



Six Sigma DMAIC Improvement Story

Project Objective:
To Reduce the Time to Pay Vendors for
Construction and A&E Services (*lean approach*)

Last Updated: 12-5-2017

Team: Edith Brown, Juliette Bernard, Ray Garcia, Piedad Amador, Manley Cobia, Yesenia Perez, Margaret Moss, Wendy Wandyez, Bill Busutil, Amy Horton-Tavera, Mayra Morales, and Roy Ferreira

Frances Morris (Sponsor)

Jennifer Moon (Executive Sponsor)

Lean Six Sigma Problem Solving Process

The team utilized the 5-Step DMAIC problem solving process.

Lean Performance Improvement Process

Process Step		Description of Team Activities
Number	Name	
1	DEFINE	<ul style="list-style-type: none"> • Select Problem • Identify Project Charter • Develop Project Timeline • Develop Process Flowcharts
2	MEASURE	<ul style="list-style-type: none"> • Identify Process Activities • Identify High Cost and Low-Value Added Areas
3	ANALYZE	<ul style="list-style-type: none"> • Analyze and Identify Causes of Waste and Low Value Added Areas
4	IMPROVE	<ul style="list-style-type: none"> • Identify and Select Improvement(s) • Develop and Implement Improvement Plan
5	CONTROL	<ul style="list-style-type: none"> • Standardize Improvements within Operations • Implement Process Control System (PCS) • Document Lessons Learned



Identify Project Charter

The team developed a Project Charter.

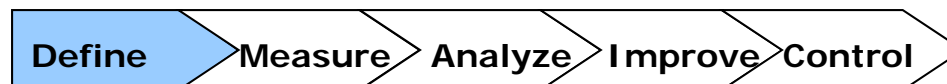
Project Charter		
Business Case	Project Name:	Reduce the time it takes for WASD to pay vendors.
	Problem/Impact:	As of January 2017, 82% of all WASD's invoices were paid within 30 days of receipt of a proper invoice. As of July 2017, invoices for architectural and engineering services took an average of 16 days from receipt to designation as a "proper invoice" and invoices for construction services took an average of 14 days to prepare and finalize following WASD's receipt of the redline (excluding invoices still in process as of July 25). Late payments to vendors could place the department in non-compliance with County ordinances and policies, and dissuade desirable vendors from providing services to WASD.
	Expected Benefits:	Consistent reductions in the time it takes to pay vendors will ensure compliance with County ordinances and policies, and enable WASD to better retain desirable vendors.
Objectives	Outcome Indicators and Proposed Target	Q1: 90% of Construction / A&E invoices paid within 30 days; Q2: 90% of Construction / A&E invoices submitted by "small businesses" paid within 14 days
	Time Frame:	January through August 2017
	Strategic Alignment:	Supports the County's Business Plan
Scope	In Scope:	All vendor payments within WASD
	Out-of-Scope:	All other vendor payments
	Authorized by:	Jennifer Moon, Lester Sola
Method	Project Methodology:	Lean Six Sigma DMAIC (Define - Measure - Analyze - Improve - Control); observations & interviews
Team	Sponsors:	Jennifer Moon, Frances Morris
	Team Leader:	Amy Horton-Tavera
	Team Members:	Amy Horton-Tavera, Roy Ferreira, Mayra Morales, Bill Busutil, Edith Brown, Raymond Garcia, Juliette Bernard, Piedad Amador, Manley Cobia, Wendy Wandyez, Yesenia Perez, Margaret Moss
	Process Owner(s):	Frances Morris, Josephine Barrios
	Mgmt Review Team:	Jennifer Moon, Hugo Salazar, Lester Sola, Frances Morris
Schedule	Completion Date:	August 31st, 2017
	Review Dates:	Monthly, and Final Review on August 28, 2017



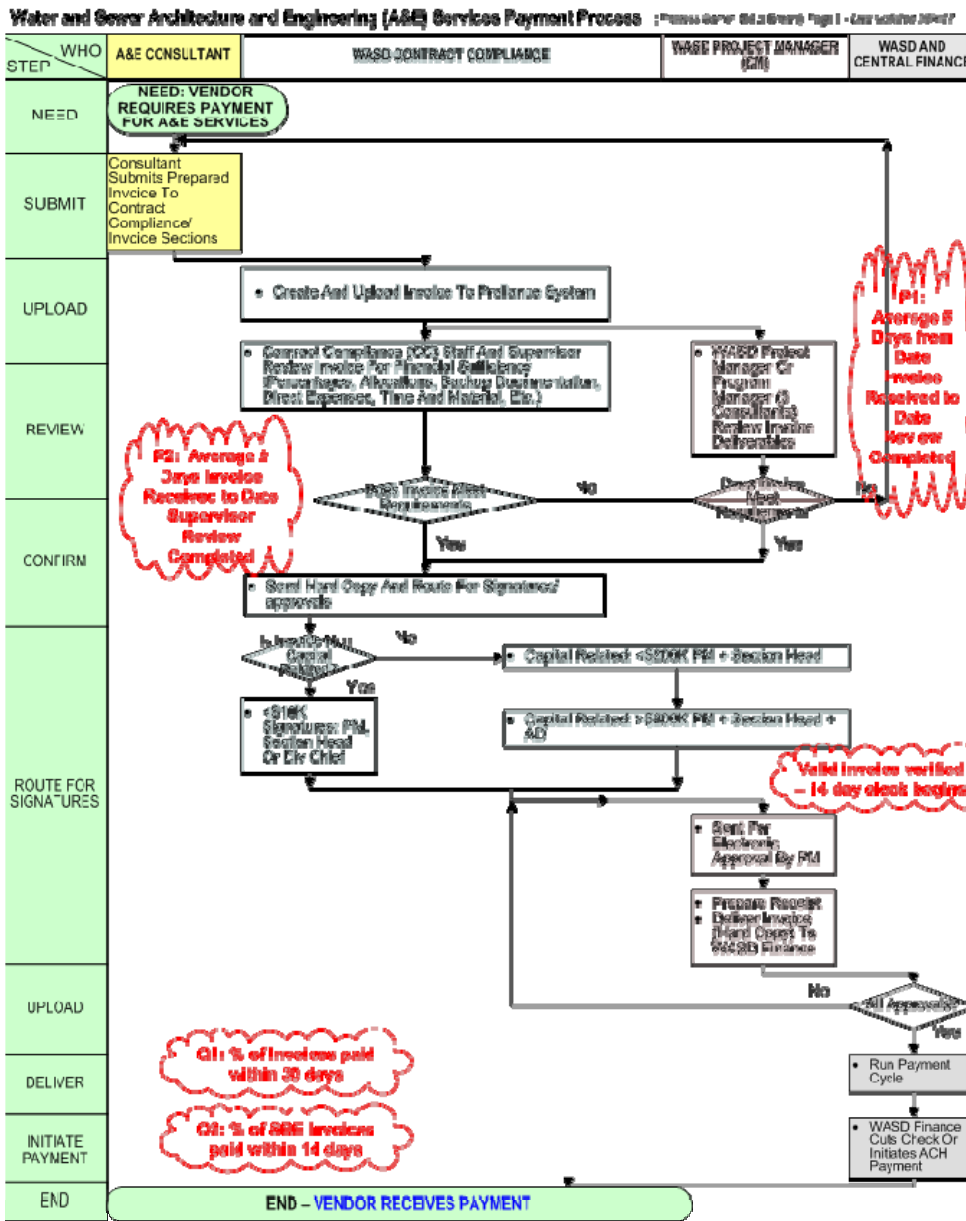
Develop Project Timeline

The team developed a schedule to complete the Project.

WHAT: Complete DMAIC Process by August 30th, 2017		WHEN							
		2017							
DMAIC Story Process Step		Jan	Feb	Mar	Apr	May	June	July	August
1.	Define		■						
2.	Measure			■					
3.	Analyze				■				
4.	Improve				■	■	■		
5.	Control							■	■



Develop Process Flowcharts



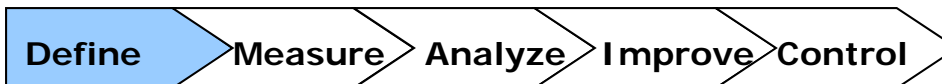
The team constructed a flow chart describing the WASD A&E and Construction Invoice Payable process.

P1: Average # Days from Date Invoice Received to Date Review Completed

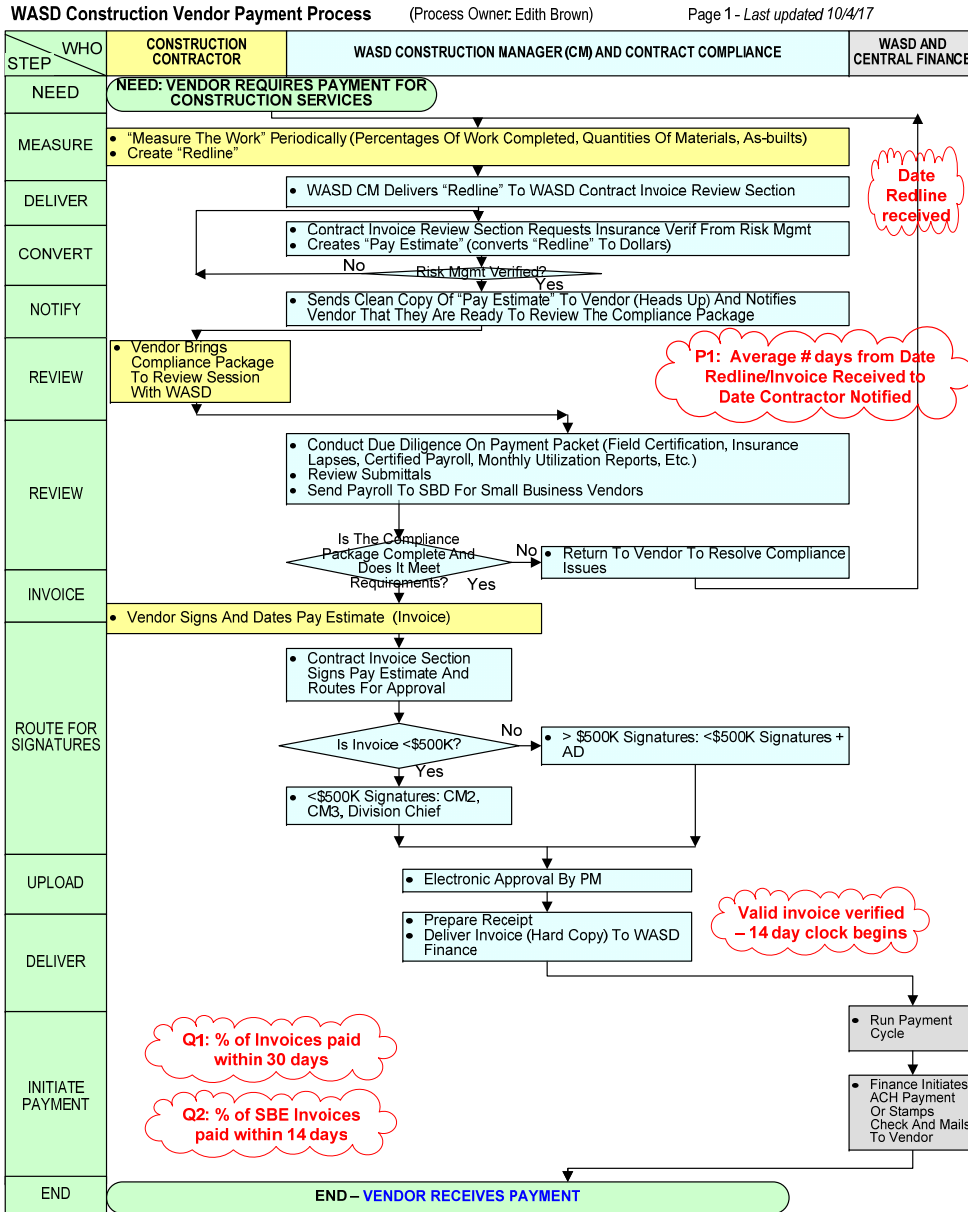
P2: Average # Days Invoice Received to Date Supervisor Review Completed

Q1: % of A&E invoices paid within 30 days of receipt of a proper invoice

Q2: % of A&E SBE invoices paid within 14 days of receipt of a proper invoice



Develop Process Flowcharts

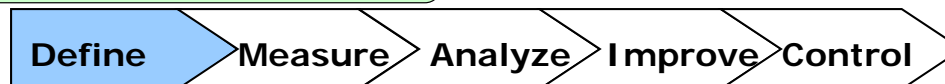


Construction Services

P1: Average # Days from Redline Received to Date Contractor Notified

Q1: % of Construction invoices paid within 30 days of receipt of a proper invoice

Q2: % of Construction SBE invoices paid within 14 days of receipt of a proper invoice



Identify Process Activities

The team identified the major activities related to paying invoices for both A&E and Construction services and were further discussed.

Water and Sewer Architecture and Engineering (A&E) Services Payment Process				
Action	#	Process Step	x	List of Activities
Submit	1	Consultant submits prepared invoice to contract Compliance/Invoice Section	1a	Date Stamp
Upload	2	Create and upload invoice to Proliance System	2a	Create and upload invoice to Proliance System
			2b	Route to assigned staff with a four (4) day due date for review
Review	3	Contract Compliance reviews invoice for financial sufficiency (Percentages, allocations, backup documentation, direct expenses, time and material, etc.)	3a	Divisional checklist is used to review the invoice for financial sufficiency. All hard copies - original invoices
				Work with consultant to correct discrepancies if needed
	4	WASD Project Manager or Program Manager reviews invoice deliverables	4a	Yes. Valid invoice is routed to WASD PM for approval of percent complete and deliverables.
	5	Does invoice meet requirements	a	
Confirm	6	Send hard copy and route for signatures/approvals	6a	Invoice logged in Proliance and manual delivery receipt created & hard copies routed to Project Manager
			6b	Signs hard copy paper, enters in Proliance and returns to Contract Compliance as executed - electronic & hard copy

This is a sample of some of the activities.



Identify Process Activities

The team identified the major activities related to paying invoices for both A&E and Construction services and were further discussed.

WASD Construction Services Payment Process				
Action	#	Process Step	X	List of Activities
Measure	1	Measure The Work Periodically		
	2	Create Redline		
Deliver	3	WASD CM delivers "Redline" to WASD Contract Invoice Review Section	3a	Document Control reviews Redline for completeness and accuracy.
			3b	Checks for correct estimate number, beginning and ending pay period dates, proper initialing of current completion date and all attached pages. Checks Contractor's Notification and Field Certification forms for accurate dates and if properly signed.
			3c	When the redline is deemed to be complete, it is stamped with date and time of acceptance. The Document Control person signs along with the person making the delivery.
			3d	Scans redline and uploads into database. Creates a "Pay Estimate Checklist" in the database, activates, and forwards the "Checklist" and the actual redline package to Contract Compliance.
			3e	Checks redline for any contingency authorizations or change orders to be paid and attaches a copy of the approved contingency or change.
			3f	Verifies that the pay period ending dates entered onto the redline are correct.
			3g	Checks to see if the contract has a CSBE goal to ensure that a Monthly Utilization Report is required as part of Compliance Package.
				If the Redline is for a final pay estimate extra steps:
			3h	Prepare list of Final Documents required

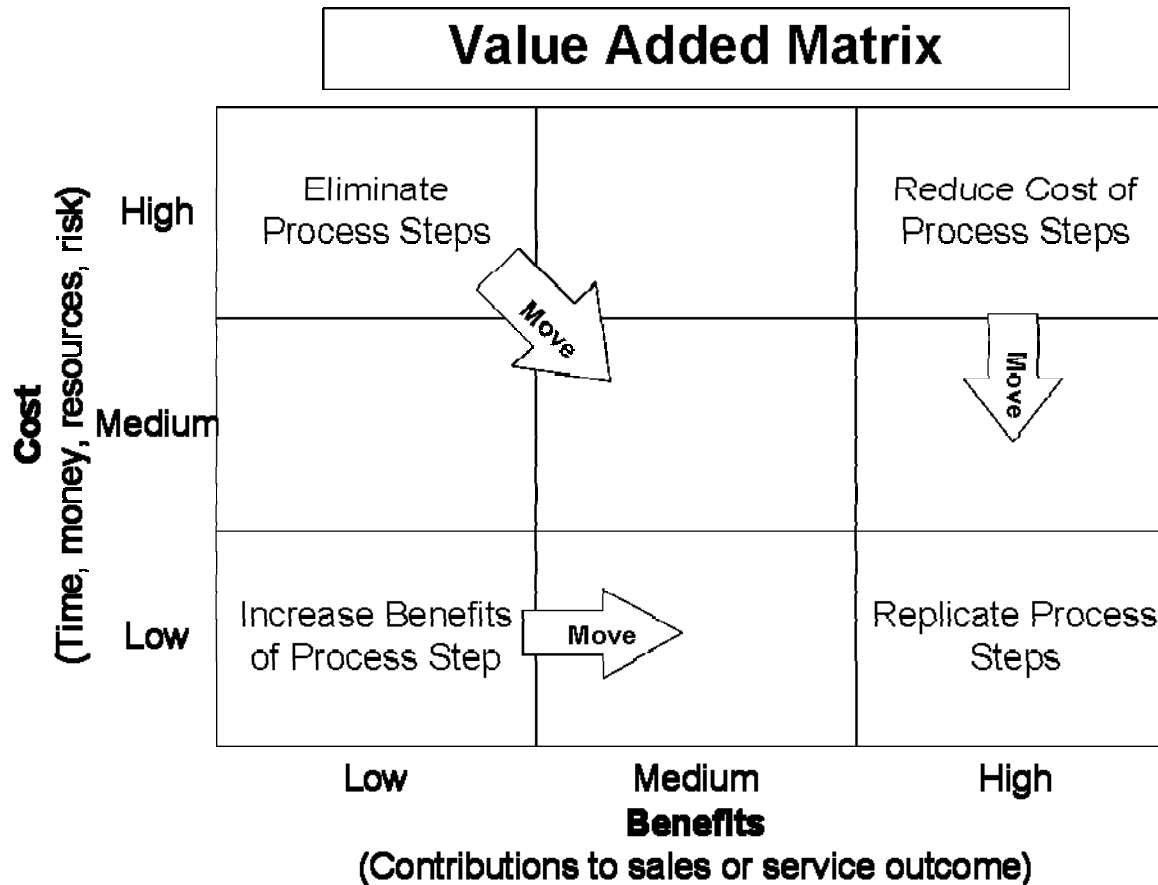
This is a sample of some of the activities.

Next, the team took a closer look at some of the activities.

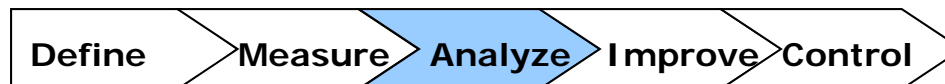


Identify High Cost and Low Value Added Activities

After the team identified the major activities, a Value Added Matrix was used to rank the value (cost / benefit) of each activity in the payment process.



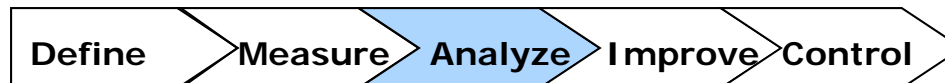
Next, the team identified activities where the cost could be lowered or benefits could be increased.



Identify High Cost and Low Value Added Activities

The team identified activities in the **A&E invoice** process where the cost could be lowered or benefits could be increased.

A & E		
Process / Activity Description	Cost	Benefit
Financial sufficiency review / Invoice review with divisional checklist	High Cost	High Benefit
Prepare receipt / Executed invoice is integrated in Proliance and ERP	High Cost	High Benefit
Route for signatures and approvals / Sign hard copy and enter into Proliance, return to Contract Compliance	High Cost	High Benefit
Deliver hard copy invoice to WASD Finance / Integrated invoice is submitted to WASD AP for disbursement	Low Cost	Low Benefit

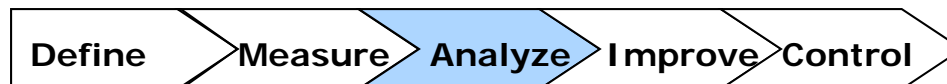


Identify High Cost and Low Value Added Activities

The team identified activities in the **construction invoice** process where the cost could be lowered or benefits could be increased.

CONSTRUCTION		
Process / Activity Description	Cost	Benefit
Review redline / verify substantial completion and liquidated damages assessment	High Cost	High Benefit
Review redline / verify substantial completion and liquidated damages assessment	High Cost	High Benefit
Create pay estimate / Accountant 1 proofreads the other accountant's work	High Cost	Medium Benefit
Create pay estimate / Accountant 1 reviews backup documentation for dedicated and contingency payment items	High Cost	Medium Benefit
Send certified payroll to Small Business Development for small business vendors	Medium Cost	Low Benefit
Review redline / Accountant 2 forward the redline to Accountant 1 along with a Proliance message	Low Cost	Low Benefit

Next, the team took a closer look at the selected activities to identify issues and potential solutions/countermeasures.



Analyze Identified Activities and Develop Solutions

The team identified the issues with each activity and developed countermeasures to improve WASD's A&E accounts payable process.

Countermeasures Matrix WASD Accounts Payable A&E Services Payments		Ratings Legend: 5 = Extremely 3 = Average 1 = Poor			
Problem Statement: 5 A&E A/P process activities were identified as high cost, low benefit, or both.		Effectiveness E	Feasibility F	Overall (E times F)	Take Action? Yes or No
Issue - A (Process step / activity 3a, 3a1, 3b Financial sufficiency review / Invoice review with divisional checklist - HC, HB) Submitted documents by A&E vendor often are not ready for processing by WASD. Some Issues include: carryover or approved amounts are incorrect, missing backup documentation, illegible documents, and % complete/deliverables are not correct.					
Countermeasure A-1 Eliminate the Program Manager (PM) from the A&E process of reviewing invoices (coordinate internally with WASD management - PM's, legal, etc)		5	3	15	Y
Countermeasure A-2 For new consultants not under a PM, create a comprehensive training plan and a checklist with examples at a task level		4	5	20	Y
Issue - B (Process step / activity 6b - Route for signatures and approvals / Sign hard copy and enter into Proliance, return to Cont. Compliance - HC, HB) Invoices are not approved timely in Proliance by PM's.					
Countermeasure B-1 Allow contract compliance staff to approve invoices in Proliance after PM physically signs and approves the invoice		5	5	25	Y
Countermeasure B-2 Possibly modify workflow to eliminate unnecessary steps (pending acceptance --> approved)		1	1	1	N
Countermeasure B-3 Add guidelines for contract payments to the WASD website (to refer vendors needing assistance for reference)		2	3	6	Y



Analyze Identified Activities and Develop Solutions

The team identified the issues with each activity and developed countermeasures to improve WASD's A&E accounts payable process.

Countermeasures Matrix WASD Accounts Payable A&E Services Payments		Ratings Legend: 5 = Extremely 3 = Average 1 = Poor				
Problem Statement: 5 A&E A/P process activities were identified as high cost, low benefit, or both.						
Issue - C (Process step / activity 10a - Prepare receipt / Executed invoice is intergrated in Proliance and ERP - HC, HB) Integration may fail delaying process (line items don't match, status of P.O.'s). ERP is shared with the Aviation Department and may cause vendors to become inactive in ERP for issues not related to WASD. This may stop WASD payment integration.		Effectiveness E	Feasibility F	Overall (E times F)	Take Action? Yes or No	
Countermeasure C-1 Work with WASD AP to re-evaluate when manual receipts are needed. If required for construction, create manual receipts earlier in the process		4	5	20	Y	
Countermeasure C-2 Continue the practice of checking the first invoice against the purchase order		5	5	25	Y	
Countermeasure C-3 Work with AP to ensure vendors have WASD and MDAD locations in ERP		1	1	1	N	
Issue - D (Process step / activity 11a - Deliver hard copy invoice to WASD Finance / Integrated invoice is submitted to WASD AP for disbursement - LC, LB) Professional staff physically delivers invoices to AP (Douglas) for disbursements (1-2x daily)		Effectiveness E	Feasibility F	Overall (E times F)	Take Action? Yes or No	
Countermeasure D-1 Continue to work with AP staff to evaluate the feasibility of accepting electronic invoices (e-Builder implementation)		n/a	n/a	n/a	Y	
Countermeasure D-2 Use courier to assist with document delivery		5	5	25	Y	
Countermeasure D-3 Assign document control for document delivery		5	5	25	Y	
Issue - E (Overall) Too many signatures required in the invoice payment process		Effectiveness E	Feasibility F	Overall (E times F)	Take Action? Yes or No	
Countermeasure E-1 Continue to work with CFO and WASD Controller Division in order to streamline the invoice approval and payment process		5	5	25	Y	

Analyze Identified Activities and Develop Solutions

The team identified the issues with each activity and developed countermeasures to improve WASD's **Construction** accounts payable process.

Countermeasures Matrix WASD Accounts Payable Construction Services Payments		Ratings Legend: 5 = Extremely 3 = Average 1 = Poor			
Problem Statement: 5 Construction A/P process activities were identified as high cost, low benefit, or both.		Effectiveness E	Feasibility F	Overall (E times F)	Take Action? Yes or No
<p>Issue - F (Process step / activity 3n- Review redline / verify substantial completion and liquidated damages assessment: HC, HB) Documentation of substantial completion may be missing, and project managers may not respond to requests for information. Consequently, Contract Compliance staff cannot determine whether liquidated damages should be assessed.</p>					
<p>Countermeasure F-1 Communicate with Document Control staff for all construction managers to ensure that substantial completion memo is promptly uploaded into Sharepoint / Proliance</p>		3	4	12	Y
<p>Countermeasure F-2 Develop a policy whereby the substantial completion memo must be completed by the project manager within 5 business days of substantial completion</p>		4	1	4	Y
<p>Issue - G (Process step / activity 3u - Review redline / Accountant 2 forward the redline to Accountant 1 along with a Proliance message - LC, LB) The pre-audit is performed by a higher level accountant (ensuring correct previous draft).</p>		Effectiveness E	Feasibility F	Overall (E times F)	Take Action? Yes or No
<p>Countermeasure G-1 On a pilot basis, eliminate the pre-audit function (Accountant 2 will still see invoice for work distribution purposes)</p>		2	2	4	N



Analyze Identified Activities and Develop Solutions

The team identified the issues with each activity and developed countermeasures to improve WASD's **Construction** accounts payable process.

Countermeasures Matrix WASD Accounts Payable Construction Services Payments		Ratings Legend: 5 = Extremely 3 = Average 1 = Poor			
Problem Statement: 5 Construction A/P process activities were identified as high cost, low benefit, or both.		Effectiveness E	Feasibility F	Overall (E times F)	Take Action? Yes or No
Issue - H (Process step / activity 5C- Create pay estimate / Accountant 1 reviews backup documentation for dedicated and contingency payment items - HC, MB) Paperwork may be missing, requiring further research. A large volume of paper is involved.		Effectiveness E	Feasibility F	Overall (E times F)	Take Action? Yes or No
Countermeasure H-1 Incorporate requirements for dedicated allowance accounts (e.g. permits, off-duty police) into pre-estimate training		5	5	25	Y
Countermeasure H-2 Add guidelines for contract payments to the WASD website (to refer vendors needing assistance for reference)		2	3	6	Y
Issue - I (Process step / activity 5L - Create pay estimate / Accountant 1 proofreads the other accountant's work - HC, MB) Extra proof reading by Accountant 1 prior to review by the Supervisor adds time and effort to the payment process. Additionally, this practice reduces the accountability of individual employees.		Effectiveness E	Feasibility F	Overall (E times F)	Take Action? Yes or No
Countermeasure I-1 Pilot the elimination of the additional proofreading and determine the impact on quality and accuracy of work, as well as on staff cross-training and overall employee performance		3	3	9	Y
Issue - J (Process step / activity 12a - Send certified payroll to Small Business Development for small business vendors - MC, LB) The scanning process is time consuming.		Effectiveness E	Feasibility F	Overall (E times F)	Take Action? Yes or No
Countermeasure J-1 Work with Small Business Development in implementing software that allows the contractor to send their certified payroll documentation directly to SBD.		5	3	15	Y

Action Plan

The team developed an action plan to monitor who would be responsible for implementing the selected the countermeasures and by when.

WASD Accounts Payable A&E Services Payment Action Plan	Take Action? Yes or No	Responsible Person(s)	Target Date
Countermeasure A-1 Eliminate the Program Manager (PM) from the A&E process of reviewing invoices (coordinate internally with WASD management - PM's, legal, etc)	Y	Juliette Bernard	Mar 2018
Countermeasure A-2 For new consultants not under a PM, create a comprehensive training plan and a checklist with examples at a task level	Y	Juliette Bernard Yesenia Perez	Jan 2018
Countermeasure B-1 Allow contract compliance staff to approve invoices in Proliance after PM physically signs and approves the invoice	Y	Edith Brown	Dec 2017
Countermeasure B-3 Add guidelines for contract payments to the WASD website (to refer vendors needing assistance for reference)	Y	Wendy Wandyez	Apr 2018
Countermeasure C-1 Work with WASD AP to re-evaluate when manual receipts are needed. If required for construction, create manual receipts earlier in the process	Y	Raymond Garcia	Complete
Countermeasure C-2 Continue the practice of checking the first invoice against the purchase order	Y		Current Practice
Countermeasure D-1 Continue to work with AP staff to evaluate the feasibility of accepting electronic invoices (e-Builder implementation)	Y	Edith Brown	Complete (Presently FIN requires at least 1 wet signature)
Countermeasure D-2 Use courier to assist with document delivery	Y	Edith Brown	Jan 2018
Countermeasure D-3 Assign document control for document delivery	Y	Wendy Wandyez	Feb 2018 (pending hiring process)
Countermeasure E-1 Continue to work with CFO and WASD Controller Division in order to streamline the invoice approval and payment process	Y	Edith Brown, CFO, and Controller	Dec 2017



Action Plan

The team developed an action plan to monitor who would be responsible for implementing the selected countermeasures and by when.

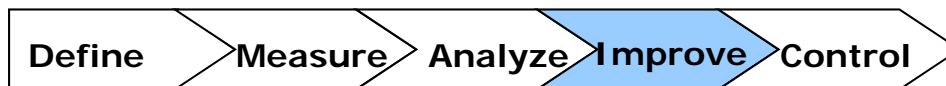
WASD Accounts Payable Construction Services Payment Action Plan	Take Action? Yes or No	Responsible Person(s)	Target Date
Countermeasure F-1 Communicate with Document Control staff for all construction managers to ensure that substantial completion memo is promptly uploaded into Sharepoint / Proliance	Y	Wendy Wandyez	Dec 2017
Countermeasure F-2 Develop a policy whereby the substantial completion memo must be completed by the project manager within 5 business days of substantial completion	Y	Edith Brown	Feb 2018
Countermeasure H-1 Incorporate requirements for dedicated allowance accounts (e.g. permits, off-duty police) into pre-estimate training	Y	Manley Cobia	Complete
Countermeasure H-2 Add guidelines for contract payments to the WASD website (to refer vendors needing assistance for reference)	Y	Wendy Wandyez	Mar 2018
Countermeasure I-1 Pilot the elimination of the additional proofreading and determine the impact on quality and accuracy of work, as well as on staff cross-training and overall employee performance	Y	Raymond Garcia	Delayed (Pending hiring of vacant Acct 1)
Countermeasure J-1 Work with Small Business Development in implementing software that allows the contractor to send their certified payroll documentation directly to SBD.	Y	Margaret Moss	Ongoing



Identify Barriers and Aids

Implement 17 countermeasures to improve the number of days to pay Construction and A&E Services invoices			
Barriers		Aids	
Impact (High, Medium, or Low)	Forces Against Implementation	Forces For Implementation	
Medium	Hiring process can be lengthy (Supported by Aid: A)	A	Upper management support
High	Heavy workload leads to competing priorities with limited resources (Supported by Aid: A, B, and C)	B	Concurrent and companion project with WASD Controller personnel on process improvement
High	Lack of clarity in departmental processes (Supported by Aid: A, B, and C)	C	Vendors will be supportive of payment improvements

Next, the team developed a Process Control System.



Standardize the Countermeasures

The team developed a Process Control System (PCS) to monitor the implementation of Construction and A&E processes.

Process Control System						
Process Name: Pay A&E Services Invoices			Process Owner: Edith Brown			
Indicators			Checking / Indicator Monitoring			Comments
Process Indicators And		Control Limits	Data to Collect	Timeframe (Frequency)	Responsibility	
Quality Indicators		Specs/ Targets	What is Checking Item or Indicator Calculation	When to Collect Data?	Who will Collect Data?	
P1	Average # Days from Date Invoice Received to Date Review Completed	4 business days	Contract Compliance tracking log & E-builder	Quarterly	R. Garcia, J. Bernard	
P2	Average # Days Date Review Completed To Date Supervisors Review Completed	6 business days	Contract Compliance tracking log & E-builder	Quarterly	R. Garcia, J. Bernard	For now, quarterly random samples. Monthly, when E-builder is implemented.
Q1	Percent (%) of non-SBE A&E Services Invoices paid within 30 days	90%	ERP query request	Monthly	J. Barrios	
Q2	Percent (%) of SBE A&E Services Invoices paid within 14 days	90%	ERP query request	Monthly	J. Barrios	SBE purchase orders are flagged in ERP

With the full implementation of E-builder system it is expected that upper management will be able to pull information of all phases of the payment process, including approvals.



Standardize the Countermeasures

The team developed a Process Control System (PCS) to monitor the implementation of Construction and A&E processes.

Process Control System						
Process Name: Pay Construction Services Invoices			Process Owner: Edith Brown			
Indicators			Checking / Indicator Monitoring			Comments
Process Indicators	Control Limits	Data to Collect	Timeframe (Frequency)	Responsibility		
And						
Quality Indicators	Specs/ Targets	What is Checking Item or Indicator Calculation	When to Collect Data?	Who will Collect Data?		
P1	Average # of days from Date Redline Received to Date Contractor Notified	6 business days	Contract Compliance tracking log and E-builder	Monthly	R. Garcia, J. Bernard	
Q1	Percent (%) of non-SBE Construction Services Invoices paid within 30 days	90%	ERP query request	Monthly	J. Barrios	SBE purchase orders are flagged in ERP
Q2	Percent (%) of SBE Construction Services Invoices paid within 14 days	90%	ERP query request	Monthly	J. Barrios	SBE purchase orders are flagged in ERP

With the full implementation of E-builder system it is expected that upper management will be able to pull information of all phases of the payment process, including approvals.

Next, the team discussed the lessons learned from the projects.

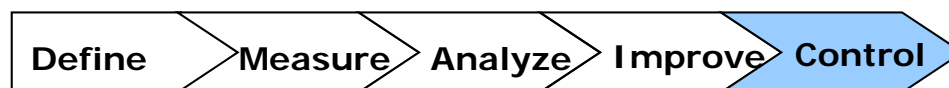


Lessons Learned

- 1) The project shed light on the many challenges that are involved in creating and paying an invoice both within Contract Compliance and Accounts Payable and the value provided to the department and community.
- 2) Team members' willingness to devote time to several long work sessions and openness to critically examining Contract Compliance review processes were essential to the success of this project.
- 3) Active participation from supervisors with direct involvement in the process was also a key factor in the success of this project.
- 4) Reverse solutions exercise opened team minds to be able to creatively analyze processes
- 5) When there are challenges in collecting data, the value added matrix is a useful tool in identifying problematic processes
- 6) Staff learned about other processes in the division and gained an appreciation for others' workload and area of expertise
- 7) Pastelitos and doughnuts inspire creativity

Next steps:

- 1) Implement approved countermeasures
- 2) Monitor results and make necessary course corrections



Appendix - Identify Data Collection Needs

The team developed a data collection spreadsheet and reviewed invoice information from June 15 through July 16 for both Construction and A&E Services, each row is a *paid invoice*.

Construction Services Invoices

Contract Compliance Tracking Log - Construction					P1 - Average 10.55	Returned within 7 Days?
Contract Number	Invoice Number	Date Redline Received	Date Contractor Notified	Date Contractor Signs Estimate	P1: Date Redline / Invoice Received to Date Contractor Notified	
RPQ T2295	2	10-Jul-2017	13-Jul-2017	14-Jul-2017	3	Yes
S 866	15	28-Jun-2017	5-Jul-2017	6-Jul-2017	7	Yes
S 880	9	11-Jul-2017	18-Jul-2017	19-Jul-2017	7	Yes
RPQ T2295	1	20-Jun-2017	28-Jun-2017	30-Jun-2017	8	No
RPQ T2231	3	6-Jul-2017	14-Jul-2017	17-Jul-2017	8	No
S 900	5	23-Jun-2017	5-Jul-2017	5-Jul-2017	12	No
S 868R	002R	29-Jun-2017	3-Jul-2017	11-Jul-2017	4	Yes
S 903	2	22-Jun-2017	28-Jun-2017	5-Jul-2017	6	Yes
S 880	8	23-Jun-2017	5-Jul-2017	6-Jul-2017	12	No
S 898	7	6-Jul-2017	18-Jul-2017	19-Jul-2017	12	No
RPQ T2255	2	22-Jun-2017	28-Jun-2017	6-Jul-2017	6	Yes
S-901	2	26-Jun-2017	5-Jul-2017	11-Jul-2017	9	No
RPQ T2176R	5	29-Jun-2017	12-Jul-2017	14-Jul-2017	13	No
RPQ T2146	7	19-Jun-2017	5-Jul-2017	7-Jul-2017	16	No
S-902	5	26-Jun-2017	5-Jul-2017	14-Jul-2017	9	No
S 890	14	23-Jun-2017	5-Jul-2017	12-Jul-2017	12	No
RPQ T2170	4	29-Jun-2017	12-Jul-2017	18-Jul-2017	13	No
RPQ T2197	4	22-Jun-2017	5-Jul-2017	12-Jul-2017	13	No

This is a sample of some of the construction invoices received.



Appendix - Identify Data Collection Needs

The team developed a data collection spreadsheet and reviewed invoice information from June 15 through July 16 for both Construction and A&E Services, each row is a *paid invoice*.

A&E Services Invoices

Contract Compliance Tracking Log - A&E Services								P1 - Average 7.34	Returned within 7 Days?	P2 - Average 15.86	Returned within 14 Days?
Consultant	PCTS #	TA #	Progress Billing #	Invoice #	Date Received	Date Review Completed	Date Supervisors Review Completed	P1: Invoice Received to Date Review Completed		P2: Invoice Received to Date Supervisor Review Completed	
A & P Transportation	12426	7	3	12426-03	6/26/2017	7/5/2017	7/5/2017	9	No	9	Yes
Arcadis	11172	6	2	852391	6/26/2017	6/27/2017	7/5/2017	1	Yes	9	Yes
RJBB	14996	1	4	RJBB-2017-04	7/7/2017	7/17/2017	7/17/2017	10	No	10	Yes
Brown and Caldwell	10297	28	1	58294732	6/26/2017	7/6/2017	7/7/2017	10	No	11	Yes
HDR	13997	27	7	1200055957	6/30/2017	7/3/2017	7/11/2017	3	Yes	11	Yes
WSP USA	12428	2 rev 01	42	720547	6/30/2017	7/3/2017	7/11/2017	3	Yes	11	Yes
BFA	14282	1	7	12791	6/30/2017	7/3/2017	7/11/2017	3	Yes	11	Yes
HDR	13348	24	7	1200055929	6/30/2017	7/5/2017	7/11/2017	5	Yes	11	Yes
Woolpert	13539	2 Rev 02	34	2017004275	6/21/2017	6/23/2017	7/3/2017	2	Yes	12	Yes
HDR	13075	28	7	1200055930	6/30/2017	7/5/2017	7/12/2017	5	Yes	12	Yes
HDR	13347	30	7	1200055931	6/30/2017	7/5/2017	7/12/2017	5	Yes	12	Yes
Metric Engineering	14988	1	7	M2238.03-07	7/5/2017	7/7/2017	7/17/2017	2	Yes	12	Yes
SRS	14285	1	19	1511-19	7/5/2017	7/7/2017	7/17/2017	2	Yes	12	Yes
Aecom	13629	4.02	3	37924449	6/20/2017	6/27/2017	7/3/2017	7	Yes	13	Yes
CH2M Hill	14002	9	17	4052984	6/30/2017	7/5/2017	7/13/2017	5	Yes	13	Yes
MWH	13159	273	4	1210932	6/19/2017	6/27/2017	7/3/2017	8	No	14	Yes
MWH	13291	312 rev 01	15	1210919	6/19/2017	6/27/2017	7/3/2017	8	No	14	Yes
LAN	13869	2	3	2-3-031517	6/21/2017	6/22/2017	7/5/2017	1	Yes	14	Yes
HDR	12029	43	3	1200056634	6/27/2017	7/3/2017	7/11/2017	6	Yes	14	Yes
Ch2M Hill	14002	29	4	4052988	6/30/2017	7/3/2017	7/14/2017	3	Yes	14	Yes
Ch2M Hill	14002	7	19	4052983	6/30/2017	7/3/2017	7/14/2017	3	Yes	14	Yes

This is a sample of some of the A&E invoices received.

