

NEWEA Asset Management & Energy Specialty Conference



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Chief Engineer
April 11, 2018

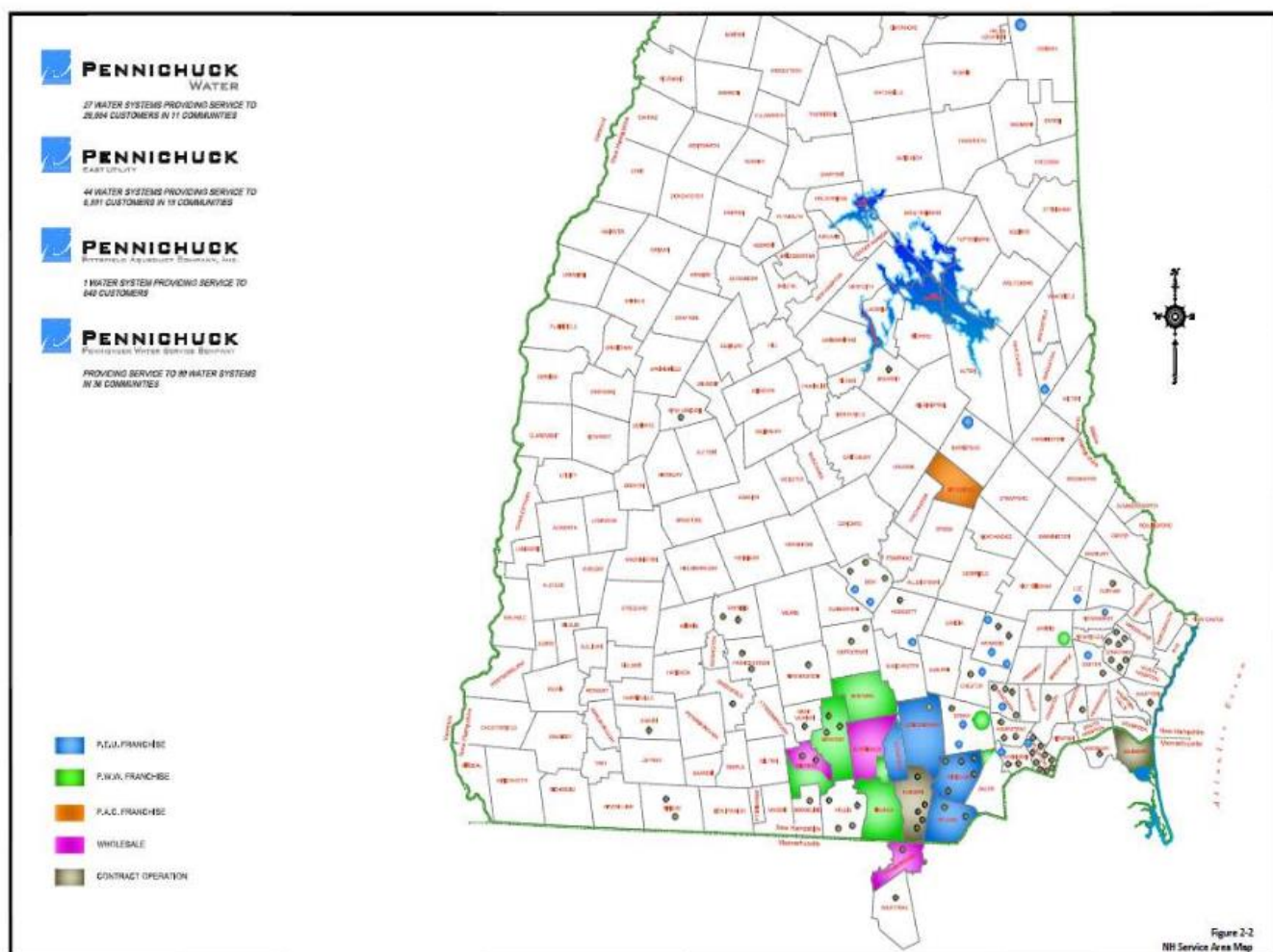
Presentation Outline

- Pennichuck – The Company
- Why Asset Management...Why now?
- Pennichuck's start, middle, & “finish”.

About Pennichuck Water

- For Profit Municipally-owned water company primarily engaged in the collection, storage, treatment and distribution and sale of potable water in southern and central New Hampshire
- Two business segments: regulated water utility operations and non-regulated water management services
- Regulated water utility revenues constitute 93% of our revenues
- Headquartered in Merrimack, New Hampshire and incorporated in 1852
- Pennichuck Corporation is a holding company with five wholly owned operating subsidiaries including:
 - Pennichuck Water Works, Inc., Pennichuck East Utility, and Pittsfield Aqueduct Company serve a population of 110,000, almost 10% of the population of the State of New Hampshire.
 - Pennichuck Water Service Corporation

Our Service Areas



Our Service Areas

Pennichuck Resources

System	Customers	Operating Revenues (2010)	Treatment/Storage Assets	Distribution & Transmission Assets
PWW	26,300 customers in Nashua & 10 surrounding municipalities	\$26.9 Million	<ul style="list-style-type: none">• 35 MGD water treatment plant• 11 water storage tanks• 41 pump stations	<ul style="list-style-type: none">• 2,305,813 feet of mains• 25,805 meters• 2,468 hydrants
PEU	6,828 customers in 19 communities in southern & central NH	\$6.4 Million	<ul style="list-style-type: none">• 26 pump stations• 14 booster stations	<ul style="list-style-type: none">• 856,444 feet of mains• 6,696 meters• 293 hydrants
PAC	650 customers in Pittsfield, NH	\$599,608	<ul style="list-style-type: none">• 0.5 MGD water treatment facility	<ul style="list-style-type: none">• 74,484 feet of mains• 628 meters• 65 hydrants



Asset Management

The Start - 2011

Why Then?



American Water Works
Association

Dedicated to the World's Most Important Resource™

AWWA Asset Management Definitions Guidebook

Version 1.0

ASSET MANAGEMENT

The coordinated set of activities within an organization to realize the overall value from all Assets through stronger governance and accountability. More specifically in the water industry it is the combination of management, financial, economic, engineering and other practices applied to all Assets (*Infrastructure, people, processes, and systems*) with the objective of providing the required *Level of Service* at an acceptable level of *Risk* at an optimal *Life Cycle Cost*.™

Seek advice from others



Engage the Right People



Gather a Diversity of Thoughts & Perspectives



“If everybody is thinking alike, then somebody isn't thinking.”

— George S. Patton Jr.

Think Laterally



Attack the Silos

- We break them down - CHANGE
- Some try to re-establish them – Reaction to CHANGE
- We break them down again- CHANGE
 - Walls & Barriers
 - Go over or around
 - Sometimes reverse course
 - Use other approaches

Change must break down barriers...But it may also trigger a response to build them back...Sometimes higher. Be ready for the push back

Our A/M Challenge

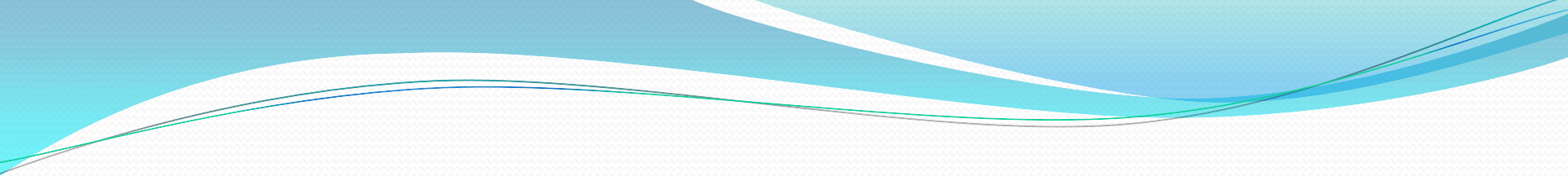
- Turn Data into Information
- Shift from “Activity Based” to “Asset Centric” work
- Accurately record and assign costs
- Move from paper to electronic formats
- System availability up, down, across and into every corner of the organization, in the office, **and in the field.**
- Build tools and processes to achieve desired outcomes.



The Middle Ages

Early Wins...Frequent Wins





Data into Information

Building the GIS: *Missing Data*

- Maps, plans, & field books
- Location by GPS
- Build by Consultants, interns
- Confirmed by field personnel and those with
“Institutional knowledge”.



Gone away from paper



With less paper = More space

August 2012



May 2016



Space = Utilization

May 2016



August 2016



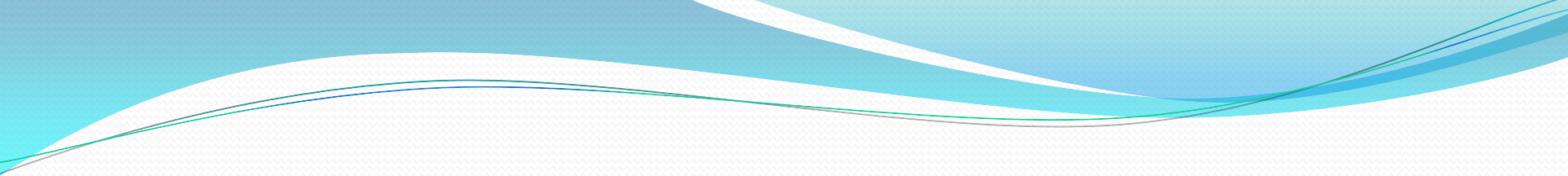
These are becoming obsolete

Engineering



Distribution

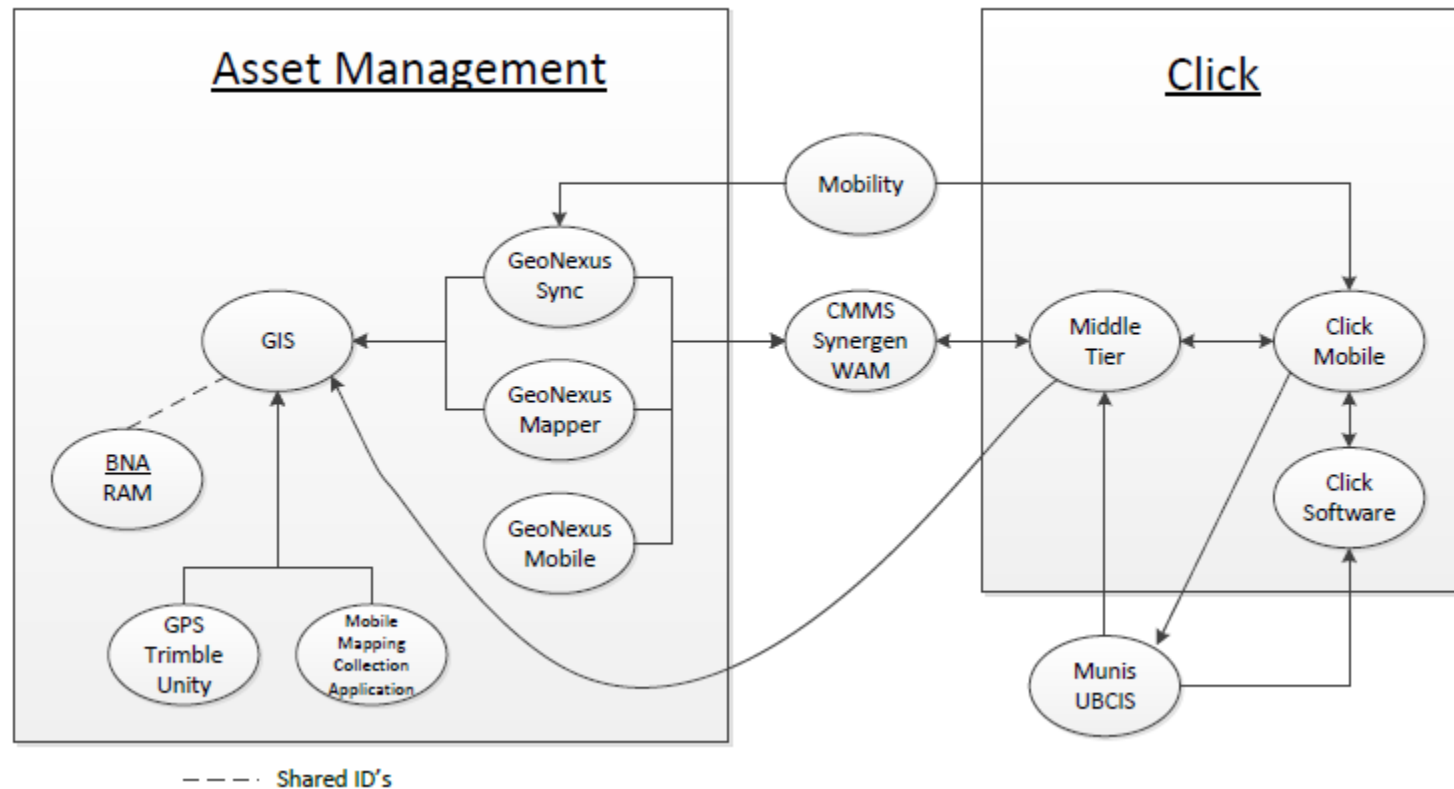




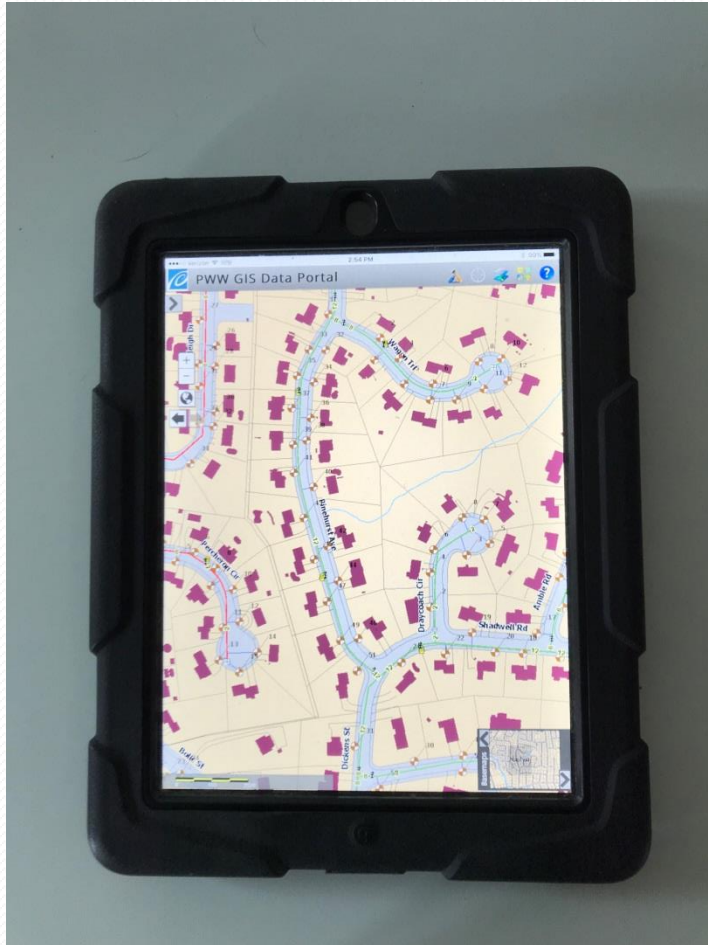
Cross Functional Acceptance between Information Systems

Information Systems

DPaC



Mobility

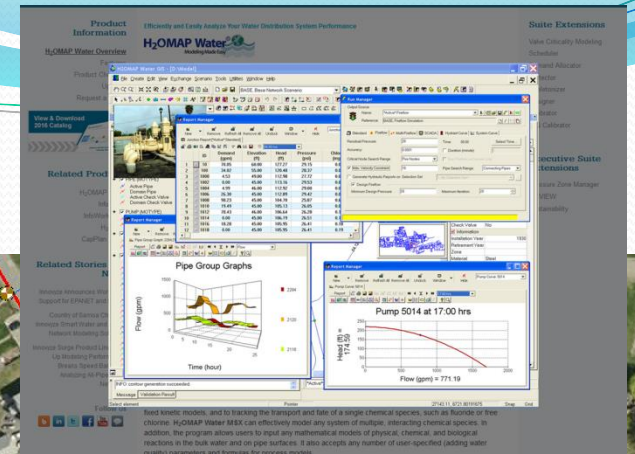
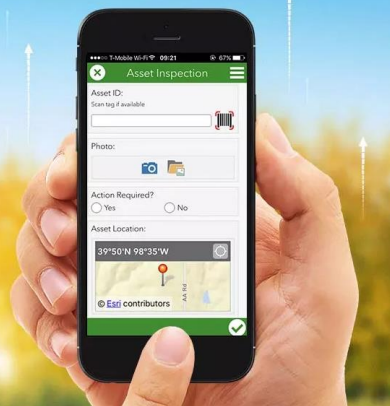


- GIS
- Customer Information
- Work Requests
- Work Orders
- PM's
- Reports
 - Construction
 - Damage
- Project status

Toolbox

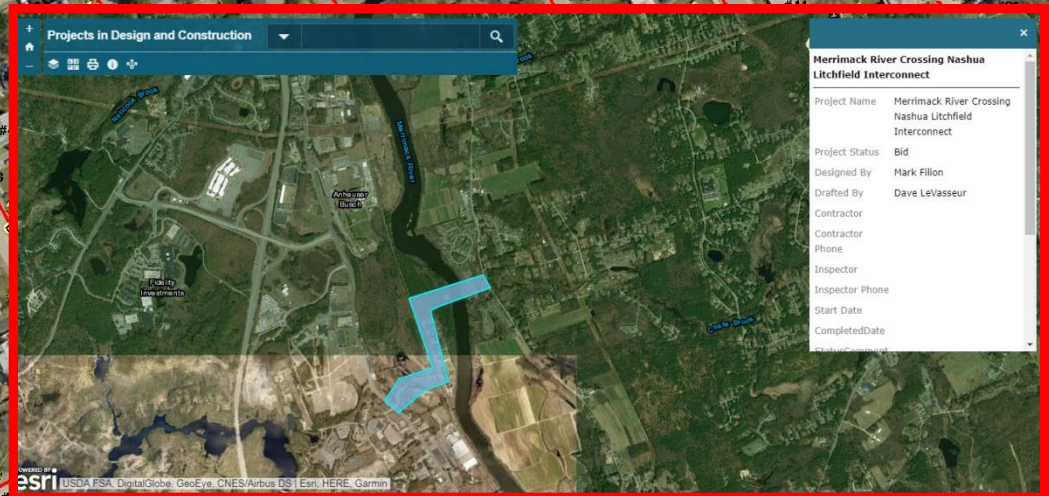
Survey123 for ArcGIS

Smarter Forms, Smarter Field Work



Portal

Collector for ArcGIS





The beginning of Maturity

The realization that spread sheets are not your friend (your best friend anyway).

- A/M = Database
- A/M created the Parent – Child Relationship
- Data is in “one” location used multiple ways throughout by many.
- Begin a transition away from Excel being a database



2018 Shift from Managing Assets to Asset Management

On tap as we grow old.

- Hydraulic Model linked to SCADA data
- Access to vertical systems via GIS (Esri + Autodesk)
- Full LoF – CoF analysis for critical system assets
- More Survey 1-2-3 forms to replace paper forms
- Asset Management based budgeting



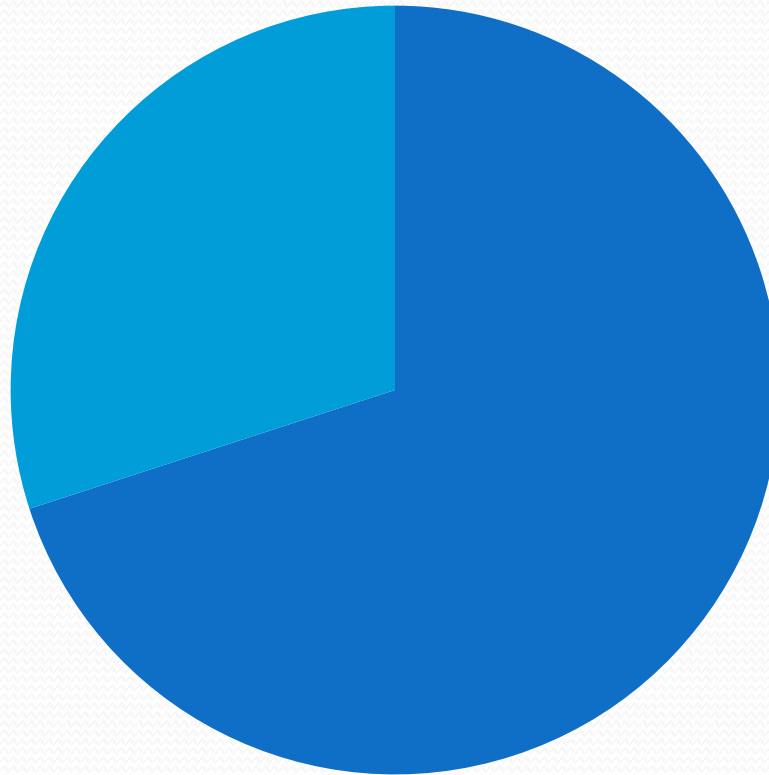
Advice to others

Set then maintain your line of sight



Follow JB's Rule: 70% = Go

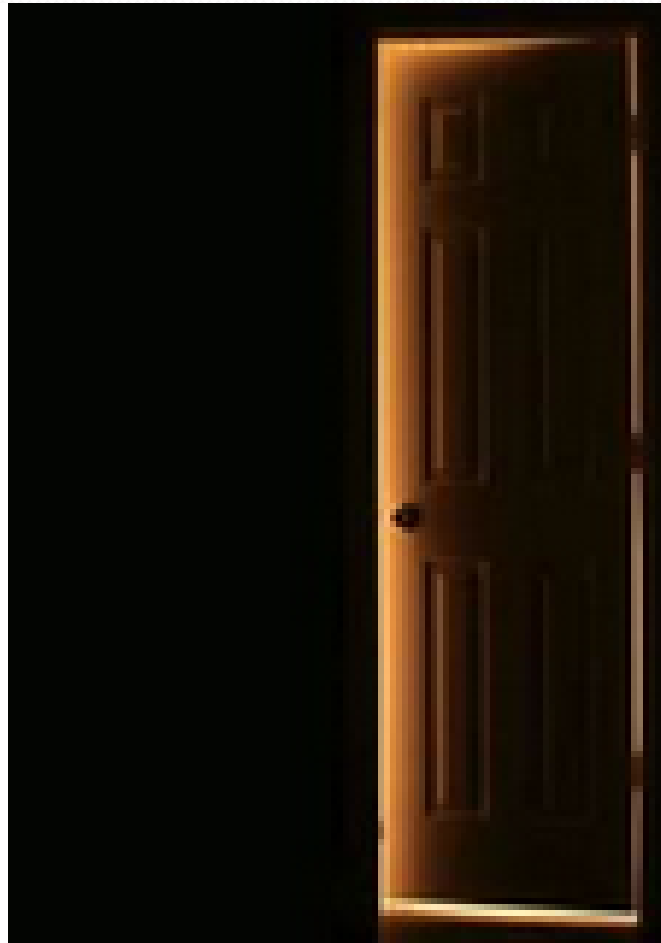
70% Rule



Don't Stop at No!



All you need is an opening.



Seek out and exploit the positive



Don't Ask...Provide

“They don't know they need it ~~until they need it.~~”



Until you give it to them

Momentum...keep it.



A/M is not easy!

- It is okay to step on a nail
- It is okay to ruffle feathers
- It is okay to have your feathers ruffled
- Remember to make peace



Manage Asset Management as a Group

“There is no end...
Others need to
come after you.”





Thank you!