

The Construction Management eBook

by  ProjectManager



| Table of contents

An introduction to construction project management	3
Templates	5
Construction delivery methods	6
Bidding & contracts	11
Construction administration	22
Construction schedules	27
Construction change orders	32
Construction engineering	37
Construction budgets	41
Quality control	49
Reporting needs	54
Managing a team	59
The construction project management process	64
Risk management	69
Post-construction	72
Construction project management with ProjectManager	77

An introduction to construction project management

Construction projects are highly structured endeavors. Whether the project consists of building a shopping mall or a single-dwelling residence, each project has many moving parts that must be precisely coordinated.

Just like any other project, construction project management has phases. From designing to planning to scheduling to the build itself, each phase is complicated and part of a more complex overarching process.

Utilize the information in this eBook to learn more about construction project management and the tools you can utilize to complete your projects on time and under budget.

What is construction project management?

Construction management is the process of managing construction projects. When comparing construction project management to other types of projects, the main distinction is that construction is mission-based. That means that the project's organization ends with the completion of the project build.

While generally project management is defined as managing resources over the life cycle of a project through various tools and methodologies to control scope, cost, time, quality, etc.—when working in the construction industry, your outlook must be broader. Construction management usually includes a wider variety of constraints to consider that are specific to the design and build of construction projects. Construction project management can interact with a variety of different disciplines in the lifetime of a project as well, from architecture to engineering to public works to city planning.

Construction sectors

There are a variety of different types of construction projects that depend on the construction sector. The two sectors in construction are residential and commercial and there are four different types of projects:



Residential home building and renovation



Heavy industrial construction



Commercial and institutional construction



Engineering construction

That means there are a wide variety of types of construction projects that require construction management in order to be successful. Construction management might be required for a simple home to a large bridge, from engineering a dam build to an airport seismic retrofit project. Construction project managers, then, manage the beginning and end of a project build, often managing on-site to ensure safe, successful construction.

Now that we've explored the basics of construction project management, let's examine some helpful templates to help you kickstart your construction projects.

Templates

Templates are an easy way to kickstart your construction project and reduce wasted time. ProjectManager offers pre-built templates that can be used both in Excel and in our software. Take a look at some of our useful templates below.



Construction proposal template



Construction schedule template



Construction estimate template



Risk tracker template



Change log template



Construction daily report template



Punch list template



Bill of quantities template



Construction delivery methods



Construction delivery methods matter. They are the means by which a construction project gets from idea to completion. That's a long and complicated journey in construction project management, which is why knowing the best construction delivery method is so important. You can't reach the end of your project if you're not sure of the steps to get there, and construction delivery methods outline those steps.

What is a construction delivery method?

A construction delivery method is a procedure by which a construction project goes from initiation to close. It's a system for organizing and financing the design, construction, operations and maintenance services for the build on which you're working, be it in a structure or facility. It's a legal agreement, like a contract, that's between different parties involved in the construction project.

There isn't just one construction delivery method. There are many different types, from design-bid-build, design-build and construction manager at risk to integrated project delivery, job order contracting and public-private partnerships. These are only the most popular construction delivery methods, which we'll detail in a moment. While there are others, we don't focus on them because they're more niche or less used in the industry. These other methods could be worth researching if the ones we highlight aren't a good fit for your company and work.

How to choose a construction delivery method

With so many construction delivery methods to choose from, how do you know the one that's right for you? First, you must know what you're building and why. But that's only the start. You need more details in order to better choose a construction delivery method.



Budget

One of the more important parts of the project is the construction budget, so you'll want to establish this as quickly as possible. Don't forget to add some financial wiggle room to handle change orders that will inevitably come up during the build.



Design

It's not enough to have a clear picture of what the structure you're building looks like. You must also take into account the functionality of your building. Is there a flow to your floor plan? Is the plan more innovative than functional? This is the point where you have to check your ambition against reality. It's all well and good to have a complex design, but not if it's going to interfere with the electrical system, plumbing or any other essential system.



Risk

If there are too many **construction risks**, then the cost of the project could skyrocket and the whole endeavor could fail. Before you choose a construction delivery method, a thorough risk evaluation must be done long before committing to a project. Don't neglect liability. For example, who will be responsible for design problems that result in dangerous situations on the job site and after construction is completed? The construction delivery methods need to be examined for liability and other risk factors.



Construction schedule

Having an accurate schedule is important, and schedule and project costs are closely linked. Think about the timeline necessary to meet your expected schedule and costs. Do owners want you to fast-track the project before the completion of all construction drawings and documents? Is the schedule too ambitious, which leads to overrun and unhappy stakeholders? All of these variables will lead you to one construction delivery method over another.



Owner

The owner can have a big impact on your project and the construction delivery method depending on their familiarity with construction and the job type. Are they used to working at this size and scope? Owners can cause costly bottlenecks that lead to delays, so it's important they're a good fit for a successful project.

Top construction delivery methods

To make the right choice, you need to know the various construction delivery methods and what they mean.



Design-bid-build (DBB)

Design-bid-build or DBB is the sequence of phases in this construction delivery method. It's also called traditional as it's the most common. It starts with the selection of an architect who designs the project. This is done before the owner selects a general contractor, which is done through the **submission of bids**. The last phase is the building of the project. This construction delivery method consists of two contracts, one for the design and the other for the construction.



Design-build (DB)

The design-build or DB construction delivery method is more straightforward for owners and tends to reduce risk. But owners have less input on design, construction management and trade partners than in other construction delivery methods. That's because, in this method, the design and construction are handled by one firm, so the owner only needs one contract for architecture, engineering and construction.



Construction manager at risk (CMAR)

This method is popular when owners need a firm deadline and a definite price for the project's completion. The construction manager is like a consultant to the owner during the design phase of the project. The construction manager selects the subcontractors for the job and accepts the risk of meeting the deadline and pricing. The owner, in return, sets a guaranteed maximum price (GMP), which is like a fixed payment. The owner has two contracts, one with the designer and the other with the **construction manager**.



Integrated project delivery (IPD)

New and gaining traction is integrated project delivery or IPD. It's all about teamwork and collaboration. The goal of this construction delivery method is to share liability, responsibility, risk and reward among construction stakeholders. It's often used in lean construction management to reduce waste and costs. In this method, the owner, designer and general manager are all obligated under one contract.



Job ordering contracting (JOC)

This can be considered a subset of integrated project delivery, especially when dealing with the repair, renovation, maintenance, sustainability and even small new construction jobs. Each contract uses a unit price book to set the price for each job and this is done across a multi-year umbrella contract. A unit price book is a detailed and defined scope of work and estimate of costs for the job based on labor, materials and equipment costs.



Public-private partnerships (PPP)

As the name implies, this construction delivery method is a cooperative arrangement between a public and private entity. The public entity is usually the owner, while the private entity is usually the designer, builder and financier, though it's possible they're also responsible for operations and maintenance. This provides better infrastructure as each participant does what they do best.

Once you've chosen the ideal construction delivery method, you'll be able to move forward with the bidding and contracting process.



Bidding & contracts

What is a construction bid?

A construction bid is part of the process of submitting a proposal for **a construction project**. The construction bid shows potential customers that your organization is the right contractor for the job—meaning building and/or managing their building or structure.

Construction bidding describes the process between a construction company and its customer, but it can also describe how subcontractors get work from the contractor once a job has been taken.

A construction bid lives or dies on accuracy. Using blueprints, **construction plans** and material quantity takeoffs, the bidder must estimate a realistic cost (including a profit margin) to make the job viable.

Is a construction bid an estimate?

While a bid is an estimate, they are not exactly the same thing. There's no hard and fast rule, but most of the time when a contractor is talking about an estimate, they are referring to the **costs of materials and labor** for their project. The construction bid is what is sent to the customer as the final, fixed price for the whole job.

Regardless of the difference, estimates need to be accurate in order not to lose money if the bid is accepted.

What's included in a construction bid?

There's no one-size-fits-all style to a construction bid, however, certain elements are required when submitting one. When making a construction bid, include the following:



Contact information

This might seem obvious, but a bid will be discarded if there's no contact information for the construction company that submits it or the potential customer to whom it's addressed. The basic information is name, address, phone and/or email and a place for signatures, either to acknowledge receipt or agreement on the terms. Include the location of the construction project as well.



Scope

Next comes an overview of the project before getting into the details of pricing. Here, outline **the scope of the project**, the services provided, the schedule for the work, necessary materials and other features required to get the job done. This section should be detailed and include customer expectations, any subcontractors that will be hired, removal of trash, visitor rules, safety protocols and more.



Existing conditions

This is where to describe the job site as it currently is after conducting a preliminary site assessment. List the conditions of the site as it stands now, what action will be taken to respond to these conditions and who will be responsible for what. Also, note how **conditions discovered after the start of the project** will be dealt with and who will decide on the scope and cost of any remediation.



Cost

Estimate the price for the entire project here. Break down the total cost into subsections, including labor and materials. Add a section on costs if the project goes over the scope to manage the customer's expectations.



Terms of payment

Detail the manner in which you'll get paid for the job if selected by the customer. Most will not pay the total cost upfront, so decide what down payment you require and the frequency of installments for the balance. These payments can be tied to various **milestones in the project**, which should be identified.



Relevant documentation

Because of the size of most construction projects, it's critical to the bid that any and all sub-projects are identified, detailed and an owner who is responsible for them determined. This will help the customer know who is responsible for what when the project begins. It also defines who has legal authority when it comes to signing documents.



Schedule

The **work schedule** will be detailed here, from the start to the end and all milestones in-between. It's a good idea to determine the extent to which you're liable for any events that cause delays in the execution of the project. Those events could be inclement weather, delayed permits, etc. Block out the calendar, noting working days, vacation, supply lead time, zoning approval and other third-party processes that can impact the timeline.

The construction management bidding process

Most construction projects follow the design-bid-build model. First, the project owner gets the design from architects or engineers. Once the project owner has blueprints and a material take-off (MTO) for the construction project, the next step is to select the general contractor through the bidding process.

Then, general contractors present their bids, which include details like the statement of work, payment terms and how much it will cost.

Project owners usually issue two types of bids:

- ✓ **Open bid:** These bids are publicly advertised and are used on public projects. Any general contractor can submit a bid.
- ✓ **Closed bid:** The project owner selects a group of contractors and only receives bids from them for the construction project.

Once project owners receive the general contractors' bids, they choose the best by any of these selection methods:

- ✓ **Low-bid selection:** Consists of selecting the contractor with the lowest price bid.
- ✓ **Best-value selection:** This selection method evaluates both the contractors' qualifications and the price to choose the contractor with the best price-quality relationship. The project owner also closely examines the request for proposal (RFP) submitted by contractors to make a decision.

- ✓ **Qualifications-based selection:** This selection method focuses on the contractors' qualifications. To do this, project owners analyze each contractor's request for qualifications (RFQ) to decide which is the most qualified contractor for the project.

Once a contractor is chosen, a payment agreement contract must be signed.

Steps in construction bidding

When involved in the construction bidding process, have accurate estimates and a low bid. Many customers will only look at the bottom line and go with the lowest bidder. However, don't bid yourself out of business.

Keeping that in mind, it's best to follow these steps in the construction bidding process.

- 1 Solicitation:** Referred to as a request for proposal (RFP), this is when an owner puts out a request for bids for a project they want to execute. This means asking companies to bid with all materials factored in.
- 2 Subcontract:** The general contractor will solicit bids from subcontractors for parts of the project, though this can often wait until the contractor has won the bid.
- 3 Submission:** The proposal will have a deadline. Once the contractor has detailed the information required by the customer, they submit the bid prior or on the deadline.
- 4 Selection:** There's a period of time when the customer goes through all the submitted bids. They will then choose the one which best fits their needs, which will be the winner of the bid.
- 5 Contract:** Because of the bid's details, both parties can use it as a legally binding contract once agreed upon. However, it is more likely the customer and the winner of the bid will finalize the terms and conditions sketched out in the bid and create a legal contractual agreement they both sign.
- 6 Project begins:** After all this, the project will begin, following the agreed-upon schedule and pricing of the bid.

How to win a construction bid

The construction bidding process is highly competitive and there can be dozens of businesses vying for one job. How do you differentiate yourself and win the work without losing money in the process?



Know the competition

It helps to know who else is bidding on the job. Know the competitors and what they're doing. It doesn't hurt to network or join building trade groups to keep updated on what others **in the construction industry** are doing. When there's a proposal, it doesn't hurt to be the first one to bid, so keep an eye on marketplaces where bids are posted.



Be judicious with your bidding

Although it helps to be the first to bid, it's not ideal to bid on every job out with a proposal. Spend time making the best proposal for the job while also ensuring it fits what your organization can accomplish at a profit. Cultivate a niche and look for work that will result in repeat business.



Build relationships

Business is better executed on the foundation of a strong relationship, so strive to build relationships with people who are in a position to make decisions on awarding work to your company. Identify the individuals responsible for pulling the trigger on new work and develop trust with them.



Accentuate your strengths

When in the construction bidding process, don't be bashful. Promote the qualities your business has that make it the right fit for the customer. **Show off the team**, and be sure to let them know you have the experience necessary to do the job right. Sometimes value is more important than the price tag.



Take your time

Take time when making the bid. Do the research and explain how you can give them the best return on their investment. If you know anyone who has worked for the customer in the past, talk to them to get an idea of what the customer wants.

What is a construction contract?

A construction contract is a formal agreement of terms between an owner seeking to outsource work and the independent contractor or specialist who intends to take up the job. A construction contract should include details about **the construction project**, the project's scope and a breakdown of the outsourced tasks. It should also detail contingencies between the contractor and the owner for situations in which issues affect the project timeline.

Why is a construction contract necessary?

Construction contracts protect both parties in the agreement. These documents detail what work will be completed, when it will be completed and how much it will cost. They also outline **methods of communication** and how disputes will be handled if they arise.

By including information about communication and changes, construction contracts streamline the decision-making process. Ideally, project risks have been anticipated and the contract outlines how best to proceed. A construction contract is, first and foremost, an agreement, but it serves as a roadmap of sorts as well.

Who is involved in construction contracts?

Construction contracts involve two parties; owners and contractors. Owners need a job outsourced and the contractor executes the job. The two parties work together to draw up a contract and agree on the terms of completion and payment.

Owners contract builders when they need to execute a specialized job they cannot perform on their own. They may also contract builders when the scale of the project is too large for them alone. Construction projects, in particular, often require owners to hire several different contractors. In this case, thorough construction contracts are crucial to the successful management of the project.

Types of construction contracts

Because construction projects take many forms, different projects require contracts with different characteristics. Before creating a construction contract, it's important to know the type of contract that best suits your needs:



Lump-sum contract

A lump-sum contract (also called a fixed price contract) names a total price for the entire job. This price accounts for all time and materials regardless of changes or issues. This type of contract protects owners against unforeseen changes and setbacks.

Lump-sum contracts can seem as though they favor the owner over the contractor, but there are ways to balance the scales. Many contractors charge an additional percentage for signing lump sum contracts, as they will be taking a higher risk. Additionally, incentive programs are often put in place by owners to reward jobs being completed early.



Cost-plus contract

Cost-plus contracts are made of two parts: a predetermined fee and accumulated costs. This fee is the agreed price owners will pay contractors. It can be a dollar amount, a percentage of the total project cost or another form of payment. The defining characteristic of a **cost-plus contract** is it reports expenses as they occur rather than deducting costs from a set budget.

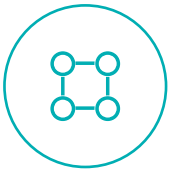
A cost-plus contract is used when construction project expenses are uncertain. While this can seem a liability, cost-plus contracts often include incentives for coming in under budget and caps on expenditures. This avoids conflict and ensures contractors are paid a fair overhead.



Time and materials contract

Time and materials contracts are a fitting choice when the scope of a project is completely unknown. In this case, contractors will charge an hourly rate for labor and for materials as needed. Because this leaves uncertainty, these contracts must be specific and prepare for almost anything. An owner should include incentives for construction projects completed ahead of **schedule** and/or under budget.

A time and materials contract is a good choice for small projects, as they require such close supervision. For example, all costs must be carefully monitored and classified in order to document them closely and ensure contracts are adhered to. As you can imagine, this becomes more and more difficult the larger the project. The advantage of choosing a time and materials contract is it protects owners from overpaying contractors.



Unit pricing contract

A unit pricing contract is used when an owner wishes to buy a large quantity of a certain product. Each product is a unit and costs a set price. These items can also often be charged in bulk quantities for a reduced price.

Unit pricing contracts are advantageous when an owner knows exactly how much of a specific product they need. Using this type of contract and buying all the units at once is also a good way to protect against potential future inflation of material prices. By buying all the items at once, owners generally pay less than they would in the future and don't have to worry about drawing up another contract in the future.

Best practices for writing construction contracts

No matter what type of **construction project you're planning**, these best practices ensure your contract is a clear, detailed arrangement:



Include incentives

One of the best ways to set a construction project up for success is by creating incentives. Incentives are useful when the scope is undetermined and budget, time and labor costs are up in the air. Incentives encourage both contractors and owners to work efficiently and complete a project on time and under budget.



Clearly outline expectations

Be clear when conveying expectations on how expenses will be reported, how communication will be maintained, or how any other aspect of a construction project is managed. Outline a contract and break it into key points to which the contractor can refer back.



Create contingencies

The best construction contracts have **contingency plans**. More often than not, something unexpected will happen during the duration of a construction project. When construction contracts have contingencies, both the owner and the builder have a roadmap of what to do when something goes wrong.

What to avoid when writing construction contracts

Here are three common mistakes to learn from and avoid in your construction contracts.

1

Not being specific: One common mistake is to generalize rather than specify. The point of a construction contract is to detail the exact terms of the agreement between an owner and a builder, and there should be no room for interpretation. There's no such thing as an overly detailed contract.

With this in mind, construction contracts should remain clear and unclouded by unnecessary details. Find a balance between anticipating everything that should be included and editing down information that dilutes the key points.

2

Not establishing communication: When writing a construction contract, specify exactly how and when a contractor should communicate. This communication can be in the form of regular check-ins or only in the case of significant changes, but both parties must know when to run something by one another before making decisions.

Lack of communication is detrimental to construction projects. Because there are so many moving parts, everyone must understand their role in relation to one another. A well-written construction contract sets up a system of communication and makes it clear where to direct questions and updates.

3

Not detailing how to manage changes: Changes are inevitable in any project, but never more so than in construction projects. Construction projects have countless moving parts and involve many individuals and, often, many different contractors. This means adjustments will be a natural part of the project.

A detailed construction contract means these changes don't have to be bumps in the road. When contracts stipulate exactly how changes are to be made, who makes them, and how the process looks, everything runs smoothly. On the other hand, when these details are not clear, contractors won't know how to make changes, who to go to for approval and how to document what changes were made.

Now that we've discussed construction bidding and contracts, let's look at construction administration.



Construction administration

There's a lot of work that goes into construction long before any ground is broken. For one thing, there's the contractual agreement between the owner and the construction general contractor that has to be adhered to throughout the project. Overseeing that process is called construction administration.

What is construction administration?

Construction administration deals with overseeing that the construction contract is being adhered to throughout preconstruction and execution. In fact, construction administration is present at all phases of a construction project to ensure that the agreement defined in the contract between the owner and the general contractor is being met.

Therefore, construction administration focuses on the completion of the contract, which provides what must be done in order for that contract to be fulfilled. Note that construction administration isn't typically present in competitive bidding and it starts with preconstruction, once the contract has been agreed upon and signed. From there, it moves into the construction and inspection phase. It's less visible, if at all, during asset management.

You can look at construction administration as a series of actions that are required by the contract, the State Construction Administrator and other state agency employees conducted by the architect or an official governing body. A construction administrator is then responsible for the timely and correct performance of all construction project management phases.

They'll need to work with contractors, suppliers and anyone else responsible for construction project work. This includes guarantees and warranties pertaining to the project.

Construction administration vs. construction management

Construction administration and construction management work together to complete a construction project. In that way, they're complementary disciplines, but they look at the work of the construction project from different points of view. It's important to understand how they differ and how they work together.

For one, construction administration is usually managed by the architect while construction management is the purvey of the general contractor. The architect who designed the project is often employed by the construction owner. The owner and architect are the ones who contract with the general contractor after the winning bid is picked. This means that the architect or a construction administrator in larger commercial construction projects is responsible for making sure the signed contract agreement is being fulfilled.

In construction administration, architects review **submittals** and shop drawings from the general contractor and ensure that these meet the requirements of the construction design. However, a construction manager isn't always a general contractor but oversees the general contractor on large commercial projects. They help save the client money by making sure that the construction project is running smoothly, is on schedule, within budget and delivers on quality expectations.

Construction administration isn't always the architect, though, they can be a lead engineer, construction project manager, construction contract administrator or architectural engineer. Generally, they review submittals and inspection reports, keep track of materials and costs and act as a liaison between the owner and contractor. Basically, anything that results in executing the contract and staying within budget.

There's some overlap depending on the project and the companies involved. For example, a construction project manager is usually tasked with managing the project, but could also be responsible for construction administration duties. However, the difference between construction administration and construction management boils down to their goals. The latter manages the construction of the project from start to finish, while the former ensures the project moves toward what the owner wants.

Why is construction administration important?

The main reason why construction administration is important is that it ensures that every stage is executed in a timely fashion. The construction administrator reviews samples and construction documents to make sure they meet the standards agreed upon in the contract that the client signed.

Any smooth construction project requires construction administration. This is especially true when dealing with large, complex commercial construction projects where there are many moving parts and oversight is critical to avoiding issues that could cause delays or added expenses.

All construction projects use a **punch list** near the end of the project to capture outstanding work. The architect or whoever is acting as construction administrator determines if the contractor's work is complete and meets client expectations. Once this punch list is finished and the construction administrator approves, only then is the client payment due. The construction administrator can also tell the contractor that they have additional work before payment can be rendered. Therefore, the construction administrator ensures project quality, which is essential.

Construction administrator responsibilities

As we've stated, a construction administrator is a professional who monitors contracts, keeps the project paperwork updated and is involved in project schedules. They need to have a strong business aptitude, be well-organized and be able to communicate clearly with a variety of construction professionals. The following is a partial list of their main responsibilities.



Submittal packages

Construction administrators are responsible for the documents that are provided by the contractor. These are usually given to the architect who will then review and approve them if they're in accordance with the signed contract. They'll keep a submittal log, which asks for approval of materials and equipment before they're sent to the project site.



Change orders

A change order is used in construction project management to request an amendment to the construction contract that changes the contractor's scope of work. All parties involved with the contract need to agree on the new duties and expectations.



Building codes

When constructing a building or any structure, there are building codes that must be met. They specify the minimum standards for construction. For the construction to be code compliant, permits must be pulled and standards met, which is part of the construction administrator's job.



Subcontractor management

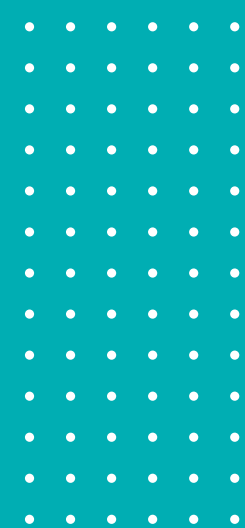
This refers to getting and overseeing subcontractors and making sure that their work for the general contractor who hires them aligns with the agreement signed by the contract.



Supplier sourcing

The construction administrator is involved in the activities that go into identifying and evaluating potential suppliers. The chosen suppliers will offer the best value in terms of product and cost to meet the contract demands.

Now, let's explore the topic of construction schedules and how they can set your project up for success.



Construction schedules



The construction schedule is the backbone of any successful project management for construction. The more time you put into the construction schedule, the less issues you'll have when you execute the project plan, which is key to good construction project management.

What is a construction schedule?

A construction schedule is a timeline for every task and event in a construction project. It's a fundamental part of the project planning phase as it also defines the resources needed and the teams responsible for each task in the construction process.

5 steps to make a construction schedule

If you follow these five steps, you'll hit all the major points that need addressing when creating a construction schedule.

5

Gather info and tools

Construction scheduling involves different types of resources, stakeholders and participants. Begin by listing all subcontractors involved in the job as there are always many in a construction project. Once you have the list, reach out to them and ask how much time it'll take to procure materials. Then, ask how long their part of the project is estimated to take. This is key for sound **time estimation** on your part.

You'll also need to speak with the local code office and get a list of requirements and what inspections will be needed throughout the build. Code restrictions vary depending on the type of construction and materials you'll be using, so you'll need to do the research to make sure your project is compliant.

When it comes to **budgeting your project**, you'll need to go through the process with your bank and determine when they'll release funds. You'll need a steady influx of cash to keep the project moving forward, so before it starts, it's key to have an understanding of your bank and its process of disbursing money. Talking to the bank before scheduling gives them a big-picture view of the project and valuable insight into how to schedule.

Figure out a project management tool that suits your needs. As we mentioned above, there are templates that can help you get started with your construction schedule if you don't want to build your plan and schedule from scratch. Naturally, ProjectManager being an online project management software, recommends a cloud-based tool such as ours.

02

Collect and prioritize tasks

You have context and tools, but now you need to break the project down into the steps that will lead it from a **construction plan** to a completed project. These are the tasks. You can't have an accurate construction schedule until you have a thorough listing of every task that results in a successful project.

You can use a **work breakdown structure (WBS)** to get a handle on the size and scope of your project. You can think of this tool as a way to visualize your deliverables by starting with whatever you're going to construct and then breaking it down level by level until you're at the most basic parts.

At this point, it doesn't hurt to gather the team and whatever subcontractors you're going to employ and pick their brains. Remember, the more thorough your task list, the more accurate your construction schedule. Tasks are what can derail a project, so keep your mind on the scope. And don't forget that some tasks are dependent on others, so you'll want to link those.

Once you have your task list as complete as possible, you'll next need to put those tasks in order. The WBS can help with this, as it takes a complex project and boils it down to the essential parts and when they need to be worked on. You can use **Gantt chart software** to spread these tasks over a project timeline. We'll get into more detail on that in a bit.

Tasks are small, which is good. You need to break down larger jobs into manageable smaller pieces. But it also helps to break up the whole project into larger phases or **milestones**. A milestone is a point in the project that marks the end of some large phase, say cementing the foundation or adding electrical. Accurately assessing all the different tasks and milestones that make up your project is critical for effective construction scheduling.

03

Add duration

Now take each of the tasks and give them a start and finish date, which will create a bar chart on the Gantt that represents the duration of the task. These determinations must be realistic. A construction schedule is impacted by climate and weather forecasts are only so accurate, especially long-term. Therefore, look at historical data about the weather to get an estimation of how the climate might impact the work.

Depending on how long-term the project is, you'll need to calculate your construction schedule holidays and consider sick and vacation days for employees. If there are other seasonally related or personal issues that might come up, then be sure to use them as a ruler when measuring your schedule's duration.

Outside of those issues, there is working with subcontractors and suppliers. The specifics will be outlined in your contract, but more often than not those dates are subject to change. It's best for your construction schedule to have the wiggle room to accommodate fluctuations.

It's important to make the schedule realistic. You might want it done at a certain date, but to achieve that goal, you have to cut corners and sacrifice quality. This is not possible in construction. The repercussions are too serious. So, be honest with yourself and give everything enough time in your construction schedule to be completed correctly.

Don't neglect non-task-related scheduling, such as procurement, delivery and other sources that are crucial to the project. You need to have a clear picture of what to order or reorder supplies. It's as important as the build. So is scheduling in any inspections, so there's time in your schedule to respond to any code issues.

There's also the financial portion of the project to keep in mind when scheduling. Add the bank draws, and link them to the appropriate tasks in your construction schedule. You and the bank need to know when money will be required. You don't want to chase the cash and stall the project.

04

Allocate and execute

In a nutshell, construction scheduling is about activities and resources. Tasks won't get done by themselves, of course, but allocating that work to teams can get confusing in your construction schedule when you have so many subcontractors to keep track of. By color-coding tasks, you can easily distinguish the different teams and work. Now you can pinpoint who is working on what once the project execution phase begins.

You should have already made estimations on the length of work from your teams and have a detailed profile of their skills and experience to assign them appropriately. After allocating your resources, a project management tool like ProjectManager can send alerts when new tasks are assigned and deadlines are due.

Once you have the people assigned to the work, the construction schedule is ready to venture into the real world. Make sure that your resources are balanced. You don't want to over-allocate one team while another is twiddling their thumbs. ProjectManager has workload calendars to help with this process.

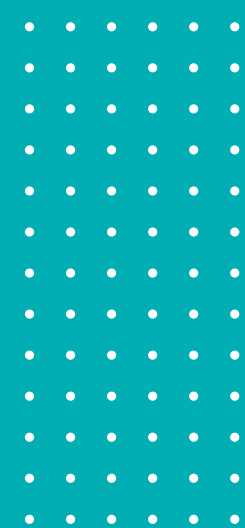
05

Review, review, review

Construction scheduling is highly complex and requires permanent monitoring. No construction schedule is written in stone, at least none that will succeed. Things change, and if you're not monitoring and reviewing throughout the project, those changes will send you off track—or worse.

Therefore, you'll need to look over the construction schedule throughout all phases of the project to make sure your actual progress is in line with your plan. Look at your schedule daily and depending on your time, update frequently. You can use our **construction daily report template** to keep track of the progress of your construction project.

This is a matter of **time management**. If you find that a daily update is taking you away from other project issues and responsibilities, then maybe you need to set aside time each week to respond to the changes you've noted daily and apply them to the schedule. It's up to you, but monitoring and adjusting your construction schedule as on- and off-site issues arise is perhaps the most important aspect of keeping your project on schedule.



Construction change orders



Changes are part of delivering any project. But to keep the project on schedule and within its budget, those changes have to be managed. A change order (or an amendment) is a mechanism that identifies, defines and tracks those changes in a way that's acceptable to all parties. That includes whatever added costs or time is required to implement the change.

Having a change order and a change order log are especially key documents in construction project management, where contracts between the project owner and the various contractors working to execute the plan are vital to a project's progression.

What is a change order?

A change order is a change management document that addresses any change in the project scope, detailing what needs to happen, how much it'll cost and when it can be expected to reach completion.

The change order is a means to modify existing construction contracts and, in effect, adjust the price and **timeline of the project**. Because of the impact a change order has on the budget and schedule, change orders aren't acted upon until both the owner of the project and the contractor responsible for the change agree on terms and conditions.

When should you use a change order?

There are several reasons why a change order might be used in construction projects:

- ✓ **When project risks occur:** Some risks might delay the project or affect the contractor's ability to complete the work in the way that was established by the initial construction contract.
- ✓ **When the project scope changes:** Sometimes, project owners ask for more or less work to help minimize costs or stay on the planned schedule.
- ✓ **When site conditions aren't as expected:** Inclement weather or unforeseen circumstances such as obstructions can alter site conditions and require adaptation.
- ✓ **When drawings are inaccurate or ambiguous:** If the original drawings don't accurately reflect the job, change is required.
- ✓ **When workers or materials don't arrive:** If your human resources change or you're unable to access certain supplies, it can shift how projects evolve.

Types of change orders

The two main types of change orders in construction are additive and deductive. An additive change is one that could be as simple as a different color of paint or moving a structure from one place to another on the project site. They don't take anything away from the project, they just simply change a part of the execution.

On the other hand, if you're requesting the deletion of a portion of work, that's a deductive change order. Unlike the additive change order, a deductive change will more likely result in a reduction of costs and could even shave some time off the project schedule.

What should be included in a change order?

Change orders vary from one project to another, but most of them include the following basic elements:

- ✓ Project information such as the contract number, contractor's name, project owner's name and change order number.
- ✓ A description of the proposed changes and how they compare to the original contract.
- ✓ A detailed description of the costs for each activity proposed in the change request, including any subcontractor costs.
- ✓ Supporting documentation such as construction drawings.
- ✓ An effective date for the change order.
- ✓ An updated version of the contract that reflects how the change order affects its value, schedule and duration.

Change order process

Now that we've covered the basics of change orders, let's explore a step-by-step change order process that you can implement.

1

Review the contract and identify the reason for the change order

We've outlined some common reasons for change orders above. Make sure to identify the reason and look over the contract to make any needed adjustments.

2

Create a change order request

The next step is to make it official through a change order request. Here, the owner or contractor will make an addendum or amendment to the original contract and scope of work.

3

Reach an agreement about the change order proposal

Make sure to carefully read and understand the new terms in the contract as it could require specific information and documentation that's not yet secured. If there's conflicting language, make sure to address it and come to an agreement with the other involved parties.

4

Get approval on the change order and adjust the contract

Once the language is cleared up, you'll need to negotiate the costs and get authorization in writing to begin the work. Make sure to communicate with all parties involved such as with the owner, subcontractors, etc.

5

Use a change order log to keep track of change orders

If the change order is approved, it should be registered in a change order log. A change order log captures all change orders of a project and ensures they're going as scheduled.

Best practices for construction change orders

The point of a change order is to manage changes and deliver your project on time and within its budget while giving both the owner and the contractor a chance to agree on terms and avoid later disputes.

To make sure your change orders are fulfilling these functions, and to manage the process for the best results in the overall project, it's important to follow best practices. The following are a few suggestions.



Know your original contract

The change order amends the contract you've already agreed on; therefore, it's important that you're very familiar with that original contract.



Agree on costs before doing work

The **project budget** will be impacted by the change order, but unless those costs are identified and agreed on, there can be trouble.



Get your change in writing

A change order form is created to avoid miscommunication. A handshake or a verbal agreement isn't a change order.



Have a process in place

Without a process to deal with change orders, you're going to have problems with contractors, budgets and schedules.

Construction is a field with a lot of disciplines. After all, it takes a lot of different craftsmen, engineers and more to assemble a building, bridge or any safe and integral structure. Every process is important to construction project management, especially construction engineering.



Construction engineering



ProjectManager



Construction engineering is the process of overseeing and managing a large-scale and complex construction project. These types of construction projects tend to be large buildings and the infrastructure that supports them.

As construction project management is almost always a complex and collaborative effort, you'll find construction engineers working with other types of engineering professionals. But construction engineers are often responsible for the design and safety of temporary structures that are used during construction, such as scaffolding. Construction engineers can work on electrical systems, mechanical systems and even building a new highway or tunnel, making sure they're connected to new buildings correctly.

Construction engineering relates to the construction project as the construction engineer manages it and keeps the project on schedule. They have to make sure that the construction is proceeding according to the construction plan.

Construction engineering vs. civil engineering

The main difference is that civil engineers are more involved in the design, planning and implementation of a construction project. For example, they'll analyze the survey reports and maps to prepare the project documentation around the construction plan.

Civil engineering is also responsible for pulling the necessary permits that must be obtained in order to begin construction. They're the ones on the construction site who collect and test soil samples to discern if the foundation is suitable. Civil engineers also manage the construction project's budget, providing cost forecasts for all resources associated with the construction project, including labor and equipment. They meet with the public to discuss new proposals and their impact on the community.

Construction engineering is more concerned with day-to-day construction site management. While construction engineers might participate in the processes that civil engineers lead, they focus on project execution.

Construction engineering roles

Construction engineering is made for big jobs. That means there's often more than one person responsible for the work that falls under the umbrella of construction engineering. Let's take a look at a handful of them.



Construction engineer

We've already talked about construction engineers and we've drawn the line between them and civil engineers. The truth is that line is porous. Because so many of their duties overlap, you can find a construction engineer or a civil engineer in this position. It depends on the project, construction project manager and other factors. But, as noted, there's a thin line separating the two professionals and often on a construction site, that line is crossed.



Construction estimator

The construction estimator estimates the materials to determine how much the construction project will cost. It's a time-consuming task that requires a great amount of skill. They need to understand construction design, such as in engineering or architecture, and require degrees in mathematics, preferably with a history in construction or manufacturing because they have to check the scope of work to ensure it's accurate before they begin.



Site engineer

Another aspect of construction engineering is being a **site engineer**. They have varied responsibilities including inspecting and installing equipment and new technologies, directing crews on the construction site, researching the site and reporting on the status.

If there are equipment malfunctions, they're responsible for resolving them. They're tasked with the management of the technical functions and infrastructure on site. Site engineers tend to focus on one technical aspect, whether that's software, hardware or other types of systems maintenance.



Structural engineer

A structural engineer is found in both construction engineering and civil engineering. Structural engineering revolves around the making of **drawings** and specifications, performing calculations, reviewing the work of other construction engineers, writing reports and observing the site.



Environmental engineer

The environmental engineer is a construction engineer who seeks solutions to the environmental challenges that impact the construction project. They use the principles of engineering, soil science, biology and chemistry to determine how to solve environmental problems on the construction site or created by it.

Let's now get into the importance of construction budgets and how they impact your projects.



Construction budgets



Without the right financing, construction projects will never get off the ground. Creating a construction budget is one of the most important pieces of developing a construction plan.

What is a construction budget?

A construction budget is an estimate of the money required to take a construction project from initiation to closure, including all associated costs and expenses that are accrued during the building process. While the budget is an attempt to forecast all costs in a construction project, you should leave some wiggle room to account for any emergencies or unexpected building costs.

Construction project managers start with the project plan, most likely a blueprint, in order to assess what materials will be required. Factors like job site preparation must be considered, which can include demolition costs, equipment rentals, permitting and inspection costs.

As the project execution begins, other costs begin to appear. There are labor costs and safety requirements for all on-site workers. Transportation can be another cost. Residential and commercial construction projects will also have unique costs. All these variables must be considered and calculated.

Why is construction budgeting important?

Chances are, you don't have an unlimited fountain of money to work with. Instead, you have stakeholders that have invested in the construction project and want to get a profit—and going into any project without a budget is a sure way to spend too much money. That's why you need a budget baseline that defines how much you can spend. Having a budget and construction project plan go hand-in-hand for any successful project.

A construction budget is also a great way to **keep your project on track** during execution. The more unaccounted expenses in a project, the longer it's going to take to finish. Making a budget lets you take account of as many construction costs as possible and helps you stay on schedule.

What's included in a construction budget?

First, it's important to understand construction project costs, which fall into three basic categories:

- ✓ **Direct costs:** This includes heavy equipment, materials and labor.
- ✓ **General conditions:** These are indirect costs, which fall into three types: preconstruction costs, construction organization costs and project operation costs.
- ✓ **Profit and overhead:** Profit is the difference between what you earned and spent, while overhead is operating expenses associated with running a business.

In terms of what to include in your construction project budget, that depends on the project you're working on. But in general, a construction budget should include the following:

- ✓ **Property:** This cost is dependent on where you are building and the scope of your project. This includes the lot price, real estate fees, financing and taxes.
- ✓ **Professional fees and services:** These costs relate to professional consulting, including permitting, surveying, testing, architectural and design, master planning, structural, electrical, mechanical and civil engineering, accounting, banking and real estate fees.
- ✓ **Materials:** Unlike other costs, materials expenses can be negotiable, especially if you have a relationship with your suppliers. Material costs tend to be a large portion of your construction budget and are usually broken down into two categories: site preparation and building structure.
- ✓ **Labor:** This is the cost of your tradespeople, subcontractors, equipment operators and other human resources. Keep in mind not only hourly wages but also workers' compensation, vacation and sick time.
- ✓ **Equipment and tools:** The material and labor costs will inform the selection of equipment and tools, which helps you determine what you'll need to rent for the job. Remember to include delivery, operating, fuel and maintenance costs.
- ✓ **Project management:** Project management methodologies help organize and monitor a budget to avoid overspending. Consider the costs of project management software, as well as any office space, utilities, internet connection, phone expenses and office supplies.
- ✓ **Insurance and bonds:** All construction projects are legally required to carry insurance. There might also be a deposit or bond required as a show of faith that your company is going to follow through and ensure all subcontractors, tradespeople and suppliers are paid. This is especially true if working on a governmental project.

- ✓ **Utilities and taxes:** This includes gas, water, sewer and electric costs associated with the building site. It's also possible the construction project is subject to local and state taxes. These rates are determined by the scope and type of construction project you're managing.
- ✓ **Contingency:** Here is where you provide breathing room for your budget to absorb unforeseen costs and unexpected expenses. Some things that fall under this include changes in scope, design or material upgrades, machinery malfunctions, accidents and acts of God. Usually, your contingency fund is between three and 10 percent of your total budget.

Hard costs vs. soft costs in construction

What are hard costs in construction?

Hard costs are costs that are directly related to your construction project. Some refer to these as brick-and-mortar costs, because these costs include the structure, construction site and landscape.

When it comes to budgeting, hard costs are easier to estimate. They're tangible and revolve around labor and materials. While labor and materials are not set in stone, those prices are less likely to drastically change. If they do, there are usually red flags that indicate their volatility, and **you can address that in the budget.**

Examples of hard construction costs

Hard costs are building materials associated with the actual building of your construction project. These can include:

- ✓ **Any material for the construction project:** This includes wood, steel, glue, siding, roofing, nails, screws and so on. They can also be labor costs for your team and **the contractors you hired** on the construction site.
- ✓ **The building site:** This includes utilities, cement, life safety systems, equipment, paving, grading and heating, ventilation and air conditioning (HVAC) systems.
- ✓ **Landscaping costs:** This includes the price of planting trees and grass, adding mulch to the site, flowers, bushes, etc. Site improvements are also included, such as walkways, gazebos, permanent or fixed benches and other outdoor furnishings.

- ✓ **The interior:** These hard costs include wallpaper, paint, trim, flooring, etc. Life safety systems fall under this umbrella, too, such as fire alarm and sprinkler systems, fire escapes and other related systems.
- ✓ **LEED certification for commercial real estate projects:** As sustainable buildings become more in demand, you may need to acquire a LEED certification. There are governmental incentives, such as loans, grants, tax, credits and fee waivers for adhering to green building practices.

What are soft costs in construction?

Soft costs are costs that are indirectly related to materials, labor or the physical building of the project. As you can imagine, these intangible costs will prove far more difficult for you to **estimate as you build** a budget for your project.

Soft costs can persist long after the project has been completed. Some of them will be ongoing and regular costs related to maintenance and maintenance insurance. They can occur anytime in the life cycle of a project. It doesn't mean these soft costs are impossible to estimate and track—but they are definitely moving targets. A **construction estimate template can help.**

When forecasting a budget, it's important that you are thorough and think through everything from pre- to post-construction. It can be easy to miss soft costs but expect them to be 25 to 75 percent of the total construction budget.

Examples of soft costs in construction

There are many soft costs in construction. To help forecast their impact on a construction project, the accounting will often break them down into categories:

- ✓ **Architectural, design and studies fees:** These include **feasibility studies**, testing consultants, professional services and hiring health and safety experts. Also included are architectural fees, master planning, interior design and engineering fees.
- ✓ **Land, permits, survey fees:** This includes land and real estate development costs associated with the legal process. This also includes appraisal fees, land acquisition, assessments, land survey fees and the costs of inspections and permit fees paid to local governments.

- ✓ **Rentals, equipment and tools:** Some of these items aren't related to the final project delivery. This includes office trailers and equipment, cellphones, radio communication systems and any equipment in the staging area.
- ✓ **Loans, accounting, finance and insurance fees:** This category includes loan-generated interest, bank transaction fees and accounting expenses, including software and data input. There are also construction loan commitment fees, broker fees and permanent commitment fees, as well as all insurance, dues for bid bonds, professional liability insurance and performance bond fees.
- ✓ **Project management costs and taxes:** These include staff compensation related to documentation and drawings, security and safety staff, any temporary staffing people, runners, direct payment to subcontractors and then all the related taxes to local and state agencies.
- ✓ **Advertising, marketing and public relation fees:** These can be for sales and leasing activities, such as brochures, websites and on-site signage, open houses and community-related activities.
- ✓ **LEED certification:** Again, this can impact both hard costs and soft costs. Acquiring certification can add roughly \$100,000 to soft costs depending on how big the project is.
- ✓ **Post-construction soft costs:** These might include legal fees that have not been settled, sales and leasing fees, building management fees, repair and property maintenance insurance, replacement costs, landscaping, security, insurance and taxes.

The importance of identifying hard costs vs. soft costs

The terms hard costs and soft costs are used to help project managers estimate the budgets for their **construction project management** builds. They differentiate costs associated with the project, and the proportion of hard costs vs soft costs can vary wildly from one construction project to the next.

Identifying all your hard costs vs soft costs is a key component to running a successful construction project. Construction costs will impact your return on investment. Therefore, you need to take the time to analyze your budget and be sure it's as thorough and accurate as possible before making the investment.

Once you have accurate accounting for your construction project budget in place, you'll need to track those expenses as you move through the project life cycle. This is the only way to make sure that you're not overspending either hard costs or soft costs.

How to create a construction budget

To create a construction budget that's an accurate forecast of how much the work ahead will cost, construction project managers follow these three steps.

01

Project research and analysis

To accurately forecast how much a construction project will cost, you must review historical data for similar construction projects, speak to suppliers and understand the project you're about to start. Set realistic expectations by looking at resources, design options, etc.

02

Project development

Research leads to the project owner or architect choosing a final design. The project manager uses this information to create a requirements list, which includes materials and estimations of costs. This informs the project bidding process, which is when the project owner chooses a general contractor and sets the framework for building the actual construction project budget.

03

Pre-construction and documentation

Now the project manager should speak to the stakeholders. This highlights potential issues that can be resolved before executing the project. By documenting the pre-construction phase, the project manager has a paper trail to show where unexpected costs can come up. These potential costs can inform the construction budget.

Things to avoid when construction budgeting

One of the biggest mistakes a project manager can make when creating a construction budget is inaccurate estimates. This can be made more problematic by not having a definitive project schedule in place before doing a budgeting forecast.

Also, when estimating, there's a habit of only looking at the bottom line, which can lead to accepting the lowest bids from general contractors. The low cost might please your stakeholders at first, but if the quality of the work is poor, that pleasure will be short-lived. It can erode your reputation and end up costing more in the long run.

Just as important as the construction schedule is your plan. Not taking the time to make a thorough plan for your construction project is sure to slow you down in the long run. You might miss dependencies, design flaws and more. This will delay the project and potentially bust your budget.

Managing construction projects is complex and stressful. But if your project doesn't meet quality acceptance criteria, then you're not just going to upset your stakeholders; you might face down lawsuits.



Quality control

Quality means different things to different people, which is why you should adhere to construction quality control. It's a quality management system that allows you to define what quality is, track it and make necessary changes to ensure those benchmarks are met.

What is construction quality control?

Construction quality control is a management system aimed at ensuring the final deliverable meets the standards and guidelines set by the client. That includes completing the project **within the scope of work** and avoiding disputes throughout the life cycle of the project. Quality is defined by the client, regulatory agencies and environmental and policy guidelines. All these quality assurance requirements and procedures are documented in a construction quality management plan.

There are two aspects of quality in construction: quality assurance (QA) and quality control (QC). Quality assurance sets the quality management expectations and how quality will be achieved. Quality control is the plan to achieve it. The construction quality control manager drives this quality management plan throughout all phases of the project.

Why construction quality matters

Your project isn't a success if your client isn't satisfied. Construction quality control is important because it improves client satisfaction. A happy client is one who will work with you again, and even give recommendations to others.

More practically, doing quality work means less rework. Not needing to redo work that should have been done right the first time reduces costs. This is also a way to keep the morale of your crew high, which in turn means they'll work more productively.

Most important, though, is that construction quality control leads to a successful project. Everything done in construction project management rests on the quality of your work. Focusing on quality means fewer problems and changes, while also saving time and money.

Quality control procedures in the construction industry

When working on construction quality control, there need to be quality control procedures to bring clarity to the work. To do this, follow these five steps:

- ✓ **Define what done means:** This includes completing the project with no defects, satisfying code requirements and conforming to client's specifications. Once done is defined, share the conclusion with your superintendents, crew, subcontractors and everyone involved in the construction project plan to ensure they're all on the same page.
- ✓ **Have an inspection plan:** Conduct a thorough inspection to see if completed work meets your quality acceptance criteria. Create an inspection plan to decide what is inspected and let the team know when it's inspected. Also, there must be a person responsible for carrying out the inspection, whether that's someone in your crew or a third party.
- ✓ **Create quality control checklist:** Prepare a quality control checklist to make the process of inspection thorough and less likely to overlook items. Be specific. The checklist should be shared with the crew for pre-task conversations on how to execute the work. A checklist ensures quality control is met and also communicates to the crew what's essential in their tasks.
- ✓ **Correct work:** When a task doesn't meet the standards of the quality management inspection, the work needs to be corrected. Mark the work that needs fixing (photograph it, if necessary), correct the problem and document the correction to verify that it now meets your quality standards.
- ✓ **Review and revise:** When you discover a deficiency and fix it, the work isn't over yet. Review why it happened and discuss with your crew how to avoid repeating the problem. Whatever the conclusion, it should be shared with the whole construction crew to make sure the issue doesn't show up elsewhere. If applicable, add the newfound details to your inspection checklist.

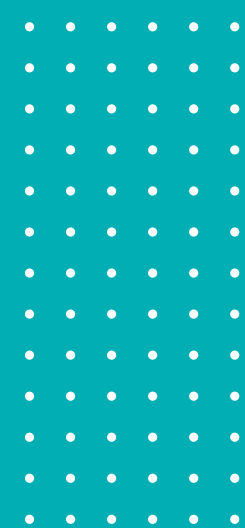
How to make a construction quality control plan

When putting together a construction quality control plan, you need to address quite a few things. Here is a list to keep you from missing any of the important steps:

- ✓ **Quality control manager:** Choose someone to lead the effort—a quality control manager. The client needs to know who this person is and why they're qualified for the position. The quality manager leads all quality management work and is responsible for the day-to-day field operations. The construction quality control plan needs to define the quality manager's responsibilities and how they work with the rest of the crew.
- ✓ **Communications:** Quality control should be part of the discussion from start to finish. Quality control should be part of the reports, test results and any inspection data you deliver to your client. Your construction quality control plan must have a communications guideline to explain how, and with what frequency, this communication will occur.
- ✓ **Surveillance:** Have monitoring be part of your construction quality control plan. You need to let your client know how you'll monitor quality. Decide on the frequency of surveillance as well as how and what you'll be monitoring. Detail this in the construction quality control plan.
- ✓ **Subcontractors and suppliers:** First, inform your client of the suppliers and materials in use. Since these are organizations outside your governance, you need to add selection criteria for suppliers and subcontractors to your construction quality control plan. This includes price, naturally, but also if they're delivering on the quality you expect.
- ✓ **Project quality specifications:** This is where you collect client specifications and expectations for the quality of the finished build. But you'll also want to go beyond their needs and address specifications from building codes and industry standards. Lay it all out so there's no confusion on why the work was done the way it was done.
- ✓ **Inspections and tests:** Inspect each phase of the construction as part of the overall construction project management of your build. Conduct tests to verify the quality of material used or the functioning of quality management systems. List the inspections and tests you will perform over the life cycle of the construction project, including the forms and test results you'll use.

- ✓ **Control of non-conformances:** No construction project ever goes completely as planned. When things go wrong, you need to have a response in your plan in order to maintain the overall quality of the project. There should also be a record documenting these changes and how they were implemented.
- ✓ **Project completion inspections:** While there are inspections throughout the execution of any construction project, the big one is the final inspection. This is where you outline how the construction management inspection will be conducted, including the punch list and final walkthrough with the client.

Documentation around quality control is required in any project, but even more so when it comes to construction project management. Let's explore the topic of construction reporting needs.



Reporting needs



Construction projects demand regular, detailed reporting during execution, so you can review and analyze your progress. This data is delivered in the form of a construction daily report.

This daily construction log is usually handled by the site manager and will be repeatedly created and delivered over the course of a project. It's an important aspect of construction project management, so you'll want to make sure you're doing it correctly!

What is a construction daily report?

A construction daily report is a list of everything that happened on the job site of your construction project over the course of a workday, including tasks that have started and their statuses by day's end. A daily report also details the materials and equipment on-site and the remaining inventory.

This construction report must collect pertinent information about the job site—from the weather conditions to a list of visitors that day at the site. It's therefore a complete record of the day's work that provides a log of everything that has transpired.

Why submit a construction daily report?

As you can imagine, the construction daily report is essential to getting work started quickly and accurately for the next day. It lets subcontractors know where their tasks left off and if they have the equipment and supplies necessary to continue the next day. This is critical for keeping your construction project **on schedule**.

Additionally, a construction daily log protects workers and managers on the site. If there's a delay, for example, that is captured in the report and explained. That paper trail prevents blame from falling on an undeserving party. This is important if there are any legal issues, as you have a record to support your defense.

Why are construction reports important?

Keeping a record of events offers insight into what is going on in the project, and thereby allows you to tweak resources to get things done more effectively. Construction sites are complex, with lots of activities taking place at once. Reporting keeps everyone aware of what's going on, so workers and subcontractors can do their jobs better, without getting in the way of others.

The daily report also communicates the status of the project, so it updates all those with a vested interest in the construction and keeps them informed.

How to create a construction daily report

Creating a construction daily log can seem intimidating. There is so much to cover, and you don't want to overlook anything that might be crucial to proper documentation. But daily reports have been a normal staple of construction sites for almost as long as there have been construction sites, so there's a roadmap you can follow.



Use a template

Since the report is daily, it's good to have a template with all the information you need to capture already built-in. This way all the vital data is already laid out and you just have to fill in the details. We offer a **construction daily report that you can download** and customize as needed.



Identify the person responsible

The first thing you'll want to do is identify the person on your team who is responsible for making the daily report and filling it in each day. This is usually a foreman or the site manager.



Include everything

Print out a copy of the template to save time and make the task of filling it in easier. If you're creating your own, it's basically a list of items. Make sure you include considerations such as the weather that day, what work was done, the crew on-site, **how long they worked** and if there were any visitors. These people should be identified by name and title.

Also, list the equipment on-site and if it's in use, idle or out of order. Write down how many hours the equipment was in use if it was used. Note all materials used that day, how much and what is remaining in your inventory. If there were any delays, explain them, same as if there was a safety inspection that day. If you were cited by the safety inspector for an infraction, note it here.

Best practices when keeping a construction daily log

As useful as a construction daily report is, creating one is not without its challenges. The first thing is to be consistent. Don't do a daily report every other day: it loses its purpose. These daily reports are named for a reason and need to be filled out at the end of every workday.

Keep good records, too, because taking the time and effort to fill out a daily report is wasted if you can't find it when you need it. Make it part of the process to file away the work. Keeping good records is critical for any project, especially in construction, which is another reason to look into **project management software** that can store your digital files.

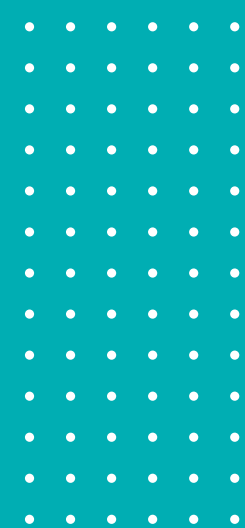


7 tips to make better construction daily reports

To make the best construction daily log possible, here are some tips to apply when going through the process.

- 1 Be detailed:** You need to find the right balance, not too broad as to make the daily report unusable, but also know when to go into detail, say when there's a stoppage or incident.
- 2 Be timely:** The reports need to be filed as early as possible. If you wait until the next morning to fill out the daily report for the previous day, much of the detail will be lost.
- 3 Be simple:** While you need to be detailed in your reporting, it should also be clear and concise. A lot of people will read this, and you don't want to lose them in jargon.
- 4 Be open to input:** As it's the site manager (a position not privy to everything that has occurred on the worksite) who usually fills these out, it's good to be open to participation from the crew. Just a brief chat before they leave can help you fill in the report more accurately.
- 5 Be transparent:** The daily report is a communication tool and should deliver information to a wide variety of **project team members** to identify any problems and to keep a record of progress.
- 6 Be in compliance:** The daily report is a good way to make sure you're meeting the standards outlined in the construction contract. Take the necessary steps each day to make sure you're in compliance with your contract, code and other regulations.
- 7 Be efficient:** The best way to save time and money is by incorporating your daily reports into a **larger construction project management software**. With this tool, you'll file reports faster and be able to use that data when managing your plan and schedule.

Not only do construction project managers need to oversee reporting, but they also need to know how to properly manage their team.



Managing a team



There are several types of construction projects and each of them has different challenges. However, all of them require a project owner, construction project manager and general contractor.

Elements of a construction project management team



Project owner

The project owner commissions the project and directly or indirectly finances it. The owner also supervises the project from a high-level view and makes important decisions such as defining the bidding process, selecting the contractor and choosing the project delivery method.



Construction project manager

Construction project management is run by a construction project manager. This person plans, coordinates, budgets and supervises the construction project.

The construction project manager is responsible for the following tasks:

- ✓ Estimating and negotiating project costs
- ✓ Formulating the construction budget
- ✓ Managing the construction scheduling and work timetables
- ✓ Managing work orders
- ✓ Determining which project management methods and strategies are appropriate for the project
- ✓ Communicating with the project owner and stakeholders, re. budget, progress, etc.
- ✓ Leading or interfacing with job site workers, teams and other construction professions on technical and contract details
- ✓ Working with building, construction and regulatory specialists

The construction project manager is usually a Project Management Professional (PMP) certified by the **Project Management Institute** (PMI). The Project Management Body of Knowledge explains the different roles and responsibilities of a project manager in depth.

Also, the **Construction Management Association of America** (CMAA) explains the responsibilities of a construction manager, which is basically a project manager that specializes in the construction industry.



General contractor

A **general contractor** oversees the daily operations of the job site and provides the equipment, materials and labor required for the execution phase of the construction project. General contractors usually hire subcontractors to execute specific tasks.

Below are some of the main responsibilities of a general contractor:

- ✓ Supervising the work of subcontractors
- ✓ Setting up job site safety protocols
- ✓ Applying for building permits and licenses
- ✓ Disposing construction waste
- ✓ Managing personnel on the construction site
- ✓ Communicating with the project owner and construction project manager

A general contractor is selected after the project owner reviews bids from multiple general contractors and chooses the bid that better adjusts to the project needs.



Managing subcontractors

Construction projects are complex in nature. They demand extensive planning, manual labor, and they call for various specializations. Realistically, no individual on the team has all of these specialized skills and, even if they did, it would be impossible to do it all themselves. This makes construction subcontractors a necessity for most modern construction projects.

What is a subcontractor?

A subcontractor is a free agent employed on a job-by-job basis when their skills are needed. Usually, these skills are specialized, rather than generalized.

Subcontractors are oftentimes self-employed and choose the jobs they wish to take, which can make it difficult to find work when they don't already have a large network of clients. Even then, if these clients don't have projects to complete, there is no demand for a subcontractor's skills. One solution to this problem is finding contractors to work for, rather than independent clients.

Subcontractor vs. contractor: what's the difference?

To fully understand the relationship between contractors and subcontractors, we must define what a contractor is. Contractors are people or organizations hired by owners to "build" a project, or at least some part of it. More often than not, contractors are used for construction projects where they are responsible for physically building something.

Subcontractors are then hired by contractors to work on a project when the contractor doesn't have the time or expertise to do the tasks themselves. Subcontractors are hired and paid by the contractor.

The ideal relationship between contractors and subcontractors is a symbiotic one. Contractors need subcontractors for their skills and hard work, and subcontractors need a contractor's large network of clients. This network ensures there is always work to be done. It also allows subcontractors to focus on their role in the project, rather than finding projects in the first place.

Examples of Contractors

The most common example of a contractor is a construction contractor. Generally, the party who needs to execute a construction plan won't be able to complete the work themselves. For example, a company opening a new office will hire a contractor to manage the project.

Examples of subcontractors

Subcontractors are individuals with special skills. In construction projects, contractors will hire subcontractors who specialize in different aspects of the project, such as plumbing, electricity, painting, etc.

What is subcontractor management?

When contractors hire subcontractors, they must practice subcontractor management in order to keep projects running smoothly. This begins by identifying the project owner's needs and choosing quality subcontractors accordingly. Creating the criteria we mentioned previously can be part of this process.

Once contractors hire subcontractors, it is their duty to fill them in on expectations and employer policies. This establishes communication and ensures everyone is on the same page. With practicing good subcontractor management, this debrief will be structured the same way for every project to ensure all information is addressed.

When everyone is on the same page, the bulk of subcontractor management begins. The contractor must constantly **monitor subcontractors** and the status of the project in order to be sure everything is running smoothly and subcontractors are meeting expectations. Subcontractors must also make sure that work conditions and communication remain top-notch.

With your team assembled and ready to move forward, you can focus on the construction project management process.



The construction project management process

Construction project management requires a broad variety of skills, along with the ability to interface with a diverse range of agencies and people in order to lead the project from concept to build. It's important that construction project managers follow the principles of project management during every phase of the project life cycle.

Project initiation

You can't start a project unless you know you'll be able to finish it. First comes the due diligence to determine if the project is even feasible. How do you figure this out? You want to go through a feasibility study or what is often called a business case, in which you look at the goals, cost estimates and timeline to see if you have the resources to reach a successful project end within those constraints. You also want to define the reasoning behind the project and make sure it's sound. If so, then you create your project charter to help initiate the project. You'll also identify potential issues and risks in this phase.

Project planning

You have approval, now how are you going to achieve success? Outline the tasks within the timeline, noting project milestones, and the resources needed to do those tasks within the budget allotted. Be transparent in your project plan, so everyone is on the same page and understands what needs to be done over the life cycle of the project. That includes detailing the cost, scope, duration, quality and communications used in the project. This is also when you'll be able to conceptualize the best project team for the project and begin the process of assembling them.

The planning phase is probably the most important project management phase because you'll create the documents that will guide the project execution. Here are some of them:

- ✓ Work breakdown structure
- ✓ Risk management plan
- ✓ Project schedule
- ✓ Scope management plan
- ✓ Cost management plan and project budget

The project schedule is a big part of the planning phase in construction project management. Once you've completed the work breakdown structure, you'll add your tasks to the left-hand side of the construction schedule template. You can add subtasks, add resources and costs, deadlines and more. Project phases can also be color-coded. To the right is a timeline that captures the entire project plan in one place.

On the timeline side of the Gantt chart, you can link dependent tasks, set milestones and a baseline to capture the project plan to compare to your actual progress when the project is being executed. There are a lot more features to play with on the Gantt chart that will help you plan and control your project.

Once you have a construction plan that includes all the information you need to manage costs, scope, risks, time and other aspects of your project, it's time to execute.

Project execution

At this stage, you're executing the project and taking the project plan and implementing it while factoring in the changes and work management issues that can arise during such a process. Whatever deliverables you promised must come through in the timeframe you noted. Now, as a construction project manager, you must deal with the project owner, stakeholders and customers and teams. The latter have tasks that must be completed, which means workload management and resource allocation. You'll be setting up meetings and reporting frequently throughout this stage. This is where your project management tool will really be tested, but more on that later.

Project monitoring and control

You can't know the progress of your project if you don't have a way to monitor it. You'll be doing this during the previous stages of the project, but it's important enough to demand its own separate stage in your management. You'll want to have a way to note the progress, which is why you need to set up key performance indicators for cost control, time tracking and quality assurance. If you can stay on top of these figures, it's less likely you'll manage a failing project. Therefore, stay flexible and communicative throughout so you can adapt quickly to change when it occurs, and it always occurs.

The 4 stages of construction project management

When you're managing a construction job, there are certain objectives you should consider. Just like in any project, you accomplish overall project success by breaking it down into phases. The following are four steps you can take to organize a successful construction project management project.

01

Design

There are four parts to designing a construction project. It's the project manager's responsibility to make sure your design meets with building codes and other regulations.

- ✓ **The concept:** What are the needs, goals and objectives of the project? You'll be making decisions based on the size of the project, the site allocated for the build and the actual design of what you're building. This is comprised of a list for each room or space under consideration, including all critical data.
- ✓ **The schematic design:** This is a sketch that identifies the various parts, materials, sizes, colors, textures, etc. It includes the floorplan, elevations, etc. and even a site plan.
- ✓ **Develop the design:** This requires research. What are the materials to use? What equipment will be needed? How much are the materials? What is the material take-off? You'll be refining the original drawings from the previous stage now to reflect these decisions. Knowing local building codes and adhering to them will be important at this stage.
- ✓ **Get the contract documents together:** These are the final blueprints and construction specs. These will be used by outside contractors to bid on the job.

02

Preconstruction

Once the general contractor bids are accepted, but before ground is broken, you'll want to work on these three steps.

- ✓ **Assign a project manager:** If the project manager hasn't already been determined, you'll want to establish it now. Sometimes a project manager is on board early and participates in the first stages of a project, while other times they aren't hired until the design is complete.
- ✓ **Determine the rest of the personnel:** Find a contract administrator or the person who helps the project manager. A superintendent is also needed to keep everything on schedule in terms of the materials, deliveries and equipment. Superintendents are also on-site to deal with construction activities. Finally, you want to have a field engineer, which is more of an entry-level position to deal with paperwork.

- ✓ **Investigate the job site:** Check to see if anything is needed as the job site must be ready for construction. This might include dealing with environmental issues such as the suitability of the soil for construction.

03

Procurement

By this point, you've established your team and you've planned for the construction and materials necessary to complete it. Now you must **purchase those materials and equipment**. Depending on the organization, this might be the responsibility of the general contractor or subcontractors.

This is the stage you'll be working with purchase orders, which are used as an agreement between the buyer and the seller.

04

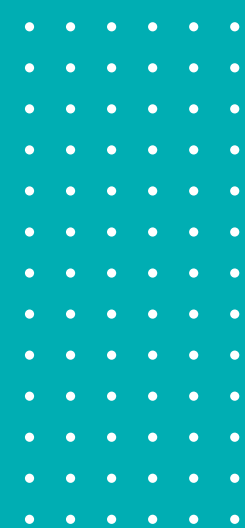
Construction

Finally, you're ready for the build! But first, set a preconstruction meeting to deal with work hours, the storage of materials, quality control and site access. Then get everyone on the construction site and set up as needed.

You'll need to create a payment schedule and a process to deliver payments. This information needs to be transparent, not only to meet financial obligations but to maintain a happy and productive workforce and environment. Make sure your work orders are detailed enough to avoid misunderstandings between you and your contractors.

The last part of the project is after the construction is complete and the occupants move into or take ownership of the site. You must make sure all their requirements have been met, and usually provide a warranty period to make that arrangement official and binding.

Throughout the construction project management process, don't forget to factor in risk.



Risk management



Few things are as risky as construction projects. There is heavy equipment, crews working in precarious situations and complicated logistics, safety hazards and risk factors to manage.

What is construction risk management?

Construction risk management is the process of evaluating and implementing procedures to reduce the impact of risks in construction projects. This risk management process involves thorough planning to create a risk management plan that allows project managers to identify, monitor and mitigate risks as they arise.

A construction risk management plan is developed in the **early stages of the construction planning process**. It details what project risks might occur and the risk response to resolve them. This includes designating someone on the crew to own the issue and address it.

What are the types of risk in construction projects?

In general, risk is anything that will delay the project or create further costs. There are many sources for risk on a construction site. To create a better **risk management plan**, it's essential to know what risks there are, and where they will occur:

- ✓ **Safety risk:** Your crew is your most valuable resource. Nothing can be done without them. They are also subject to safety hazards, as many of the tasks assigned to them can be dangerous. While your crew is skilled and experienced, accidents can happen. Know the safety risks to your crew, what hazards they might fall prey to and create a safety plan to ensure employee safety.
- ✓ **Financial risk:** Without money, nothing happens. No one gets paid, you can't rent equipment—you get the idea. That's why any factors that can interrupt your cash flow need to be identified. This can include a cost increase for materials, competition in the market and so on. The more you understand the financial risk, the more likely you'll stay within budget.
- ✓ **Legal risk:** Managing a construction project involves more than the constraints of time, cost and scope. There are legal constraints, such as regulations, code violations and contract terms disputes with your clients, vendors and subcontractors. Any of these things can send your construction project off track.

- ✓ **Project risk:** Project risks are universal project management risks associated with managing any project. These include poor management of the resources, missing deadlines and falling behind schedule. The construction project manager must be thorough and aware of difficulties that can throw the project off track.
- ✓ **Environmental risk:** AKA an “act of God,” such as floods, earthquakes and other kinds of natural disasters. Anything nature unexpectedly unleashes that makes the construction site inaccessible is costly and potentially destructive for a construction project.

The risk management process

The process of mitigating risk for a construction project is no different than any other project. The only difference is the type of risks you’re managing in the construction industry. Here are the five steps of the **risk management process**:

- ✓ **Identification:** First, make a list of every possible issue that could arise. Do the research, talk to your crew and explore historical data from past construction projects that are similar to yours. While this identification list is always open for edits and updates, you should have a set deadline so that you don't get bogged down in analysis.
- ✓ **Assessment:** Not all risks are equal. Some are more likely to occur, others less so. One way to assess your list of risks is to use a risk assessment matrix, which charts the likelihood of each risk and the size of the impact it can have on your project. Creating a risk assessment matrix helps you when addressing the risk, if it appears.
- ✓ **Mitigation:** This is where you implement a contingency plan that will reduce the likelihood and impact of the risks you identified earlier. The top priority, of course, is those you defined as highly likely and having the greatest impact. These should be given an owner, who will be responsible for identifying the risk (if it occurs) and managing its resolution.
- ✓ **Monitoring:** This step is always ongoing, as you attempt to identify these risks when they show up. That includes monitoring the effectiveness of your mitigation plan. Also, **stakeholders should be consulted** and kept updated on these project risks. Engage other department leaders to help, and empower the team to respond to risk. Have them note if a risk has moved to a different spot on your risk assessment matrix.
- ✓ **Reporting:** Your construction risk management plan should be analyzed and shared with the crew and stakeholders. **These reports on risk mitigation** allow you to evaluate the effectiveness of the contingency plan. While this can be done with an Excel spreadsheet, using project management software is more efficient. Online tools gather the data automatically, create dashboards to illustrate progress and even generate reports that are easily distributed.



Post-construction



Projects don't end with the final deliverable. There's paperwork to sign off on, teams to be released and more administrative loose ends to tie up.

What is post-construction?

Post-construction is the last phase of a construction project. It spans the time between the end of the physical construction and when the project is turned over to the project owner. During this time, the job site is cleaned up, equipment is returned and the labor force is released from this project and usually reassigned to another project.

It's a period when everything is handed off to the client or project owner, from the actual construction to documentation. The owner's team will also be instructed and trained on how to operate all the systems and equipment in their newly constructed project.

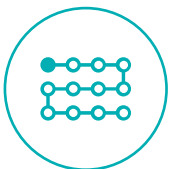
Post-construction activities

Here are some of the most important activities that are needed for a successful post-construction phase.



Final inspections

The final inspection is done after the completion of the punch list (defined below in the post-construction documents section). The construction team, including the general contractor and the architect, make sure that all the specifications of the contract have been met and that the structure is functioning properly. If everything is deemed okay, then the architect will sign a certificate of substantial completion. Next, if the structure complies with all local permits and regulations, the local government will issue a certificate of occupancy, which means that the building is ready for occupancy.



Walkthrough

The walkthrough is the term used to describe when the general contractor, architect and construction team inspect the structure during the final inspection. They literally walk through the job site and inspect all aspects of the structure to ensure it meets the quality standards as well as any contractual obligations.



Handoff & turnover

While not a specific moment in time, the handoff and turnover is a process. It's a period that allows for all the activities necessary to deliver the finished structure to the project owner. This extended phase allows the project owner to be fully aware and comfortable with the operation of all aspects of the newly constructed structure. The general contractor is present during this process to offer support to the client, such as **staying in communication** with the project owner and handing over blueprints and operation manuals to ensure that the project owner understands the intricacies of the structure.



Post-construction training

As noted, the general contractor will make sure that the project owner understands how the structure works. The training will also involve keeping the lines of communication open between the general contractor and the project owner to answer any questions related to the operation of the structure.



Seasonal testing

One final test is to see how the structure performs to standards in every season of that climate. That means checking systems, such as the heating, ventilation and air conditioning (HVAC), to see how they work in winter and summer conditions. Once the seasonal testing has been completed, the post-construction phase moves into its final review. This takes place a year after the building has been open to occupants. The final review will test to make sure that the building is still performing up to standards and the general contractor will respond to any concerns aired by the project owner.

Post-construction documents

Some consider the post-construction phase the most important of a building's life cycle because it involves a close working relationship with the general contractor and the building owner. It's during this phase that the owner will take responsibility for the building. To manage that transition are many post-construction documents such as:



Punch list

The punch list is document that shows the work that still needs to be done on the job site. It's called this because holes were once punched in a list to indicate that they still needed fixing. Today, the punch list collects items that need immediate attention. The punch list can also indicate damage that was done during construction and requires attention. The items on the punch list must be completed before the general contractor can receive payment for the job.



As-built drawings

The use of as-built drawings, also known as record drawings and red-line drawings, is to compare and contrast the design to the final build. Then a detailed blueprint of the building and the land around it as actually constructed is done. This is a revised set of drawings submitted by the general contractor upon completion of the project to reflect all changes made in the specifications and working drawings during construction.



Notice of completion

This is a post-construction document recorded by the property owner to notify potential mechanic lien claimants that a specific construction project has been completed. This is done to reduce the time in which a subcontractor, material supplier or general contractor can record a mechanic lien against a private works construction project. This shortens the deadline for a mechanic lien.



Inspection reports

A post-construction inspection report is a formal, written site inspection report that contains full details of what has been witnessed on site, including photographs. It will detail the state of compliance and add recommendations as needed with the relevant parties.



Certificate of occupancy

As noted above, the certificate of occupancy says that a building fully complies with the development plans that were submitted and approved by the local building authority. This document will say what the structure is used for, that it's suitable for occupancy and it complies with all building codes.



Operation & maintenance manuals

These are detailed documents that contain all the instructions needed to properly manage and maintain the construction facility or property. It'll include many things, such as machine operating procedures and engineering drawings, equipment placement, maintenance schedules, emergency protocols and safety guidelines.



Warranty letters

This is where the general contractor guarantees to the project owner that all materials and equipment used in the construction project will be new unless otherwise specified, that all work will be of good quality, free from faults and defects and in conformance with the contract documents.



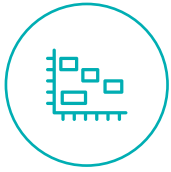
Release of liens

The release of liens is a document that's filed with the public land records as the official notice that the lien has been removed. Once payment has been received, the general contractor has a duty to remove any lien that was filed against the property.



Construction project management with ProjectManager

If you're looking for a simple, effective alternative to expensive construction project management software, ProjectManager is it. Our online software is affordable, easily accessible and requires no intensive training sessions for your team to get started.



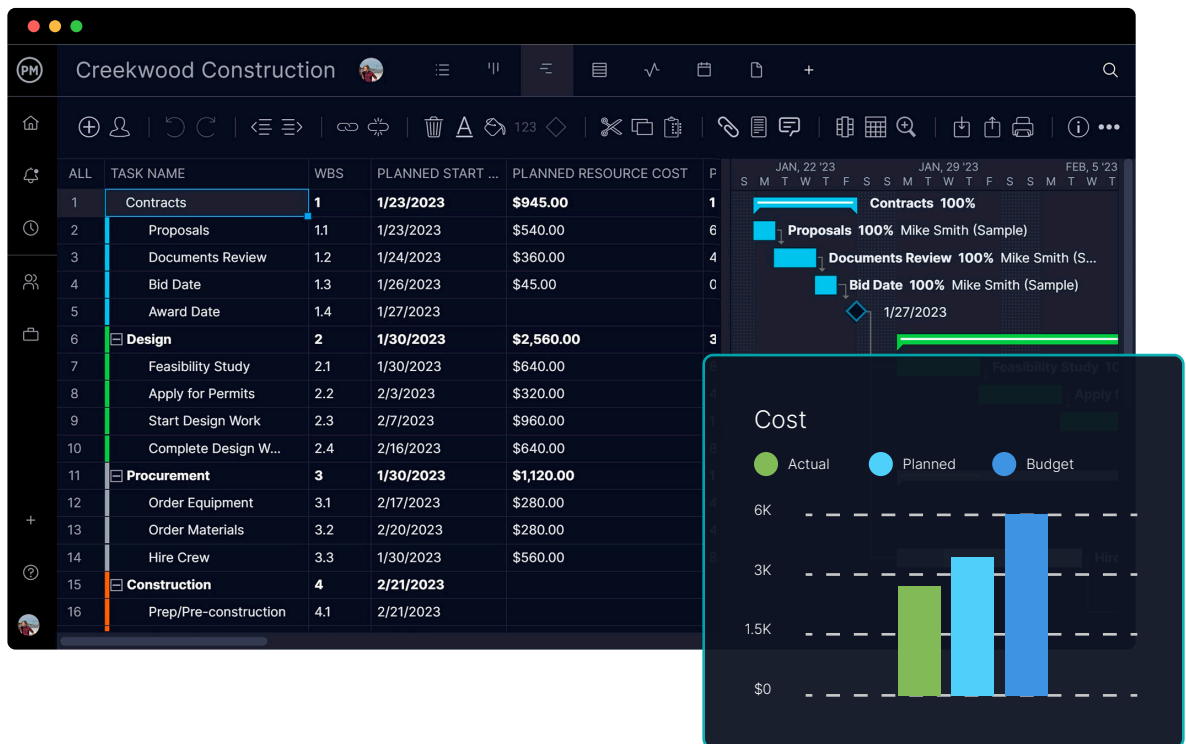
Build your construction project plans on Gantt charts

ProjectManager's award-winning Gantt charts organize your tasks and display them on a visual timeline so you can see the entire construction project in one place. This helps you estimate duration, schedule resources and link dependent tasks that might otherwise create bottlenecks later in the project. Our Gantt charts are great for task management, time management and construction scheduling.



Manage your work & your teams

Using our construction management software with multiple project views gives you more flexibility to use the right tool for the job. Task lists are great to organize your own work in daily to-do lists, or for teams that need a punch list for walkthroughs on the job site. Task lists, Gantt charts and calendar views are great task management and time tracking tools for construction project managers, general contractors and subcontractors.





Keep track of your team, gear & costs

Having a live resource calendar to keep track of your labor costs, equipment and manage your team's availability is how you stay on budget. You need to know what hours your crew can work and when they're on holiday or PTO. ProjectManager helps you manage workload, rates and overages for accurate cost estimation.



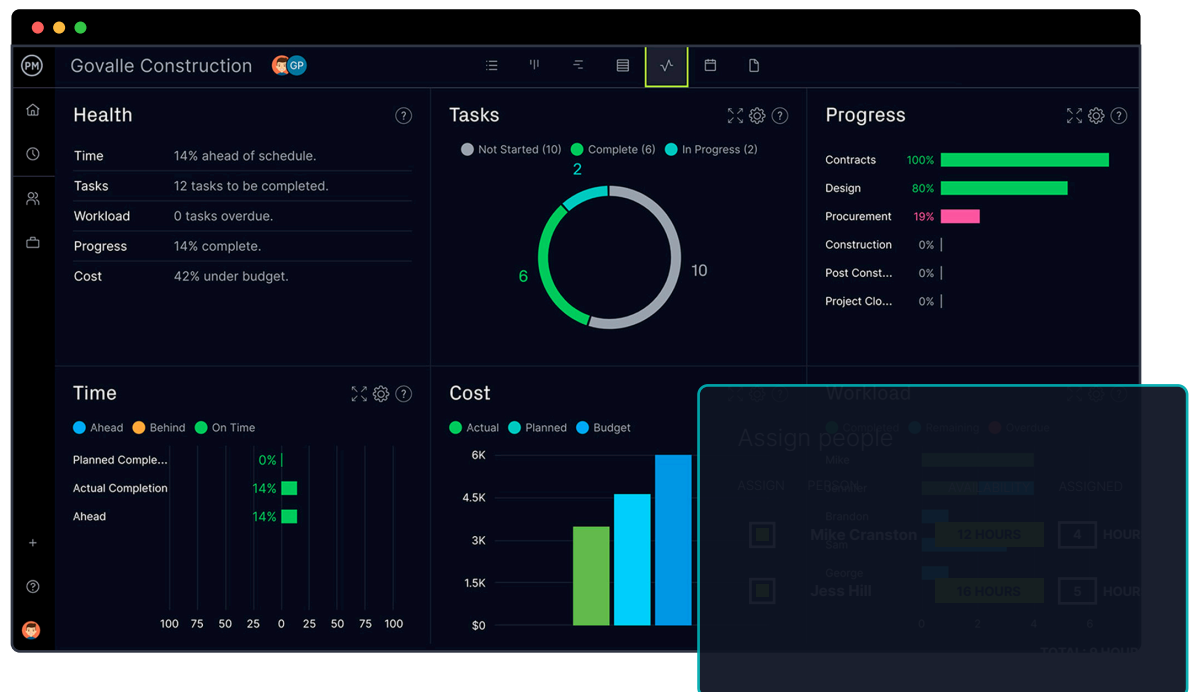
Stay on schedule & avoid slippage

Monitoring your project execution phase is essential to the project performing as planned. Real-time dashboards give you a high-level view, collecting data and calculating that information into graphs and charts that show a number of project metrics to keep you on track.



Get details & keep stakeholders informed

Our reporting features go further than the dashboard, focusing on project variance, tasks, cost and more. Whether your project involves residential home building, heavy industrial construction, commercial construction or engineering construction, it only takes one click to make a detailed report. The better your data, the better your decision-making process. Our reporting tool can filter your information to show what you want to see and also target it for stakeholders.





Log hours on the job site with our mobile app

Know the hours your on-site crew and subcontractors are working. They can log their hours whenever and wherever they are using the **ProjectManager mobile app**. Plus, our timesheet feature gives you transparency and your team flexibility. They're easy to import, review and secure when approved. Leverage our file storage and file sharing capabilities to quickly access your timesheets and other documents like purchase orders and contractor invoices whether you're at the office or in the field.

The screenshot displays the ProjectManager software interface. On the left, a sidebar menu lists various reports: Portfolio Status, Project Status, Project Plan, Tasks, Timesheets (highlighted), Availability, Workload, and Variance. The main area is titled "Timesheets Report" and includes filters for TITLE (Timesheets), PROJECT (All Projects), and a checkbox for "Include closed projects". Date range filters are set for "FROM 2/1/2024" and "TO 3/1/2024". A "GROUP BY" section has "Project" selected. A "COLUMNS" list on the right includes items like Hourly Rate, Charge Code, Customer, and Planned Start Date. At the bottom of the main area are buttons for "View", "PDF", "Excel", "CSV", and "Offline".

Overlaid on the right side is a "Comments" window. It shows two comments: one from Laura Wilson saying "Thanks for getting this over to me!" and another from Joe Johnson saying "Here is the revised project status report". Below the comments is a file attachment icon and the text "Status Report - New.pdf".

Ready to try **ProjectManager**
for yourself?

[Start free trial](#)

Want to talk to our expert
sales team?

[Contact us](#)

