FIVE STEP
playbook

to create your dream
Dental Practice

DESIGN ERGONOMICS INC.

INTRODUCTION

At Design Ergonomics, our goal is to create the best dental practice in every town in North America, and it would be our honor to create the best practice in your town, for you.

Whether you're planning your first office, or opening your fifth, building a dental office is an exciting – and sometimes challenging – process. We're ready to help you, wherever you are on your journey.

Your Playbook outlines 5 key project steps, and highlights proven strategies that we've refined over 25 years designing exclusively for the dental industry.

OVERVIEW

While every dental office building project is unique, we've learned that most follow a pattern. The 5-Step process below may appear simple at a glance, but there are many details to track, and a variety of people that need to be involved to make you successful. Your team of Practice Liaisons and Designers will advise you at any step in the process, while remaining focused on our core capabilities highlighted in red below.

Where possible, estimated time frames are given for individual elements of each step. These estimates may vary significantly depending on the scope of your project.

1 PLANNING

- 1.1 Define Goals and Requirements
- 1.2 Assemble Your Team
- 1.3 Rough Budgeting

2 PROPERTY ACQUISITION

- **2.1 Site Selection** ..... learn more
- 2.2 Negotiations and Due Diligence
- 2.3 Site Engineering / As Builts

3 DESIGN DEVELOPMENT

- **3.1 Consultation**
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- **3.3 Floor Plan** ..... learn more
- **3.4 Exterior Design Concepts**
- **3.5 Equipment Selection, Final Floor Plan**
- **3.6 Interior Design** ..... learn more

4 DESIGN EXECUTION

- 4.1 Construction Documents and Engineering
- 4.2 Bidding
- 4.3 Permitting

5 OFFICE CONSTRUCTION

- 5.1 Construction
- 5.2 Equipment Installation
- 5.3 Final Inspections and Certificate of Occupancy

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STEP 1 | PLANNING

Define Goals and Requirements

Time Frame: varies

It's easy to get lost in short-term thinking and challenges, but the decisions you make today will affect your career for years to come. Think big-picture and focus on what will help you achieve your career goals, and what may get in the way of your long-term success.

- **How many ops do I need at opening?**
- **How about three years from now? Or ten?**
- **How long am I going to work in this office?**
  - Exit-strategy and retirement
  - Groundwork for later expansion
  - Opening another office later
- **What's important to me?**
  - Location
  - Expressing personal style
  - Start-up costs versus long-term value
  - Efficiency, productivity, and profit
  - Ease of bringing in associates
- **What are my personal and professional goals?**
  - Personal wealth
  - Giving back to the community
  - More family time

Gather Your Team

Time Frame: varies (but could be several weeks)

Building a new office is a team effort. Key players may include:

- **Financial Advisor (may be beneficial during the Rough Budgeting step)**
- **Banker/Lender**
- **Attorney**
- **Architectural and Interior Designers**
- **Clinical Specialist (equipment decisions impact design, budget, and time-lines)**
- **Construction Team**
  - **Architect**
  - **Engineers (Civil, Mechanical, Electrical, Plumbing)**
  - **Contractor**

There are two ways to approach engaging your construction team: à la carte and Design/Build. When possible, we suggest Design/Build because it markedly simplifies your process and speeds time to completion. **We have developed a large network of trusted referral partners if you're looking for advice or recommendations.**

STEP 1 | PLANNING

Rough Budgeting

Time Frame: varies

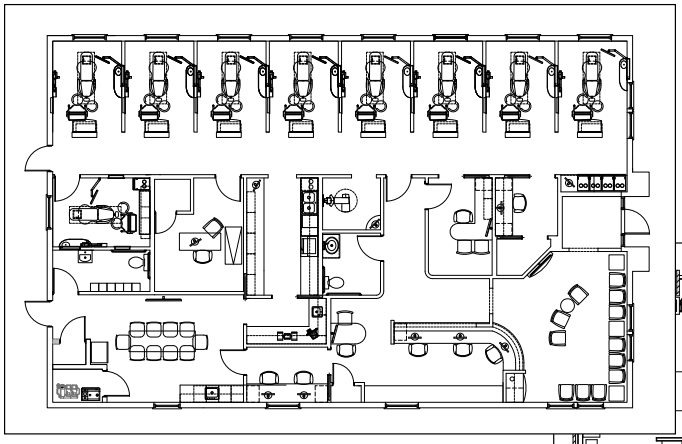
As your vision of the future comes into focus, it can be challenging to balance what you want now, what you want for the future, and what you can reasonably afford.

Your first task is to develop a rough budget. This process can be convoluted, and is impacted by a number of factors including:

- **Project type (Building Purchase, Ground-Up Construction, Tenant Improvement)**
- **Complexity of design and level of finish treatment**
- **Current production levels**
- **Credit rating**
- **Ability to self-finance**
- **Practice history**
- **Practice ownership, and more...**

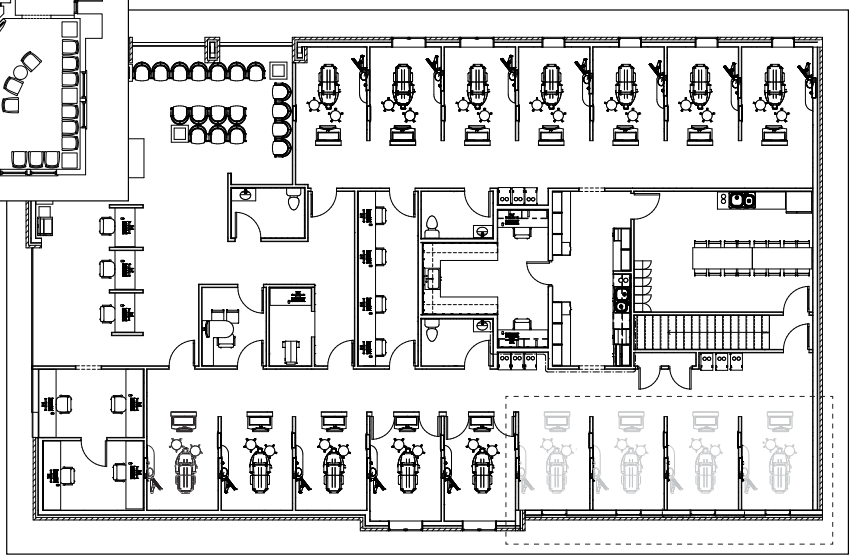
Developing a rough budget often follows a cycle of *propose, estimate, investigate, and refine* – but it begins by examining your goals and requirements.

Your financial advisor and lender may be helpful in this process. Additionally, your team at Design Ergonomics has tools to estimate very rough costs for a variety of project types based on possible operatory count, regional construction cost variation, and level of finish treatment.



Do you want 9 operatories?

How about 16 operatories, with 12 equipped at opening?



Are you leasing, purchasing, or building from the ground up?

STEP 2 | PROPERTY ACQUISITION

Site Selection

Time Frame: 4-12 weeks

Finding the right location is critical to the success of your new practice.

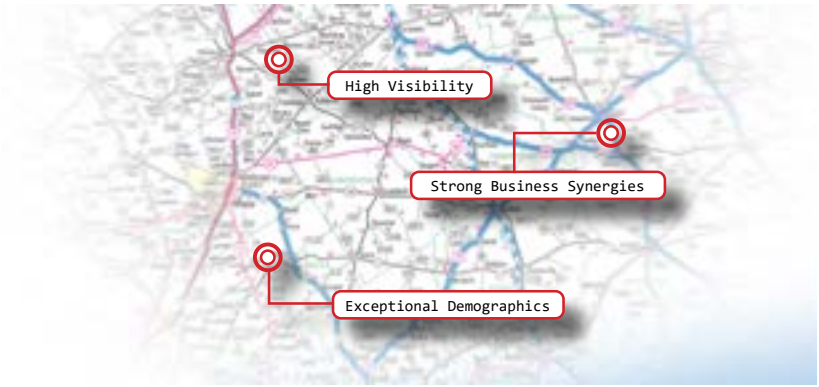
Obviously, a Realtor can help with this process. However, in 25 years serving dentists, we've analyzed thousands of potential sites and have developed a deep understanding of what works. There are issues unique to the dental industry that even a commercial real estate specialist may not be aware of.

We'll help you make an informed decision ranging from remote research to on-site investigation with you and your team. Our Site Selection services employ a proprietary algorithm we've developed to analyze and quantify over a hundred variables, including:

- **Maximum exposure to your preferred demographic**
- **Municipal or infrastructure hurdles that cause delays and cost-overruns**
- **Visibility, traffic and access factors that work for you, not against you**
- **Analysis of existing improvements**

If you're having trouble finding an appropriate location, or would like us to review and compare locations you have found, contact us for more information.

In addition to locating potential sites, we can help determine their feasibility. Many clients utilize our Blocking Diagram design service to accomplish this. It is affordable, flexible, and fast (see Step three, Design Development, for details).



STEP 2 | PROPERTY ACQUISITION

Note the differences between **purchasing a site** and **leasing an existing space**.

Negotiations & Due Diligence

Time Frame: 1-2 weeks, but may vary

When PURCHASING a Site

You'll want an attorney on your team at this point; it's better to have one familiar with you and your project now, than to wait until you really need one because something unexpected has come up. He or she can provide critical input at loan, purchase or contract review times throughout the process.

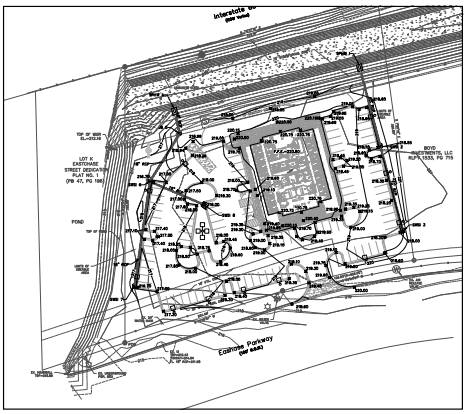
At negotiations you will determine your **Due Diligence** period. During this time, you will have a civil engineer investigate the site to reveal any issues that might cause it to be non-viable. Should such issues become apparent, you may be able to pull out of the sale and still retain your escrow. Again, consult your attorney.

Launching the Conceptual Design process during (or even before) the Due Diligence period may also prove useful. Blocking Diagrams (see next section) can help determine the land or structure valuation. Establishing the scale of practice that the property can support will give you a clearer sense of the potential return on your investment – and hence, what the property is worth *to you*.

Preliminary Site Engineering & "As Builts"

Time Frame: 8-12 weeks

When PURCHASING a Site



If you are building from the ground up, have a civil engineer prepare a preliminary site engineering survey during Due Diligence.

This is a *basic* survey, and items covered will depend on the nature of the particular site. Such items may include a preliminary site plan, rough building location and allowable footprint, soil & environmental testing, water remediation strategies etc. A much more comprehensive study will be performed at a later date, which will be included with the construction documentation.

As Builts - *If you are purchasing an existing structure in which to build your Office*, you will need current drawings of the site. These plans are known as "As Builts" and detail all the dimensional and structural elements of a location as it currently exists. While we can create a conceptual schematic of how a space *might* be utilized (see Blocking Diagram, page 9), the accuracy of such a drawing depends heavily on what we have to work from. Outdated or incomplete drawings may require changes or incur significant costs when detailed design work begins.

Your Realtor can request As Builts from the seller. If they are not available, contact us to make arrangements to have these created.

STEP 2 | PROPERTY ACQUISITION

Lease Negotiations & Vetting

Time Frame: 1-2 weeks, but may vary

When LEASING a Space

Retaining a lease negotiation consultant may result in a better overall contract. These specialists provide invaluable input on a host of issues well beyond rental price, such as duration of rent-free construction period, owner-covered modifications and more. There are, in fact, lease negotiators that work exclusively in the health-care space. We can provide a recommendation if interested.

You'll also want an attorney on your team at this point; it's better to have one familiar with you and your project now, than to wait until you really need one because something unexpected has come up. He or she can provide critical input at loan or contract review times throughout the process.

While there is no formal Due Diligence period associated with a leasing agreement, it is critical to approach a lease with the same cautionary investigation. Any number of factors – from parking to available power supply – may conflict with your goals.

Finally, launching the conceptual design process during (or even before) negotiations may also prove useful. Blocking Diagrams (see page 10) can help determine if the space you're looking at will be sufficient to address your particular needs. While design work at this point can be very speculative (see "As Builts" below), it may present an affordable means of vetting one or more spaces.

"As Builts" & Build-to-Suit

Time Frame: varies

When LEASING a Space

Leasing arrangements typically follow one of two paths; 1) renting (and renovating) a space that already exists, or 2) contracting to lease a space that has not yet been built.

As Builts - In the first of these cases, you will need current drawings of the site. These plans are known as "As Builts" and detail all the dimensional and structural elements of a location as it currently exists. While we can create a conceptual schematic of how a space *might* be utilized (see Blocking Diagram, page 10), the accuracy of such a drawing depends heavily on what we have to work from. Outdated or incomplete drawings may require changes or incur significant costs when detailed design work begins.

Your Realtor or negotiator can request As Builts from the landlord. If they are not available, the landlord may be persuaded to have them created at no charge to you. If not, contact us to make arrangements to have these created.

Build To Suit - Here, your potential location does not yet exist. The space you will eventually lease will be delivered as a shell, to be modified by your contractor. Timing can play a critical role in this situation, and it is important to get a solid construction time-line from your landlord.

Additionally, you may have an opportunity to request some customization of the space prior to beginning your own construction modifications (e.g., window & door placement). Determine the availability and scope of such potential changes as early in the negotiation process as possible. This will result in much greater flexibility in the design process, a more effective layout, and may lower overall construction costs down the road.

STEP 3 | DESIGN DEVELOPMENT

Conceptual - *Consultation*

Time Frame: 1 week

If we're new to your project, we'll schedule a consultation to understand your goals, how you serve your patients, and your project expectations.

Whenever possible, consultation and plan reviews are conducted via screen share. This is the most effective method to share design philosophies, with an opportunity for immediate feedback and commentary.

During your consultation, you'll meet your Practice Liaison, who will be your guide throughout the entire design process.

Together, we'll review your long-term goals, focusing on the scope of your project. While operatory count, number of floors, and other architectural elements are critical, there are other elements to consider, such as your preferred patient demographic, staffing levels, and clinical systems.

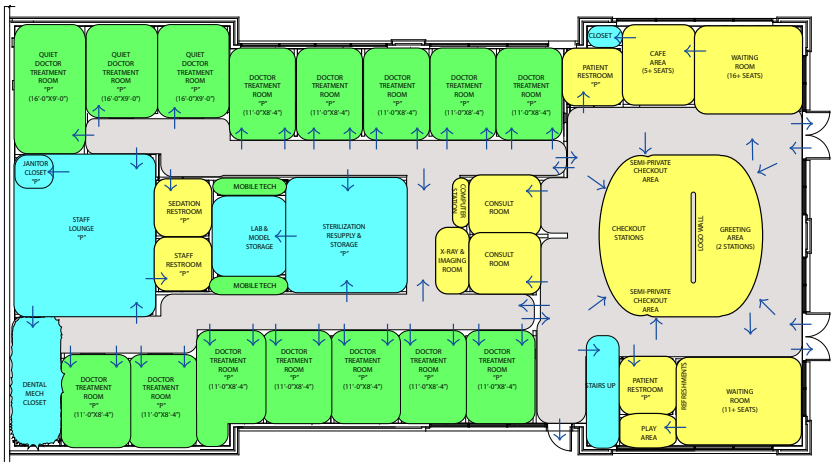
Even early in the design process, operatory equipment has a significant impact on your design and budget. Room type and use dictates size and arrangement within your practice; dedicated hygiene rooms, surgical suites, plumbed vs. mobile nitrous, handheld X-rays, and other factors, need to be considered to create the most efficient and effective design. Your Practice Liaison will walk you through this essential part of your project.

STEP **3** | DESIGN DEVELOPMENT

Conceptual - *Blocking Diagram & Op Planning*

Time Frame: 2-4 weeks

Once we've detailed your goals, it's time to begin designing your office.



Your dental practice is a *system.*

Before defining the *walls*, it's critical to layout the *flow* of your system, understanding the function of each area and how they relate to one another. We start with a conceptual Blocking Diagram. This flexible, and responsive design approach will quickly solidify your vision of the perfect practice.

Complex Issues *Simplified*

Your Blocking Diagram is a preliminary design used to plan the layout and flow of your future practice. Using simplified square footage calculations and geometric space planning, we work with you to create a diagram representing one possible configuration of your space.

At this stage, we focus on maximizing the efficiency, capacity and comfort of your practice as an integrated system. While the result looks simple, your Blocking Diagram represents 25 years of research into dental office productivity and cost-effective design.

This development and revision process is faster and more effective than traditional floor planning techniques.

Iterations

Our Blocking Diagram service includes **up to four design iterations**. These may be used to refine concepts within a single design theme, or to experiment with different approaches. They may even be used to assess multiple locations. Your Practice Liaison and design team will present iterations via screen share, to allow immediate feedback and discussion.

Depending the on the number of iterations required, the Blocking Diagram phase of Design Development can be done quite quickly – sometimes in just a few days. Once you are satisfied, the approved design can move to the next step in Design Development: the Floor Plan.

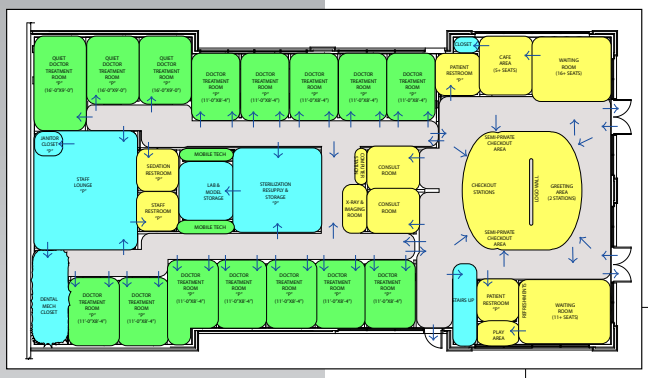
STEP 3 | DESIGN DEVELOPMENT

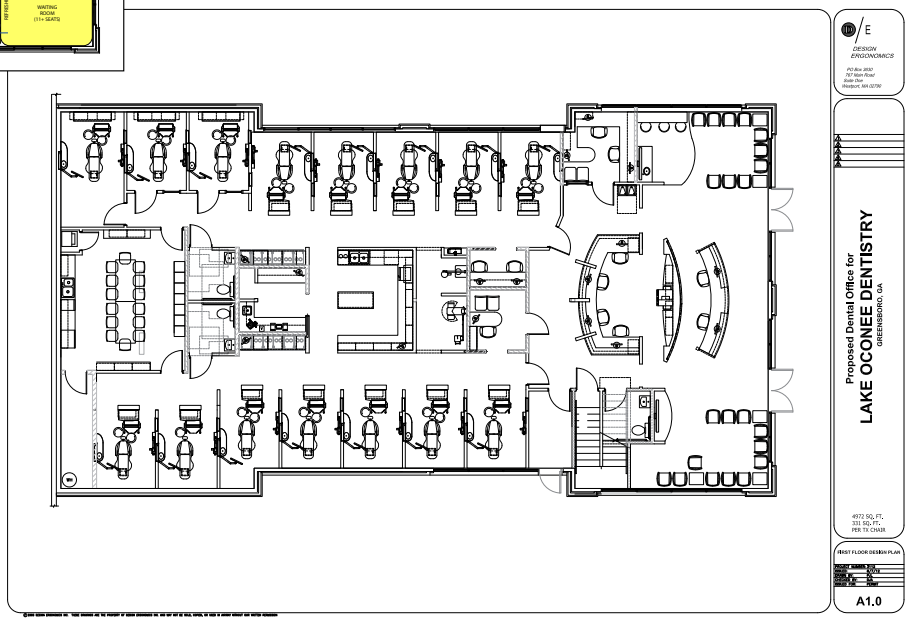
Refinement - *Preliminary Floor Plan*

Time Frame: 2-3 weeks

Your Floor Plan is a formal drawing based on the conceptual elements established during the Blocking Diagram process. It serves as the basis from which all other documents are created and it is critical that details are accurately depicted at this stage. Simply changing the location of a door, or the orientation of a room – which are trivial matters to an architect – can have a dramatic and detrimental impact on traffic flow in a dental environment. Our team will work with you to make sure that your Floor Plan sets you up for success.

Most architects don't design exclusively for the dental industry. *We do.* As the nation's largest independent dental office design firm, we've helped build thousands of practices. Unfortunately, we have seen the problems that arise when Floor Plans don't strictly adhere to the unique demands of dental practices.





Your Floor Plan is the single most important document in the Design Development process.

It is the reference point for all subsequent Construction Documentation.

We will work closely with you to ensure that critical design elements are maintained in the Floor Plan, as well as provide additional drawing details which accurately define Operatory, Sterilization, Resupply and other clinical considerations in your practice.

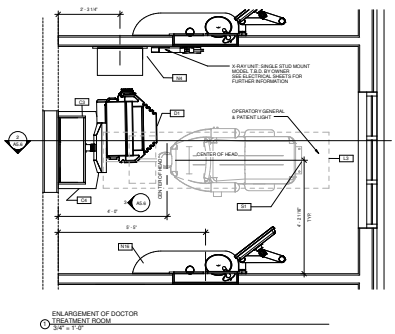
STEP **3** | DESIGN DEVELOPMENT

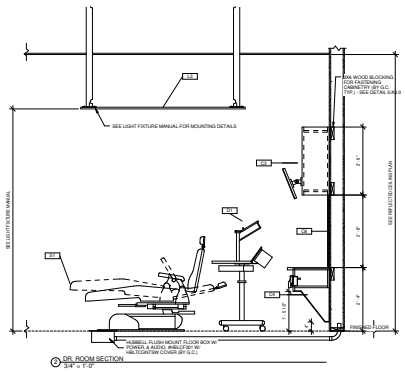
Refinement - *Equipment & Final Floor Plan*

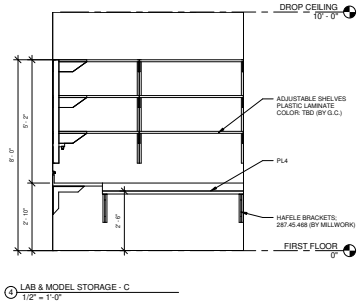
Time Frame: 2-3 weeks

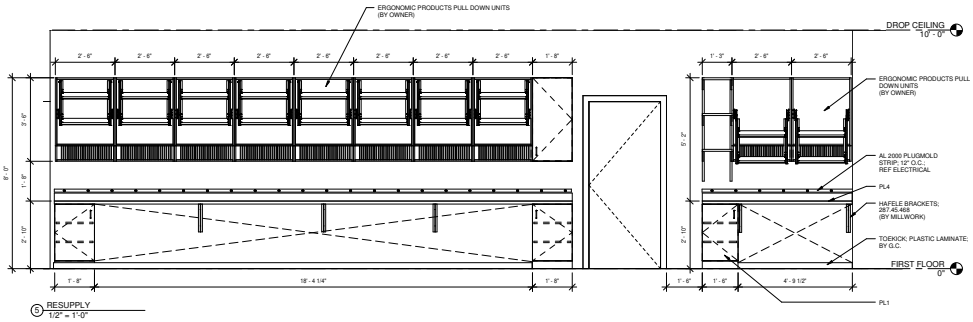
Before you and your architect can produce a Final Floor plan, you will need to finalize some important equipment decisions. Your equipment choices will determine many structural, electrical and plumbing elements.

In most cases, Design Ergonomics will provide drawing details that become part of the eventual plan set ("Construction Drawings"). Your construction partner will use these to build your office and install the equipment that drives it. Typically, these include one or more operatory designs as well as Sterilization.









Your Practice Liaison will have valuable insight on a broad range of topics – from HVAC to autoclaves.

Your design team will consult and review all Floor Plan versions with you, making changes as needed. The initial Floor Plan presentation may take place via screen share. However, changes after this tend to be minor (though precise) and are often handled through email.

Once approved, we will create a document package for your final Floor Plan that includes:

- **First Floor Design Plan (sheet A1.0)**
- **First Floor Dimensioned Plan (sheet A1.1)**
- **Sterilization Elevation**
- **Equipment Detail Drawings (as available)**
- **CAD files of all drawings supplied**

STEP 3 | DESIGN DEVELOPMENT

Interior Design

Time Frame: throughout (complete ID docs by Bid submission)

Interior Design is as much Science and Business as it is an Art Form.

There is a deep psychology in creating a calming, reassuring flow in a dental office – an environment that fills many people with anxiety. Additionally, building codes regarding medical facility finishes can be stringent, and people outside the industry may not have access to commercial-grade materials required.

The Interior Design Process

While Interior Design is presented at the end of the Design Development Step, the style, and level of finish of your dental office needs to be top-of-mind from the beginning. Finish treatments can have a significant impact on your overall costs, and these considerations need to be included when you're developing your initial budget.

Design Ergonomics offers multiple levels of Interior Design, from curated to fully custom packages. No matter the service, we start with a complimentary consultation call.

To prepare for this call, think about styles and finishes that appeal to you. Find examples if possible; not just on the Interior Design and Portfolio sections of our site, but on Pinterest, in magazines and other visual sources. Your Interior Design specialist will guide you through the process, but we value your ideas and need your input to tailor a package that best suits your goals, aesthetics, and budget.

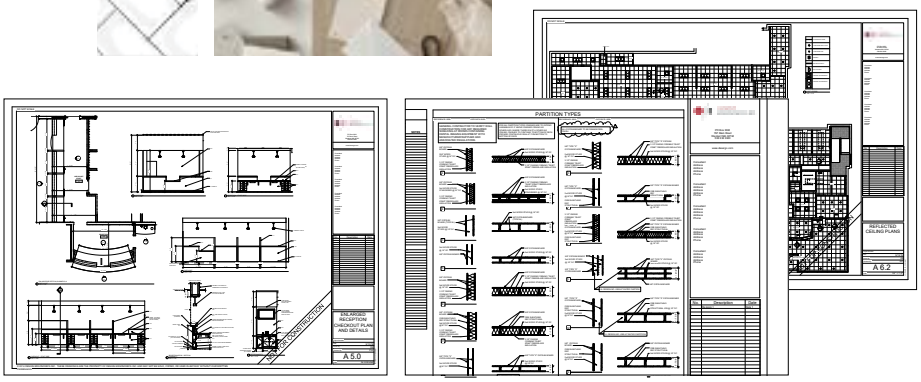
STEP 3 | DESIGN DEVELOPMENT

Interior Design con't

Throughout the Design Development Phase, we'll work with you to refine the look and feel of your new practice. Once we've established a basic set of style elements with you, you'll receive a formal Look and Feel Board. This collection of color swatches, fabrics, and finish textures will be used to create a cohesive, attractive, and professional look throughout your practice.

With an approved Look and Feel Board, we can begin to gather all the relevant material and finish information your construction partner will need to provide a bid, and later to build.

During this process, we'll also go over considerations related to reception desk design, door & cabinet styles, decorative lighting styles and more. The final package includes:



- **Interior Elevation Drawings**
- **Material & Finish Schedules**
  - **Walls & Baseboards**
  - **Mill Work**
  - **Floor Coverings**
  - **Ceiling**
- **Door Schedule**
- **Lighting Plan**

As with the Operatory and Sterilization details, these drawings and schedules will be included in the final construction documents prepared by your architect. Your designer will also be available during the construction phase to review materials with your contractor or discuss changes that may arise.

Exterior Design

Time Frame: 2-4 Weeks

Our design specialty lies in dental practice interiors. We provide unmatched clinical efficiency with the most cost-effective use of space in the industry, all while creating an exceptional patient experience.

While your exterior design will be dictated in part by the floor plans we produce, your architect will handle the details of that element of your final design. We will, of course, work with them to ensure a cohesive execution of your overall vision.

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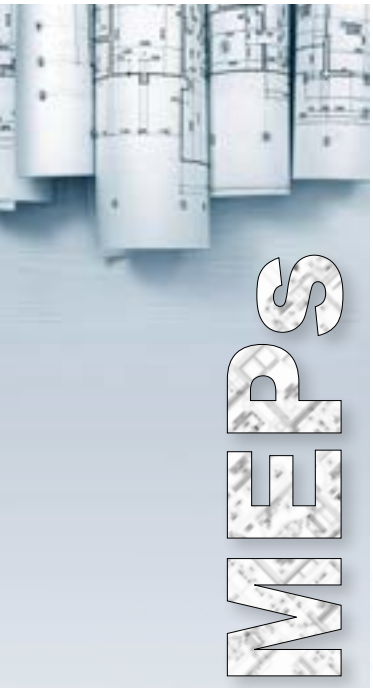
STEP **4** | DESIGN EXECUTION

Construction Documents

Time Frame: 8-12 weeks



At this point, the vision of your future practice is clearly defined by a Floor Plan, equipment selections, interior and exterior treatments. However, you can't build a practice on vision alone. For bidding, permitting and construction, you need a very comprehensive set of plans, referred to as "Construction Documents".

Generating Construction Documents is a time consuming process. Be prepared for this phase to take up to 12 weeks. These documents are developed by your architect in conjunction with a variety of professionals, including mechanical, electrical, plumbing, and structural engineers.

As with your initial Floor Plan, the Construction Documents follow a development process from initial to final. Your architect will co-ordinate communications, and you will be asked to review and approve each step, as follows.

- **Progress Set** (preliminary engineering schematics)
- **Bid Set** (used for Construction Estimates)
- **MEP Final Approval** (Finalized Construction Documents - "Permit Set")

Bidding

Time Frame: 2-3 weeks

Your prospective contractors will provide construction estimates based on architectural drawings know as "Bid Sets". These are fairly resolved drawings, though they have not been through final approval. How complete these drawings need to be may vary by contractor.

Once you have selected a contractor, they will handle the next step: Permitting.

Permitting

Time Frame: As little as 2 weeks, but may take several months

The time frame to obtain Permits can vary widely – from as little as a few weeks, to 4 or 5 months. Minor design or engineering changes may require re-submittal (in whole or in part). However, the most common source of delay is the current work-load at your municipal building department.

We suggest you and/or your contractor speak to the local agencies early in the process. Try to get a feel for how quickly they can move you through this step, as it can *significantly* impact your overall project time-line.

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STEP 5 | CONSTRUCTION

Construction

Time Frame: 4-12 months (weather & other variables dependent)



We're committed to the success of your project, from start to finish.

When you enter the Construction Step, we'll continue communicating with both you and your contractor. We are happy to review progress photos. In some cases, we may visit your site if issues arise for which we can provide advice or solutions.

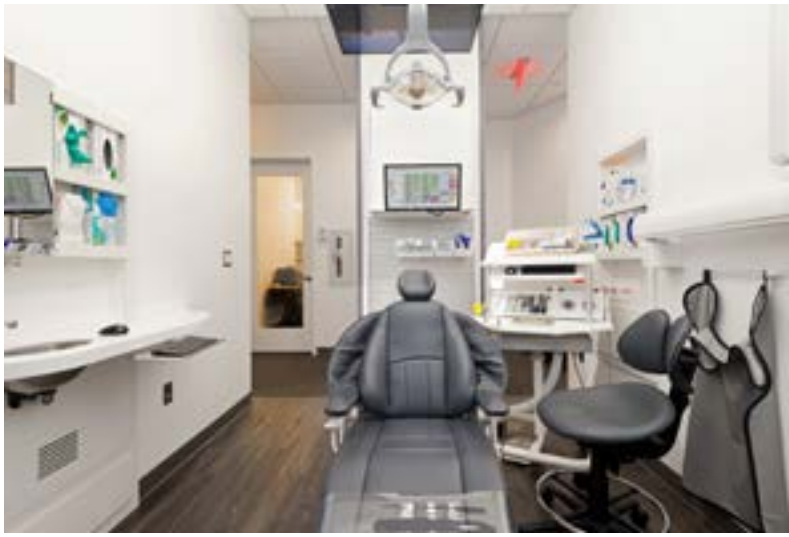
Equipment Installation

Time Frame: 2-4 weeks

Equipment installation – who does it, and what will it cost – varies by product and supplier. Your contractor will generally handle non-clinical cabinetry, general lighting, etc. This should have been clearly delineated in the bidding process.

The installation of clinical equipment – chairs, X-ray, delivery, compressor, vacuum and more – is commonly done by the suppliers, and prices will vary significantly. Here again, your Practice Liaison can provide valuable guidance.

During this period, you will also be setting up administrative elements such as administration equipment, computers, and phone systems etc.



Final Inspection & CO

Time Frame: 2-4 weeks (post Install)

Everything is in place, but you need your local building authority to sign off on a wide range of items, including structural, mechanical, plumbing, electrical – even your clinical systems (lighting, motorized patient chairs). Your contractor and architect should be on hand during the inspection to provide necessary information. When the inspection is complete, you'll receive a Certificate of Occupancy ("CO").

Congratulations! You can now open for business. But before you start cutting ribbons, there are some things you can do to make your opening smoother, and ensure a quicker path to long-term success.

A Few Suggestions to Consider Before Your

GRAND OPENING...

Leave Adequate Time to ***Set Up Your Systems.***

Your new office is beautiful, but it's a blank slate. It won't become a highly-efficient power-house of productivity until all the systems are both up and running, *and* working together.

It's a new space, and it will take some time to prepare and settle into a rhythm. Sterilization, phone systems, software, imaging...all the interdependent activities you've come to take for granted are going to be new to both you and your staff.

Want to Optimize? ***Get Help.***

Reboot Training is a comprehensive examination and restructuring of your dental office inventory, resupply, and deployment systems. Transform your dental practice into a high-performance office by eliminating wasteful (and stressful) processes.

We're so confident in our ability to make practices more efficient and productive that we guarantee the results!

Try a ***Soft Opening*** *with Friends and Family.*

Before the balloons, confetti, and press releases go out – see some live patients! This will give you an opportunity to work the last of the equipment and system bugs out in a much more low-key fashion. Many of our clients run several days to a week or more seeing only friends and family.

Performing a soft opening can help ease tensions in what is often an anxious time for your entire staff. This will also give you an opportunity to finalize any last-minute painting touch ups, art-work or furnishing acquisitions.

Our mission is your complete satisfaction

Building a new practice is a complex endeavor, and this Playbook won't answer every question you may have. Fortunately, there's nothing we love more than talking about dental office design and construction!

Call us at 1-800-275-2547 to speak with a Practice Liaison today.

We'd be honored to join you on any point of your journey.

Are you ready to turn the **Practice of Your Dreams** into a **Reality**?

GLOSSARY

- **As Builts** - CAD drawings showing complete internal and external dimensions of an existing building (new or previously built), including walls, load-bearing structures, stairs, doors, windows and utilities.
- **Authority Having Jurisdiction ("AHJ")** - the governing body regulating construction and development of commercial enterprises in a specified region.
- **CAD** - "Computer Assisted Design," an electronic file created by architects, designers and draftsmen.
- **Construction Documentation** - The complete, formal set of plans required by the AHJ to construct an office, including but not limited to; floor-plans, interior and exterior elevations, ID elevations and materials schedules, mechanical/electrical/plumbing/structural plans, and site plans.
- **Due Diligence** - A period of time included in the P&S used by the purchaser to determine that the property is suited to their goals and that all elements of the sale as represented by the seller are true and accurate.
- **Elevation** - A architectural drawing showing the face of something (as opposed to a view from above). This may be a building exterior, or interior elements such as cabinetry, reception desks etc.
- **Engineering Disciplines (as they relate to a Construction project)**

  Civil, relating to environmental/exterior elements including landscaping, building and parking location and availability, utilities, water remediation, offsets, site entries/exits, and site planning approval.

  Mechanical/Plumbing, covers HVAC and all fluid flow systems. As a subset, plumbing engineers address water service connection to municipal infrastructure (feed and sewage) and develop all piping schematics including feed lines, venting, drainage and waste. In the dental industry, this also covers compressors, vacuum and plumbed nitrous.

  Electrical, addressing electrical loads, service, wiring schematics and electrical code compliance.
- **Escrow** - an amount of money or other documents kept in the custody of a third party, transfered only when a specified condition has been fulfilled (e.g., a Due Diligence period). Depending on the terms of the P&S, this is essentially a deposit which may be refundable during the Due Diligence period.
- **HVAC** - "Heating, Ventilation and Air Conditioning"
- **Letter of Intent ("LOI")** - An informal agreement including an offer for purchase at an expressed amount. The LOI is the beginning of the negotiation process and several rounds of offers and counter-offers may be required before both parties accept and sign the LOI.
- **Purchase and Sale Agreement ("P&S")** - The agreed upon conditions relating to the transfer of a property from seller to buyer. This is typically drafted after the LOI has been accepted by both parties and includes relevant conditions such as the length and terms of the Due Diligence period and escrow.
- **Screen Share** - An interactive method of presenting drawings and other material in which your computer monitor is set to mirror what your designer is presenting remotely.
- **Site Engineering Survey** - A comprehensive study of a lot including plat map generation/confirmation, topography, soil analysis, availability of utilities, parking concerns, abutment issues, water remediation and other environmental issues that may impact a lot's suitability for development.
- **Value Engineering ("VE")** - Determining the need – and evaluating the suitability – of alternative finish materials. This may occur in the field during construction and will require the input of your Interior Designer.