



## Six Sigma DMAIC Improvement Story

*Green Belt* Project Objective:  
**To Reduce the Time from Pre-Construction Meeting to Water Meter Set**

*Last Updated: 5-12-15*

Team: *Crystal Clear*

**Tom Marko (Team Leader)**

**Sandra Alvarez**

**Odalys Bello**

**Miguel Pichardo**

**Nicholas Brooks**

**Water & Sewer Dept. (Sponsor)**



# Lean Six Sigma Problem Solving Process

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

## DMAIC Performance Improvement Process

Process Step		Description of Team Activities
Number	Name	
1	DEFINE	<ul style="list-style-type: none"> <li>• Select Problem</li> <li>• Identify Project Charter</li> <li>• Develop Project Timeline</li> <li>• Establish Method to Monitor Team Progress</li> <li>• Construct Process Flowchart</li> <li>• Develop Data Collection Plan</li> <li>• Display Indicator Performance “Gap”</li> </ul>
2	MEASURE	<ul style="list-style-type: none"> <li>• Stratify Problem (i.e. “Gap”)</li> <li>• Identify Problem Statement</li> </ul>
3	ANALYZE	<ul style="list-style-type: none"> <li>• Identify Potential Root Cause(s)</li> <li>• Verify Root Cause(s)</li> </ul>
4	IMPROVE	<ul style="list-style-type: none"> <li>• Identify and Select Improvement(s)</li> <li>• Identify Barriers and Aids</li> <li>• Develop and Implement Improvement Plan</li> <li>• Confirm Improvement Results</li> </ul>
5	CONTROL	<ul style="list-style-type: none"> <li>• Standardize Improvements within Operations</li> <li>• Implement Process Control System (PCS)</li> <li>• Document Lessons Learned</li> <li>• Identify Future Plans</li> </ul>



# Identify Project Charter

The team developed a team Project Charter.

Project Charter	
Business Case	<b>Project Name:</b> To Reduce the time from Pre-Construction Meeting to Water Meter Set <span style="float: right;">2. ✓</span>
	<b>Problem/Impact:</b> Delays in the process of setting Water meters create many problems including... <span style="float: right;">1. ✓</span> 1) Inconvenience for residents to receive drinking water 2) Delays sales of new residences 3) Delays in opening of new businesses 4) Delays in TCO and CO
	<b>Expected Benefits:</b> Reduce time to set meter and provide water service
Objectives	<b>Outcome Indicator(s):</b> Q1 - # Days from Pre-Construction Meeting to Water Meter Set
	<b>Proposed Target(s):</b> TBD
	<b>Time Frame:</b> Dec 2014 through July 2015
	<b>Strategic Alignment:</b> Supports the County's Fiscal Responsibility
Scope	<b>In Scope:</b> Water Meters set within last 12 months
	<b>Out-of-Scope:</b> Water meters set within prior to last 12 months
	<b>Authorized by:</b> Water & Sewer Department
Team	<b>Sponsor:</b> Water & Sewer Department
	<b>Team Leader:</b> Tom Marko, Tara Smith
	<b>Team Members:</b> Sandra Alvarez, Odalys Bello, Miguel Pichardo, Nicholas Brooks, Charlie Queen
	<b>Process Owner(s):</b> TBD
	<b>Mgmt Review Team:</b> Water & Sewer Department
Schedule	<b>Completion Date:</b> 31-Jul-15
	<b>Review Dates:</b> Monthly and Final Review in July 31,2015
	<b>Key Milestone Dates:</b> See Action Plan



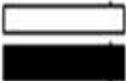
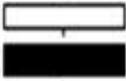
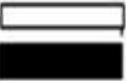
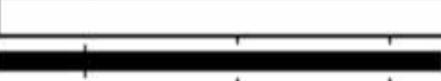
# Develop Project Timeline Plan

The team developed a timeline plan to complete the Project.

4. 

<b>Legend:</b>	
	= Actual
	= Proposed

**WHAT: Complete DMAIC Story Project by July 31, 2015**

DMAIC Story Process Step	WHEN							
	2015							
	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul
1. Define		Completed 1/9/15						
2. Measure		Completed 1/9/15						
3. Analyze			Completed 1/30/15					
4. Improve								6/30/15
5. Control								7/31/15



# Monitor Team Progress

The Team and Management used a Checklist to monitor team progress.

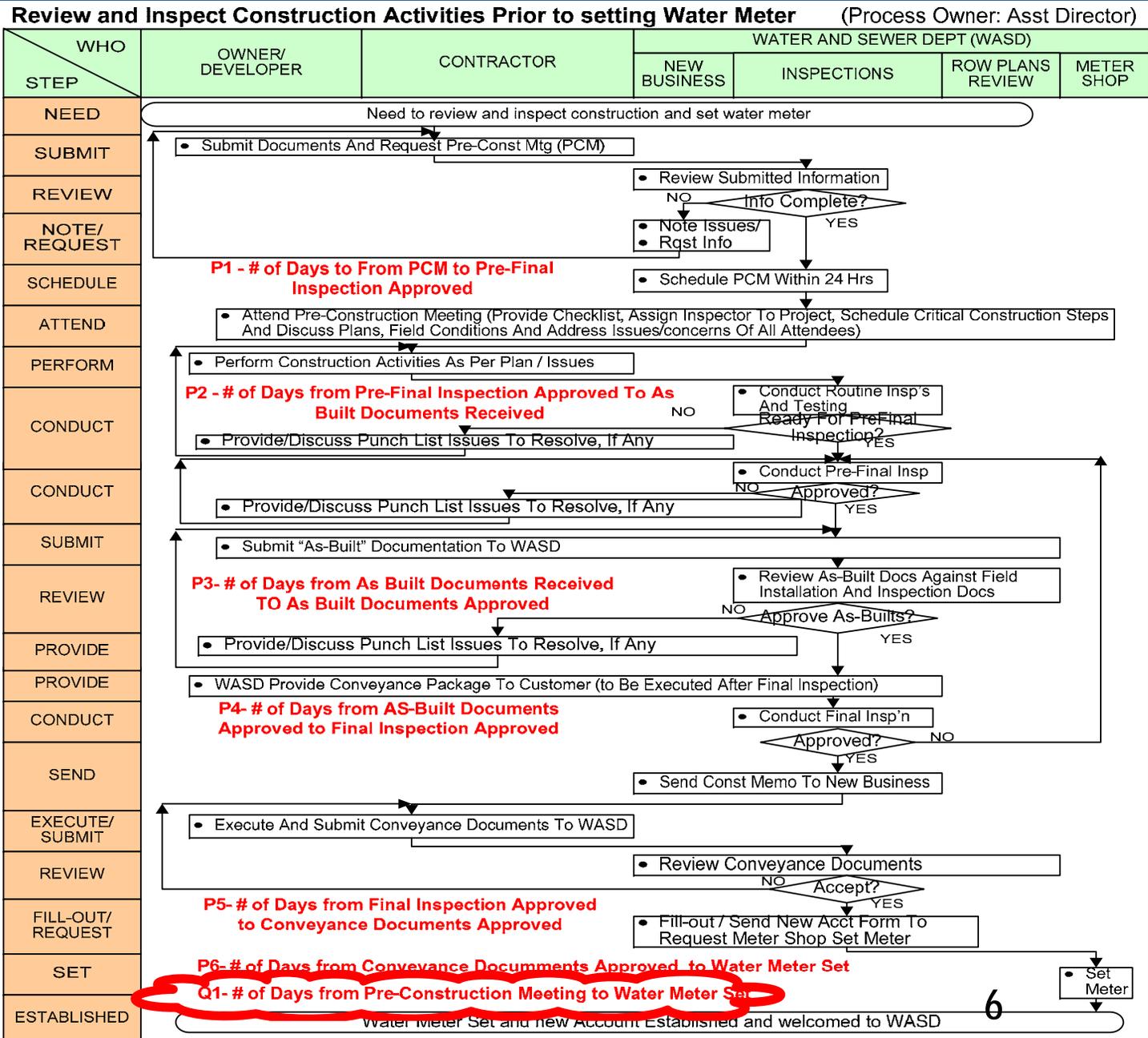
DMAIC Story Checkpoints		
PLAN	Step 1 Define	<b>Objective: Demonstrate the Importance of Improvement needs in measurable terms.</b>
		1. The stakeholders' need(s) were identified. ✓
		2. The problem can be described as an "object" with a "defect" with unknown cause(s) that need to be identified. ✓
		3. A line graph outcome indicator was constructed that appropriately measures the problem (or gap). ✓
	Step 2 Measure	<b>Objective: Investigate the features of the indicator, stratify the problem and set a target for improvement.</b>
		4. A schedule for completing the five DMAIC Story steps was developed. ✓
		5. Data contained or directly linked to the indicator were stratified from various viewpoints (i.e., what, where, when and who) and a significant dataset was chosen. ✓
		6. A target for improvement was established based on the stakeholders' need. ✓
	Step 3 Analyze	<b>Objective: Analyze the stratified data to identify and verify the root causes.</b>
		7. The impact of the target on the indicator was determined. ✓
		8. A problem statement that describes the "remaining dataset" was developed. ✓
		9. Cause and effect analysis was taken to the root level. ✓
DO	Step 4 Improve	<b>Objective: Develop and implement countermeasures to eliminate the verified root causes of the problem.</b>
		10. Potential causes most likely to have the greatest impact on the problem were selected. ✓
		11. A relationship between the root causes and the problem was verified with data. ✓
		12. The impact of each root cause on the gap was determined. ✓
	Step 5 Control	<b>Objective: Confirm that the countermeasures taken impacted the root causes and the problem; and that the target has been met.</b>
		13. Countermeasures were selected to address verified root causes. ✓
		14. The method for selecting the appropriate countermeasures was clear and considered effectiveness and feasibility. ✓
		15. Barriers and aids were determined for countermeasures worth implementing. ✓
CHECK	Step 4 Improve	<b>Objective: Evaluate the team's effectiveness and plan future activities.</b>
		16. The action plan reflected accountability and schedule. ✓
		17. The effect of countermeasures on the root causes was demonstrated. ✓
		18. The effect of countermeasures on the problem (or indicator) was demonstrated. ✓
	Step 5 Control	<b>Objective: Prevent the problem and its root causes from recurring. Maintain and share the gains.</b>
		19. The improvement target was achieved and causes of significant variation were addressed. ✓
		20. The effect of countermeasures on the indicator representing the stakeholders' need was demonstrated. ✓
		21. A method was established to document, permanently change, and communicate the revised process or standard. ✓
ACT	Step 5 Control	<b>Objective: Evaluate the team's effectiveness and plan future activities.</b>
		22. Responsibility was assigned and periodic checks scheduled to ensure compliance with the revised process or standard. ✓
		23. Specific areas for replication were identified. ✓
		24. Any remaining problems (or gaps) were addressed. ✓
CHECK	Step 5 Control	<b>Objective: Prevent the problem and its root causes from recurring. Maintain and share the gains.</b>
		25. Lessons learned, P-D-C-A of the Story process, & team growth were assessed & documented. ✓



# Review Process Flow Chart

The team constructed a Process flow chart describing the Process.

The team next looked closer how to capture indicator data.



# Hidden Costs of Late Water Meters Set

The team identified costs of late Water Meters Set.

## Annual Cost

### 1) Lost Revenues due to late Meter installations

Avg. Days Late (69.8) X Monthly Avg. Rate/30 [(48.11/30)=1.61] X # of meter sets (3,000) = .....\$337,134

### 2) County resources handling Inquiries and complaints

(Est # of Inquiries per late Project per week)X (# of late Projects) (Avg # of Weeks Late) = (1 call per week)X(10 weeks late)X (1hour time) X (\$25 per Hour)X( 300 projects per year)= .....\$75,000

### 3) Tax revenue lost for delay in Commercial Businesses opening

(# of Projects)X (1/6 of projects affected)X(Tax Rate)=  
(300)X(.16)X( \$15,000)= .....\$750,000

**Annual Costs = \$ 1,162,134**

Does not include dissatisfaction from customer, Developers and contractors



# Identify Data Collection Needs

The team developed a data collection spreadsheet...

## WASD Construction Process Status Summary

BCE	DEMOGRAPHICS									MILESTONES															
	WHAT			WHERE			WHO			S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF		
	B	C	D	E	F	G	H	I	J																
Line #	Type of Construction	Size of Project	Water Main Extension	Construction Address	Miami Area	District	Developer Type	Contractor Experience	Contractor Type	1-Pre-Constr'n Meeting		2-Pre-Final Inspection Approved		3-As-Built Doc Submittal Received		4-As-Built Docs Approved		5- Final Inspection Approved		6-Conveyance Package Approved		7-Water Meter Set			
			%Y						% Supv	Date	Day	Date	Day	Date	Day	Date	Day	Date	Day	Date	Day	Date	Day	Date	Day
			66.7					0.0		11/13/13	We	11/20/13	We	12/13/13	Fr	2/13/14	Th	3/27/14	Th	5/27/14	Tu	6/30/14	Mo		
1	Commercial	Small	Y	Donor Services	SW	1	Large	New	Small	11/13/13	We	11/20/13	We	12/13/13	Fr	2/13/14	Th	3/27/14	Th	5/27/14	Tu	6/30/14	Mo		
2	Residential	Large	Y	Component Lab	NW	3	Medium	Existing	Medium	12/9/13	Mo	12/11/13	We	12/11/13	We	12/11/13	We	12/12/13	Th	12/12/13	Th	12/12/13	Th		
3	Government	Medium	N	Lab Services	NE	2	Small	Existing	Large	1/13/14	Mo	1/13/14	Mo	1/13/14	Mo	1/13/14	Mo	2/14/14	Fr	2/17/14	Mo	2/24/14	Mo		

DURATION							OUTCOMES	BB
AH= U-S	AI= W-U	AJ= Y-W	AK= AA-Y	AL= AC-AA	AM= AE-AC	AN= AE-S	AP= if AN<=150 then Y	
PCM Held TO Pre-Final Apprvd	Pre-Final Apprvd TO As-Built Recd	As-Built Recd TO As-Built Apprvd	As-Built Apprvd TO Final Apprvd	Final Apprvd TO Convyance Apprvd	Convyance Apprvd TO Meter Set	PCM Held TO Meter Set	Meter Set within 5 months?	Comments
Avg # of Days							%Y	
3.0	7.7	20.7	25.0	21.3	13.7	91.3	66.7	
P1	P2	P3	P4	P5	P6	Q1	Q2	
7	23	62	42	61	34	229	N	
2	0	0	1	0	0	3	Y	
0	0	0	32	3	7	42	Y	

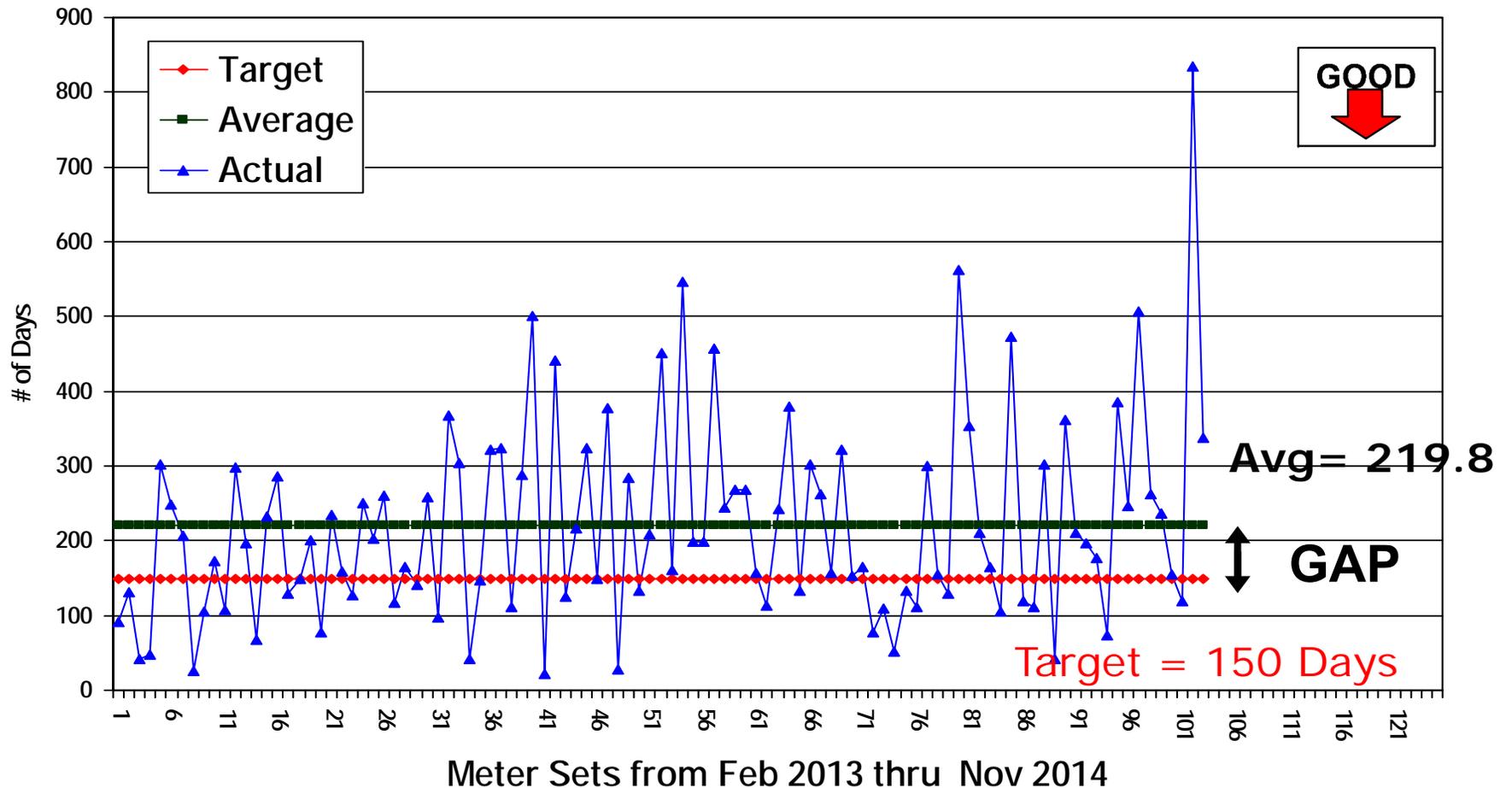


# Review Selected Indicator

The team collected Q1 indicator data and reviewed performance trends:

3.

## Q1- # of Days FROM Pre-Construction meeting TO Water Meter Set



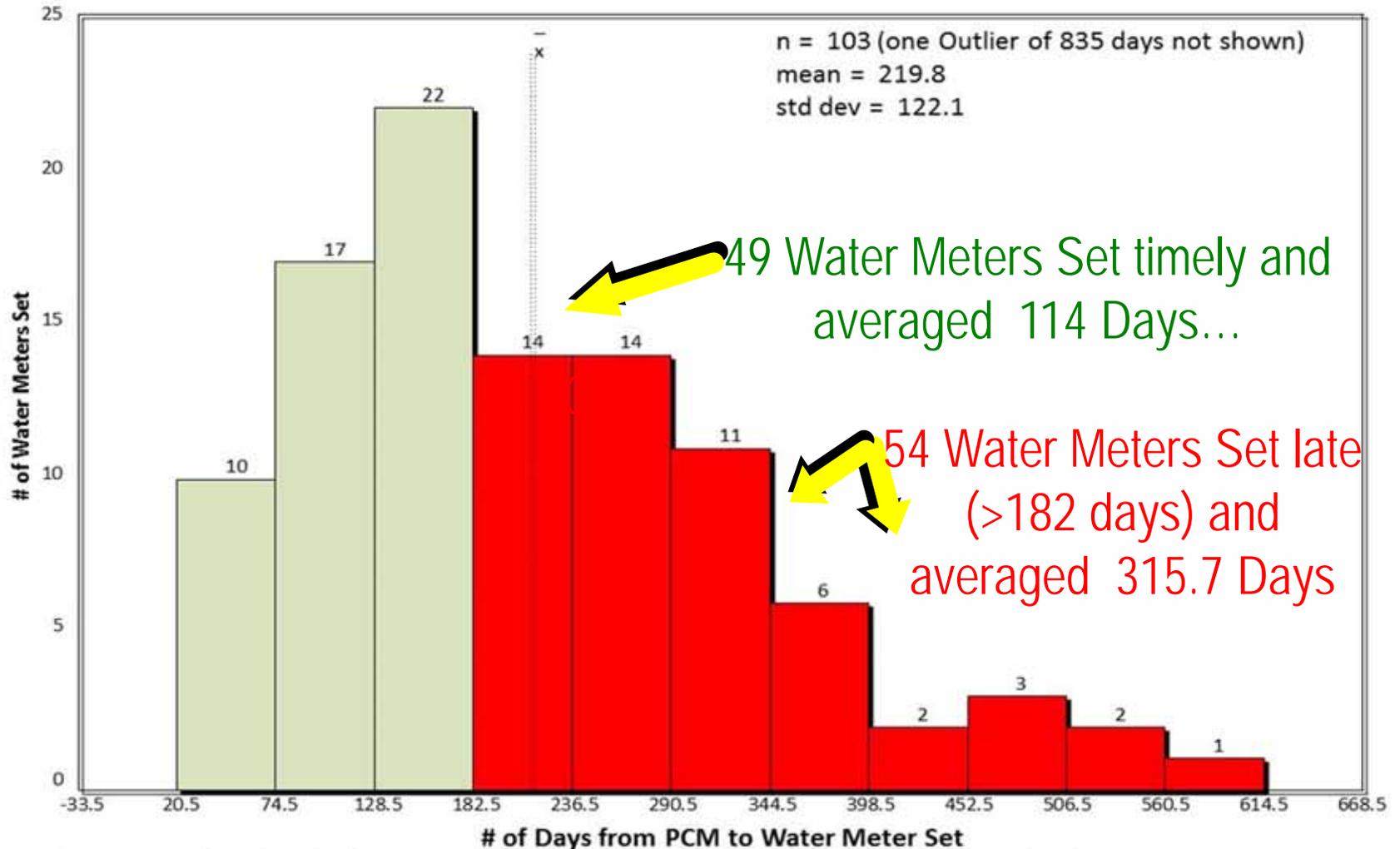
The team next looked closer at the gap.



# Stratify the Problem

The team stratified sampled Set Meters using a histogram and found...

Water Meters Set from Feb 2103 thru Nov 2014



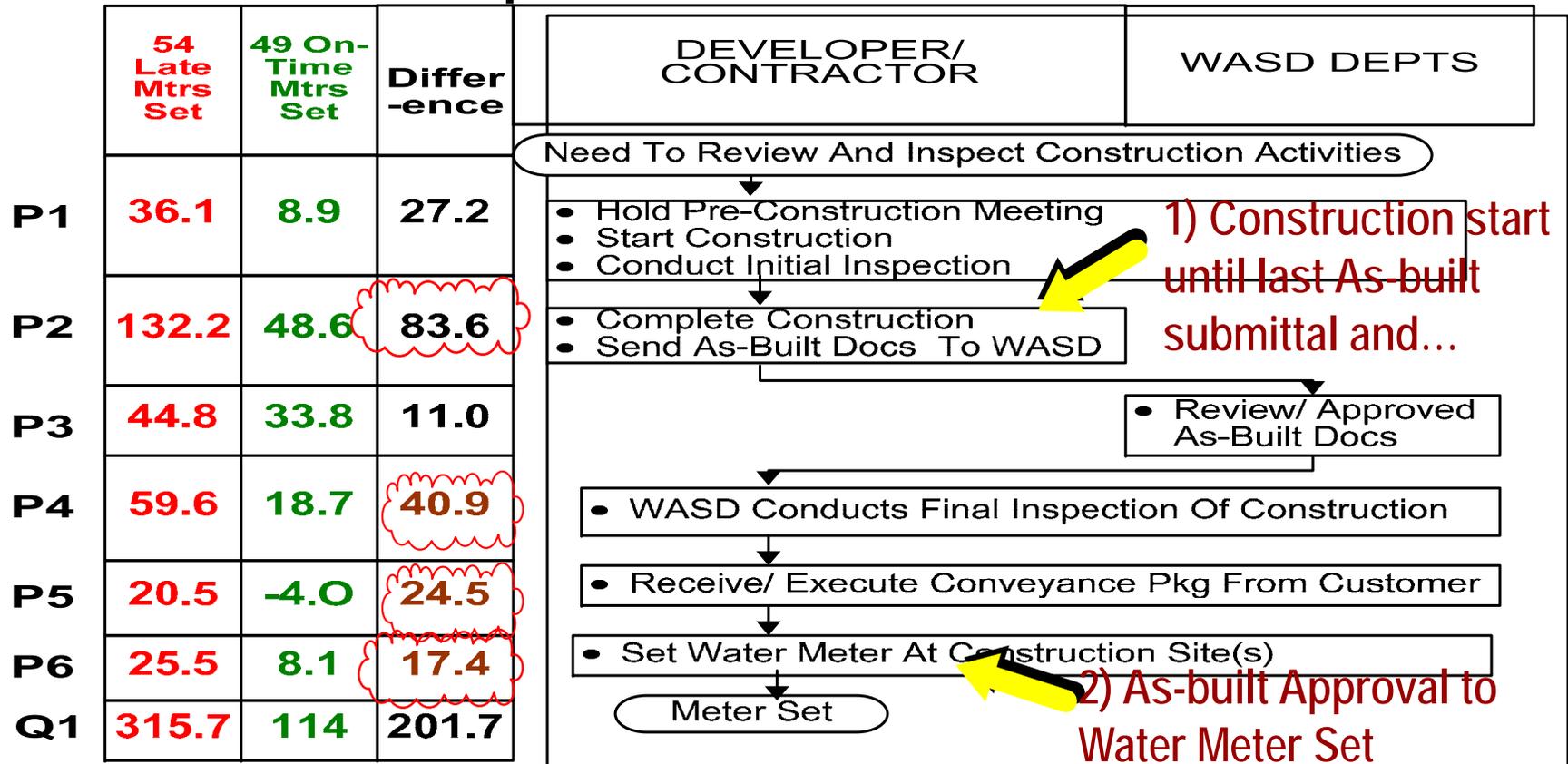
The team looked closer at comparing the **Late** to the **Timely** Set meters.



# Stratify the Problem

The team compared the **LATE Set Meters** to the **TIMELY Set Meters** and found 2 Areas of BIG differences.....

## Review and Inspection Construction Activities

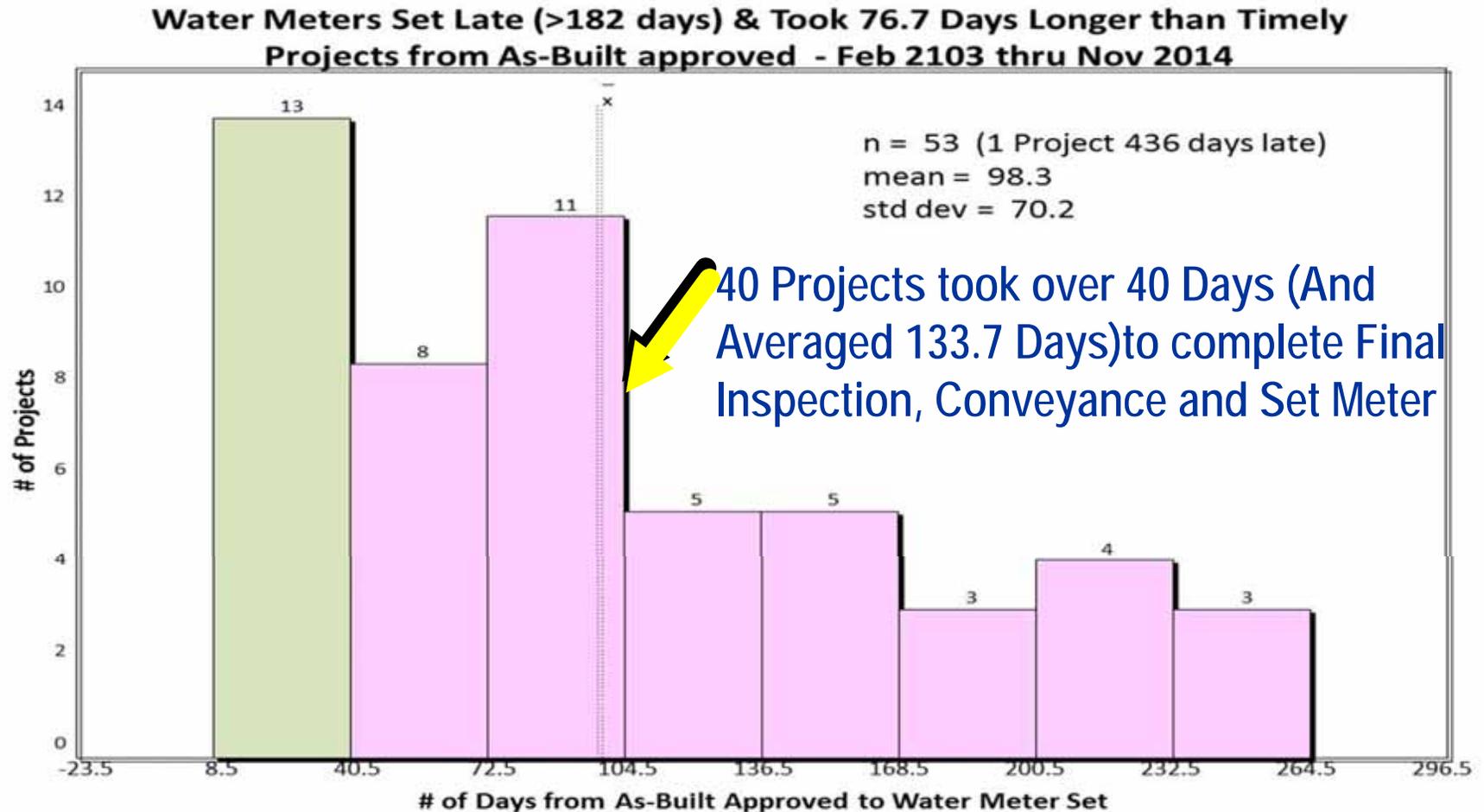


Because WASD has more control after As-built approved the team decided to look more closely at the P4, P5 and P6 steps that totaled 82.8 days difference, given that WASD staff have more control in these steps than P2.



# Stratify the Problem

The team stratified the 54 projects for P4 thru P6 Steps using a histogram and found.....



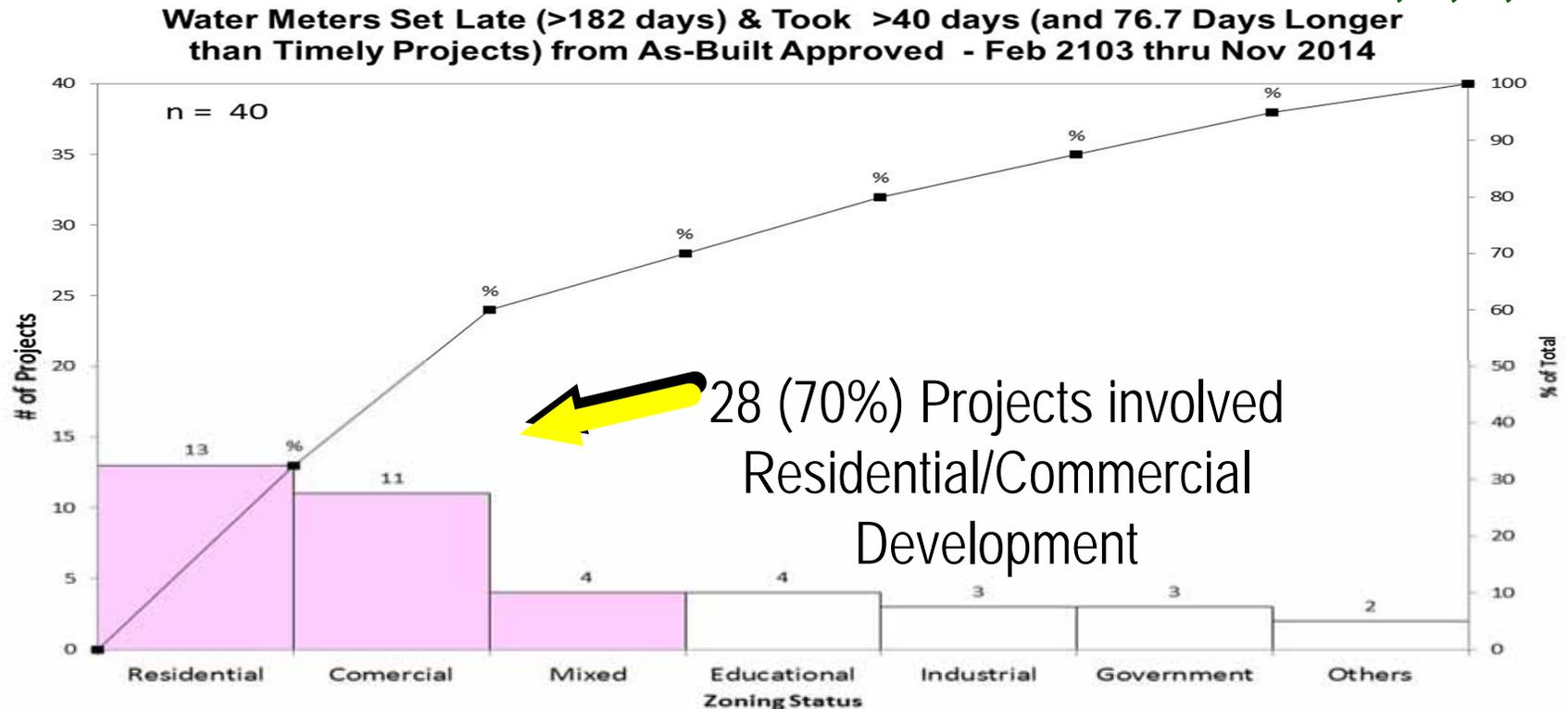
The team looked closer at these 40 Projects.



# Stratify the Problem (Continued)

The team stratified the the 40 Projects many ways and found...

5.,6.,7.,8. ✓



Problem Statement#1: "28 Residential/Commercial Water Meters were Set Late (>182 days) from 2/1/13 thru 11/30/14 and all took >40 days (and averaged 133.7 Days) from As-Built Approved to Water Meter Set"

Problem Statement#2: "54 Construction Projects took 83.6 longer than on-time projects to submit final As-Builts"



# Identify Potential Root Causes

The team reviewed 28 Project documentation before conducting Single Case Bore Analysis.

		Single Case Bore Analysis																														
		Reasons or Factors (That possibly contributed to Water Meter taking too Long to be set from As-Built)	28 Projects																													
			1-#21195-S	2-#21070-DA	3-#21485-17	4-#21053-MA	5-#21425-MA	6-#21501-MA	7-#21354-CA	8-#21424-FL	9-#21091-GA	10-#21266-A	11-#21336-E	12-#21274-A	13-#21121-A	14-#21350-V	15-#21500-F	16-#21072-H	17-#21391-A	18-#21051-A	19-#21236-T	20-#21131-M	21-#21394-A	22-#21197-M	23-#21199-V	24-#21198-V	25-#21243-C	26-#21040-A	27-#21069-M	28-#21203-C	Total	Percent
Problem Statement #2: "54 Construction Projects took 83.6 longer than on-time projects to submit final As-Builts"	1) FIRELINE/WTR SERV/SWR LAT		X	X															X												3	11%
	2) PHASED PROJECT				X						X							X													3	11%
	3) LINEAR FEET <500 LF	<b>B</b>		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	64%
	4) LINEAR FEET >500 LF	<b>A</b>		X	X	X	X	X					X	X			X										X		X	10	36%	
	5) WTR & SEWER EXT	<b>A</b>	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	75%
	6) BUILDING SCHEDULE DELAYED WTR PROJECT		X	X		X	X			X	X	X	X	X			X		X			X	X								12	43%
	7) FIELD CHANGES		X	X	X	X	X							X						X			X								8	29%
	8) ROW-ASBUILT 1ST		X			X	X			X	X	X	X									X	X								9	32%
	9) ROW-ASBUILT 2ND	<b>D</b>		X		X	X									X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	39%	
	10) ROW-AS-BUILT 3RD		X	X	X					X						X	X							X	X					8	29%	
	11) WASD ASBUILT REVIEW > ?																														0	0%
	12) ROW-EASEMENT APPROVAL			X	X				X														X	X			X	X		6	21%	
Problem Statement #1: "28 Residential/Commercial Water Meters were Set Late (>182 days) from 2/1/13 thru 11/30/14 and all took >40 days (and averaged 133.7 Days) from As-Built Approved to Water Meter Set"	13) GRANT EASEMENTS & OPINION OF TITLE		X	X			X															X	X			X	X		6	21%		
	14) ASSIGNMENT REQ																					X	X						2	7%		
	15) CUSTOMER DID NOT REQ MTR	<b>C</b>	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	16	57%
	16) CUSTOMER NOT READY, INITIAL MTR REJECTED	<b>F</b>	X			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	11	39%	
	17) PERSONNEL SHORTAGE	<b>E</b>	X										X	X	X												X	X		6	21%	

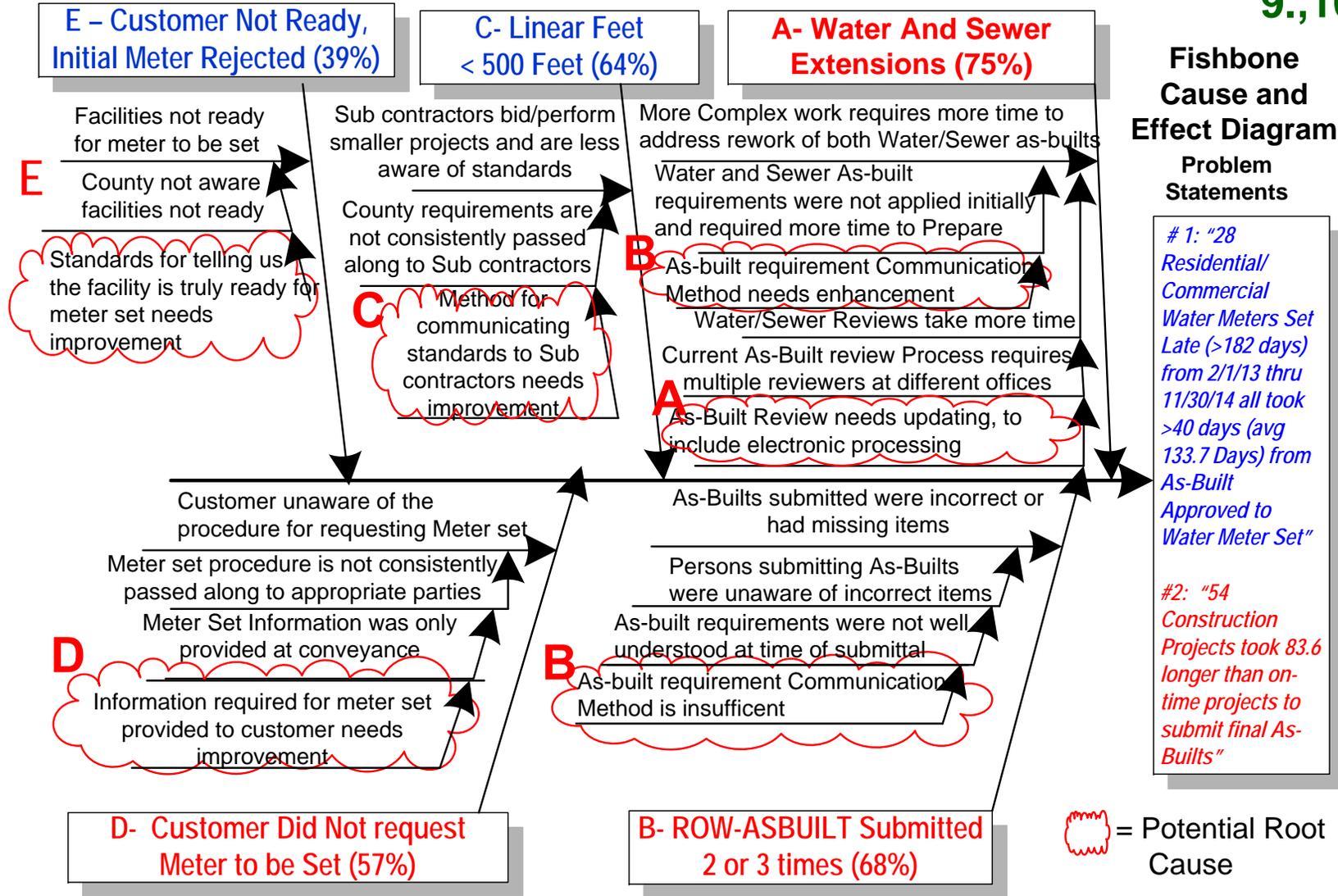
The team next looked closer at these 5 factors.



# Identify Potential Root Causes

The team completed Cause and Effect Analysis and found...

9.,10.



The team next looked to verify these five (5) Potential Root Causes.



# Verify Root Causes

The team collected data to verify the root causes and found.... 11.,12. 

Root Cause Verification Matrix		
Potential Root Cause	How Verified?	Root Cause or Symptom
<b>A</b> As-Built Review needs updating, to include electronic processing	Newer electronic methods are available, County should look into upgrading standards for as-Built process.	Root Cause
<b>B</b> As-built requirement Communication Method needs enhancement	Reviewed current SOPs and training materials and found...As built requirements are online. Checklist for as-built standards only given out after reviews.	Root Cause
<b>C</b> Method for communicating standards to Sub contractors needs improvement	Standards today are only on website.	Root Cause
<b>D</b> Information required for meter set provided to customer needs improvement	Reviewed current policy and found policy now was enhanced to now provide info with the conveyance package and include in PCM ...Info still not on website.	Old Root Cause
<b>E</b> Standards for telling us the facility is truly ready for meter set needs improvement	Currently minimal info is secured before meter is set. County does not ask consistent questions to determine readiness of facilities to set meter.	Root Cause

...all five (5) were validated as root causes.



# Identify and Select Countermeasures

13.,14. 

The team brainstormed many countermeasures and narrowed them down to these for evaluation:

Countermeasures Matrix									
Problem Statement	Verified Root Causes	Countermeasures	Legend:						
			5=Extremely		3=Moderately				
			4=Very		2=Somewhat				
						Ratings			
						Effectiveness	Feasibility	Overall	Take Action? Yes/No
"28 Residential/Commercial Water Meters Set Late (>182 days) from 2/1/13 thru 11/30/14 all took >40 days (avg 133.7 Days) from As-Built Approved to Water Meter Set"	A - As-Built Review needs updating, to include electronic processing	A1- Support current Consultants building new process and standards	5	4	20	Y			
	B - As-built requirement Communication Method needs enhancement	B1/C1- Enhance As-Built Checklist and provide at PCM	5	5	25	Y			
		B2- Post Checklist on Website	3	5	15	Y			
	C- Method for communicating standards to Sub contractors needs improvement	C1- At PCM provide a link to website for subcontractors to review standards	3	4	12	Y			
	D - Information required for meter set provided to customer needs improvement	D1- Create FORM at PCM and Other stages to capture Cust Request Meter Information	5	5	25	Y			
		D2- Provide Customer Online form from website for Requesting Meter sets	3	5	15	Y			
		D3- Automated reminders to request meter set	5	5	25	Y			
	E - Standards for telling us the facility is truly ready for meter set needs improvement	E1- Add Facility readiness info to New account Form	4	5	20	Y			

The team selected 8 countermeasures for possible implementation.



# Identify Barriers and Aids

The team performed Barriers and Aids analysis on the selected Countermeasures.

Countermeasure(s): Implement 8 CMs to reduce time to set Water Meters from PCM

Barriers		Aids
Impact (H, M, L)	Forces against Implementation	Forces For Implementation
L	1) Push Back from Developers and contractors <i>(Supported by Aid: A,C,D)</i>	A) Management very supportive of team's efforts
H	2) Limited staff to find time to make changes and be trained <i>(Supported by Aid:A,B,D,E)</i>	B) Existing Website and forms
M	3) Push back from other agencies/entities <i>(Supported by Aid:A,C,D)</i>	C) Current Consultants working on As-Built review process
M	4) Old Technology systems <i>(Supported by Aid:A,E,C)</i>	D) Benefits include quicker As-built reviews and with lower staff resources E) In process of upgrading telephone and computer systems

The team next sought to incorporate this analysis into the team's Action Plan.



# Develop and Implement Action Plan

Legend:  
 ■ = Actual  
 □ = Proposed

The team implemented an Action Plan for the team's Countermeasures.

16.

**WHAT: Implement 8 Countermeasures to reduce time to Set Water Meters from Pre-Construction Meetings**

HOW	WHO	WHEN												
		2015												
		Dec	Jan	Feb	Mar	April	May	Jun	Jul	Aug	Sep			
<b>1. Develop Countermeasures:</b>														
<b>A1-</b> Support current Consultants building new process and standards	PLS/ 300 Engineering			□	□	□	□	□	□	□	□	□	□	□
<b>B1/C1-</b> Enhance As-Built Checklist and provide at PCM	Miguel/PLS		□	□	□	□	□	□	□	□	□	□	□	□
<b>B2-</b> Post Checklist on Website	Sandy/ Tom		□	□	□	□	□	□	□	□	□	□	□	□
<b>C1-</b> Develop Subcontractor package and give to Developed to give to Subcontractor	Miguel/PLS		□	□	□	□	□	□	□	□	□	□	□	□
<b>D1-</b> Create FORM at PCM and Other stages to capture Cust Request Meter Information	Sandy		□	□	□	□	□	□	□	□	□	□	□	□
<b>D2-</b> Provide Customer Online form from website for Requesting Meter sets	Sandy/ Tom		□	□	□	□	□	□	□	□	□	□	□	□
<b>D3-</b> Automated reminders	Willie/ Sandy		□	□	□	□	□	□	□	□	□	□	□	□
<b>E1-</b> Add Facility readiness info to New account Form	Sandy		□	□	□	□	□	□	□	□	□	□	□	□
<b>2. Communicate/Train Staff in Countermeasures and related policies/procedures (share Benefits &amp; cost savings and concurrent with on-going technology and phone improvements)</b>	Team		□	□	□	□	□	□	□	□	□	□	□	□
<b>3. Implement Countermeasures</b>	Team		□	□	□	□	□	□	□	□	□	□	□	□
<b>4. Determine Benefits and adjust as necessary</b>	Team		□	□	□	□	□	□	□	□	□	□	□	□
<b>5. Establish On-going responsibilities and standardize countermeasures into operations</b>	Team		□	□	□	□	□	□	□	□	□	□	□	□

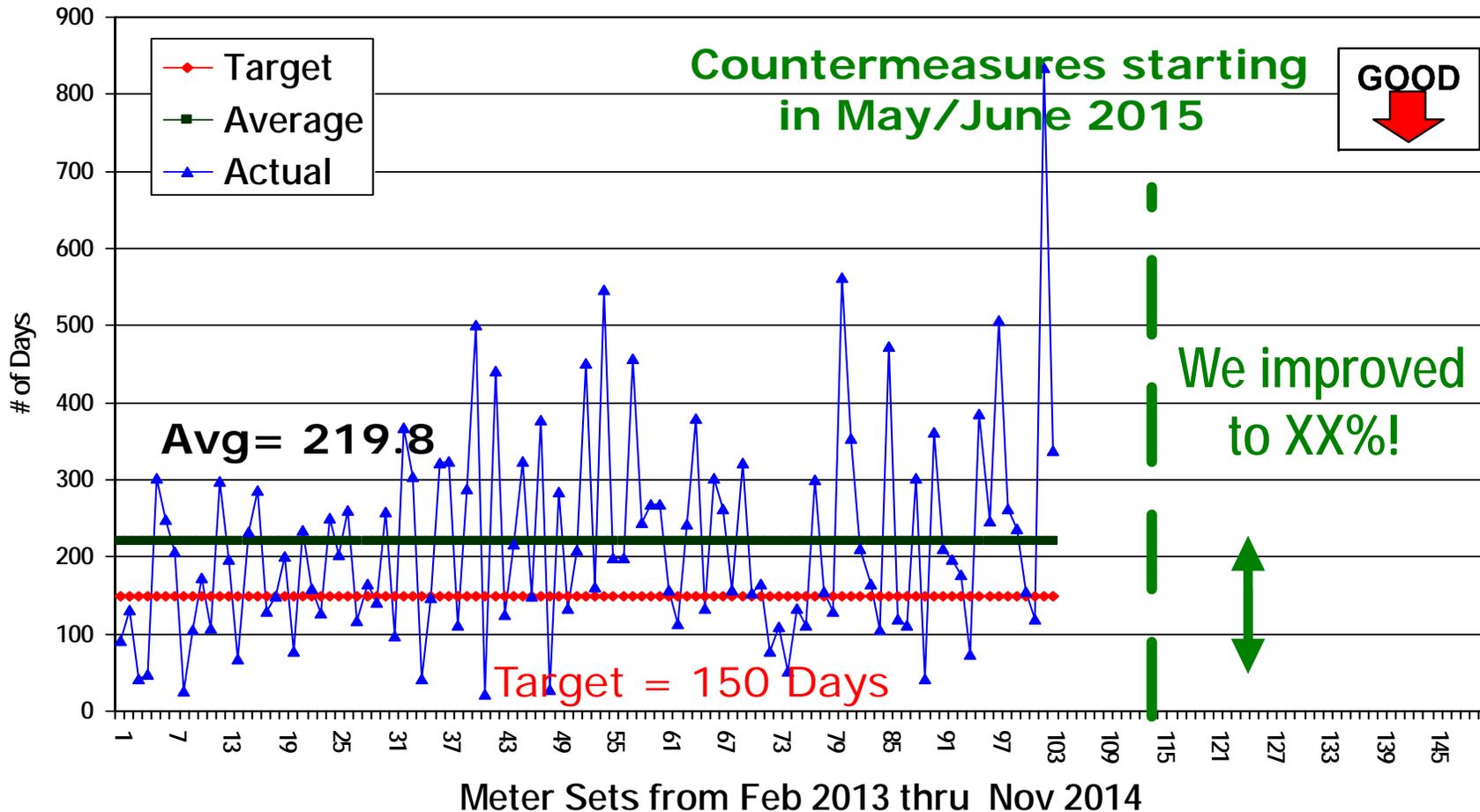


# Review Results

17.,18.,19.,20. 

The team collected indicator data and reviewed performance trends:

## Q1- # of Days FROM Pre-Construction meeting TO Water Meter Set



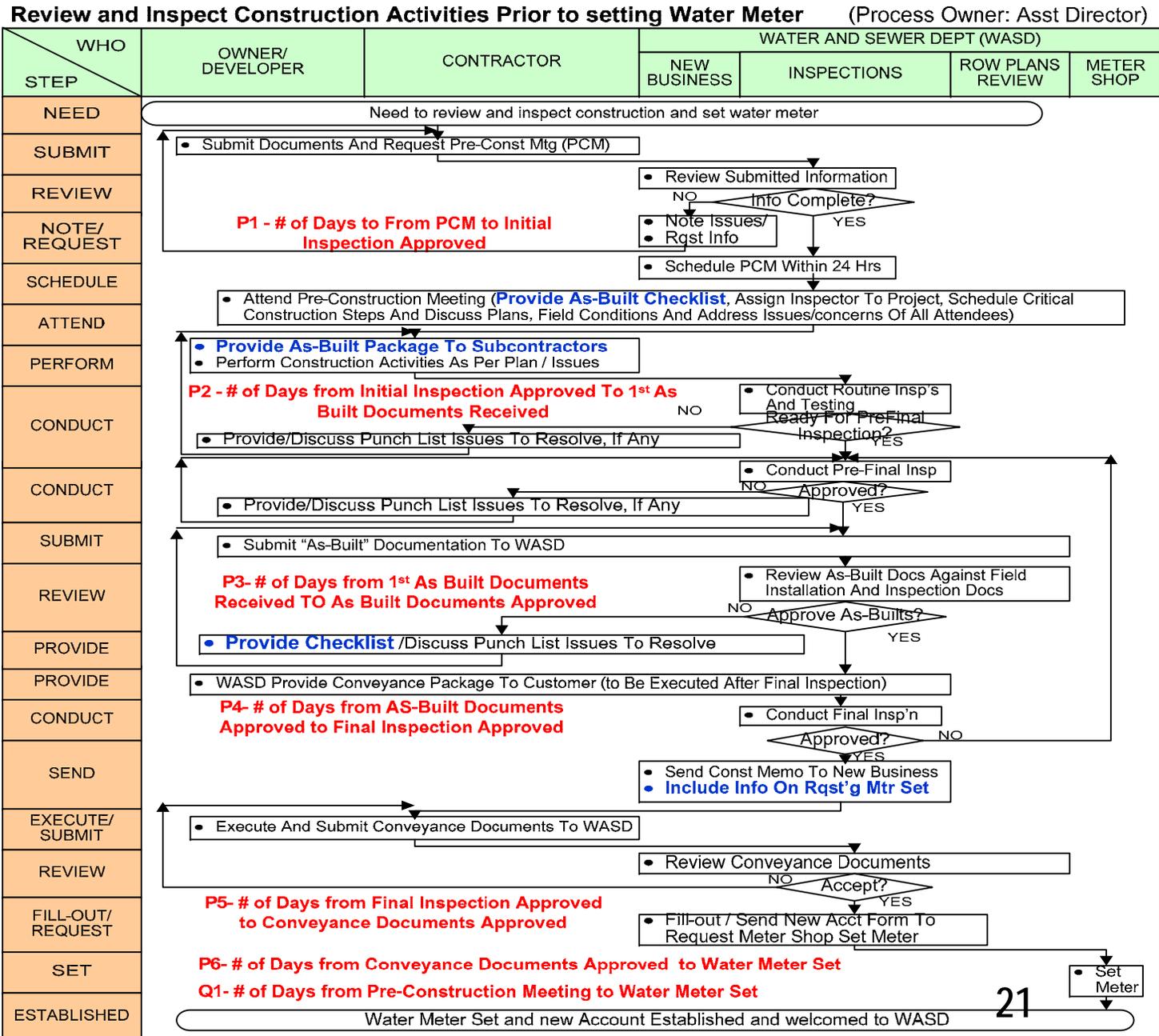
The team was encouraged by the results and will continue to monitor the countermeasures.



# Standardize Countermeasures

21.,22.,23. ✓

The team incorporated the improvements into the Process.



# Implement Process Control System

21.,22.,23. ✓

The team developed a Process Control System to better monitor the process on-going.

Process Control System						
<b>Process Name:</b> Review and Inspect Construction Activities Prior to setting Water Meter			<b>Process Owner:</b> Development Coordinator			
<b>Process Customer:</b> Developer, Water Rate Payer, Tax payers			<b>Critical Customer Requirements:</b> Monitor Construction to timely completions			
<b>Process Purpose:</b> Inspect construction and approve water facilities installation			<b>Current Sigma Level:</b> TBD			
			<b>Outcome Indicators:</b> Q1			
Process and Quality Indicators		Checking / Indicator Monitoring			Contingency Plans / Misc. • Actions Required for Exceptions • Procedure References	
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 Check?		
P1	# of Days to From PCM to Initial Inspection Approved	14 Days	(Date Initial Inspection approved)-(Date PCM)	By event	WASD Admin Staff	Status Summary Spreadsheet
P2	# of Days from Initial Inspection Approved To 1 <sup>st</sup> As Built Documents Received	58 Days	(Date 1 <sup>st</sup> As-Built Received)-(Date Initial Inspection approved)	By event	WASD Admin Staff	Status Summary Spreadsheet
P3	# of Days from 1 <sup>st</sup> As Built Documents Received TO As Built Documents Approved	35 Days	(Date As-Built approved)- (Date 1 <sup>st</sup> As-Built Received)	By event	WASD Admin Staff	Status Summary Spreadsheet
P4	# of Days from AS-Built Documents Approved to Final Inspection Approved	28 Days	(Date Final Inspection Approved)-(Date As-Built Docs Approved)	By event	WASD Admin Staff	Status Summary Spreadsheet
P5	# of Days from Final Inspection Approved to Conveyance Documents Approved	1 Day	(Date Conveyance Docs Approved)- (Date Final Inspection Approved)	By event	WASD Admin Staff	Status Summary Spreadsheet
P6	# of Days from Conveyance Documents Approved to Water Meter Set	14 Days	(Date Water Meter Set)- (Date Conveyance Docs approved)	By event	WASD Admin Staff	Status Summary Spreadsheet
Q1	# of Days from Pre-Construction Meeting to Water Meter Set	150 Days	(Date PCM)- (Date Water Meter Set)	By event	WASD Admin Staff	Status Summary Spreadsheet

Note Targets set based on average times for Projects averaging 150 days

Approved: \_\_\_\_\_ Date: \_\_\_\_\_ Rev #: \_\_\_\_\_ Rev Date: \_\_\_\_\_

The team looked ahead to the future.



## Lessons Learned

- 1) Root cause identification is essential *if one is serious in improving Performance*
- 2) Data Collection Activities intensive and very important *to help identify data linked to root causes*
- 3) Proper Process Documentation was very important *as it allowed sampling a smaller set of data to problem solve.*
- 4) Creative Thinking techniques were more valuable *in identifying more diverse countermeasures for the team to evaluate.*
- 5) Flowchart technique helped all team members see the process more clearly *and was used to help identify communicate process improvements.*

## Next Steps

- 1) Monitor implementation of Countermeasures and WASD Performance indicators.

