

Asset Management Overview

Presented to the Regional Water Quality Committee
October 7, 2020



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Department of
Natural Resources and Parks
Wastewater Treatment Division

What is Asset Management?

- The procurement, maintenance, repair, refurbishment and replacement of sewer lines and equipment at our pump stations and treatment plants to:
 - Avoid sewer overflows
 - Meet regulatory requirements
 - Meet customer's expectations
 - Minimize the total costs of ownership



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WTD's Assets

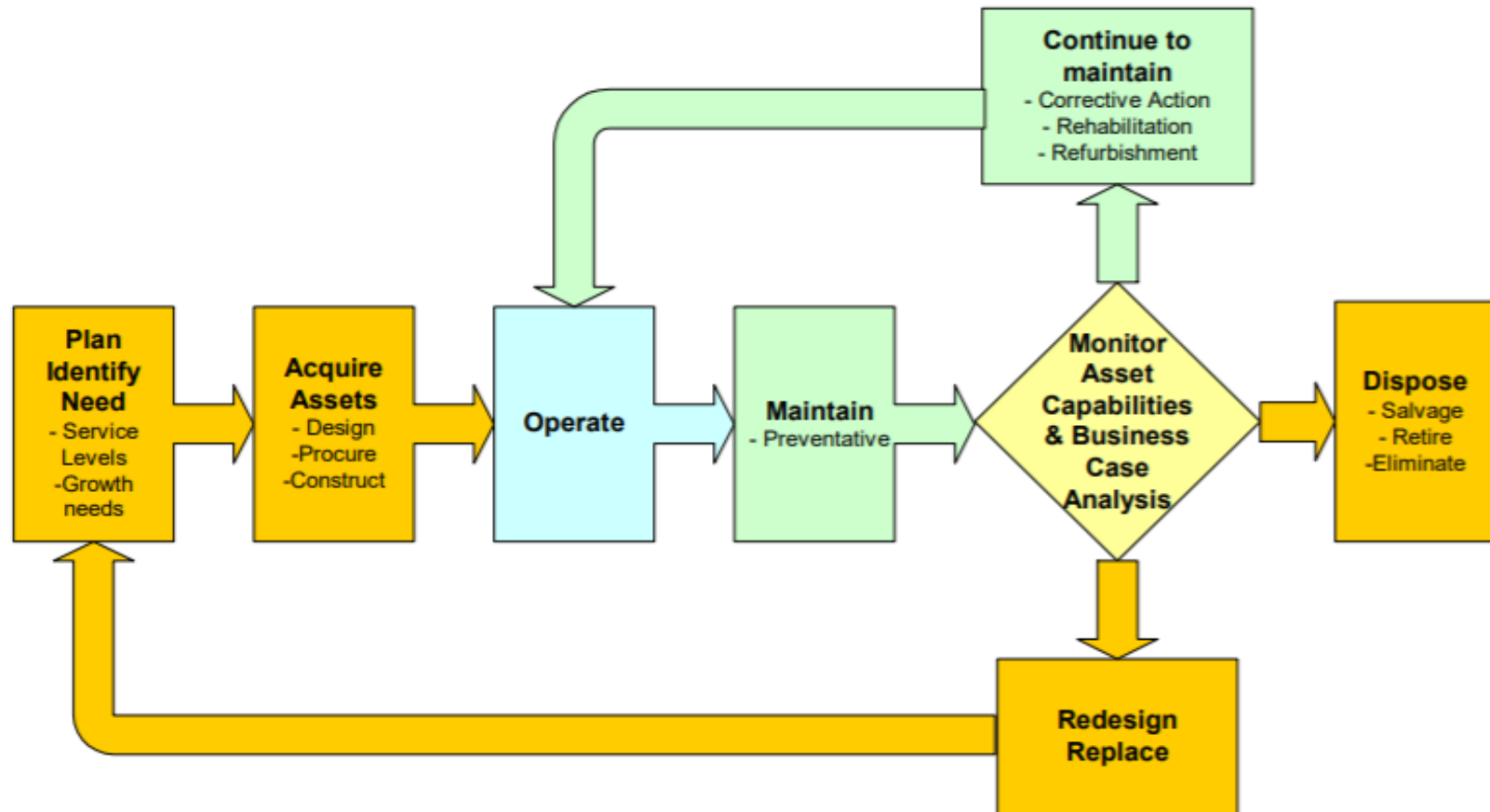
- WTD manages over 66,000 Assets valued at almost \$5 Billion total
- Common WTD Assets:
 - Fixed Equipment (pumps, motors, transformers, switchgear, instrumentation)
 - Infrastructure (pipelines, tanks)
 - Buildings and grounds (roofing)
 - Vehicles (Loop trucks)
 - Technology and Software (controls systems, databases)



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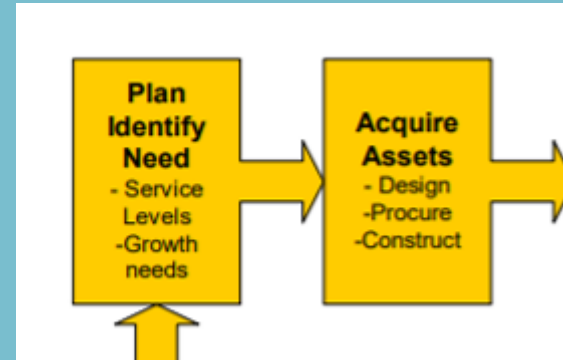
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Asset Life-Cycle



Asset Life-Cycle Example: West Point Intermediate Pumps

- Plan - Identify Need
 - Plan: Secondary treatment to West Point Treatment Plant
 - Need: Intermediate pump station to pump all flows from primary treatment to new secondary treatment
 - Three large pumps needed, each with a capacity of 150MGD
- Acquire Assets
 - Pumps 1-3 were acquired and installed in 1993
 - When assets are acquired, they are entered into the inventory so that life cycle data and maintenance history can be tracked

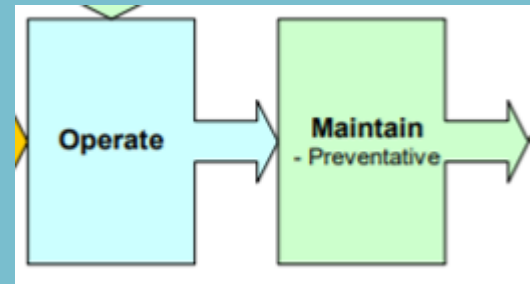


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Asset Life-Cycle Example: West Point Intermediate Pumps

- Operate
 - Pumps have been in good operation since installed
- Maintain
 - Preventative and unplanned (reactive) maintenance have been needed
 - Maintenance type and cost tracked in the Computerized Maintenance Management System

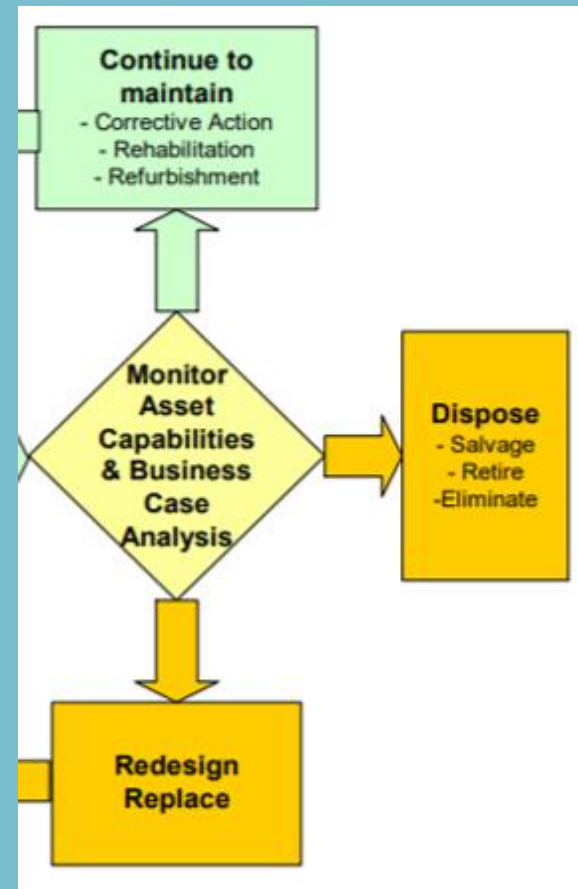


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Asset Life-Cycle Example: West Point Intermediate Pumps

- Monitor Asset Capabilities - Tracked in Computerized Maintenance Management System
 - Age
 - Break-In Work (reactive work)
 - Vibration shutdowns
 - Seal water leaks
- Business Case Analysis
 - Data and staff indicated capital investment needed to maintain level of service
 - Initiated new project request
 - Project request prioritized against other projects
 - Alternatives analysis with life cycle cost analysis performed to evaluate refurbishment vs. replace
 - Preferred alternative will be implemented



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Asset Life-Cycle Example: West Point Intermediate Pumps

- Once new pump is installed, or the pump undergoes a major refurbishment, the cycle starts again
 - Asset data will be entered into the Computerized Maintenance Management System
 - Asset data will be tracked moving forward
 - WTD will continue to:
 - Maintain the asset
 - Monitor the asset data and use it to inform decisions



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WTD's History of Asset Management

- Pre-2000's: Informal asset management
 - 1998: Computerized Maintenance Management System acquired - application for managing equipment maintenance data
- 2002: WTD establishes a formal asset management program



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WTD's History of Asset Management

- 2005: RWSP amended to include policy guidance for the County to establish and implement an asset management program and develop asset replacement plans.
- 2005: First WTD Strategic Asset Management Plan (SAMP). Established:
 - Asset Management Steering Committee (AMSC) - headed by senior management
 - Formalized asset hierarchy - shows the relationship of assets to each other



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WTD's History of Asset Management

- 2010: SAMP updated and established:
 - Maintenance Best Practices program
 - Standard definition of criticality
 - Creation of key performance indicators (KPIs) for asset management program
 - Scheduled asset refurbishments



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WTD's History of Asset Management

- 2017: Independent review of SAMP after West Point flood
- 2018: SAMP updated. Top priorities:
 - Complete full asset inventory (ongoing since 2005)
 - Develop risk assessment framework to link level of service goals to asset criticality
 - Improve tools to better manage asset data



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Capital Project Prioritization - Asset Management

- When a capital project is warranted, capital project request process is formally submitted for evaluation
- Form used is intended to provide information for scoring and to help define project scope
- For asset management projects, questions on the form focus on condition, criticality, obsolescence, and organizational impact of failure



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Capital Project Prioritization - Asset Management

- Projects are scored using objective criteria applied using a numerical scale
- Scores are applied by a ranking team comprised of subject matter experts (SMEs)
- Team members discuss each project request together and seek out any additional information that may be needed to help develop a common understanding of the project request



Capital Project Prioritization - Asset Management

- The criteria and scales are written so that they incorporate objective and measurable data in the scoring when possible
- Relies on a calculated consensus among ranking team members to counter bias
- Criteria do not fit all projects well, so teams can also elevate projects for management consideration regardless of score, if warranted



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Summary

- Over time, significant investments have been made into the conveyance and treatment system. Many assets are reaching end of life.
- WTD uses objective and measurable criteria to prioritize asset management projects.
- WTD will continue to engage with MWPAAC and RWQC on how to best address asset management in the regional wastewater system.



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Next Asset Management Briefing to RWQC to include (tentatively):

- Status of SAMP and upcoming tasks
- Summary of Asset Management info for each of three regional treatment plants
- Most current info on Asset Management needs systemwide



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Questions?

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