



# Lean 6-Sigma Green Belt Project



*Department of Resources,  
Recycling, and Recovery*

*Martin Perez*  
(Project Greenbelt)

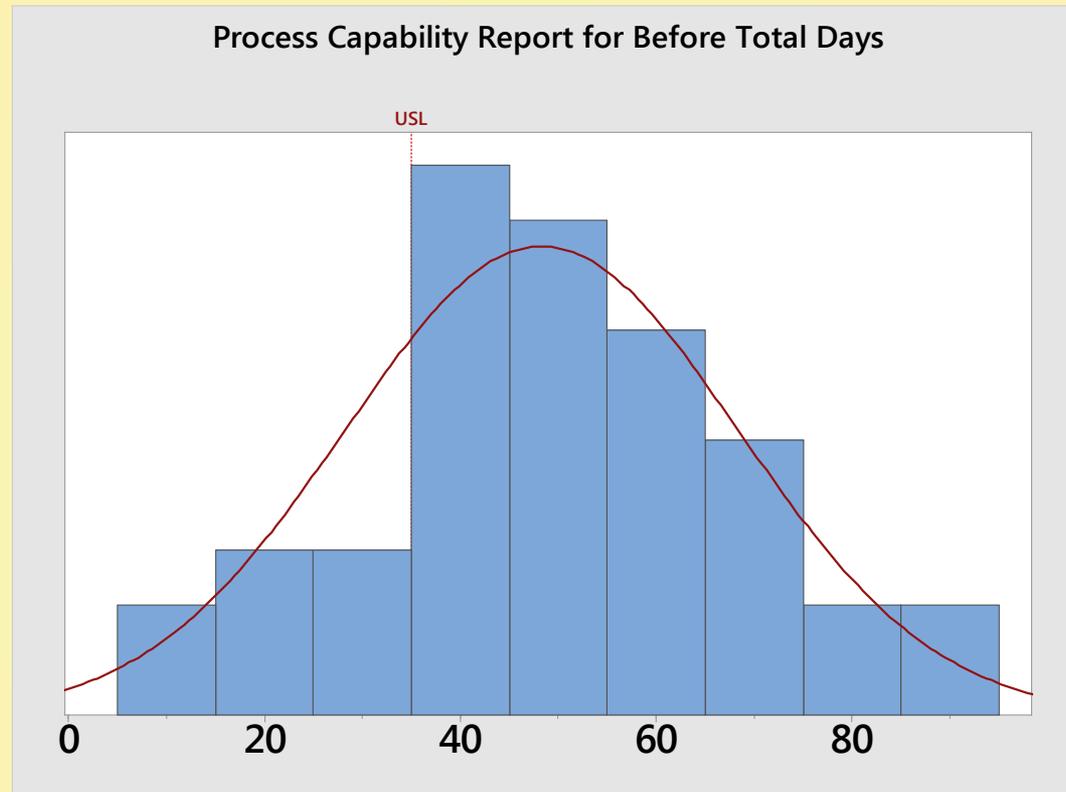
*Susan Markie*  
(Project Champion)

# *Permit Concurrence Process Project*

- ❖ **Problem Statement:** CalRecycle's regulatory timeline to complete the proposed SWFP process is 60 days upon receipt of the proposed SWFP package. In most cases the timeline is extended to gather additional information necessary for the Department to take action. This creates high levels of dissatisfaction for the applicants. The excessive processing time also leads to duplicative work efforts.
- ❖ **Objective:** To reduce the proposed SWFP process so that 95% of all permit packages are completed within 35 days.
- ❖ **Project Team:**
  - ❖ *Susan Markie – Champion*
  - ❖ *Martin Perez – Green Belt*
  - ❖ *Jeff Hackett – Team member*
  - ❖ *Mike Wochnick – Team member*
  - ❖ *Andrew Parrish – Team member*
  - ❖ *Cody Oquendo – Team member*
  - ❖ *Laura Sullivan – Team member*
  - ❖ *Elizabeth Felix – Team member*

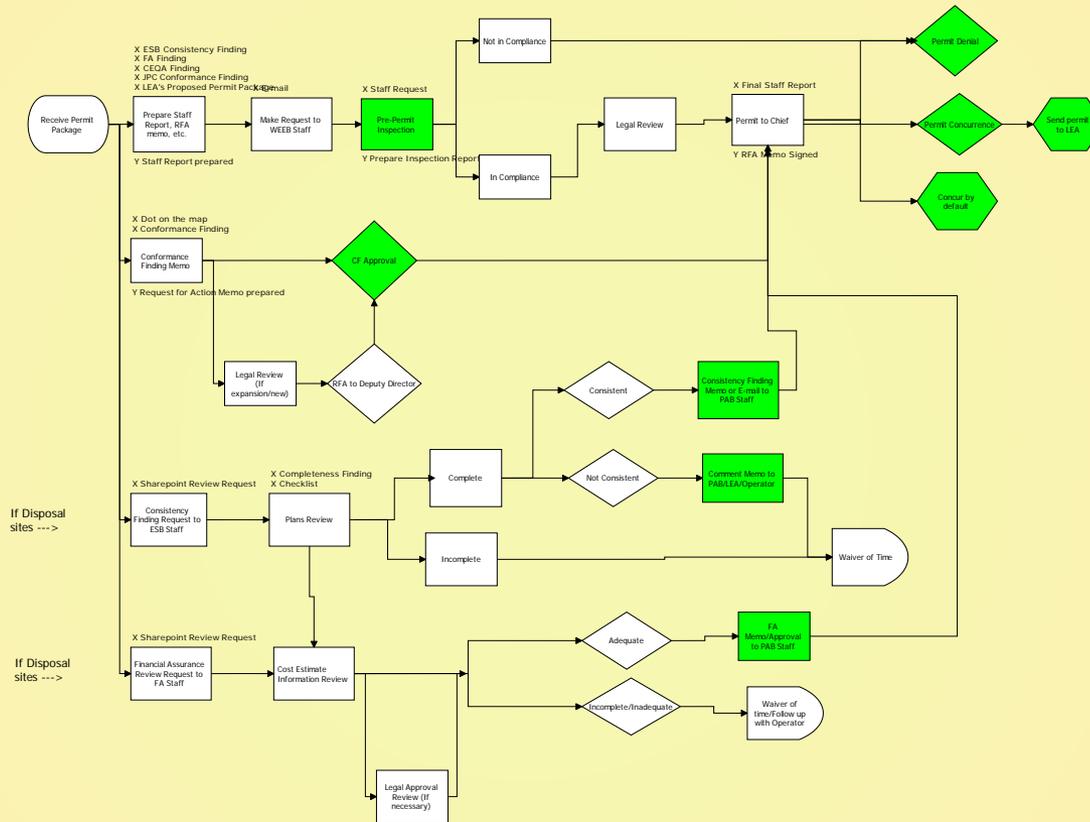


# Baseline Capability



- ❖ Sample Mean – 48 total days; Sample Max - 92
- ❖ Observed performance – 26% within 35 total days.

# Process Map



- ❖ The non-value added steps are highlighted in white while the value added steps are highlighted in green.



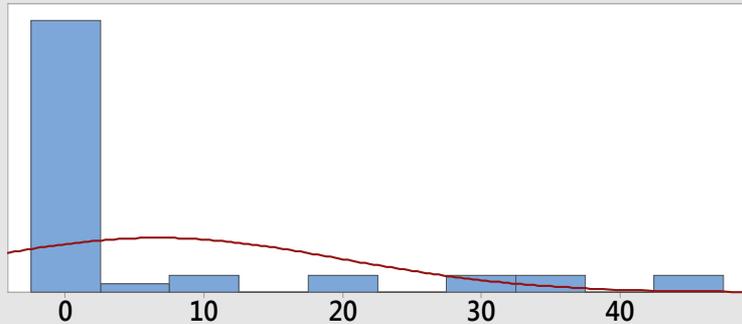
# *Analysis Tools*

- ❖ Analytical tools used to determine critical x's include:
  - ❖ Fishbone diagram
  - ❖ Capability analysis
  - ❖ Histograms
  - ❖ Boxplots
  - ❖ Scatterplots
  - ❖ Pareto chart
  - ❖ FMEA
  - ❖ Multi-variable analysis
  - ❖ Hypothesis testing (One-Way ANOVA)
  - ❖ Multiple Regression Chart
  - ❖ I-MR Chart



# Processing Times for Key Tasks

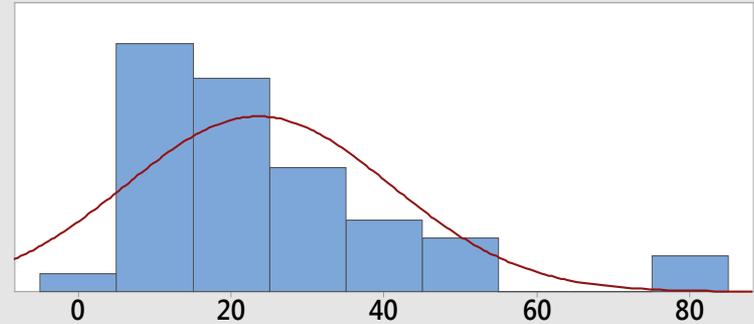
## Summary Report for FA Days



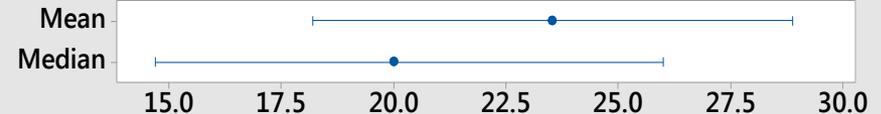
95% Confidence Intervals



## Summary Report for PAB Review



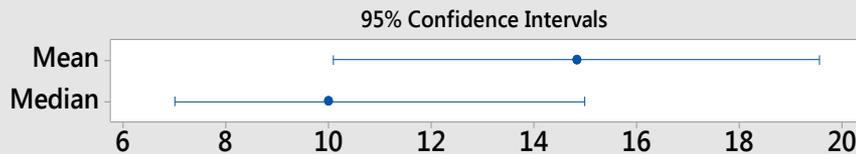
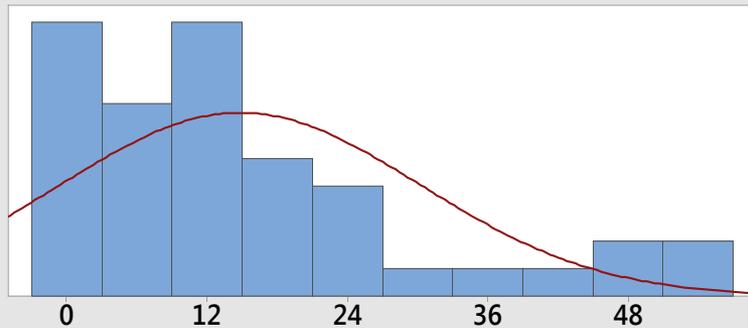
95% Confidence Intervals



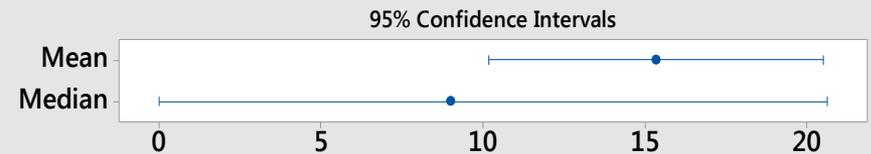
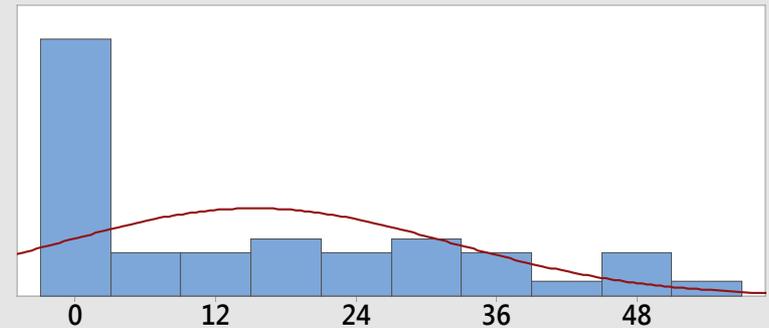
- ❖ The graphical summary is showing that each task went over the 35 day goal. There was excessive variation and inconsistency in processing time which caused some tasks to exceed 60 days.

# Processing Times for Key Tasks (cont.)

## Summary Report for JPC Days

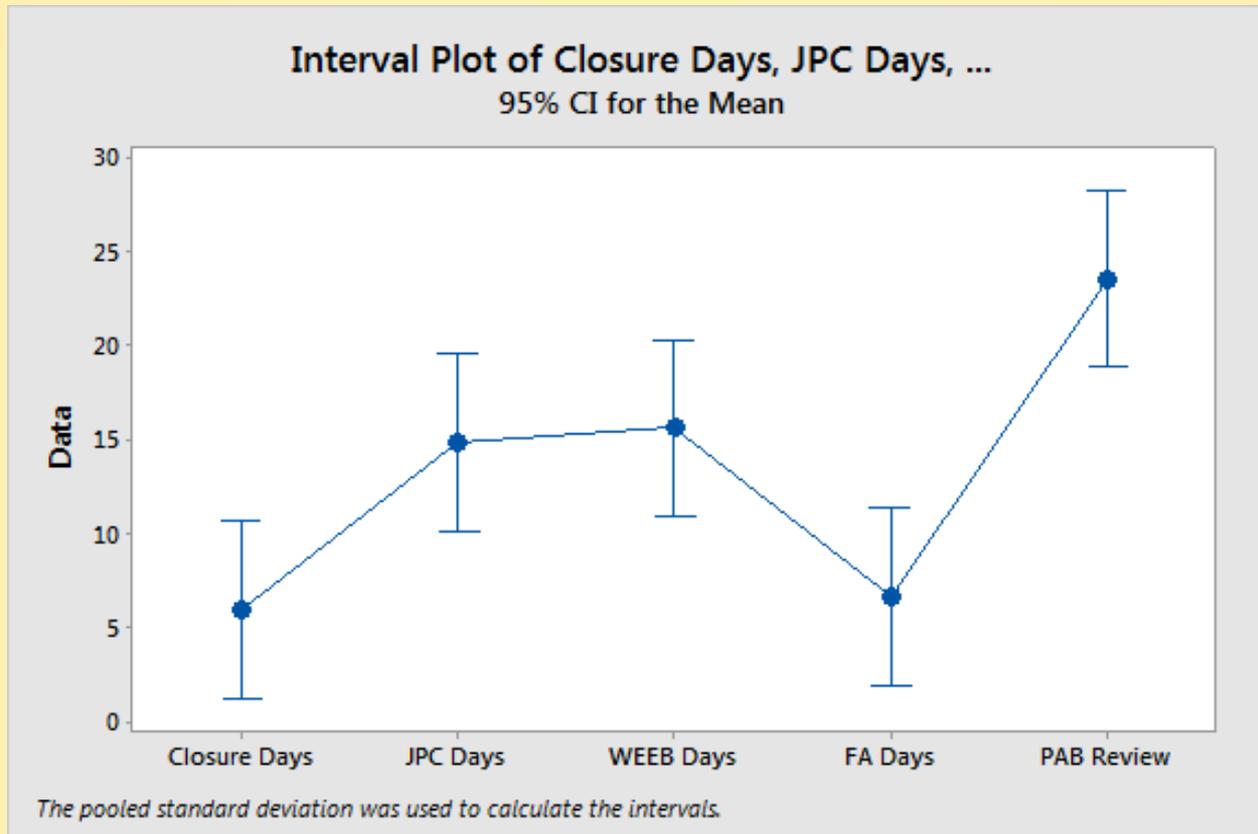


## Summary Report for WEEB Days



- ❖ The graphical summary is showing that each task went over the 35 day goal. There was excessive variation and inconsistency in processing time which caused some tasks to exceed 60 days.

# Comparison of Key Tasks



- ❖ The plot shows that the PAB review task has a much greater influence on the total days.

# *Critical x's*

- ❖ Critical x's determined by the analysis tools:
  - ❖ Review time for Permitting & Assistance Branch staff due to 1) incomplete staff work and 2) lengthy management review process.
  - ❖ Scheduling of pre-permit inspections between WEEB staff, PAB staff & LEA staff.
  - ❖ Review time of JPC conformance finding due to missing or incomplete information.

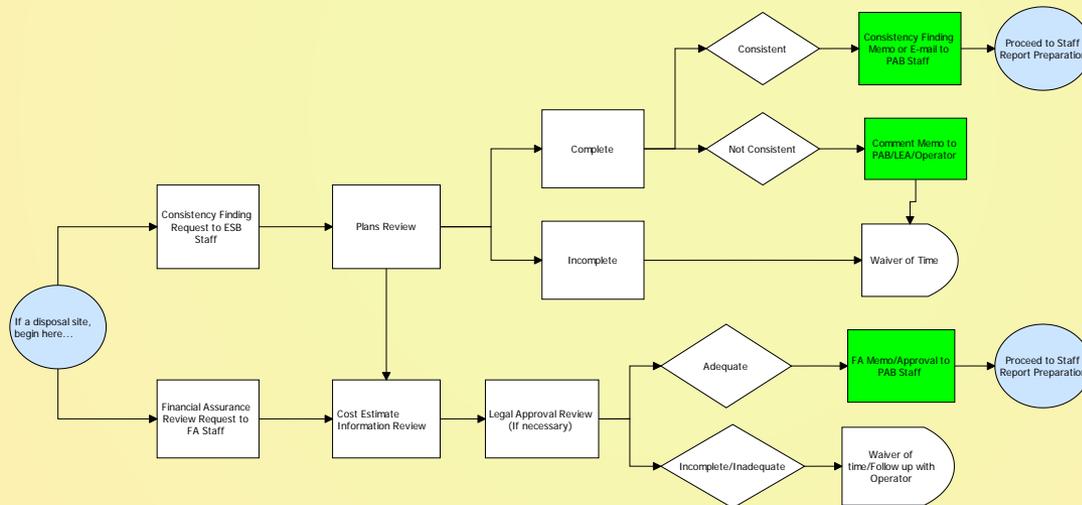
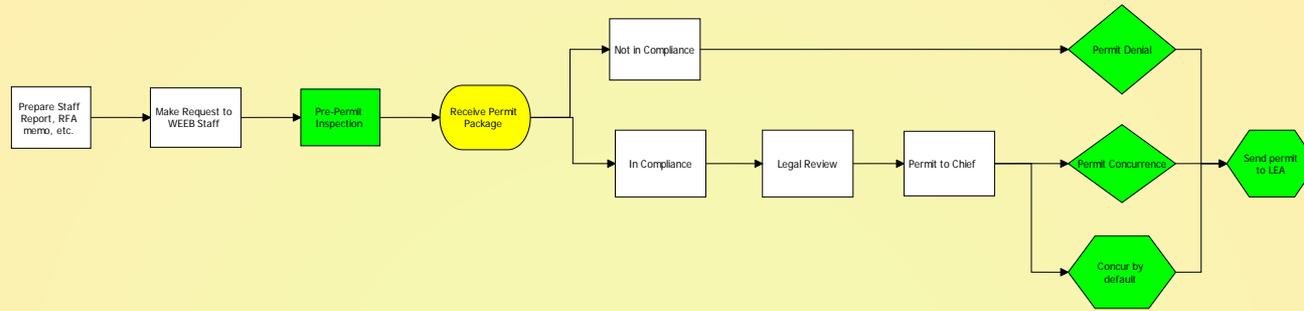


# *Improvement Techniques*

- ❖ Training to internal staff and stakeholders (LEAs) on the FA and permit application requirements.
- ❖ Assistance to LEAs relative to permit processing requirements and concurrent review earlier in the process.
- ❖ Elimination of JPC's conformance finding process step.
- ❖ WEEB inspection scheduled prior to receipt of proposed permit would eliminate delays in waiting for the compliance finding.



# New Process Map

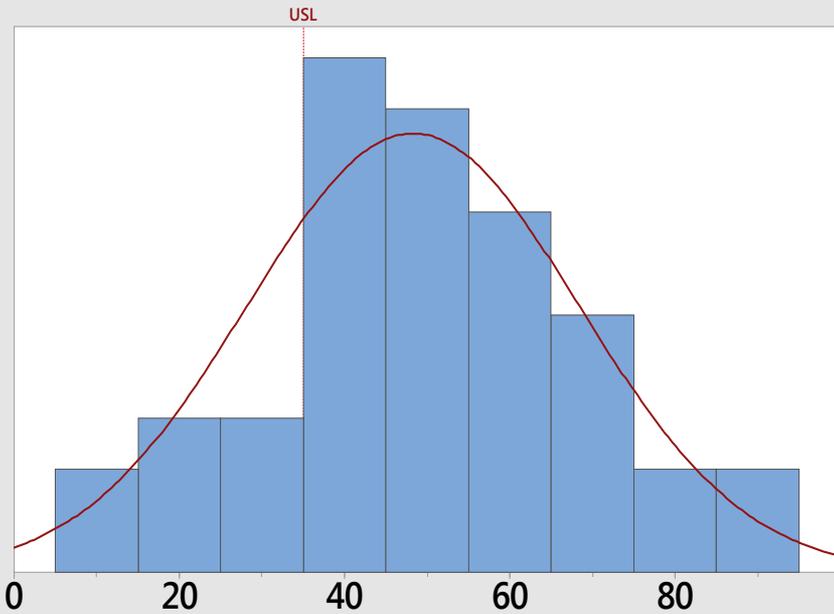


- ❖ Most of the value added steps are completed prior to the receipt of the proposed permit package.

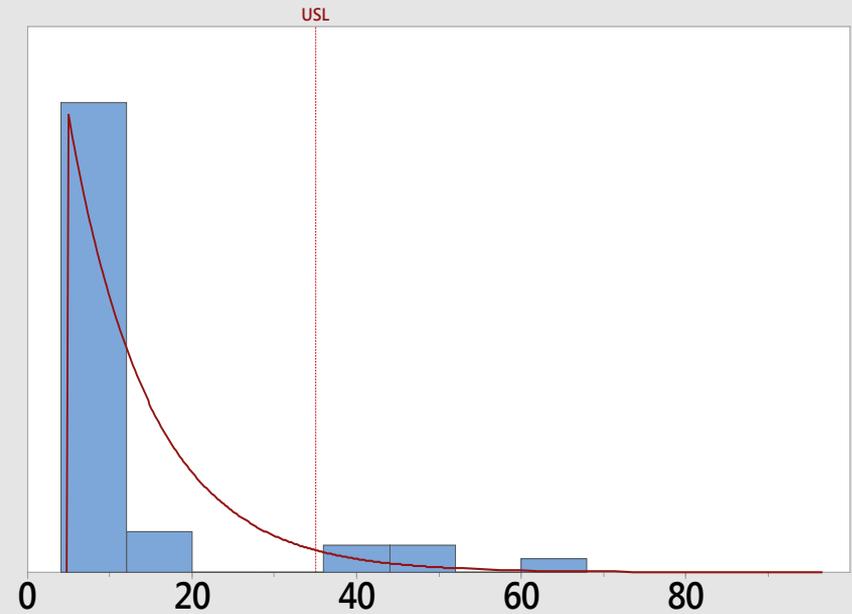


# *New Capability Analysis*

Total Days (Before)



Total Days (after)



- ❖ Projected mean – 15 total days.
- ❖ Projected performance – 95% within 35 total days.

# *Control Plan*

- ❖ Control elements to be utilized:
  - ❖ Standard Operating Procedures (SOPs) – Revisions to procedures for preparing and reviewing a permit package and staff report.
  - ❖ Mistake-proofing – Assistance to stakeholders and concurrent review of the permit package to ensure it is complete and correct.
  - ❖ Process elimination – Eliminate the process step for JPC conformance findings.
  - ❖ Training to internal staff and stakeholders on complete and correct application requirements.
- ❖ Total days (Y output) to be monitored using an I-MR chart



# *Additional Benefits from the Project*

- ❖ We improved the staff communication between the different units and are better aware of the each other's roles and needs in the proposed permit process.
- ❖ While PAB staff manages the permit, each unit has an important role in the process. Working together allowed us to achieve a greater perspective on what was necessary as a part of our duties.
- ❖ The project made us aware that we should consider each unit as parts of a whole team rather than independent from another.



# Contact Information

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