4-6 October, Nationals Park, Washington DC

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Project Controls EXPO
Washington, DC - USA

# Challenges and Successes of Implementing Project Controls on a $1.7B project

Gary Dubin and Tyler Monson

2022

# About Us

## Gary Dubin:

- 30+ years experience
- Public and private capital construction ($8B)
  - Gwinnett County
  - Lake Oswego
  - EchoWater
  - Sites Resevior
- Project & program cost controls, database design and administration, information technology strategic planning, data management optimization

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## Tyler Monson:

- 15+ years implementation experience
- Over 50 PMIS Implementation Projects
  - Apple
  - Disney
  - Stanford University
  - EchoWater
- 50 to 1000+ users
- PMP, Agile Certified Practitioner
- More than 100 clients in construction, government, utilities, education and entertainment

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# Agenda

- The Project
- Objectives
- Challenges
- Approach
- Lessons Learned
- Q&A

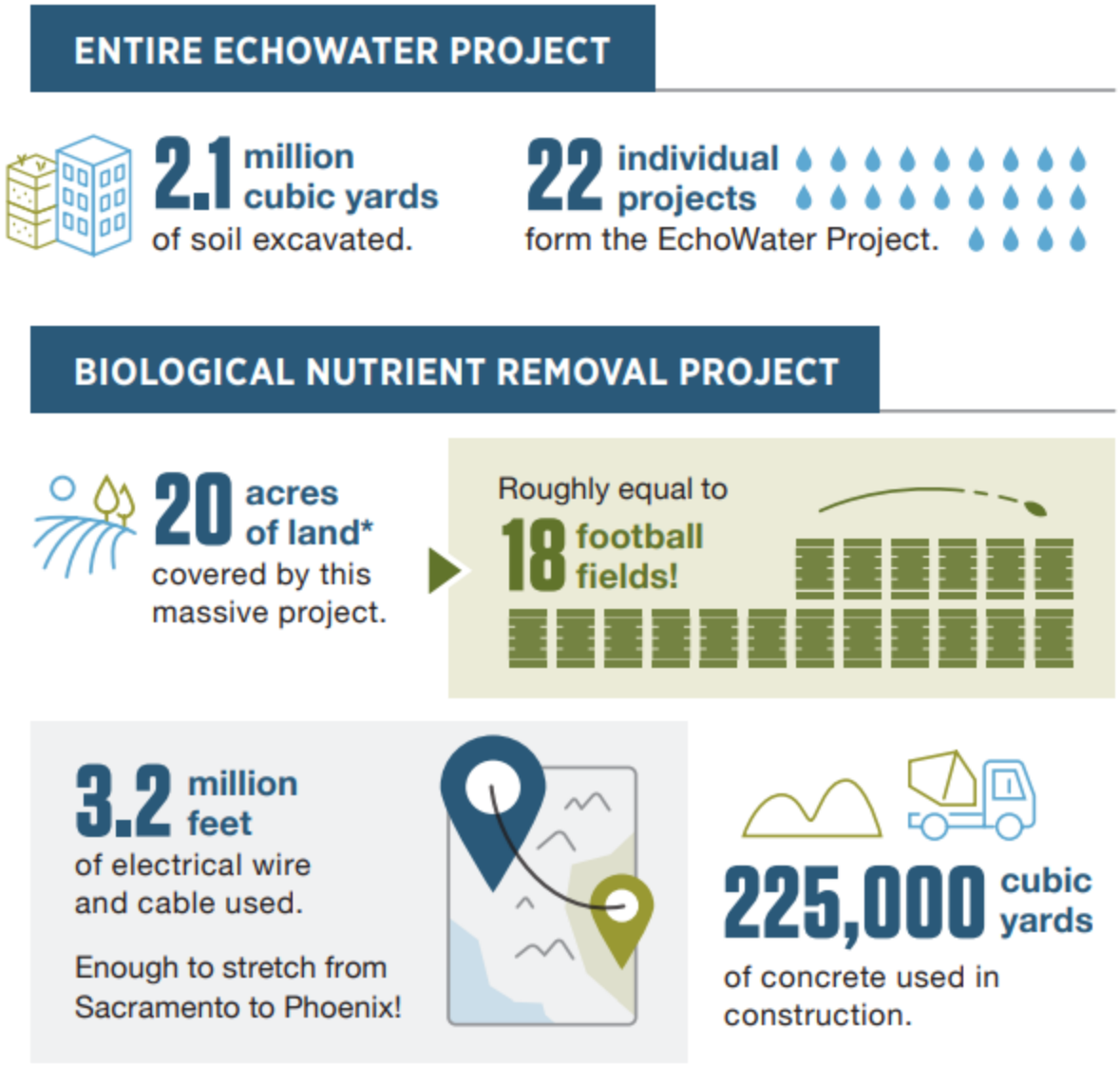
# The Project

## Regional San

- Sacramento, Ca
- 2,150 acres
- 14th largest wastewater treatment plant

## EchoWater

- New Permit Requirements
- Programmatic Approach
- $1.7B Cost
- 2012 -2024
- 22 Projects
- $1M - $500M+



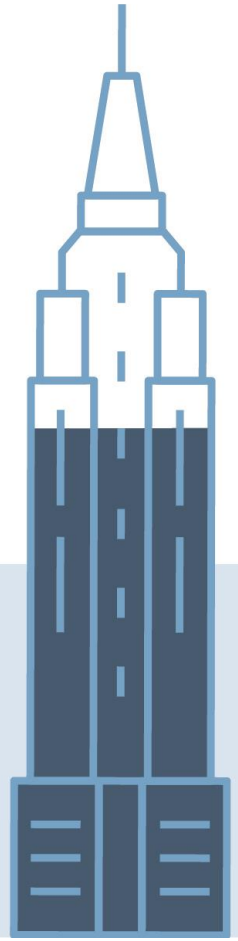
# The Project

## COMBINED PROJECTS

**41,350** tons of steel*

used on the Biological Nutrient Removal, Tertiary Treatment Facilities, and Nitrifying Sidestream Treatment Projects.

**69%** of steel framework



That's close to the **60,000 tons** used for the framework of the Empire State Building.

* These values are approximations.

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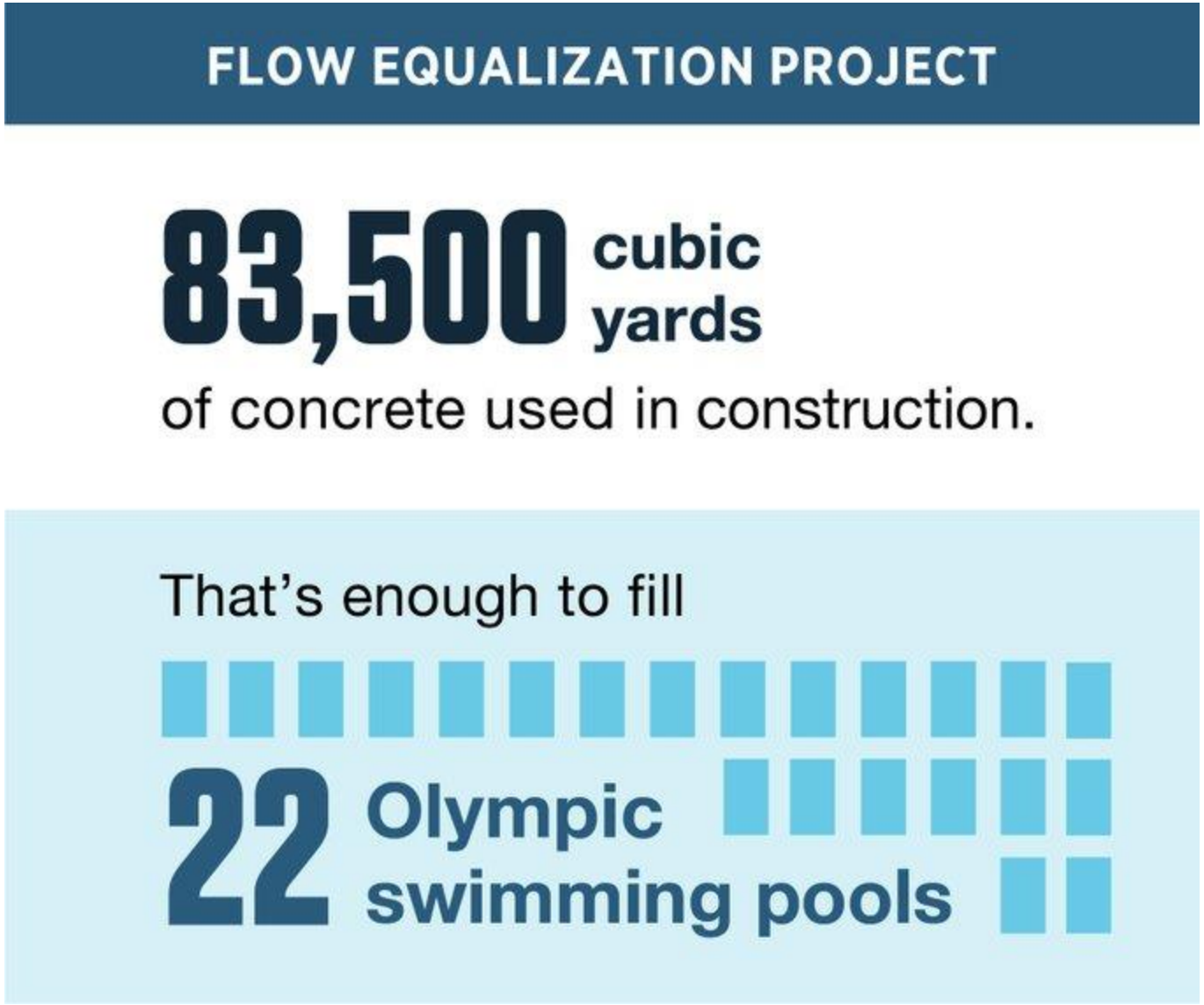
# The Project


FLOW EQUALIZATION PROJECT
83,500 cubic yards
of concrete used in construction.
That's enough to fill
22 Olympic swimming pools

# Objectives

- Consistent but Flexible
- Transparency
- Prepared for Audit/Claim
- Cost Effective
- Responsive
- Seamless Handover to Operations

# Challenges

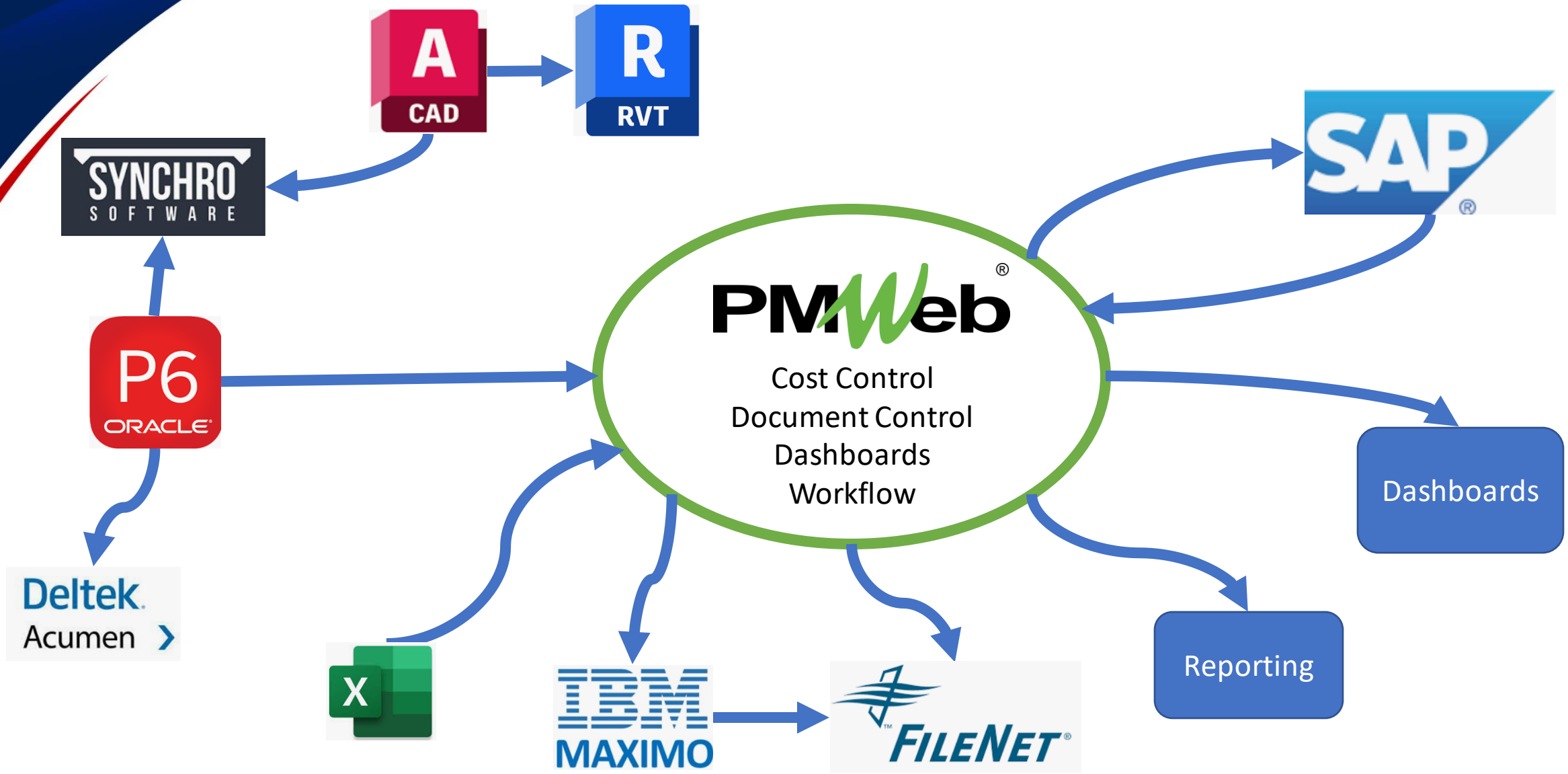
- Schedule Constraints
- Brand New PMO = Shifting Requirements
  - FastStart
  - Funding Requirements (SRF)
  - Processes still being defined
  - Many unknowns (projects, people, processes)
- Organizational Change
  - Some Disinterested Parties
  - Wide Range of User Abilities
  - SMEs not available (too early in program)
- No single point person for detail decisions

# Approach

- Best of Breed
- Deploy in Phases
- Agile Implementation
- Include All Stakeholders
- Right Sized Solution
- Flexible Robust Reports

# Approach

## Best of Breed

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# Deploy in Phases

2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023

## Planning

**Budgets**

Meeting Minutes

Risk Management

Document Manager

Invoices

**Financial Integration**

PM Standards

## Design

Design Submittals

Contracts

Bid Management

**Synchro (BIM 5D)**

Access Requests

Roll Call

Drawing Management

## Construction

RFIs

**Submittals**

Change Management

**Inspector Dailies**

Punchlists

Schedules (Monthly,TIA,Recovery)

SWPPP

Buy American

Project Photos

## Commissioning

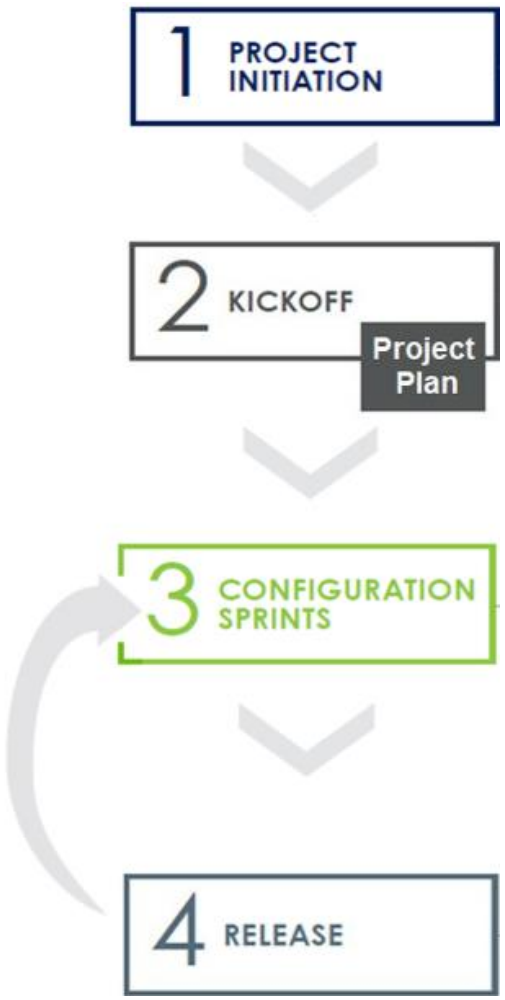
Test Forms

Commissioning Reports

FileNet Integration

**CMMS Integration (Maximo)**

# Agile Implementation




- **Configuration**
  - Iteratively gathered requirements and configured one piece at a time
  - Embedded JV partners
    - Onsite Administrator/Support
    - Onsite Report Developer
    - Onsite Construction Support lead
- **Training**
  - Just-in-Time Training
  - Dedicated Training Location
  - Tips and Salsa
  - Extensive Online Help Guide

# Include All Stakeholders

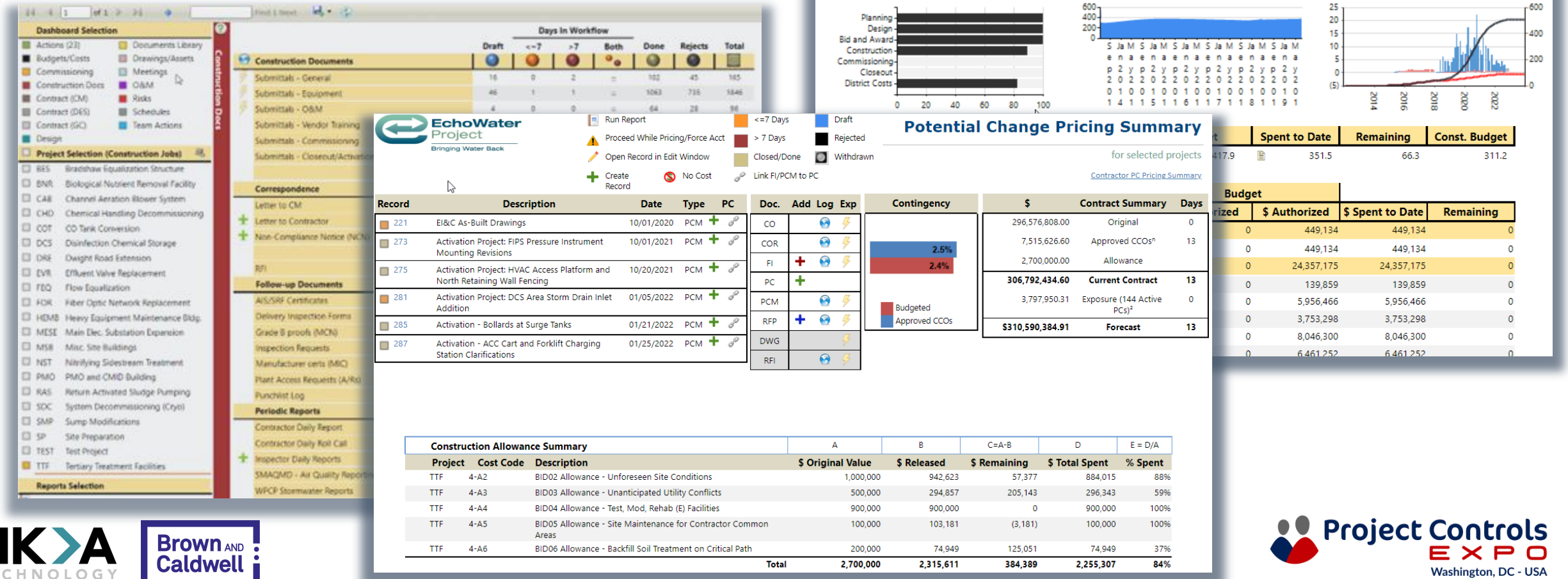
- Expanded from original intent to have 20 internal users
- Heavy Utilization of Workflow Engine
- Include System usage in contract language
- Owner paid for all licensing
- All invoices submitted by each party through system and ended at Finance
- Self Service Approach

# Right Sized Solution

- Balanced use of Document Manager vs. Records
- Flexible Integration Approach
  - SAP - Manual
  - FileNet – Automated
  - Maximo – Automated
  - P6 – Hybrid
- Small vs. Large project adjustments

# Flexible and Robust Reports

- Fewer but more powerful
- Dashboards
  - Navigational - drilldown to the data entry
  - Tailored to each group
- Connected reporting

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# Lessons Learned

- Good integrations require continuous data monitoring and cleansing
- Embed data cleansing into the processes as much as possible
- Use and value in indexing assets from the submittals (handover to operations)
- Include system usage requirements in the specifications and contracts
- Workflow
    - Enabled Better QC
    - Streamline - Only do as many steps as is necessary
    - Be as consistent as possible
    - Key Processes were standard (cost related reviews) while others could be adjusted per project
    - Reporting to show where things are stuck
    - Steps to signal completion of external tasks
- Deployment of a Digital Adoption Platform like WalkMe

# Success!

## Production Statistics

- 13,500 Construction Submittals
- 7,500 RFIs
- 26,000 Daily Reports (38,000 Total)
- Every invoice processed in the system (1,200)
- Usage peaked at 500 logins per day
- 960 Users during life of the project
- 80+ Processes

- **Seamless Handover to Operations**
  - 18,000 Documents indexed and migrated to FileNet
    - Saved operations many years and people
- **Passed all internal audits**
- **Improved Claims Responses**
- **On Time and Under Budget**

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# Q&A

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# THANK YOU

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