

THE COMMERCIAL LINTEL PLAYBOOK

by Travis Nech

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THE COMMERCIAL LINTEL PLAYBOOK

A Texas Mason's Field Guide to Big Openings, Heavy Loads, and Permanent Lintel Repair on Commercial Buildings

Travis Nech

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Chapter 1: The Steel

Above Your Storefront

Most commercial property owners walk under one of the hardest-working pieces of steel in their building every single day and never give it a thought. There's a strip of steel sitting right over your front door, your windows, your loading dock doors. You can't see it — it's tucked up behind the brick — but it's holding up tons of masonry above every opening in your wall. That steel has a name: the lintel.

I've been a Texas mason for fifty years. I've torn into walls in Dallas, Fort Worth, Waco, and towns most folks never heard of, and I can tell you that the lintel is the single most overlooked piece of structural hardware in commercial construction. It doesn't ask for attention. It just sits there, carrying its load, year after year — until the day it can't. When that day comes, the wall above it pays the price, and the repair bill grows with every season you wait. So let's start at the beginning: what a lintel is, what it carries, and why the ones on commercial buildings live a harder life than the ones over your house windows.

What's a Lintel and Why Every Opening Needs One

Think about a brick wall. Brick is wonderful in compression — that's a fancy way of saying it holds up great when weight pushes straight down on it. But an opening is a gap in that wall, and gravity doesn't care about your front door. All the brick above the opening wants to fall straight through it. So somebody has to carry that weight across the gap.

The lintel is that carrier. It's a beam set across the top of the opening, and the masonry above it rests on the lintel instead of falling through. Simple as that. Every window, every door, every loading bay, every storefront glass panel — if there's masonry above it, there's a lintel holding that masonry up. No exceptions.

On a house, you might see a small angle iron over a window — maybe three or four feet of steel carrying a modest triangle of brick. That's the basic idea. But commercial buildings aren't houses, and their lintels live in a different league.

Why Commercial Lintels Carry More Than Residential

Here's where the stakes climb. I tell property owners this: a commercial lintel is doing the work of three or four residential lintels, sometimes more. A few reasons why.

First, the spans are longer. A house window might be three feet wide. A storefront on a strip center in Fort Worth can be twelve, fourteen, sixteen feet across. A loading dock opening on a warehouse might be twenty feet. The longer the gap, the heavier the load and the harder the steel has to work. It's basic physics — double the span and you're not doubling the load on that beam, you're multiplying it.

Second, the masonry is heavier. Commercial buildings often carry more stories of brick above the opening — a two-story office or a three-story retail-and-apartments building stacks thousands of pounds of brick and mortar over that one piece of steel. Some commercial walls are thicker too: double-wythe brick (two layers deep) is common on older commercial buildings, and that's twice the weight pressing down on the same lintel.

Third, commercial buildings catch more wind. A tall facade acts like a sail. Wind pushes on the wall, and the lintel — along with the rest of the wall system — has to handle those sideways forces on top of the straight-down weight. Texas storms don't ask politely. A spring squall line rolling through Tarrant County can shove a tall commercial facade with real force, and every opening in that facade is a weak point where the lintel has to hold its line.

Put it together: longer spans, heavier walls, taller buildings, more wind. That's why a commercial lintel failure doesn't just crack a few bricks — it can compromise the whole wall system above the opening.

The Common Types You'll Find on Commercial Buildings

When you or a contractor open up a wall, you'll usually find one of a few familiar types of lintel steel.

The **steel angle** is the workhorse. It looks like a capital "L" in cross-section. One leg of the L lies flat, hidden behind the brick, and the brick's bottom row sits on it. The other leg runs up vertically, tucked against the inner wall. Angles come in sizes measured by the length of each leg and the thickness of the steel — a 3½-by-3½-by-¼ angle is common on smaller openings; bigger openings get heavier legs. Galvanized or painted, the angle is supposed to resist moisture. Supposed to. We'll get to that in Chapter 2.

Plate lintels show up on heavier commercial work. A flat plate of steel — thicker, wider, no bend — sometimes welded into a box or channel shape for longer spans. Plates carry serious weight and turn up over loading docks and wide storefronts where an angle alone wouldn't be enough.

Relieving angles (sometimes called shelf angles) are a different animal. On multi-story buildings with a brick veneer over a steel frame, you can't just stack twenty feet of brick on one lintel at the bottom — the weight would be crushing. So the building's design "relieves" the veneer at each floor line with a shelf angle: a heavy steel angle bolted to the building's frame at every floor, and each story's brick sits on its own shelf. Every one of those shelf angles is a lintel, functionally — carrying its story's worth of brick. On a three-story office building, you've got a stack of them, and every one of them is out in the weather, collecting water and rusting where you can't see it.

There are older types too — stone lintels and brick arches on buildings from before steel became standard — but on working commercial buildings in Texas today, angle iron and plate steel do the heavy lifting.

"Bearing" in Plain Language

You'll hear masons and contractors talk about "bearing," so let me put it in plain terms. Bearing is simply how far each end of the lintel extends past the opening into the solid wall on either side. That extension is what transfers the load into the wall. If an opening is eight feet wide, the lintel might be eight feet eight inches long — four inches of bearing sitting on solid masonry at each end.

Why does it matter to you as a property owner? Because bearing is what keeps the lintel from slipping or rocking. Short bearing on a heavy commercial load is a warning sign — it means all that weight is pressing down on a small footprint of brick, and that brick can crush or shift over time. When we open a wall and find a long span sitting on two inches of bearing, we know we're looking at trouble that was baked in from day one.

The Stakes: What Rides on That Piece of Steel

Here's the part that makes owners sit up. A lintel doesn't carry just the brick you see. It carries everything tied to it: the brick above, the mortar, sometimes a second or third story of masonry, the wall ties connecting the veneer to the building frame, and in some assemblies the edge of the roof deck or parapet above. On a commercial facade, a single failed lintel can let a section of wall above an opening shift, crack, or — in the worst cases I've seen — drop brick onto the sidewalk below.

That last one is not dramatic language. It's liability language.

A loose brick over a public entrance is every property manager's nightmare, and it starts with the steel nobody was watching.

But here's the good news, and the reason this book exists: lintels fail slowly, and they announce themselves long before the dangerous part. Rust stains, hairline cracks, a door that starts sticking — these are the building talking to you. Chapters 2 and 3 will teach you exactly what each of those signals means, how far along the failure has gotten, and what to do about it. The steel above your storefront will do its job for decades if you know how to listen to it.

Chapter 2: How Commercial Lintels Fail

Steel is tough, but it has one enemy it can't beat: water plus oxygen. In fifty years of masonry work across Texas, I've seen just about every way a commercial lintel can give up, and almost all of them trace back to moisture reaching steel that was never supposed to get wet — or getting wet far more than anybody planned for. A lintel failure is rarely sudden. It moves through stages, each one louder than the last. This chapter walks through the four main failure modes, how each one progresses over time, and the early and late signs that tell you where you stand.

One note before we start: the stories in this chapter are composite examples — the kind of work we see over and over, blended together so you can recognize the pattern on your own building. No real customers, no real addresses. Just patterns, because patterns are what keep you ahead of the repair bill.

Rust Jacking: The Slow Lift

Rust jacking is the number-one killer of commercial lintels, and it works like this. Steel and rust are not the same size. When iron oxidizes — when it rusts — the rust takes up far more space than the steel it replaced. Roughly eight times the volume. So picture a steel angle sitting under a row of brick. Moisture gets to it — rain running down the face of the wall, condensation inside the cavity, a failed caulk joint at the window — and the steel starts rusting. The rust swells. And because the steel is trapped between the brick below and the brick above, that swelling has only one direction to go: up.

The rust literally jacks the brick above it upward, course by course. I've measured lifts of a quarter inch, half an inch —

enough to open a visible gap in the mortar bed above the lintel, enough to push a window frame out of square. The cruel part is that rust jacking looks like the building is rising, so owners sometimes misread it. It's not rising. The steel is swelling and shoving the wall upward against the weight of everything above it, cracking mortar joints as it goes.

Here's a composite example from the kind of work we see: a two-story retail building, maybe twenty years old, brick veneer over steel frame. The property manager notices the mortar line above the front windows is cracking open — a clean horizontal crack running the length of the opening, with the brick above it sitting just a hair higher than the brick at the corners. Up close, there's a faint orange stain bleeding out of the joint. That's textbook mid-stage rust jacking. The rust has already lifted the brick; the mortar cracked because brick doesn't bend.

Early signs of rust jacking: hairline horizontal cracking in the mortar bed directly above the lintel, faint rust staining seeping from the joint, maybe a barely noticeable step where one course sits proud of its neighbor. Late signs: the crack widens to a finger-width gap, the brick courses above the opening visibly rise or tilt, window and door frames in the opening start binding, and chunks of the mortar bed fall out entirely.

Section Loss: Rust Eating the Steel Thin

Rust jacking is about rust pushing outward. Section loss is about rust eating inward. Given enough time and moisture, corrosion doesn't just coat the steel — it consumes it, flaking off layer after layer until a quarter-inch angle is an eighth of an inch thick, or less. At that point the steel can't carry its rated load, and it starts to deform under weight it used to handle easily.

Section loss is sneaky because it hides. The front face of the lintel — the thin edge you might glimpse at the bottom of the opening — can look passable while the hidden legs of the angle, up inside the wall, are paper-thin. The brick hides the evidence until the steel starts sagging or the bearing ends crumble.

A composite example: a warehouse built in the eighties with steel plate lintels over the dock doors. For years the only symptom was a little rust staining at the corners of each opening — easy to ignore, easy to paint over. Inside the wall, though, the plates were thinning at the bearing ends, where water pooled. One spring, after a heavy rain season, the manager noticed the center of one dock opening sagging —

the door header visibly dipping, the roll-up door grinding on its track. When we opened the wall, the plate had lost more than half its thickness at both bearings. The steel hadn't broken. It had simply gotten too thin to hold the load, and it was bending like a tired shelf.

Early signs of section loss: persistent rust staining at the lintel line that keeps coming back after cleaning, minor flaking of steel visible at the lintel's exposed edge, small pieces of corroded steel falling from behind the brick. Late signs: visible sag at the center of the opening, doors or windows binding badly, cracking that radiates diagonally from the opening's corners, and in advanced cases, a hollow sound or visible movement when the wall above the opening is pressed.

Sag Under Load

Sag deserves its own section because it can arrive without dramatic rust — sometimes it's a design problem from day one. A lintel that was undersized for its span, or set on inadequate bearing, will deflect — bow downward at the center — under the weight it's carrying. Steel is elastic up to a point; it springs back. But past that point, it takes a permanent set, and once a lintel sags, the masonry above it sags with it, cracking in the process.

I see this most on older commercial buildings where the original openings were widened during a remodel — a storefront gets opened up for bigger glass, the old lintel stays, and suddenly it's carrying a span it was never sized for. It may hold for years, then one summer you notice the crack.

Composite example: a corner storefront on a main street, converted from a 1960s bank. During the conversion, the front was opened to twelve feet of glass. The original lintel — sized for an eight-foot opening — was left in place and buried behind a new facade. Ten years later, the tenant calls about a diagonal crack stepping up from the corner of the window, and the entry door drags on the threshold every humid morning. The lintel had been sagging a fraction of an inch a year. The brick above finally told on it.

Early signs of sag: fine diagonal cracking stepping away from the opening's corners, a door in the opening that binds seasonally, a barely visible dip in the mortar lines above the opening. Late signs: the sag becomes visible to the naked eye from across the street, cracking widens and steps multiple courses high, doors or windows in the opening stop working entirely, and the bearing ends show crushing in the brick beneath them.

Water Traps at Shelf Angles

Remember the relieving angles — the shelf angles carrying each story of brick on a multi-story building? Their weak spot is built into their shape. The flat leg of the angle creates a horizontal shelf, and water running down inside the wall cavity lands on that shelf and sits there. The angle becomes a gutter that never drains. Flashing is supposed to kick that water out through weep holes, but flashing fails, weeps clog with mortar droppings and debris, and the shelf turns into a permanent shallow pond against raw steel.

This is the failure mode that scares me most on taller commercial buildings, because it attacks every floor line at once and it's almost entirely hidden. The brick face can look fine while every shelf angle in the building is corroding in a bath of trapped water. By the time symptoms show on the outside — staining at each floor line, spalling brick at the shelf — the steel at multiple levels is already compromised.

Composite example: a three-story office building, brick veneer, built in the nineties. The owner calls about rust stains appearing at the second-floor line, right where the brick courses meet a thin shadow line in the facade — the shelf angle, buried an inch behind the face. Weep holes? Painted over years ago. When we opened the wall, the angle at the second floor had rust-jacked the brick above it a full three-eighths of an inch, and the angle at the third floor was close behind. The ground-floor lintels were fine — they'd been replaced during a remodel. The building was failing from the middle up, exactly where nobody was looking.

Early signs at shelf angles: faint staining at floor lines, weep holes that are clogged or missing, damp patches on interior walls at floor level after rain. Late signs: horizontal cracking running the length of the floor line, brick spalling or popping at the shelf, visible lift of the courses above the angle, and water staining inside the building at the ceiling line of each floor.

The Common Thread

Every failure in this chapter has the same root: water reaching steel that can't dry out. The lintel itself is rarely the villain — it's the drainage around it that failed first. Flashing, weeps, caulk joints, and the simple slope of a shelf decide whether a commercial lintel lasts twenty years or sixty. In Chapter 3, I'll show you how to read the symptoms these failures leave on the surface of your building, so you can catch them in the early stage — when the fix is measured in hundreds, not tens of thousands.

Chapter 3: Reading the Symptoms

Your building is talking to you. It doesn't use words — it uses cracks, stains, sticking doors, and the slow geometry of shifting brick. After fifty years in this trade, I can walk a commercial facade and read it the way you'd read a newspaper. This chapter teaches you the same skill at the level a property owner needs: what each symptom means, how urgent it is, what you can check safely from the ground, and when it's time to get a professional up close with ladders and tools.

Everything here is about the outside of the building — what you can see walking the property. No climbing, no prying, no opening walls. You're doing reconnaissance, not repair.

Cracks: The Building's Handwriting

Cracks are the most common symptom and the most misread. Not all cracks mean the same thing, so let's sort them by what they tell you about the lintel.

Stair-stepping is the classic. The crack follows the mortar joints like a staircase, stepping up and away from the corner of a window or door opening. Each step is the crack finding the weakest path — the mortar — as the masonry shifts. When stair-stepping radiates from the corners of an opening, the lintel zone is your prime suspect: the steel is moving — lifting from rust jacking or dropping from sag — and the brick is cracking to accommodate it. A hairline stair-step, tight enough that you can barely fit a fingernail in it, is early. When you can slide a pencil into the crack, or when the steps run more than three or four courses high, you're looking at a late-stage problem that's been moving for a while.

Vertical cracks above openings tell a different story. A straight vertical crack running up from the center of a lintel — through brick, not just mortar — often means the lintel is sagging at midspan and the masonry above is splitting as the center drops. Think of it like a beam bending: the top stretches, the bottom compresses, and the brick — which has no stretch in it — cracks straight up. One thin vertical crack over a wide storefront opening deserves attention; a vertical crack that's widening at the top like a V is telling you the sag is active and ongoing.

Displacement is the word for brick that's actually moved out of plane — one section sitting proud of its neighbor, a bulge in

the wall, a course that's shifted sideways. Displacement near an opening is serious. It means the forces at work have overcome the mortar's grip entirely. Rust jacking lifts courses upward; severe sag drops the center; either way, when brick is visibly out of alignment, the lintel zone has moved past cracking and into structural shifting. That's not a watch-and-wait symptom. That's a call-a-pro symptom.

Here's a composite example of how these read together: a property manager walks a strip center and finds stair-stepping at the corner of one storefront window — hairline, two courses. Same building, different unit: a vertical crack above the entry door, thin but running through two bricks. First one is early lintel movement, worth watching and worth a professional look at the next maintenance cycle. The second is mid-stage sag over a doorway people walk under every day — that one moves up the priority list.

Sticking Doors and Windows Near the Lintel Zone

A door that used to swing free and now drags is one of the most reliable early warnings in this whole book — because you feel it every day. When a lintel sags, the opening goes out of square: the top of the frame drops or twists, and the door or window binds. When rust jacking lifts the brick above, it can squeeze the frame from the top down with the same result.

The key detail is location. A door sticking in an opening with masonry directly above it — a brick-veneer entry, a storefront door under a brick header — points at the lintel. A door sticking on an interior wall with no masonry above it is a different problem entirely. Also watch for seasonality: a door that binds every humid summer and frees up in winter may be telling you the steel is swelling with moisture-driven rust each wet season and the movement is progressive — a little worse every year.

Composite example: a restaurant tenant complains every spring that the back door — set in a brick wall under a steel lintel — scrapes the threshold. The manager planes the door. Next spring it scrapes again, worse. The door isn't the problem; the opening is slowly going out of square as the lintel above it deflects. Planing the door treats the symptom and hides the disease for one more season.

Rust Bleed Stains on Masonry

Rust staining is the lintel's confession. When you see orange-brown streaks bleeding out of the mortar joint above a

window or door, or staining the brick face below a floor line, that's oxidized steel telling you exactly where it lives. Fresh, bright-orange staining suggests active, ongoing corrosion — water is reaching the steel right now. Darker, older staining that's been there for years with no change is less urgent but still marks a lintel that's seen water and may be compromised inside.

Read the location: staining directly above an opening points at that opening's lintel. Staining at a regular horizontal line across the facade — especially at floor levels on a multi-story building — points at shelf angles and the water-trap problem from Chapter 2. Staining below a window sill is usually the window's own flashing, not the lintel — close, but a different repair.

One caution: don't confuse rust staining with other discoloration. Manganese in some brick can leave dark streaks; hard-water deposits leave white crusting. True rust bleed is orange to reddish-brown, it follows gravity downward from a joint, and it usually returns after cleaning if the corrosion is still active. If you scrub it off and it's back after the next rain, the steel is still rusting.

Lintel Edge Spalling and Cracking Along the Mortar Line

Sometimes you can see the lintel's actual edge — the thin bottom face of the angle, exposed at the head of the opening. When that edge is flaking, pitting, or visibly thinner than it should be, you're looking at section loss in progress. Run your eye along it: a healthy lintel edge is a crisp, straight line of steel; a failing one is ragged, layered like pastry where rust is delaminating, or swollen where jacking has started.

The mortar line directly above the lintel deserves its own look. A clean horizontal crack running the full width of the opening, right at the bed joint above the steel, is the signature of rust jacking's early stage — the brick lifting as one piece off the swelling steel. If that crack is open enough to see daylight through, or if pieces of mortar are falling out of it, the lift is advanced. Either way, that joint is the building showing you the exact plane where the movement is happening.

Telling a Lintel Problem from Other Problems

Fair question: how do you know it's the lintel and not something else? The most common confusion is foundation

settlement, so here's the quick distinction — brief, because this book stays on lintels.

Foundation settlement moves the whole building, or large sections of it. Its cracks are typically diagonal and wide, they often run from the ground up, they show up at multiple openings across the facade — not just one — and doors stick throughout the building, not at a single opening. Settlement cracks also tend to be wider at the bottom and taper going up, because the movement starts at the ground.

Lintel problems are local. The cracking centers on one opening. The staining sits at one lintel line. One door sticks while the rest of the building's doors swing fine. The symptoms cluster around the steel, not the soil. If your symptoms are at a single window or door and the rest of the building is quiet, think lintel first. If the whole building is cracking and doors are sticking everywhere, that's a different conversation — and a different professional.

What You Can Check from the Ground — and When to Call a Pro

Here's your safe inspection routine, all from the ground with nothing but your eyes and maybe a pair of binoculars:

Walk every opening on the building — windows, doors, dock bays — and look at the mortar joint directly above each one. Look for horizontal cracking, staining, or any course sitting higher than its neighbors. Check the corners of each opening for stair-stepping. Stand back and sight along the facade: does the brickwork above any opening dip or bulge? Try every exterior door in a masonry opening: does it swing free? Note anything that binds. After a rain, walk the building and look for fresh staining or damp patches at floor lines.

That's a solid owner's survey, and doing it twice a year — spring and fall — will catch most lintel problems in their early stage, when they're cheapest to fix.

Call a professional when: any crack is wide enough to fit a pencil; brick is visibly displaced or bulging; a door or window in a masonry opening has stopped working; staining keeps returning after cleaning; you see daylight through a mortar joint; or anything is loose overhead where people walk. A pro brings ladders, probes, and the experience to open a small section of wall and see what the steel actually looks like — which is the only way to know how far section loss or jacking has really gone. Your job is to spot it early. Their job is to confirm it and fix it.

The steel above your storefront will serve for decades — but

only if somebody's watching. Now you know what to watch for.

Chapter 4: Storefronts and Big Glass Openings

Walk down any main street in Texas and you'll see the same thing: a long run of storefronts, floor-to-ceiling glass, aluminum frames, a sign band above the door, and brick or stone above that. What you don't see — and what most property owners never think about — is the piece of steel holding up everything above that glass. That's the lintel, and on a commercial storefront, it's doing more work than almost anywhere else on the building.

I've worked storefronts for decades. I've pulled rusted lintels out of forty-year-old retail strips and replaced them while the business stayed open below. What I'm going to give you in this chapter is what the storefront installer doesn't always tell you and what the building's architect never explained to you in plain language: how that steel interacts with everything around it, what normal movement looks like, and what real trouble looks like.

How a Storefront Lintel Works

On a typical commercial storefront, the opening is wide — sometimes eight feet, sometimes thirty or more across the full front of the unit. Above that opening sits the sign band, the parapet wall, sometimes a whole second story of brick. All of that weight has to be carried across the opening by something. That something is the lintel: usually a steel angle or tube, set into the masonry above the opening, spanning from one side to the other.

Below the lintel hangs the storefront system — the aluminum framing and glass. This is important to understand: the glass doesn't hold up the building. The aluminum doesn't hold up the brick. It's the other way around. The lintel carries the masonry, and the storefront system hangs in the opening underneath it, anchored to the sides and to the underside of the lintel itself.

The lintel and the storefront framing have to work together. The storefront installer needs something solid to anchor the top of the frame to. The lintel provides that. But the lintel also needs clearance — it moves a little under load, it expands in the heat, and it cannot bear down on the aluminum frame. If the lintel and the frame are fighting each other, something

gives, and it's usually the glass that pays for it.

The Load Above: Sign Band, Frieze, and Parapet

Above a storefront opening you'll typically find three things: the sign band (where the store's sign mounts), a frieze or decorative course, and the parapet — the part of the wall that extends above the roof line. That parapet may only be two or three feet tall, but brick is heavy. A three-foot-tall brick parapet across a twenty-foot opening is a lot of weight hanging on that lintel, and it's there every day, summer heat and all.

Sign bands add another wrinkle. The sign itself has weight, and it catches wind. A big cabinet sign mounted on the band above your storefront pushes and pulls with every gust. That force travels down through the band and into the lintel line. It's not the main load, but it's a real one, and on older buildings where the lintel is already rusting, it's one more thing working against it.

Here's the plain-English version: your storefront lintel is carrying the wall, the parapet, and everything the sign band throws at it, all while spanning an opening that's much wider than a house window. Wide openings mean more deflection. That's physics, and it doesn't care how new the building is.

Deflection vs. Failure: What Movement Means

Steel bends. That's not a defect — that's what steel does. When you put weight on a steel beam or angle spanning an opening, it sags a little in the middle. That sag is called deflection, and every lintel on every building you have ever walked past has some.

A little deflection is normal. On a wide storefront opening, the center of the lintel might sit a fraction of an inch lower than the ends. You wouldn't notice it standing on the sidewalk. The brick above it might show nothing at all. That is steel doing its job — flexing under load and holding.

Real failure looks different. Here are the things I look for, and the things you should watch for as a property owner:

Cracked mortar joints stair-stepping away from the opening. One hairline crack is worth watching. A crack you can stick your thumb into, running in steps up from the corner of the storefront, means the lintel is moving more than

it should.

Rust staining on the face of the brick above the storefront. That orange-brown bleed running down from the lintel line means water has been sitting on the steel, and the steel is losing its fight. Rust expands — rusted steel takes up more room than clean steel — and it will push the masonry apart from the inside.

Glass that cracks or won't sit right. If your glass shop has replaced the same panel twice and it keeps cracking, the problem may not be the glass. A lintel that's deflecting too far can bear down on the storefront head, racking the frame just enough to load the glass. Glass doesn't forgive that.

Doors that drag or won't latch. A sagging lintel line changes the geometry of the whole opening. When the head of the opening drops, the door frame follows, and doors start to bind.

Here's a composite example to make this concrete. Picture a twenty-year-old strip center outside Dallas. The center tenant's storefront glass keeps cracking — three panels in two years. The glass company keeps replacing them under warranty and shrugging. The property manager calls me. I look at the lintel line above that unit and find heavy rust staining and a mortar crack running stair-step from the corner of the opening. The lintel has rusted through enough that it's deflecting beyond what the storefront head was designed to tolerate. The steel is sitting down on the frame. Every summer day the heat makes it worse. Replacing the glass a fourth time would be money thrown away. The fix is the lintel — get the rusted steel out, get solid new steel in, flash it right, and the glass problem disappears. That's a composite example, but I've seen that exact sequence more times than I can count.

What the Storefront Installer Needs From the Lintel (and Vice Versa)

If you're a property owner putting in a new storefront — or replacing a failed one — there's a conversation that needs to happen between the lintel and the installer, and it's your job to make sure it happens.

The installer needs a straight, solid head to anchor to. If the existing lintel is bowed, rusted, or uneven, the frame goes in crooked and the problems start on day one. Before the glass goes in, the lintel should be checked: is it straight? Is it sound? Is there proper clearance between the steel and the

frame head so the lintel can move without bearing on the aluminum?

Going the other way, the lintel needs protection that the storefront work can either provide or destroy. Flashing above the lintel directs water out of the wall instead of letting it sit on the steel. If the new storefront work disrupts the flashing — or if there never was any — the new lintel will start rusting on the same schedule as the old one. I've seen brand-new storefronts put under a perfectly good old lintel that was left unflashed, and five years later the rust staining starts. The owner thinks the new work failed. The new work was fine. The water management wasn't.

One more practical point: coordinate the schedule. If the lintel needs replacement and the storefront needs replacement, the lintel goes first. Always. You set the steel, flash it, let the masonry settle in, and then the storefront installer gets a proper opening to work with. Doing it in the other order means the installer works around bad steel and you pay twice.

The Takeaway

Your storefront is the face of your building, but the lintel above it is the backbone. A little movement is normal — steel flexes. Rust staining, stair-step cracks, repeat glass failures, and binding doors are not normal — they're your lintel telling you it's in trouble. And if you're investing in new storefront glass, invest in the steel above it first. The prettiest glass in Texas won't last on a failing lintel.

Chapter 5: Garage, Warehouse, and Overhead-Door Openings

Overhead doors on commercial buildings have one thing in common with storefronts: the openings are wide. But garage and warehouse openings take the wide-opening problem and turn it up a notch, because now you're talking about sixteen, twenty, twenty-four feet of clear span — sometimes more — with heavy masonry above and, in many cases, trucks rumbling through every day.

I've spent fifty years in the field, and I can tell you this plainly: span length changes everything about a lintel. A four-foot lintel over a window and a twenty-foot lintel over a warehouse

door are not the same job with different measurements. They are different animals. This chapter is about why.

Why Span Length Changes Everything

Here's the part nobody explains in plain language. When you double the span of a lintel, the deflection — the sag in the middle — doesn't double. It goes up much faster than that. A lintel spanning twenty feet deflects far, far more than a lintel spanning ten feet under the same load. That's just how steel behaves.

This means the design of a wide-opening lintel has to be right from the start. A little angle iron that would be perfectly fine over a door opening on a house would sag like a hammock over a twenty-foot warehouse door. Commercial overhead-door lintels are usually heavier steel — bigger angles, tubes, or built-up sections — because they have to be.

It also means that when a wide-span lintel starts to fail, it fails visibly. You don't need a level and a trained eye to see a two-inch sag across a twenty-foot opening. You can stand in the parking lot and see it. By the time you can see it from the parking lot, the situation is past "watch it" and into "deal with it."

Deflection Limits in Plain Language

Every structural design has a deflection limit — a maximum amount of sag that's considered acceptable. Engineers express these as fractions of the span, like the span divided by 360 or divided by 240. Let me translate that out of engineer-speak.

On a twenty-foot opening — 240 inches — a limit of span-over-360 means the maximum acceptable sag in the middle is about two-thirds of an inch. That's not much. Two-thirds of an inch across twenty feet, and you're at the edge of what the design allows.

Now, here's the thing a property owner needs to understand: that limit isn't the point where the steel breaks. Steel doesn't snap at the deflection limit. The limit exists because everything attached to and around the lintel — the brick, the mortar, the door tracks, the seal at the head of the door — can't tolerate more movement than that without cracking, binding, or failing. The steel would keep holding well past that point. The building around it wouldn't.

So when I talk about "how much sag is too much," I'm really talking about two questions. First: has the sag exceeded what the surrounding construction can handle? You'll see the answer in cracked mortar, in door tracks that won't align, in gaps opening up at the head of the door. Second: is the sag getting worse? A lintel that sagged a half inch twenty years ago and hasn't moved since is a different situation from a lintel that sagged a half inch last year and three-quarters this year. Movement that is progressing is movement that needs attention.

Here's a composite example. A fleet maintenance shop outside Fort Worth has a twenty-foot overhead door — the main bay door, in and out all day. The manager notices the door has started catching at the top of its travel, and there's a stair-step crack in the brick running up from one corner of the opening. I come out and put a straight edge across the opening: the lintel has sagged close to an inch in the middle, and the crack pattern says it's still moving. The door track, which was anchored to the jamb and the head, is now fighting the sag — the top of the opening dropped, the track didn't, and the door rollers are binding. This is a composite example, but the pattern is one I've seen on warehouses all over Texas: the sag shows up first as a door problem, and the door problem is really a lintel problem.

Sectional Door Tracks and How They Attach Near Lintels

A sectional overhead door runs on tracks — vertical tracks up the sides of the opening and horizontal tracks back into the building. Those tracks are anchored to the jambs and, at the top, to the head of the opening — which is the lintel.

This is where lintel trouble turns into door trouble. The track system is a precision assembly. The rollers have to run true. If the head of the opening drops half an inch because the lintel is sagging, the track geometry changes. Rollers bind. Cables see uneven load. The opener motor works harder. In a busy warehouse where that door cycles fifty times a day, a binding track wears out rollers, cables, and openers fast — and every one of those service calls gets blamed on the door, not the steel above it.

When a lintel over an overhead door gets replaced, the door work has to be coordinated. The track anchors at the head come off, the steel goes in, the masonry is restored, and then the door company re-hangs and re-aligns the tracks to the new, straight head. I've seen jobs where the lintel was replaced beautifully and nobody told the door company, and the door ran crooked on tracks that were aligned to the old sag. Coordinate it. It's one job, not two.

Vehicle Vibration and Loading

Warehouses and fleet shops have something storefronts don't: constant vibration. Trucks backing up to the dock, forklifts crossing the threshold, the door itself slamming up and down — it all shakes the building a little, and that shaking works on the lintel line.

Vibration does two things. First, it works on connections — anchors loosen, mortar that's already cracked works a little looser each year. Second, and more important for lintels, it works with water. A tiny crack in the mortar at the lintel line lets in a tiny bit of water. Vibration opens that crack a tiny bit more each year. More water reaches the steel. More rust forms. Rust expands and opens the crack further. It's a slow cycle, but it's relentless, and on a working warehouse it never stops.

There's also impact loading — not the slow kind, the sudden kind. A forklift clipping the door frame. A truck backing into the jamb. I've seen openings where the lintel itself was fine but the jamb masonry was knocked loose, and once the bearing at one end of the lintel is compromised, the whole span is in trouble. If you have vehicle traffic at an opening, protect the jambs — bollards, guards, whatever it takes. The lintel depends on its bearings.

What Sag Does to Door Operation

Let me lay out the progression, because if you own a warehouse you'll recognize it:

Stage one: the door runs a little rougher than it used to. Maybe it hesitates at one point in the travel. The opener sounds like it's working harder. Most owners call the door company at this stage.

Stage two: the door company replaces rollers, adjusts the tracks, maybe replaces the opener. It runs better for a while. Then it starts acting up again. This is the stage where money starts going out the window — because the door was never the problem.

Stage three: visible cracking in the masonry above or beside the opening. Gaps at the head of the door. Daylight where there shouldn't be daylight. By now the lintel has moved enough that the whole opening geometry has changed.

The lesson: if your door company has been out twice and the door still won't run right, look up. Look at the steel above the opening. The door is the symptom. The lintel is the patient.

Practical Guidance for Warehouse and Fleet Owners

Walk your openings twice a year — spring and fall. You're looking for three things: cracks in the masonry around the opening (especially stair-stepping from the corners), rust staining at the lintel line, and any change in how the doors run. Write down what you see and date it. A crack that hasn't changed in two years is information. A crack that's grown is a warning.

Keep water off the steel. Make sure the flashing above the lintel is intact and that water isn't pouring off the roof edge directly onto the lintel line. Gutters and downspouts matter to your lintels more than you'd think.

Protect the jambs from vehicle impact. Every forklift strike that loosens the bearing masonry shortens the life of the lintel.

And when a door starts misbehaving, check the opening before you authorize the third door repair. A straight edge, a tape measure, and an honest look at the masonry will tell you whether you're dealing with a door problem or a steel problem. Fixing the right thing the first time is always cheaper.

The Takeaway

Wide openings are the hardest-working lintels on your building, and span length punishes mistakes. A little sag is normal; growing sag, cracking masonry, and doors that won't run true are not. Your overhead door and your lintel are one system — when the door complains, listen to the steel above it before you spend money on the door itself. Walk your openings twice a year, keep water off the steel, keep trucks off the jambs, and you'll catch lintel trouble while it's still a repair instead of a rebuild.

Chapter 6: Multi-Wythe and Brick Veneer Commercial Walls

Most commercial buildings you see in Texas wear brick on the outside. But "brick wall" can mean two very different things, and the difference matters enormously when it comes to lintels. A brick veneer wall and a multi-wythe solid masonry

wall look similar from the sidewalk. Behind the face, they are built differently, they handle water differently, and their lintels live in different worlds.

I've worked on both for fifty years. If you own or manage a commercial building, you need to know which one you have — because the water problems that kill lintels behave differently in each, and the taller the building, the higher the stakes.

Veneer vs. Multi-Wythe: What's Actually Behind the Brick

A **brick veneer** wall is a single layer of brick — one wythe — that is essentially a skin hung on the outside of the building. Behind it there's an air gap, then the real structure: wood or steel studs, concrete block, or a concrete frame. The brick isn't holding up the building. It's a handsome, durable raincoat. It is tied to the backup wall with metal ties, and it carries its own weight down to the foundation — or, on taller buildings, to steel shelf angles bolted to the structure at each floor.

A **multi-wythe** wall — sometimes called solid masonry — is two or more layers of brick (or brick and block) bonded together into one thick, structural wall. This wall IS the structure, or a big part of it. Older commercial buildings — the downtown brick blocks built in the early and mid-1900s — are usually multi-wythe. The wall carries the floors, the roof, and itself.

Why does this matter for lintels? Because in a veneer wall, the lintel over an opening is typically a steel angle carrying just the veneer — one layer of brick — while the structure behind does its own thing. In a multi-wythe wall, the lintel is carrying the full thickness of the wall: two, three, sometimes four wythes of masonry. That's a much heavier load on the steel, and when that steel rusts, there's a lot more wall depending on it.

It also matters for water. And water is the whole story of this chapter.

Hidden Water Paths Behind Veneer

Here's the thing most property owners don't know about brick veneer: brick is not waterproof. It's a sponge. Wind-driven rain soaks into the face of the brick, travels through it, and runs down the back side of the veneer — inside the air gap, where you can't see it.

A properly built veneer wall expects this. That's what the air gap is for, and that's what flashing and weep holes are for: the water runs down the back of the brick, hits the flashing at the bottom of the wall (and at every lintel), and drains out through the weeps. The system works — when it's built right and when it stays clear.

But every lintel in a veneer wall interrupts that downward path. The steel angle sits in the wall at the head of the opening, and the flashing has to kick the water out at that line. If the flashing is missing, torn, installed backward, or clogged with mortar droppings, the water doesn't drain out. It sits on the steel. And steel sitting in water rusts. Every time. It's just a question of how fast.

This is the hidden path: rain goes in through the brick face above your windows, runs down behind the brick where nobody can see it, ponds on the unflashed lintel, and starts eating the steel. From the sidewalk, everything looks fine — until the rust staining bleeds through, or the mortar cracks, or the face of the wall starts to bulge. By the time you see evidence on the outside, the steel has been rusting in the dark for years.

Here's a composite example. A two-story professional office building, brick veneer, about twenty-five years old. The property manager notices rust staining above several second-floor windows and calls me out. From the ground it looks like a minor cosmetic issue. I open up above one window and find the lintel sitting in a bed of rust, the flashing either never installed or long since failed, and the wall cavity full of mortar droppings that dammed up what little drainage existed. The water had been running down the back of the veneer for years, ponding on every lintel in the building, and every one of them was rusting from the top down — the side nobody inspects. That's a composite example, but it's one of the most common things I find in veneer buildings of that age.

Relieving Angles and Shelf Angles on Multi-Story Masonry

On taller veneer buildings, the brick can't all stack up from the foundation — the weight would be too much, and the differential movement between the brick and the structure would tear the wall apart. So at each floor line (or every couple of floors), the brick sits on a steel **relieving angle** — also called a shelf angle — a heavy piece of steel bolted to the building's structure that carries the weight of the veneer above it and gives the brick a place to start fresh.

These shelf angles are lintels' big brothers. Same material, same enemy: water. And they have the same

flashing-and-weep requirement at their line. When a shelf angle rusts, it doesn't just threaten one opening — it threatens the entire band of veneer it carries. Rusting steel expands with tremendous force, and it will push the brickwork outward, course by course, until the face of the wall bulges or the brick starts to shed.

A rusting relieving angle on a multi-story building is one of the most serious masonry conditions there is, because the scale of the failure is the scale of the wall. One bad lintel over one window is a repair. A failing shelf angle can mean rebuilding entire sections of a wall — and everything below it is in the drop zone while you figure it out.

Weep and Drainage at Commercial Scale

On a house, weep holes are those little gaps in the mortar every few feet at the bottom of the wall. On a commercial building, the same principle applies at a bigger scale: every flashing line — at the base of the wall, at every lintel, at every shelf angle — needs a way for water to get out.

Commercial-scale drainage fails in commercial-scale ways. Mortar droppings in the cavity — the blobs of mortar that fall behind the brick during construction — dam up the flashing and block the weeps. On a big wall, there are more droppings and longer runs for water to travel, so one dam can back water up across a wide area. Landscaping piled against the wall buries the base weeps. Renovations — new paving, new planters, new signage — cover or block drainage that used to work.

And then there's maintenance, or the lack of it. Weep holes clog with dirt, insects, and debris. On a two-story office building, nobody's looking at the weeps above the first-floor windows. I recommend property managers put weep and flashing lines on the same twice-a-year walk as the lintels: look for staining, look for blocked weeps, look for places where water is coming out where it shouldn't be — because water coming out of the wall face means it's not coming out through the drainage system.

Flashing at Commercial Scale

Flashing is the unsung hero of every masonry wall, and on commercial buildings there's a lot more of it: longer runs, more openings, more shelf angles, more roof-to-wall intersections. Every place where water's downward path is interrupted needs flashing to kick it out.

At the lintel line specifically, proper flashing does three things: it catches the water running down the back of the veneer, it carries it across the top of the steel, and it dumps it out through the weeps — past the face of the brick, not into the wall. When I replace a lintel, the flashing is as important as the steel. New steel under failed flashing is just a new rusting schedule.

Here's what I tell every commercial owner: if you're paying for lintel replacement, you're paying for the flashing too. They're one system. A contractor who wants to swap the steel and skip the flashing is selling you half a repair.

Why Water Management at the Lintel Line Matters More on Tall Veneer Walls

Height multiplies every water problem. A taller wall catches more wind-driven rain. The water has a longer run down the back of the veneer, so it arrives at each lintel line in greater volume. The stack effect — warm air rising inside the building — can drive moisture dynamics that don't exist on a single-story building. And the consequences of failure are bigger: a falling brick from the third floor is a life-safety issue, not a maintenance issue.

That's why, on tall veneer walls, the lintel line isn't just a structural detail — it's a water management detail, and it has to be treated that way. The inspection interval should be shorter. The flashing should be verified, not assumed. And any sign of distress — staining, cracking, bulging — should be investigated promptly, because gravity and height turn small masonry failures into dangerous ones.

How a Rusting Relieving Angle Can Damage an Entire Wall Section

Let me walk through the failure sequence, because understanding it is what makes the maintenance case:

It starts with water reaching the steel — failed flashing, clogged weeps, or flashing that was never there. The steel rusts. Rust occupies more volume than the steel it replaces — several times more. That expansion has nowhere to go, so it pushes outward against the brick.

The first visible sign is usually a horizontal crack in the mortar at the shelf angle line, or rust staining bleeding from

the joint. Then the brick courses above the angle start to lift and shift outward — the wall bulges. Once the veneer loses its bond and its bearing, sections of brick can loosen. On a tall wall, loosened brick is a falling hazard, and the repair is no longer a lintel replacement — it's a wall rebuild, with scaffolding or swing stages, at commercial height, at commercial cost.

Here's a composite example to put the scale in perspective. A three-story brick veneer office building, about thirty years old. The owner notices a horizontal crack running the full width of the building at the second-floor line, with rust staining in the joint. Investigation finds the shelf angle at that floor has been rusting for years — the flashing failed early, the weeps were clogged with mortar droppings from construction, and nobody ever looked. The expansion has pushed the veneer out nearly an inch over a forty-foot run. The repair involves shoring the veneer, removing brick courses, replacing the angle, installing proper flashing and drainage, and rebuilding the wall — a job measured in weeks and tens of thousands of dollars, all of which traces back to water sitting on steel. Composite example — but the sequence is real, and I've seen its cousins on buildings across Texas.

The Takeaway

Know which wall you have — veneer or multi-wythe — because the loads and the water paths are different. But whichever it is, water is the enemy of the steel, and the lintel line is where water and steel meet. Keep the flashing intact, keep the weeps clear, and walk the wall twice a year looking for staining, cracking, and bulging. On tall buildings, treat every sign of distress at a shelf angle or lintel line as urgent — height turns masonry problems into safety problems. The steel will hold for decades if you keep it dry. Let it sit in water, and it will quietly push your wall apart from the inside.

Chapter 7: The LintelLOCK System

When you've replaced as many failed lintels as I have, you stop winging it. A long time ago, I started doing lintel replacements the same careful way every single time, and over the decades I kept refining the steps until they became a system I trust completely. That's the LintelLOCK system. It isn't a gadget and it isn't a product you buy off a shelf. It's a field-developed process — a way of replacing a failed lintel so the new one is sized right, protected right, supported right, and drained right. I've been refining it for the better part of

fifty years of masonry work, and this chapter is the whole process laid out in plain language so you know exactly what a proper lintel replacement looks like when somebody does it on your building.

Step 1 — Site Assessment and Measurement

Everything starts before a single brick comes out. I look at the whole opening — not just the cracked mortar or the rust stain, but the wall around it. I'm checking how the damage presents: is the masonry sagging in the middle, stepping at the corners, or bowing outward? I measure the opening width, the wall thickness, and how much bearing the old lintel has on each jamb. I look at what's above — is it brick over block, one wythe or two, how many courses are sitting on that lintel? And I check whether the problem is really the lintel at all. Settlement cracks look different from lintel failure. You don't want to replace a lintel when the ground is what's moving. Good notes and photos at this stage keep everybody honest later, and the measurements taken here are what the new lintel gets sized from — never a guess, never "close enough."

Step 2 — Temporary Support and Shoring

This is the step that separates a professional from a handyman with a saw. Before the old lintel comes out, the masonry above it has to be carried by something else. I use temporary shoring — adjustable posts, needles through the wall, strongbacks — set up so the weight above the opening is fully supported on solid structure below or beside the work area. You never, ever pull a lintel and hope the wall "holds itself." Sometimes it will, for a while. Sometimes it won't, and when a few thousand pounds of brick decides to move, it's sudden and it's dangerous. Proper shoring also keeps the surrounding masonry from shifting while we work, which means the repair area stays tight and true instead of settling half an inch and cracking your fresh work. It takes time to set up right. It's worth every minute.

Step 3 — Removal of the Failed Lintel

With the wall shored, the old lintel comes out — carefully, in pieces if it needs to be. A rusted steel lintel swells as it corrodes, and that swelling is often what's been pushing your masonry apart, so cutting it free can actually relieve pressure

in the wall. I cut it into manageable sections rather than trying to wrestle one long rusted bar out of a tight pocket, and I keep the shoring snug the whole time so nothing shifts. The pocket gets cleaned out completely — old mortar, rust scale, debris, all of it. A new lintel going into a dirty pocket is a new lintel sitting on garbage. This is also when I get my last look at the jambs to confirm they'll give the new lintel the bearing it needs.

Step 4 — Setting the New Lintel: Size, Coating, and Bearing

Here's where three of the most important details in this whole book live: correct sizing, corrosion protection, and proper bearing.

Correct sizing means the new lintel is long enough to do its job. As a field rule, I want solid bearing on each jamb — at minimum four inches of the lintel sitting on solid masonry at each end for a typical commercial opening, more for wider spans. A lintel that's too short concentrates the load on too little masonry, and you'll be right back where you started. The steel itself has to be heavy enough for what it's carrying. When there's any question about the load — a wide opening, heavy masonry above, anything multi-story — that's when I bring in a structural engineer to confirm the size. That's Chapter 8, and I mean it. Knowing when to get that confirmation is part of the system, not a weakness in it.

Corrosion protection means the steel never goes into the wall bare. Rust is what killed the old lintel, and bare steel in a damp wall is just a slow-motion repeat. Every lintel I set gets a proper coating system — a good primer and protective topcoat, or galvanized steel for the right applications. The coating has to be intact, especially at the ends and any field cuts, because that's where rust starts. I've seen plenty of "new" lintels installed bare because somebody was in a hurry. Ten years later the owner is paying for the job twice.

Proper bearing means the lintel sits level and fully supported on the jambs, bedded in mortar, not teetering on high spots or wedged in with shims and hope. Full, even bearing spreads the load the way it's supposed to spread. If a jamb is too damaged to give good bearing, you repair the jamb first — you don't cheat the bearing.

Step 5 — Flashing, End Dams, and Drainage Integration

A lintel without water management is a repair with a timer on

it. Water gets into every masonry wall — through the brick, through mortar joints, around windows. The question is whether it has a way back out. So above the new lintel, I install through-wall flashing that extends past both jambs, with end dams at each end — little turned-up barriers that keep water traveling along the flashing from dumping off the ends right into the wall at the jambs. The flashing ties into the wall's drainage plane so water collected above is directed out through the weeps, not down into the opening. The end dam detail is small and fussy and absolutely critical; I'll say more about it in Chapter 9, because missing end dams are one of the most common reasons a "repaired" opening starts leaking again.

Step 6 — Masonry Restoration to Match

With the lintel set and the flashing in, the wall above gets rebuilt — toothed back into the existing masonry, coursed level, and finished to match. Matching matters on a commercial building. The mortar gets matched for color and joint profile, because a repair that screams "repair" hurts the building's appearance and tells every tenant that work was done — they'd rather see a wall that just looks right. The shoring comes down in a controlled sequence, not all at once, so the new work takes the load gradually. Done properly, you should have to look twice to find where the work happened.

Step 7 — Final Sealant and Protection

Last comes the weather seal. The joint between the frame and the masonry gets a proper sealant joint — correct depth, backer rod behind it so the sealant bonds on two sides instead of three, and tooled smooth so it sheds water. Sealant isn't decoration; it's the first line of defense at the opening, and Chapter 9 covers exactly how to get it right. The weeps get checked to make sure they're open and clear. Then the whole repair gets a final walk-around: level, plumb, clean, tight.

That's the LintelLOCK system, start to finish. Assessment, shoring, removal, a properly sized and coated lintel on proper bearing, flashing with end dams and drainage, masonry restored to match, and a final seal that keeps the weather out. It's the process I developed over decades in the field because shortcuts don't survive Texas weather and Texas time. When it's done this way, a lintel replacement isn't a patch — it's a permanent repair that should outlast all of us.

Chapter 8: When to Call a Structural Engineer

Let me be plain about something right up front: I'm a mason, not an engineer. Fifty years of hands-on field experience has taught me an enormous amount about how masonry behaves, how lintels fail, and how to fix them right — but it has also taught me exactly where my lane ends and a licensed structural engineer's lane begins. Knowing that line, and respecting it, is one of the most important things I can teach a building owner. This chapter is about field triage versus design-stamped decisions: what a good mason can assess for you, what only a licensed structural engineer should decide, and how to work with one so you get your money's worth.

What a Mason Can Assess in the Field

A seasoned mason can read a wall like a book. I can look at a crack and tell you whether it's following the lintel line, stepping through mortar joints from settlement, or running in a pattern that says the wall is bowing. I can measure how much a lintel has deflected, how wide a crack is and whether it's old or active, how much bearing an existing lintel has, and whether the rust staining says the steel is swelling. I can spot the difference between a cosmetic problem and a structural symptom, and I can document all of it with measurements and photos.

That's field triage, and it's genuinely valuable. It tells you whether you've got a straightforward lintel replacement on your hands or something bigger. But triage is diagnosis of symptoms, not design of the cure — and there are decisions a mason should never make on his own authority, no matter how many years he's been laying brick.

What Requires a Licensed Structural Engineer

Here's the line. You need a licensed structural engineer — a real one, with a real license — when the work involves any of the following.

Load calculations. Figuring out how much weight a lintel or beam actually has to carry, and sizing the steel to carry it, is engineering. For a standard opening with ordinary masonry above, field experience and established practice cover it. But wide openings, heavy loads, unusual wall construction, or anything where the answer isn't obvious — that's calculation

work, and it belongs to the engineer.

Design of new support systems. If an opening is being widened, if a wall's support arrangement is being changed, if a failed condition needs a new structural approach rather than a like-for-like replacement — someone has to design that, and that someone holds a license.

Stamped drawings for permits and insurance. When the city, the building department, or your insurance carrier wants drawings with a professional seal, there's exactly one person who can provide them. No amount of field experience substitutes for a stamp. If your project needs permitted structural work, the engineer's sealed drawings are part of the package, full stop.

Multi-story and public-safety situations. The taller the building and the more people under it, the less room there is for judgment calls. Anything involving occupied space below, public access, or the structural frame of a multi-story building deserves engineering eyes. When people's safety rides on the answer, you buy the most qualified answer available.

Unclear causes. When the symptoms don't add up — when it's not clearly the lintel, when settlement, structural movement, or something in the frame might be involved — an engineer figures out the actual cause before anybody starts "fixing" things. Paying for the right diagnosis is always cheaper than paying for the wrong repair twice.

How to Brief an Engineer So You Get a Useful Report

Engineers are like anybody else: they do their best work when you give them good information. Before the visit, pull together the building's history — age, any known structural work, when the problem first showed up and whether it's getting worse. Have your mason's field notes and measurements ready: opening sizes, crack locations and widths, photos, what's above the opening. If you have original drawings, even partial ones, dig them out; they're gold. Give the engineer real access — the roof, the interior above the opening, whatever they need to see.

Then ask specific questions instead of just "tell me what's wrong." Ask: what's the probable cause? What are my repair options? What loads are we dealing with? What do you need from me to put your recommendation in a stamped report? Specific questions get specific answers, and specific answers are what you can actually build from.

What a Good Engineering Report Covers

A report worth paying for has certain parts. It describes what was observed and measured — not vague impressions, actual observations. It states the probable cause of the problem. It includes the analysis: the loads, the calculations, the reasoning that connects the cause to the recommendation. It gives a specific recommended repair — sizes, materials, connections, details — not "repair as required." And it states its limitations honestly: what was and wasn't inspected, what assumptions were made.

If a report reads like it could apply to any building on the block, it isn't useful. A good report is specific to your building, your opening, your problem. When the engineer hands you something concrete, your mason can price it and build it exactly as designed — and that's the whole point. The engineer designs; the mason executes. Everybody stays in their lane, and the building gets the best of both.

Red Flags: Unlicensed Structural Design

Now the warning side. Be wary of anyone who designs structural work without a license. The classic line is "I've been doing this twenty years, you don't need an engineer" — said about work that plainly does need one. Another red flag: drawings or "calculations" with no seal, or worse, a seal that belongs to somebody else. A contractor who won't put structural recommendations in writing, or who gets evasive when you ask who's taking responsibility for the design, is telling you something — listen.

This isn't about disrespecting experienced tradesmen. Plenty of us have deep knowledge. But designing structural repairs to a commercial building without a license puts you, the owner, in a terrible position if anything goes wrong — with the city, with your insurer, and in court. The license exists because the stakes are real.

Here's my rule, and it's served me well for decades: when in doubt, call the engineer. It costs a fraction of the repair, it protects everybody involved, and on a serious case it's the only responsible move. A good mason will tell you when he's reached the edge of his lane. Make sure the one you hire is that kind of mason.

Chapter 9: Water Always Finds the Opening

Water is patient, gravity never sleeps, and every window and door in your building is an invitation. I don't care how good your roof is or how solid your walls are — if the water management at your openings isn't right, water will find its way in. It might take a year, it might take ten, but it gets in. On commercial buildings, where openings are bigger, walls are taller, and there's more water running down more square footage, the openings are where leaks live. This chapter is about the full water-management assembly at a lintel location: flashing, end dams, drip edges, and sealant joints — and why all of them have to work together.

The Assembly, Not the Parts

Here's the first thing to understand: waterproofing at an opening is a system, not a single product. The flashing collects water inside the wall. The end dams keep it on the flashing. The drip edge gets it off the face. The sealant joint keeps wind-driven rain out of the perimeter. The weeps let collected water escape. Take any one of those away and the rest start failing at their jobs. Most of the leak calls I go on aren't one big failure — they're one missing twenty-dollar detail that defeated a thousand dollars of good work around it. When you look at an opening, don't look at parts. Look at the assembly.

Flashing at Lintel Locations

Through-wall flashing sits just above the lintel, and its job is simple: catch the water that's working its way down through the masonry and get it out of the wall before it reaches the opening. It has to extend past both jambs — water doesn't stop at the edge of the opening, so neither should the flashing. It has to be continuous, with proper laps sealed the way the manufacturer intends, and it has to slope or step so water actually travels outward to the weeps instead of ponding on it. Most importantly, it has to tie into the wall's drainage plane above so there's one continuous path for water to follow. Flashing that's too short, discontinuous, or installed flat is decoration, not drainage. On older commercial buildings, I regularly find openings with no flashing at all — just a bare steel lintel sitting in the wall, catching every drop that comes down. That lintel rusts, the rust swells, the masonry cracks, and now you've got a structural repair that started life as a water problem.

End Dams: The Little Detail That Stops Big Damage

End dams are the turned-up ends of the flashing at each jamb, and they might be the most underappreciated detail in all of masonry. Here's why they matter: water collected on flashing doesn't just sit there — it travels sideways along the flashing. Without an end dam, it runs right off the end of the flashing and dumps into the wall at the jamb, exactly where the lintel bears. So you get the worst of both worlds: the flashing did its job collecting the water, and then poured it into the most vulnerable spot in the opening.

Let me give you a composite picture of something I've seen more times than I can count. A property manager calls about water staining at the corners of a storefront. The lintel was replaced a few years back — good steel, good coating, proper bearing, nice masonry work. But the flashing went in without end dams. Every rain, water traveled along that flashing and poured off both ends into the jambs. The new lintel's ends sat in a wet pocket and started rusting from the ends inward. A five-minute detail, skipped, turned a permanent repair into a countdown. End dams cost almost nothing. Skipping them costs everything.

Drip Edges and the Face of the Opening

Water clings. It'll run along the underside of a surface and curl right back into a joint if you give it the chance — that's just surface tension doing what it does. A drip edge breaks that behavior: a small projection or groove that forces water to drop free instead of tracking back into the wall. At openings, this shows up in the detailing of sills, the profile of the sealant joint, and the way the masonry or trim is shaped at the head of the opening. It's a small thing, but leaks at the head of an opening are often just water that was never given a clean place to fall.

Why Sealant Alone Is Not Waterproofing

This one needs saying plainly because it's the most common misunderstanding I run into: sealant is not waterproofing. Sealant is the first line of defense at the perimeter of an opening — it keeps wind-driven rain out of the joint between the frame and the masonry. But sealant ages. Sun breaks it down, building movement works it loose, and eventually every sealant joint needs maintenance or replacement. If sealant is the only thing between the weather and the inside of your

wall — no flashing behind it, no drainage, no weeps — then the day the sealant fails is the day water comes in, with nothing behind it to catch the water and get it back out.

A sealant-only "repair" on a bad flashing detail is just a timer. It'll look great the day it's done. Give it a few Texas summers and a few driving rains, and you'll know exactly where the water's been going. The assembly catches what the sealant misses. That's the whole philosophy: layers, so no single failure becomes a leak.

Sealant Joints Done Right: Depth, Backer Rod, and Tooling

Since sealant is the first line, it deserves to be done right. In plain language, here's what a proper sealant joint looks like. The joint needs the right shape — roughly twice as wide as it is deep, so the sealant can stretch and compress with building movement instead of tearing. That depth is set by backer rod, a foam rope pressed into the joint before the sealant goes in. The backer rod does two jobs: it sets the depth, and it keeps the sealant from bonding to the back of the joint. Sealant should bond to two sides, not three — bonded on three sides, it can't flex, and it tears itself apart the first time the building moves.

Then the sealant gets tooled — smoothed with a tooling stick or spatula, not just gunned in and left. Tooling does three things: it presses the sealant firmly against both sides for a real bond, it shapes the surface so it sheds water instead of cupping it, and it reveals any bubbles or gaps while there's still time to fix them. An untooled joint might look fine from the ground. Up close, it's full of little failures waiting to happen. When I see a sealant joint failing early on a commercial building, nine times out of ten the backer rod was skipped or the joint was never tooled.

Weeps: Keep the Drains Open

Weeps are the wall's drains — the small openings at the base of the wall, above flashings, that let collected water out. A flashing system with blocked weeps is a bathtub: it collects water and holds it. Weeps get blocked in the most ordinary ways: mortar droppings during construction, a well-meaning painter sealing over them, landscaping mulch piled against the wall, insects, debris. Part of maintaining a commercial building is walking the walls now and then and making sure the weeps are open — clear of mortar, clear of sealant smears, clear of mulch. Some walls use rope wicks or tubes instead of open head joints; whatever the design, the path out has to stay open. It's a five-minute check that prevents a

five-thousand-dollar problem.

Coordinate With the Roofers: Water Starts at the Top

Here's the part building owners miss most often: water at your openings frequently starts at the roof. Failed parapet coping lets water straight into the top of the wall. Roof drains or scuppers that dump against the wall instead of away from it send sheets of water down the face. A roof repair that changes drainage can send water somewhere it's never gone before — right down to your lintels. Water obeys gravity, and gravity ends at your openings.

So when there's a leak at an opening, look up before you look at the opening itself. And when work is planned — a re-roof, parapet repairs, new drainage — get the roofer and the mason talking before either one starts. I've seen too many jobs where the roofer "fixed" the roof and the mason "fixed" the wall, each one solving half the problem, and the leak outliving them both. One conversation between the trades, one walk of the whole water path from coping to weep, and the real fix becomes obvious.

Water always finds the opening. That's not pessimism — it's just physics, and physics doesn't negotiate. But a complete assembly — flashing that extends past the jambs, end dams that keep water where it belongs, drip edges that shed it clean, sealant joints built to flex and tooled to last, weeps kept open, and a roof that sends water away instead of down the wall — that assembly wins. Build it in layers, maintain the pieces, and your openings stay dry for decades. That's the whole game.

Chapter 10: Working Around Tenants and Business Hours

The Building Has to Keep Making Money While We Fix It

Here's something most repair contractors never quite grasp: on a commercial building, the repair is not the most important thing happening on the property. The business inside is. The tenants paying rent are. The customers walking through the

door are. Your job as the contractor is to fix the lintel without costing the owner a single dollar of lost rent or the tenant a single day of sales — or, when that's not possible, to make sure everybody knows the plan and agreed to it before the first tool comes out of the truck.

I've done lintel work over the front door of restaurants that stayed open for lunch. I've replaced lintels above storefront windows while shoppers walked in and out ten feet away. It can be done. But it takes planning, and most of the planning has nothing to do with masonry.

If you're a property owner or manager reading this, this chapter is your checklist for holding your contractor accountable. If you're a contractor, it's how you earn repeat commercial work — because the company that fixes the lintel without disrupting the building is the company that gets called back.

Start With a Walk-Through, Not a Hammer

Before anybody writes a proposal, walk the building with the owner or manager and talk about how the building actually lives. What time does the first tenant arrive? What time does the last one leave? Where do customers park, and how do they walk to the door? Is there a delivery dock with a schedule? Are there tenants — a medical office, a daycare, a call center — where noise is a real problem and not just an annoyance?

I've seen jobs go sideways because nobody asked these questions. A contractor shows up at 8 a.m. with a demolition hammer right under a tenant's conference room where they're pitching their biggest client of the year. That's not a masonry problem — that's a planning failure, and it cost that contractor the rest of the buildings that owner managed. One bad morning, and you're done with that client forever.

The walk-through should produce a written plan: which entrances stay open, which get rerouted, what hours are loud-work hours, who the point of contact is on-site, and where the crew stages materials. Get it on paper. Handshakes are fine for neighbors; commercial work needs a page.

Phasing: Fix It in Pieces So the Building Stays Open

On a commercial building with multiple openings, you rarely have to fix everything at once. Phase the work. Do the worst

lintel first, or do one elevation at a time, so there's always a clean, safe, normal-looking entrance for customers and tenants.

A phased plan might look like this: week one, the two worst windows on the east elevation, with the main entrance untouched. Week two, the storefront, with customers routed through the side door for three days — and a big, professional sign on the side door so nobody's confused. The building never closes. The tenants never stop working. The owner never loses a rent check.

Phasing costs a little more in mobilization — the crew sets up and tears down more than once. Tell the owner that up front and explain what they're buying: zero disruption. In my experience, every commercial owner who's been through one bad "shut the whole building down" repair will happily pay the phasing premium for the rest of their career.

After-Hours and Weekend Work: The Other Lever

Sometimes the right answer is to do the loud, dusty, ugly part when nobody's there. Nights and weekends cost more per hour — overtime rates, lighting, sometimes a security escort — but on a busy retail or office building, the math often favors it.

Here's how I frame it for an owner: "I can do this Tuesday through Thursday, 8 to 5, and your front entrance is a construction zone for three days. Or I can do it Friday night through Sunday, and Monday morning your tenants walk into a finished job." Most owners pick the weekend once they hear it stated that plainly.

One caution: after-hours work needs the same safety and quality standards as daytime work. Good lighting isn't optional when you're setting bearing and checking level. And somebody with authority — the owner, the manager, or their designated rep — needs to be reachable by phone the whole time, because decisions still come up at 9 p.m. on a Saturday.

Dust Control: The Thing That Separates Pros From Amateurs

Cutting out an old lintel makes dust. Grinding makes more dust. On an occupied building, dust control is not a courtesy — it's the job. Dust drifting into a tenant's space means dust on their merchandise, their desks, their food-prep surfaces. One dusty afternoon in a restaurant dining room can cost

more in lost business and cleanup than the entire lintel repair.

The basics: seal the work area with plastic sheeting, taped at every edge, floor to ceiling. If you're working on an interior face of the wall, build a proper containment with a zipper door for access. Run a fan with a filter exhausting outward so the containment stays under negative pressure — air flows in, not out. Cover nearby surfaces, even outside the containment, because fine dust travels.

And clean as you go. A professional crew doesn't leave a pile of debris at the end of the day "to get tomorrow." At the end of every shift, the site gets swept, tools get organized, and the building looks like a building, not a demolition site. Tenants notice. Owners notice. Future customers notice.

Noise: Manage It Like a Schedule, Not a Surprise

You can't replace a lintel silently. There will be hammering, grinding, and sawing. What you can do is control when it happens and warn everybody before it starts.

Put the loud work in agreed windows — say, 9 to 11 and 2 to 4 — and keep the in-between hours for quiet work like layout, flashing, and sealant. Give every tenant a one-page notice a week ahead: what work is happening, which days, which hours will be loud, who to call with a problem. A tenant who got a notice and a phone number is a partner. A tenant who got surprised by a rotary hammer at 8 a.m. is an enemy, and they'll take it out on the owner, not you.

For noise-sensitive tenants — and on commercial buildings there's almost always one — talk to them directly. Sometimes moving two hours of grinding from 10 a.m. to 7 a.m. solves the whole problem. The fix is usually cheap. The failure to ask is what's expensive.

Barriers, Signage, and Pedestrian Routing

Anywhere the public walks near the work, you need real barriers — not caution tape strung between two sawhorses, but proper barricades that a distracted person with a phone in their face can't wander through. Overhead work means overhead protection: if there's any chance of debris falling where people walk, that walkway gets a covered walkway or it gets closed and rerouted.

Signage should be big, clear, and professional. "Please use

side entrance" with an arrow beats a handwritten note taped to the door. The signs represent the owner as much as the contractor — a sloppy sign tells every customer that the building is run sloppily.

Keep the barriers tight to the work. Nothing irritates tenants like a work zone that sprawls across half the parking lot for a two-window repair. Take only the space you need, keep it tidy, and give it back the minute you're done.

Communication: The Cheapest Tool on the Job

Here's a hypothetical that plays out on commercial jobs all the time. A contractor tells the owner "we'll be done Friday." Friday comes, the crew found a rotted wood backup wall behind the brick, and now it's Monday. Nobody told the tenants. The owner finds out from an angry phone call. Trust is gone, and no amount of good masonry brings it back.

The fix is a five-minute end-of-day update: what got done today, what's happening tomorrow, any surprises, any schedule change. Text, email, whatever the owner prefers — but every day, without being asked. When there's a surprise — and on old buildings there's always a surprise — the owner hears it from the contractor first, with a plan attached, not as a rumor from a tenant.

I'd also name one point of contact on the crew and give that number to the owner and the tenants. When ten people on-site can all give different answers, you get ten different versions of the truth. One voice, one story.

Leave It Cleaner Than You Found It

My rule, fifty years running: when we pull off a commercial job, the building should look better than when we arrived. Sweep the sidewalk. Hose down the dust. Pick up every scrap, every cigarette butt from the crew, every zip tie. Touch up any paint we scuffed. If we moved a tenant's planter or sign, it goes back exactly where it was.

This isn't about being nice. It's about the fact that commercial owners talk to each other, and the contractor who leaves a spotless site gets the next building, and the one after that. The work is the advertisement.

The Takeaway

Lintel repair on an occupied commercial building is two jobs: the masonry job and the people job. The masonry job is straightforward — cut out, set, flash, seal. The people job is where contractors win or lose: plan around how the building lives, phase the work so business never stops, control dust and noise like a professional, communicate every single day, and leave the place spotless. Do both jobs well and you'll never have to advertise — the building owners will do it for you.

Chapter 11: Bids, Warranties, and Hiring the Right Lintel Contractor

The Most Expensive Bid Is the One You Have to Pay Twice

Every year, commercial property owners pay for the same lintel repair twice: once to the cheap contractor, and once to the contractor who comes in afterward to fix what the cheap contractor did. I've spent a good part of fifty years repairing other people's lintel repairs. The pattern never changes. The low bid wins on price, cuts the scope to fit the price, and the owner ends up with a fresh-looking patch over the same rotting problem — until it fails, usually worse than before.

This chapter is about hiring right the first time. How to vet a lintel contractor, how to read a proposal so you know what you're actually buying, what a warranty really means, and the red flags that tell you to keep looking. No single chapter can replace your own judgment, but it can keep you from learning these lessons the expensive way.

Vetting: Ask About Lintel Work Specifically

Here's the first mistake owners make: they hire a "masonry contractor" or a "general contractor" and assume lintel replacement is included in the skill set. Laying brick and replacing a load-bearing lintel are related the way driving a car and rebuilding an engine are related. Plenty of fine bricklayers have never properly replaced a commercial lintel

— set the bearing, installed the flashing, managed the water
— because most of their work never required it.

So ask directly: "How many lintel replacements have you done on commercial buildings?" Then: "Can I see photos of three recent ones — before, during, and after?" The "during" photos matter most. Anybody can show you a pretty finished wall. The during-photos show whether they opened the wall properly, what the bearing looked like, whether flashing went in, how they supported the masonry above while the old lintel came out. A contractor who documents the during-phase is a contractor who understands the during-phase.

Ask what they do about water. A lintel replacement without flashing and weeps is a cosmetic job with a timer on it. If the contractor can't explain, in plain language, how water gets out of the wall above the new lintel, you're talking to the wrong contractor. That's the single most revealing question in this whole chapter.

And ask for references from commercial work — not residential, commercial. Then actually call them. Ask: did they finish on schedule, how did they handle tenants, did anything surprise you, would you hire them again. Ten minutes on the phone is worth more than any brochure.

One more thing to verify: insurance and licensing as required in your area. A legitimate commercial contractor carries general liability and workers' comp and can produce certificates without acting offended. "We've never needed it" is not an answer — it's a warning.

Reading a Proposal: The Scope Is Everything

A good lintel proposal reads like a recipe: you can see every ingredient and every step. A bad one reads like a fortune cookie. Here's what the scope section must spell out:

Exactly what's being replaced. Which openings, identified by location — "north elevation, second-floor windows, units 3 through 8" — not "repair lintels as needed." "As needed" is where disputes are born.

The new lintel specified. Material and size — for example, galvanized steel angle of a stated dimension, or whatever the application calls for. If the proposal just says "new lintel," you don't know what you're buying, and neither does the contractor's crew.

Bearing details. How much bearing the new lintel gets on each side of the opening. This is structural, and it should be

stated, not assumed.

Water management. Flashing type and placement, weep vents, how the flashing ties into the drainage plane. If the proposal has no water-management detail at all, stop reading and call someone else. I've said it before in this book and I'll say it again: water is what kills lintels. A proposal that ignores water is a proposal for a future repair.

Surface restoration. What happens to the brick, mortar, and sealant around the opening — cut out and replaced, repointed, color-matched as close as practical. "Patch as needed" is not a restoration plan.

Site logistics. Access, staging, dust control, protection of tenants and pedestrians, daily cleanup. On an occupied building (see Chapter 10), this section tells you whether the contractor has actually thought about your building or just your wall.

Exclusions. What's NOT included — and this is where honest contractors separate themselves. "Excludes: structural framing repair behind the masonry if found deteriorated; excludes interior finishes; excludes painting." Exclusions aren't bad news; they're honesty. A proposal with no exclusions on a forty-year-old building is a fantasy, and fantasies get expensive when reality shows up behind the brick.

Price vs. Value: Do the Real Math

Let me give you a hypothetical to show how the math actually works. Say you get three bids to replace six commercial window lintels. Bid A is \$9,000, Bid B is \$14,000, Bid C is \$19,000.

Bid A says "replace lintels, patch brick." No flashing detail, no bearing stated, no dust control mentioned, one-year warranty. Bid B specifies galvanized angles with stated bearing, through-wall flashing with weeps, dust containment, daily cleanup, and a five-year warranty. Bid C has everything in B plus a weekend schedule so the building never closes and a ten-year warranty.

Bid A isn't the cheapest bid. Bid A is a \$9,000 down payment on doing the job again in five years — plus the cost of the water damage the missing flashing allows in the meantime. The real comparison is cost per year of service. A \$14,000 job that lasts twenty-five years costs \$560 a year. A \$9,000 job that fails in six costs \$1,500 a year — and that's before the collateral damage.

I'm not telling you to pick the highest bid. I'm telling you to compare what's inside the bids. Normalize them: same scope, same materials, same warranty, same schedule — then compare price. Comparing a bare-bones bid to a complete bid on price alone is how owners get burned.

Warranty Honesty: What It Covers and What It Can't

Let's talk straight about warranties, because this industry is full of warranty language that sounds like a promise and reads like an escape hatch.

A real lintel warranty covers workmanship and materials for a stated period: the lintel won't fail, the mortar joints won't fall out, the flashing won't leak due to installation defects. Five to ten years on commercial lintel work from a reputable contractor is reasonable. The contractor should put in writing what's covered, for how long, and what voids it.

Here's what no honest warranty can cover: the rest of your building. A warranty on the lintel replacement doesn't cover the roof leaking above it, the foundation moving below it, or a tenant's contractor drilling through the flashing to mount a sign. It doesn't cover damage from events nobody controls. And it doesn't cover the masonry three feet away that was already deteriorating and wasn't in the scope.

Read the warranty the way you'd read any contract: what's included, what's excluded, and what you have to do — like the maintenance in Chapter 12 — to keep it valid. A contractor who tells you the limits of the warranty up front is being honest. A contractor who promises "lifetime, covers everything, no worries" is selling you a feeling, not a warranty. Ask what happens when you call in year four with a problem — the answer tells you everything about whether the warranty is real.

One practical note: a warranty is only as good as the company behind it. A ten-year warranty from a contractor who's been in business two years is a hope, not a guarantee. Longevity matters. So does a physical business address and a reputation you can check.

Red Flags: When to Walk Away

Over the years I've seen every version of the bad deal. Here are the ones that should stop you cold:

Vague scope. "Repair lintels as needed" or "fix brick over windows." If the proposal can't say which openings, what

materials, and what steps, the contractor either doesn't know or doesn't want you to know. Either way, walk.

No water-management detail. I've hammered this through the whole book because it's the number-one technical failure I see. No flashing, no weeps, no drainage discussion — the job will fail from the inside out, and it'll look fine right up until it doesn't.

Pressure tactics. "This price is only good if you sign today." "I've got a crew in the area this week only." A legitimate commercial contractor with real backlog doesn't need to pressure you. Urgency about your building's condition is information; urgency about signing is manipulation.

Cash-only or big cash deposits. Reasonable deposits for materials on commercial work are normal — but "cash only," no written contract, or a demand for most of the money up front is how owners lose money to contractors who disappear. Real companies take checks, have contracts, and tie payments to completed milestones.

No proof of similar work. If they can't show you commercial lintel replacements they've done — during-photos, references you can call — you're being asked to be the experiment. Don't be.

Badmouthing every competitor. A contractor who wins work by telling you everyone else is a crook is telling you how they'll talk about you later. Professionals sell their own work.

The composite cautionary tale. Picture a hypothetical owner — call him a composite of several I've met — who manages a small retail strip. He takes the lowest bid, a crew he's never vetted, vague one-page proposal, half the money up front in cash. The crew grinds out the old lintels in a day, sets new angles with no flashing, smears mortar over everything, and leaves dust through two tenant spaces. Eighteen months later the mortar's cracking, rust is bleeding through, and one tenant is threatening to break the lease over the mess. He pays a reputable contractor nearly double the original low bid to tear it all out and do it right. Total spent: roughly triple the honest bid he passed up. Every detail of that story is one I've seen. None of the names are real, because the pattern is the point — it repeats wherever the vetting gets skipped.

The Takeaway

Hire the contractor, not the price. Vet for commercial lintel experience specifically, demand during-photos and commercial references, and read the proposal like the legal

document it is — scope, materials, bearing, water management, exclusions, logistics. Compare bids on equal scope, do the cost-per-year math, read the warranty for what it excludes, and walk away from vagueness, pressure, cash-only deals, and anybody who can't explain where the water goes. The cheapest bid in the stack is very often the most expensive decision you'll make on that building.

Chapter 12: The Maintenance Playbook

An Ounce of Prevention Is Worth a Lintel Replacement

Everything in this book has been about fixing lintels. This chapter is about never needing to — or at least, about catching the small stuff while it's still small. A commercial lintel doesn't go from healthy to failed overnight. It rusts a little. A mortar joint opens a crack. A weep hole clogs. Sealant pulls away from a corner. Each of those is a five-minute observation and a cheap fix — if somebody's looking. Nobody looks, and five years later you're reading a five-figure proposal.

Maintenance isn't glamorous. Nobody ever got praised for the lintel that didn't fail. But the owners who spend a little on inspection and upkeep, year after year, are the ones who never have the emergency. This chapter is the playbook: what to look at, how often, who does what, and the simple economics that make it all worthwhile.

The Annual Walk-Around: What to Look At

Once a year — pick a season and stick with it; spring is good, after winter's done its worst — walk every elevation of the building and look at every lintel. You don't need special equipment. You need your eyes, a phone camera, and maybe a pair of binoculars for the upper floors.

Here's the checklist:

Rust staining. Orange-brown streaks bleeding down from the lintel line or out of mortar joints. Rust stain means the steel is corroding, and corroding steel expands — that expansion is what cracks and pushes the masonry. Staining is

the earliest visible warning. Note exactly where it is.

Cracked or displaced mortar. Horizontal cracking along the mortar joint at the lintel line, or brick that's stepping outward slightly. On a commercial facade, even an eighth of an inch of displacement is worth noting. Take a photo with something for scale — a coin, a pen — so next year's photo can be compared.

Open joints and failed sealant. Gaps where sealant has pulled away from the frame or the masonry, cracked caulk, missing mortar. Every gap is a water entrance, and water is the enemy of everything in this book.

Clogged or missing weeps. Weep holes at the lintel line should be open — you should be able to see daylight or at least clear passage through them. If they're painted over, caulked shut, or packed with mortar droppings and debris, the wall can't drain, and water sits on the steel. Clearing a weep takes seconds. Replacing a lintel that rotted because the weep was clogged takes days.

Efflorescence. White, powdery deposits on the brick face. It means water is moving through the masonry and carrying salts out. It's not an emergency by itself, but it's a map — it shows you where water is traveling, and heavy efflorescence near a lintel deserves a closer look.

Vegetation. Vines, weeds, or even small plants rooting in mortar joints near lintels. Roots widen joints and hold moisture against the wall. Pull them, and keep them pulled.

Photograph everything, even the lintels that look fine. A photo of a healthy lintel dated this year is what lets you prove next year that the crack is new. Date-stamped photos, elevation by elevation, filed where you can find them — that's the whole documentation system. It costs nothing and it's worth everything.

What a Manager Can Check vs. What Needs a Pro

The annual walk-around above? A property manager or maintenance tech can do all of it. It's observation, not diagnosis. You're looking for changes and warning signs, not deciding on structural remedies.

Call a masonry professional when you find: active rust staining that's spreading, any visible displacement of brick, cracking that's wider than a hairline or growing year over year, water visibly entering at an opening, or anything that just looks wrong and you can't explain. Also call a pro every

three to five years for a closer inspection of the whole facade — they'll see things from training that a checklist won't catch, like subtle bowing or bearing distress at the jambs.

And one boundary worth stating plainly: I'm a mason with fifty years in the field, not a licensed engineer. If an inspection turns up significant displacement, major cracking, or anything suggesting the structure itself is compromised — not just the lintel — that's the time to bring in a licensed structural engineer. Knowing when the job has moved past masonry maintenance into structural evaluation is part of being a responsible owner. A good masonry contractor will tell you when you've reached that line instead of guessing past it.

Coatings and Corrosion Protection: Keep the Armor On

Exposed steel lintels — the ones you can see, common over service doors, dock openings, and older storefronts — survive on their coating. Paint, galvanizing, or specialized coatings keep air and water off the steel. When the coating fails, the clock starts.

Check coated lintels annually for chips, peeling, bubbling, or bare spots. Touch up small failures promptly with a compatible coating — and "compatible" matters; putting the wrong product over the old one can cause more peeling than it prevents. When in doubt, ask the coating manufacturer or a pro. For galvanized lintels, look for the dull gray giving way to rust color, which means the zinc layer is spent in that spot.

On a maintenance schedule, plan on recoating exposed steel on a cycle — often every five to ten years depending on exposure, with harsher exposures (near the coast, near irrigation that sprays the wall, under a dripping AC condensate line) on the shorter end. And fix the things that attack coatings: redirect that sprinkler head that's been misting the lintel every morning, extend the condensate drain that's been dripping on it, trim the bush that's been holding moisture against it. The coating lasts longer when it's not under constant assault.

Sealant: The Refresh Cycle Nobody Follows

Sealant — the caulk around window and door frames, at the lintel line, at expansion joints — has a lifespan. Even good sealant in Texas sun and heat-cycling is doing well to last ten years; in brutal exposures, less. And failed sealant is an open

door for water.

Add sealant to the annual walk-around: look for pulling away from the edges, cracking, hardening, or gaps. Probe it gently — sealant that crumbles or has lost its elasticity is done. Plan on a building-wide sealant refresh on a ten-to-fifteen-year cycle, with spot repairs in between as the annual inspection finds them.

This is cheap insurance. A tube of quality sealant and an hour of labor at one window versus water pouring down inside the wall for three years before anyone notices. The economics aren't close.

Keep the Weeps Clear and the Drainage Working

I mentioned weeps in the checklist, but they deserve their own emphasis because they're the most neglected five-second maintenance item on any commercial building. Weep holes exist to let water out of the wall cavity. When they clog — with mortar droppings from construction, paint from a repaint, mud dauber nests, general grime — the water stays in, sits on the lintel, and the corrosion cycle accelerates.

Clearing them is simple: a stiff piece of wire, a blast of compressed air, or a gentle flush — never seal them, never caulk them, never let a painter fill them. If your building gets repainted, the painter needs explicit instructions: weeps stay open, masked but not filled. Put it in the painting scope in writing, because a freshly painted-shut weep system is one of the most common ways I see drainage get accidentally destroyed.

Beyond the weeps, think about the whole drainage path once a year. Are gutters and downspouts dumping water down the wall face? Is grade sloping toward the building? Is irrigation spraying the brick daily? Water management at the building scale protects every lintel on it. Fix the water path and the lintels last longer — it's that direct.

Who Owns the Lintel: Owner vs. Tenant Responsibilities

On commercial property, "who maintains the lintel" is a lease question, and it should be answered in the lease — not discovered during an argument after a failure. In most triple-net and many modified-gross leases, structural elements including lintels sit with the owner. In some full-service leases, the owner handles everything exterior. But

leases vary, and assumptions are where disputes start.

My advice to owners: spell it out. The lease should state plainly who inspects, who maintains, and who pays for exterior structural elements including lintels, flashing, and sealant. To tenants: read that section before you sign, and if it's vague, ask. A tenant who assumes "the landlord handles the outside" while the lease quietly assigns facade maintenance to the tenant is headed for an expensive surprise.

Also practical: whoever owns the responsibility, the annual walk-around still needs to happen, and the tenant is often the first to see a problem — the rust stain over the delivery door, the drip that wasn't there last month. Give tenants a simple way to report exterior issues — an email, a maintenance line — and take the reports seriously. The tenant who reports the stain early just saved you a lintel replacement. Thank them.

Documenting Condition Over Time

I've touched on photos through this chapter; here's the system, simple enough that it'll actually get done:

Once a year, same season, walk every elevation and photograph every lintel — wide shot for location, close-up of the lintel line and bearing areas. Name the files by building, elevation, opening, and date. Keep them in one folder per building, backed up somewhere that survives staff turnover. A one-page log per building noting the date, who inspected, and anything found — even "no change" — turns a pile of photos into a record.

Why does this matter? Three reasons. First, it catches slow change — the crack that's a hairline this year and an eighth-inch next year is a trend, and trends get fixed before they become emergencies. Second, it settles arguments — with contractors ("that crack was already there"), with tenants, with insurers. Third, if you ever sell the building, a decade of facade documentation is a genuine asset that sophisticated buyers notice.

The Economics: An Ounce of Prevention

Let's put numbers on it — hypothetical, but realistic for Texas commercial work. An annual walk-around: two hours of a maintenance tech's time plus the photo filing. Call it a few hundred dollars. Touch-up coating on two lintels, sealant repairs at four windows, weep clearing building-wide: maybe a thousand or two in a typical year.

A single commercial lintel replacement: several thousand dollars per opening, more with access challenges, after-hours scheduling, or collateral water damage inside the wall. A neglected elevation with five failed lintels plus interior water damage: tens of thousands, plus tenant disruption, plus the emergency premium because now it can't wait.

The maintenance program costs a fraction of one replacement, every year, and it pushes replacements decades out — or catches the one lintel that's starting to go while it's still a small, scheduled job instead of a crisis. That's the whole economics of this chapter: small, planned spending versus large, forced spending. Every experienced commercial owner I know has learned this math. The smart ones learn it from a book. The rest learn it from an invoice.

The Takeaway

Walk your building once a year with a camera and a checklist: rust stains, cracked mortar, failed sealant, clogged weeps, efflorescence, vegetation. Touch up coatings, refresh sealant on its cycle, keep every weep open and every drainage path clear. Spell out lintel responsibility in the lease, give tenants an easy way to report what they see, and keep dated photos so slow change can't hide. None of this is complicated and none of it is expensive. It's just attention, applied on a schedule — and it's the difference between a building whose lintels quietly last for decades and one that teaches you the price of neglect.

Conclusion

If you take one thing from this book, let it be this: the steel above your openings is doing a job every single day, and it will tell you when it's in trouble if you know how to listen.

I've spent 50 years in brick and masonry across Texas, and the pattern never changes. The lintel rusts quietly. The mortar line above it opens a hairline. A door starts dragging. A rust stain bleeds down the brick. None of these are emergencies on day one — but every one of them is a letter from the steel asking for help. The owners who answer early spend a fraction of what the owners who wait will spend. That is the whole economics of this book in one paragraph.

Here's the playbook in brief:

Look. Walk your buildings once a year and look at every opening from the ground. Stair-step cracks above windows, rust stains, sticking doors, spalling mortar lines — you know

the list now. Photos and dates. That's all it takes to start.

Read. Symptoms are information. A little deflection on a wide overhead door opening is a different animal than rust jacking on a storefront lintel. Tell them apart, and you stop making decisions in the dark.

Protect. Water is the enemy that never sleeps. Flashing, end dams, drip edges, sealant joints, weeps kept open — the drainage assembly is what keeps a new lintel from becoming an old lintel too fast. A dry lintel is a long-lived lintel.

Repair right. When a lintel has to come out, the process matters more than the steel: temporary support first, correct sizing, corrosion protection, proper bearing, flashing built into the repair, and masonry restoration that looks like it belongs. That's the LintelLOCK approach I developed in the field over decades — a process, not a shortcut.

Know your limits. Field experience can tell you a lot, but load calculations, stamped designs, and multi-story structural questions belong to a licensed structural engineer. Hiring one isn't an expense — it's the cheapest insurance you'll ever buy.

Hire well. Scope in writing, materials specified, water management in the bid, a warranty that means something, and a contractor who communicates with your tenants like a professional. The cheap bid that skips the flashing will be the most expensive bid you ever signed.

Commercial buildings are working assets. They earn while they stand, and they stand on details — including a piece of steel over every opening that most people walk under without a glance. You won't walk under one without thinking about it now.

The steel is above your storefront. Take care of it, and it'll carry its load for decades.

— Travis

Resources & Next Steps

If this book helped you read your building's openings with new eyes, here's where to go next:

Get a professional look at your lintels. A field assessment from someone who has replaced hundreds of lintels is worth more than a hundred guesses from the ground. When you're ready, reach out — we'll talk through what you're seeing and what it actually means.

About the LintelLOCK system. LintelLOCK is my field-developed lintel replacement system — the step-by-step process covered in Chapter 7, refined over 50 years of masonry work. Learn more at lintlerepair.com or call (469) 730-0650.

For the rest of the building envelope: brick and masonry repair (Champion Brick Repair), foundation repair with pressed concrete piles (Metro Foundation Repair), mortar color matching (MortarMagic), and stone, ranch, and property work (WhiteStone Construction) — the full directory is on the next page.

Keep learning. Photograph your openings once a year, keep the dates, and watch for the symptoms in Chapter 3. An hour of inspection a year beats a month of emergency repair every time.

Travis Nech has spent 50 years in brick, masonry, and foundation work across Texas. He owns and operates Champion Brick Repair, Metro Foundation Repair, LintelLOCK, MortarMagic, and WhiteStone Construction.

- Champion Brick Repair — brick & masonry repair, Dallas-Fort Worth — championbrickrepair.com — (817) 900-6324
- Metro Foundation Repair — pressed concrete pile foundation repair — metrofoundationrepair.com — (817) 523-1540
- LintelLOCK — the field-developed lintel replacement system — lintlerepair.com — (469) 730-0650
- MortarMagic — mortar color matching & the Mortar Bucket — mortarmagic.netlify.app
- WhiteStone Construction — stone, ranch & property work, Hamilton TX country — (254) 723-5040

About the Author

Travis Nech has spent 50 years in brick, masonry, and foundation work across Texas. He started as a young mason and never left the trade — five decades of walls, openings, mortar, and steel, from Dallas-Fort Worth storefronts to Hamilton County ranch country.

He owns and operates five Texas trade companies: Champion Brick Repair (brick and masonry repair, Dallas-Fort Worth), Metro Foundation Repair (pressed concrete pile foundation repair), LintelLOCK (his field-developed lintel replacement system), MortarMagic (mortar color matching and the Mortar Bucket), and WhiteStone Construction (stone, ranch, and property work in Hamilton TX country).

Travis writes the way he works — plain, direct, and from the field. His books exist to put decades of hard-won building knowledge into the hands of the people who own, manage, and care for buildings.

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