




**Lean Construction Institute**  
 Immersive Education Program

# 5S In Lean Construction

David MacKay

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**David MacKay**  
 Milestone Lean Consulting LLC  
 dmackay@milestonelean.com  
 www.milestonelean.com

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5S in Lean Construction


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*"LCI would like to acknowledge and thank David MacKay of Milestone Lean Consulting for his leadership, work and collaboration to create this workshop. Learning opportunities like this exist because people like David engage to create them."*

Kristin Hill,  
 LCI, Director Education Programs



**David MacKay**  
 Milestone Lean Consulting LLC  
 dmackay@milestonelean.com  
 www.milestonelean.com

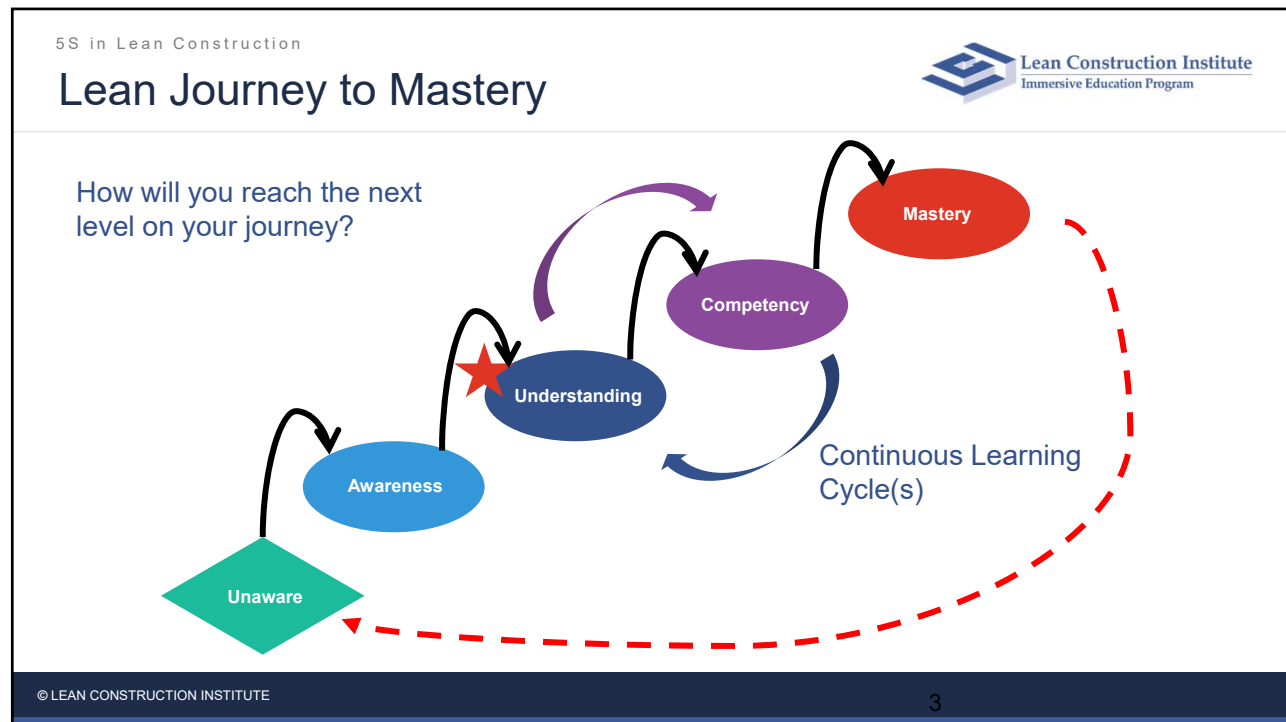


**Major Collaborator**

Eric Lusic  
 Director of Continuous Improvement  
 AECON, Canada

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5S in Lean Construction

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**5S in Lean Construction**

- What is 5S about?
- 5S on projects & in the field
- 5S and Continuous Improvement
- 5S in the office & your workspace
- 5S Operations – What keeps it going?

↑ How to use it is here

↓ All the answers are here

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Efron with KHS&S  
(Framing and Drywall)  
talks about Lean  
thinking in the field.

Roberts Pavilion, Claremont  
McKenna Colleges (PCL)



**Can 5S make a difference in the field?**

**“Just little things like that... save you so much time. It is amazing.”**

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5S in Lean Construction

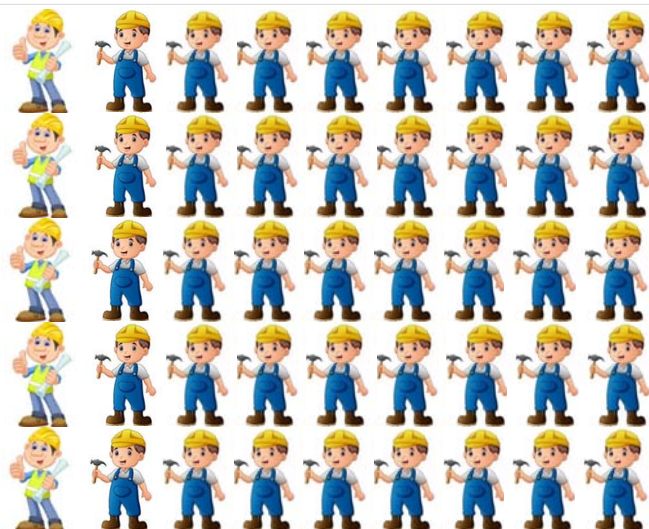
## Lean Design & Construction



Most attention has been on owners,  
designers, engineers, superintendents  
and foreman.



What about everyone else?



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## What is **5S** All About?

**5S** is a method to keep our workplace organized, clean, safe and efficient.

**5S** is about making work flow.

It is a way of thinking to see and eliminate waste.

What you need, where you need it, when you need it and nothing else.

It is called 5S because each word starts with "S"

**5S** is about **SIMPLE**.

It is common sense and the discipline to follow through.



## **5S** is Lean

**5S** helps work to flow efficiently and eliminate waste.

*The goal of Lean is to build better, faster, safer, cheaper.*

*It may seem counterintuitive, but we don't get there by working harder or faster.*

**We do it by thinking Lean.**



## 5S is Lean

It helps work to flow efficiently and eliminate waste.



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### 5S MAKES US BETTER

**SAFETY**—People who are conscientious to stay clean and organized are also safe. The jobsite is safer.

**QUALITY**—A clean and organized workplace lets people focus on their work. They take greater pride in what they do.

**PRODUCTIVITY**—Is improved when tools and materials are easy to find and readily at hand. Methods and forms are consistent. A clear and open workspace. More time getting things done and less time doing work arounds.

**SCHEDULE**—Materials and equipment show up at the right time. Advance planning keeps work flowing. Materials move on wheels to where they are needed. Work is predictable.

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## 5S is Lean

5S improves workflow efficiency and eliminates waste!



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### EIGHT WASTES

Waste is anything that doesn't add value.



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## 5S is a key Lean method

Every morning at 7 o'clock his employees showed up to sweep, sort, and standardize. They did this without pay, because they were motivated to save the company. In the process of engaging in these 3Ss, a type of bonding among the company employees took place. The 3Ss were simple and the results satisfying enough that a sense of accomplishment and ownership began to take hold.



*All hands on deck, 3S-ing at Hoks.  
Every morning and everyone.*

The president of Hoks had learned about Lean and began to implement it in the simplest way he knew how. It demonstrated that a small improvement, even baby steps towards improvement

can pay off in big ways. What took hold of the employees was a type of compounding effect.

As they cleaned, sorted and standardized, they unloaded mountains of waste that were lowering their productivity. We were shown pictures of excess tables, chairs and equipment



*None of us really understands how much junk is impeding our effective work.*

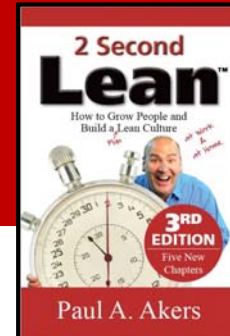


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It helped turned Paul's Lean transformation from "pushing a train".

Involve people in the process. Let them take ownership of their work and workplace.

Keep it simple.



## 5S Overview



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**SORT**

**STRAIGHTEN**

**SHINE**

**STANDARDIZE**

**SUSTAIN**



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## DETERMINE WHAT IS NEEDED AND REMOVE EVERYTHING ELSE


**Why?** If you don't need it... It is waste and workplace clutter.

Less clutter equals fewer hazards.

It takes effort and costs money to store unused items.

It gets in the way of what you really want.

Done-Done = Gone-Gone



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**SORT**

**STRAIGHTEN**

**SHINE**

**STANDARDIZE**


**SUSTAIN**



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## SET IN ORDER... A PLACE FOR EVERYTHING AND KEEP IT THERE

**Why?** Don't waste time looking for things  
Insure that you always have what you need  
Keep the things you use most often within easy reach



5S at SaskTel project in Regina

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**SORT**

**STRAIGHTEN**

**SHINE**

**STANDARDIZE**

**SUSTAIN**



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## CLEAN AND KEEP IT CLEAN ...ALL THE TIME

**Why?** Clean as you go is more efficient than clean up afterwards.

It is safer to work in a clean environment.

Prevent dirt and debris in the first place.

Keep tools and machinery in good repair.




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**SHINE**



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+



## What will this look like in 5 minutes?

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**SORT**

**STRAIGHTEN**

**SHINE**

**STANDARDIZE**

**SUSTAIN**



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## CREATE STANDARD WAYS TO STAY ORGANIZED AND CLEAN

**Why?** So it can be repeated and improved without wasted effort. Find what works and do it. Everything becomes easier to maintain, train, support, buy and replace. Reduces burden, confusion and wasted time. Creates a platform for innovation.

**To standardize is to simplify**  
What do you think?

**How is standardization a platform for innovation?**  
It speeds improvement across the organization. Bring the best ideas together, standardize and share.



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**SORT**

**STRAIGHTEN**

**SHINE**


**STANDARDIZE**

**SUSTAIN**


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## SELF-DISCIPLINE TO KEEP IT GOING

**Why?** So that the benefits of 5S continue. Make sure someone is responsible. Have a process in place to keep it going. Make the workplace visual, easy to see when something is out of place.



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Can you find  
all 5S's?

**SORT**

**STRAIGHTEN**

**SHINE**

**STANDARDIZE**

**SUSTAIN**

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Bakersfield – We love our trucks and saved \$420,000

Courtesy PCL Construction



VS



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5S in Lean Construction

**5S = SIMPLE**



**Visual** – Easy to see and understand

**Short** – To the point, uncluttered

**Easy** – Standard formats. Same every time

**Obvious** – Make it hard to put things in the wrong place



VS.



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# 5S on projects and in the field



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## Case Study – How 5S was implemented



**Okanagan College Trades Renewal and Expansion Project (2016 Kelowna, BC) - PCL Constructors Westcoast Inc.**  
By David Crowe, Superintendent

- Cleaning and safety stations in the building
- Designated laydown areas outside
- Designated tool/material laydown in building
- Just-in-time material delivery
- Mobile material racking/storage systems
- Commitment to daily clean-up by trades
- Top-down commitment and buy-in at Job Start

### LESSONS:

- Required effort to "sell" to trades and additional planning time.
- Implement early. Get management buy-in and participation.
- Reward success. Do not accept non-conformance.
- Trades saw increased productivity and became 'self-regulating'. New trades followed suit. Trades hold each other accountable.
- Workers appreciate a clean and organized environment that is easier, more efficient, safer.
- Costs were less than 4 hours/day for one GC worker to maintain stations and assist in JIT delivery.

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**5S** in the field

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**GETTING STARTED**

**SUSTAIN**

Involve the entire project team.

- Get management buy-in and participation
- Include 5S in subcontracts
- Involve safety team to think 5S
- If this is your first time, use a coach

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**5S** in the field


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**GETTING STARTED**

**SUSTAIN**

Learn by doing

- Get 5S training for the team
- Include 5S in onboarding
- Try something



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## 5S in the subcontract

STANDARDIZE

SUSTAIN

This is one possibility for how to word a subcontract.

### 5S IN THE SUBCONTRACT

On this project, we will use 5S thinking and practice to positively influence safety, quality, productivity and to make work flow efficiently. All project participants will apply 5S methods in all their work including on site, in the supply chain and in documentation.

Under the direction of Contractor, the entire construction team will collaborate to take a whole job approach to the organization, flow, delivery and removal of tools, equipment and materials.

Subcontractor tools, equipment and materials are to be kept organized. Laydown areas shall be assigned to each subcontractor and may change frequently throughout the course of the project. In some cases, due to jobsite constraints, assigned laydown may be limited or offsite. The team will work together to keep needed materials and tools as close to the work as possible. We will work to an **"everything on wheels"** policy. Subcontractors shall ensure that all materials are stored in a mobile fashion by using, without limitation, rolling cabinets, pipe racks with casters, or wheeled containers as much as reasonably possible such that laydown areas can be quickly repositioned. Subcontractors are to ensure that worker pathways and primary access to and from work areas are maintained.

Tools, equipment and materials shall only be brought on site **"just-in-time"** when they are needed and ready for use. Accordingly, subcontractor shall ensure that materials are ready for delivery to support the current project schedule to maintain workflow on site. Early delivery, such as to maintain a buffer of material, shall only be with the approval of Contractor. Once work is complete, tools, equipment and any remaining materials are to be promptly removed.

Excess or disorganized tools, equipment and materials will not be tolerated should it be deemed by Contractor that their presence or current condition has the potential to negatively impact safety, efficiency, the flow of work or the general morale or cooperation of other subcontractors. Subcontractor shall oblige any request by Contractor, acting reasonably, to organize or remove the tools, equipment or materials from the site. Correction shall be within 24 hours of notice or immediate if an unsafe condition exists.

The entire site shall remain clean at all times following a **"nothing hits the ground"** policy. All areas of the project, including work, laydown, lunch and parking areas must remain clean and free of debris in a manner acceptable to Contractor. While excess material may naturally touch the ground during installation, to the extent practical, the subcontractor will "clean as you go". The subcontractor shall not leave the work area without sweeping and removing all debris, either per shift or upon completion of the task, whichever occurs first. Subcontractor shall oblige any request by Contractor, acting reasonably, to remove any subcontractor generated debris. Correction shall be within 24 hours of notice or immediate if an unsafe or unhealthy condition exists. Failure to do so may result in the work performed in your behalf at subcontractor's expense.

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## 5S in the subcontract

STANDARDIZE

SUSTAIN

### SETTING THE EXPECTATION

Collaboration. Make work flow efficiently.

### EVERYTHING ON WHEELS

Keeps work areas clear and makes it simple to have materials and tools close to the work.

### JUST-IN-TIME

Deliver materials or equipment when it is needed and not before. If needed, set buffers to insure the consistent flow of material.

### NOTHING HITS THE GROUND

Continuous cleanup. No more Friday cleaning crew. Everyone cleans as they go.

### 5S IN THE SUBCONTRACT

On this project, we will use 5S thinking and practice to positively influence safety, quality, productivity and to make work flow efficiently. All project participants will apply 5S methods in all their work including on site, in the supply chain and in documentation.

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## SORT

### Only what is needed

Bring tools, equipment and materials on site only when needed and remove once work is completed.

- Perfect for commodities and reliable suppliers
- If space is tight consider off-site
- Expect resistance at first
- Use buffers as needed, don't delay construction, be reasonable

**Less stuff means less waste of space, movement, searching, hazards, damage.**

**JUST-IN-TIME (JIT) DELIVERIES**



*Is it being delivered so that we have a full truck? Or so we can bill for it? Or are we ready to use it?*

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## SORT

## STRAIGHTEN

**Keep materials and tools mobile and close to the work.**

**EVERYTHING ON WHEELS**



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## SORT

## STRAIGHTEN

**Keep materials and tools mobile and close to the work.**

How does this prevent damage?  
Increase productivity?  
Improve safety?



Vs.



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## SORT

## STRAIGHTEN

**Keep materials and tools mobile and close to the work.**

Aim to keep tools and materials within 20 feet (6 meters) of the work.



← Less than 20 feet →



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**5S**  
**Sort**  
**Straighten**

**Keep materials and tools mobile and close to the work.**




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**5S**  
**Sort**  
**Straighten**

**Prefab and kitting reduces waste on site**



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**SORT****STRAIGHTEN****What is good? What can improve?****What is good? What can improve?**

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**STRAIGHTEN****SHINE**

**WHAT DO YOU SEE?**  
**What does this say about respect?**

**RESPECT FOR PEOPLE**

- Enough toilets
- Clean
- Close to the work



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## STRAIGHTEN



**Keep electrical cords up and out of the way**



**Vs.**



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## SHINE



**Keep the workplace neat and clean**

Always clean.

Not just on Friday afternoon.

- Address dirt/waste at the source
- Clean as you go

*Continuous makes clean and organized the norm. Once a week makes dirty and disorganized the norm.*

**NOTHING HITS THE GROUND**



Courtesy PCL Construction

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## SHINE



Which one “shines”?

How does this relate to safety?

Zero Tolerance



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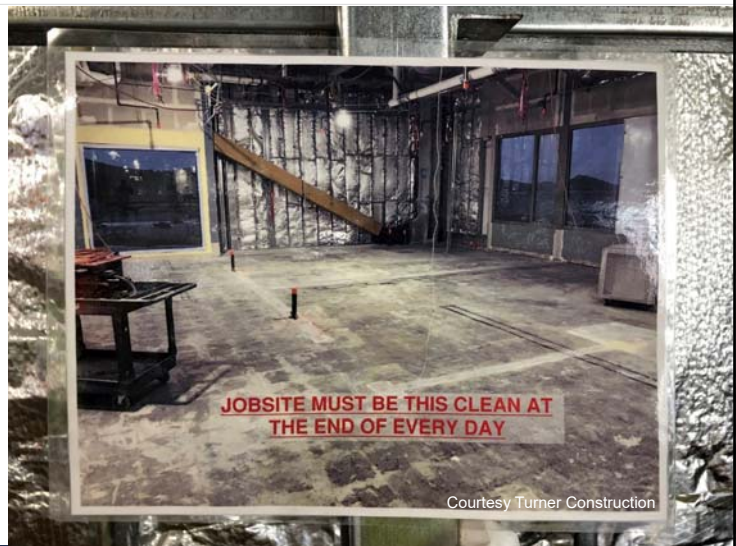
## SHINE

## SUSTAIN

What does clean look like?

This picture is posted in the work area.

How does this simple visual tool help keep the work area clean?



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**SHINE****SUSTAIN**

**Make it easy to stay clean**



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**SHINE****SUSTAIN**

**What can happen if we don't have enough trash cans, brooms or empty the dumpsters?**

Which is better... remove trash or don't bring it on site in the first place?



Good start. But, why wasn't it dumped?  
Is there enough dumpster capacity to support a clean jobsite?

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## SUSTAIN

### KEEP IT GOING

- Trades clean as they go. Work area is clean at end of shift or completion of task (whichever comes first).
- Don't start working in a dirty area. (If you do, you now own it).
- Superintendent and team members should walk site every day. Show pictures, request corrective action, verify.



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## 5S in the shop



**Construction is not just the field.  
It includes the entire supply chain.**

**5S is well suited to the shop floor since  
this is where it was first conceived.**

*As prefabrication and modular construction  
become more common, Lean practices in  
the shop become more important.*

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## SUSTAIN



### KEEP IT GOING

- Make **5S** a brief agenda item on daily meeting
- Deliveries are a regular part of work planning meeting



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## SUSTAIN



### KEEP IT GOING

- Involve trades in ongoing planning of laydown – **Keep materials and tools close to the work.**



**ONE SUPERINTENDENT SAYS:**  
As the project goes into the building, we will give trades a room for their stuff. They are responsible for that room. It moves as the work moves.

(Everything on wheels so can move when other trades need to come in. Makes think about how much material bring in)



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## SUSTAIN STANDARDIZE

Stick to it and be consistent

**“When it comes to standards, as a leader, it’s not what you preach, it’s what you tolerate. When setting expectations, no matter what has been said or written, if substandard performance is accepted and no one is held accountable – if there are no consequences – that poor performance becomes the new standard.”**

- from Extreme Ownership: How U.S. Navy SEALs Lead and Win by Jocko Willink & Leif Babin



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## SUSTAIN

### SIMPLE 5S ASSESSMENT

- This is not an audit. No points. No check boxes.
- This is a tool to help teams.
- ***You should always be able to find something to improve.***
- Go where the work is and observe.
- What is the problem? Root cause? Countermeasure?



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#### 5S TEAM ASSESSMENT

A tool for teams to self-assess their work area

Area	
Date	
Assessed by	

**You should always be able to find something to improve.** Go to where the work is. **Observe.** What can improve? Is there a problem? What is the root cause? Areas to assess can include outside the fence or building, site, roadways, parking, laydown, entrances/exits, exteriors, corridors, hoists, kitchen, eating area, toilets and restroom, meeting areas, work areas, desks, gang boxes, storage areas.

5S Questions	Observation Notes
<b>SORT</b> <ul style="list-style-type: none"> <li>Is there anything that doesn't need to be here?</li> <li>Was it delivered too soon? Is there too much? Are we finished with it and should remove, dispose, archive or send it back?</li> <li>Postings/directions current? Remove anything out of date.</li> <li>Are we using "just-in-time" delivery?</li> </ul>	
<b>STRAIGHTEN</b> <ul style="list-style-type: none"> <li>Is anything out of place? Why?</li> <li>Is there a place for it? Simple visuals to show where belongs?</li> <li>Tools and materials are close to the work?</li> <li>Safety equipment clearly labelled and easily accessible?</li> <li>Is there clear directional and location signage?</li> <li>Is "everything on wheels" or pallets with pallet jack?</li> <li>Power cords off the ground, sufficient lighting?</li> </ul>	
<b>SHINE</b> <ul style="list-style-type: none"> <li>Is the team using "nothing hits the ground"?</li> <li>Is trash/debris going straight in to rolling containers?</li> <li>What can be done to reduce trash generation?</li> <li>Is there anything that is not clean or well maintained?</li> <li>Sufficient cleaning supplies, including trash cans, brooms, dumpsters? Are they properly marked? Close by?</li> <li>Trash containers regularly emptied. Nothing overflowing.</li> <li>Are floors dry/well-drained? Site ready for rain/snow/trow?</li> <li>Good neighbors: Site fencing and signage clean and maintained, no trash outside fence, light or noise pollution.</li> <li>Roadways and parking well marked, clean and clear?</li> <li>Meeting Areas: Clean and things put away after meetings.</li> </ul>	
<b>STANDARDIZE</b> <ul style="list-style-type: none"> <li>Can we improve a standard process? Make it simpler?</li> <li>Is there anything that can be standardized?</li> <li>Instructions clear how the process works, how to clean and straighten, where things belong, how and when to reorder?</li> </ul>	
<b>SUSTAIN</b> <ul style="list-style-type: none"> <li>Is someone responsible? Is there a process in place to sustain?</li> <li>Are standards enforced? Regular assessments and follow up?</li> <li>Is it visual? Instructions clearly displayed and easy to follow?</li> <li>Is 5S the way things are done, people are proud of their jobsite and work areas?</li> </ul>	

Updated August 01, 2019. Ideas for improvement are encouraged.  
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## SUSTAIN

### Learn to see waste

- Learn by doing is the best teacher
- Walk together. Involve everyone
- Help them see what it means to SORT, STRAIGHTEN, SHINE



What is good? What can improve?

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## SUSTAIN

If for no other reason...

**5S** builds behaviors and practices that make us safer.



Process: Housekeeping Safety

Good housekeeping not only results in a cleaner workplace, but makes it safer as well. Good housekeeping reduces illnesses and injuries and promotes positive behaviors, habits, and attitudes.

**Involve safety managers and coordinators to implement and sustain 5S**

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**STANDARDIZE**

**SUSTAIN**

**“When it comes to standards, as a leader, it’s not what you preach, it’s what you tolerate. When setting expectations, no matter what has been said or written, if substandard performance is accepted and no one is held accountable – if there are no consequences – that poor performance becomes the new standard.”**

- from Extreme Ownership: How U.S. Navy SEALs Lead and Win by Jocko Willink & Leif Babin

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**Sort**

**STRAIGHTEN**

**SHINE**

**STANDARDIZE**

**SUSTAIN**

**Where can you use 5S thinking on your jobsite?**

**KEYS TO SUCCESS**

- ❑ Model the way
- ❑ Implement early
- ❑ Trade involvement
- ❑ You get what you tolerate
- ❑ Daily routines and accountability
- ❑ Keep it simple and visual
- ❑ Plan for appropriate cleaning supplies, waste bins and removal
- ❑ Link to productivity, safety, quality

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**5S Waste Walk**

Broadmoor Construction

Micaela Rosenkrantz  
Woskie

Virgin Hotel construction  
in New Orleans

September 30, 2020



5S Waste Walk  
Broadmoor Construction  
Virgin Hotel New Orleans  
September 30, 2020

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5S and Continuous Improvement



**SORT**  
Clearly distinguish needed items from unneeded and eliminate the latter

**STRAIGHTEN**  
Keep needed items in the correct place to allow for easy and immediate retrieval

**SHINE**  
Keep the workplace neat and clean

**STANDARDIZE**  
The method by which "Sort," "Straighten" and "Shine" are made habitual

**SUSTAIN**  
Maintain established procedures

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## What is continuous improvement?



**A systematic ongoing effort to improve processes**

Get better and better at moving the canoe down the river

### Continuous

Ongoing. Never ending.  
Always looking to improve  
and a process to do it.

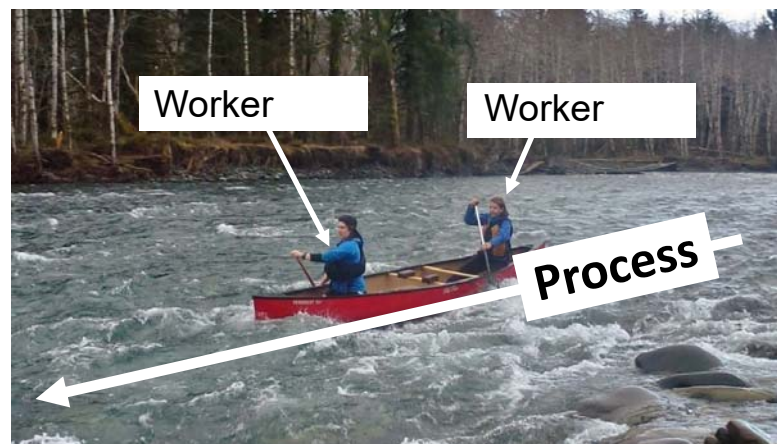
### Improvement

Improve what?  
Reduce waste.  
Improve flow.



## What is a continuous improvement mindset?

**My Job = Doing the Work  
+ Improving the Work**



**...Everyone, Every Day!**

## 5S Assessment for Continuous Improvement



**Southland Industries** – MEP Building Systems specialty contractor - Northern California shop

What do you see? Share your comments

Do you have a **PROCESS** for continuous improvement that taps into the knowledge and experience of those who do the work?

**It is a low-cost, low-risk, commonsense approach to incremental improvement that pays off big in the long run.**

**5S Assessment form is a great way to start.**

*The following is unscripted. These are real situations and issues brought up while filming. We gave them the assessment form and turned on the camera...*

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## 5S Assessment - PIPE



### WHAT DID YOU SEE?

- Did they already have a well-organized work area?
- How was the assessment form used?
- What role did the supervisor play? How much talking did he do? Who came up with the improvement?
- Will it improve the flow of work? Safety?

**What do you see?  
Is there anything to improve in a well run shop?**

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## 5S Virtual Assessment - HANGERS



### EXTRA MATERIAL

- What is the problem? What is being impacted?
- How could they improve the process of handling unused material?



### WORK AREA

- Why is that table behind the work area?
- What happened to ideas that Brad had before?
- How does the assessment form help sustain improvement?



### CLEAN UP

- Is it OK to leave stuff on the ground until the end of the day?
- They have a policy to clean for the last 10-15 minutes. Why isn't it happening?
- How does this relate to safety?

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## 5S Virtual Assessment - TOOLS



### TOOLS RETURNED

- What did you see? What did you think of the tool storage area?
- Why don't the tools come back in the case?
- Did they solve the problem?



### NAMES ON TOOLS

- What did you think of the first idea to make a video or send an email to not write names on the tools?
- What about the idea of colored tape?
- How did they decide to implement the improvement this time?
- Will it work?

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## 5S Virtual Assessment – SHT MTL & SHIPPING



### WHAT DID YOU SEE?

- Area was a dumping ground. What is the root cause?
- How could visual management help? Do you think others realize they are blocking the shipping area when they drop materials?
- Who did most of the talking?
- The problem involved other departments. What did they do?
- Did they come up with a plan to address the problem?

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## 5S Virtual Assessment – PDCA

### IMPLEMENTING IMPROVEMENTS

What would you write in the boxes for the Sheet Metal/Shipping improvements?

#### 5S ASSESSMENT – Page 2

*From what you observed on your assessment walk... What can be improved?*

- (1) Understand what is the real problem or issue. Get to the root cause.
- (2) How do we avoid repeating it? What can we do differently to improve?
- (3) Implement the change. Check improvement and adjust as needed.
- (4) Share the improvement. Make it the standard.



Areas for improvement (Key items from your observation notes)	What will we do about it? Who will follow-up?
<p><i>From your notes on the front, summarize the key points:</i></p> <p><i>What is the problem and root cause?</i></p> <p><i>What is the idea for improvement?</i></p>	<p><i>What steps will we follow to implement the improvement.</i></p> <p><i>Who will be responsible?</i></p> <p><i>How will be document and share it?</i></p>

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# 5S in the office and workspace



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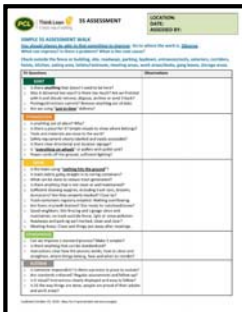
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**SORT**

**STRAIGHTEN**

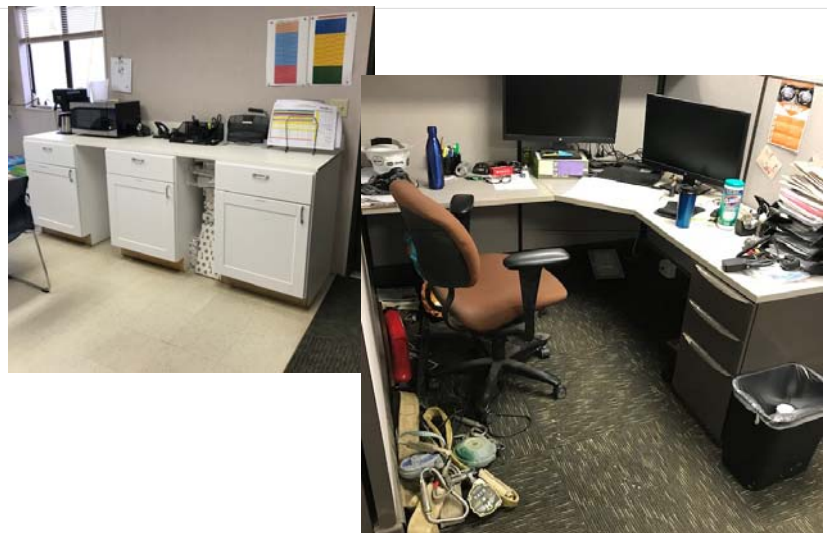
**SHINE**

Where should we start?



The worksheet is titled "5S ASSESSMENT" and includes a section for "Where should we start?" with a table for recording findings and actions.

Area	Findings	Actions
Sort		
Straighten		
Shine		
Standardize		
Sustain		



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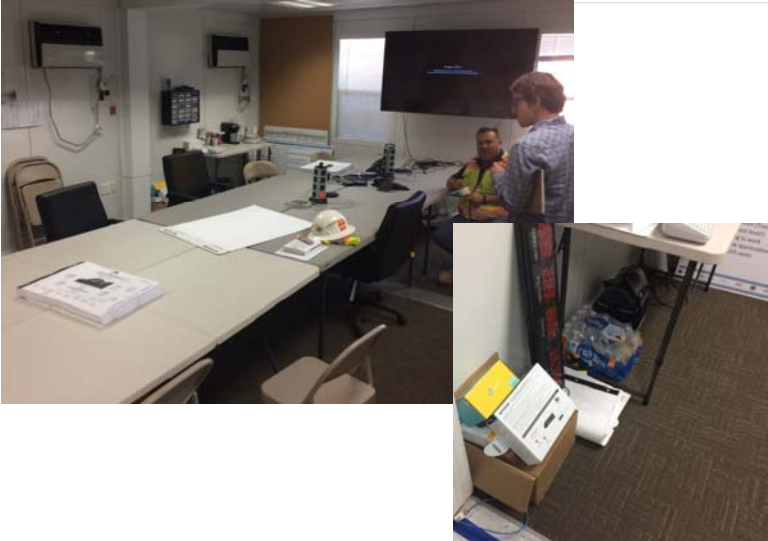
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**SORT**  
**STRAIGHTEN**  
**SHINE**  
**SUSTAIN**

**The meeting room is a great place to start...**



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**Lean Construction Institute**  
Immersive Education Program

**SORT**  
**STRAIGHTEN**  
**SHINE**  
**SUSTAIN**

**The meeting room is a great place to start...**

**You Have To Start Somewhere...**

Courtesy PCL Construction

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**What changed?**

**LEAN SOLUTION:**  
A meeting room is like a command center. To make good decisions we need to be able to **see flow**.



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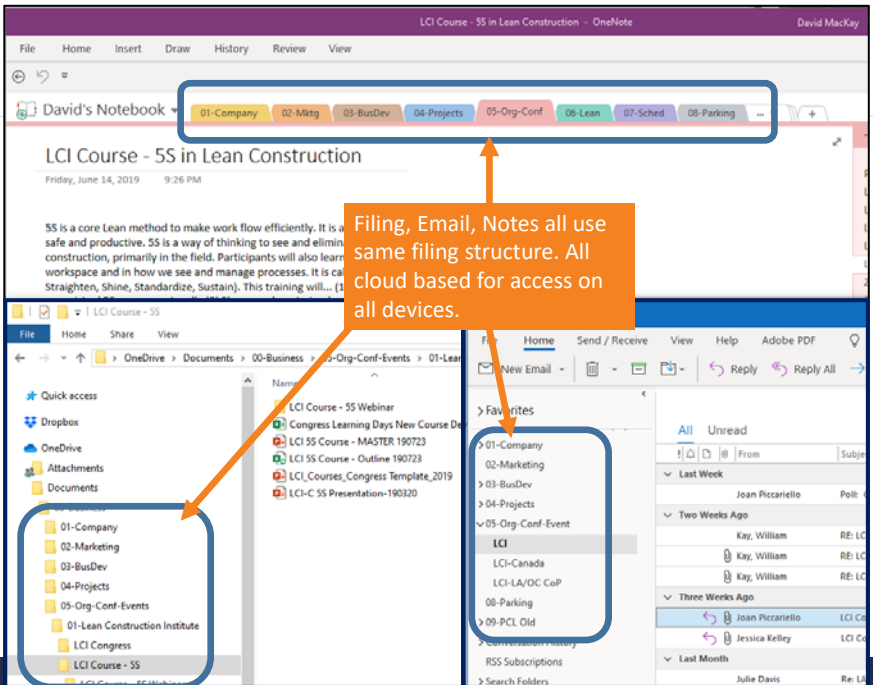
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**Electronic files**

**LEAN SOLUTION:**  
30 Second Test – Can find in a gang box, computer filing structure or supply cabinet what you are looking for in 30 seconds or less and move on? If not, more 5S work is needed.

**Filing, Email, Notes all use same filing structure. All cloud based for access on all devices.**



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## 5S Email

Subject line specific and easily searchable.  
Reader knows what you want.

Put your action request in the first line.

Aim for three lines or less.  
If longer, use bullets or headings.

Read it back to yourself before sending.

Most emails are too long, don't get to the point... and don't get read. Here are a few tips for leaner email.

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From: dmackay@milestonelean.com  
To: Jessica Kelley <JKelley@southlandind.com>  
Cc: [Redacted]  
Subject: 5S in Lean Construction - Set date for Southland shop video shoot

Hi Jessica,

Thanks you for helping to develop the LCI 5S course. As discussed, let's set up a date to video "5S in the shop" in your NorCal shop. If your videographer is available, that would be excellent. Here are my upcoming available dates:

- August 21, 22, 23 (Short notice, but I am open)
- September 11 or 13 (Best dates, especially Sept 11)
- September 16, 17, 20 (Probably the latest this can be done)

I will start working on the script/shooting plan. In the meantime, here is the basic premise:

- This will become part of an LCI standard course. So, it will be used beyond Congress.
- This does not need to be a high professional quality. Just sufficient for a training.
- Allow course participants to go on a virtual 5S assessment with staff. Participants listen/observe and can offer their thoughts in class on what is good/what can improve.
- The assessments are by those doing the work. It is not an inspection. The idea is that there is always something that can improve. So, we are not looking to judge or score what is there. We are not looking for a perfect shop.
- Scene locations. It would be good to have scenes including:
  - On a production line/operation or two
  - Prefab area
  - Inventory
  - Shipping

Regards,  
David

David Mackay, CM-Lean  
Milestone Lean Consulting LLC  
www.milestonelean.com  
714-939-2395

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5S your operations, not just a project

STANDARDIZE  
SUSTAIN

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**SORT**  
Clearly distinguish needed items from unneeded and eliminate the latter

**STRAIGHTEN**  
Keep needed items in the correct place to allow for easy and immediate retrieval

**SHINE**  
Keep the workplace neat and clean

**STANDARDIZE**  
The method by which "Sort," "Straighten" and "Shine" are made habitual

**SUSTAIN**  
Maintain established procedures

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**5S Operations**

**STANDARDIZE**  
**SUSTAIN**

How do we bring the benefits of **5S** not just to one project, but to all our operations?



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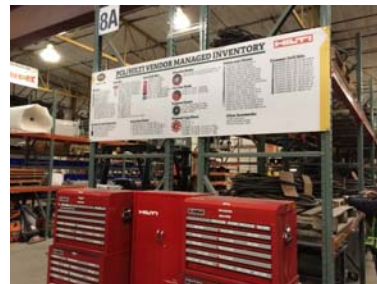
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**5S in the yard/warehouse**

**STANDARDIZE**  
**SUSTAIN**



**Everyone is one team**  
**Make work flow**



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## STANDARDIZE



### SAFETY STATION

#### LEAN SOLUTION:

Work with the Yard to deliver standard equipment and tools only when they are needed and remove them when the task is finished.

#### WHAT ELSE CAN WE STANDARDIZE?

Trailers and layouts

Fencing

Toilets

Kitchen/Office Supplies

Consumables

Tools

PPE

Signage

Trucks

Gang boxes, carts

Cleaning stations

Lighting/Power

Order process

Reports

Mobilize/Demobilize

Filing systems



PCL Site Safety Station (Winnipeg)

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## STRAIGHTEN STANDARDIZE



Visual standard instructions make expectations clear and the process sustainable.

**Could this be repeated on other jobsites? How?**

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# 5S

## Wrap-up

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## 5S What keeps it going? LEARNING

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**The best teacher for 5S is “learning by doing”**

**Provide coaching in the field to see waste and remove it.**

- Managers must learn the 5S principles and process to properly lead
- Basic training is enough for most staff to get started
- Learn to see waste, see when flow stops, find the root cause.
- Practice implementing improvements and checking if they work.

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## 5S What keeps it going? LEADERSHIP

**STANDARDIZE**
**SUSTAIN**
**SYSTEMS** Carried out continually

**SELF-DISCIPLINE** to make it a part of daily work  
**RESPONSIBILITY** clearly assigned

**The essence of 5S is to follow what has been agreed on.**


Over time, management establishes a regular process and makes certain that the workplace is following the process.

**Management  
involvement**
**Positively  
Promote**
**Help them  
succeed**
**Start small  
and spread**
**Everyone is  
part of it**

## 5S What keeps it going? MEASURE

**KPI/KBI** What goals and measurements can insure that 5S becomes the way we work?

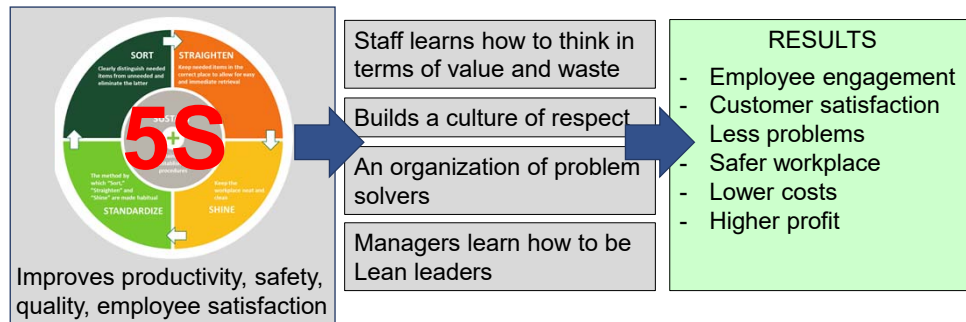
- Are trades/staff aware of, understand, and are following the process?
- Are they using the assessment form?
- What improvements have been implemented?
- Observe the workplace. What do you see? Is it clean, organized, sorted, materials close to the work? What is being tolerated?



The form is a detailed assessment tool for 5S implementation. It includes sections for '5S Assessment Summary', '5S Assessment Details', and '5S Assessment Results'. The '5S Assessment Details' section contains a table with columns for 'Area', 'Current State', 'Desired State', and 'Action Plan'. The '5S Assessment Results' section contains a table with columns for 'Area', 'Score', and 'Comments'. The form is designed to be filled out by a team to assess the current state of 5S in a workplace and identify areas for improvement.

## 5S What keeps it going?

It is a gateway to more Lean improvements and a key method to build a culture of Lean thinkers



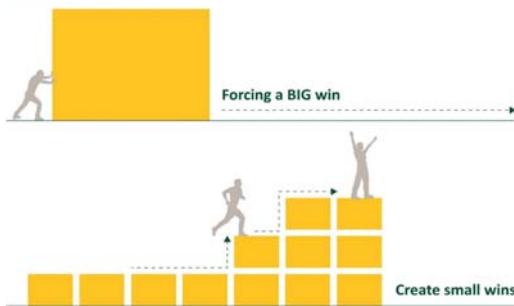
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## 5S What keeps it going?

- Encourage growth. Don't force growth.
- It is not a program; it is the way we work.
- Keep it simple. Don't add bureaucracy. (Clutter)
- Step by step you will get there.

Power of small wins...



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## 5S wrap up

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### What will I do tomorrow?

What new actions or ideas that you learned today can you take back with you?

### Questions? Let's talk.

**David MacKay**  
Milestone Lean Consulting LLC  
dmackay@milestonelean.com  
www.milestonelean.com

+	△
<b>Plus:</b> What produced <u>value</u> during the session?	<b>Delta:</b> What could we <u>change to improve</u> the process or outcome?

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