GCMM DENTAL CONSTRUCTION

The Complete Dental Office Planning Guide

Everything you need to know before building or renovating your dental practice. From site selection to equipment installation — a step-by-step checklist from the contractor who specializes in dental offices.

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Why This Guide Exists

After building and renovating dozens of dental offices across New York, Westchester, Long Island, and New Jersey, I've seen the same mistakes over and over again. Dentists hire general contractors who don't understand dental-specific requirements — and end up with operatories that don't accommodate their equipment, plumbing that can't handle suction systems, and electrical that trips breakers when the compressor kicks on.

This guide is the checklist I wish every dentist had before they started their project. It covers everything from choosing the right space to the final equipment installation — organized into phases so you know exactly what to expect and when.

Use this as your planning tool. Check off items as you go. And when you're ready to build, call me — this is literally all I do.

SECTION 1

Site Selection & Lease Negotiation

The space you choose determines 80% of your buildout cost. Get this wrong and everything else gets harder and more expensive.

- ■ Minimum 1,200 sq ft for a 3-operatory practice (400 sq ft per op is ideal)
- ■ Ground floor preferred (heavy equipment, ADA access, patient convenience)
- ■ Verify plumbing access — can you run drain lines to existing sewer/septic?
- ■ Check electrical capacity — dental offices need 200A minimum service
- ■ Confirm HVAC capacity — operatories generate heat from equipment and lights
- ■ Verify ceiling height — minimum 9 ft for dental lights and ceiling-mounted units
- ■ Check for asbestos, lead paint, or other hazardous materials (pre-1980 buildings)
- ■ Review zoning — confirm medical/dental use is permitted
- ■ Negotiate a buildout period in the lease (2-4 months rent-free for construction)
- ■ Get landlord approval for dental-specific modifications in writing

PRO TIP

Always bring your contractor to see the space BEFORE signing the lease. I've saved clients thousands by identifying problems that would have been expensive to fix after signing.

SECTION 2

Office Design & Layout Planning

A dental office layout is not like designing a regular office. Patient flow, infection control, equipment clearances, and utility routing all dictate where things go.

Reception & Waiting Area

- ■ Reception desk with line-of-sight to entrance and hallway
- ■ HIPAA-compliant check-in area (patients can't see records on screen)
- ■ Seating for 6-10 patients minimum
- ■ Children's area if doing pediatric or family dentistry
- ■ ADA-accessible entrance, doorways (36 in minimum), and restroom

Operatories

- ■ Minimum 10 ft x 11 ft per operatory (larger for oral surgery)
- ■ 12-o'clock or rear delivery system chosen and planned
- ■ Left-hand and right-hand operatories considered
- ■ X-ray wall shielding requirements identified
- ■ Panoramic/CBCT room planned (separate from ops, requires extra shielding)
- ■ Operatory doors — sliding preferred for space efficiency
- ■ Each operatory has its own sink with hands-free faucet

Sterilization & Lab

- ■ Central sterilization room with dirty-to-clean workflow
- ■ Separate dirty and clean sides with pass-through window
- ■ Dedicated ventilation for sterilization (autoclave heat)
- ■ Adequate counter space for instruments and packaging
- ■ Lab area with vacuum line for models (if doing in-house lab)

Mechanical Room

- ■ Compressor room — ventilated, isolated for noise
- ■ Vacuum pump location — accessible for maintenance
- ■ Nitrous oxide manifold location (if applicable)
- ■ Electrical panel location — accessible, not in patient areas
- ■ IT/server closet — climate controlled

PRO TIP

Design operatories to be mirror images of each other. This lets you order identical cabinetry and equipment, which saves 15-20% on furnishing costs.

SECTION 3

Permits & Code Compliance

Dental offices are classified as healthcare facilities and have stricter requirements than standard commercial buildouts.

- ■ Building permit application filed with local building department
- ■ Architectural drawings — stamped by licensed architect (required in NY)
- ■ Plumbing permit for dental-specific waste lines
- ■ Electrical permit for 200A+ service and medical-grade circuits
- ■ HVAC permit for new ductwork and ventilation
- ■ Fire department approval (sprinkler modifications, exit signage)
- ■ Health department inspection requirements reviewed
- ■ ADA compliance verified (ramps, doorways, restroom, signage)
- ■ OSHA requirements for dental offices reviewed
- ■ Lead-lined walls for X-ray rooms — specifications from equipment manufacturer
- ■ Certificate of Occupancy timeline confirmed with building department

PRO TIP

> *In NYC, permit approval can take 4-8 weeks. File permits the day the lease is signed — don't wait until designs are perfect. You can amend later.*

SECTION 4

Construction Phase

This is where a dental-specialized contractor makes all the difference. The rough-in phase determines whether your equipment will install properly.

Demolition & Framing

- ■ Existing space demolished to shell (or selective demo for renovation)

- ■ Framing layout matches approved architectural drawings
- ■ Operatory walls framed with blocking for cabinetry and monitor mounts
- ■ X-ray walls framed for lead lining
- ■ Fire blocking installed per code

Plumbing

- ■ Hot and cold water lines to each operatory (typically 1/2-inch copper)
- ■ Drain lines for each operatory sink and cuspidor
- ■ Vacuum main line routed to each operatory (1.5-inch or 2-inch PVC)
- ■ Compressed air main line routed to each operatory (3/4-inch copper)
- ■ Nitrous oxide lines (if applicable) — copper, labeled, and tested
- ■ Amalgam separator installed per EPA requirements
- ■ Sterilization room plumbing — hot/cold, drain for autoclave
- ■ All rough-in locations verified against equipment manufacturer specs

Electrical

- ■ 200-amp service panel (or verify existing capacity)
- ■ Dedicated 20A circuits for each operatory (2 per op minimum)
- ■ Dedicated circuits for compressor, vacuum pump, autoclave
- ■ Data drops (Cat6) at each operatory for digital X-ray and monitors
- ■ Ceiling junction boxes for dental lights (verify locations with equipment)
- ■ Floor boxes or wall outlets positioned per chair manufacturer specs
- ■ Emergency power considerations (generator or UPS for servers)
- ■ Ground fault protection in wet areas

HVAC

- ■ Each operatory has supply and return air
- ■ Sterilization room has dedicated exhaust
- ■ Compressor room has ventilation (generates significant heat)
- ■ Waiting area climate comfortable for patients
- ■ Thermostat zones — operatories separate from reception

PRO TIP

Have your equipment supplier provide rough-in specifications BEFORE the plumber and electrician start. Every chair manufacturer has different requirements for floor box locations, water line positions, and drain heights. Getting this wrong means ripping out walls after they're closed up.

SECTION 5

Finishes & Buildout Details

- Flooring — luxury vinyl tile (LVT) recommended for operatories (waterproof, easy to clean)
- Coved base in operatories and sterilization (infection control)
- Walls — moisture-resistant drywall in wet areas, standard elsewhere
- Paint — semi-gloss in operatories (wipeable), eggshell in waiting
- Ceiling — acoustical tile in operatories (replaceable), drywall in reception
- Cabinetry — installed after flooring, before equipment
- Countertops — solid surface (Corian) or quartz for infection control
- Lighting — LED throughout, task lighting at operatory chairs
- Signage — ADA-compliant room signs, exit signs, practice signage
- Window treatments (if applicable) — operatories need light control

SECTION 6

Equipment Installation

This is where most general contractors fail. Dental equipment installation requires manufacturer training. Improper installation voids warranties and can cause expensive repairs down the road.

- Dental chairs installed and leveled (A-dec, Midmark, Planmeca, etc.)
- Delivery units connected — water, air, suction, electrical
- Dental lights mounted and aimed
- Cabinetry — rear/side cabinetry installed per operatory layout
- Digital X-ray sensors connected and tested
- Panoramic/CBCT unit installed (requires manufacturer calibration)
- Intraoral cameras connected
- Compressor installed, tested, and filtered
- Vacuum system installed and tested (check suction at each operatory)
- Nitrous oxide delivery system tested and certified

- ■ Autoclave installed, plumbed, and cycle-tested
- ■ Amalgam separator connected and registered
- ■ IT network — server, workstations, monitors at each op
- ■ Practice management software installed and configured
- ■ All equipment warranties registered

PRO TIP

I'm trained by A-dec, Midmark, Planmeca, Air Techniques, Vatech, DCI, and Dexis. When your contractor can install and troubleshoot your equipment — not just the walls around it — your project finishes faster and costs less.

SECTION 7

Final Inspections & Move-In

- ■ Final building inspection passed
- ■ Certificate of Occupancy received
- ■ Fire department inspection passed
- ■ Health department inspection (if required in your jurisdiction)
- ■ Radiation safety inspection for X-ray equipment
- ■ All punch list items completed
- ■ Deep cleaning of entire office
- ■ Staff walkthrough — everyone knows where everything is
- ■ Phone, internet, and IT systems tested
- ■ Practice management software verified with real patient scenario
- ■ Insurance and malpractice coverage updated for new address
- ■ Marketing — update Google Business, website, all listings
- ■ Grand opening planned!

SECTION 8

Rough Cost Guide

Every project is different, but here are typical ranges for the NYC/Westchester area to help you budget. These include construction, not equipment.

PROJECT TYPE	TYPICAL RANGE	NOTES
3-operatory new buildout (1,200-1,500 sq ft)	**$150,000 - $250,000**	Shell space to move-in ready
5-operatory new buildout (2,000-2,500 sq ft)	**$250,000 - $400,000**	Larger practice, more infrastructure
Single operatory addition	**$30,000 - $60,000**	Adding one op to existing practice
Reception renovation	**$20,000 - $50,000**	Cosmetic refresh or full rebuild
Full office renovation (keeping same layout)	**$80,000 - $180,000**	New finishes, updated systems
Equipment installation only	**$5,000 - $15,000**	Per operatory, disconnect/reconnect

Note: These ranges are for construction only and do not include dental equipment, furniture, IT infrastructure, or architect fees. Equipment typically adds $80,000-$200,000+ depending on manufacturer and technology choices.

Ready to Build?

Whether you're planning a new dental office from scratch or renovating your existing practice, GCMM is the only contractor with manufacturer training from the companies that make your equipment.

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