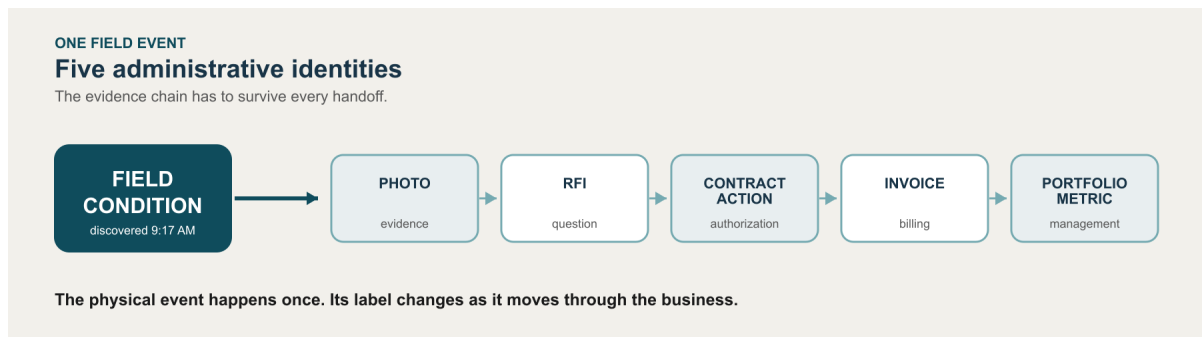


What Counts as a Change Order?

What 130,782 federal contract actions reveal about construction's change-order visibility gap

A public-data analysis of how construction changes are captured, classified, and distorted on their way from the jobsite to the executive report.



Northline Field Research / July 2026

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EXECUTIVE BRIEF

The number depends on the label

I set out to answer a familiar question: how much do change orders cost? Public contract data seemed to offer a straightforward answer. It records thousands of contract actions, each with a date, a reason, and a dollar amount. Then I read the records themselves.

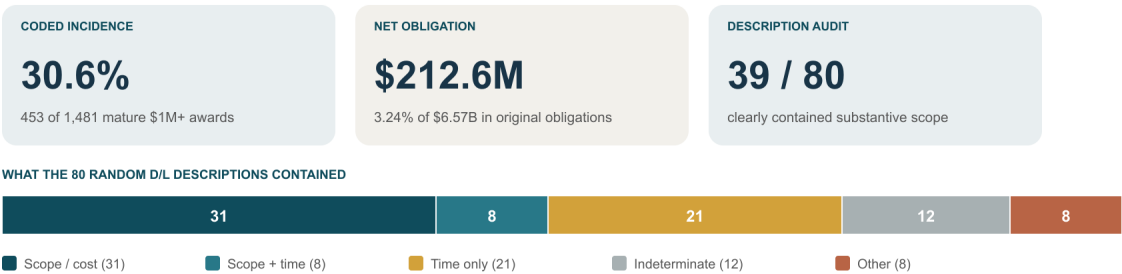
I reviewed 1,481 completed, firm-fixed-price GSA construction contracts that began with at least \$1 million in federal commitments. Almost one in three contained an action officially labeled as a change order. Together, those actions added \$212.6 million, or 3.24% of the amount originally committed.^{1,2,3}

The “change order” label covered several kinds of activity. In a random sample of 80 descriptions, only 39 clearly changed the required work. Twenty-one changed the schedule only. Others concerned administrative or accounting work, contract options, or unclear descriptions. One record was apparently unrelated to construction.³

That means 3.24% is an accurate total for records carrying the “change order” label, but not a reliable estimate of what change orders cost. This flags a gap between what happens in the field and what reaches the management report and suggests that dashboard data can look more certain than the records behind it justify.

1,481 completed \$1M+ contracts	30.6% with an official change-order label	48.8% of audited descriptions clearly changed the work
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FIGURE 1
The coded result and the audit result answer different questions



Source: frozen analysis and 80-record random audit

TAKEAWAY Read 3.24% as the total for records carrying the official “change order” label, not as the true cost of change orders.

One event, several identities

At 9:17 on a Tuesday morning, a foreman opens a wall and finds conduit where the drawings show open space. He photographs it, calls the project manager, and moves the crew to another area. By lunch, the condition has become a text thread. The project manager turns it into a formal question about the drawings, known as an RFI. The contracting office later records a modification. Finance sees a cost adjustment. An executive sees one line in a quarterly report.

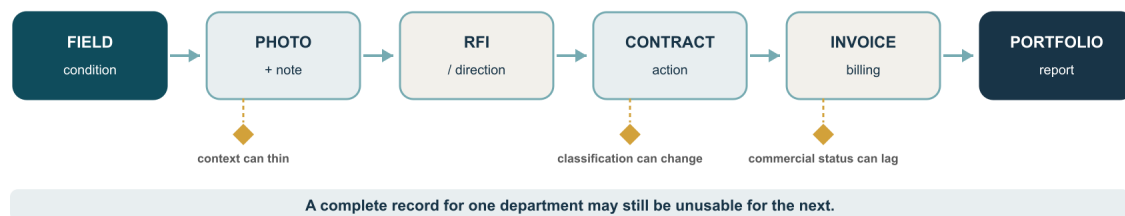
The physical condition happened once in this imagined scenario, but its label changed at every handoff. A photograph can establish what was present, but it cannot say who directed the response. An RFI can clarify what the design means without authorizing extra work. A contract modification can change time, money, clauses, options, or the required work. The final management record inherits whichever label reached the system.

The problem is visible at the system level too. Reviewing federal construction contracting in 2019, the U.S. Government Accountability Office found that GSA's systems could not give headquarters the data needed to analyze contract-change timeframes, and reported that miscommunication during changes could lead to unauthorized work and longer reviews.⁴ GSA has since implemented the recommendation. The underlying lesson stands: collecting records and producing usable management data are different jobs.

Construction software providers see the same issue from the other side. In a published Procore conversation, SmartBarrel CEO Albert Bou Fadel described customers using “an RFI as a change order.” His conclusion was blunt: he could not tell what the data meant.⁵

FIGURE 2

One event changes identity as it moves through the business



TAKEAWAY A record can be complete enough for one department and still be unusable for the next.

METHOD

How I checked the numbers

I used eleven fiscal years of General Services Administration contract transactions, from FY2015 through FY2025. In USAspending's Contracts_Full files, each row represents one transaction within a larger contract award.¹ I limited the records to construction NAICS prefixes 236, 237, and 238.

The files contained 130,782 transactions tied to 40,212 identifiable base contracts. I identified the original contract through modification number 0, then joined later actions to it using the contract award's unique key.³

To focus on larger contracts with enough time to mature, I applied four more filters. Each contract had to be firm-fixed-price, begin with at least \$1 million in federal commitments, start no later than FY2022, and show a latest recorded end date no later than September 30, 2025. That left 1,481 contracts with \$6.57 billion originally committed.³ I used the latest recorded end date because a later modification can extend a contract beyond the date shown on its original record.

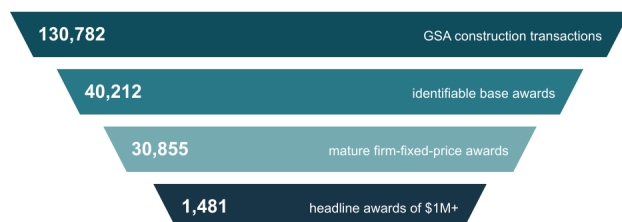
I tested three definitions. The narrow definition uses code D, Change Order, and code L, Definitize Change Order. The moderate definition also includes code B, Supplemental Agreement for work within scope. The broad definition adds code A, Additional Work.² These are three ways of viewing the same records, not low, middle, and high estimates of one true number.

Dollar values come from the federal_action_obligation field. I kept both increases and reductions. I also counted D and L as contract actions, not necessarily as separate events, because an initial direction and a later action that sets its price may describe two stages of the same change.

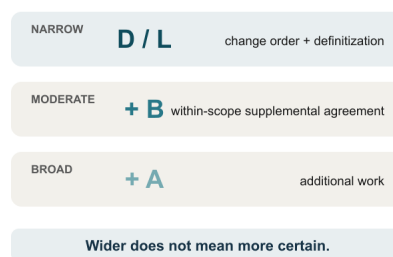
FIGURE 3

The cohort narrows; the code definition widens

COHORT FUNNEL



THREE CODING LENSES



SCOPE NOTE GSA awards only. This is a transparent federal case study, not a sample of the entire construction industry.

FINDING 1

The official total combines different kinds of activity

Of the 1,481 contracts, 453 had at least one action carrying a D or L change-order code. On 392 contracts, those actions changed the committed dollar amount. Increases added 3.82% to the original commitments. Later reductions removed 0.59%, leaving the 3.24% net result after rounding.³

The math is reproducible. The label is less dependable. In the random review of 80 descriptions, 31 clearly changed physical or professional work and eight more changed both work and schedule, for 39 total. Twenty-one changed the schedule only. The rest involved paperwork, accounting, options, apparently unrelated activity, or descriptions too vague to classify.³

A separate review of 20 high-dollar records showed how much that uncertainty can matter. Three administrative or correcting records contributed \$36.9 million net. One \$10.6 million action primarily exercised construction options despite carrying a D code. Three more records, representing \$7.5 million net, did not say enough to classify.³

The code tells us how a transaction entered the federal system. It does not prove that every dollar came from added construction work. A precise total can still combine very different business events.

FIGURE 4

The random audit found a mixed population behind the D/L label

80 RANDOM D/L-CODED DESCRIPTIONS



HIGH-DOLLAR CHECK

20 actions selected by absolute obligation; category figures are net:

\$36.9M administrative / correcting

\$10.6M option exercise carrying D code

\$7.5M indeterminate from public text

The code is precise about entry. It is not proof of the underlying business event.

TAKEAWAY The database can total records with a change-order label. It cannot confirm that every record describes a true change to the work.

FINDING 2

Bigger contracts were far more likely to carry a change-order label

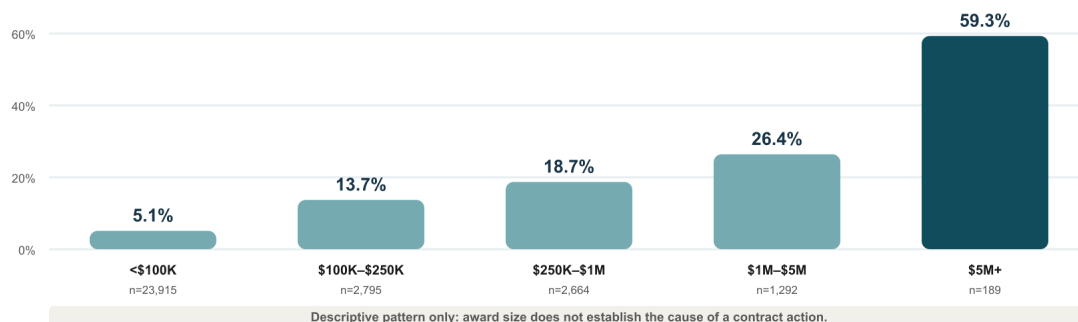
Across the full group of completed, firm-fixed-price contracts, official change-order labels appeared more often as contract size increased: 5.1% below \$100,000; 13.7% from \$100,000 to \$250,000; 18.7% from \$250,000 to \$1 million; 26.4% from \$1 million to \$5 million; and 59.3% at \$5 million or more.³

This does not prove that bigger contracts cause more changes. Larger contracts usually involve more time, more work, more people, and more opportunities for a contract action. The data does not separate those factors, show contractor margin or project cost, or identify who initiated a change.

It does show where record quality stops being a clerical concern. A small contractor may reconcile a disputed extra through memory and a text message. A multi-crew contractor cannot rely on that method across dozens of jobs. A regional platform cannot compare branches if one team calls an item an RFI, another calls it a change order, and a third records it only when an invoice goes out.

What leaders need also changes with scale. They need the original evidence, a clear status such as approved, priced, rejected, or pending, and a reason code that means the same thing on every project. Otherwise, a company-wide report can show activity without showing what money or schedule time is at risk.

FIGURE 5
D/L-coded action incidence rises across award-size bands



TAKEAWAY As contracts grow, inconsistent labels become more costly and harder to manage.

FINDING 3

The definition gap swallows the benchmark

Using only the explicit D and L change-order codes produces a net adjustment equal to 3.24% of the amount originally committed. Adding B-coded agreements raises the apparent result to 17.07%. Adding A-coded additional work moves it only slightly, to 17.36%.^{2,3}

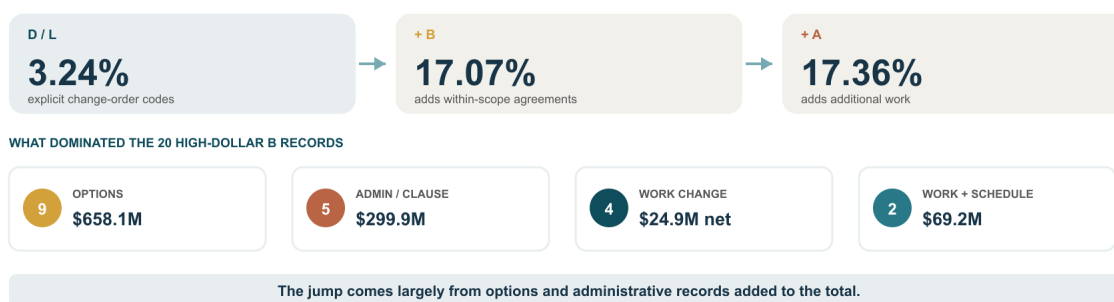
At first, that jump can look like a plausible range. Reading the B records shows otherwise. In the random sample of 80 descriptions, 36 clearly changed the required work. Twenty involved paperwork or contract clauses, nine changed the schedule only, four concerned accounting or closeout, one exercised an option, and 10 were too vague to classify.³

The high-dollar review made the problem clearer. Nine of the 20 largest remaining actions established or exercised options, accounting for \$658.1 million. Five paperwork or clause actions accounted for another \$299.9 million. Only six records clearly changed work or combined a work change with schedule time.³

That mix rules out 17.07% as an upper estimate of change-order cost. The figure still tells us something useful: changing the definition can move the answer dramatically when the added category contains unlike events. Before deciding which code counts, the record has to preserve what happened, why, who authorized it, and how it affected time and money.

FIGURE 6

Changing the definition changes the answer



TAKEAWAY The jump comes from changing the definition, not from uncovering more true change orders.

Build one change record that survives every handoff

A useful change record has to serve the crew, the project manager, the contract administrator, the finance team, and the executive report. That does not require a long form. It requires a small set of fields that stay linked from discovery through closeout.

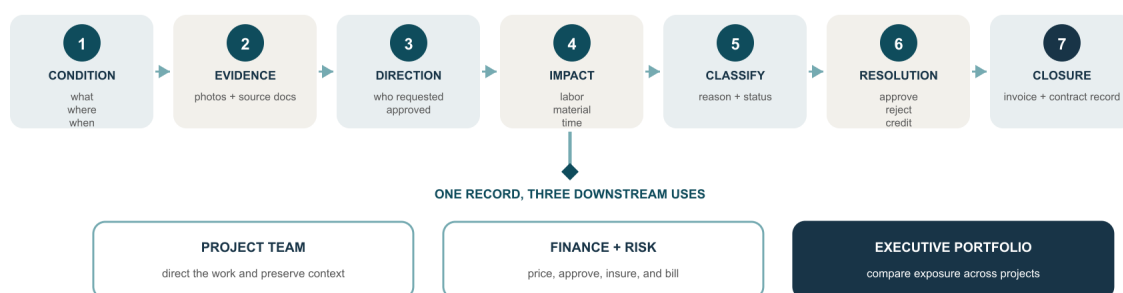
1. **Condition.** Record what changed, where it occurred, and when it was discovered.
2. **Evidence.** Capture wide and detailed photographs, the relevant drawing or specification, and enough context for someone who was not there.
3. **Direction.** Identify who requested or authorized the response, through which channel, and at what time.
4. **Impact.** Connect labor, materials, equipment, schedule, and dependent work to the condition.
5. **Classification.** Use a consistent reason and status. Keep schedule-only actions, options, paperwork, and changes to the required work separate.
6. **Resolution.** Record whether the item was approved, rejected, credited, given a no-cost extension, still awaiting a price, or resolved another way.
7. **Closure.** Link the field record to the invoice, contract action, and portfolio report.

Construction-claims expert Richard J. Long calls the daily construction report “the key means of preserving evidence and contemporaneous observations.” His recommended record includes labor, equipment, work performed, delays, verbal directives, extra work, and unusual conditions.⁶ The facts that support a claim make the record useful long before a dispute exists.

The same gap affects billing, growth, and risk. CompanyCam traces undocumented extras to information that remains stuck in a conversation and never reaches the invoice.⁷ Aon notes that clear documentation is likely to help contractors seek more favorable construction insurance terms.⁸ Where private equity has consolidated developers and builders under shared ownership, a construction attorney writing in *Construction Dive* identifies change-order practices as one route by which value can be moved from a project to an affiliated contractor at investors’ expense.⁹ None of these outcomes is automatic. Each depends on records that can be understood outside the team that created them.

FIGURE 7

The Change Evidence Standard: seven fields, one linked record



Proposed standard synthesized from the analysis and published guidance

METHOD, LIMITS, AND NOTES

What this analysis can and cannot show

Federal scope. The panel covers GSA awards. Federal contracting rules and reporting practices differ from private construction.

Obligations, not cost. Federal obligations are amounts the government commits. They do not reveal contractor margin, job cost, payment timing, or final project cost.

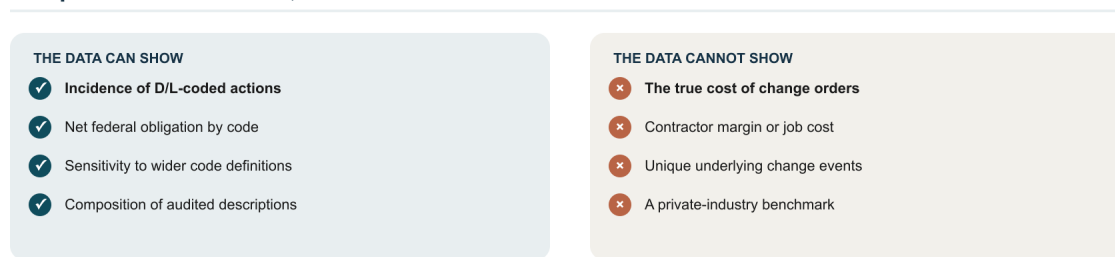
Descriptions are summaries. A transaction description may omit information held in an attachment, proposal, or contracting file. “Indeterminate” means the public text was insufficient.

Manual review. I classified the available descriptions using a documented guide. The 80-record random samples have approximate 95% margins of error of ± 11 percentage points. The high-dollar records are diagnostic and reported separately.

Actions are not events. An initial direction to change the work and a later action that sets the final price may be two transactions tied to one underlying change.

FIGURE 8

The public data is useful, but its boundaries matter



Scope: GSA construction awards and public transaction descriptions.

BACKNOTES

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NEXT STEP

Make the next change visible

The next change on a project will begin as a condition, a question, a request, or a direction. Useful records carry that change all the way to its final cost and status.

Start with one active project. Select a recent change and trace it from the first field evidence through authorization, cost and schedule review, billing, and closeout. Wherever the trail breaks, that is the next part of the process to fix.

Download the one-page Change Evidence Standard

Use it to audit one active project from field capture through billing and closeout.

northlinefield.example/change-standard



About Northline Field Research

Northline Field Research helps growing contractors turn field activity into clear, defensible operational intelligence. We combine public-data research, practical workflow design, and plain-language analysis.

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