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# CAD Management When You Do Not Have the Time

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## Learning Objectives

- Learn how to balance your efforts
- Discuss best practices for standards management
- Learn how to manage areas to improve productivity
- Learn some tips and tricks you can apply in the background to help your users

## Description

You now have the responsibility to manage CAD within your department and/or organization, but your job title does not include CAD manager. You do not or cannot dedicate your time full time to this task.

So how do you do this? We will use my transition from reseller to mining equipment manufacturer, in an examination of how to get buy-in from management, how to get participation by the users (and your peers), where to start, and how to proceed. Let us talk standards, processes, procedures, training, CAD, management, and continual leadership.

## Speaker

Mike spent the first 12-years of his career in the Autodesk channel working for an Autodesk reseller as an Application Specialist. During his travels, he was fortunate to help solve many issues utilizing Autodesk software. Mike has been using AutoCAD since r13, cut his solid modeling teeth on Mechanical Desktop, and has been using Inventor since before it was known as Inventor.

Now he is the Technical Services Manager at Prairie Machine a mining equipment manufacturer. Reporting to the general manager, Mike is responsible for overseeing the company's technical operations and the strategic technical growth.

## **CAD Management... When You Do Not Have the Time!**

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CAD Management is such a unique position. Rarely a full-time gig, you are reliant to pull bunnies out of your hat while working on other things, all with limited resources!

*“CAD MANAGEMENT IS UNIQUE IN THAT YOUR AREA OF RESPONSIBILITY DOES NOT MATCH YOUR CIRCLE OF AUTHORITY. YOU ARE RESPONSIBLE FOR PUTTING IN PLACE PROCESSES, GUIDELINES, STANDARDS AND QUALITY CONTROL. BUT YOU HAVE TO DO THIS FROM OUTSIDE THE CHAIN OF COMMAND.” -MARK KIKER*

20+ years in this industry has taught me a lot. I have lost some battles but have fortunately won more than I have lost. I have turned a start in the Autodesk reseller space into being a successful CAD Manager and a go-to-leader who is relied on for fixing the difficult issues. How? What is the secret?

*“SUCCESS ISN’T OVERNIGHT. IT’S WHEN EVERY DAY YOU GET A LITTLE BETTER THAN THE DAY BEFORE. IT ALL ADDS UP.” -DWAYNE JOHNSON*

This document contains the things that I have done, and continue to do, to manage the CAD and other items that fall under the CAD Management umbrella. It has been a constant evolution and continues to change as I adapt to new technology, trends, age, and changes to our business.

*“YOU MANAGE AND OVERSEE THE TECHNOLOGY THAT PEOPLE USE, BUT HAVE LITTLE LEVERAGE OVER THE PEOPLE THAT ACTUALLY USE IT.” -MARK KIKER*

### **The Challenges of CAD Management (Robert Green)**

- **The Authority Challenge** – you have none
- **Constriction of Having No Control** – cost, time, resources
- **Ambiguity of your Duties** – everyone thinks they know what you should do
- **The Smartest Guy in the CAD Room** – It is a shootout every day
- **A CAD Meltdown** – you have to clean up others mistakes
- **The Blame Game** – it always seems to be your fault
- **Change is Bad** – no one wants to embrace any kind of change

# Don't Fix What Ain't Broken

*"THREE RULES: MANAGE THE THINGS THAT AREN'T WORKING; DON'T MESS WITH THE THINGS THAT ARE WORKING; FIXING TRUMPS TINKERING EVERY TIME" -ROBERT GREEN*

## Know Your Role

The Rock is famous for saying *"Know Your Role... and Shut Your Mouth."* It is not only appropriate for a CAD Manager but really, for any position. Ask yourself these key questions, if you do not know the answer, figure it out or start asking questions until you find the answers (keeping reading as there are some suggestions below)

1. Where is the coffee?
2. What should I be working on?
3. What is my long-term plan?
4. What should I not to be working on?
5. What are my resources (budget, hardware, software, people, etc.)?

## 80/20

A great place to start is with Pareto Analysis (aka the 80:20 rule). This decision-making technique selects the limited number of tasks that produce a significant overall effect. This principle states that 80% of the failures are coming from 20% of the causes.



Too often, activity is confused with productivity

Look at your task list or the list of issues in your department/company. Start by addressing the 20% that is causing 80% of the inefficiencies, errors, etc.

Another way to look at this is to analyze the outputs of the time you spend (inputs). Why spend 80% of your time to only move the needle 20%. Eliminate (or put on hold) all but the tasks that provide the most potential for change. I start every week by asking myself, "What's the stupidest thing I'm wasting time on?"

*"FIND PROBLEMS WHICH YOU CAN ATTACK TO GENERATE THE BIGGEST TIME SAVINGS... FOCUS ON MAKING SOLUTIONS TO THE PROBLEMS EASY SO USERS GET DONE FASTER WITH FEWER ERRORS" -ROBERT GREEN*

The third way of looking at 80/20 is effort vs reward. When we undertook implementing a new ERP system, which impacted the entire company, we used the 80/20 rule to dictate when we were done a task. Once we felt that we had solved 80% of the possible situations, we moved on. You might be surprised by how often the last 20% will take more time and resources than the first 80%!

## Find the Real Value

*“THERE IS REAL VALUE IN ASKING YOUR USERS WHERE THEIR BOTTLENECKS ARE AND FINDING THE SOLUTION(S) TO FIX THEM” -ROBERT GREEN*

If you can identify (and resolve) the bottlenecks, you can increase productivity. Think of a pop bottling line. Where are the bottles accumulating? That is the bottleneck!

The process that accumulates the longest queue is usually the bottleneck. The cause could be from many factors... may be the people are swamped (lack capacity), may be the hardware/software crashes frequently, may be the operators need training?

To resolve the bottleneck, you always have two options: increase efficiency or decrease the input.

*“WE CANNOT SOLVE OUR PROBLEM USING THE SAME THINKING WE USED WHEN WE CREATED THEM.” -ALBERT EINSTEIN*



Six Sigma is built around the customer. Everything starts and ends with customers. As the CAD Manager, who are your customers? Your customers are the CAD users, the supervisors, and management. These are the people who define quality and set the expectations. They rightfully expect performance and reliability **Do not lose focus of who your customers are.**

A great question to ask someone... What causes stress in your day?

Continuing with the six-sigma philosophy, reducing variation will solve process and business problems. Your business is made up of a series of interacting processes, the activities that use resources (people, machines, computers, etc.) to transform inputs into outputs. The output of one task becomes the input for the next. At some point, you need to stop and smell-the-roses. Exam these processes and eliminate the waste and inefficiencies.

- **Eliminate waste** - the unnecessary (unneeded) steps, the repetitive steps, the “*just cause*” steps. **Insure all steps add value - if it does not, why are you doing it?**
- **What is the cost of poor quality?** – the costs that would disappear if the processes were perfect. Quantify the negative outcomes due to waste and inefficiencies
- **Why?** – identify the problem and working backwards keep asking “why is this occurring?” until you reach the root cause.

*“DON'T FIND FAULT, FIND A REMEDY.” -HENRY FORD*




I like using the six-sigma modeling steps to help find the waste in a process. Basically, it is a 4-pass process starting at a very high-level outlining the process and finishing with the documentation, instructions, and procedures required to improve and streamline the process.

# I am Worth Something!

*"BEING POWERFUL IS LIKE BEING A LADY. IF YOU HAVE TO TELL PEOPLE YOU ARE, YOU AREN'T!" -MARGARET THATCHER*

## Be the Leader!

*"FIRST RULE OF LEADERSHIP: EVERYTHING IS YOUR FAULT". -A BUG'S LIFE*

	<p>A good manager needs to toe the line between <i>leadership</i> and <i>management</i>, CAD management is no exception. You <i>Manage</i> things, but you <i>Lead</i> people (even if they do not report to you).</p> <p><i>I AM NOT AFRAID OF AN ARMY OF LIONS LED BY A SHEEP; I AM AFRAID OF AN ARMY OF SHEEP LED BY A LION. ALEXANDER THE GREAT</i></p>
	<p><b>Leaders</b> help themselves and others to do the right things. <b>Leaders</b> set the direction, build the vision. <b>Leadership</b> is seeing the trees and the forest. Its about knowing where you are and where you need to go. <b>Leadership</b> is getting the best out of a team.</p> <p><i>"MANAGEMENT IS DOING THINGS RIGHT; LEADERSHIP IS DOING THE RIGHT THINGS." -PETER F. DRUCKER</i></p>
	<p><b>Leaders</b> ensure the work required to deliver the vision is effectively managed and delivered successfully – they know when to hold it and they know when to fold it. They take on tasks themselves, but know when to delegate the responsibility</p> <p><i>LEADERSHIP IS ABOUT TAKING RESPONSIBILITY, NOT MAKING EXCUSES. MITT ROMNEY</i></p>

Have a plan, short-term and long-term, and let everyone know. People want to see the light at the end of the tunnel. Especially if the change is difficult, give them a target and a reason to not give up. Tell people **why**. No one likes a directive without information. Be transparent, always.

*"ALWAYS REVIEW AND COMMUNICATE THE "WHY". MAP OUT THE PATH AND POINT THE PEOPLE IN THE RIGHT DIRECTION.... BUT DON'T FORGET TO CHECK THE COMPASS TO MAKE COURSE CORRECTIONS." -MARK KIKER*

The more things change, the more they stay the same. **Do not invoke change, just for the sake of change.**

**Keep an Open Mind.** Just because you have always done it one way does not mean it always needs to be done that way. Be on the look out for the new shiny, sometimes it can pay big dividends.

Be the **motivator**. Be the reason the people and the business are moving forward. Get people involved. Those with a vested interest will feel appreciated and take a higher stake in the success of the initiative.

*"THERE ARE THREE KINDS OF MEN. THE ONE THAT LEARNS BY READING. THE FEW WHO LEARN BY OBSERVATION. THE REST OF THEM HAVE TO PEE ON THE ELECTRIC FENCE FOR THEMSELVES." -WILL ROGERS*

**Admit when you were wrong.** Be honest. Learn from your mistakes.

**Always give credit.** Giving credit encourages them to help again and it makes them feel good.

## Be the Expert (Where It Makes Sense)

Becoming an expert overnight just isn't going to happen. You are going to have to put a lot of work and dedication into becoming an expert.

*"A LEADER IS ONE WHO KNOWS THE WAY, GOES THE WAY, AND SHOWS THE WAY." JOHN C. MAXWELL*

**Do not Stop Learning!** Study... read, take courses, watch videos, attend seminars, follow social media, work through tutorials, learn from others... there are so many resources! I aim for 4-6 hours a week of learning, even though most of it occurs on my own time.

*THERE'S AN OLD SAYING THAT PEOPLE ONLY GO TO A WELL WHERE THERE'S WATER. THE CAD MANAGEMENT ANALOG TO THIS SAYING IS USERS ONLY TO GO A CAD MANAGER WHO KNOWS HOW TO SOLVE THEIR PROBLEMS. BE THEIR GO TO!" -ROBERT GREEN*

**Practice makes perfect...** do what you are preaching. By *doing* you can work out the kinks and solve problems... kill two birds with one stone!

**Present your expertise.** Let others know about the trials and the resolutions so that others can learn from you. Teaching what you have learned to others will push you even further toward your goal of mastering your skills.

*ADVERTISE YOUR SKILLS, EVANGELIZE, LEAD TECHNICALLY, WANT PEOPLE TO LISTEN (AND GIVE THEM A REASON)!" -ROBERT GREEN*

However, do you need to be an expert in every aspect of the systems and processes you manage? The answer is no, if you know how/where to get an answer or have an expert in that field to rely on. **Being a jack of all trades, master of none is ok** in many instances. You might dabble in many areas rather than becoming an expert in only a few.

Just be careful. You do not want to say "I don't know" too often. You want to be the person people can rely on. If you do not know, make sure to get them an answer promptly.

**Fake It Until You Make It** – intimidate confidence, competence, and an optimistic mindset until you get there. Science has proven this tactic works! But faking it only works when you correctly identify something that is holding you back and you have a goal to correct it.

*"HOW DO YOU GET YOURSELF TO A POINT OF BELIEVING? START MAKE-BELIEVING. BE LIKE A CHILD, AND MAKE-BELIEVE. ACT AS IF YOU HAVE IT ALREADY. AS YOU MAKE-BELIEVE, YOU WILL BEGIN TO BELIEVE YOU HAVE RECEIVED." -RHONDA BYRNE*

Acting "as if" is a common prescription in psychotherapy. If you want to feel happier, do what happy people do—smile. If you want to get more work done, act as if you are a productive person. Just do not get caught up in only changing other people's perceptions of you.

## Learn to Say No

Your time is valuable, and it is not free. You need to put a price on your time. **Saying No is ok.** It allows you to focus on the important tasks (see 80/20 rule above).

You set boundaries and expectations daily. Do you want to be the pushover who always says yes? Do you want to be the path of least resistance who says yes, even when overloaded? Its ok to say No but offer an alternative approach or alternative time frame.

Instead of saying no, be honest about when you can take on the task. Saying no is about professional integrity, integrity is about trust, maintaining trust is about being honest and respectful to yourself and others. Why take on a task that you know you do not have the time to dedicate properly to it? Why take on projects or tasks that are counterproductive or impact the performance of your core responsibilities?

*SAY "NO" TO A "YES." SAY "NO" SO YOU CAN SAY "YES." WHEN A LEADER SAYS "YES" TO SOMETHING NEW IN THEIR LIFE OR THEIR LEADERSHIP, THEY MUST DECIDE THAT THEY WILL SAY "NO" TO SOMETHING THAT THEY ARE ALREADY INVOLVED IN DOING. THIS PRINCIPLE WILL ENSURE THAT YOU ARE NOT JUST NEEDLESSLY ADDING TO YOUR "YES" LIST, BUT RATHER ARE REPLACING YOUR ALREADY "YES'S" WITH NEW "NO'S." - KEN GOSNELL, CEO EXPERIENCE*

Say no when:

- the request is outside your skill set or your area of responsibility. Better to saying no might be "I am not the best for this job, have you considered Paul?"
- you are at the tipping point where nothing is getting done or getting done well. Or when you have been assigned too many responsibilities, do not have the bandwidth, or are without enough resources. Saying yes and taking on another task can damage your reputation when you fail, and it damages the success of your current projects or tasks
- the request does not match your short-term or long-term goals

Or, instead of saying no, teach them to fix their own problem. Feed a man a fish and he eats for a day, teach a man to fish and he feeds himself for a lifetime.

If you do not have the time or the task does not fit into your priorities... delegate, it!

*"LEADERSHIP IS THE ART OF GETTING SOMEONE ELSE TO DO SOMETHING YOU WANT DONE BECAUSE HE WANTS TO DO IT." -DWIGHT EISENHOWER*



## Organization and Time Management

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*“IF YOU ARE LIKE MOST CAD MANAGERS, YOU SPEND THE MAJORITY OF YOUR TIME PUTTING OUT FIRES AND MANAGING PROCESSES AND PEOPLE ABOVE YOU AND BELOW YOU. YOU INTERACT WITH EVERYONE, TOUCH JUST ABOUT EVERY PROCESS. SOMETIMES YOU FEEL EMPOWERED AND OTHER TIMES IT FEELS LIKE YOU CANNOT GET ANYTHING DONE. IT RANGES FROM A FEELING OF TOTAL CONTROL TO OUT OF CONTROL. YOU HAVE FEELINGS OF SUCCESS AND FAILURE, ALL IN THE SAME DAY.” -MARK KIKER*

### Find Your Champion!

You cannot be everywhere all the time. You have limited resources. You do not have any direct reports to can delegate tasks too. Now what? Find your champion!

You need someone who will be your voice when you aren't there. Someone who will speak up for you or back your goals behind closed doors. Your champion is your walking spokesperson.

Your champion is someone who “buys in.” Someone who is excited by tech. Someone who wants change as they want better. Someone who is willing to take on tasks and help you promote the change.

Ideally this person has a strong desire to learn new software or processes. Someone who remains calm when confronted with problems and can communicate clearly. They should have the desire to follow through until finished

Trust me, you need a champion or two!

### 5S – Sort, Straighten, Shine, Standardize, Sustain

5S is a workplace organization method. Originally developed to assist with Just in Time manufacturing, I find that it helps me keep my working area organized and my life straight. Some things to do in your working area:

- Reduce time loss looking for an item by reducing the number of items. Remove unnecessary items and stop the accumulation of “stuff”
- Reduce the chance of distraction by unnecessary items. Keep your workstation clean and uncluttered
- Arrange all items so they are easier to access, have a place for everything
- Follow the first come, first serve workflow
- Be disciplined about maintaining order in your work



## The Basic Requirements for Getting Things Done

To master the art of relaxed and controlled engagement, you need to implement a few basic activities and behaviours (from “*Getting Things Done*” – a must read!). These work together to not only get you organized but produce a wonderful productive state of being present amid all the complexity.

Three steps to managing commitments:

1. If its on your mind, your mind is not clear. Anything you consider unfinished must be captured in a trusted system (collection tool) that you know you will come back to regularly
2. You must clarify exactly what your commitment is and decide what required actions will make progress
3. Once you have decided on the actions, keep reminders of them organized in a system you review regularly

It is important to capture what needs to be done and collect these effectively. In order for your mind to let go, you have to know that you have truly captured everting that might represent something you have to do or at least decide about.

With all your stuff collected, now clarify it. With each task ask... what is it really about? is it actionable?

## Eat the Frog First

*“EAT A LIVE FROG FIRST THING IN THE MORNING AND NOTHING WORSE WILL HAPPEN TO YOU THE REST OF THE DAY.” — MARK TWAIN*

I struggle with this one and it is a constant battle to change my habits, but you should start every day with your biggest, most important task... do not procrastinate, do something about it. They do not pay you to stare at the frog!

Have two frogs? Eat the ugliest one first!

	urgent	not urgent
important	Do	Decide
not important	Delegate	Delete

Dwight D. Eisenhower (former president of the United States) used a system of prioritization now known as the **Eisenhower box**. He prioritised things into four categories: **Important – urgent, important – not urgent, urgent – not important, and not urgent – not important**. Anything in the **Important – Urgent category is your frog.**

Similarly, you have **things you do not want to do, but actually need to do** and **things you want to do and actually need to do.... the ones you do NOT want to do are your frogs!**

Sticking with the **Eisenhower box method**, use it to your advantage to be more productive:

- Anything that is **Important and Urgent** are the tasks you need to do immediately (aka **DO!**).
- If the task is **important but not-urgent** (aka **DECIDE**) then schedule a time to do it later

- If the task is **unimportant and urgent** then consider finding someone else to do it (aka **DELEGATE**).
- If the task is **unimportant but non-urgent** (aka **DELETE**) then eliminate it!

*“WHAT IS IMPORTANT IS SELDOM URGENT AND WHAT IS URGENT IS SELDOM IMPORTANT.” -DWIGHT EISENHOWER*

It can be difficult at times to differentiate between important and urgent. A good rule of thumb is if it feels like you need to react quickly, then it is *urgent*. *Important* tasks typically contribute to your short-term and long-term plans and goals.

Ask yourself, “*Do I actually need to be doing this?*” If it does not align with your plans, mission, or goals then it is ok to remove the task. There is no faster way to do something than not doing it at all!

*“THERE IS NO CODE FASTER THAN NO CODE.” -KEVLIN HENNEY*

When you have your tasks organized into one of the three buckets (Do, Decide, Delegate... you removed the ones in the Deleted bucket, right?) take a step back and reflect on the whole picture. At least weekly I scan all the defined actions and options ensuring my priorities are correct.

## **(Bullet) Journal**

Take daily notes, create tasks, and set reminders. So many verbal conversations lead to tasks, take-aways, and next steps. If you are not writing these down, it will be in one ear and out the other.

I have started doing two things:

1. Using a “to-do” task app on my phone to enter quick tasks when I am away from my desk
2. Rapid logging via bullet journaling to keep track of important and new tasks, and details and notes about events.

I review the day’s list at the end of the day or first thing in the morning and use it to help track completed tasks, moving tasks into today’s events, or moving them into another system for tracking.

Google “bullet journal” or “rapid logging.” It is worth 10-minutes of your life to take a look.

Oh, and Microsoft OneNote provides a phenomenal method of keeping notes (and images) about current projects.

## Zero Inbox

*“OUR INBOXES HAVE BECOME PERPETUALLY OVERFLOWING MOUNTAINS OF IRRITATION—AND INSTEAD OF HELPING US TO BE MORE PRODUCTIVE, THEY JUST SEEM TO SUCK HOURS OUT OF OUR DAYS.” -JR RAPHAEL*

Too many people use their inbox as their to do list. Terrible idea! It quickly starts to pile up and becomes overwhelming. How often do you lose track of emails or realize you never got around to taking care of something you meant to handle several days ago?

**Zero Inbox** to the rescue! This is still new to me, and I am working out the kinks, but so far this has allowed me to stay more organized, stay on task, be more prompt, and lowered the feeling of being overwhelmed.

**Zero Inbox** is the strategy of email management of keeping your inbox empty and the amount of time your brain is in the inbox. It is not a to do list!

Quick guideline to achieve zero-inbox:

1. Only process email periodically throughout the day, for a fixed amount of time
2. Unsubscribe from every list-based email you get (unless you absolutely, really truly, need it) and filter recurring messages from which you can't easily unsubscribe
3. An email should not sit in your inbox for more than 24-hours.
4. As you process your email, first delete as many new messages as possible then forward the ones best answered by someone else. Now, for the rest, if the message requires:
  - no action – archive it or delete it
  - a simple reply (2-minutes or less) – do it, right there and now
  - a longer reply (more than 2-minutes and you do not have the time) – delay the response by setting a reminder to handle it later and move the email to a “to do” folder
5. Filter CC's into a separate folder and at most check it once a day

How often you are checking your email? If you answer “as it comes in”... stop right now!. Constantly checking disrupts your concentration and saps your focus. You use up valuable cognitive resources while reorienting yourself between the email and the task at hand.

Research shows when we are deeply engrossed in an activity, even minor distractions can have a profound effect. According to a University of California-Irvine study, regaining our initial momentum following an interruption can take, on average, upwards of 20 minutes.

What should you do? shut down your email or disable the email notifications and minimize the window... the goal ... only checking your email a few times during the day – 2 or 3 instead of responding to them the moment they arrive. It is so freeing, and no one will notice the difference.

## Agile / Kanban

I have tried to apply agile methods of project management to the general part of my work life and so far, it has not worked. I am not completely giving up, but its on the backburner now.

The agile method is a project management approach for software development. Its strength is with the unpredictability of developing software by using incremental work sequences (sprints).

Where agile has not worked, Kanban for me has been revolutionary. With Kanban you do some work towards a project, then move that item down the line to the next station where you complete something else. It only works for the self-motivated who do not require much management. It is great for seeing the entire project or list of tasks at a glance.

I use **Kanban Cards**, where each task card includes all the relevant information and ensures everything to complete the task is at hand. These cards sit in a **Kanban board** allowing me to visualize the work. **Kanban boards** use cards in columns to help me focus (and commit) to the right amount of work, at the right time, and get it done!

My tool of choice is Trello, but others like Asana and even MS Project provide similar tools.

## CAD Standards

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For the CAD Manager **standards** provide a common language and the basis for mutual understanding. **Standards** facilitate interactions between departments, enable your company to comply with regulations and other companies' standards, and speed up the introduction of new technology and improved processes.

*CAD STANDARDS "WIN" THEN IT MAKES THE USER FASTER AND THEY WANT TO USE YOUR SOLUTION. -ROBERT GREEN*

### The Importance of CAD Standards

Good standards ensure the reliability of the products (outputs), reduce unpredictability improve productivity, and believe-it-or-not reduce mis-communication and help maintain sanity!

I include both technical standards (what is being made) and the standards of practice (how things are made) within our company standards. It also long ago branched out past just CAD Standards to encompass all company processes and practices.

*"THERE ARE PLENTY OF STRONG REASONS TO SUPPORT THE CREATION OF CAD STANDARDS IN ANY ORGANIZATION, REGARDLESS OF THE SCALE. DIFFERENT PEOPLE MAY CITE DIFFERENT BENEFITS, BUT TO MY MIND THEY ALL BOIL DOWN TO TWO ESSENTIAL FACTORS: EFFICIENCY AND CONTINUITY." -CURT MURENO*

Standards will improve (speed-up) production while reducing errors. An extra benefit is the reduced cost in onboarding new employees and expanding roles to less-experienced staff. Standards will reduce quality control efforts too. This is done through automation, standardization, elimination (of roadblocks) and duplication.

So, who should develop CAD standards? The real answer is everyone who the standard impacts (but its not always the simple)

### Standards are Like Insurance

The first step to creating a good set of standards is to realize that no one is going to read it! Yes it sucks, but the quicker you come to terms with this, the quicker you'll be able to move on and progress creating a killer set. **Standards are a lot like insurance, no one needs it until they need it!**

Instead of getting upset that no one is reading your standards, become a salesperson and sell your standards to both the CAD users and your senior management.

*MANY OF US START IN CAD MANAGEMENT BECAUSE WE BELIEVE THAT THERE IS A GREAT VALUE IN WORKING TO A STANDARD. FOR MANY OF US, THE BIGGEST HEADACHE IN CAD MANAGEMENT IS GETTING PEOPLE TO USE THE STANDARD! -MARK KIKER*

## **Make it accessible**

Now that you have come to terms that no one is going to read your standards, understand that they will want something that they can reference when they run into issues or have questions.

### **Your standards must be accessible!**

Your standard needs to flow in a manner that reflects how people will use it.

Write your standard with the user in mind using plain language and being clear and concise. This reduces time and cost in translation.

Your users will work more productively if they do not need to think about trivial matters. These should be decided before they even start a new design. They should be free to focus on where they personally add value.

We created an internal wiki. Its not always the most pretty, but its accessible from any computer in the plant, its searchable, all documentation is in one place, and its consistently organized. Another great option would be SharePoint.

I also publish to an internal blog to capture things not necessarily standards-worthy but worthy of notifying the engineering team.

Our Engineering Manager implemented “Wiki Thursdays” where at the morning meeting we highlight a wiki page, something new, recently updated, or the team needs a reminder of.

## **Start small**

Talk about a whole pond of frogs! Building standards can seem like a huge and daunting task.

Start small, identify the problems you want to address and rank them. Then start picking off the important topics.

*“CAD STANDARDS... EXPAND IT BIT-BY-BIT, SOLUTION-BY-SOLUTION, KEEP AT IT OVER THE LONG HAUL, AND DOCUMENT AS YOU GO!” -ROBERT GREEN*

The worst thing you can do is to half-implement a new or updated standard and have it fizzle out. I try to follow the 80-20 rule... I get 80% of the topic captured, push it out, get feedback, and iterate.

## **Why Redo When You Can Steal It (But Give Some Credit)?**

There is so much out on the interwebs: videos, blogs, online help, magazines, and more. So why reinvent the wheel? Why redo this content when you can just provide it as is or with some small tweaks?

## The Process

Curt Moreno (the CAD Ninja) suggests developing standards in three stages: Meta, Development, and Execution. I have combined this with the six-sigma process approach, and below is how I approach standards development. I apply this process to both the standards as a whole and to specific topics. Obviously, the length and effort in each stage is dependent on the size of the task.

<p><b>The Meta Stage</b></p> <ul style="list-style-type: none"> <li>• Do we have an existing standard?</li> <li>• What is the purpose? Identify the pain-points – this is what you are trying to resolve</li> <li>• Rough-out the current practice or process. It does not need to be elaborate but needs to include all the steps. It depends on the complexity, but I typically just point-form build a list.</li> <li>• Who is creating the standard? Who is the owner? Who is the champion? Who are the subject-experts? and who are stakeholders?</li> <li>• Identify the right reviewers (and the wrong ones)</li> <li>• Prepare the scope / roadmap / outline</li> <li>• Define tasks simply with one verb and one noun (“Throw the ball”). Too often we create compound tasks that should really be explicit in the process definition.</li> <li>• Be explicit at intake—It is important that the complexity of the process match the job (Keep It Simple Stupid?)</li> </ul>	<p><b>Development</b></p> <ul style="list-style-type: none"> <li>• Develop the process. Depending on the complexity I use a combination of lists, flowcharts, mind maps, and as required the software.</li> <li>• Identify the value added for each step – if not to the task, does it add value to the organization?</li> <li>• Insure all steps add value - if it does not, why are you doing it? Eliminate waste</li> <li>• Be explicit at intake (Part 2) - make sure all the information needed for the user to move forward is defined up front. Time is wasted in going back to gather additional information or to clarify points that should have been clear at intake</li> <li>• Now write the first draft and review for completeness and accuracy. As mentioned above I aim for 80% completeness.</li> <li>• Iterate – completing development and documenting the process</li> </ul>
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## Execution

During Execution you get feedback (if required) and for more complex processes do a “soft” release for a selection of users to trial. Then determine if the change requires training or just a notification. Either way you need to let those that it impacts know about your updated standard. Complete this stage by monitoring that the standard is followed consistently.

## Update the Standards!

Nothing kills a set of standards quicker than finding out-of-date or no-longer-application details. Your organization needs to perform regular (at a minimum annually) review of the standards to update the details and make required corrections.

Your standard will never be truly complete. Ongoing maintenance is an absolute must. Ignoring this last facet of standards development will only lead to a standard that is stale, and eventually out date.



## Reference Information

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I have been fortunate over the 20+ years of my career to have learned so much from very brilliant people. Unfortunately, I cannot list everyone.

However, here are a few AU classes (you can see them online) regarding CAD Management and CAD Leadership that are worth the read.

- **Robert Green – Boost Your Career with CAD Management Savings**
- **Robert Green – the Peer-to-Peer CAD Manager**
- **Robert Green - Establishing a CAD Proving Ground**
- **Curt Moreno - Standards for Developing Standards**
- **Mark Kiker - CAD Leadership – The Best is Yet to Come**
- **Mark Kiker - CAD Manager or CAD Leader: How to Be the Best of Both**
- **Paul Munford - 5 Pillars of Effective CAD Management**
- **Mark Perrott - CAD Standards Management: Sharing, Managing, and Enforcing**

A great book on organizing your life:

**Getting Things Done: the art of stress-free productivity – David Allen**