

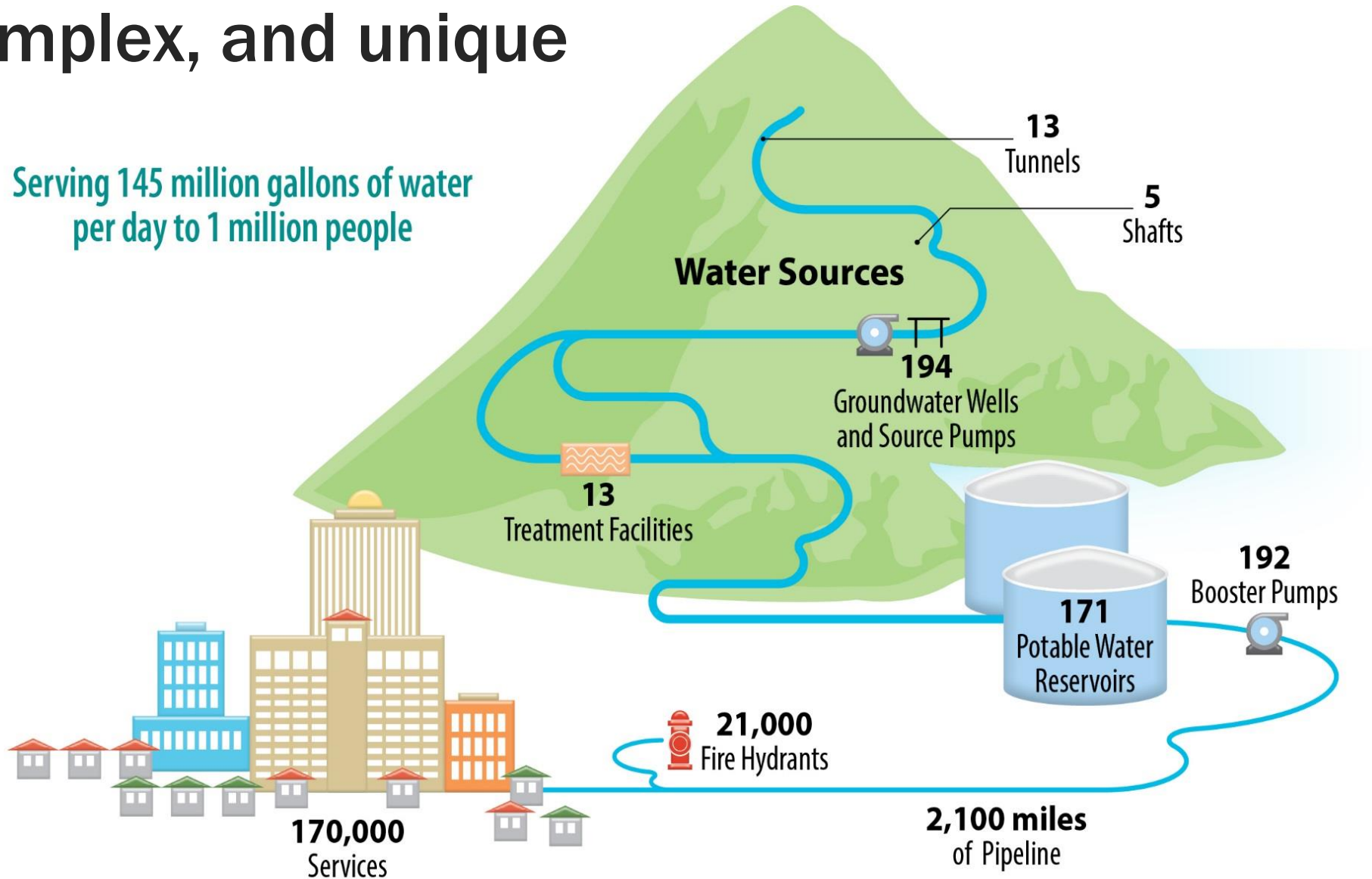
Building a Framework to Optimize CIP Delivery

2019 PNWS-AWWA Annual Conference | May 3, 2019



The BWS water system is large, complex, and unique

Serving 145 million gallons of water per day to 1 million people



BWS desired outcomes for Capital Projects Division



Prepared to execute Water Master Plan

- Provide organizational capacity (3X increase), 21 miles pipe /yr
-



More consistent project delivery

- Higher quality projects with more predictable cash flow
-



BWS is a 'preferred' Owner

- Attract top employees, contractors and consultants

Potential scope of effort ...Take time to discover real needs



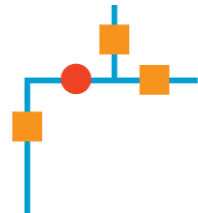
Delivery: Project v. Plan
risk management variance
tracking



Aligning with agency /
community goals



Communication and
alignment between
agencies



Process mapping and gap
identification



Delivery oversight and
transparency



Tools and systems (bottom-up)



Forecasting, resources and
delivery planning



Project v. Program
management



KPI's and
demonstrating
progress



Idea to prioritized
project and the PDR



Communicating and
managing change

No preconceptions... take time to assess!

EXTERNAL: CPD as Service Provider / Receiver

- What are customer perceptions of CPD?
- What's working vs. not?
- Who
 - All Division Leads and most Assistants
 - Executive Team
 - Other staff recommended from discussions above

BWS Staff Interview Questions – External to Capital Projects

- What is your Division's/Department's relationship to Capital Projects? Similarly, what is your individual professional relationship to Capital Projects?
 - Do you provide products or services to Capital Projects? Please describe / explain –
 - Do you obtain products or services from Capital Projects? Please describe / explain –
 - Include clarifications about demographics and context (e.g., how long in their role, their function within BWS, clarity of roles and responsibilities, etc.)
 - Who is your primary contact at Capital Projects? Division manager / Assistant Division manager / Project manager / Administrative staff?
- What are your Division's/Department's (and individual professional) expectations regarding Capital Projects products and services? –
 - What does Capital Projects need to do to best support the effectiveness of your Division/Department? Please describe –

INTERNAL: CPD Performance as an Organization

- What are staff's concerns?
 - Leadership
 - Organization
 - Career
 - Project
- What's working vs. not?
- Interview all CPD staff members

BWS Staff Interview Questions – Capital Projects

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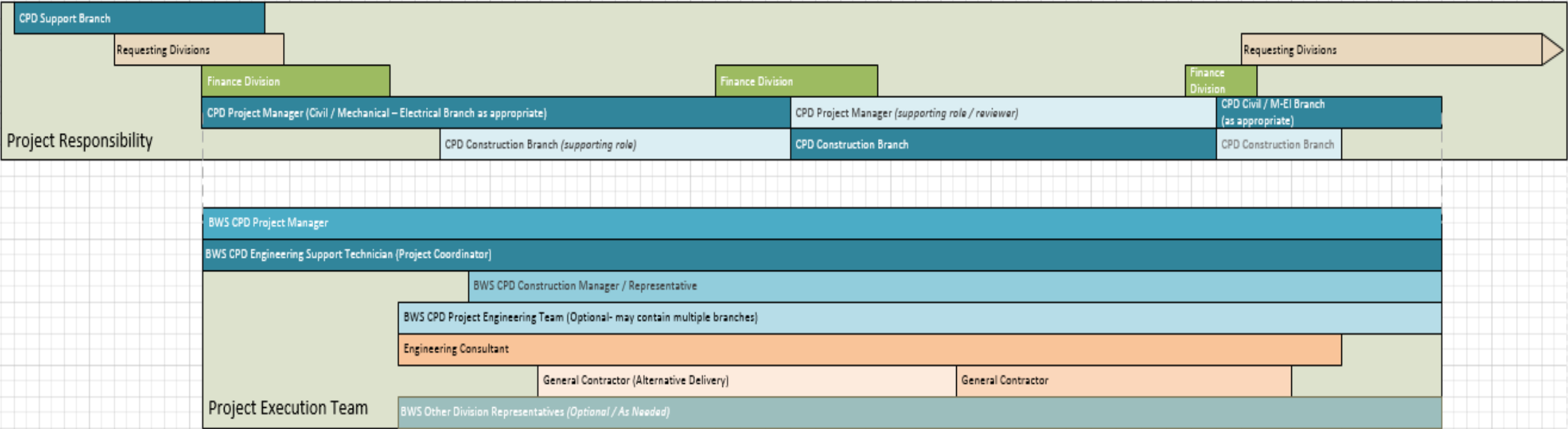
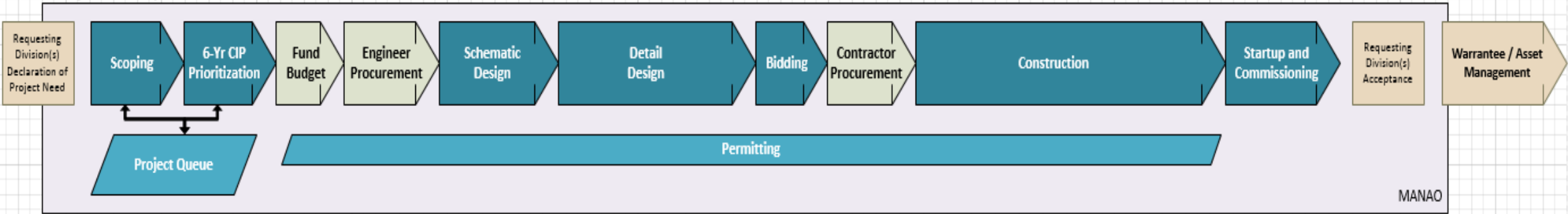
Results of assessment ...key needed actions

- Improve the project initiation process – Project Definition Report (PDR)
- Develop CPD workflows and SOPs
- Identify meaningful measures
- Develop staff resources
- Project Management Information System (PMIS) - MANAO
 - Management, Accountability, Notification, Administration and Organization



Create a common view of project life-cycle and responsibilities

BWS Project Life Cycle



Know the progression, scale the challenges

30-YR CAPITAL PROGRAM

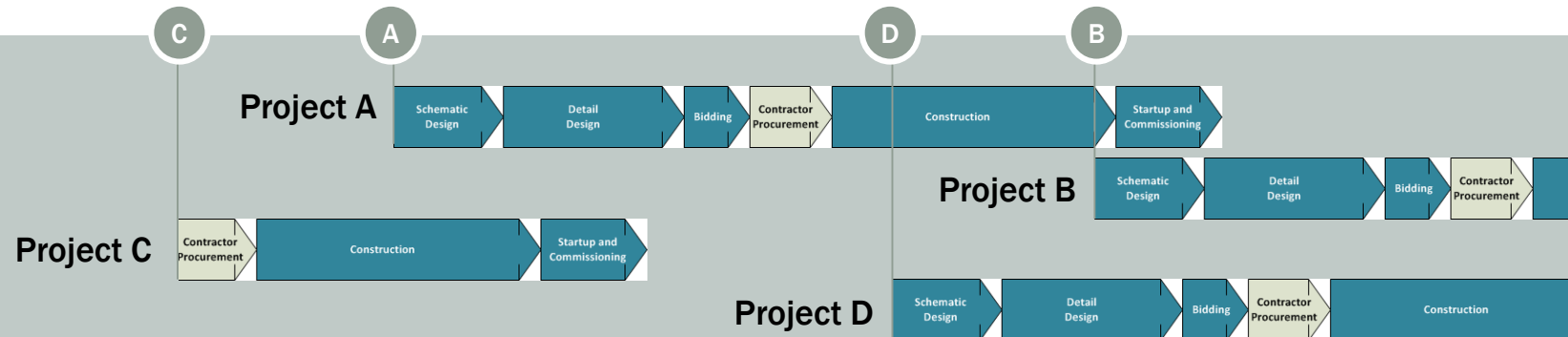
- ~\$5 billion
- 1200-1500 projects
- Programmatic / intent (why)
- Project demand
- Financial demand
- Risk identification
- Defendable
- Plan

6-YR CIP

- ~\$800 million
- ~250 new projects
- Project alternatives (what)
- Project demand
- Financial efficacy
- Risk quantification
- Repeatable
- Initiate (prioritize)

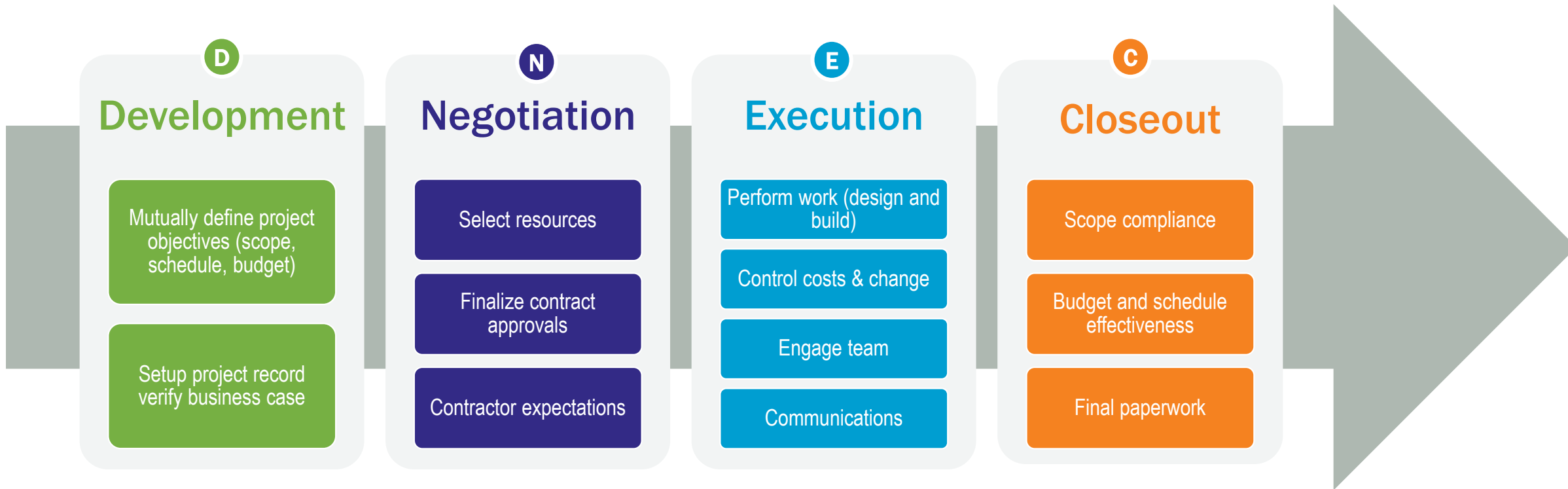
1-YR Capital Budget

- ~\$175 million
- ~200 active projects
- Project execution (how)
- Project accountability
- Financial efficiency
- Risk management
- Do

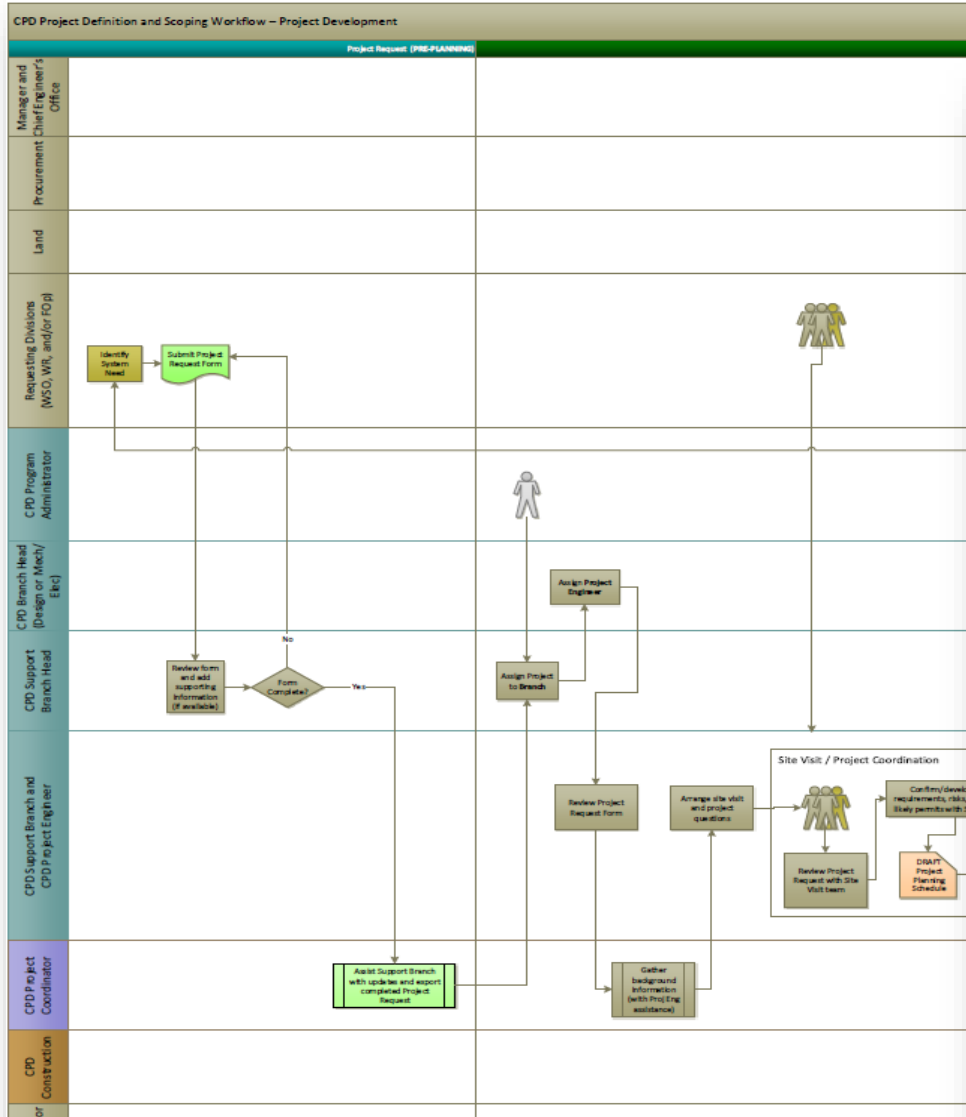


Align requirements for key project “phases”

Each project follows the same path



Consistent project execution: Workflows into SOPs



BWS Project Definition Report Update SOP 1

SOP Name		Project Definition Report Update	
Workflow Steps		C - U	Last Revision Date 6/21/17
Objective		Documentation of scope changes to the projects in the 6-year CIP keep them up-to-date and ensure objectives are valid leading up to project scope and objectives when the project becomes funded.	
Preconditions		One fiscal year has passed since last CIP	
Personnel Involved		<ul style="list-style-type: none"> Requesting Division (WSO) CPD Project Engineer CPD Project Coordinator 	
Products/Outputs		<ul style="list-style-type: none"> Project Definition Report Scope of Work Conceptual Schedule Cost Estimate Business Case Evaluation 	
Notes/Assumptions			
Step	Responsible Party	Procedure	
1	Project Engineer	Identify projects in CIP that have been there more than one year. Notify Requesting Division of review.	
2	Requesting Division	Review the project scope and objectives and determine if they are still valid. If not, update scope and objectives and send to CPD Engineer.	



Document current

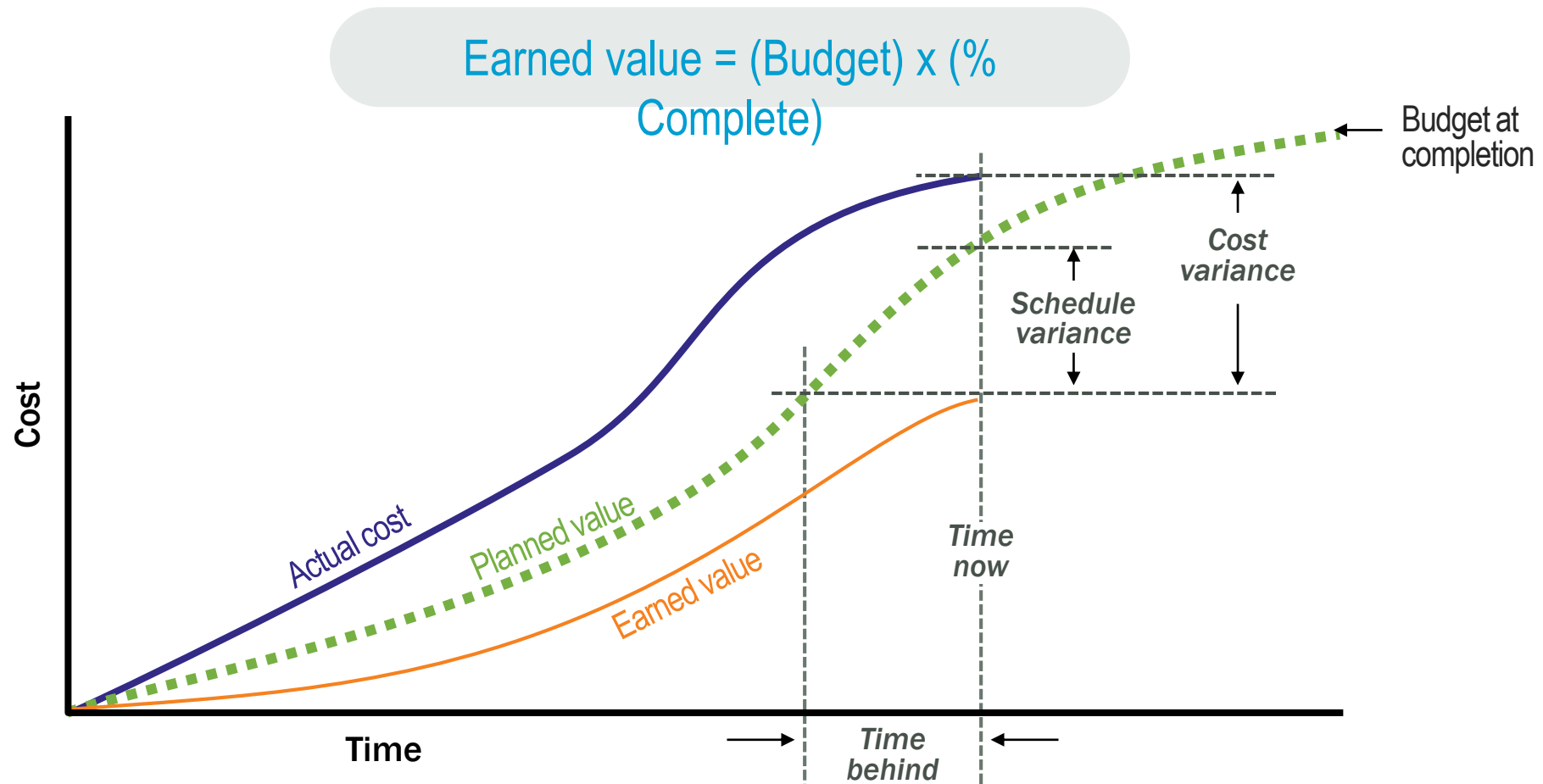


Identify preferred:
leveraging best practice
and org outcomes

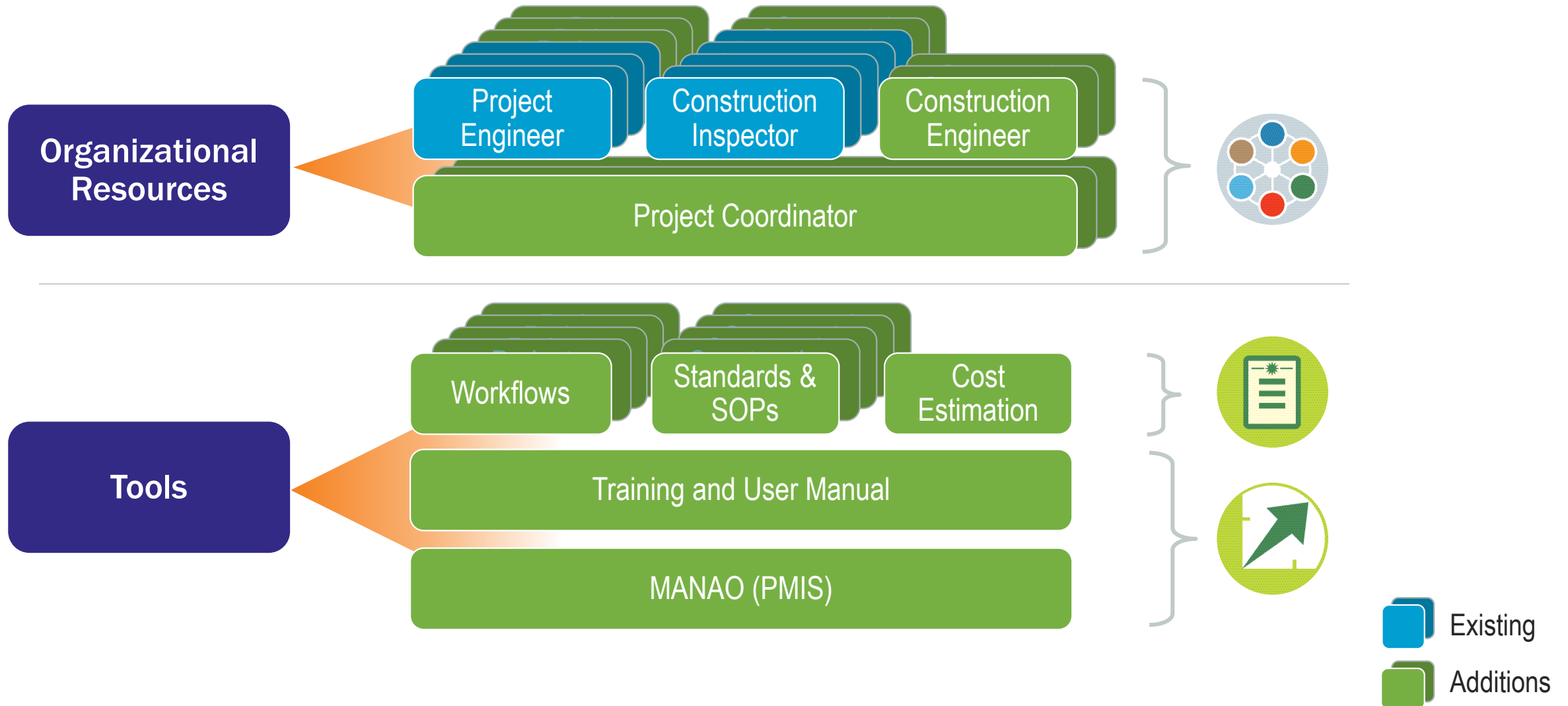


Characterize org
changes needed

Introduce better measures... Earned value offers more accurate performance estimates



How do tools fit in? ...supporting overall org needs



What does MANAO do?

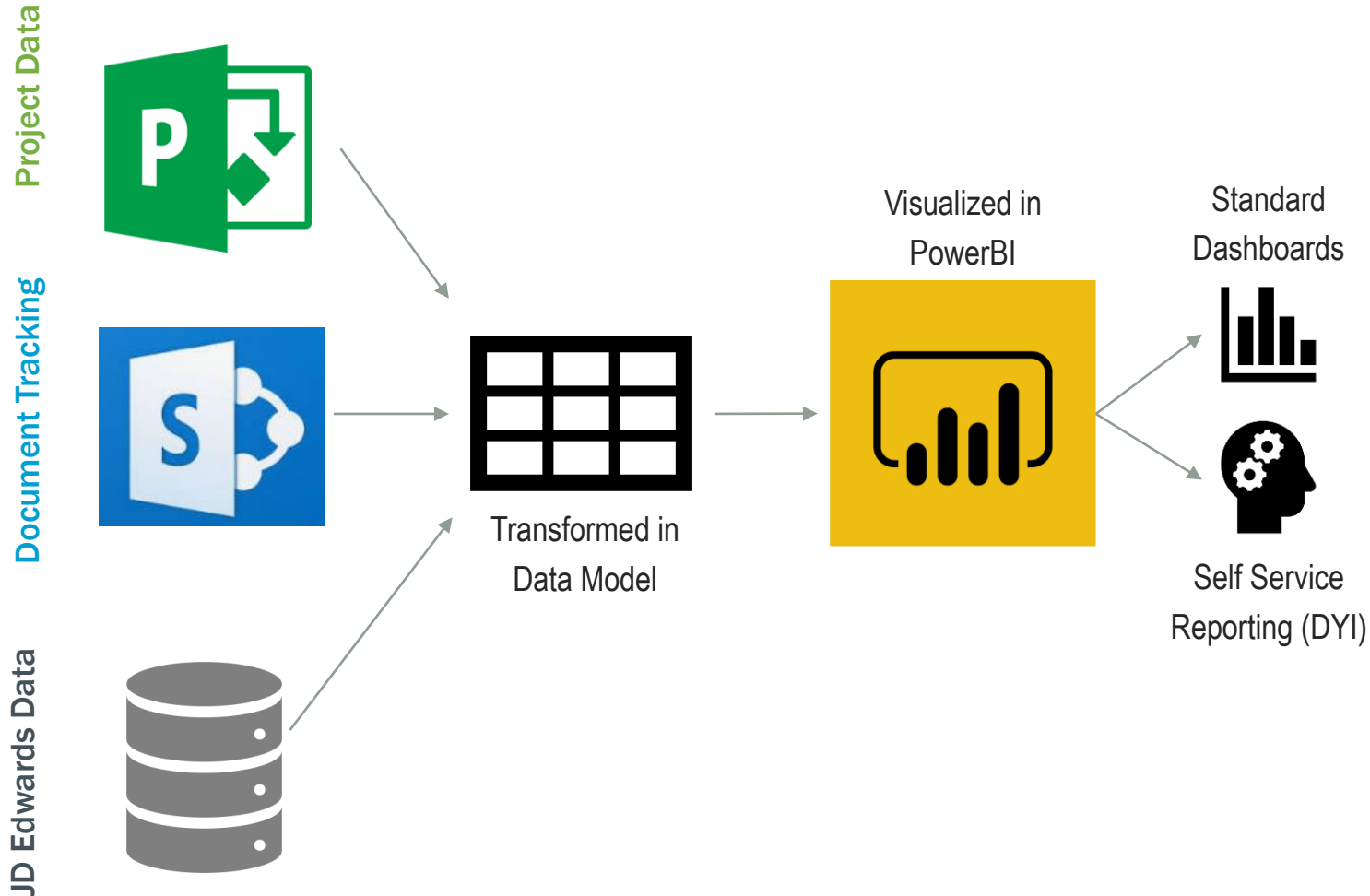
Helps manage a project

- Manage time
- Manage money
- Manage communication
- Document transactions

Manage project documents

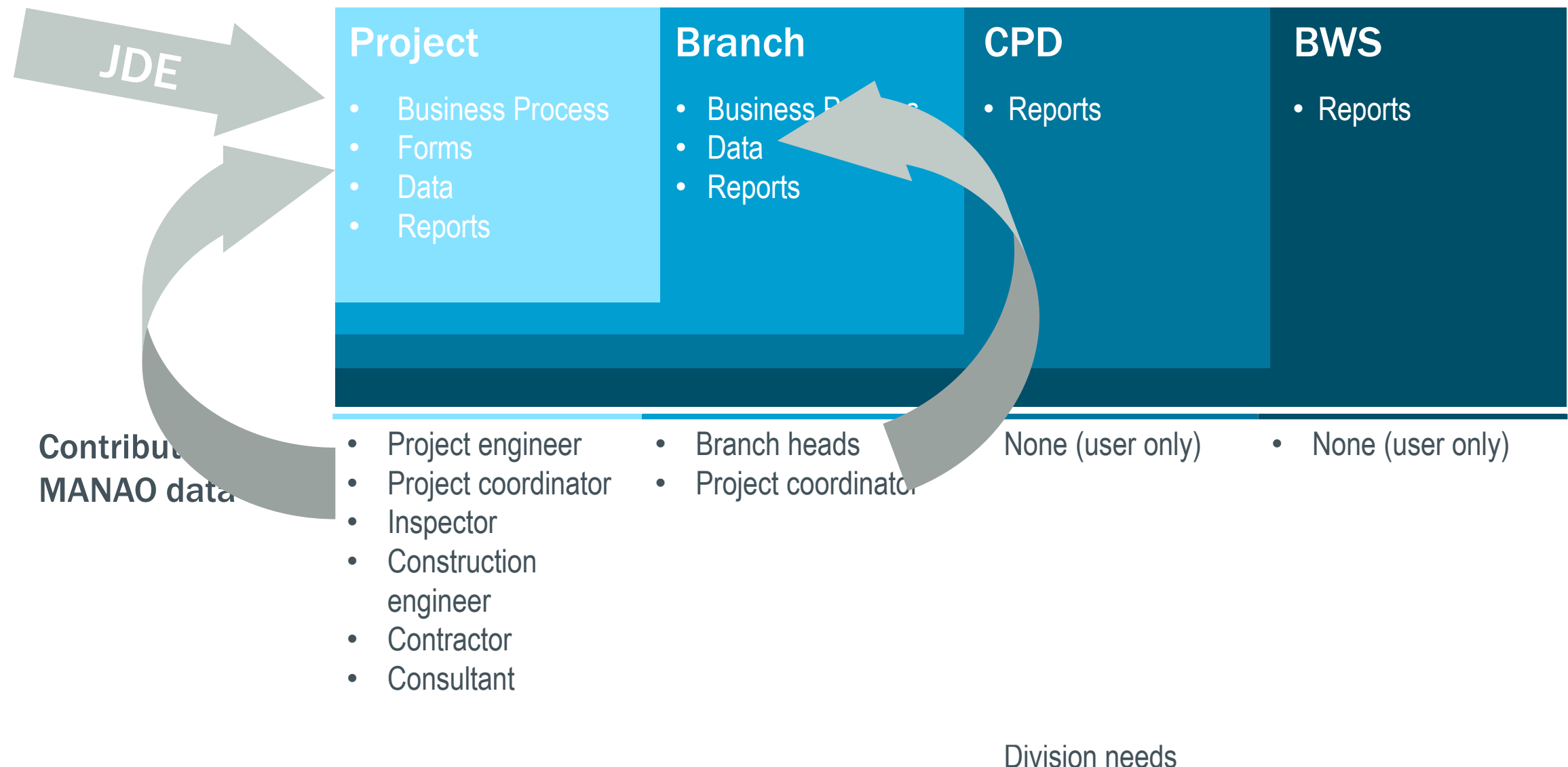
The screenshot displays the MANAO web application interface. At the top left is the MANAO logo, consisting of a teal water drop icon and the text "MANAO". To the right of the logo are links for "Not following" (with a star icon) and "Share" (with a share icon). Below the logo is a navigation bar with three items: "+ New" (with a dropdown arrow), "Send by email" (with an envelope icon), and "Page details" (with a gear icon). On the right side of the navigation bar, it says "Published 2/12/2019" and an "Edit" button (with a pencil icon). The main content area features a large landscape image of a river flowing through a lush green valley with mountains in the background. Below this image, the text "MANAO Home" is displayed. Below the main image is a grid of five smaller images representing different project management features: 1. A clock and a calendar page with the number 18 circled, labeled "Project Center - Access to all Projects". 2. A person looking at a laptop screen displaying charts, labeled "Reports". 3. A calculator and a pen on a document, labeled "My Tasks". 4. A city skyline, labeled "Project Request". 5. A yellow hard hat on a blueprint, labeled "Non Board Private Projects".

What is MANAO made up of?

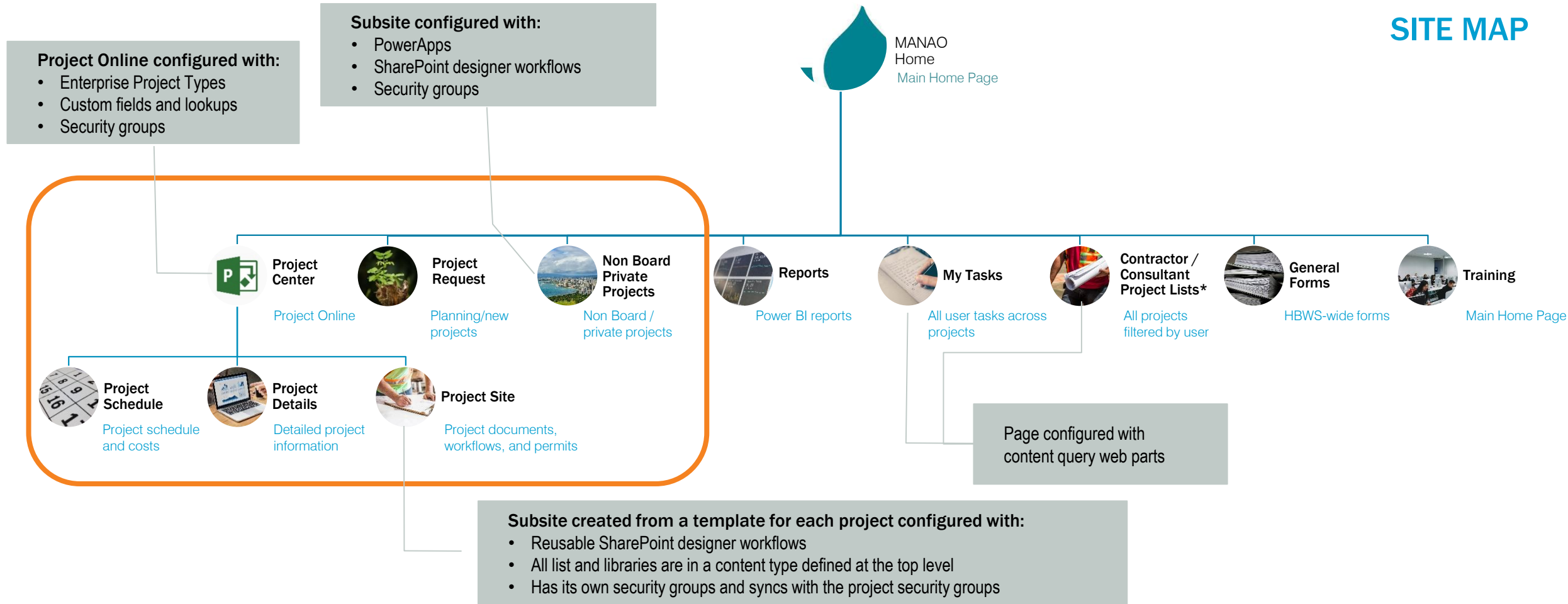


- Microsoft 'stack'
- Configured to staff directed workflows
- Fully mobile
- Consistent with BWS enterprise products
- Internally supported
- On-island expertise available for extensive changes

MANAO focused on the primary objective ...the Project!



MANAO: project-centered tool supporting efficient project delivery and consistent reporting



Project Center - start with schedule and tasks



- Home
- Contractor Project List
- Project Center
- My Tasks
- Reports

EDIT LINKS

Today					
Add tasks with dates to the timeline					
Project ID	Project Name	Start	Finish	% Complete	
50030	16-009 - Barbers Point Line Booster Improvements	6/1/2016	2/6/2018	40%	
60011	16-012 - Anoi Road Water System Improvements	6/30/2016	5/8/2018	34%	
6008	16-013 - Mailili Road 20-Inch Main	5/16/2016	12/27/2017	88%	
60003	16-014 - Fire Hydrant Installations at Various Locations				
50010	16-029B - Hawaii Loa Booster No 2 Mute Station				
50026	16-029G - Part A Drainage Improvements				
50019	16-032 - Emergency Generators at Kalihi				
50024	17-006 - Mililani Wells 1 Replacement of				
50018	17-007D - Honouliuli Wells 1 Repair Unit				
6007	17-016 - Wilhelmina Rise Water System I				
6009	17-020 - Fire Hydrant Installations at Aiea				
50031	17-038D - Benetania Public Service Building				



Schedule: 16-012 - Anoi Road Water System Improvements

Status: Checked-in Last Modified: 1/15/2019 6:33 PM Version: Published

Schedule

Project Details - Con
Project Site

- Home
- Contractor Project List
- Project Center
- My Tasks
- Reports

EDIT LINKS

Today									
Add tasks with dates to the timeline									
ID	Mode	Task Name	Duration	Start	Finish	% Complete	Cost	Notes	
0		16-012 - Anoi Road Water System Improvements	484d	6/30/2016	5/8/2018	34%	\$5,582,245.00		
1		Contract Award	1d	6/30/2016	6/30/2016	100%	\$0.00	DO NOT	
2		Contract Award	1d	6/30/2016	6/30/2016	100%	\$0.00	No need	
3		Pre Construction Activities	161d	7/1/2016	2/12/2017	100%	\$0.00	DO NOT	
4		Pre Construction Activities	161d	7/1/2016	2/12/2017	100%	\$0.00		
5		Construction Activities	322d	2/13/2017	5/8/2018	5%	\$5,582,245.00	DO NOT	
6		Construction Activities (contract days)	322d	2/13/2017	5/8/2018	5%	\$5,582,245.00	this row	
7		Total Approved Change Order #1 (if required)	0d	5/8/2018	5/8/2018	0%	\$0.00	this row	
8		Total Approved Change Order #2 (if required)	0d	5/8/2018	5/8/2018	0%	\$0.00	this row	
9		Post Construction Activities	46d	3/6/2018	5/8/2018	0%	\$0.00	DO NOT	
10		Post Construction Activities	46d	3/6/2018	5/8/2018	0%	\$0.00		
11		Contract End	0d	5/8/2018	5/8/2018	0%	\$0.00		

Project Site: standardize project record and document control



16-012 - Anoi Road Water System Improvements

 EDIT LINKS

16-012 - Anoi Road Water System Improvements ⓘ

Consultant Links



MANAO Home



Project Home



Contractor Documents



Consultant Response Documents



BWS Response Documents

BWS Project Links



Project Center



Project Info



My Tasks



Construction Checklist



Permits

BWS Document Links



Sub/RFI/CO Log



BWS Private Documents



General Documents



Photos



BWS Daily Reports



16-012 - Anoi Road Water System Improvements

 EDIT LINKS

Contractor Documents



MANAO Home



Project Home



Contractor Documents











Consultant Response Documents



BWS Response Documents

Upload

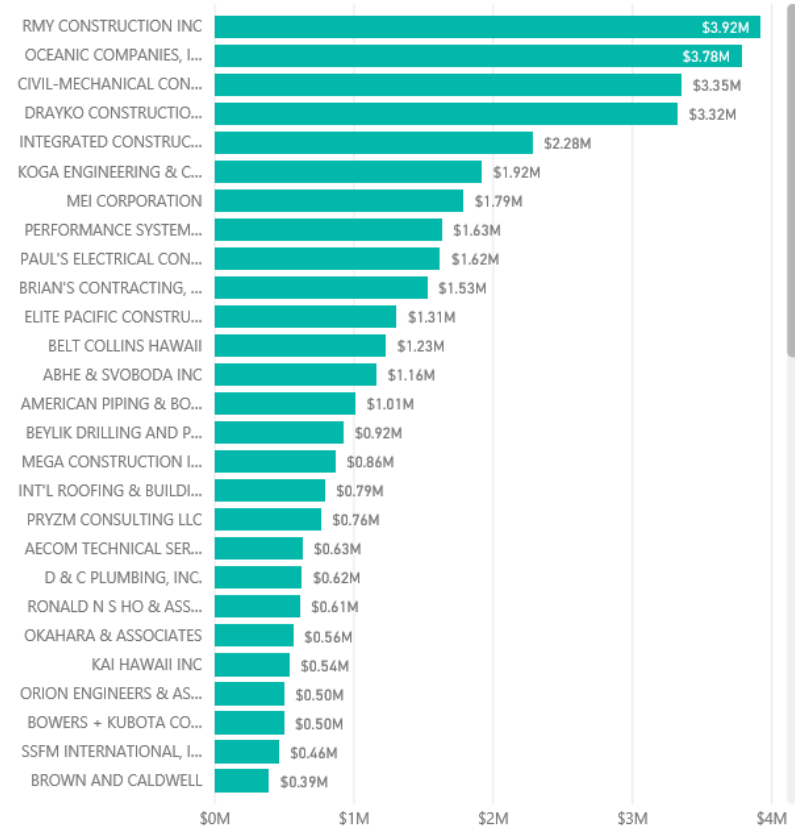
✓	Name	Item Form	Item Status	Spec Section
Document Type : Submittal (39)				
	SUB038R00 - SP -13 Trench Restoration Work Within City Streets	View Form	Awaiting CM Response	SP-13 Trench Restoration 13.2 (B) Pipe Cushion
	SUB037R00 - Daily Reports 07102018	View Form	Awaiting CM Response	SP-21 Contractor's Superintendent 21.2 Requirements
	SUB036R00 - Daily Report 07092018	View Form	Awaiting CM Response	SP-21 Contractor's Superintendent 21.2 Requirements
	SUB035R00 - Daily Report 07062018	View Form	Awaiting CM Response	SP 1 Contractors Super Intendent 21.2 Requirements
	SUB034R00 - Daily Reports 07052018	View Form	Awaiting CM Response	SP-21 Contractors Superintendent 21.2
	SUB033R00 - Daily Reports 07042018	View Form	Awaiting CM Response	SP-21 Contractors Superintendent 21.2
	SUB032R00 - Contractor's Superintendent Daily Reports	View Form	Awaiting CM Response	SP-21 Contractor's Superintendent 21.2
	SUB031R00 - Section Sp-27 Preconstruction Survey for Waterline	View Form	Awaiting CM Response	27.2 Submittals

...Leads to better project reporting



CPD Contractor / Consultant Costs

JDE Amount by Contractor

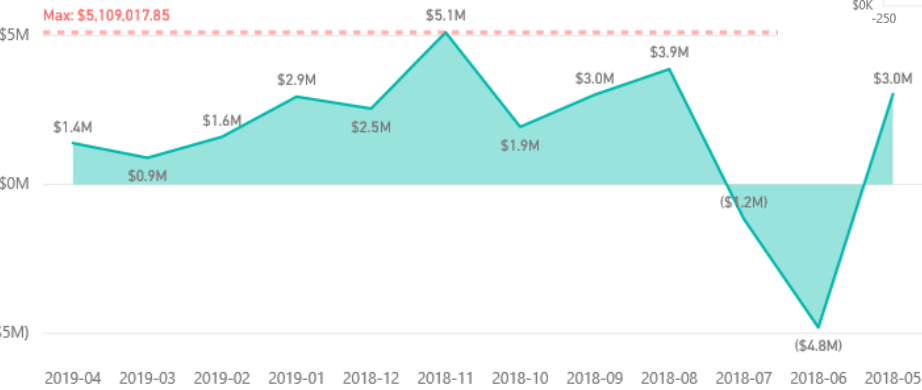


Date: Last 1 Years All Search

5/1/2018 - 4/30/2019

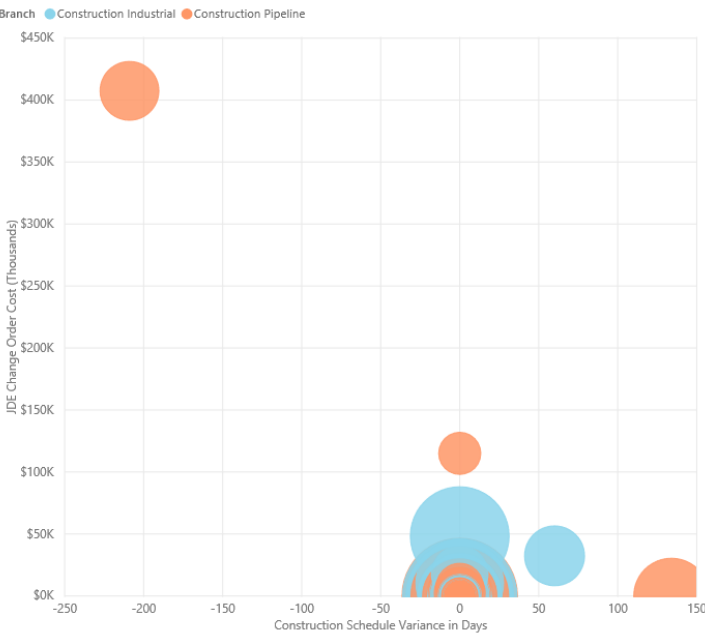
Account	Fund	CostCenterDesc	ObjectAccountDesc	JDE Amount
CONTRACTS	BWS Operating Fund	Archaeological Services for	DESIGN	\$1,000,000
INTEREST CAPITALIZED	BWS Operating Fund	Archaeological Services for	DESIGN	\$0
CONTRACTS	BWS Operating Fund	Beretania Street 12-Inch	DESIGN	\$24,000
LABOR	BWS Operating Fund	Beretania Street 12-Inch	DESIGN	\$0
LABOR FRINGES	BWS Operating Fund	Beretania Street 12-Inch	DESIGN	\$0
CONTRACTS	BWS Operating Fund	Keolu Bridge Pipe Hanger	CONSTRUCTION	\$139,000
LABOR	BWS Operating Fund	Keolu Bridge Pipe Hanger	CONSTRUCTION	\$4,000
LABOR	BWS Operating Fund	Keolu Bridge Pipe Hanger	CONSTRUCTION	\$2,000
ALLOCATED				
LABOR FRINGES	BWS Operating Fund	Keolu Bridge Pipe Hanger	CONSTRUCTION	\$2,000
BURDEN LABOR	BWS Improvement Fund	2005 DOH Sanitary Survey	BURDEN LABOR	\$0
REGULAR SALARIES	BWS Improvement Fund	2005 DOH Sanitary Survey	REGULAR SALARIES	\$0
CONTRACTS	BWS Operating Fund	Access Road Repair and	DESIGN	\$70,000
Total				\$20,374,300

JDE Amount by Year - Month




MANAO Project Variance

Construction Schedule and JDE Change Order Variance



Progression for success

- Assess organization
 - Align outcomes
 - Develop workflows
 - Establish standards
- 
- Forecast resources
 - Isolate organizational changes
 - Create supporting tools





Acknowledgements

Jason Takaki

Administrator Capital Projects Division

Ellen Kitamura

Deputy Manager and Chief Engineer

Ernest Lau

Manager and Chief Engineer

...and most importantly

Staff at Honolulu Board of Water Supply