



CONTRACTED MAINTENANCE

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The Framework

Asset Management (ISO 55000)

- Organizational context
- Leadership and commitment
- Planning
- Support
- **Operations**
- Performance evaluation
- Continuous Improvement



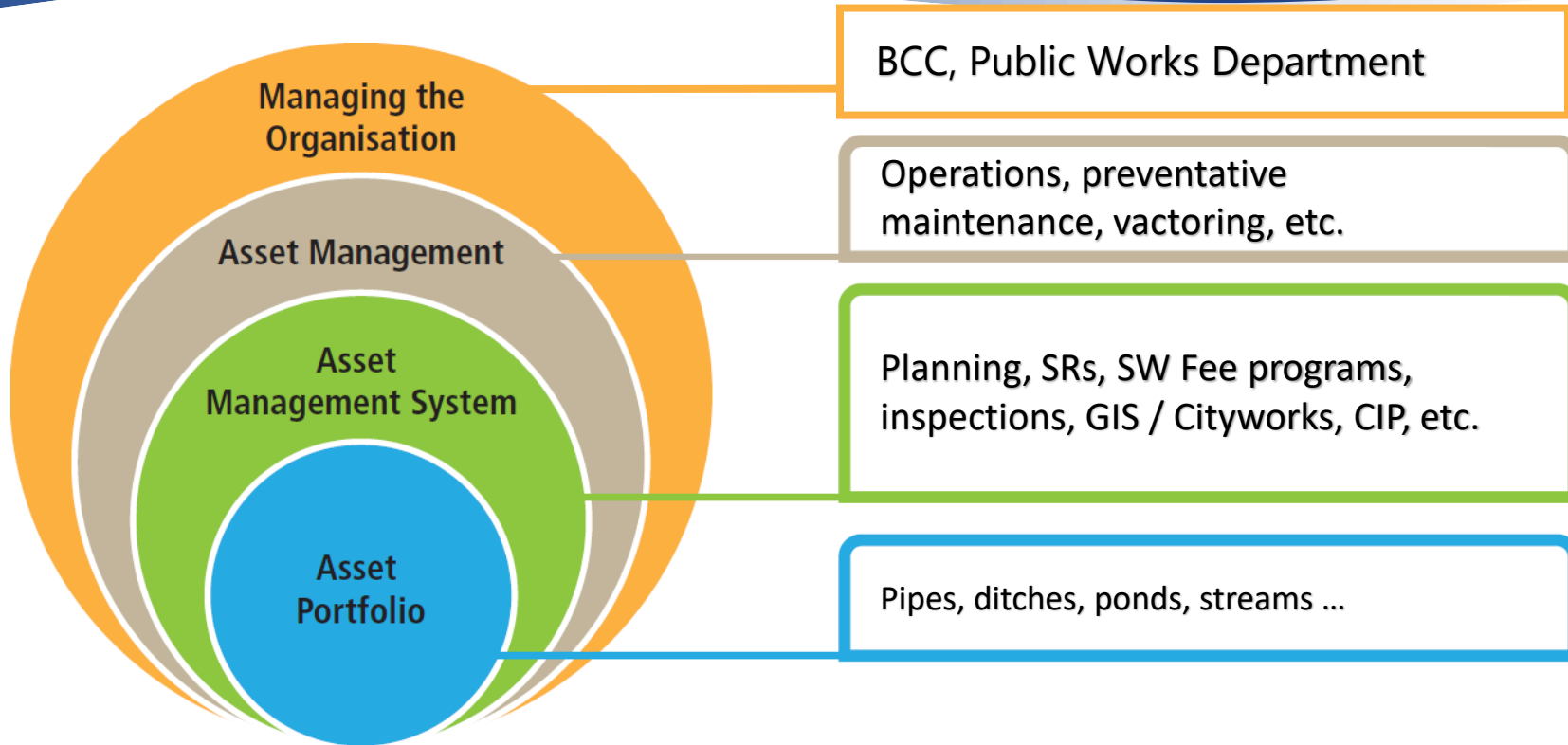
Why Asset Management Planning?



Includes the full asset lifecycle from creation to end-of-life, not just the period of ownership.

- Improves customer service
- Improves level of service
- Improves decision making
- Improves cost efficiency
- Addresses sustainability and long term planning
- Provides transparency and accountability

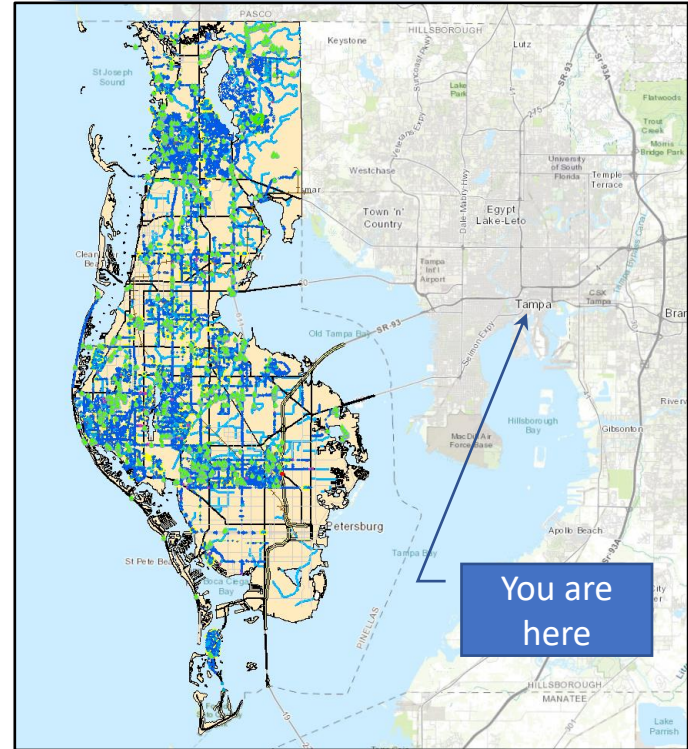
Stormwater Asset Management Plan (SWAMP)



County Stormwater Inventory



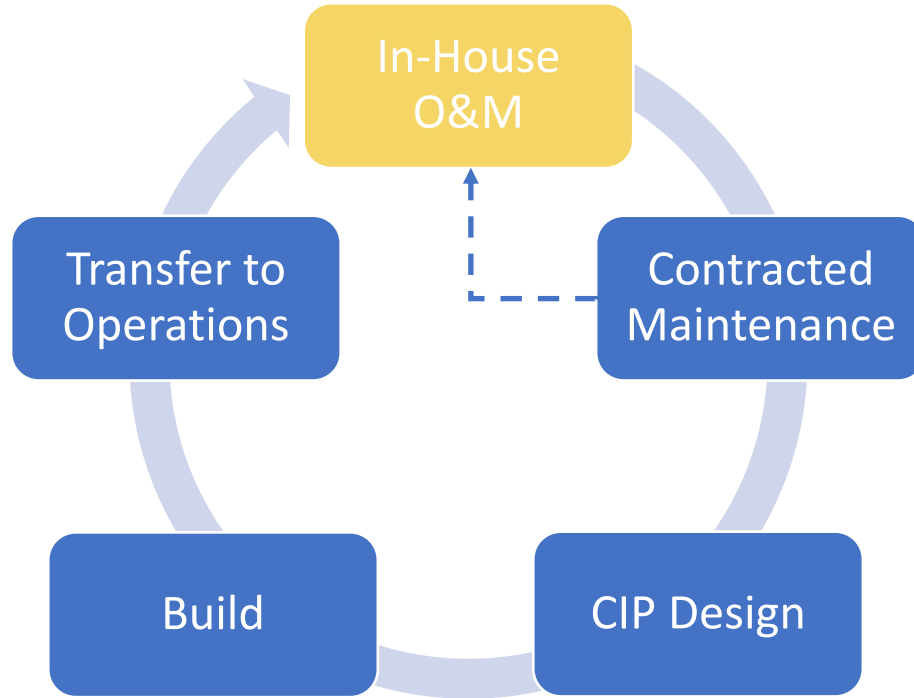
- 44,000 (~890 miles) stormwater pipes
- 10,600 (~330 miles) ditches, swales
- 740 (~260 miles) streams
- 57,000 structures
- 1,017 permitted facilities



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In-House Capabilities

Stormwater Asset Process



In-House Maintenance Capabilities



- Approximately 75 people in Stormwater Operations
- Engineering support from 6 people in Watershed Planning
- Landscape Services crews for mowing
- Vegetation and Lake Management crews for ponds and ditches



In-House Stormwater Operations



- **Preventative Maintenance**
Field Coordinators
Response crews
<2 hour fix it on-the-spot jobs
- **Open Conveyance**
Ditch crews
Gradalls and excavators
Spiders
- **Closed Conveyance**
Pipe crews
Vactor trucks
- **Ponds**
- **Street Sweeping**



Stormwater Operations Process

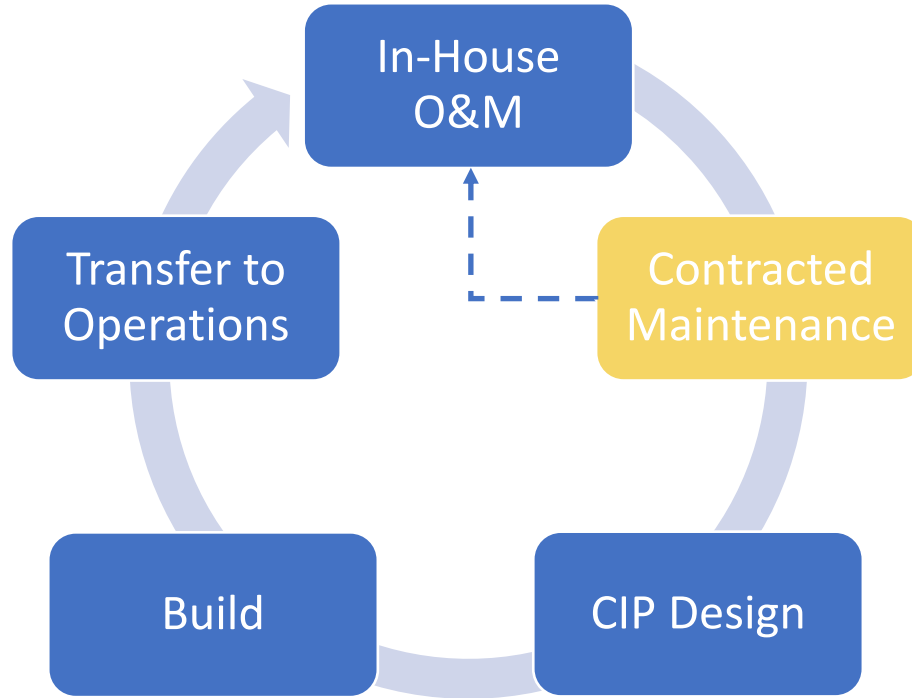
- Preventative maintenance
- Evaluation: Can in-house crews do the work?
 - Crew availability, capacity
 - Project size, depth
 - Duration
 - Complexity
 - Permitting
 - Design





Contracted Maintenance

Stormwater Asset Process



Contracted Maintenance

- Hiring external resources to get things done
 - Supplement existing in-house capacity
 - Do work outside of in-house capabilities
 - Specialist work, equipment
 - Hazardous work
 - Efficiencies (scope, time, cost)



Specialized Equipment



- Custom amphibious excavator and Mobitrac

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Open Conveyance Program

Open Conveyance Maintenance Program



- Reduce risk of flooding and property damage
- Reduce erosion and sedimentation
- Improve ecological value
- Restore wildlife habitat
- Reduce pollutants in waterways



Open Conveyance Maintenance Program



- Dedicated funding source (~\$2.4M p.a.)
- Surface Water Assessment Fee
- Unincorporated areas
- Funds maintenance work, equipment costs and salaries



Open Conveyance Maintenance Program



**OCCM
video**



<https://youtu.be/guaHOB4Wk>

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Pipe Rehabilitation Program

Pipe Rehabilitation Program

- Pipe cleaning and CCTV
- Pipe rehabilitation
 - Cured in place pipe (CIPP)
 - Slip lining
 - Geopolymer spray-on
 - Injection grouting
- Removal and replacement
- Coordination of rehab with other programs (e.g., CIP, road resurfacing)



Alternative Pipe Inspectors



Goat



Turtle

Pipe Rehab Program (cont'd)

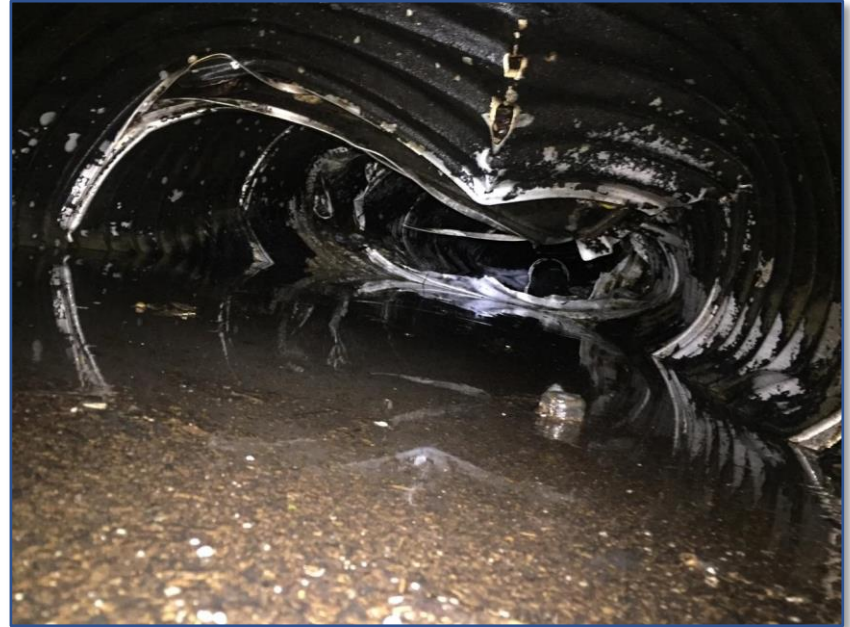
- Dedicated funding source (~\$3.5M p.a.)
- Surface Water Assessment Fee (\$2.4M p.a.)
 - 10-year program
 - 24 miles of CMPs in unincorporated areas
- General Fund (\$1.1M p.a., varies)
 - All other pipe types and those County-owned pipes in municipalities
- Funds rehab work, equipment costs and salaries



Pipe Rehab Program (cont'd)

Corrugated Metal Pipes (CMP)

- Completed 654 CMPs (13.9 miles) in 6 years
- "Discovered" an additional 4.9 miles of CMPs
- Remaining 979 CMPs (15.0 miles)
 - 7 years at 2.4 miles per year



Crushed CMP

Additional Contracted Maintenance

- Construction Engineering and Inspection (CEI)
- Pond mowing - 14x per year
- Hand-cleaning of ditches (inmates)
- Debris removal
- Derelict vessel removal
- Navigational marker maintenance





Delivery Mechanisms

Delivery Mechanisms

Work Order Contracts

- Flexibility of assignments
- Good for emergencies and unplanned work
- Short lead time
- Unit pricing
- Potentially costlier than bid
- Scheduling could be an issue



Delivery Mechanisms (cont'd)

Competitive Bids

- Useful for bundled, specific work
- ~\$500,000 (rule of thumb)
- Better prices than with work order contract
- Unusual types of work
- Definitive schedule
- Contractor accountability (liquidated damages)





Contact Us



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Questions?



www.pinellascounty.org/publicworks

