

**RON DESANTIS** GOVERNOR

Tallahassee, FL 32399-0450

JARED W. PERDUE, P.E. SECRETARY

#### **ROADWAY DESIGN MEMORANDUM 23-01**

- DATE: August 28, 2023
- TO: District Directors of Transportation Operations, District Directors of Transportation Development, District Design Engineers, District Construction Engineers, District Pavement Design Engineers, District Consultant Project Management Engineers, District Structures Design Engineers, District Maintenance Engineers, District Roadway Design Engineers, District Traffic Operations Engineers, District Program Management Engineers, District Drainage Engineers, District Materials Engineers, District Safety Engineers, **District Safety Administrators**
- Derwood Sheppard, P.E., State Roadway Design Engineer FROM:
- COPIES: Will Watts, Dan Hurtado, Huiwei Shen, Jennifer Fortunas, Lance Grace, Lora Hollingsworth, Tim Lattner, Jennifer Marshall, Stephanie Maxwell, Rudy Powell, Michael Shepard, Will Potter, Paul Hiers, Khoa Nguyen (FHWA), Bren George (FHWA), Rafiq Darji (FHWA)
- ProjectSuite Enterprise Edition Resilience Tracker Release SUBJECT:

This Memorandum announces the release of a new "Resilience Tracker" module within ProjectSuite Enterprise Edition (PSEE).

Language will be added to the FDOT Design Manual (FDM) to require the use of the PSEE Resilience Tracker module with the release of the 2024 FDM; however, the Resilience Tracker may be used immediately at the discretion of the Districts.

A help document for this new module is included as an Attachment to this Memorandum and is also available within the PSEE module.

#### BACKGROUND

Resilience improvements are those components of a project that address hazards such as flooding, sea level rise, storms, winds, or others. The PSEE module will include a list of various types of resilience improvements along with a field to enter the estimated cost of the resilience improvement. This data can be updated and revised as the project is developed and designed.

Roadway Design Memorandum 23-01 ProjectSuite Enterprise Edition Resilience Tracker Release Page 2 of 3

The information gathered in the PSEE Resilience Tracker module will identify and summarize types of resilience improvements included in projects and their associated costs, will help project managers and other district staff identify projects eligible for PROTECT Formula Funding, and will provide information that could lead to updates to policies or standards. The reports may also help to identify potential candidate projects for federal discretionary resilience grants, including the PROTECT Discretionary Grant. It will ultimately help identify the Department's investments related to Resilience.

### **CONTACT**

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Attachments: PSEE Resilience Tracker Help Document

DS/mjh

### ATTACHMENT

Access: Project Suite Enterprise Edition

#### **Purpose/Contents:**

The PSEE Resilience Tracker Module tracks the implementation of and prioritizes the inclusion of resilience improvements regardless of the funding source. Use of the tracker will ensure that all necessary resilience improvements are considered, reviewed, or implemented within a project. This provides a clearly defined resilience component to the project's scope.

#### Tips to keep in mind about using the PSEE Resilience Tracker Module:

- Resilience improvements can be entered into the PSEE Resilience Tracker Module as soon as the project is present in PSEE.
- It is important to complete the PSEE **Resilience Tracker** Module as soon as possible so accurate project costs can be determined. It is required to be complete by the end of the design phase. The project manager and the engineer of record have ultimate responsibility for the completion and accuracy of the module.

### THIS TRAINING IS ALSO AVAILABLE IN VIDEO FORMAT ON THE

### **Coming Soon!**



### USING THE MODULE

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### **STEP 2**

Designate the status of each improvement. Improvements are organized into seven menus inside the module. As you can see, each design feature has a radio button in four columns: Included, Not Included, N/A, and To Be Evaluated. There is also space for comments. Once a feature is selected, indicate status by selecting appropriate column.

fety Countermeasures (Click to	collapse)								
NCREASED RAINFALL VOLUME	(Click to collapse)								
Measures	Included	Not Included	N/A	To Be Evaluated Comment					
Create opportunities for additional runoff storage (tree wells, depressed vegetated medians, etc)									
Increase opportunities for infiltration (reclaim green space, landscaped infiltration areas, etc)									
Increase capacity of ditches				۲					
Increase hydraulic opening to prevent roadway overtopping in 0.2% chance (500-year) storm				۲					

#### **Available Statuses**

- INCLUDED Measure has been included in at least one instance somewhere in the project.
- NOT INCLUDED Measure was evaluated and while it could be included, it was not to be included. Must be justified.
- N/A Measure cannot be included in project due to features of project.
- TO BE EVALUATED This is the default setting of each measure. Each measure must be addressed and moved from this setting before the project reaches final design.
- COMMENT Justification to not include a measure that could be placed in project must be written here.



### EXAMPLE

This segment of roadway has a history of overtopping and flooding during storm events that lead to periodic road closure hindering recovery efforts. An effective resilience measure for this roadway is to elevate it during roadway reconstruction. Specifically raising the roadway above the 500-year floodplain will increase the facility's resilience.

С

Navigate to Volume."

В "Increased Rainfall

Select "Included" for "Elevate roadway profile above the 0.2% chance (500-year) floodplain."

Save Cancel

Navigate to the "Comment" section and enter the appropriate supporting information for the selected resilience improvement. When the comment is saved, it will appear in the comment section. The Estimated Cost of Improvement is only the incremental cost of the improvement itself. It is not the total project cost.

Improvements	To Be Evaluated	Included	Not Included	N/A	Estimated Cost of	Comment	
Create opportunities for additional runoff storage (tree wells, depressed vegetated medians, etc)	0	0	0	۲	improvement		
Increase opportunities for infiltration (reclaim green space, landscaped infiltration areas, etc)	0	0	0	۲			
Increase capacity of ditches	0	0	0	$\bigcirc$			
Increase hydraulic opening to prevent roadway overtopping in 0.2% chance (500-year) storm event	0	0	0	۲			
Elevate roadway profile above the 1% chance (100-year) floodplain	0	0	0	۲			
Elevate roadway profile above the 0.2% chance (500-year) floodplain	0	¥2 •	0	0	\$ 1,000,000	Roadway elevation is recommended to support resilience of the facility.	
Enhance shoulders in floodplains for roadway overtopping (e.g., turf reinforcement mats)	R	<b>`</b> 0	0	۲		•	
Install flood detection and warning systems within floodplains		0	۲	0	\$ 150,000	Not applicable	
Modify roadway profile to address nuisance flooding due to increased rainfall	0	0	0	۲			
Improvement: Elevate roadway profi	ile above the 0.2% ch	ance (500-vear	) floodplain	-			
Evaluation Criteria: O To be Evaluated	Included O Not In	Icluded ON/A					

This improvement covers only one portion of the project. Other measures may also be selected if they were planned at other locations of the project area. For the resilience improvements not selected, please provide a justification.

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### REPORTING OPTIONS FOR THE RESILIENCE TRACKER MODULE

### TO VIEW CHANGES IN JOURNAL LOG





### TO CREATE A REPORT

Click on the "Report" icon within the Resilience Tracker module to generate a report in Microsoft Word . The report provides a table of the resilience improvements planned for the project. This reports the selecion of all resilience improvements, and lists any additional design features present in the project.

ProjectSuite Enterprise Edit	ion	<b>User</b> Jeffrey Diemer 🧕
Go To Project 💼 DASHBOARD PROJEC	SEARCH MONTHLY CREATE A MY RUN CHANGE PS&E HELP SCHEDULE PROJECT ASSIGNMENTS REPORTS REPORTS LIST UTILITIES PACKAGES HELP	
Project Info [424026-1] (Click to collapse)		🖷 🖲 7 🛃
This is what a report looks		
like. As you can see, it	PSEE Resilience Tracker Report for Project 430132-1 (SR 35 (US 301) FROM CR 525E TO FLORIDA'S TURNPIKE )	7/10/2023
in a table, with the status of	Decilitarian Terrelan for (420422-41	
the improvement and the	Resilience Tracker for [430132-1]	
justification for its status.	Identified in Resilience Action     No     Included in Resilience     No       Plan (RAP) Priority Area?     Improvement Plan (RIP)?       PROTECT Eligible?     No       In Floodplain?     No       Total Estimated Resilience     \$0       Improvement Cost     Sold Sold Provided Sold Provided Sold Sold Provided Sold Sold Provided Provided Sold Provided Sold Provided Provided Provided Sold Provided Prov	
	Resilience Improvements	
	INCREASED RAINFALL VOLUME	
	Improvements To Be Evaluated Included Not Included N/A Estimated Cost of Comment Improvement	
	Create opportunities for additional runoff X storage (tree wells, depressed vegetated medians, etc) Increase opportunities for infiltration (reclaim X greep space landscaped infiltration areas, etc)	
	Increase capacity of ditches X	

### TO SEARCH RESILIENCE IMPROVEMENTS

The Search Menu provides an option to view and export a list of projects that have identified resilience improvements.







## **STEP 3**

To select different Districts. select the "Include Project Search Options" at the top left corner of the Resilience Tracker Box, then select the appropriate District and the improvement options you are interested in.

Resilience Tracker		
Include Project Search Options		
District:	Central Office (For other Options check Project Search Options)	
Identified in Resilience Action Plan (RAP) Priority Area?:	○Yes ○No ●Any	
Included in Resilience Improvement Plan (RIP)?:	⊖Yes ⊖No ●Any	
PROTECT Eligible?:	○Yes ○No <sup>●</sup> Any	
In Floodplain?:	○Yes ○No ●Any	
Improvement:	All	
	INCREASED RAINFALL VOLUME - Create opportunities for additional runoff storage (tree wells, depressed vegetated medians, etc) INCREASED RAINFALL VOLUME - Increase opportunities for infiltration (reclaim green space, landscaped infiltration areas, etc) INCREASED RAINFALL VOLUME - Increase capacity of ditches INCREASED RAINFALL VOLUME - Increase hydraulic opening to prevent roadway overtopping in 0.2% chance (500-year) storm event INCREASED RAINFALL VOLUME - Elevate roadway profile above the 1% chance (100-year) floodplain INCREASED RAINFALL VOLUME - Elevate roadway profile above the 0.2% chance (500-year) floodplain INCREASED RAINFALL VOLUME - Enevate roadway profile above the 0.2% chance (500-year) floodplain INCREASED RAINFALL VOLUME - Enhance shoulders in floodplains for roadway overtopping (e.g., turf reinforcement mats)	•
Evaluation Criteria:	○ To Be Evaluated ○ Included ○ Not Included ○ N/A ● Any	
Improvement Comment: (Contains)		
	Search Reset	



output. "Reset" will clear

selections

# Select criteria and click on

Include Project Search Options	
District:	Central Office (For other Options check Project Search Options)
Identified in Resilience Action Plan (RAP) Priority Area?:	○Yes ○No <sup>●</sup> Any
Included in Resilience Improvement Plan (RIP)?:	○Yes ○No <sup>●</sup> Any
PROTECT Eligible?:	○ Yes ○ No ● Any
In Floodplain?:	○ Yes ○ No ● Any
Improvement:	All INCREASED RAINFALL VOLUME - Create opportunities for additional runoff storage (tree wells, depressed vegetated medians, etc) INCREASED RAINFALL VOLUME - Increase opportunities for infiltration (reclaim green space, landscaped infiltration areas, etc) INCREASED RAINFALL VOLUME - Increase capacity of ditches INCREASED RAINFALL VOLUME - Increase hydraulic opening to prevent roadway overtopping in 0.2% chance (500-year) storm event INCREASED RAINFALL VOLUME - Elevate roadway profile above the 1% chance (100-year) floodplain INCREASED RAINFALL VOLUME - Elevate roadway profile above the 0.2% chance (500-year) floodplain INCREASED RAINFALL VOLUME - Elevate roadway profile above the 0.2% chance (500-year) floodplain INCREASED RAINFALL VOLUME - Elevate roadway profile above the 0.2% chance (500-year) floodplain INCREASED RAINFALL VOLUME - Elevate roadway infile above the 0.2% chance (500-year) floodplain INCREASED RAINFALL VOLUME - Elevate roadway infile above the 0.2% chance (500-year) floodplain INCREASED RAINFALL VOLUME - Elevate roadway infile above the 0.2% chance (500-year) floodplain INCREASED RAINFALL VOLUME - Elevate roadway infile above the 0.2% chance (500-year) floodplain INCREASED RAINFALL VOLUME - Elevate roadway infile above the 0.2% chance (500-year) floodplain INCREASED RAINFALL VOLUME - Elevate roadway infile above the 0.2% chance (500-year) floodplain INCREASED RAINFALL VOLUME - Elevate roadway infile above the 0.2% chance (500-year) floodplain INCREASED RAINFALL VOLUME - Elevate roadway infile above the 0.2% chance (500-year) floodplain
Evaluation Criteria:	○ To Be Evaluated ○ Included ○ Not Included ○ N/A ● Any
Improvement Comment: (Contains)	ISearch Reset

### **STEP 5**

As a result of Step 4, the program will output search results based on the criteria that was selected. Clicking "Export Results" will download a Microsoft Excel file containing the information shown in the search results.

Resi	lience T	racker										
[ <u>Modi</u>	fy Searc	<u>h]</u>										
Res	silience	Search Resu	ults (Click	to collaps	e)							Ŧ
		Project	<u>County</u>	Identified in RAP Priority Area	in RIP	PROTECT Eligible?	<u>In</u> Floodplain?	Improvement	<u>Evaluation</u> Criteria	<u>Estimated Cost</u> <u>of</u> <u>Improvement</u>	Improvement Comment	
1	<u>View</u>	000101-1	Pinellas	Yes	Yes	Yes	Yes	RISING GROUNDWATER LEVELS - Use different base materials (e.g. B-12.5 or graded aggregate base) for higher SHWT	To Be Evaluated			<b>A</b>
2	<u>View</u>	000101-1	Pinellas	Yes	Yes	Yes	Yes	RISING GROUNDWATER LEVELS - Deeper root vegetation to lower groundwater and stabilize slopes	To Be Evaluated			
3	View	000101-1	Pinellas	Yes	Yes	Yes	Yes	RISING GROUNDWATER LEVELS - Salt tolerant vegetation in coastal areas	To Be Evaluated			
4	<u>View</u>	000101-1	Pinellas	Yes	Yes	Yes	Yes	RISING GROUNDWATER LEVELS - Underdrains for high groundwater mounding at roadway where positive outfall can be achieved	To Be Evaluated			
5	<u>View</u>	000101-1	Pinellas	Yes	Yes	Yes	Yes	RISING GROUNDWATER LEVELS - Reconstruct base to mitigate future water damage	To Be Evaluated			
6	<u>View</u>	000101-1	Pinellas	Yes	Yes	Yes	Yes	EXTREME HEAT - Drought tolerant shoulder vegetation	To Be Evaluated			
7	<u>View</u>	000101-1	Pinellas	Yes	Yes	Yes	Yes	WILDFIRES - ITS signs for high potential for fire	To Be Evaluated			
8	View	000101-1	Pinellas	Yes	Yes	Yes	Yes	EMERGENCY RESPONSE - Emergency Shoulder Use	To Be Evaluated			
9	<u>View</u>	000101-1	Pinellas	Yes	Yes	Yes	Yes	Other - Other	Included	\$ 1,000	Other test Resilience Improvement	
10	<u>View</u>	000101-1	Pinellas	Yes	Yes	Yes	Yes	INCREASED RAINFALL VOLUME - Create opportunities for additional runoff storage (tree wells, depressed vegetated medians, etc)	N/A			
11	<u>View</u>	000101-1	Pinellas	Yes	Yes	Yes	Yes	INCREASED RAINFALL VOLUME - Increase opportunities for infiltration (reclaim green space, landscaped infiltration areas, etc)	Not Included	\$ 100	Test-Not included	
12	<u>View</u>	000101-1	Pinellas	Yes	Yes	Yes	Yes	INCREASED RAINFALL VOLUME - Increase capacity of ditches	Included	\$ 1,000		
13 Shr	View	000101-1	Pinellas	Yes	Yes	Yes	Yes	INCREASED RAINFALL VOLUME - Increase hydraulic opening to prevent roadway	To Be Evaluated			-
Sile	wing res	una 1 to 200	01200 110	AL DO TEBUILS	<u>.</u>						From: 1 To: 289, Exp	ort Result

