



Building a Stormwater Program to Support HB 53

FACERS Annual Conference

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JonesEdmunds 



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What is HB 53?

Where do we go
from here?



What are the
requirements?

What is in HB 53?

“Public Works Bill”

Effective July 1, 2021

Defines “Public Works Project”

Limits local preferences in RFQ/RFP

20-year needs analysis





Public Works Project

- Activity > \$1M
- Infrastructure construction, maintenance, or repair
- Paid for with any State-appropriated \$

A local ordinance or regulation cannot limit participation

- Office location
- Hiring





Expenditure Analyses

20-Year Needs Analysis
(5-year Plans)

Funding for Planned
Projects

What are the Requirements of the Needs Analysis?

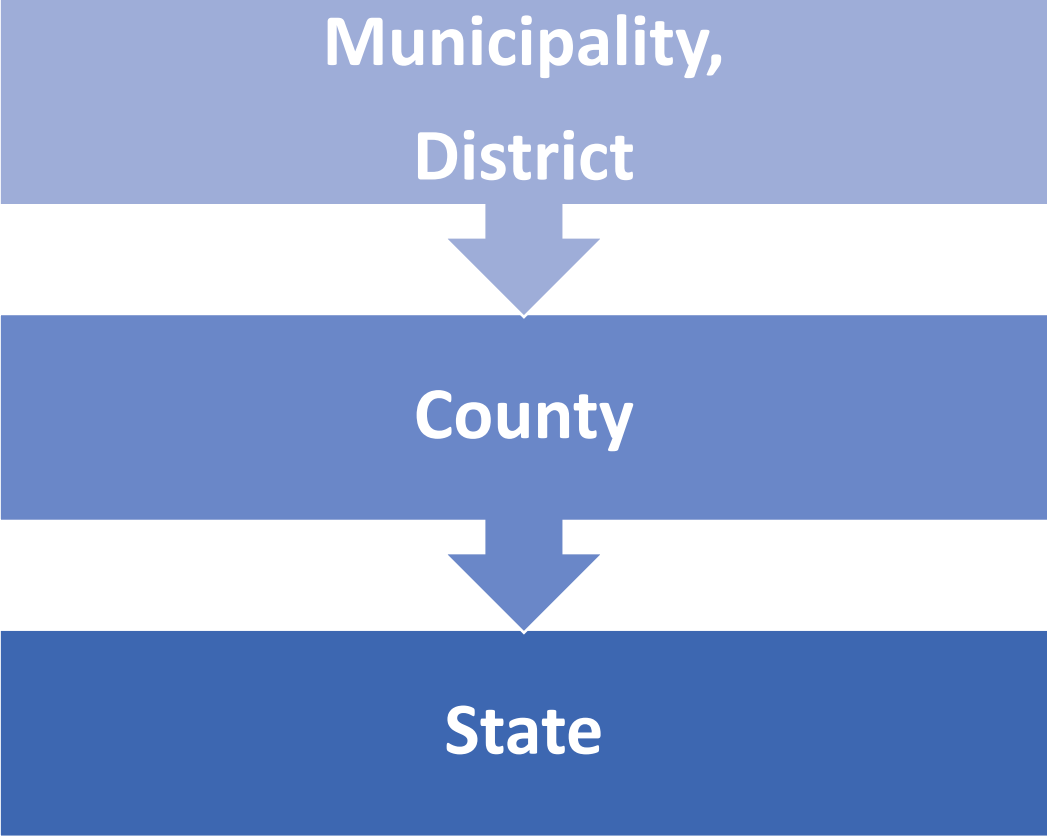
- A) A detailed description of the stormwater management program or stormwater management system and its facilities and projects.
- B) The number of current and projected residents served calculated in 5-year increments.
- C) The current and projected service area for the stormwater management program or stormwater management system.
- D) The current and projected cost of providing services calculated in 5-year increments.
- E) The estimated remaining useful life of each facility or its major components.

What are the Requirements of the Needs Analysis?

F) The most recent 5-year history of annual contributions to, expenditures from, and balances of any capital account for maintenance or expansion of any facility or its major components.

G) The local government's plan to fund the maintenance or expansion of any facility or its major components. The plan must include historical and estimated future revenues and expenditures with an evaluation of how the local government expects to close any projected funding gap.

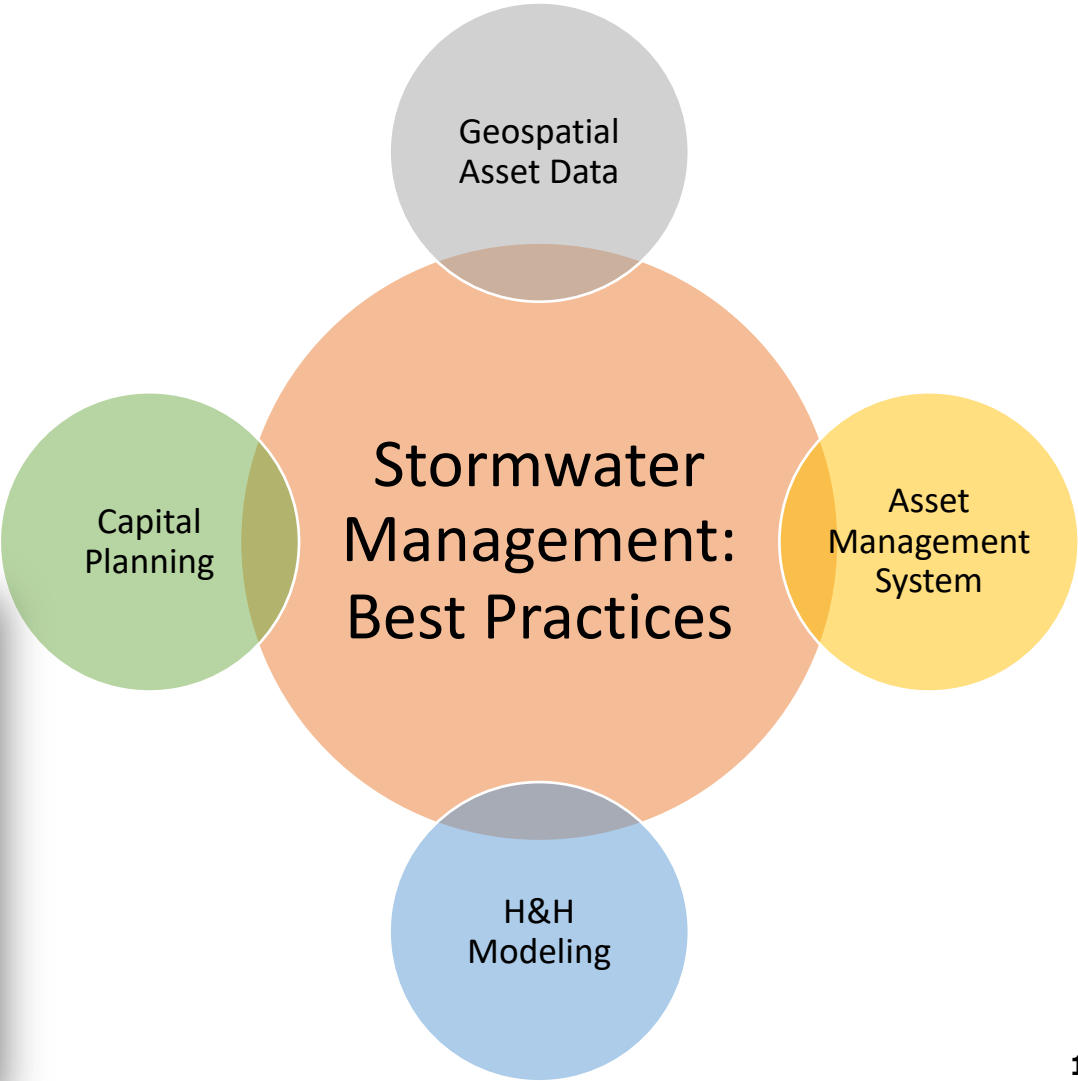
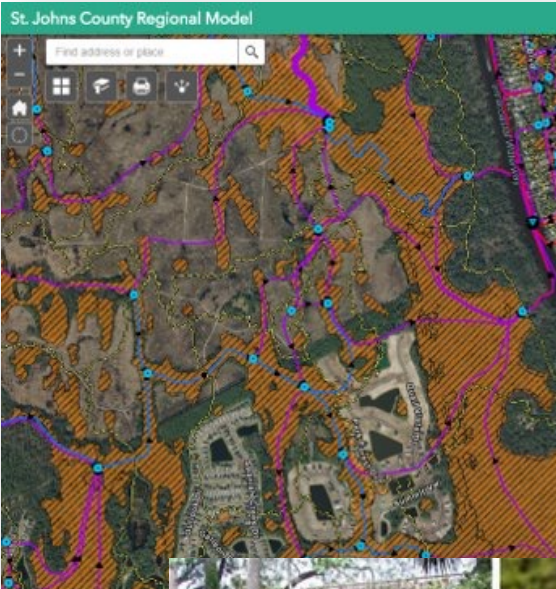
What is the Process?



A man in a grey suit and red tie stands with his hands raised in a gesture of surrender or calm. He is positioned in the foreground, looking upwards. Behind him, a large building is engulfed in flames and smoke, with debris flying through the air. The scene is chaotic and dangerous, yet the man's expression is one of composure.

DON'T PANIC

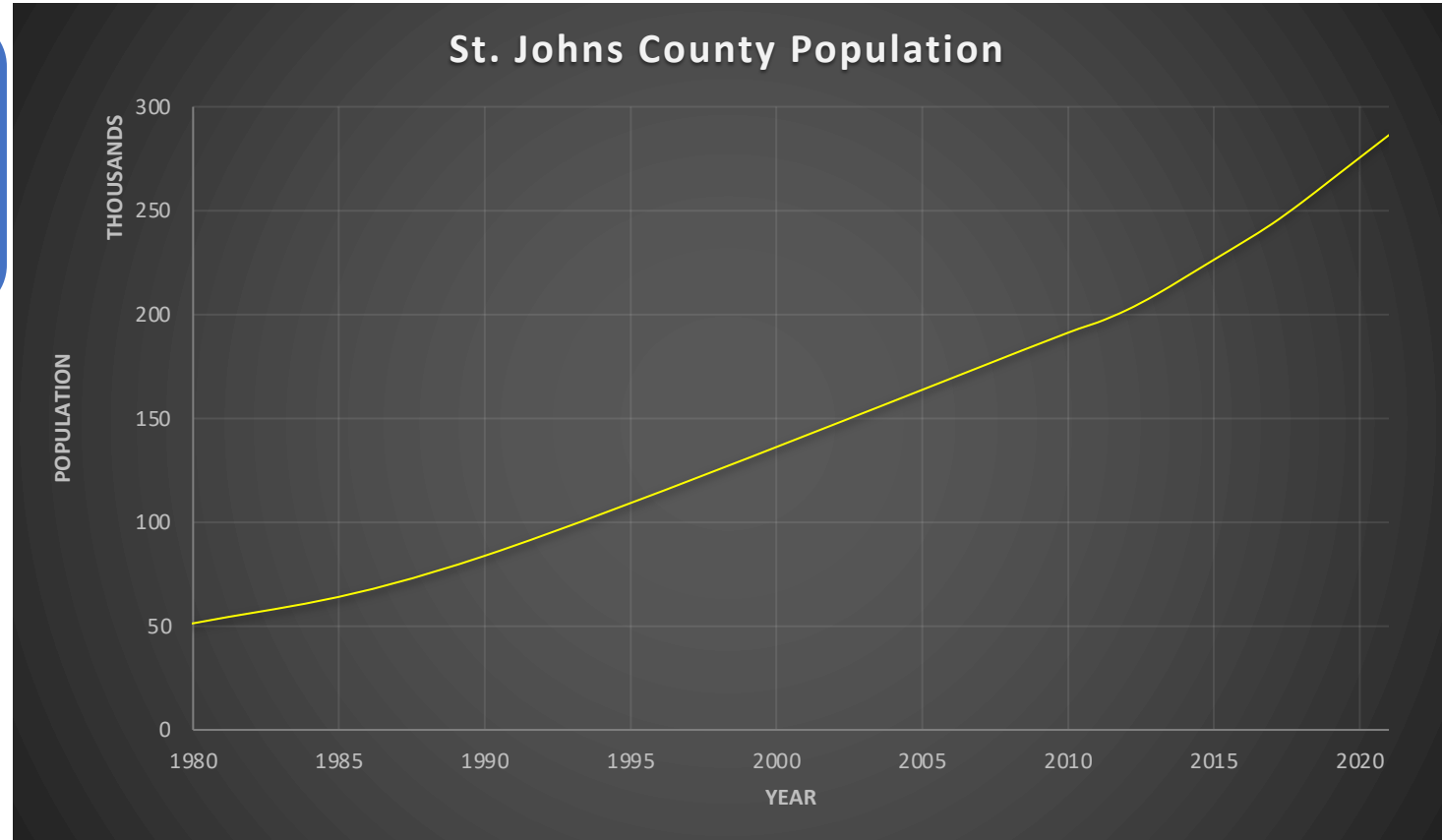
EVERYTHING IS FINE



CASE STUDY - St. Johns County Stormwater Program

Population Growth

- 1990 – 83.8K
- 2021 – 286.4K



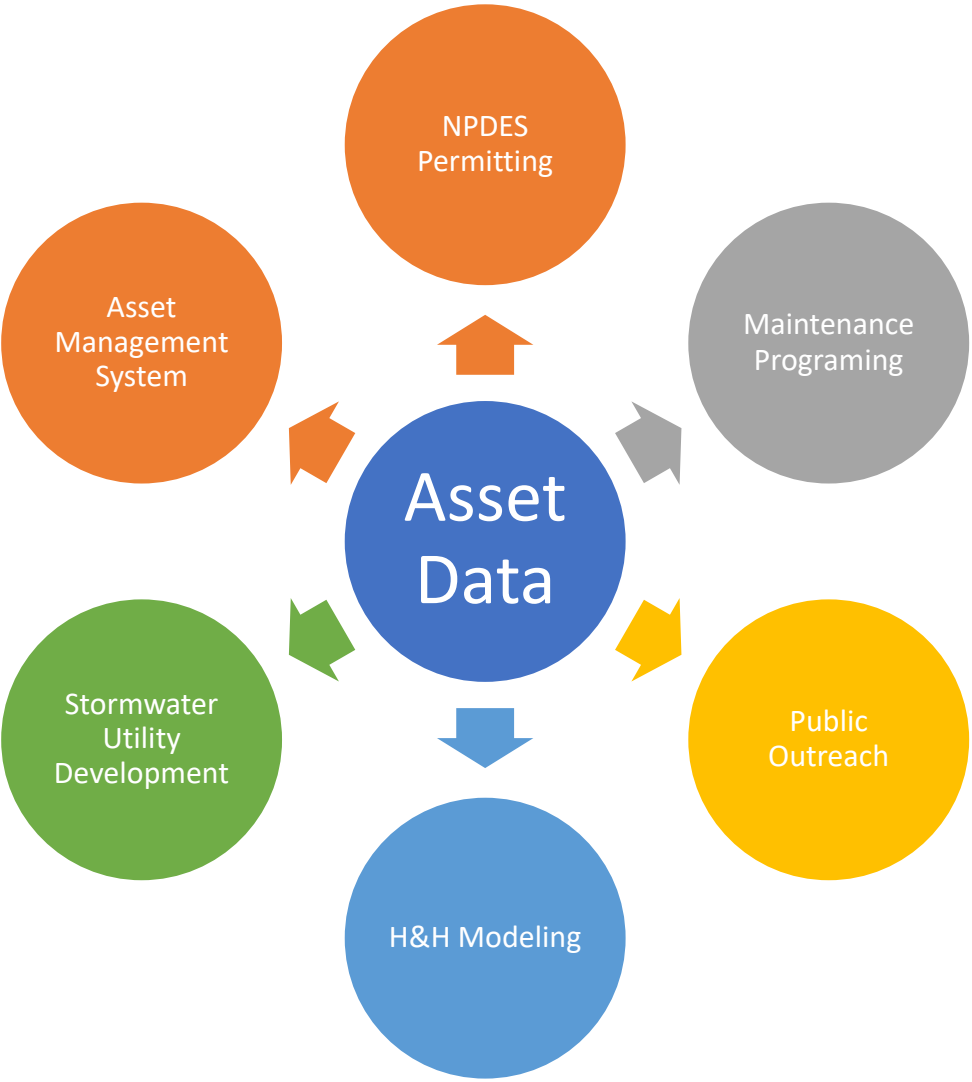
[St. Johns County, Florida Population 2021 \(worldpopulationreview.com\)](https://worldpopulationreview.com/states/florida/st-johns-county/)

What is it?

- Inventory of drainage system
- Spatial (X,Y)
- GIS-based, typically



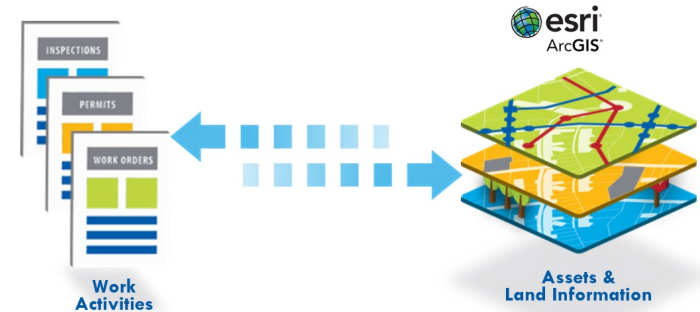
Stormwater Management – Geospatial Asset Data



Stormwater Management – Asset Management Systems (AMS)

What is an AMS?

- Provides a clear picture of what assets you have and what it takes to operate & maintain
- Spatial, Ideally
- Enterprise (Organization-wide)
- Cityworks, iWorQ, Cartegraph, etc.



Stormwater Management – Asset Management System (AMS)



Stormwater Benefits/Uses

- Maintenance Cost Tracking and Reporting
- CIP Cost Tracking and Reporting
- Budget Projections
- Maintenance Problem Area Tracking
- Tracking Asset Age
- Complaint Tracking
- Maintenance Scheduling
- NPDES Permitting
- Mobile

Cityworks

Search...

(AD) Admin, Public Works

Inbox

Recent

Create

Search

Assets

Schedule

Report

Storeroom

Admin

New PLL Case

Search PLL

Inspections

>>

New Project

Open Project

View

Edit

Print

Domain: KSM

Summary View: Project Budgets

Projects	Budget	Expended	Remaining
1001MISO - ASPHALT MAINTENANCE- POTHOLES	\$300,000.00	\$2,897.75	\$297,102.25
2019 LR Station Rehab CIP		\$1,351.11	(\$1,351.11)
SOU - Sewer Main	\$750,000.00	\$1,423.56	\$748,576.44
Capital Improvement Projects Category		\$280,951.62	\$89,189,088.38
Department of Public Works Projects Category	\$101,000,000.00	\$38,698.56	\$100,961,301.34
FCM - Facilities Construction and Maintenance	\$600,000.00	\$75.00	\$599,925.00
FEMA Projects Category		\$16,498.06	(\$16,498.06)
Madison Street Lights		\$637.76	(\$637.76)
Madison Pole #1234 Install		\$637.76	(\$637.76)
Natural Gas Projects Category	\$7,025,750.00	\$6,741.34	\$7,019,008.66
Park and Recreation CIP Category	\$527,000.00		\$527,000.00
A/C Caplinger Sports Complex Park Improvements	\$12,000.00		\$12,000.00
Aquatic Center Park Concessions			
Mowing Contract			
Regulatory Compliance Projects Category			
SLA - Property Management Category			
Street Resurfacing and Repairs Category			

Capital Improvement Projects Category

An estimated budget was not entered.

The amount expended is above the acceptable threshold.

Project Budget: \$0.00

Sub Project Budget: \$89,470,000.00

Unallocated Budget: (\$89,470,000.00)

Project Expended: \$0.00

Sub Project Expended: \$280,931.62

Total Expended: \$280,931.62

North Rd to South Rd Stormwater Improvements

Stormwater Improvements from North Rd to South Rd

This project has no sub projects. The budget cannot be over or under allocated.

The amount expended is above the acceptable threshold.

Project Budget: \$100,000.00

Sub Project Budget: \$0.00

Unallocated Budget: \$100,000.00

Project Expended: \$23,010.43

Sub Project Expended: \$0.00

Total Expended: \$23,010.43

Actual Budget: 100000

Total Expended: \$23,010.43

Remaining Budget: \$76,989.57

Assigned To: admin, cw

Project Status: In Progress

Last Modified: 2/24/2020

Start Date: 12/1/2019

Finish Date: 2/28/2020

Comments: Project at 90%

St. Johns County Utilities Asset Activity Monthly Report

Time Period: February 2020

Systems: Water

Monthly Asset Expenses By Expense Type

Monthly Work Orders By System

Monthly Work Orders By Entity Type

Monthly Asset Expenses

Asset Activity By Entity Type

Stormwater Management – Asset Management System (AMS)



Reports and Dashboards

Year to Date Activities

Activities	Total Cost	Total Qty	Units
Repaired Potholes	\$65,842.22	3968.00	POTHLES
Repaired Sidewalks	\$110,555.51	12556.00	SQUARE FEET
Roadside Mowing	\$295,460.20	9386.26	ACRES
Ditch Maintenance	\$286,863.55	113822.30	LINEAR FEET
Culver Install - RCP	\$345,633.75	2844.00	LINEAR FEET
Outfall Ditch Cleaning	\$7,895.17	12435.77	LINEAR FEET
Culvert Install	\$93,195.24	1358.00	LINEAR FEET
Manual Clean Cross Drain	\$4,061.00	119.00	EACH
Manual Clean Side Drain	\$25,726.92	1283.00	EACH
Manual Catch Basins	\$15,806.73	1229.00	EACH
Shoulder Maintenance	\$226,678.24	123244.50	POTHLES



St. Johns County Modeling Program - Background



Intense
Growth



Adverse
Drainage
Landscape



Water
Quality

County-wide
H&H Model

What is it?

- Tool to Predict System Response
- Design Event Based
- ICPR, SWMM, XPSWMM, etc.
- Varying Levels of Detail and Extents



St. Johns County Modeling Program - County-wide Model Development

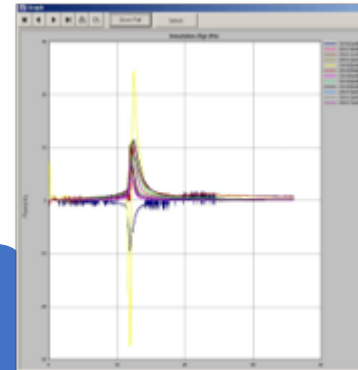
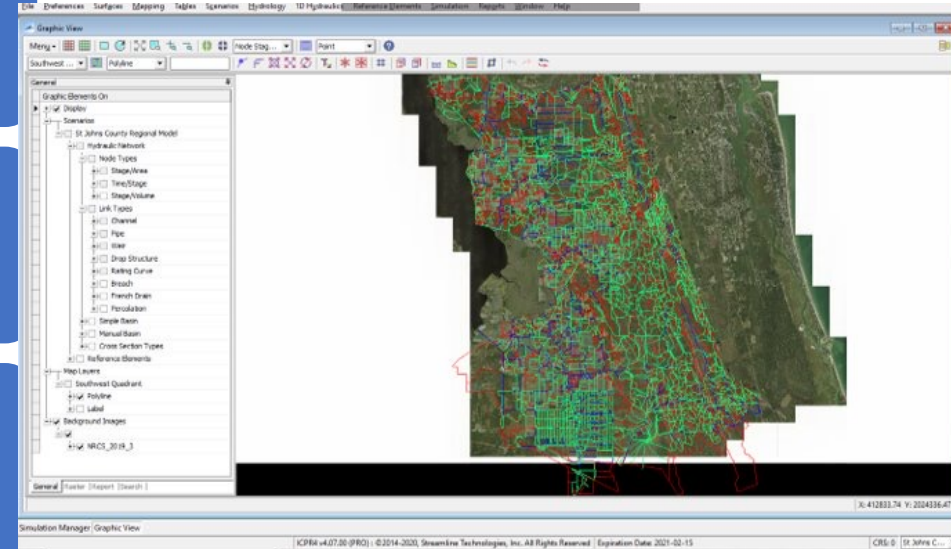
Developed over time based on Flooding and Development Concerns

Originally 10 Separate Model Areas

Combined into a single County-wide model and converted to ICPR 4

- ~8,700 sub-basins (Intermediate-Scale)
- ~10,600 nodes
- ~26,700 links

Model Run-times < 30 minutes!!

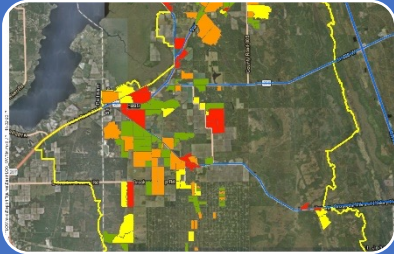


The screenshot shows a data table from the ICPR 4 software. The table lists various model parameters and results, including flow rate, time, and other variables. The table has multiple columns and rows of data.

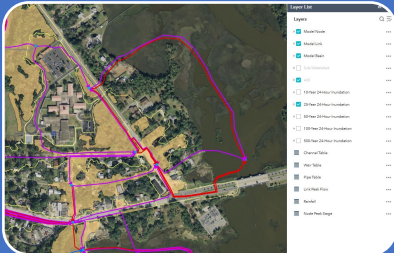
Flow Rate	Time	Flow Rate	Time	Flow Rate	Time
1000	10	1000	10	1000	10
1000	10	1000	10	1000	10
1000	10	1000	10	1000	10
1000	10	1000	10	1000	10
1000	10	1000	10	1000	10
1000	10	1000	10	1000	10
1000	10	1000	10	1000	10
1000	10	1000	10	1000	10
1000	10	1000	10	1000	10
1000	10	1000	10	1000	10



Inundation Mapping

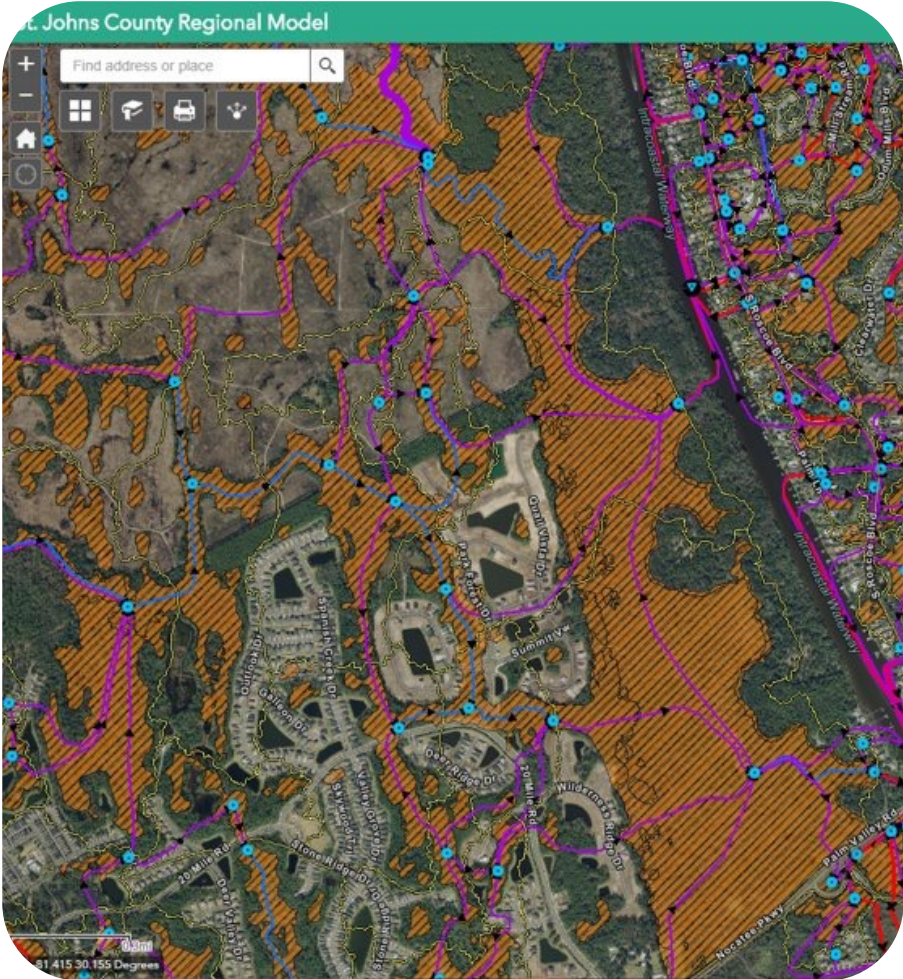


Countywide Flood Protection Level-of-Service

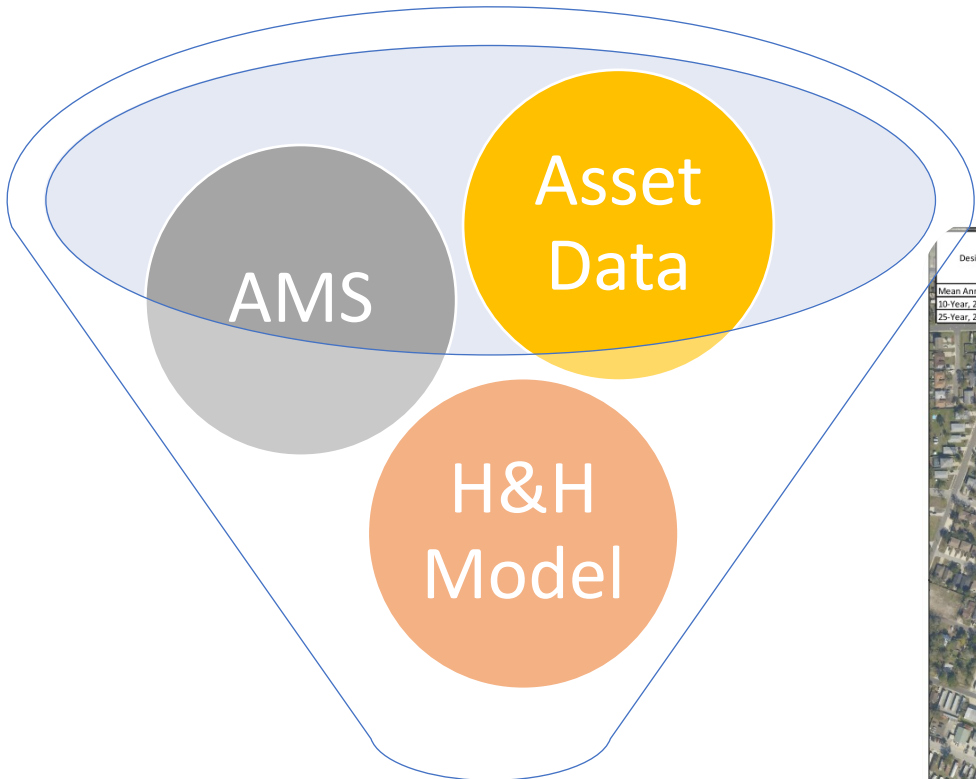


Regional Model Web Map Service

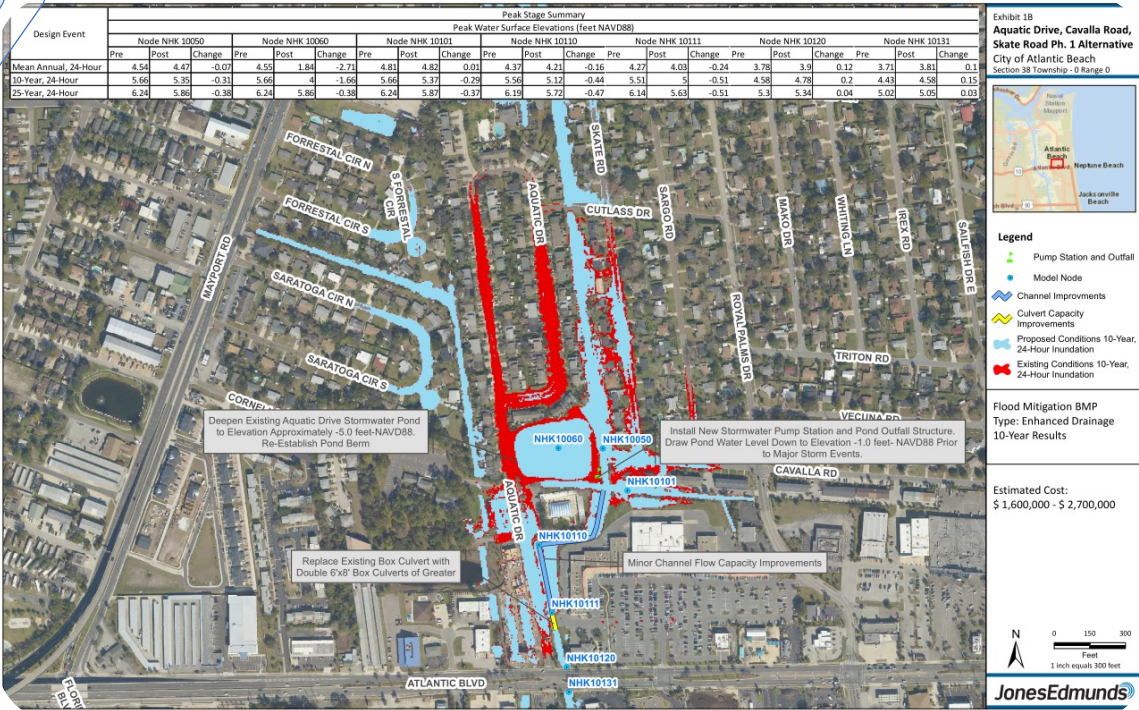
Stormwater Management – Hydrologic & Hydraulic (H&H) Modeling



Stormwater Management – CIP Identification & Planning



CIP Project Identification & Plan



Discuss with Your Peers

Engage in the Guidance Process

Discuss with County Leadership

Stay Tuned In

Leverage Existing Information

Generate a Working Group or Discussion Forum



QUESTIONS?

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1. For the purposes of this analysis, what are the boundaries of the activities and structures that comprise stormwater management—similarly what makes up a system?

- Should the focus be on financial investments by the local government or more on regulatory scope?
- Should current and anticipated steps to address tidal events that result in recurrent flooding be included? Traditional stormwater management definitions focus on rain and weather events, but sea level rise has changed the landscape, literally and figuratively.
- What is the line between stormwater management activities and water quality projects?

2. Knowing that the goal is to develop estimates for all areas of Florida, should the reporting requirements differ between local governments and, if so, what are the most meaningful categorizations and treatment options?

- Level of past investment?
- Population density or projected growth?
- Acres of developed or developable land?
- Risk level such as miles from the coast or feet above seal level?
- Some combination of the above, such as an index?

3. How should “needs” be defined?

- The time horizon must be taken into account. Infrastructure and facilities that can deal with the current environment may not be enough for increased population, sea level rise, more frequent and severe storm events, or future water quality degradation.
- A system that is budgetarily constrained may need significant upgrading or expansion; however, projections should not be based on pipe dreams that could not be attained even with assistance.

4. How should more detailed short-term needs be projected into the full 20-year planning horizon?

- Should one or more default models or growth rates be provided by EDR as options that local governments could choose between?
- What should be the methodology for a local government that simply operates from one budget cycle to the next and has no longer term plan?