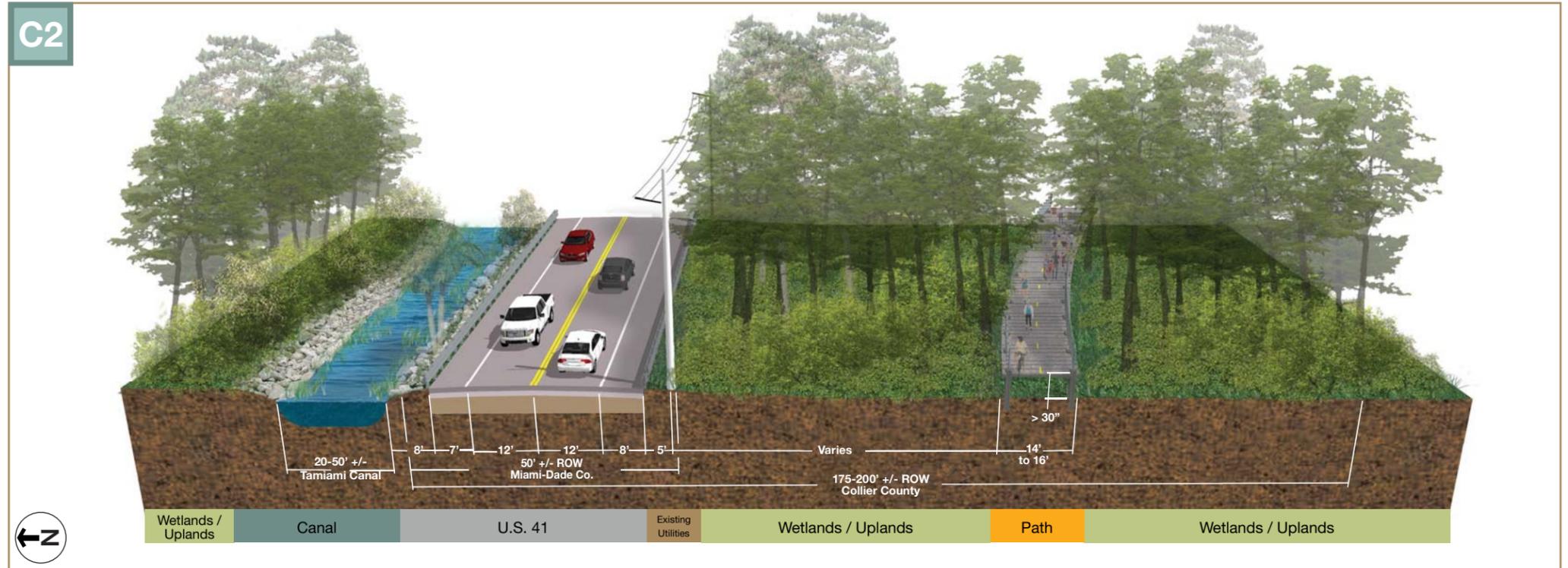
Feasibility Notes:

- Potentially medium-level of cost due to construction costs for separate boardwalk facilities and lack of railing,
- Mitigation impact from shadowing of ground and minimum construction.

Path on Low Boardwalk Facility



Path on High Boardwalk Facility



Description

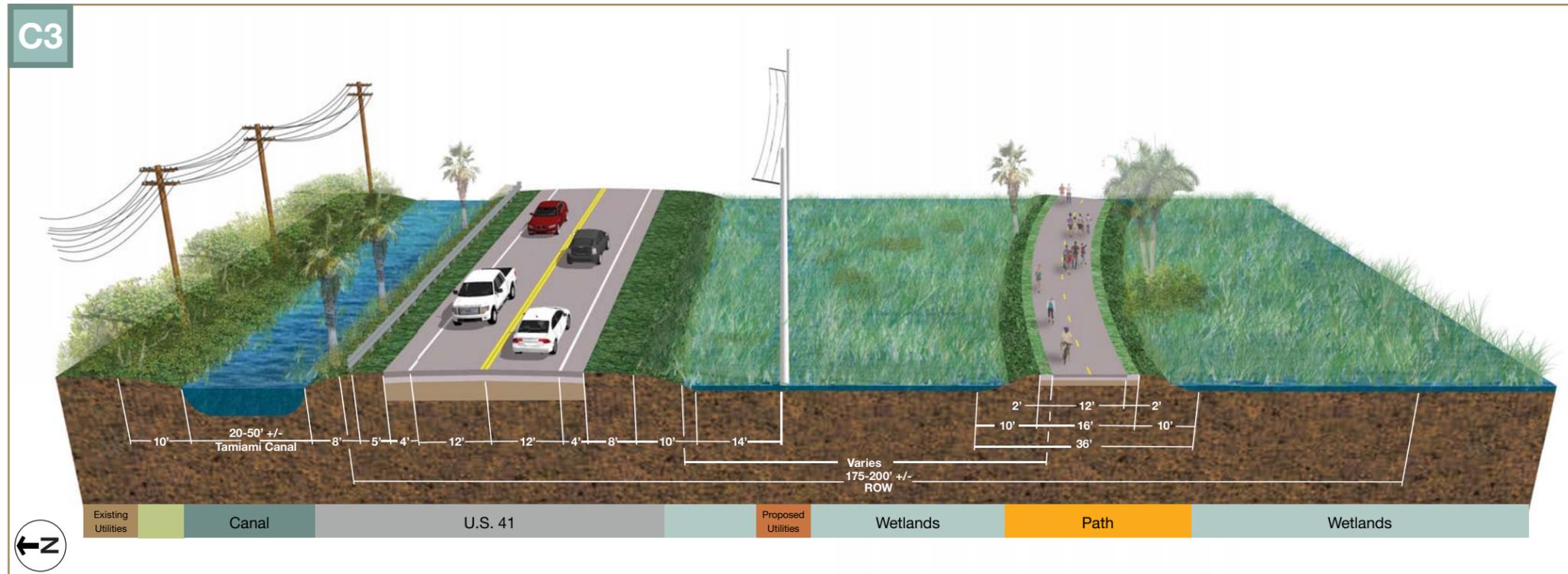
The 'Path on High Boardwalk Facility' concept is potentially applicable in select areas in ROGG Central and West and includes the following elements:

- 14-16' hard-surface boardwalk path,
- 2' shy-zones on both sides of boardwalk,
- Provides a high-level experience for users highlighted by opportunities to observe open views from the boardwalk to the north and south,
- Route can respond to environmental constraints easily,
- Provides a high-level of separation with physical and spatial separation from U.S. 41 traffic.

Feasibility Notes:

- Potentially medium to high-level of cost due to construction costs for separate boardwalk facilities,
- Less mitigation needed for impact from shadowing of ground due to higher height of path surface.

Path on New Earth Fill Berm



Description

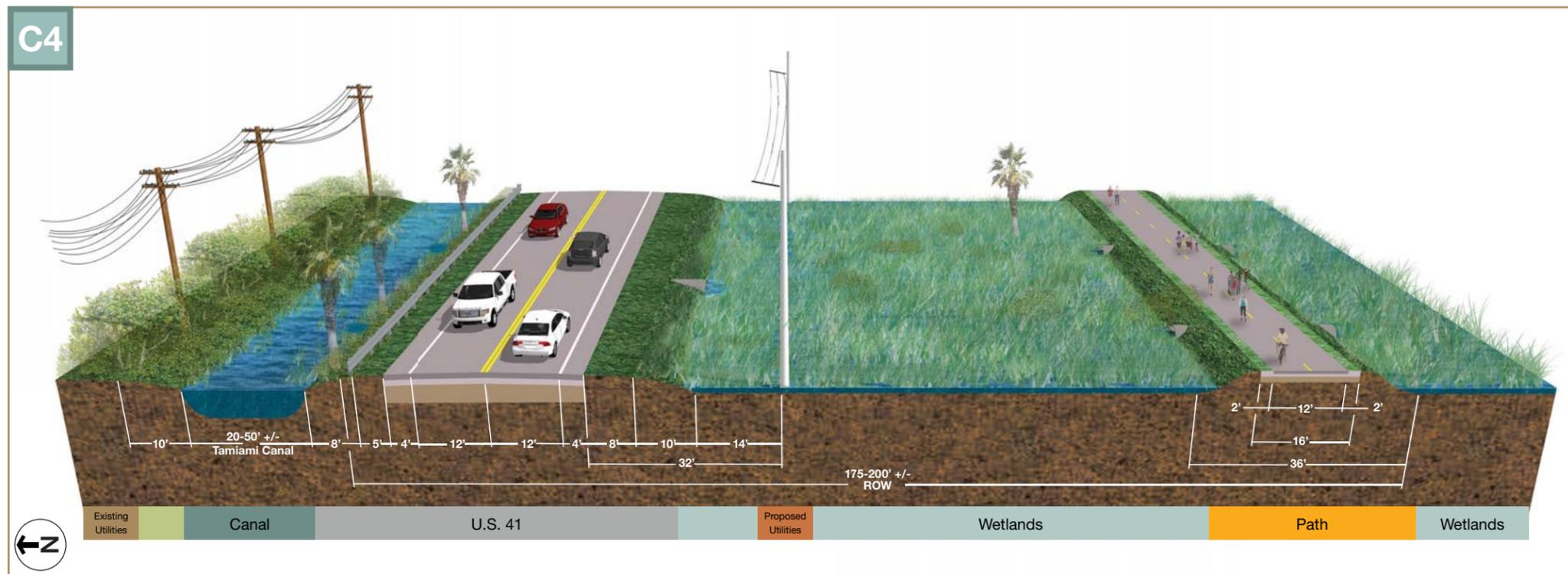
The 'Path on New Earth Fill Berm' concept is potentially applicable in select areas in ROGG Central and West and includes the following elements:

- 12' hard-surface path,
- 2' shy-zones on both sides of path,
- Provides a high-level experience for users highlighted by opportunities to observe open views to the north and south,
- Route can respond to environmental constraints easily,
- Provides a high-level of separation with physical and spatial separation from U.S. 41 traffic.

Feasibility Notes:

- May be used in conditions where protecting or enhancing waterflow is not needed,
- May have potential impact on water flow if applied to significant lengths without culverts,
- Potentially medium to high-level of cost due to construction costs for separate path facilities, required fill and mitigation needs,
- Mitigation impact from new berm and construction.

Path on New Earth Fill Berm with Culverts



Description

The 'Path on New Earth Fill Berm with Culverts' concept is potentially applicable in select areas in ROGG Central and West and includes the following elements:

- 12' hard-surface path,
- 2' shy-zones on both sides of path,
- Provides a high-level experience for users highlighted by opportunities to observe open views to the north and south,
- Route can have limited response to environmental constraints,
- Provides a high-level of separation with physical and spatial separation from U.S. 41 traffic.

Feasibility Notes:

- Additional culverts may serve as a spreader for existing water flow, having a net benefit in select areas,
- Potentially medium to high-level of cost due to construction costs for separate path facilities, required fill, and culvert and mitigation needs,
- Mitigation impact from new berm and construction.

Path on New Earth Fill Berm with Gabion Walls

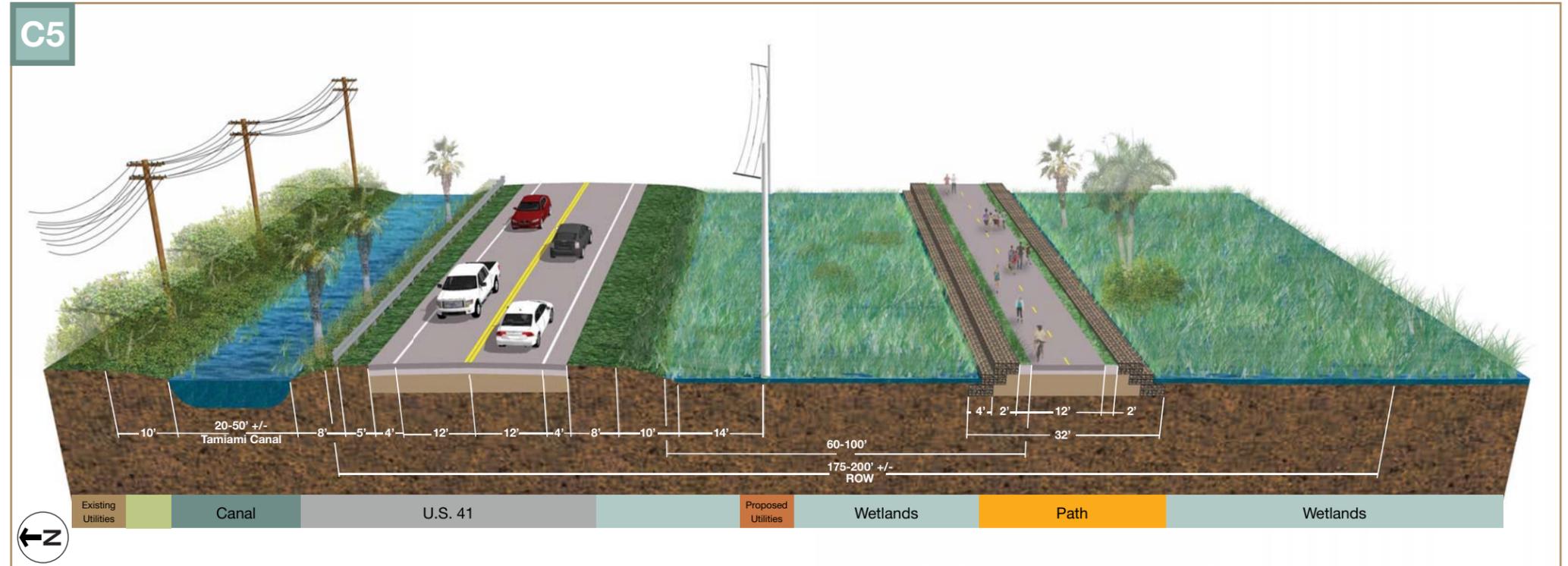
Description

The 'Path on New Earth Fill Berm with Gabion Walls' concept is potentially applicable in select areas in ROGG Central and West and includes the following elements:

- 12' hard-surface path,
- 2' shy-zones on both sides of path,
- Provides a high-level experience for users highlighted by opportunities to observe open views to the north and south,
- Route can have limited response to environmental constraints,
- Provides a high-level of separation with physical and spatial separation from U.S. 41 traffic.

Feasibility Notes:

- Water can flow through gabion walls and serve as a spreader in select areas while further filtering water quality,
- Potentially high-level of cost due to construction costs for separate path facilities, required fill, gabion walls and mitigation needs,
- Mitigation impact from new berm and construction, reduced by steeper sides from gabion walls.



Path on Re-purposed Old Tamiami Road

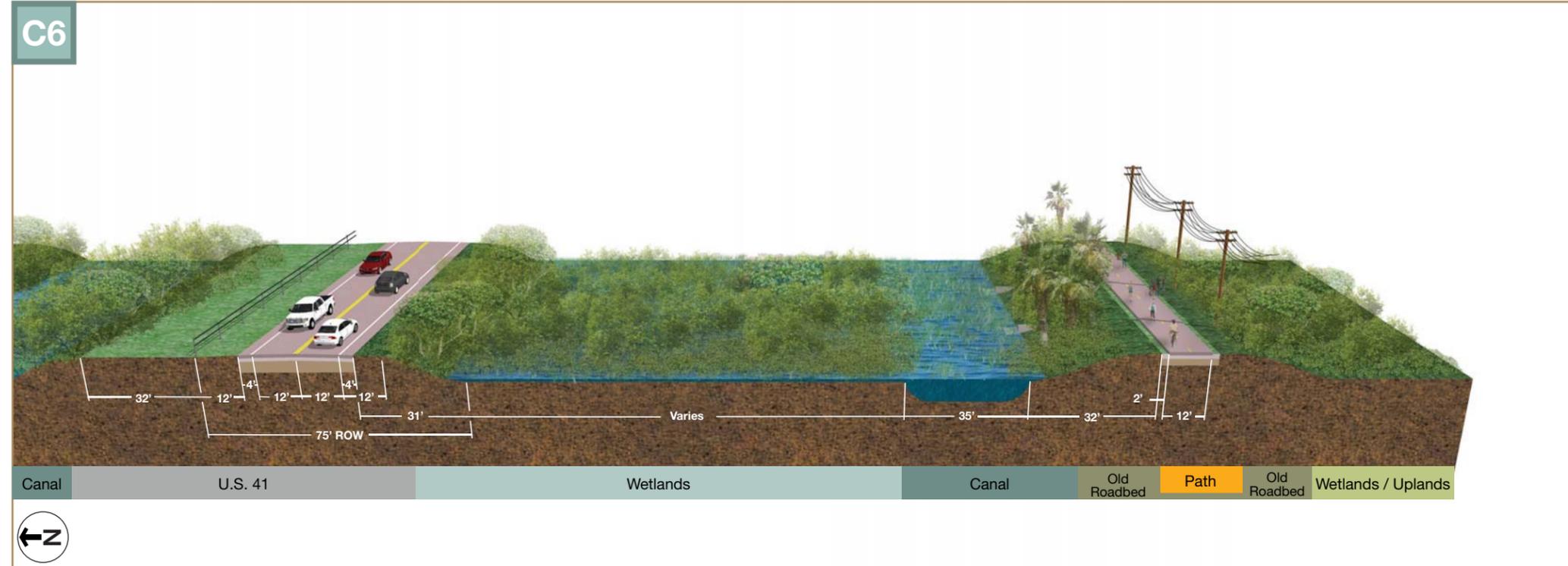
Description

The 'Path on Re-purposed Old Tamiami Road' concept is potentially applicable in ROGG East and includes the following elements:

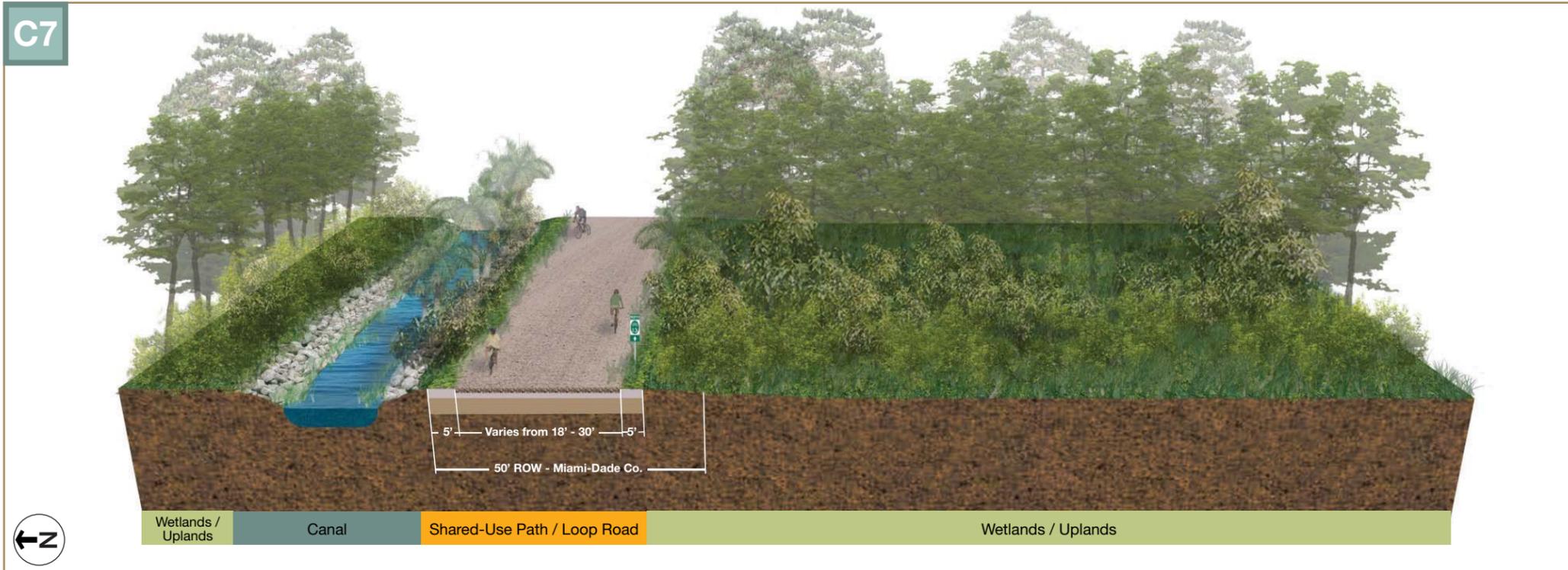
- 12' hard-surface path on restored Old Tamiami Trail,
- 2' shy-zones on both sides of path,
- Provides a high-level experience for users highlighted by opportunities to observe open views to the north and south,
- Provides a high-level of separation with physical and spatial separation from U.S. 41 traffic.

Feasibility Notes:

- Addition of new culverts may increase water flow, meeting the intent of CEPP,
- Provides improved access to existing utilities,
- Potentially low-level of cost due to existing Old Tamiami Trail roadbed,
- Removal of existing invasive and vegetative overgrowth,
- Old Tamiami Trail is included in proposed CEPP projects for removal from L-67 Ext. Canal to S12D,
- Removal is unfunded and unscheduled.



Path on Loop Road



Description

The 'Path on Loop Path' concept is potentially applicable in ROGG Central and East and includes the following elements:

- On-road facility with existing motorized vehicle traffic,
- Utilizes current limerock surface,
- Provides a shared experience for users highlighted by opportunities to observe open views to the north and south,
- Provides a high-level of separation with physical and spatial separation from U.S. 41 traffic, but shares on-road facilities with Loop Road motorized vehicular traffic.

Feasibility Notes:

- Facilities for limited bike use, primarily mountain bikes, and lacks pedestrian facilities,
- Potentially low-level of cost due to need to install route and Share the Road signage and designate route as a bike route,
- Removal of existing invasive and vegetative overgrowth
- Limited opportunities for new trailheads and rest stops, however, new ORV trailheads provide minimum trail amenities,
- Lack of hard-surface for path for most of length of Loop Road.

3.2.2 Crossing

In order to make a safe crossing, a redundancy of measures should be employed that provides advanced notice to both path and motorized vehicle users. To guide appropriate actions by path users and motorist, designs should utilize a number of treatments, including but not limited to standard engineering practices. Additional treatments may include:

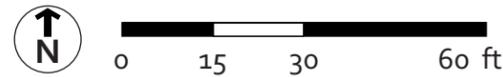
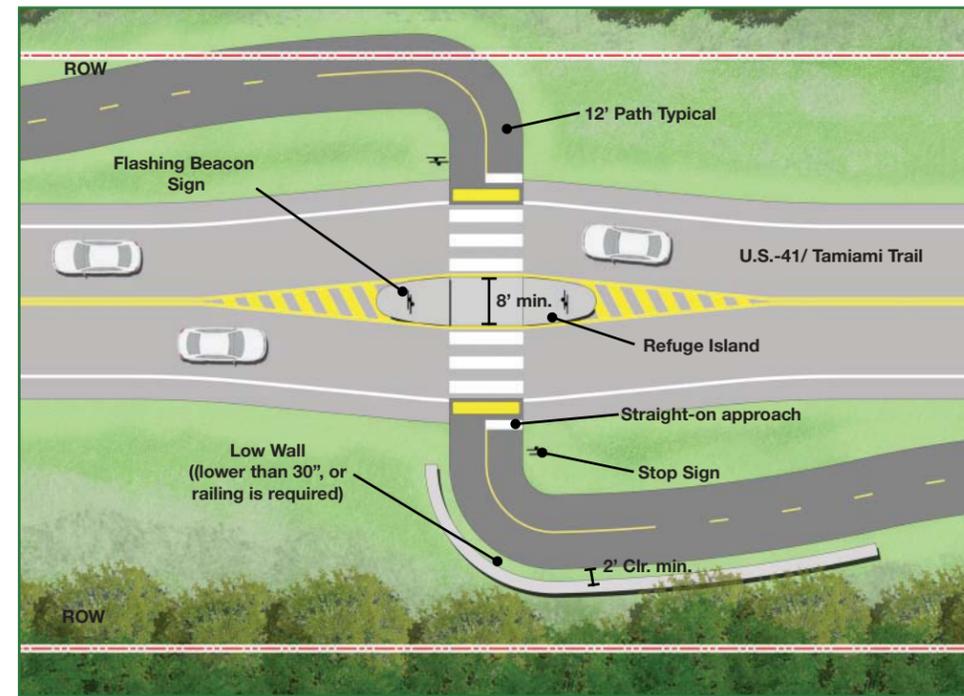
- Use of median/ refuge islands,
- Keep asphalt portion of roadway at ten (10) feet wide, then allow up to twelve (12) feet of actual space by using wider shoulders,
- Advance crossings signs,
- Multiple crossing signs at the crossing,
- Use of extra signs to create a redundancy of warnings in the crossing island,
- Use of mast arm crossing signals,
- Use of tactile color band as an identifier for crossings.

In a safe crossing, cyclists and pedestrians should be able to determine their approach and actions for each crossing, no matter how minor, at the earliest possible time and then complete a full search for traffic before making a crossing.

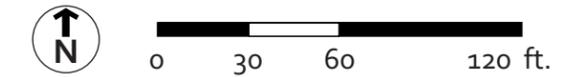
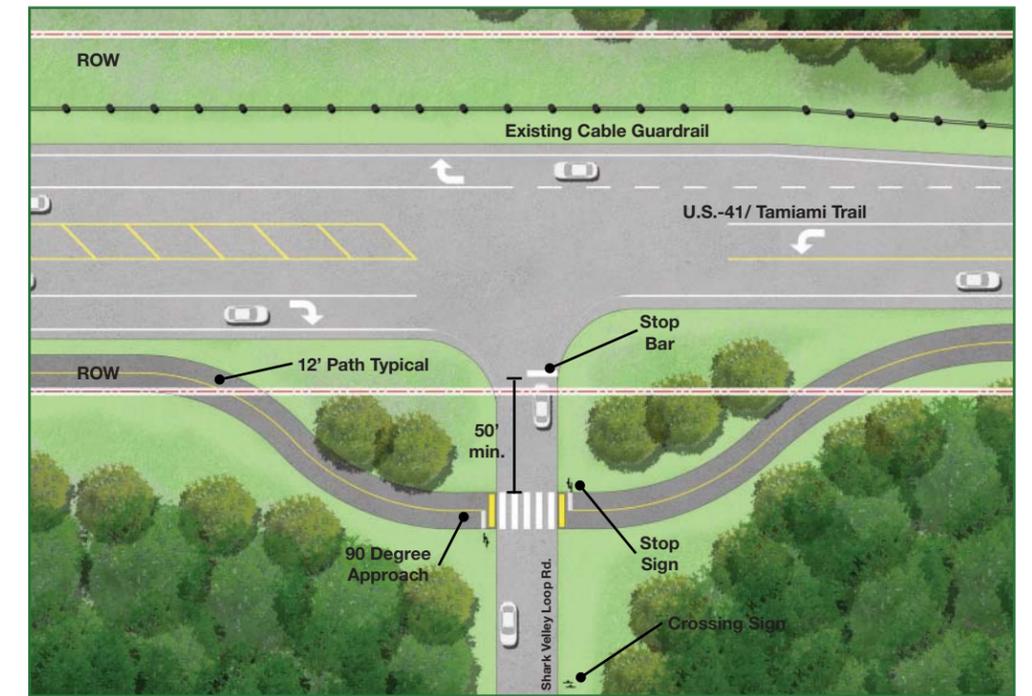
For most U.S. 41 crossings, motorized vehicle volumes will be higher than the path. In this condition, the path user is expected to yield to the motorist. In some cases, however, it is necessary to have the motorist yield such as driving crossings. These treatments are recommended for consideration to alert motorists to their approach and duties at a crossing:

- Provide motorists with advance information on a straight approach, allowing advance notice of a crossing at least six (6) seconds ahead;
- Provide signage in advance, as well as a second sign showing where the crossing can be expected;
- Eliminate any possible parking at least thirty (30) feet out with sixty (60) feet preferred;
- If a crossing is around a corner, use signage that illustrates where conflict can be expected;
- Provide high visibility markings indicating to the motorist where the crossing will occur such as high contrast lane markings;
- When possible, provide sign redundancy by placing added signs in a median or overhead location;
- Use of standard yellow warning signs is acceptable, but strong fluorescent yellow-green signing is preferred, in order to call attention to the crossing.

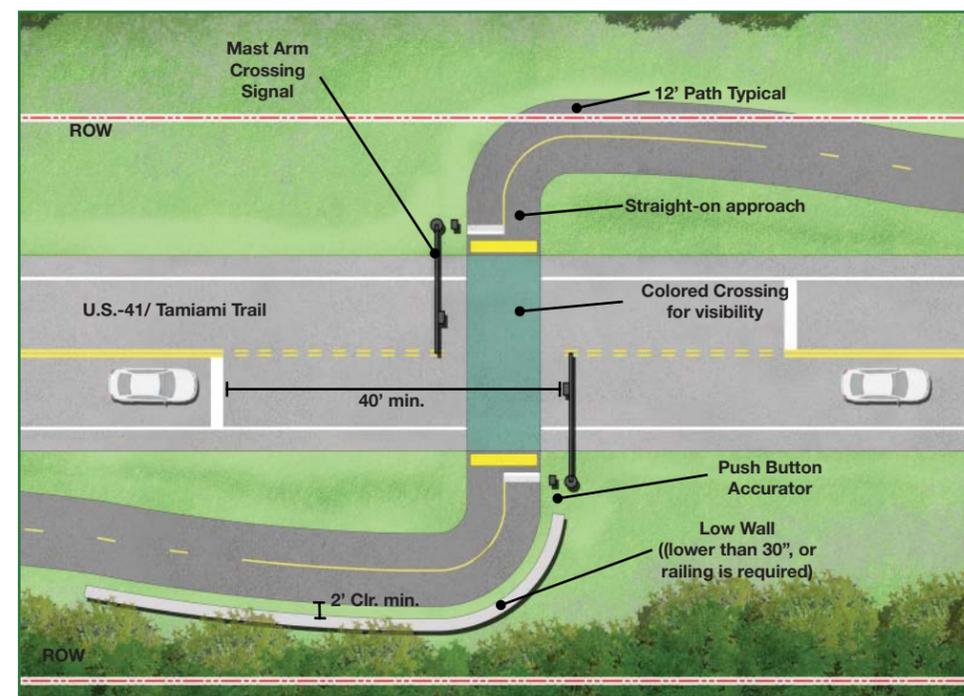
Highway/Street Crossing 'A'



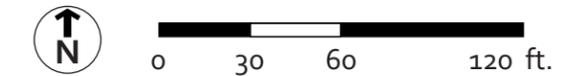
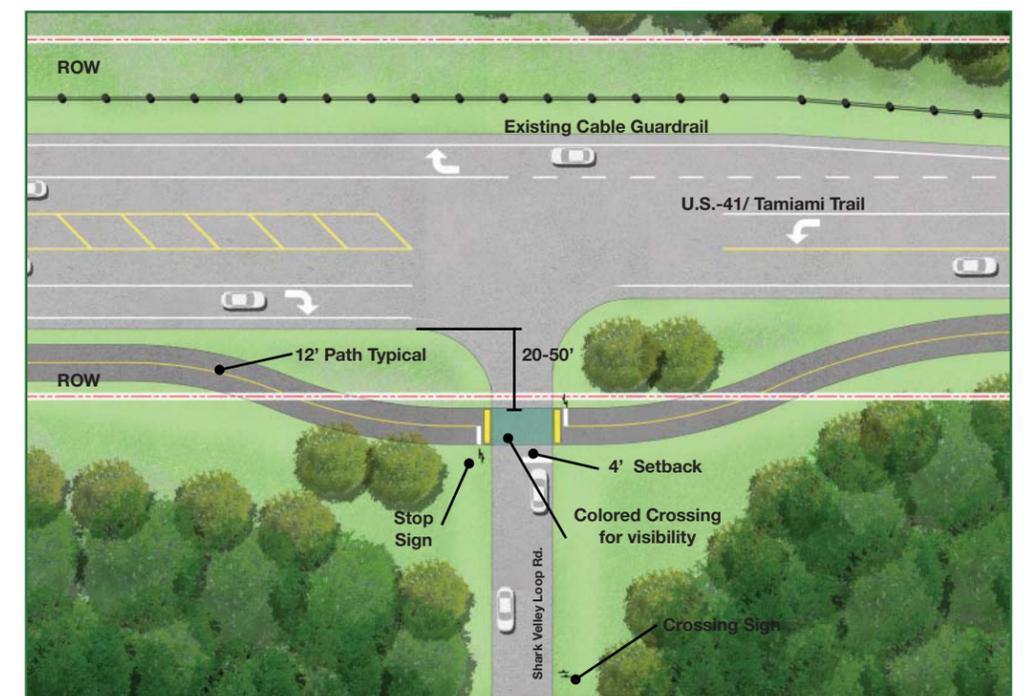
Driveway Crossing 'A'



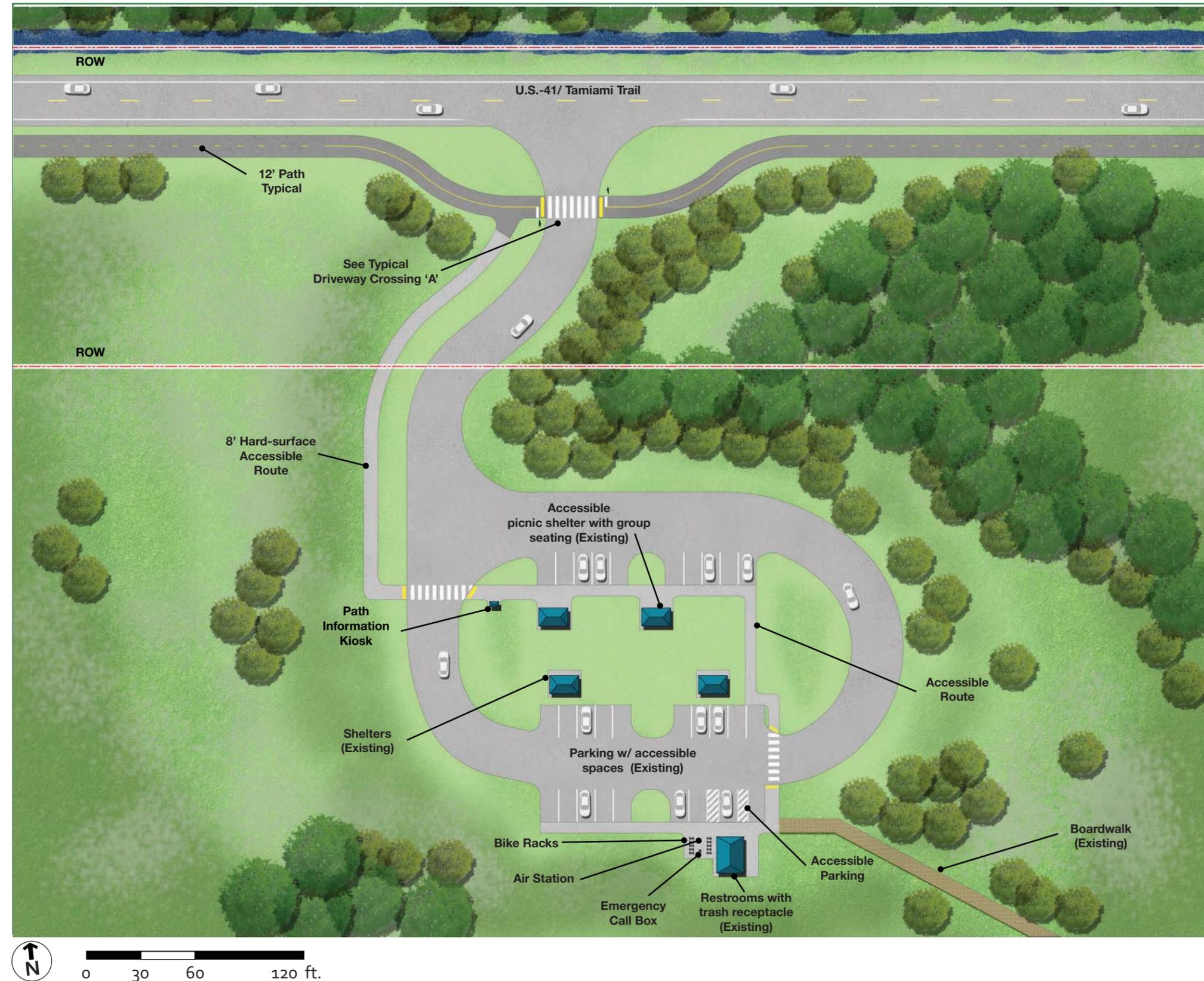
Highway/Street Crossing 'B'



Driveway Crossing 'B'



Typical Major Trailhead (Kirby Storter Roadside Park)



3.2.3 Trailheads

Successful pathways provide users with amenities and features that create a safe environment for all. Without such amenities as parking, access to water, or air for tires, projected use of a path may never be achieved. A challenge of planning a trail the length of ROGG is identifying and providing amenities and features for a wide array of potential users. In most locations, trailhead facilities already exist and are publicly accessible. Many of these facilities serve as campgrounds, tourist attractions and other points of interest along U.S. 41. In order to accomplish a complete system over an extended length, a hierarchy of trailheads is needed. This system provides most amenities and features within cycling distance while providing some amenities and features such as shelter and parking on a more regular interval. The following is the hierarchy of trailheads used for ROGG:

- Major Trailheads
- Minor Trailheads
- Rest Areas
- Rest Stops

Major and Minor Trailheads

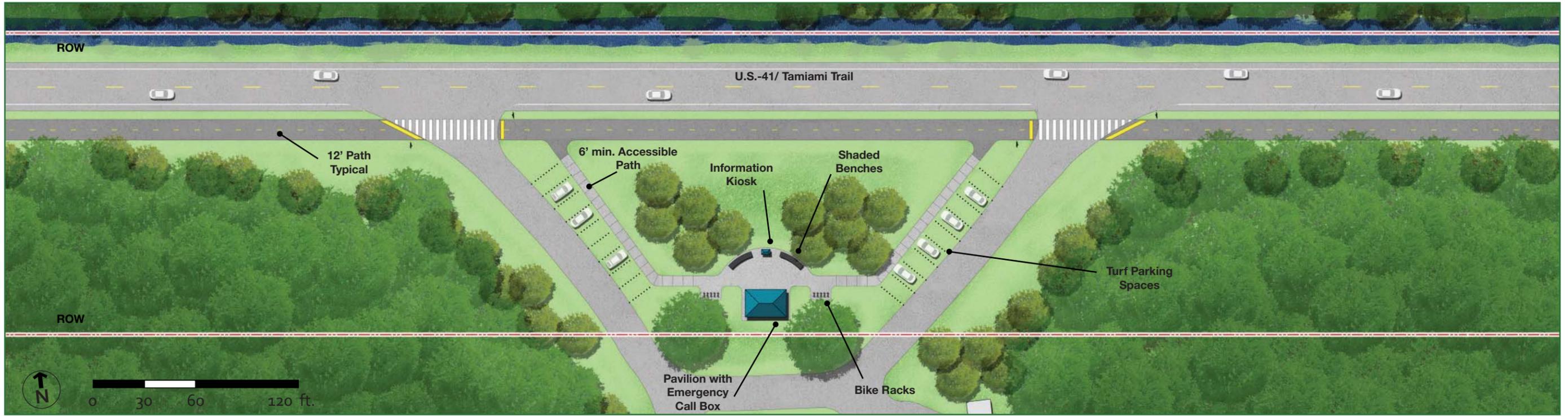
A series of full service trailheads may be provided along the ROGG spaced approximately 10 to 12-miles apart. Existing facilities, such as identified destinations along U.S. 41, could meet many of the services and amenities needed for ROGG. A full service trailhead should provide the following services:

- Parking for between 10-20+ automobiles,
- Drinking fountains (potable water, optional at minor),
- Trash receptacles (recycling if possible),
- Picnic shelters with shaded picnic tables (min. 3),
- Group and individual seating areas,
- Air station,
- Cellular or wire-line emergency call boxes,
- Wayfinding and interpretive signage,
- Vending machines (optional at minor trailheads),
- Toilets (optional at minor trailheads),
- Showers (optional),
- Bike Racks (minimum 3),

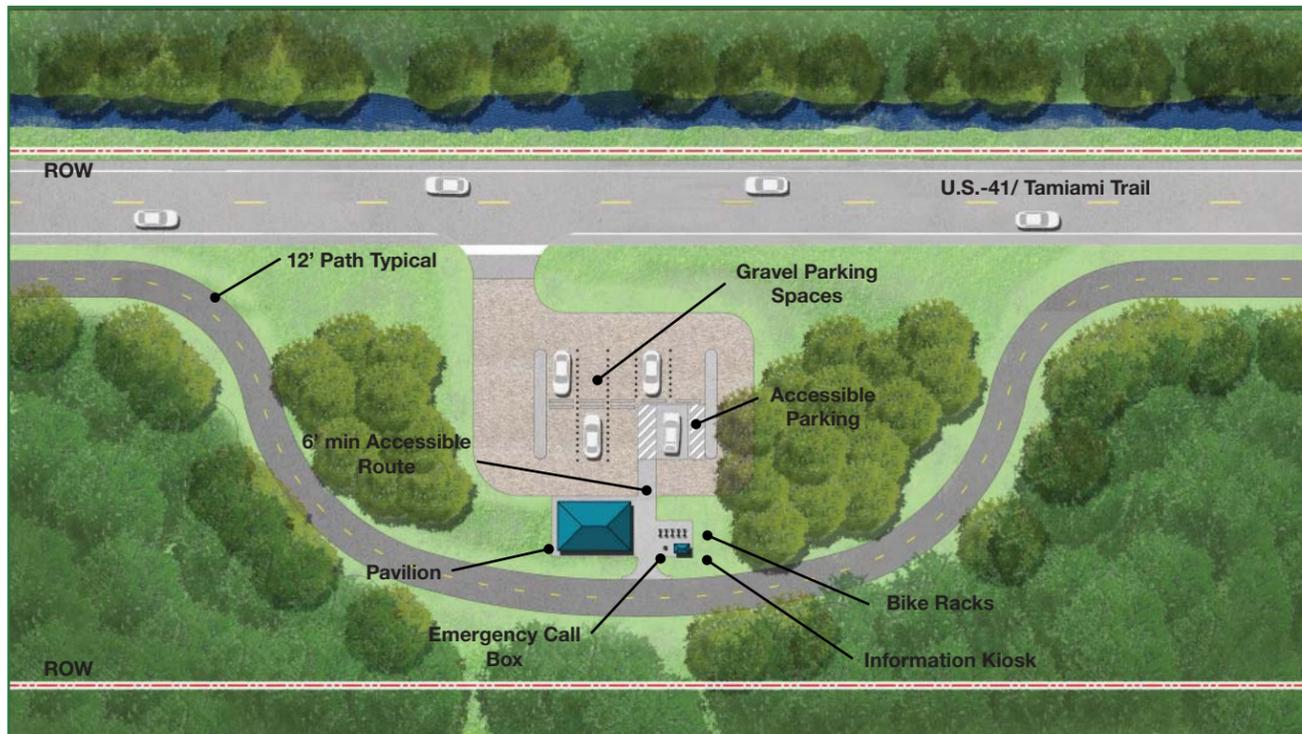
Rest Areas and Rest Stops

In addition to trailheads, rest areas and rest stops should also be developed throughout the ROGG Study Area. Rest areas and stops should include limited parking, storm shelters or picnic shelters, bench seating, trash receptacles, and potential emergency call boxes. At least one rest area or stop should be located between major and minor trailheads. Parking for rest stops may be parallel to U.S. 41.

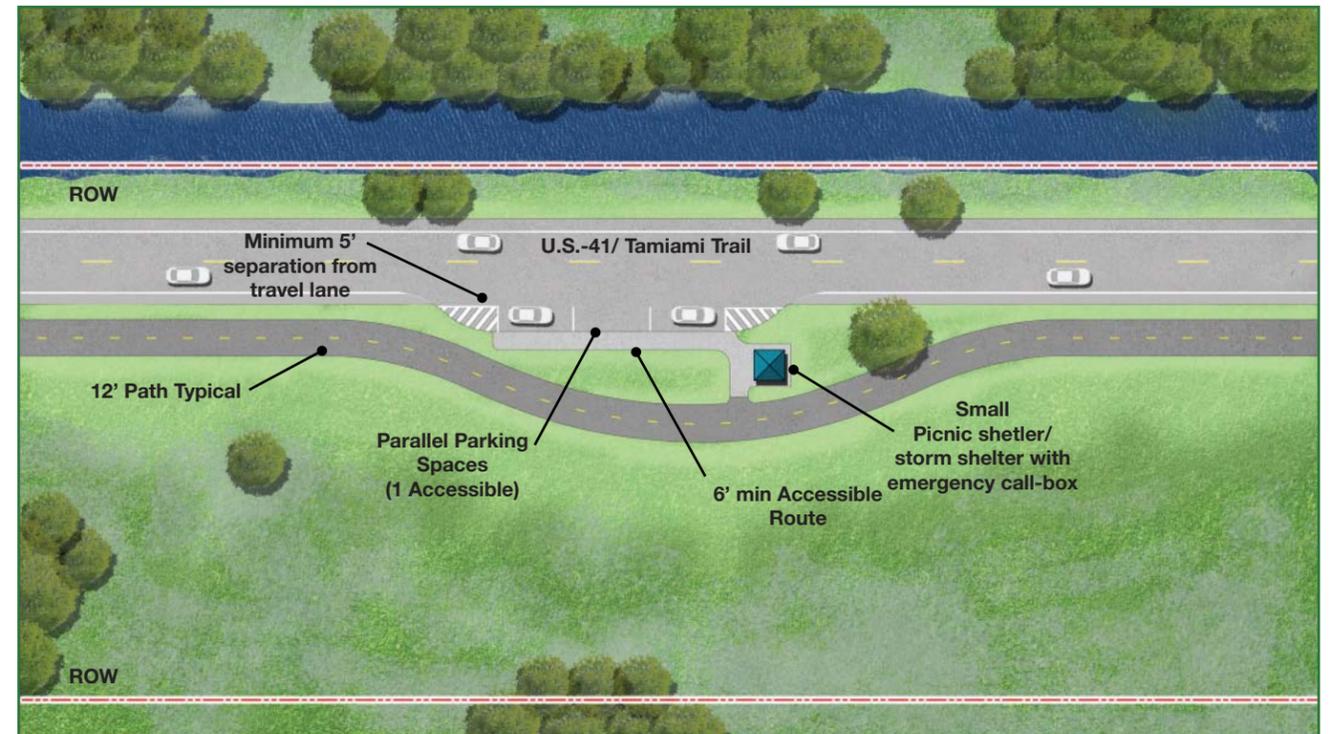
Typical Minor Trail Head (Midway Campground)



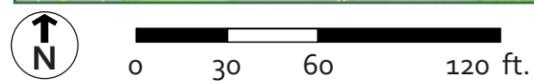
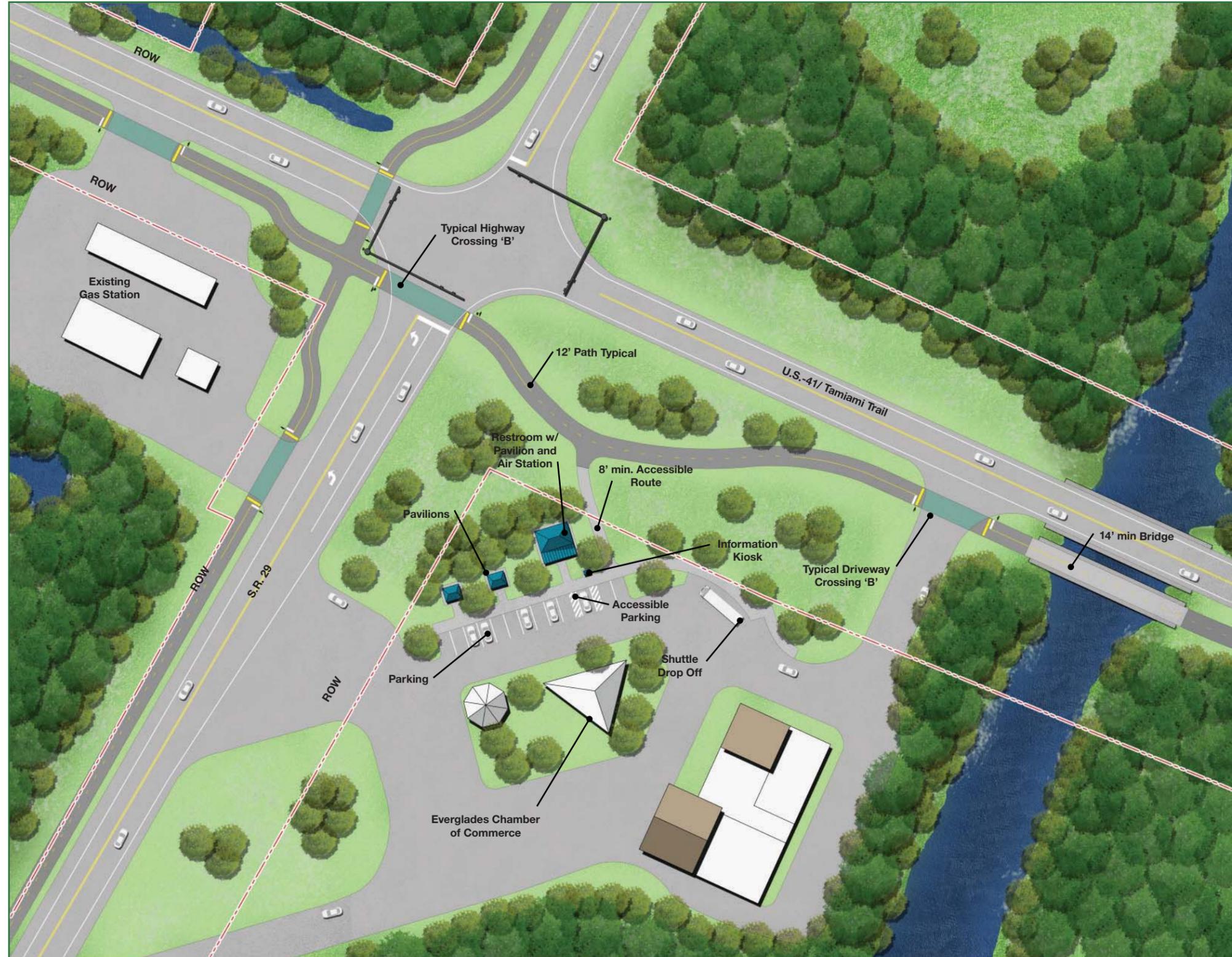
Typical Rest Area (Proposed)



Typical Rest Stop (Proposed Location)



Typical Hub (Everglades Area Chamber of Commerce - Chamber Welcome Station Site)



3.2.4 Hubs and Gateways

A complete pathway system, especially one with the length of ROGG, needs facilities that provide added amenities for users above and beyond typical trailhead offerings. These facilities may consist of food concessions, overnight accommodations, multimodal access or additional recreation opportunities. Several existing points of interest and destination facilities are located along U.S. 41 that can be serve as hubs and gateways with limited need for improvements.

Hubs

Through the ROGG Study Area, seven existing facilities may easily serve future needs of the ROGG with limited improvements. Hubs are typically facilities that include the minimum amenities of a major trailhead with added features such as transit access, visitor centers, food vending, and/or expanded parking capacity. Hubs serve as primary destinations along the path and normally experience significant numbers of visitors. Seven facilities have been identified as likely hubs and include:

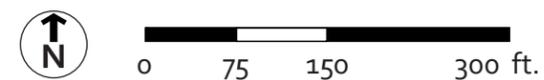
- Shark Valley Entrance at Everglades National Park,
- Miccosukee Village,
- Big Cypress National Preserve - Oasis Visitor Center,
- Big Cypress Swamp Welcome Center,
- Everglades Chamber Welcome Station,
- Fakahatchee Strand Preserve State Park Welcome Center (under design),
- Port of the Island Marina.

Multimodal Hubs

All path facilities should encourage multimodal use when accessing and using the ROGG, however, some facilities should be able to operate as a hub for multimodal access. A seamless connection between various modes of travel such as bicycle, shuttle, bus transit and motorized vehicles is the best way to encourage use of the ROGG with minimum impact to the environment and U.S. 41. Multimodal hubs should have easy access to bus transit routes with priority loading and unloading facilities, bus and shuttle parking, bike-share, car-share, vehicle parking and trail connectivity. A visitor center or educational facility may be appropriate due to the high number of visitors in one location.

Many paths fall short in providing this critical facility which in the case of the ROGG, will aid in reducing the impact of path users and existing visitors on U.S. 41. One facility location has been identified, near the eastern terminus of the ROGG Study Area at SW 157th Ave. This location is ideal due proximity of existing bus transit lines and availability of land for appropriate facilities and influx of parking demands during peak use periods or events.

Typical Multimodal Hub



Typical Gateway (Spillway S333/ ValuJet Flight 592 Memorial)

Gateways

Gateways should be planned and developed at key locations along the path where additional user amenities such as transit connectivity, additional parking capacity and recreation opportunities are present. An additional criterion is for a gateway to be located near a path's terminus or at a point of significant influx of potential users.

Two such locations exist along the U.S. 41 corridor; Collier-Seminole State Park, and Spillway S333/ ValuJet Flight 592 Memorial. SFWMD has planned facility improvements at the S333 location that are directly tied to proposed CEPP projects in the immediate area. These planned improvements include the addition of boat launch ramp(s), boat trailer parking, restrooms, shaded picnic shelters, and vehicle parking. Added features could make the facility a gateway for ROGG users with the addition of transit connectivity, emergency phone call box, informational kiosk, and accessible parking.



3.2.5 Wayfinding

ROGG is required to incorporate standard MUTCD markings and signage at all intersections and crossings. These represent basic requirements to maximize user safety throughout the path. Beyond required safety signs and markings, ROGG should provide informational signs along the path that inform users about distance to trailheads, points of historical/cultural/ environmental interest along the path, and adjacent uses. Signs should be consistent with the Miami-Dade County Park and Recreation Sign Implementation Manual wayfinding program for trails, example shown below.

Ideally, wayfinding signs will also identify nearby destinations including points of interest, public facilities and commercial centers, similar to roadway signage and inform users. While it is not desirable to litter the path with signs, the goal is to meet the needs of users for information. The proper placement of signage can have a dramatic affect on the pathway user's experience and should be carefully planned and executed.



Wayfind and signage example per the Miami Dade Parks and Recreation Sign Implementation Manual.