



Lean Construction Institute
Immersive Education Program

5S In Lean Construction

David MacKay & Eric Lusi

October 19, 2020

“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

Lean Construction Institute

Provider Number H561



LCI Course:

5S In Lean Construction

LCI5S

David MacKay & Eric Lusi

October 19, 2020



Instructors



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Questions related to specific materials, methods, and services will be addressed at the conclusion of this presentation.

Course Description

5S is a core Lean method to make work flow efficiently. It is about keeping the workplace organized, clean, safe and productive. 5S is a way of thinking to see and eliminate waste. This course is centered on 5S for Lean construction, primarily in the field.

Participants will also learn how to apply 5S thinking in the shop, office and personal workspace. It is called 5S because each word starts with "S" (Sort, Straighten, Shine, Standardize, Sustain). This course includes a simulation to show the effectiveness of 5S and a virtual 5S Assessment Walk.

Learning Objectives



01.

At the end of this presentation, participants will understand and be able to identify the 5Ss supported by examples shared in the course.



02.

At the end of this presentation, participants will be able to identify areas in their work that would benefit from 5S application.



03.

At the end of this presentation, participants will understand how to implement and sustain 5S on their jobsite using "Just-in-time", "Everything on Wheels" and "Nothing hits the ground".

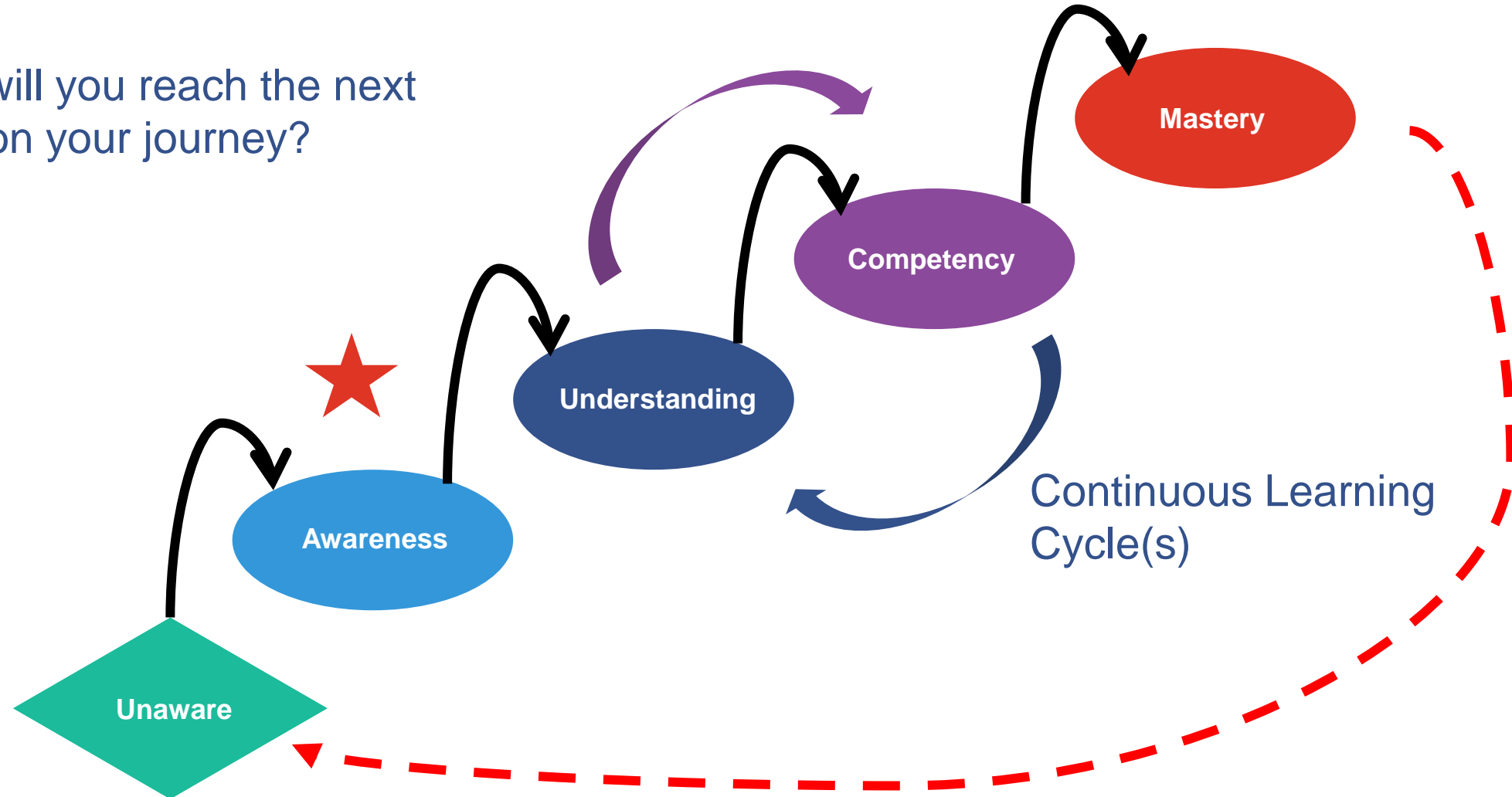


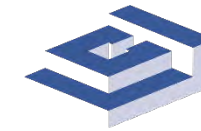
04.

At the end of this presentation, participants will understand how to build consensus and support for 5S in their team.

Lean Journey to Mastery

How will you reach the next level on your journey?





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?

↑ All the answers are here ↓

↑ How to use it is here ↓

5S IN LEAN CONSTRUCTION

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5S is about making work flow efficiently through a focus on delivering value to the customer and eliminating waste. 5S is a foundational lean method. It is a first step in continuous improvement. It reflects a respect for people by involving them directly to improve the work environment.

5S MAKES US BETTER

- SAFETY** - Less clutter means less tripping hazards and less chance of fire.
- QUALITY** - Less clutter means less chance of errors and less chance of rework.
- PRODUCTIVITY** - Less clutter means less time spent looking for tools and materials.
- REDUCED RISK** - Less clutter means less chance of accidents and less chance of injury.
- REDUCED COST** - Less clutter means less waste and less chance of rework.

WHAT IS 5S ALL ABOUT?

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

It is about making work flow efficiently through a focus on delivering value to the customer and eliminating waste. 5S is a foundational lean method. It is a first step in continuous improvement. It reflects a respect for people by involving them directly to improve the work environment.

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5S ON YOUR PROJECT

GETTING STARTED

- Get management buy-in and involvement.
- Put it into effect, effort to make it "stick". It is a team effort. It is a continuous process.
- Involve 5S in all team meetings. Discuss 5S expectations at team meetings.
- Start training the team. Encourage by doing the work together.
- It is a team effort. It is a continuous process. It is a team effort. It is a continuous process.

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GETTING STARTED

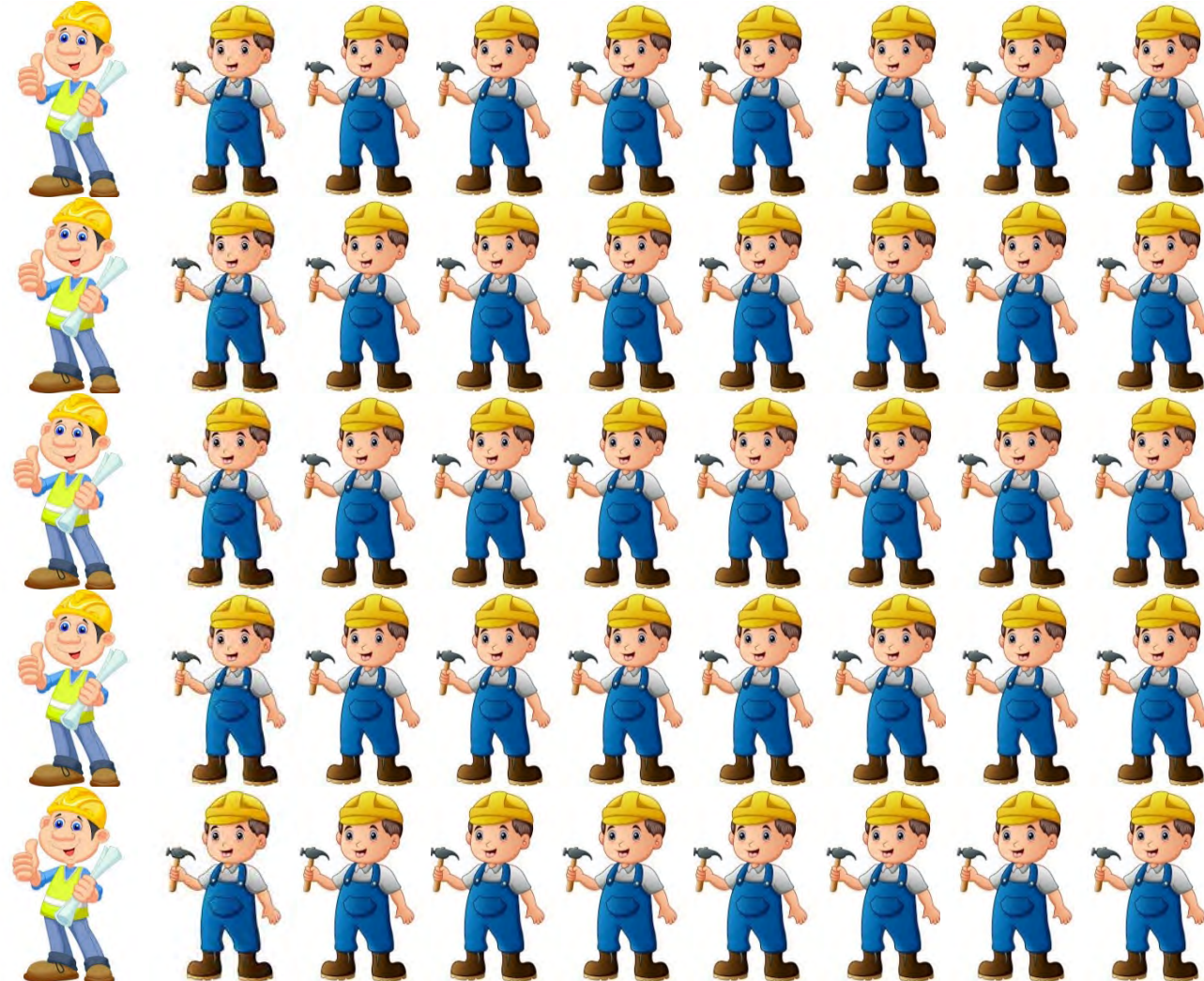
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Lean Design & Construction

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



What about everyone else?



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.



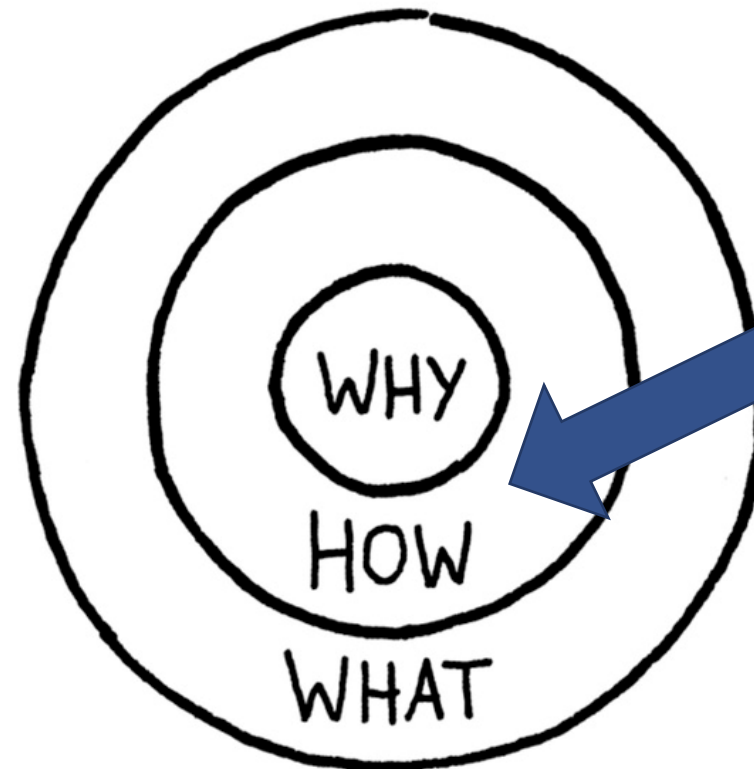
If it is so simple, **why** do we need to give it a name or have training?

Simple is not always obvious. It helps us “see” what we might otherwise overlook

Simple is not always easy

Some of it is different than we are used to working

It gives us a common basis or language to work together to improve



It is the way work should be done.
5S helps us “see” how to get there.

© 2013 Simon Sinek, Inc.

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



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

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.

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

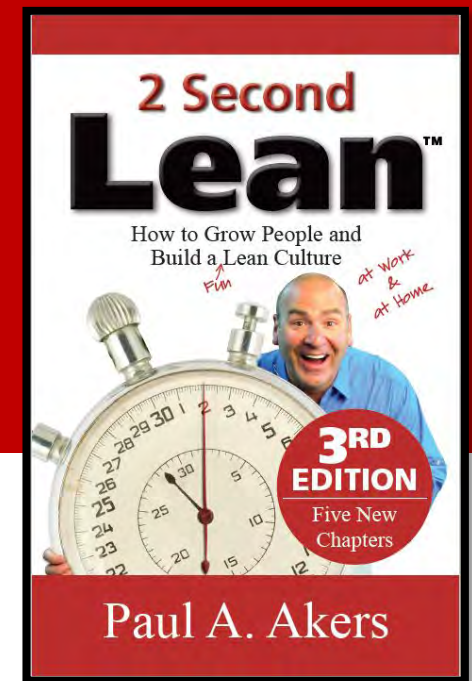


*None of us really understands how much
junk is impeding our effective work.*

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 is Lean

5S helps work to flow efficiently and eliminate waste. And continuously improve.

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.



EIGHT WASTES

Waste is anything that doesn't add value.



Defects

Efforts caused by rework, scrap, and incorrect information.



Overproduction

Production that is more than needed or before it is needed.



Waiting

Wasted time waiting for the next step in a process.



Non-Utilized Talent

Underutilizing people's talents, skills, & knowledge.



Transportation

Unnecessary movements of products & materials.



Inventory

Excess products and materials being processed.



Motion

Unnecessary movements by people (e.g. walking).



Extra-Processing

More work or higher quality than is required by the customer.

5S is Lean

It helps work to flow efficiently and eliminate waste.



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.



5S Overview



SORT

STRAIGHTEN

SHINE

STANDARDIZE

SUSTAIN



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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.
It is 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.
Includes unnecessary forms, steps, reports.



SORT

STRAIGHTEN

SHINE

STANDARDIZE

SUSTAIN

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

SORT

STRAIGHTEN

SHINE

STANDARDIZE

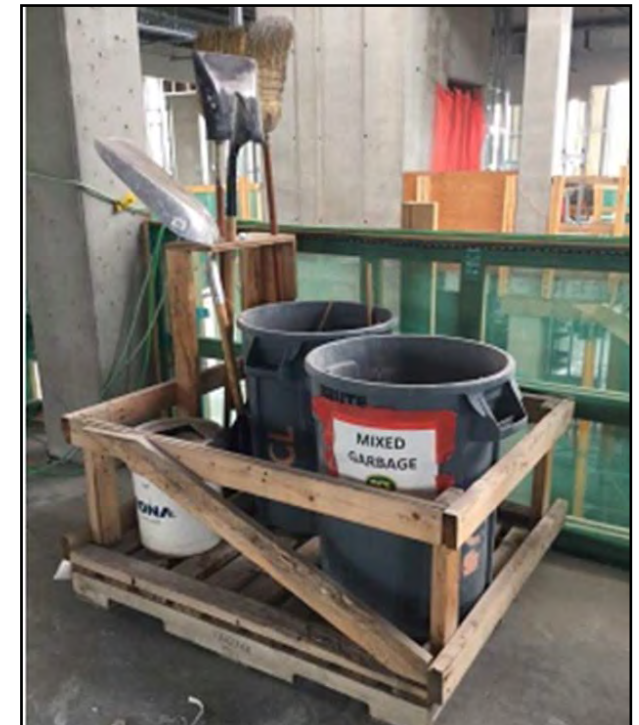
SUSTAIN



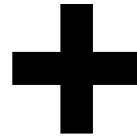
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CLEAN AND KEEP IT CLEAN ...ALL THE TIME

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.



SHINE



What will this look like in 5 minutes?

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.



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.



Can you find all 5S's?

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

Courtesy PCL Construction

SORT

STRAIGHTEN

SHINE

STANDARDIZE

SUSTAIN



VS



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.





5S on projects and in the field



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.

5S in the field

**GETTING
STARTED**

SUSTAIN

Involve the entire project team.

- Get management buy-in and participation
- Put the extra effort up front to “sell” the team
- Include 5S in subcontracts
- Involve safety team to think 5S
- If this is your first time, use a coach

5S in the field

GETTING
STARTED

SUSTAIN

- Get 5S training for the team
- As trades mobilize, include 5S in onboarding
- Do something – Learning by doing is the best teacher
- It takes about a month to become a habit

Learn by doing



5S in the subcontract

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 composite cleaning crew.
Trades clean 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.

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.

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

SHINE

Keep the workplace neat and clean

Always clean.

Not just on Friday afternoon.

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

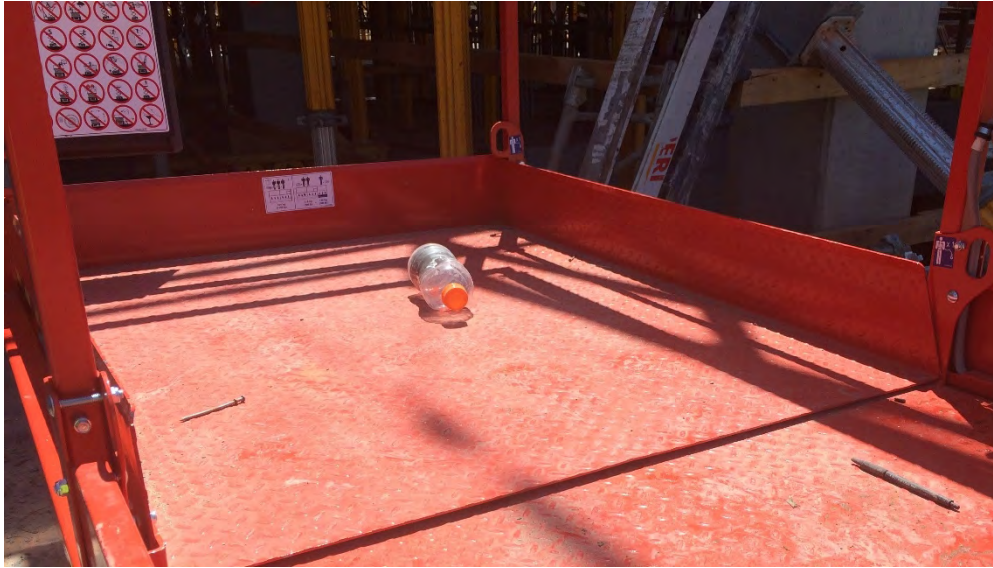
Continuous makes clean and organized the norm. Once a week makes dirty and disorganized the norm.

NOTHING HITS THE GROUND



Courtesy PCL Construction

SHINE



Which one “shines”?

How does this relate to safety?

Zero Tolerance



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?



SHINE SUSTAIN

Make it easy to stay clean



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?

STRAIGHTEN SHINE

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

RESPECT FOR PEOPLE

- Enough toilets
- Clean
- Close to the work



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.
- Superintendent and team members should walk site every day. Show pictures, request corrective action, verify.



SORT

STRAIGHTEN

Keep materials and tools mobile and close to the work.

EVERYTHING ON WHEELS



SORT

STRAIGHTEN

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

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



Vs.



STRAIGHTEN

Keep electrical cords up and out of the way



Vs.



SORT

STRAIGHTEN

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

**Aim to keep tools and materials
within 20 feet of the work.**



**Less than
20 feet**



SORT

STRAIGHTEN

Keep materials and tools mobile and close to the work.



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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?*

SORT

STRAIGHTEN

**Prefab and kitting reduces
waste on site**



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.*

SUSTAIN

KEEP IT GOING

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



SUSTAIN

KEEP IT GOING

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



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



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?



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

SUSTAIN

Learn to see waste

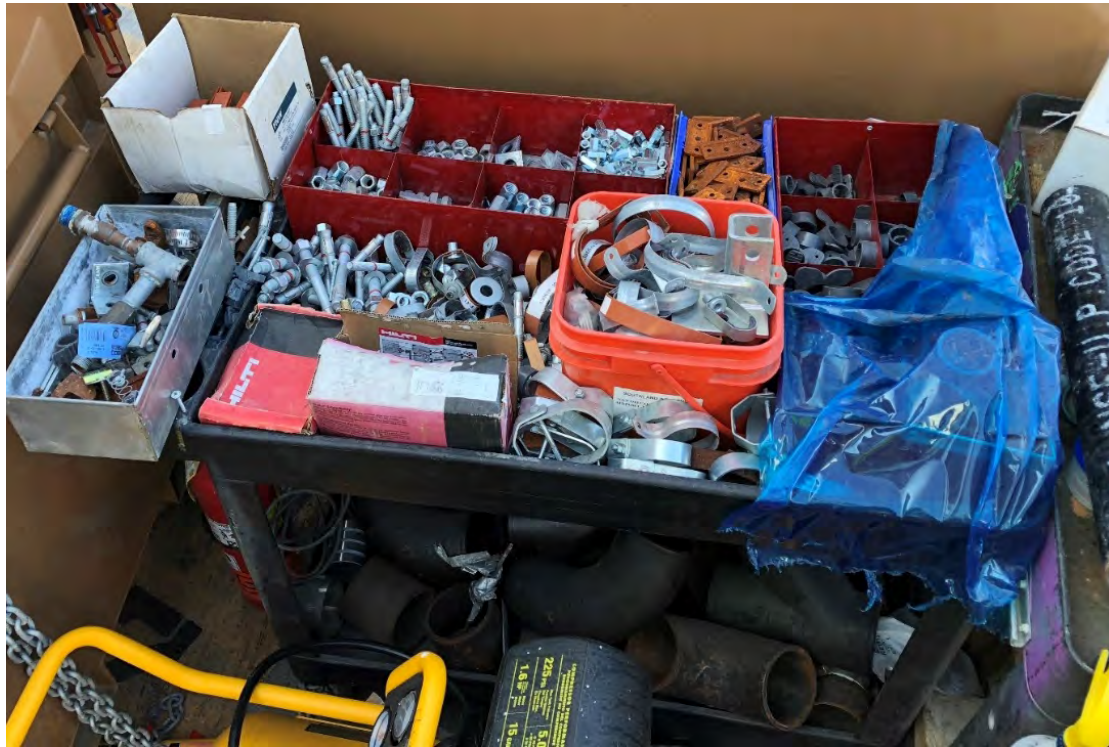
- Learn by doing is the best teacher
- Walk together. Involve everyone
- Help them see what it means to SORT, STRAIGHTEN, SHINE



What is good? What can improve?

SORT

STRAIGHTEN



What is good? What can improve?



What is good? What can improve?

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

5S and Continuous Improvement



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.

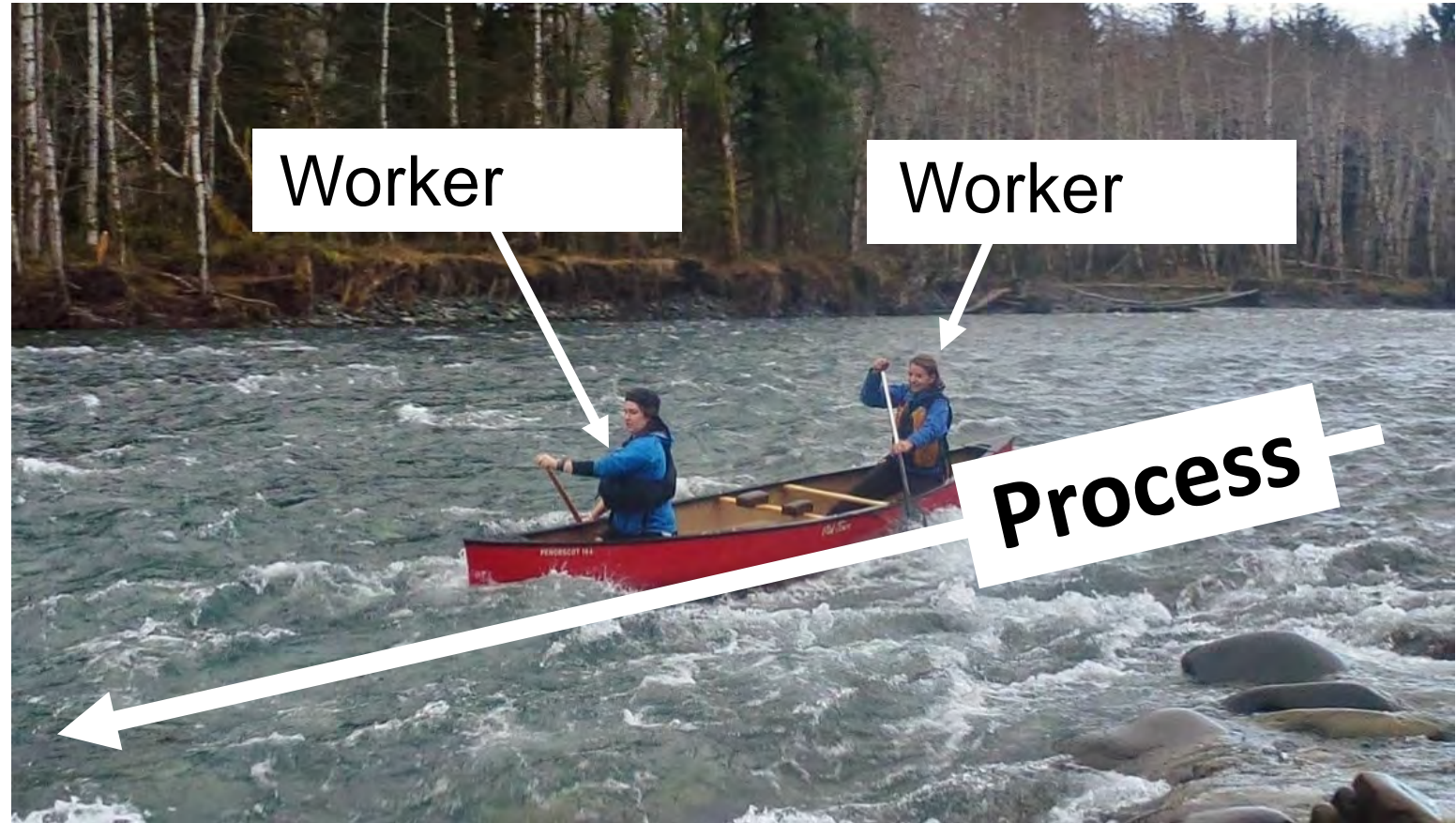
Improvement

Improve what?
Reduce waste.
Improve flow.



What is a continuous improvement mindset?

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



...Everyone, Every Day!

5S 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: What is the problem and root cause? What is the idea for improvement?</i></p>	<p><i>What steps will we follow to implement the improvement. Who will be responsible? How will be document and share it?</i></p>

5S Virtual Assessment - PIPE



BREAKOUT – 6 Minutes

WHAT DID YOU SEE?

- Is there anything that can improve in a well-run shop?
- How did they come up with an improvement?
- What role did the supervisor play? Did he go to the work or did he wait for them to come to him?
- How is the improvement related to productivity? Safety?
- Will it improve the flow of work?

When we come back... Is there a takeaway would you like to share with the group?

5S Virtual Assessment – SHT MTL & SHIPPING



BREAKOUT – 6 Minutes

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?

When we come back... Is there a takeaway would you like to share with the group?



5S in the office and workspace



SORT

STRAIGHTEN

SHINE

Where should we start?

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 on building site, roadways, parking, laydown, entrances/exits, exteriors, corridors, restrooms, kitchens, eating areas, toilets and restrooms, meeting areas, work areas, desks, gang boxes, storage areas.

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

Updated August 11, 2015. Ideas for improvement are encouraged.

Location: Mkt/one with Consulting LLC



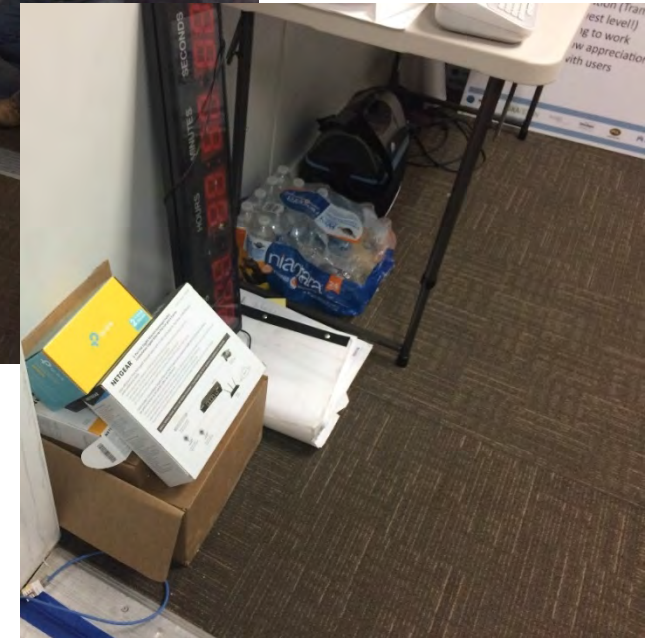
SORT

STRAIGHTEN

SHINE

SUSTAIN

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



SORT

STRAIGHTEN

SHINE

SUSTAIN

What changed?

LEAN SOLUTION:

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



SORT STRAIGHTEN SHINE

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.

The screenshot illustrates a consistent filing structure across different applications, demonstrating the 'Sort' and 'Straighten' principles of 5S. An orange callout box states: "Filing, Email, Notes all use same filing structure. All cloud based for access on all devices."

OneNote Interface:

- Tab bar: 01-Company, 02-Mktg, 03-BusDev, 04-Projects, 05-Org-Conf, 06-Lean, 07-Sched, 08-Parking
- Title: LCI Course - 5S in Lean Construction
- Date/Time: Friday, June 14, 2019 9:26 PM
- Content: 5S is a core Lean method to make work flow efficiently. It is a safe and productive. 5S is a way of thinking to see and eliminate waste in construction, primarily in the field. Participants will also learn how to organize workspace and in how we see and manage processes. It is called Straighten, Shine, Standardize, Sustain. This training will...

File Explorer Interface:

- Path: OneDrive > Documents > 00-Business > 05-Org-Conf-Events > 01-Lean
- Files: LCI Course - 5S Webinar, Congress Learning Days New Course De, LCI 5S Course - MASTER 190723, LCI 5S Course - Outline 190723, LCI_Courses_Congress Template_2019, LCI-C 5S Presentation-190320

Outlook Interface:

- Folder list: 01-Company, 02-Marketing, 03-BusDev, 04-Projects, 05-Org-Conf-Event, LCI, LCI-Canada, LCI-LA/OC CoP, 08-Parking, 09-PCL Old
- Email list: Joan Piccariello, Kay, William, Jessica Kelley, Julie Davis

5S Email

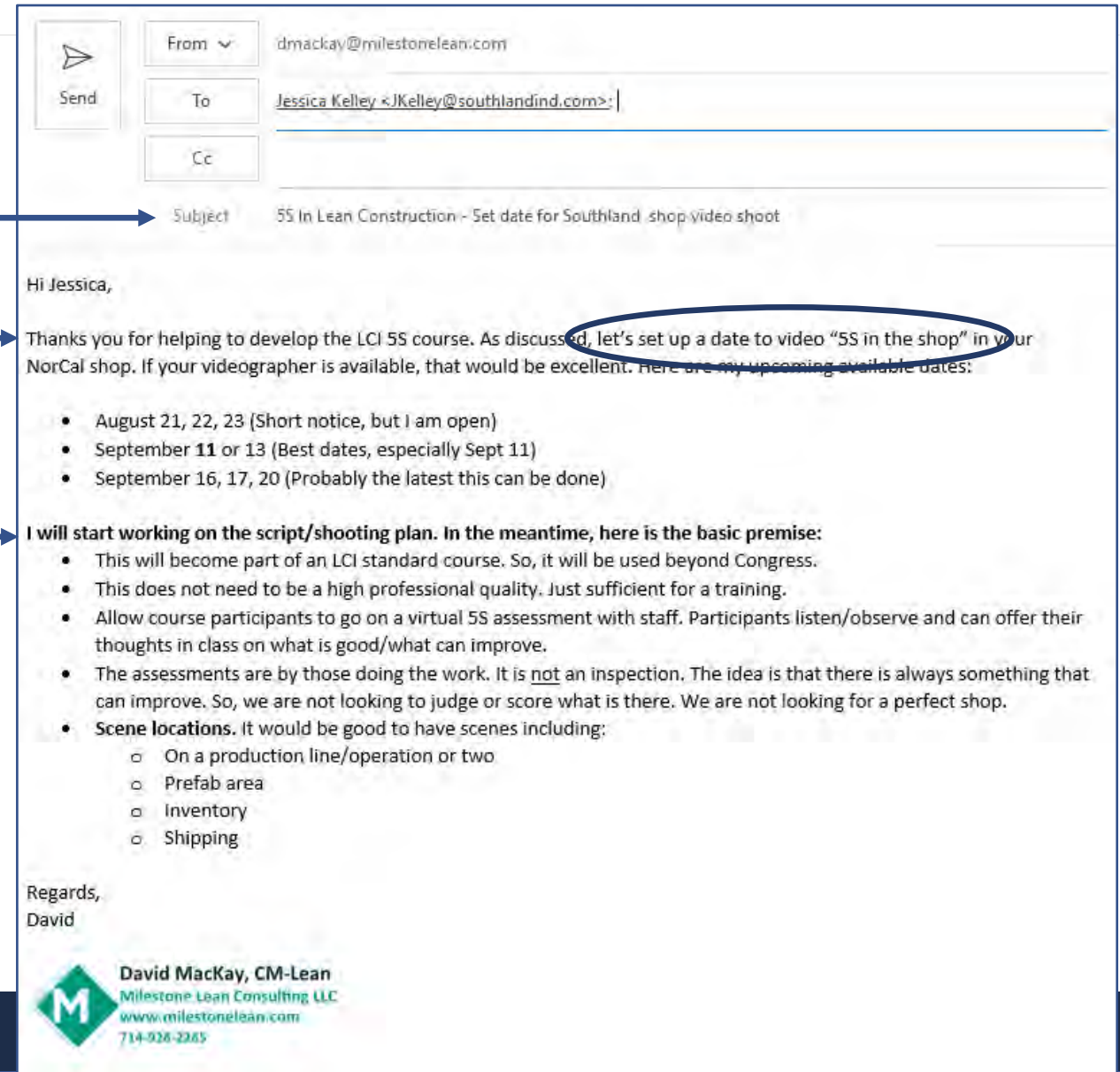
Subject line specific and easily searchable.
Reader knows what you want.

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.



Send

From: dmackay@milestonelean.com

To: Jessica Kelley <JKelley@southlandind.com>

Cc:

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
 714-928-2285



5S

Wrap-up



5S What keeps it going? LEADERSHIP

STANDARDIZE

SUSTAIN

SYSTEMS Carried out continually

SELF-DISCIPLINE to make it a part of daily work

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? LEARNING



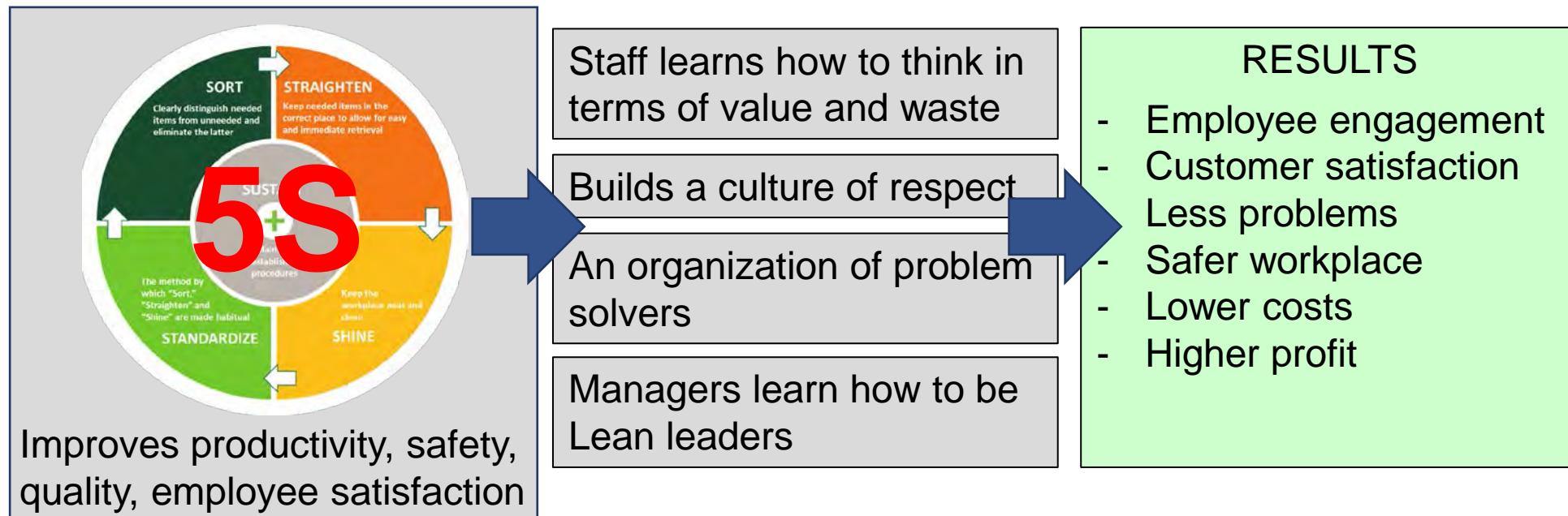
**The best teacher for 5S is
“learning by doing”**

**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.

5S What keeps it going?

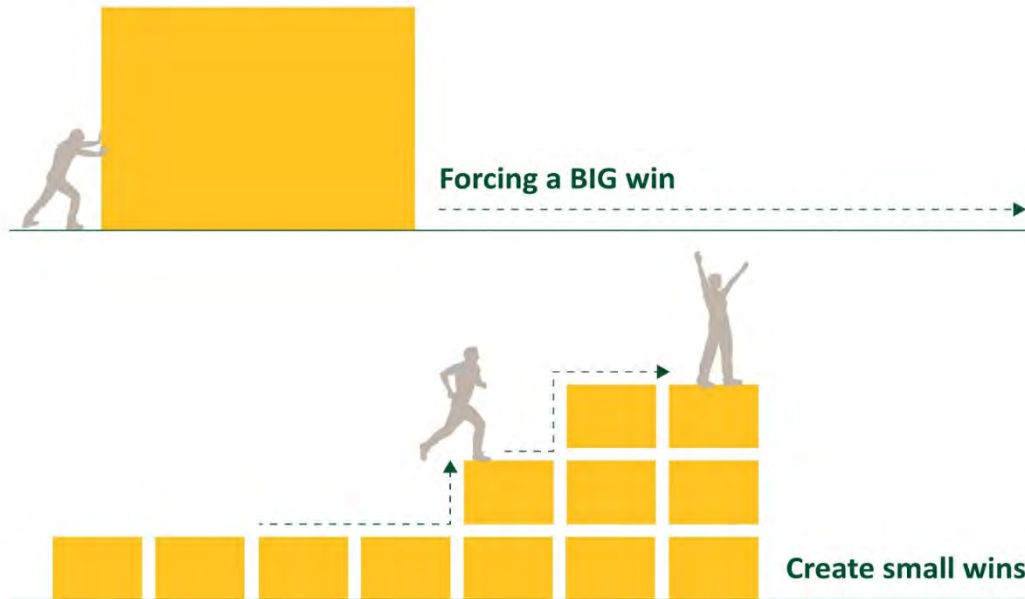
It is a gateway to more Lean improvements and a key method to build a culture of Lean thinkers



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...



5S and Safety

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.

5S wrap up

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

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Plus: What produced value during the session?



Delta: What could we change to improve the process or outcome?

This concludes The American Institute of Architects
Continuing Education Systems Course



Lean Construction Institute



info@leanconstruction.org