

FIELD QUALITY CARDS

Safety → quality → quantity. These five cards are the quality gates — each one stops a specific way we lose money.

DOCUMENT NO.	REVISION	EFFECTIVE DATE	OWNER	RUNS IT
NU-OPS-007	1.2	July 8, 2026	Adam Pelewski, Owner	Crew Leads + Supervisors

Print and laminate cards 1–5; each also lives as a checklist in the app. Every card has a **gate** (what cannot happen until the card is done) and a **proof** (what lands in the WO folder).

CARD 1 — BORE SHOT PLANNING (BEFORE THE RIG MOBILIZES)

GATE: no shot starts without this card filled and photographed into the WO folder. A planned shot takes an hour; an unplanned one takes a day and a dig-up.

1. Pull the print: entry, exit, length, depth spec, product (size and count).
2. Walk it with the Locator against the crossing sheet: every crossing, its measured depth, the clearance needed.
3. Soil expectation from the potholes and nearby bores: sand / clay / rock → pick tooling and mud plan to match.
4. Setup plan: rig position and anchor spot, mud staging, water source, spoils handling, exit pit location.
5. Check bend radius against the product — setback and depth transitions the pipe can actually make. [product bend specs per manufacturer]
6. Rod math: bore length ÷ rod length + 10% spare — confirmed ON the truck before mobilizing.
7. Go/no-go: locates valid · crossing sheet signed by the operator · water sourced · traffic control planned · exit pit assigned.

Proof: photo of the filled shot card in the WO folder before the first rod pushes.

CARD 2 — MUD PROGRAM

GATE: no mud test, no bore. Wrong mud is how returns die, bores stick, and frac-outs end up in someone's yard.

1. Clean water source confirmed (no pond water full of solids).
2. Match the soil: sand wants thicker mud (more bentonite); clay wants thinner with additive so cuttings don't ball; cobble/rock gets the dealer-recommended blend.
3. Test with the Marsh funnel against the chart laminated on the mud system — sand ≈50–70 sec, clay ≈35–45 sec. [confirm chart against your mud supplier's spec]
4. Mix in order: water → soda ash if the water needs it → bentonite → additives. Let it yield before you pump it.
5. During the bore: watch returns at the entry pit every rod; returns slowing = adjust or stop (frac-out play, NU-OPS-002).
6. Disposal: spoils and wash water go to a legal point, never a storm drain or creek. [name Nova's disposal points]

Proof: mud mix and funnel time written on the bore log header.

CARD 3 — TRAFFIC CONTROL BY ROAD TYPE

GATE: traffic control is up and photographed BEFORE work starts (NU-OPS-002). No lane encroachment without signs and flaggers per this card.

WHERE YOU'RE WORKING	MINIMUM SETUP [CONFIRM AGAINST MUTCD + COUNTY/CLIENT REQUIREMENTS]
Residential street (≤30 mph)	"Utility Work Ahead" sign each approach, cone taper into the work area, cones boxing the crew and equipment, driveway access maintained or the homeowner told.

2-lane road 35–45 mph, shoulder only	Advance warning signs at proper spacing for the speed, cone line the full work length, no gear or spoils in the travel lane.
2-lane road, lane closed	Advance signs + taper + FLAGGERS both directions with radios/paddles. No flaggers on site = we do not take the lane.
Sidewalk closed	“Sidewalk Closed” + pedestrian detour signage — a stroller in the street because we blocked the walk is a claim.
Night or low visibility	Everything above plus lights; class-3 visibility gear.

Proof: traffic-control setup photo per site per day (part of the before/during photo set). Signs and cones counted out and back in.

CARD 4 — PRE-INSPECTION QC WALK (BEFORE WE EVER CALL THE CLIENT INSPECTOR)

GATE: we never request an inspection we haven’t already passed ourselves. Every failed inspection is a redo-crew day, a margin hit logged to the WO, and a reputation dent with the prime.

1. Depth verified at required points — photos with the tape and stationing.
2. Duct proved: mandrel/pull-tape done; couplers solid; no flat spots or kinks at bends.
3. Tracer wire continuous end-to-end and terminated per spec; warning tape where the spec calls for it.
4. Handholes/vaults: on grade, level, drain rock in, lids seated, labeled per the scheme.
5. FDH: mounted, grounded and bonded, labeled, test results recorded per the client’s acceptance.
6. Restoration finished per permit; site clean; cones pulled.
7. Redlines current; the WO folder tells the whole story (before/during/after, bore logs, crossing sheets).
8. Crew Lead walks the job AS IF he were the inspector, checklist in hand, and signs it.

Proof: signed QC checklist + photo set in the WO folder BEFORE the inspection request goes out. Failed items get fixed first — that’s the point.

CARD 5 — CHANGED CONDITIONS (ROCK, OBSTRUCTIONS, SURPRISES) — THE CARD THAT EARNS MONEY

GATE: nobody grinds tooling through rock or works around a surprise for free. Changed-condition claims die when they aren’t noticed IN WRITING, promptly.

1. Stop at the change. Note the rod count / station where conditions changed (NU-OPS-002 already requires the stop).
2. Document: photos of returns/cuttings/obstruction, the station, the time lost.
3. Supervisor notifies the prime IN WRITING the SAME DAY: what changed, where, production impact, and that Nova reserves a changed-condition/rock adder claim. Friendly tone, firm paper.
4. Decision with the Supervisor: re-route, tooling change, or stand down pending the client’s answer — and what the crew produces meanwhile.
5. Log the impact in the DFR and flag it to the change-order log (NU-OPS-004) so it gets BILLED, not just remembered.

Proof: the written notice (text/email) sent same day, saved to the WO folder; the CO log entry. Rock without paper is charity.

CARD 6 — POTHOLING A UTILITY WITH A SHOVEL (THE HAND-EXPOSURE CRAFT)

GATE: inside the tolerance zone it’s hand tools or vac only — never a machine. This card is HOW the hand work gets done without becoming the strike it exists to prevent.

1. Confirm the spot: point at it and say it back — “potholing here for the gas crossing.” Ten seconds prevents the wrong hole.
2. Cut the sod in a square and set it aside INTACT on plywood or a tarp. Restoration starts before you dig — that plug goes back like a puzzle piece.
3. Dig BESIDE the mark line and approach the utility from the side — never straight down on top of the paint. Square hole, vertical walls, spoils on one side on the tarp.

4. Shave, don't stab. Near expected depth: shovel blade at a shallow angle, small bites. No pick, no digging bar past half depth — a bar through gas plastic is a strike with your name on it.
5. First sight of the line, warning tape, or tracer wire: hands and trowel from there. Expose the top and both sides so you know its true width — clearance is measured to the edge, not the middle.
6. Measure grade to TOP of the utility; photograph the tape IN the hole. That photo goes on the crossing sheet — it is the whole point of the pothole.
7. Hole staying open? Never leave the line hanging unsupported, and never leave the hole unprotected — plate it or cone it. Open overnight needs the Crew Lead's sign-off and hard protection.
8. Backfill only on the Crew Lead's word: hand-place the first soil around the line — no rocks against the pipe — then lifts and tamping per Card 7, sod plug back on top.

Proof: depth photo with tape + crossing sheet entry BEFORE any backfill. A pothole with no photo never happened.

CARD 7 — COMPACTION WITH THE JUMPING JACK (BACK TO ORIGINAL CONDITION)

GATE: no single-dump backfill, ever. Settlement is our #1 callback — a dished trench in a homeowner's yard 3 weeks later costs a crew day and the client's trust.

1. Machine check first: fuel, air filter (rammers eat filters), foot plate condition. PPE adds: ear protection and safety-toe boots — that foot breaks toes.
2. Backfill in LIFTS: 4–6 inches of soil at a time, not one dump. Pull the big rocks and debris — rocks make voids, and voids become the dish.
3. Moisture check by hand: soil should ball in your fist and break clean. Dusty-dry = add water. Muddy = let it dry or mix in drier spoil. Ramming mud just pumps it — it will never hold.
4. Over a utility: the first 6–12 inches of cover over the line gets HAND-tamped. The jumping jack never runs directly on a shallow line.
5. Run the rammer in overlapping passes, 2–4 per lift, until the foot stops sinking and the machine's bounce rings tight instead of dull. That change in feel IS the test.
6. Repeat lift by lift to grade. Finish FLUSH — no mound "for settling" (that's admitting it will settle), no dish.
7. Surface back per the restoration standard: sod plug seated and stepped in, pavement areas per the permit spec. After-photo.

Proof: after-photos showing flush grade; restoration noted on the DFR. The test: nobody can tell where the hole was — today or in a month.

CARD 8 — VAULT & HANDHOLE INSTALLATION (SO THEY NEVER SINK)

GATE: no vault sets on loose spoils. A vault on dirt is a vault that sinks, tilts, trips a pedestrian, and gets redone for free.

1. Excavate 6 inches deeper than the vault and 6 inches wider all around. [confirm over-dig per client spec]
2. Compact the native bottom FIRST — jumping jack or plate on the undisturbed subgrade before any stone goes in.
3. Base: 6 inches of crushed stone (#57 / crusher run per spec [confirm]), leveled, then compacted. The stone is the foundation — this step is the whole card.
4. Set the vault: level both directions, lid at FINISHED grade — flush with the sidewalk or sod under a straightedge. Not proud (trip hazard), not sunk (puddle).
5. Conduits in at the knockouts, sealed per spec, slack coiled per print; drain rock inside if the spec calls for it.
6. Backfill the ring in lifts per Card 7 — first lift hand-tamped against the walls, then rammer passes around ALL FOUR sides evenly. One-sided ramming shoves the box out of level.
7. Re-check level and flush AFTER compaction — fix it now, not after the callback.
8. Lid on, labeled per the scheme, and rated for the location — anything a vehicle can touch gets a traffic-rated lid. [confirm ratings per client]
9. Photos: compacted base stone before the set, the level check, the flush lid under the straightedge.

Proof: base + level + flush-lid photos in the WO folder; Card 4's QC walk checks all three before any inspection is called.

CARD 9 — PINTLE HITCH TRAILER CONNECTION (EQUIPMENT & HYDROVAC TRAILERS)

GATE: a pintle without its locking pin WILL bounce open on the road. No pin, no tow — and we never tow two trailers at once (doubles need a CDL-A with endorsement; that is not our operation).

1. Match the ratings before anything: pintle hook rating, lunette eye rating, and truck rating all above the loaded trailer weight. The weakest number is your limit.
2. Inspect: hook latch opens and snaps shut with spring tension; the locking pin/clip is PRESENT; lunette eye not worn egg-shaped (out-of-round = red-tag the trailer); hitch channel bolts tight.
3. Set hitch height so the trailer tows LEVEL — move the channel pin position, not your guess. Nose-high pintle rigs porpoise; nose-low overloads the hook.
4. Open the pintle latch. Back the truck to align — spotter on driver's side with hand signals, **hands never inside the hook's path**.
5. Lower the lunette eye onto the open hook with the jack (or back the hook under a raised eye, then lower). The eye sits IN the hook's saddle, not perched on the horn.
6. Close the latch and insert the locking pin/clip. Look at it. Touch it. This pin is the whole card.
7. Tug test in low gear against the chocks — a seated pintle clunks and holds; an unseated one climbs out right now, in the yard, instead of on I-85.
8. Safety chains crossed under the tongue to the truck frame — slack enough to turn, short enough not to drag. Breakaway cable to the FRAME, never a chain.
9. Plug the lights; test all of them plus trailer brakes if equipped. Jack fully raised and swung/stowed; chocks pulled.
10. Pintle-specific: expect more clunk and slack than a ball coupler — that's normal. What's NOT normal is new noise mid-drive. Re-check the pin and chains at your first-miles strap check, and grease the hook per the trailer PM card (NU-OPS-006).

Proof: part of the pre-trip — DVIR notes the trailer; the tug test and lit walk-around happen before the gate. Trainer signs this skill off in the tracker like every other.