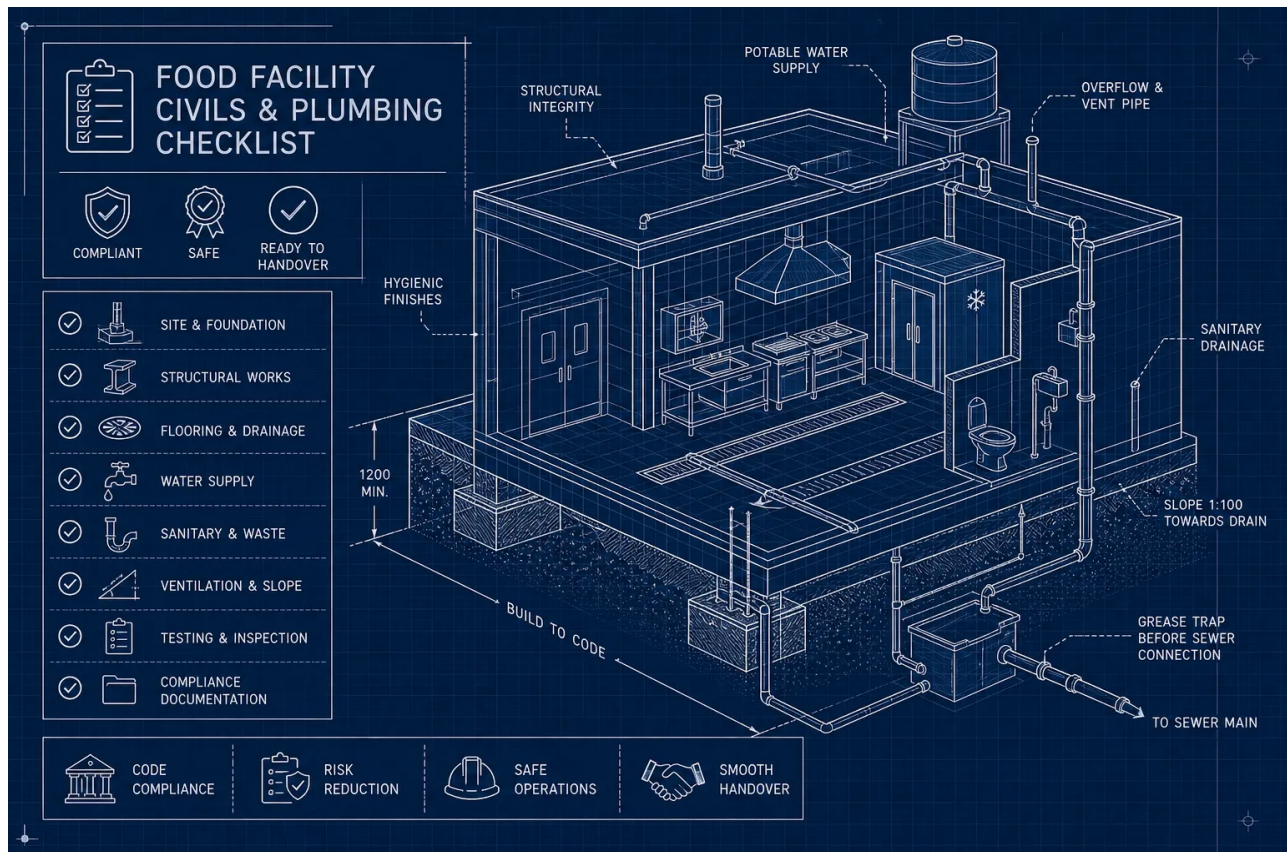


Practical civils and plumbing checklist for food facilities: ensuring compliance from foundation to handover



Savvy civils and plumbing decisions are frequently more expensive to undo than to get right from the start, the rework invoice often dwarfs the cost of the review that would have prevented it. Food businesses regularly invest significant capital in civils and plumbing work, only to discover during a food safety audit that drainage falls to the wrong point, a surface finish fails a hygienic design assessment, or a backflow preventer is simply absent. By that stage, production is live, screed has been poured, and the cost of correction is punishing.

The pipe run, the floor gradient, and the drain cover are not just construction elements. Under HACCP prerequisite programme requirements, ISO 22000 infrastructure obligations, and the South African food premises regulations set out in R638, they are food safety controls. Getting them wrong is a non-conformance, not a snagging item.

This article sets out a practical, compliance-focused framework covering the critical design elements auditors examine, a step-by-step review process, a ready-to-use checklist, and a realistic case study. The Savvy Compliance Solutions team developed this framework through years of reviewing contractor

specifications, conducting pre-commissioning audits, and training food facility teams to catch these failures before they become expensive.

Why civils and plumbing design make or break food safety compliance

The direct link between infrastructure and contamination risk

Poorly designed drainage, non-hygienic surface finishes, and inadequate water supply systems do not simply fail aesthetic standards. They create conditions for microbial harbouring, cross-contamination, and pest ingress that undermine your entire food safety management system. Under HACCP principles, physical infrastructure is classified as a prerequisite programme: the foundation on which all hazard controls depend.

A drain that pools water in a production zone is not an inconvenience. It is a documented non-conformance under ISO 22000 infrastructure clauses and a direct trigger for corrective action under R638. A rough grout joint in a wet processing area retains moisture and organic debris regardless of how frequently the surface is cleaned. These are the infrastructure failures that auditors find repeatedly, and they are almost always avoidable with early compliance input.

OHS exposure hiding in plain sight

Standing water on a production floor is not only a food safety risk. It is a slip hazard that creates direct liability under South Africa's Occupational Health and Safety Act. Unvented gas lines, poorly routed service conduits, and maintenance voids without safe access points compound this exposure for workers and maintenance personnel alike.

Savvy civils and plumbing compliance in food facilities must address food safety and OHS requirements simultaneously. Treating them as separate workstreams is precisely where gaps appear. At Savvy Compliance Solutions, we review both regulatory dimensions in every infrastructure assessment to ensure nothing falls between the two frameworks.

Savvy civils and plumbing, design elements auditors examine

1. Drainage gradients and pooling water

South African food hygiene regulations require floors in wet food areas to drain effectively, with no pooling water. In red-meat hygiene contexts, a minimum floor slope of 1:60 toward drainage points is explicitly specified. For general food production and preparation areas, the principle is consistent: any

floor gradient that allows water to stand is non-compliant and creates a documented prerequisite programme failure. The specific minimum gradient for non-red-meat areas should be confirmed against the applicable regulation, municipal guidance, or industry standard for your facility type.

Auditors check the direction of fall relative to drain placement, channel sizing, and whether drainage coverage reaches all wet zones. Getting this wrong at handover means either grinding the screed or accepting a standing non-conformance. Neither outcome is acceptable when a pre-construction specification review would have prevented the problem entirely.

2. Hygienic surface finishes on walls, floors and fixtures

R638 specifies that floors, walls, and internal surfaces in food-handling areas must be smooth, non-absorbent, dust-proof, water-resistant, and cleanable, with no open joints or seams. This is not simply a cleaning standard; it is a construction specification. The regulatory language translates directly into coved junctions at floor-to-wall intersections, sealed penetrations around all pipes and conduits, impervious finishes in wet zones, and grout-free or fully sealed tile joints throughout food contact areas.

In food-handling zones, face brick and decorative finishes are only permissible where joints are properly formed, meaning fully sealed, flush, and free of voids or recesses, and the resulting surface is genuinely easy to clean. Open-texture finishes in wet processing areas fail hygienic design criteria regardless of their durability in other construction contexts.

3. Backflow prevention and potable water protection

Under [SANS 10252-1](#), any cross-connection between potable and non-potable water systems must be protected with an approved backflow prevention device matched to the specific hazard. In food facilities, this covers hose connections, sinks, wash areas, food preparation equipment, dishwashers, and chemical-dosing connections. These are all common points where cross-contamination risk exists.

The device type is not optional. Where a physical air gap is impractical, a double check valve or combined check valve and vacuum breaker arrangement is required. The device must be installed as close as practicable to the point of delivery or use. Its absence is a non-conformance that food safety auditors flag consistently, and it is one of the easiest failures to prevent at specification stage.

4. Grease management and trap compliance

Grease trap sizing in Gauteng is governed by the relevant municipal wastewater by-law together with SANS 10252-2. Across Ekurhuleni, Johannesburg, and Tshwane, sizing is calculated on peak flow, connected fixture capacity, and retention time. The approving authority is the local sewer department rather than a single provincial standard. Undersized grease traps do not just block: they create conditions for drain overflow, pest ingress, and regulatory non-compliance with your [Certificate of Acceptability](#).

Confirm grease trap sizing with your local municipality before installation, not after installation. Maintenance access must also be designed in from the start. A grease trap that cannot be reached conveniently will not be serviced consistently, and inconsistent servicing is a recurring audit finding.

5. Service access for inspection and maintenance

Inaccessible pipe chases, buried service runs without access panels, and sealed ceiling voids are persistent red flags in food facility audits. If a pipe run cannot be inspected, it cannot be verified as safe, and it cannot be maintained without disruptive and expensive demolition. HACCP monitoring requirements demand ongoing verification of infrastructure conditions, and that requirement is impossible to meet where access was not designed in from the outset.

Access panel placement should be confirmed on drawings before construction begins and checked on-site before ceilings and service voids are closed. This is one of the simplest design decisions to get right and one of the most costly to correct retrospectively.

From specification to handover: the four-step compliance review process

Step 1: specification review before construction begins

The earliest and least expensive point to catch a compliance gap is the drawing stage. A compliance review of civils and plumbing specifications covers drainage layout against gradient requirements, material specifications for hygienic finishes, service routing for maintenance access, and backflow device placement. The Savvy Compliance Solutions team reviews contractor specifications against HACCP prerequisite requirements, ISO 22000 infrastructure clauses, and R638 before a single trench is dug. Changes at drawing stage cost nothing compared to changes after the screed is poured.

Step 2: construction-phase inspection and sign-off

A single end-of-construction inspection is insufficient. Errors compound quickly, a gradient installed incorrectly becomes invisible once the screed sets. Construction-phase inspections verify actual installed gradients against design, surface finish quality before sealing, penetration sealing integrity, and backflow device placement while corrections are still accessible and affordable. Scheduling two or three structured site visits during construction costs a fraction of a post-handover rework programme.

Step 3: pre-commissioning audit before handover

Before handover, a structured pre-commissioning audit covers a full walkthrough against a compliance checklist, water flow and drainage tests, documentation review, and a gap report with corrective actions.

This is the last line of defence before production begins. Corrective actions identified at pre-commissioning stage are almost always cheaper and faster to resolve than the same findings raised during a third-party food safety audit once the facility is operational.

Step 4: contractor briefing and compliance training

Even experienced civils and plumbing contractors need a compliance briefing specific to food facilities. HACCP, ISO 22000, and R638 impose infrastructure requirements that fall entirely outside the standard SANS 10252 scope of work. A contractor can hold full trade credentials and still unknowingly install non-compliant work because food safety prerequisites are simply not part of standard plumbing training. Savvy Compliance Solutions delivers targeted contractor briefings and facility team training to close this knowledge gap before it becomes a construction problem.

Practical compliance checklist for food facility civils and plumbing

Design and specification checks

Use this checklist at specification stage before construction begins. The Savvy Compliance Solutions team uses it as a starting point in every specification review, with project-specific requirements added for each facility:

- Drainage gradient confirmed at the required minimum toward all drainage points in food production and preparation areas (1:60 specified for red-meat hygiene contexts; confirm applicable standard for your facility type)
- Hygienic material specification confirmed for all floors, walls, and wet-area fixtures
- Backflow prevention devices specified for all potable water points with cross-connection risk
- Grease trap sizing confirmed with the relevant Gauteng municipality and calculated on peak flow
- Sealed penetration detail specified for all pipe and conduit entries through food-area walls, floors, and ceilings
- Access panels specified for all service voids and pipe chases in food production areas
- Potable and non-potable water line segregation confirmed on drawings
- Coved junctions specified at all floor-to-wall intersections in food-handling zones

Installation and handover verification

Run this checklist before signing the contractor's completion certificate. Do not accept handover until every item is confirmed on-site:

- As-built floor gradients measured and confirmed against specification, no pooling observed under

water test

- Surface finish inspected for cracks, open joints, unsealed penetrations, and texture compliance
- All pipe penetrations sealed with approved impervious material
- Drainage flow tested under simulated operational load with no pooling recorded
- Grease trap installation confirmed, correctly sized, and maintenance access unobstructed
- Backflow prevention devices installed in correct position relative to point of use
- All service access panels installed, clearly located, and accessible without tools or obstruction

Case study: how early compliance review saved a Gauteng food processor from a failed audit

The situation: a cold store and kitchen retrofit

A Gauteng food processing facility undertook a retrofit of its production kitchen and cold store areas. The main contractor had strong civils credentials and a solid track record in commercial construction. However, the contractor had no food safety construction experience. Drainage had been designed to standard building gradients rather than food production requirements. Grease traps were undersized relative to kitchen output. Surface finishes in the wet areas used materials with an open texture that failed hygienic design criteria under R638.

What the compliance audit caught before handover

Savvy Compliance Solutions was engaged for a pre-commissioning audit before the facility was handed over to operations. The audit identified three critical non-conformances: drainage gradients below the hygienic design minimum across the production floor, a missing backflow preventer on the potable water line serving the food preparation area, and an inaccessible pipe chase in the cold store ceiling that could not be inspected or maintained without removing the ceiling lining. All three were invisible in the final walkthrough because no one had reviewed the work against food safety infrastructure requirements.

The outcome: clean HACCP audit and avoided rework costs

All three non-conformances were corrected before production started. The facility subsequently passed its HACCP assessment without a single infrastructure non-conformance. The cost of pre-commissioning corrections was a fraction of what a post-production retrofit would have required, and production started on schedule. Bringing in a compliance review before handover was the single most cost-effective decision the facility made during the entire build.

Aligning your contractor with HACCP, ISO 22000 and R638

requirements

Why standard plumbing credentials are not enough in a food facility

IOPSA registration, PIRB certification, and NHBRC enrolment confirm that a contractor is trade-competent. They do not confirm food safety compliance competence. A fully accredited plumbing contractor can unknowingly install non-compliant work in a food facility because HACCP prerequisite requirements and R638 infrastructure obligations sit entirely outside the standard plumbing code. The gap is not about workmanship. It is about knowledge of food safety design requirements.

Recommended civils and plumbing contractor, Gauteng

Food businesses in Gauteng looking for a credentialed civils and plumbing contractor for commercial work can consider [Savvy Civils and Plumbing](#), based in Boksburg at 13 Bartlett Road, Beyers Park, and serving the broader Gauteng area including Johannesburg. Their services include plumbing installations, drainage work, civils, gas installation and maintenance, geyser installations, waterproofing, bathroom renovations, and [blocked drain clearing](#). The company self-asserts IOPSA, PIRB, and NHBRC membership, request and verify credential documentation directly with the issuing bodies before confirming any appointment. Contact: 087 806 6262 or .

Note: this is a third-party referral. Trade credentials and food safety compliance competence are separate requirements, see the section above.

What contractor training and compliance support looks like

Savvy Compliance Solutions provides a pre-construction compliance briefing for the civils and plumbing team, a design review against food safety prerequisites, construction-phase inspections, and post-handover staff training to ensure the facility team can maintain and document installed systems correctly. This is not a replacement for a competent contractor: it is the compliance layer that ensures the contractor's work meets food safety regulatory requirements, not just building code requirements.

If your facility is planning a build, a retrofit, or an upcoming food safety audit, a compliance review of your savvy civils and plumbing scope is the most cost-effective investment you can make before construction begins. Get in touch with the Savvy Compliance Solutions team to arrange a specification review, pre-commissioning audit, or contractor briefing tailored to your project.

Get your infrastructure right before the auditor does

Civils and plumbing decisions in food facilities are not just about good workmanship. They are food safety and OHS controls that auditors examine at every inspection. A drain installed at the wrong gradient, a surface finish that retains moisture, or a backflow preventer missing from a potable water line are not minor defects. They are non-conformances that trigger corrective actions, delay certification, and create

real contamination risk in your production environment.

The four steps outlined in this article, specification review, construction-phase inspection, pre-commissioning audit, and contractor training, exist to prevent the expensive problem of discovering non-compliance after handover. The checklists above are a starting point, not a substitute for professional compliance review tailored to your specific facility, your certification standard, and your production processes.

Savvy civils and plumbing compliance is ultimately about protecting your production environment, your certification, and your business. Savvy Compliance Solutions provides specification reviews, pre-commissioning audits, contractor briefings, and staff training aligned to HACCP, ISO 22000, and R638 requirements. Reach out to the team before your next build or audit to make sure your infrastructure passes the first time.