RAC TECHNICAL

THE MITIGATION SHELL GAME?

Is Louisiana Fortifying Buildings - or an Insurance Market?

A white paper on wind mitigation, building-code enforcement, multi-hazard resilience, and public investment

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Purpose

To evaluate whether Louisiana's publicly funded roof-first mitigation strategy is the highest-value path to whole-building and community resilience, and to propose a risk-based alternative grounded in code enforcement, building science, and measurable outcomes.

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EXECUTIVE SUMMARY

Louisiana, like most coastal states, faces a legitimate and costly problem. Hurricanes damage buildings, insurers incur major losses, premiums rise, capacity tightens, and homeowners face growing financial uncertainty. In response, the state has committed substantial public resources to roof fortification. In September 2026, Governor Jeff Landry and Insurance Commissioner Tim Temple announced that Louisiana's 2026 investment in FORTIFIED projects had reached $100 million, combining HUD resources, Katrina and Rita bond-related funds, and legislative appropriations. The program is expressly tied to stronger roofs and lower insurance costs.[1][2]

There is no serious technical dispute that better roof attachment improves resistance to wind. Stronger roof-deck attachment, improved edge securement, properly installed roof coverings, and secondary water protection address recognized loss mechanisms. This paper does not address that controversy.

The central question is whether Louisiana has confused roof mitigation with whole-building resilience. A roof is only one component of a building. A roof can perform exactly as intended while a building still becomes uninhabitable because of flooding, opening failures, weak gable construction, soffit failure, incomplete structural load paths, or other deficiencies. The controlling hazard can also vary by neighborhood: wind in one location, flood or drainage in another.

Louisiana did not begin from a condition of 'unfortified' construction. The state already operates under a modern building-code framework. The 2021 IRC requires wind design for roof coverings, wall coverings, windows, skylights, garage doors, exterior doors, and a continuous load path to the foundation. Louisiana law also requires municipalities, parishes, and qualified enforcement providers to administer inspections and permits, including roof construction and reroofing.[6][7][8]

The meaningful comparison is therefore not FORTIFIED versus no fortification. It is FORTIFIED versus verified current-code construction. Once that baseline is established, the public can ask what incremental protection FORTIFIED provides, what that protection costs, and whether the same dollar would remove more total risk if directed to another building or community vulnerability.

FORTIFIED adds real value, particularly through independent evaluation, documentation, and quality assurance. If that verification materially improves performance, Louisiana should examine whether those practices belong in ordinary code enforcement and permitting rather than only in a taxpayer-supported grant pathway.[9]

Research on insurance losses also warrants careful interpretation. The Alabama Hurricane Sally study provides credible evidence that FORTIFIED-designated homes incurred lower insured losses under the conditions studied. However, its primary outcomes are insurance metrics - claim frequency, severity, and loss ratio - rather than a comprehensive forensic reconstruction of physical damage to every building. Reduced insured losses are important; they are not equivalent to proof that a roof-first intervention is the highest-value resilience investment for every property.[11]

Finally, Louisiana should consider a permanent Resilience, Recovery and Prevention Fund that finances mitigation according to documented risk rather than a predetermined construction component. RAC proposes studying a modest 0.25% to 1.0% assessment against a carefully defined measure of in-state business activity, combined with meaningful permit fees, better code enforcement, and transparent performance measurement. The precise revenue base would require legislative and economic analysis. The principle is the important part: resilience dollars should follow the risk.

> **THE $100 MILLION QUESTION**
>
> **Louisiana should not ask only how many roofs $100 million can fortify. It should ask how much total risk $100 million can reduce.**

KEY FINDINGS

1 CODE BASELINE

Modern Louisiana construction law already requires significant wind resistance and a continuous load path. FORTIFIED is an enhancement and verification layer, not the invention of wind-resistant construction.

2 DIAGNOSIS FIRST

No two buildings or subdivisions carry the same dominant risk. The intervention should follow the hazard and the controlling vulnerability.

3 VERIFICATION MATTERS

Third-party FORTIFIED documentation is a genuine strength. That quality-control lesson may have statewide value if integrated into ordinary code enforcement.

4 CLAIMS ARE NOT THE WHOLE BUILDING

Loss studies demonstrate lower insured losses, but insurance outcomes are not a substitute for complete physical and forensic performance data.

5 FLOOD AND WIND ARE DIFFERENT RISK SYSTEMS

A roof can succeed while the building fails from flood. Whole-building resilience requires multi-hazard prioritization.

6 FUND THE HIGHEST-VALUE RISK REDUCTION

A permanent prevention fund could support code enforcement, wind mitigation, flood mitigation, drainage, elevation, and community infrastructure according to measured need.

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1. The Policy Question

Louisiana is attempting to solve a genuine problem. The state's property-insurance market has been under extraordinary pressure from hurricane losses, reinsurance costs, carrier exits, insolvencies, affordability concerns, and reduced availability. The Fortify Homes initiative is an understandable response to that pressure.

The 2026 policy commitment is substantial. In May, the Louisiana Department of Insurance announced that LFHP would receive $80 million for the year: $50 million from additional Katrina and Rita bond assessment funds and about $30 million from taxes and fees collected from insurance entities. In September, HUD announced an additional $20 million in resources for Restore ROOF, bringing the year's announced investment in fortified projects to $100 million.[1][2]

Louisiana law authorizes grants to retrofit roofs to meet or exceed the IBHS FORTIFIED Roof standard and directs the Department of Insurance to administer program funds effectively and seek a maximum rate of return on invested state dollars.[3]

That statutory language creates the core public question: maximum return compared with what? A roof grant, a properly enforced code-compliant roof, opening protection, continuous-load-path work, drainage, flood mitigation, elevation, or a combination selected after the property and community are evaluated?

> **THE GOVERNING QUESTION**
>
> **Is Louisiana allocating public mitigation dollars based on building and community risk, or on a predetermined roof intervention?**

2. The Building Should Come Before the Prescription

No two existing buildings are identical. Age, geometry, roof shape, wall construction, glazing, garage doors, gable configuration, soffits, structural connections, prior repairs, moisture history, attic configuration, HVAC systems, elevation, drainage, and site exposure all vary. So does workmanship.

The controlling weakness therefore varies. One house can have inadequate roof-deck attachment but relatively strong openings and connections. Another can have an adequately attached roof and a vulnerable sixteen-foot garage door. Another can have a weak gable end. Another can have incomplete roof-to-wall load transfer. Another can be located where repetitive flooding is the primary threat to habitability.

A risk-based resilience process starts with diagnosis: identify the hazard; identify the vulnerable component or system; identify the consequence of failure; compare mitigation options; then fund the intervention that produces the greatest reduction in expected loss and loss of habitability.

LFHP instead starts with the roof. The program grants up to $10,000 for qualifying homeowners to upgrade to the IBHS FORTIFIED Roof standard. That is a legitimate roof-mitigation program. It should not be confused with a whole-building or multi-hazard diagnosis.[14]

3. The Code Baseline: Louisiana Was Already Fortifying for Wind

The word 'FORTIFIED' can unintentionally imply that a conventional code-compliant building is unprotected from wind until it receives an IBHS designation. That does not accurately describe modern building-code requirements.

The 2021 IRC requires buildings and portions of buildings to be constructed to withstand applicable wind loads. Section R301.2.1 addresses wall coverings, roof coverings, exterior windows, skylights, garage doors, and exterior doors, and requires a continuous load path that can transmit roof uplift forces to the foundation. In regions where prescriptive IRC wind limits are exceeded, the code directs design to recognized high-wind methods, including the Wood Frame Construction Manual, ICC 600, ASCE 7, or the International Building Code.[6]

The IRC also contains wind-related roof-sheathing provisions, wall-sheathing tables tied to design wind speed and exposure, opening-protection requirements in windborne-debris regions, and exposure-category requirements that account for terrain and wind direction.[6][7]

Louisiana's own earlier consumer guidance shows that this is not a recent development. LSU AgCenter Publication 3104, issued in 2009 and based on the 2006 IRC, described Louisiana high-wind roof construction, connected roof-deck design to ASCE 7, identified enhanced deck-fastening schedules, and required special high-wind shingle fastening where applicable.[5]

The appropriate technical baseline is therefore not FORTIFIED versus no fortification. It is FORTIFIED versus construction that is actually built, inspected, and verified to comply with the applicable code and wind design.

> **THE BASELINE QUESTION**
>
> **What incremental protection does FORTIFIED purchase beyond verified current-code construction, and is that incremental protection the highest-value place to spend the next public dollar?**

4. What FORTIFIED Adds Above Code

FORTIFIED adds meaningful requirements in various circumstances. The 2025 FORTIFIED technical library includes roof-deck inspection and documentation requirements, roof-deck attachment criteria, multiple sealed-roof-deck assemblies, roof-edge details, corrosion provisions, roof-cover requirements, evaluator checklists, and higher-level Silver and Gold compliance pathways.[9]

Independent verification is one of the program's most important distinctions. FORTIFIED does not merely publish a specification; it requires a documentation process intended to show that the prescribed condition was actually installed.

That quality assurance deserves credit. It also raises a policy question: if independent verification materially improves performance, why should that lesson be limited to grant-funded FORTIFIED projects? Louisiana can

ask whether photographic documentation, concealed-condition verification, and third-party inspection should be incorporated into ordinary permitting and enforcement for critical envelope work.

Verification May Be Part of the Intervention

FORTIFIED performance should not be evaluated solely as a comparison of construction specifications. Its independent evaluation and documentation process introduces another potentially important variable: accountability during construction. A specification establishes what should be built; inspection and documentation provide evidence of what was actually built.

This distinction is familiar on major public, institutional, and other high-value construction projects, where owner representatives, design professionals, testing agencies, special inspectors, commissioning providers, and other independent parties may observe or verify critical work. The expectation that concealed or performance-critical work will be observed, photographed, tested, or documented before acceptance creates a different quality-control environment than one in which compliance is largely assumed.

That does not establish that verification alone causes improved storm performance. It does identify a variable that future research should separate. Performance studies should attempt to distinguish the benefit attributable to enhanced construction requirements from the benefit attributable to enhanced verification, documentation, and quality control.

If independent verification is a material contributor to improved construction quality or performance, the lesson extends beyond FORTIFIED. It supports clearer definition of the work, inspection of critical stages, documentation of concealed conditions, and post-work verification in ordinary code-compliant construction. For building owners, it also reinforces the value of independent owner-side quality assurance: define the expected work, establish existing conditions, observe critical stages, document what will be concealed, and verify what was actually delivered.

Existing Deck Capacity Is a Baseline Question

FORTIFIED requires existing roof sheathing to meet minimum thickness criteria and requires damaged or deteriorated decking to be identified and replaced during reroofing. Its 2025 standard also prescribes re-nailing details for qualifying existing wood-structural-panel decks. Those are meaningful controls.[9]

They are not the same thing, however, as measuring the actual withdrawal resistance of fasteners in an aged, previously roofed deck. Wood-panel fastener resistance varies with sheathing material and thickness, fastener type, and condition. NRCA testing of shingle nails in plywood and OSB demonstrated substantial variation by panel thickness and nail type, while cautioning that the reported laboratory values were specific to the materials tested and were not design values.[17]

A recognized field-test procedure also exists for determining roofing-fastener withdrawal resistance in the load-resisting deck material. ANSI/SPRI FX-1 was developed to standardize field pullout testing, enabling measurement of project-specific fastener/deck resistance when needed.[18]

The 2025 FORTIFIED Roof requirements reviewed for this paper prescribe inspection, minimum deck thickness, replacement of visibly damaged decking, and attachment schedules, but they do not establish routine project-specific withdrawal testing as the baseline for every reroof. Nor does the material reviewed establish a universal number of reroofing cycles after which plywood or OSB must be replaced. Recent industry

research has specifically identified repeated reroofing and moisture cycling as conditions that can affect wood-panel performance and fastener withdrawal behavior.[19]

That distinction matters. Adding fasteners can improve attachment only to the extent that the existing panel and framing can develop the intended connection. Where age, repeated reroofing, abnormal moisture, enlarged fastener holes, delamination, material loss, or other conditions create uncertainty, the question is not merely whether the prescribed fastener pattern was installed. The question is what capacity existed before the work, what condition was found when the deck was exposed, and what capacity the completed assembly can reasonably be expected to provide.

BASELINE PRINCIPLE

If there is no meaningful baseline, the program can document that an intervention was installed, but it cannot automatically quantify the performance improvement that intervention provided.

5. Enforce the Standard Already Adopted

Louisiana law already requires code enforcement. As amended effective July 1, 2026, R.S. 40:1730.23 requires municipalities and parishes to enforce the state construction codes using code-enforcement officers or certified third-party providers. The statute identifies plan review, inspections, and permit issuance as enforcement functions. It also expressly requires one- and two-family roof construction and reroofing to be permitted and inspected for compliance with IRC Chapters 8 and 9, and permits geotagged photographs or videos for required roofing inspections.[8]

That creates a threshold question before another layer of public subsidy is added: is the problem an inadequate building code, or inadequate compliance with and enforcement of the code already adopted?

If the code is insufficient, Louisiana can amend it. If secondary water protection is deemed necessary in designated wind regions, the requirement can be studied and codified. If openings, soffits, gable ends, roof-to-wall connections, or other components repeatedly fail, the requirements can be strengthened. If the problem is poor installation, inspection and documentation need to improve.

A code sitting in a book is not mitigation. A properly enforced code is.

If enforcement is the principal weakness, taxpayers risk paying twice: first for the public code system and again for a separate grant program that overlaps with protections code compliance was already intended to provide.

6. A Side-by-Side Comparison

The table below separates three concepts that are often conflated in public discussion: minimum code compliance, FORTIFIED Roof, and risk-based whole-building resilience.

Issue	2021 IRC / Verified Code Compliance	FORTIFIED Roof	Risk-Based Whole-Building Resilience
Roof-deck wind attachment	Required according to applicable code and wind design.	Prescribed attachment plus evaluator documentation.	Evaluated relative to the complete structural load path and identified vulnerability.

Issue	2021 IRC / Verified Code Compliance	FORTIFIED Roof	Risk-Based Whole-Building Resilience
Roof-cover wind resistance	Required by code and manufacturer installation criteria.	Specified FORTIFIED requirements and verification.	Included, but prioritized against other vulnerabilities and hazards.
Secondary roof water protection	Depends on applicable code and assembly.	Central feature of FORTIFIED Roof; multiple approved sealed-deck methods.	Selected after considering assembly, climate, existing condition, and remaining drying pathways.
Roof-to-wall connection	Continuous load path required by code; details vary with design method.	Not fully established by a Roof-only designation.	Specifically evaluated as a load-transfer link.
Windows and exterior doors	Wind-load performance required; impact protection required in defined debris regions.	Addressed more fully at higher FORTIFIED levels.	Evaluated as part of the pressure envelope and risk profile.
Garage door	Subject to code wind-performance requirements.	Higher FORTIFIED levels address vulnerable components.	Evaluated according to size, rating, exposure, and consequence of failure.
Walls, gable ends, soffits	Code provisions apply to wind resistance and attachment.	Selected items addressed at higher FORTIFIED levels.	Evaluated as part of the full envelope and structural system.
Flood exposure	Outside roof function; addressed through separate flood codes/programs where applicable.	Not addressed by roof fortification.	Included in hazard prioritization and community-level investment decisions.
Existing moisture/enclosure condition	Not necessarily part of routine reroof permit verification.	Documentation is primarily focused on FORTIFIED compliance.	Existing roof-deck, attic, air, heat, and moisture conditions screened before alteration where relevant.
Quality assurance	Depends on jurisdiction, inspector capacity, documentation, and enforcement.	Independent evaluator and prescribed documentation are major strengths.	Verification follows the risk, the selected mitigation, and unresolved conditions.
Primary question	Does the work comply with adopted code?	Does the roof meet the FORTIFIED standard?	What is most likely to fail, and what should be fixed first?

7. What the Loss Studies Actually Measure

The Alabama Hurricane Sally study is important evidence. The Alabama Department of Insurance and the University of Alabama Center for Risk and Insurance Research analyzed tens of thousands of insured properties and compared conventional construction with FORTIFIED Roof and FORTIFIED Gold. The study reported materially lower claim frequency and loss ratios for FORTIFIED properties under the study conditions and used nearest-neighbor comparisons to reduce geographic exposure differences.[11]

That evidence should not be dismissed. It supports the proposition that FORTIFIED-designated properties produced lower insured losses.

But the primary outcomes are insurance metrics: claim frequency, claim severity, paid loss, and loss ratio. Those are not the same as complete physical-damage measurements. A homeowner can sustain damage without filing a claim. A loss can fall below a deductible. A claim can close without payment. A small loss can be self-funded. Coverage disputes can also affect claim disposition.

The correct interpretation is therefore narrower and stronger: the Sally study demonstrates reduced insured losses under the study conditions. It does not, by itself, establish that every FORTIFIED property was physically undamaged, nor that roof fortification was the highest-value mitigation available for each building.

Future research would be more informative if it separated physical damage, claim reporting, payment status, deductible effects, and component-level failure sequences.

Deductibles make that distinction especially important. A building can sustain real roof or enclosure damage without producing an insurer payment when the loss is below the applicable deductible. Louisiana's own LFHP materials recognize claim outcomes that include covered losses below the deductible and claims with no payment.[14] Accordingly, reduced claim frequency or paid loss is valuable insurance evidence, but it should not be treated as a direct one-for-one measure of reduced physical damage without additional building-performance data.

8. Wind Speed, Exposure, and What a Hurricane Category Does Not Tell Us

Hurricane categories are frequently misunderstood in construction discussions. The Saffir-Simpson category describes the storm's maximum sustained wind intensity; it does not mean every building in the affected region experiences that same wind speed. Building design also uses different averaging conventions and site-specific parameters.

The 2021 IRC requires wind design to consider ultimate design wind speed, component-and-cladding pressures, building height, and exposure. Exposure category is determined for each wind direction according to surrounding terrain, and high-wind regions can trigger design under ASCE 7, ICC 600, the WFCM, or the IBC.[6]

The Sally research assigned property wind exposure using a gridded wind dataset rather than an anemometer at each house. That is a reasonable catastrophe-analysis method, but it is not equivalent to measuring the exact wind pressure, direction, shielding, and failure sequence at every structure.[11]

This distinction matters when insurance-loss data is presented as evidence of a building's physical performance. Statistical performance evidence is valuable; it should be described as such.

9. The Building Is a Continuous Load Path

Wind does not stop at the shingles. A building survives wind only if loads can move through connected components without exceeding the capacity of a link in the path. FEMA's current P-804 retrofit guidance treats residential wind mitigation as a sequence that includes roofs, attached structures, openings, exterior walls, and continuous-load-path improvements.[10]

WIND PRESSURE / SUCTION

|
v

ROOF COVERING

|
v

ROOF DECK

|
v

RAFTERS / TRUSSES

|
v

ROOF-TO-WALL CONNECTION

|
v

WALL SYSTEM

|
v

FLOOR / FOUNDATION CONNECTION

|
v

FOUNDATION / ANCHORAGE

Figure 1. Simplified structural load path. Strengthening one link does not automatically increase the capacity of the next.

Increasing roof-deck attachment increases the deck's ability to remain attached and transfer load into the framing. It does not simultaneously increase the capacity of the roof-to-wall connection, wall system, or foundation connection. If the next link is weaker, it remains the limiting condition.

The same systems logic applies to openings. Failure of a large door, garage door, or window can change internal pressure and therefore change the loads acting on the roof and walls. That is why both FEMA and higher FORTIFIED levels address more than the roof.[4][10]

10. When More Than One Component Is Vulnerable

A grant limit does not change the physics of the building. If a roof needs additional attachment and the same building has a vulnerable garage door, weak gable end, or deficient roof-to-wall connection, disclose both conditions.

The roof work can still be valuable. But the owner should receive a prioritized resilience plan that distinguishes what was corrected from what remains. That is more useful than allowing a limited component designation to be interpreted as evidence that the entire building has been hardened to the same level.

> **OWNER-FACING PRINCIPLE**
>
> **This component was fortified to this standard. These additional vulnerabilities were identified and remain outside the completed scope.**

11. Flood Changes the Public-Risk Equation

Louisiana's Department of Insurance states that standard homeowners policies do not cover flood damage and require separate flood insurance, available through the NFIP and private markets.[12]

That means wind and flood can sit in different financial systems even when they strike the same building. A publicly supported roof retrofit can reduce a category of loss borne by homeowners insurers while leaving the property's principal flood exposure largely unchanged.

From the homeowner's perspective, however, the building is not divided into underwriting silos. It is either safe and habitable after the event, or it is not.

If a subdivision is more susceptible to deep or repetitive flooding than catastrophic roof failure, the first resilience dollar should at least be compared with drainage, elevation, floodproofing, acquisition, or community-scale flood mitigation. A stronger roof still has value; it may simply be the secondary hazard.

> **THE RISK QUESTION**
>
> **If flooding is the dominant hazard, a stronger roof can perform perfectly while the building still becomes uninhabitable. Public mitigation dollars should follow the controlling risk.**

12. Katrina as a Multi-Hazard Reality Check

Hurricane Katrina remains the clearest Louisiana example of why component resilience and community resilience are not synonymous. Wind damaged roofs and building envelopes, but catastrophic losses in many locations came from storm surge, levee failures, and prolonged inundation.

Consider a simple thought experiment. Assume every house that later flooded had received a perfect FORTIFIED Roof the day before Katrina. Assume the roof covering stayed attached, the roof deck stayed attached, and the secondary water barrier performed exactly as intended.

Those houses would have experienced less roof-related wind loss. They would still have flooded where floodwater overtopped or entered the structure. The roof would have succeeded while the controlling hazard still rendered the building uninhabitable.

The lesson is not that roof fortification is unnecessary. The lesson is that hazard identification must precede mitigation selection if the objective is public resilience rather than reduction of one loss category.

13. The Insurance and Political Policy Connection

The fortified-roof initiative is plainly part of Louisiana's insurance policy. The state's own announcements document that. Commissioner Temple has stated that lowering overall losses can reduce insurance and reinsurance costs, attract insurers, motivate additional writings, and lower premiums. Governor Landry's September 2026 announcement similarly connected the $100 million investment to stronger roofs and lower insurance prices.[1][2]

That policy can produce multiple benefits. Homeowners can get stronger roofs and lower premiums. Insurers can experience lower modeled and actual wind losses. The administration can point to visible program outputs and insurance-market results.

Those benefits do not answer the entire public-risk question. A taxpayer-funded resilience program should also measure what losses remain with homeowners, flood insurers, federal programs, state and local government, and taxpayers after the roof intervention is complete.

The question is not whether insurers benefit; reduced insurer loss is an intended policy outcome. The question is whether the reduction in insured wind exposure is also the greatest available reduction in total public and private disaster risk for the money spent.

14. Cause and Effect in the Building Enclosure

A roof retrofit is not solely a wind intervention. It also changes the building enclosure. FORTIFIED permits multiple sealed-roof-deck approaches, including taped seams with underlayment, multi-layer underlayment assemblies, and self-adhered membrane systems.[9]

Secondary water protection is valuable after roof-cover damage. At the same time, adding a membrane or changing the roof assembly changes material properties, drainage behavior, and drying pathways. That does not mean a sealed roof deck inherently causes deterioration. It means you should understand the existing assembly before altering it.

Building Science Corporation's work in hot-humid climates illustrates why blanket statements are inappropriate. Earlier research examined inward solar vapor drive and roof underlayment permeance; later work clarified that some previously feared mechanisms were less consequential than first suspected. Other field research has documented roof-deck humidity and moisture behavior that depends on attic configuration, insulation strategy, climate, and drying path.[13][15]

ASHRAE likewise emphasizes that moisture transport by air movement can exceed vapor diffusion and that airtight assemblies require intentional ventilation and humidity management.[16]

The correct existing-building questions are therefore practical: What is the current moisture condition of the deck? Has abnormal wetting occurred? What caused it? Is the attic vented or unvented? Where are the air and thermal control layers? Where do exhausts terminate? Are ducts located in the attic? What drying pathways exist now, and how will they change after the retrofit?

Those questions do not oppose secondary water protection. They are the normal cause-and-effect questions of building science.

The same logic applies to air leakage. A sealed-roof-deck intervention may improve resistance to rain entry after roof-cover loss while also changing how air and moisture move through the assembly. Without a pre-work understanding of attic configuration, exhaust termination, representative moisture conditions, and material air-leakage pathways, a post-work observation has a weaker baseline for determining what actually changed. A blower-door test is not required for every reroof, but where the intervention materially changes the enclosure, measured air leakage can be one useful diagnostic tool within a broader building-science evaluation.

The objective is not to turn a roof grant into a laboratory study. It is to avoid confusing installation verification with performance measurement. The more a retrofit changes water, air, vapor, or thermal control layers, the more important it becomes to document the relevant existing conditions before they are concealed.

15. A Practical Whole-Building Screening Protocol

Whole-building screening does not require turning every $10,000 grant into an engineering dissertation. A first-level evaluation can remain practical and standardized.

The process should begin at the site and subdivision. The evaluator should identify material wind exposure, known or mapped flood exposure, drainage conditions, storm-surge relevance where applicable, and historical loss patterns. The objective is to determine whether the dominant hazard is primarily wind, water, or a combination.

The building screen should then document roof geometry and covering; deck type and accessible attachment; visible roof-to-wall connections; gable-end construction; soffits; large openings; garage doors; windows and exterior doors; attached porches and carports; exterior wall construction where relevant; and obvious site drainage or elevation concerns.

When the roof covering is removed, treat the exposed deck as evidence before it becomes a substrate. Document previous repairs, staining, corrosion, delamination, deterioration, unusual fastener patterns, and representative moisture conditions before concealment.

That documentation should also note prior fastener holes, localized material loss from tear-off, panel thickness and type, repeated reroofing where known, and any condition that calls the deck's ability to develop the intended fastener resistance into question. Where uncertainty is material, consider project-specific testing or professional evaluation rather than assuming a new fastening schedule alone establishes the existing substrate's capacity.[17][18][19]

Where warranted, verify the attic for ventilation configuration, blocked vents, exhaust termination, visible duct leakage, evidence of condensation, insulation configuration, and abnormal temperature or humidity conditions.

If the evaluation identifies conditions outside the prescriptive program, refer the project to the appropriate engineer, building-envelope professional, HVAC specialist, or other qualified discipline. Verify first; escalate when necessary.

16. Contractor Training and Stop Conditions

The roofing contractor does not need to become a structural engineer or building scientist. The contractor does need to know when ordinary installation should stop and another evaluation is required.

Training should focus on recognition. Substantial deck deterioration, abnormal moisture, unexpected structural alteration, significant fungal-like amplification, missing framing, unusual roof-to-wall conditions, incompatible substrates, or evidence that the proposed assembly cannot be installed as specified should trigger documentation and review before concealment.

This approach does not expand contractor responsibility beyond reason. It narrows it: recognize the trigger, document the condition, and refer the diagnosis to the appropriate professional.

17. Owner Disclosure and Post-Work Verification

The building owner should receive a plain-language record of what the project established and what it did not establish. A FORTIFIED Roof designation is valuable, but it is a roof designation. It does not independently establish that every opening, wall, structural connection, flood hazard, attic condition, or mechanical-system interaction has been evaluated.

Disclosure should begin before tear-off, not after the certificate is issued. The owner should understand that removal of the existing roof can expose deteriorated sheathing, moisture damage, structural alterations, code deficiencies, incompatible substrates, or other conditions that were not visible when the project was priced. The project documents should explain who is responsible for evaluating those conditions, what work the grant or contract covers, what additional work may become the owner's responsibility, and how change orders will be handled.

The owner should also have a defined decision point when a material concealed condition is discovered. Except when immediate temporary protection or life-safety work is necessary, discovery should not automatically authorize unlimited additional work. The condition should be documented, the consequences explained, the additional scope and cost identified, and the owner given a meaningful opportunity to approve, decline, seek another opinion, or pursue another funding or insurance path before the condition is permanently concealed.

OWNER OFF-RAMP PRINCIPLE

Before irreversible work proceeds beyond the original scope, the owner should know what changed, why it changed, what it costs, what happens if it is not corrected, and what reasonable choices remain.

The final project record should distinguish completed mitigation from unresolved observations. Where abnormal roof-deck moisture or attic conditions existed, the correction should be documented before concealment. Where the air boundary was intentionally changed, the ventilation and humidity implications should be reviewed. Where structural conditions were referred, the resolution should be retained in the project file.

The completed record should tell a simple story: what existed, what was found, what was changed, what was verified, and what remains outside the scope.

18. A Better Use of the Permit System

Louisiana already has the legal foundation for broader construction quality assurance. The state has adopted codes, requires enforcement, permits certified third-party providers, and now expressly allows geotagged photographic or video evidence for required roofing inspections.[8]

Major building-envelope alterations should therefore be treated as meaningful permitted work. Reroofing can document critical concealed roof conditions before they disappear. Window and door replacements can document ratings and installation. Significant wall-envelope work can document drainage, flashing, fastening, and structural conditions relevant to the scope.

Permit fees should be sufficient to support competent inspection rather than serving only as administrative charges. A modest increase tied to actual inspection costs could expand staffing, training, and third-party capacity.

The principle is simple: if Louisiana requires a construction condition by code, somebody should verify that it was built that way.

19. Louisiana Resilience, Recovery and Prevention Fund

Louisiana's disaster problem is recurring. Prevention funding should be as well.

RAC proposes that Louisiana study creation of a permanent Resilience, Recovery and Prevention Fund. The Legislature could evaluate a modest assessment in the range of 0.25% to 1.0% against a carefully defined measure of annual in-state business activity for entities licensed to operate in Louisiana, combined with enhanced permit revenue and existing industry-linked funding mechanisms.

The assessment base must be designed carefully. Gross receipts, premiums, sales, licensing fees, and net revenue are not interchangeable, and a poorly designed gross-receipts system can tax the same economic value repeatedly as it moves through a supply chain. The proposal therefore requires an economic and legislative study before implementing any percentage.

The objective is not to create another roof fund. It is to create a risk fund large enough to finance prevention at statewide scale.

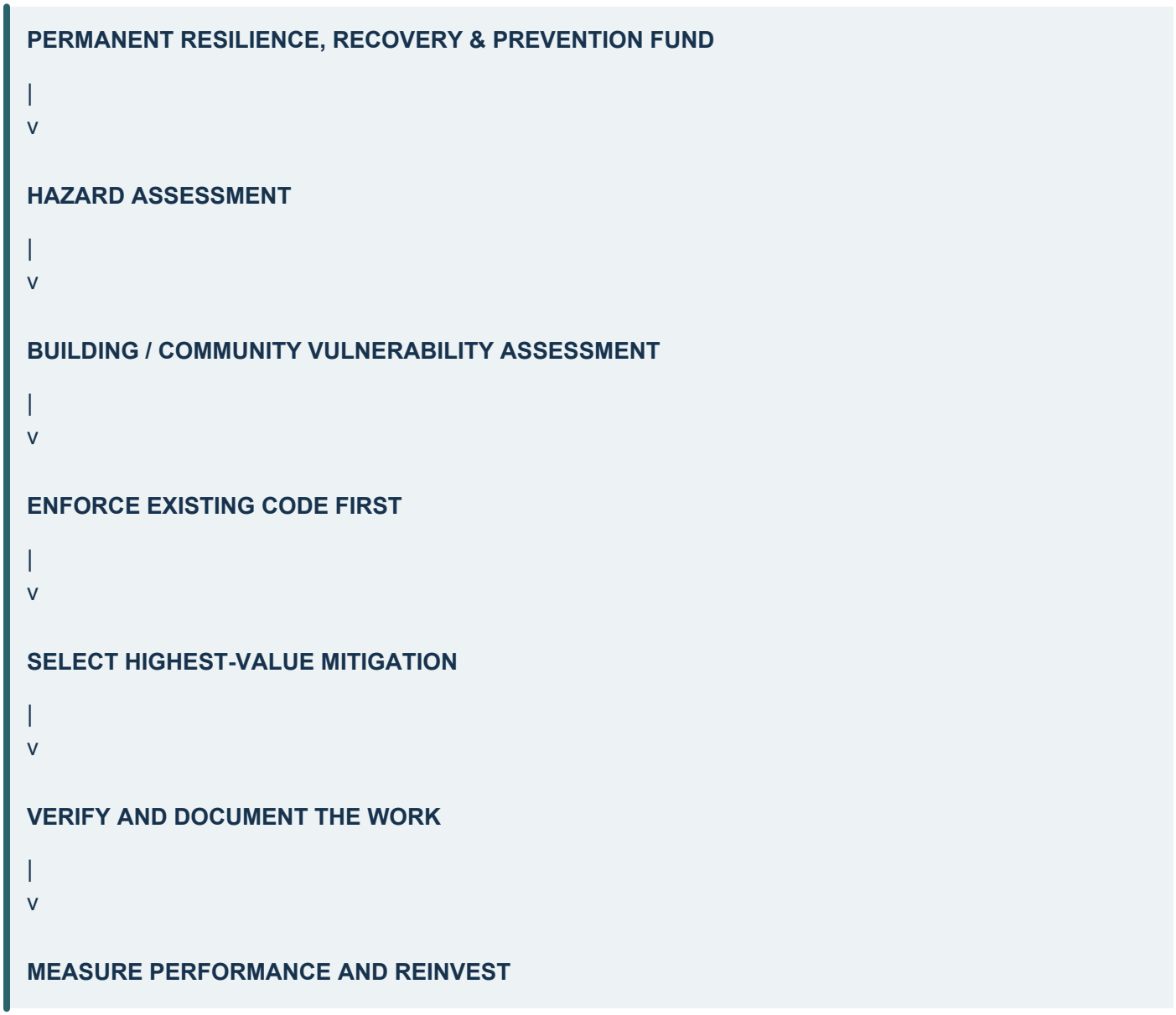

Figure 2. RAC proposed funding and decision model: diagnosis before prescription; prevention before recovery.

Where wind is controlling, the fund can support roof, opening, gable-end, wall, or load-path improvements. Where flood is controlling, it can support drainage, elevation, floodproofing, acquisition, or other appropriate measures. Where enforcement is the problem, it can support inspectors, training, and third-party verification. Where infrastructure creates a shared hazard, the fund can support community-scale mitigation.

A statewide recurring fund can also lift more than individual grant recipients. A roof grant primarily helps one property. Drainage improvements can protect an entire subdivision. Inspector training can affect thousands of future projects. Better documentation can improve future claims, repairs, and resale records. Community flood mitigation can reduce losses across entire neighborhoods.

The proposal would not eliminate economic burden; assessments can be reflected in prices, premiums, or fees. The policy objective is to create a transparent, dedicated prevention mechanism and reduce reliance on episodic general-fund or disaster appropriations.

20. Measure Outcomes, Not Installations

Counting grants and certificates measures program activity. It does not fully measure resilience.

A useful public-accountability framework can be stated in four questions:

1. What condition and capacity existed before the intervention?

2. What exactly was changed?

3. What measurable improvement did the public and homeowner purchase?

4. What material risk remains after the work?

After future storms, Louisiana should be able to compare FORTIFIED Roof, Silver, Gold, verified current-code construction, older construction, and other mitigation strategies under comparable hazard conditions. For wind, the analysis should include the best available local wind speed, direction, duration, exposure, roof-cover loss, deck loss, opening failure, garage-door failure, gable failure, connection failure, interior water entry, repair cost, and displacement.

Insurance analysis should distinguish physical damage from claim reporting and, where data permit, separate paid claims, claims closed without payment, below-deductible losses, and other dispositions.

For flood-prone communities, the performance record should include flood depth, duration, source, first-floor elevation, habitability, displacement, repair cost, and recovery time.

Louisiana law already requires the Fortify Homes Program to seek maximum return on invested state dollars. A performance framework makes that requirement measurable rather than rhetorical.[3]

21. RAC Recommendations

> **Recommendation 1 - Establish the code-compliant baseline**
>
> Before public subsidy is justified, determine what the applicable Louisiana code already requires and whether the existing work complies.

> **Recommendation 2 - Enforce first**
>
> Increase inspection capacity, permit meaningful envelope work, document concealed conditions, and use qualified third-party providers where local staffing is insufficient.

> **Recommendation 3 - Diagnose before prescribing**
>
> Require a first-level hazard and building-vulnerability screen before assigning the funded intervention.

Recommendation 4 - Treat FORTIFIED verification as a quality-control lesson

Study which evaluator and documentation practices should be incorporated into ordinary permitting and code enforcement.

Recommendation 5 - Preserve the distinction between insured loss and physical performance

Use claims studies as evidence of insurance-loss performance, and supplement them with component-level physical damage and failure-mode data.

Recommendation 6 - Address the entire risk profile

Where flood, drainage, openings, load path, or another condition controls the risk, allow mitigation funds to follow that condition rather than requiring a roof-first expenditure.

Recommendation 7 - Require owner disclosure

Document what was fortified, what was evaluated, and what significant vulnerabilities remain outside the scope.

Recommendation 8 - Create a permanent prevention fund

Study a Louisiana Resilience, Recovery and Prevention Fund financed through a carefully structured broad assessment, permit revenue, and existing industry-linked funding streams.

Recommendation 9 - Measure return on public investment

Track physical performance, insurance performance, habitability, recovery time, and public cost after significant events.

Recommendation 10 - Publish the results

Make the data available so contractors, homeowners, insurers, engineers, code officials, legislators, and researchers can improve the program over time.

22. Conclusion

Louisiana is trying to solve a real problem, and stronger roofs are a legitimate part of the solution. Better attachment works. Secondary roof-water protection has value. Independent verification has value. Available loss studies provide credible evidence that FORTIFIED-designated construction can reduce insured wind losses under the conditions studied.[11]

But those facts do not resolve the larger taxpayer question. Louisiana already has a wind-resistant building code and a statutory enforcement system. If those requirements are not being enforced, enforce them. If they are inadequate, amend them. If FORTIFIED adds measurable value above verified current-code construction, quantify that value and compare it against other available risk-reduction investments.

Most importantly, public resilience should begin with the hazard rather than the product. If the roof is the controlling vulnerability, strengthen the roof. If openings are controlling, protect the openings. If the continuous load path is deficient, address the load path. If the subdivision floods, address the flood problem. If several hazards interact, develop a coordinated plan.

That is the difference between fortifying a component and managing risk.

Louisiana's $100 million 2026 commitment creates an opportunity to test a more demanding standard of public accountability: not how many roofs were completed, but how much total public and private risk each dollar removed.

That accounting requires more than counting installations. Where practicable, it requires a defensible baseline, a documented intervention, and a measurable post-work outcome. Without those three elements, Louisiana can know what it bought, but not always how much additional resilience it purchased.

> **FINAL QUESTION**
>
> **Are we fortifying the thing that is easiest to fund and to insure, or the thing that is most likely to fail?**

APPENDIX A | COMPARISON MATRIX

This matrix is intended as a quick reference for policymakers, reporters, building officials, and property owners. It does not replace the underlying code or FORTIFIED technical standard.

Issue	2021 IRC / Verified Code Compliance	FORTIFIED Roof	Risk-Based Whole-Building Resilience
Roof-deck wind attachment	Required according to applicable code and wind design.	Prescribed attachment plus evaluator documentation.	Evaluated relative to the complete structural load path and identified vulnerability.
Roof-cover wind resistance	Required by code and manufacturer installation criteria.	Specified FORTIFIED requirements and verification.	Included, but prioritized against other vulnerabilities and hazards.
Secondary roof water protection	Depends on applicable code and assembly.	Central feature of FORTIFIED Roof; multiple approved sealed-deck methods.	Selected after considering assembly, climate, existing condition, and remaining drying pathways.
Roof-to-wall connection	Continuous load path required by code; details vary with design method.	Not fully established by a Roof-only designation.	Specifically evaluated as a load-transfer link.
Windows and exterior doors	Wind-load performance required; impact protection required in defined debris regions.	Addressed more fully at higher FORTIFIED levels.	Evaluated as part of the pressure envelope and risk profile.
Garage door	Subject to code wind-performance requirements.	Higher FORTIFIED levels address vulnerable components.	Evaluated according to size, rating, exposure, and consequence of failure.
Walls, gable ends, soffits	Code provisions apply to wind resistance and attachment.	Selected items addressed at higher FORTIFIED levels.	Evaluated as part of the full envelope and structural system.
Flood exposure	Outside roof function; addressed through separate flood codes/programs where applicable.	Not addressed by roof fortification.	Included in hazard prioritization and community-level investment decisions.
Existing moisture / enclosure condition	Not necessarily part of routine reroof permit verification.	Documentation is primarily focused on FORTIFIED compliance.	Existing roof-deck, attic, air, heat, and moisture conditions screened before alteration where relevant.
Quality assurance	Depends on jurisdiction, inspector capacity, documentation, and enforcement.	Independent evaluator and prescribed documentation are major strengths.	Verification follows the risk, the selected mitigation, and unresolved conditions.
Primary question	Does the work comply with adopted code?	Does the roof meet the FORTIFIED standard?	What is most likely to fail, and what should be fixed first?

APPENDIX B | PROPOSED FIRST-LEVEL SCREENING FRAMEWORK

The purpose of the screen is to identify whether a prescriptive roof-only grant is an obvious first priority, whether another vulnerability requires equal or greater attention, or whether the project should be referred for specialized evaluation. It is intentionally a screening framework, not a substitute for engineering where engineering is required.

Screening area	Minimum field objective
Community / site hazard	Wind exposure; flood zone and known flood history; storm-surge relevance; drainage; elevation; surrounding terrain and shielding; known neighborhood loss pattern.
Roof	Geometry; covering; age; deck material and condition; accessible attachment; previous repairs; edge conditions; roof-mounted equipment; visible water entry.
Load path	Accessible roof-to-wall connections; gable ends; wall construction; attached porches/carports; observable foundation or anchorage conditions.
Openings and pressure envelope	Garage doors; large doors; windows; glazed doors; vents; soffits; available design-pressure or impact ratings.
Attic / enclosure	Vented or unvented configuration; soffit/ridge/gable ventilation; exhaust termination; visible duct issues; insulation; condensation evidence; representative temperature/RH where warranted.
Moisture / concealed conditions	Representative deck moisture where indicated; staining; deterioration; delamination; corrosion; fungal-like growth; prior leakage; unusual material transitions.
Referral triggers	Conditions outside prescriptive criteria; structural uncertainty; persistent abnormal moisture; significant biological amplification; incompatible substrates; evidence of unsafe or altered construction.
Owner record	What was evaluated; what was funded; what was corrected; what remains; recommended next priority.

REFERENCES AND SOURCE NOTES

Primary government, code, technical, and research sources used in this white paper are listed below. Statutory and code requirements should be checked against the edition and amendments applicable to the specific project and jurisdiction.

[1] Office of Governor Jeff Landry. Governor Jeff Landry Announces $100 Million Investment in Fortified Roof Program. September 21, 2026. Announces $100 million total investment and identifies $20 million HUD funding, $50 million Katrina/Rita bond money, and $30 million legislative appropriation. https://www.gov.louisiana.gov/news/5175

[2] Louisiana Department of Insurance. Governor Landry, Commissioner Temple Announce Additional $20 Million Invested in Fortified Homes. September 21, 2026. States that 2026 fortified-project investment reached $100 million; describes program funding and insurance-policy objectives. https://www.ldi.la.gov/news/press-releases/9-21-26-governor-landry-commissioner-temple-announce-additional-%2420-million-invested-in-fortified-homes

[3] Louisiana State Legislature. R.S. 22:1483.1 - Louisiana Fortify Homes Program. Authorizes grants to retrofit roofs to meet or exceed the IBHS FORTIFIED Roof standard and governs program administration. https://www.legis.la.gov/legis/Law.aspx?d=1296640

[4] Louisiana Department of Insurance. FORTIFIED Benchmarks - Effective January 1, 2027. Lists benchmark hurricane-premium discounts for FORTIFIED Roof, Silver, and Gold and explains catastrophe-model methodology. https://ldi.la.gov/fortifiedbenchmarks

[5] LSU AgCenter. Consumer's Guide to Code-Compliant Roofing Installations, Publication 3104. March 2009. Louisiana consumer/contractor guidance based on the 2006 IRC, including ASCE-based wind design, roof-deck attachment, high-wind shingle fastening, underlayment, flashing, and fastener requirements. User-supplied source.

[6] International Code Council. 2021 International Residential Code, Section R301.2.1 - Wind Design Criteria. Requires applicable wind design for multiple building-envelope components and a continuous load path to the foundation. https://codes.iccsafe.org/content/IRC2021P1/chapter-3-building-planning

[7] International Code Council. 2021 International Residential Code, Chapter 8 - Roof-Ceiling Construction. Roof sheathing and structural roof provisions. https://codes.iccsafe.org/content/IRC2021P2/chapter-8-roof-ceiling-construction

[8] Louisiana State Legislature. R.S. 40:1730.23 - Enforcement of Building Codes. Requires code enforcement, permitting, inspection, certified third-party providers, and roof/ reroof inspection under applicable IRC/IBC requirements. https://www.legis.la.gov/Legis/LawPrint.aspx?d=97797

[9] Insurance Institute for Business & Home Safety. 2025 FORTIFIED Home Standard and Technical Resources. Current technical resources, checklists, roof-deck inspection template, sealed-roof-deck details, and higher-level compliance forms. https://fortifiedhome.org/2025-technical-documents/

[10] Federal Emergency Management Agency. FEMA P-804, Wind Retrofit Guide for Residential Buildings. 2025 edition. Provides risk identification, existing-house evaluation, roof, openings, wall, attached-structure, and continuous-load-path retrofit guidance. https://www.fema.gov/sites/default/files/documents/fema_rsl_fema-p-804-wind-retrofit-guide_042025.pdf

[11] Alabama Department of Insurance / University of Alabama Center for Risk and Insurance Research. Performance of IBHS FORTIFIED Home Construction in Hurricane Sally. May 5, 2025. Statistical insurance-loss analysis comparing conventional and FORTIFIED properties after Hurricane Sally. https://aldoi.gov/PDF/News/PerformanceIBHSFortifiedHomeConstructionHurricaneSally.pdf

[12] Louisiana Department of Insurance. Flood Insurance. Explains that flood damage is not covered by homeowners policies and requires separate flood coverage. https://ldi.la.gov/consumers/insurance-type/flood

[13] Building Science Corporation. RR-0306: Unvented Roofs, Hot-Humid Climates and Asphalt Roofing Shingles. Research report on hot-humid roof moisture behavior, asphalt shingles, underlayments, and inward vapor drive. https://buildingscience.com/documents/research-reports/rr-0306-unvented-roofs-hot-humid-climates-and-asphalt-roofing-shingles

[14] Louisiana Department of Insurance. Louisiana Fortify Homes Program - Homeowners. Current program description, eligibility, grant amount, evaluation process, and permit responsibilities. https://www.ldi.la.gov/fortifyhomes

[15] Building Science Corporation / Building America. BA-1409: Field Testing Unvented Roofs with Asphalt Shingles in Cold and Hot-Humid Climates. Field research on roof-deck relative humidity and moisture performance in unvented roof configurations. https://buildingscience.com/documents/building-america-reports/ba-1409-field-testing-unvented-roofs-asphalt-shingles-cold-and

[16] ASHRAE. ASHRAE Handbook, Chapter 27 - Heat, Air, and Moisture Control in Building Assemblies. Discusses the interaction of air leakage, moisture transport, airtightness, ventilation, dew point, and enclosure drying. https://handbook.ashrae.org/Handbooks/F25/IP/f25_Ch27/f25_Ch27_ip.aspx

[17] National Roofing Contractors Association. Mark S. Graham, 'Nail pull-out testing in plywood and OSB,' Professional Roofing, November 2003. Limited laboratory testing under ASTM D1761 showed withdrawal resistance varied materially by panel type/thickness and nail type; NRCA cautioned that the reported values were specific to the tested materials and were not design values. https://nrca.net/roofingguidelines/pdf?id=152244&k=1781998

[18] ANSI/SPRI FX-1-2001, Standard Field Test Procedure for Determining the Withdrawal Resistance of Roofing Fasteners. Standardized field procedure for measuring project-specific fastener withdrawal resistance in the load-resisting deck material; indexed by NRCA. https://www.nrca.net/roofingguidelines/Library/Detail?id=FHJIBVOrl9E%3D

[19] Western States Roofing Contractors Association, 'Laboratory Assessment of OSB & Plywood Performance Under Moisture Cycling Conditions,' 2025; indexed by NRCA. Industry laboratory research addressing wood-panel performance, repeated reroofing, moisture cycling, and fastener withdrawal behavior. https://www.nrca.net/roofingguidelines/Library/Detail?id=SqfXOAS42UM%3D

Publication note. This paper is a technical and public-policy analysis. It does not replace project-specific engineering, code interpretation by the authority having jurisdiction, insurance coverage analysis, or floodplain-management requirements.