

the FOUNDATION FOR
INFRASTRUCTURE RESILIENCE

The Assessment Method

An Introduction

Foundation for Infrastructure Resilience

November 2026

Foundation for Infrastructure Resilience, Inc. ("FIR"™), a non-profit 501(c) (3) Delaware Corporation.

Our Vision

A secure and prosperous future where resilient and sustainable critical infrastructure empowers communities and safeguards our nation.

Our Mission

Improve the quality of life and help ensure the continuity of the United States by facilitating sustainable communities and resilient critical infrastructures, fortified against threats and meeting the needs of the 21st century.

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FIR Book 2: The Assessment Method — An Introduction

Reading a community, scoring it, and turning the result into a fundable plan.

Foundation for Infrastructure Resilience — Book 2 of the FIR introductory set. Draft of November 3, 2026.

About this book set, and who it is for

The FIR introductory set is written for people who are new to all of this. It assumes no background in emergency management, infrastructure, the military, or finance — only an interest in why a long loss of the electric grid would be so dangerous, and what can be done about it. Each term is introduced in plain words the first time it matters, and the companion *FIR Field Handbook* holds the full glossary for anything you want to look up again.

These five short books are introductions, not the full course. Each one gives a clear overview of its part of the FIR method — enough to understand it, plan with it, and know where the detail lives — but it is not a substitute for the FIR courses, which remain the version of record for instruction. A later, more detailed textbook set will carry the complete student-guide content; these introductions are the on-ramp to it. The four Foundation courses (BSE 099–102) and the free member orientation (FIR 001) cost nothing to start — browse every course and enroll at the FIR course catalog.

The set is built to be read in order:

- **Book 1, Foundations** — the problem: what a Black Sky Event is, how a community is built, who and what threatens it, and what a household can do. Everyone starts here.
- **Book 2, The Assessment Method** — how a trained assessor measures a community's readiness and turns it into a plan that can be funded.
- **Book 3, The Resilient Community** — what a community that has done the work looks like in a prolonged event: how it governs, feeds, protects, and sustains itself.
- **Book 4, The Certification Path** — how that readiness is independently verified and credentialed: the evidence standard, the Diamond Blue certification, and the people qualified to sign it.
- **Book 5, The Domains** — how each kind of infrastructure is actually hardened, sector by sector.

This is Book 2, and it is a step up from Book 1. It is written for the reader who is ready to learn the method itself — an assessor, an emergency manager, or a utility or facility manager. The pace is quicker and the terms are more technical, but every one of them is either explained in Book 1 or defined in the Field Handbook. Read Book 1 first.

About this book

Book 1 laid the foundation: what a Black Sky Event is, how a community is built as a dependency stack, who and what threatens it, and what a household can do. Book 2 is the

professional's book. It is how a FIR assessor reads a community against that picture, scores it honestly, and produces a plan a community can afford and fund.

It is written as a standalone professional book that also serves enrolled students, at professional-handbook level, for every level of government and for the assessors, emergency managers, and utility and facility managers who do the work. It assumes the Book 1 foundation but not a particular course.

The companion reference — the glossary of record, the assessor field cards, and the sources — is in the *FIR Field Handbook*. Where a definition is in question, the Handbook governs. Where instruction is in question, the online courses (BSE 201 through 207) are the version of record, and this book is the reference beside them.

A concept that runs through the whole book: an assessment is not an opinion about whether a community will survive. It is a defensible claim about what has been proven, stated at a declared scope, and carried only as far as the evidence reaches.

How this book is organized

The seven chapters follow the order an engagement actually runs. Chapter 1 sets out the method and the model an assessor scores against. Chapter 2 is how to read the threat the community is scored against. Chapter 3 is how to research the community without crossing an ethical or legal line. Chapter 4 is the scoring instrument itself. Chapter 5 is the deliverable — the roadmap and the claim. Chapter 6 is building the city–base pair for mutual aid and defense. Chapter 7 is paying for the plan.

Chapter 1 — The assessor's method and the maturity model

An assessment is a defensible claim. Everything in this book serves that one idea. A claim that cannot be defended — that cannot name its scope, cite its evidence, and stop where the evidence stops — is not an assessment, however much work went into it.

Read structure first

Before anything is scored, place the entity and its dependencies in the infrastructure dependency stack from Book 1: the two human tiers beneath Energy, then the Lifelines, the Shared Services, and the Operational tier. Set the read-order by the timeline of collapse — what fails first is read first. Score governance and workforce directly; never assume them. The structure tells the assessor where a loss truly costs the most, and that is where the assessment looks hardest.

The model, in one pass

FIR scores readiness against three vectors — cyber, physical, and EMP/GMD — and each is scored on its own. Within a vector, readiness is measured across ten management dimensions, scored 0 to 5. The vector's certification level is the lowest of its ten dimension scores, never the average. This is the Per-Vector Readiness Rule, and it is deliberate: a single weak dimension is a real hole, and averaging would hide it. No score ever transfers between vectors, and there is no blended, cross-vector number. Letting strength in one vector cover weakness in another — cross-vector masking — is exactly what the method forbids.

A level measures readiness. Hardening is measured separately, on the H-ladder from H0 to H4, against six Compliance Domains and fifty-six standards. The two scales answer different questions: the level asks how ready, the H-ladder asks how protected. A vector becomes eligible for Diamond only when it reaches its survivable threshold of hardening — H4 for EMP/GMD, H3 for cyber, H3 for physical — and only then does its days-of-supply figure, Diamond-N, attach.

Diamond-N and Diamond Blue

Diamond-N is days of supply across every class of consumable, where N is whatever runs out first, checked against a credible bridge to local production: 14 days is marginal, 30 adequate, 60 resilient. Diamond Blue is the apex — all three vectors at Diamond within a declared scope, plus a demonstrated ability to operate as a functioning limited society after a Black Sky Event. Within Diamond, three tiers are earned per vector: Transition, then Core, then Optimized.

The claim form and declared scope

Every claim is stated in the same order: scope, then vector, then level or tier. A declared scope is one of three things — a community (a township, city, or county), a facility (an Emergency Operations Center or an anchor building), or a single Capability Domain. The seven Capability Domains are Energy; Water and Wastewater; Food and Agriculture; Communications; Security; Governance and Justice; and Societal Transition Operations. A claim never rolls up to a larger

scope on its own, and a scope must answer for its dependencies — each one either sits inside the scope or is hardened and named.

The Prudence Notice

Here is the discipline that keeps the whole method honest. Every readiness claim below community-wide Diamond Blue carries a Prudence Notice. The Notice names the claim's scope and vectors and states plainly that the claim is credited progress, not Black Sky Event readiness for the community. It attaches even to a facility or a domain certified at Diamond Blue, because that scope is smaller than the whole community. Only one claim is free of it: community-wide Diamond Blue, all three vectors across the entire community. "Cyber Diamond Optimized" for a city means the city is hardened against cyber only — it is not full Black Sky readiness, and the Notice says so.

Two doors, seven steps

An engagement enters through one of two doors. Fresh Start is free and bounded, produces no scored finding, and works from a chosen community type (archetype). The scored path runs through the legal protections gate first — a Pre-Engagement Acknowledgment, then the Certification Engagement Agreement — before any score is given. From there the work is seven steps: inventory; localize the target; gap assessment; roadmap and budget; the Affordability Decision, which belongs to the governing authority and looks to external funding first; refinement; and delivery validated by exercise, which returns the community to step one at a higher level. Every finding along the way carries its source, its date, its verification status, and its location.

Chapter 2 — Reading the threat

An assessor scores a community against a threat category. Chapter 3 of Book 1 described that threat; this chapter is how to carry it into an assessment without overreaching. The governing rule is posture, not prediction. FIR cannot predict how a community or facility will fare, but it can grade its readiness posture against certain standards.

Hold the frame

Keep the three vectors distinct, because each behaves differently. Cyber is remote reach and patience — the patient intruder, who may be present long before acting. Physical is locality and access — the arriving attacker, who needs to be there. EMP/GMD is simultaneity and reach — the single event that touches everything at once, with no unaffected neighbor to send help. An assessment reads the three separately and defends against them jointly.

Read the chain backward

The useful way to read a threat is from its effect back to its origin. Start with the effect: what would have stopped this earlier? Then persistence: is monitoring able to see an adversary's presence before it acts? Then access: where do hardening and detection actually meet the outside boundary? Then reconnaissance: what does the community expose that can be exploited? Reading backward turns a frightening scenario into a list of places to intervene.

Strategic value: nodes, keystones, and anchor sites

Not every asset in a community carries the same consequence, and an assessment has to say which ones carry the most. FIR reads this in three linked terms, introduced in Book 1 and used here as a working tool. A strategic node is an asset whose loss would matter beyond the community itself — a military installation, a port, a refinery, a financial or data hub. Its keystone infrastructure is what it cannot operate without: a specific power feed, water source, fuel line, or communications path. The anchor site is where that dependency physically concentrates — the substation, pump station, or terminal that one attack could take and that a defender can harden.

The assessor traces that chain for the community being scored: name the strategic nodes in or near it, follow each to the keystone infrastructure it depends on, and locate the anchor sites where consequence concentrates. This is what turns a general threat into a short list — the places where a loss would cost the most and where hardening buys the most. It is the same chain that defines a city–base or city–node pair in Chapter 6. An adversary would read the community this way; the assessment reads it first.

What an assessor may and may not say

An assessor may speak of documented classes and patterns, of assessed exposure, and of the posture that would break an attack chain earlier. An assessor may not offer a forecast, a date, an attribution beyond what public sources already carry, or a likelihood the evidence cannot support. The threat is briefed as documented physics, solar history, and replacement timelines

— attached to decisions, without theater. A briefing built on posture holds up under questioning; a prediction does not.

Chapter 3 — Researching the community

Before a community can be scored it must be understood, and understanding it means research. The rule that governs all of it is simple and strict: findings, not facts, and nothing that would put a hand directly on the community itself.

The hard line, stated first

This is an audit of available records. Anything that would approach, contact, enter, watch, or target is struck. Research is desk work on what a community already makes public about itself and its published interdependencies. The moment a method would require presence at a site, contact with a person, or surveillance of anyone, it has left research and the assessor stops.

Bound the question before collecting

Good research starts by deciding what not to collect. Bound the question — what is needed, why, and what "good enough" looks like. Say out loud what will not be collected. Then justify every item by the assessment's need; anything the assessment does not need is not gathered. This is minimum-necessary collection, and it protects both the community and the assessor.

Provenance and confidence on every finding

Every finding carries two things, without exception. Provenance: the nature of the source, who originated it, its date, and how it was accessed. And confidence: high, moderate, or low, with the reason stated — source nature, independent corroboration, recency, or directness. A finding without provenance and a confidence label is not yet a finding; it is a rumor with good posture.

The three families, and verification

Research runs in three families, each with its own hard boundary. Hardened facilities: their role, published governance, and documented interdependencies — never casing a site. The food system's three legs: primary-source dependence, capacity, and named gaps — never presenting a bridged gap as a finding. And the FIR Area workforce: the aggregate, documented footprint — never an individual, never surveillance, never a pretext. Verify before trusting: seek independent corroboration, actively search for what would disconfirm a finding, state the assumptions being made, and prune anything the question does not need.

The product, and release

The research product is a set of findings, each with a provenance table and confidence language, each gap named with what would close it. It feeds the assessment; it never scores it. It is exactly as large as the assessment requires and no larger. At any point a method approaches a legal line, the assessor stops, names the question, and routes it to counsel. Findings are released only through the engagement's channels, to authorized parties, at the warranted level — and to a casual request, the assessor should only describe the method and route the questioner to the client-site point of contact.

Chapter 4 — Scoring: the instrument and the ten dimensions

A score is a representation of what has been proven. This chapter is the instrument that produces it.

Scope before anything is scored

Nothing is scored until the scope is fixed. Name the entity and draw its boundary — a metro area, a municipal continuity-of-operations scope, an industrial park, a plant, a refinery, a port, or a campus. Record its population, its functions, and its internal and outside dependencies. Write the scope, the boundary, and the purpose at the head of the scorecard, so that every reader knows exactly what the score covers and what it does not.

The ten dimensions

Readiness is scored across ten management dimensions, each scored per vector against the declared scope: Policy; Governance; Recovery Operations Centers; Situational Awareness; Capability Awareness; Capability Planning (which is the engine of the whole model); Operations; Sustainment; Training and Exercises; and Threat and Hazard Identification, which is logically the first thing an assessment establishes. The dimensions are management axes — they measure whether a community has thought through, planned, resourced, and exercised a capability, not whether it owns a particular piece of equipment.

The 0 to 5 rubric

Each dimension is scored on a six-point rubric, and a level is claimed only when its evidence exists. 0 is none. 1 is awareness. 2 is a Functional Area Analysis — capabilities mapped to the declared scope. 3 is a Functional Needs Analysis — the gaps risk-ranked. 4 is a Functional Solutions Analysis — a costed, phased roadmap, and note that open gaps at level 4 are not a disqualifier; a known, costed gap is progress. 5 is validated: tested and exercised, with a live reassessment schedule. The rubric rewards proof, and each step up is a step up in the strength of the evidence.

Per vector, weakest link, no composite

Score all ten dimensions separately for cyber, for physical, and for EMP/GMD. Set each vector's level at its lowest dimension, not its average. No level transfers between vectors, and no blended number is produced. Then apply prudence: credit partial-vector maturity as the real progress it is, describe nothing below community-wide Diamond Blue as Black Sky Event readiness, attach the Prudence Notice in full to every claim below it, and route every external use of the score to counsel before the claim goes out. (Full Black Sky Event readiness, which is the Diamond Blue category, requires all three vectors: Cyber, Physical, and EMP/GMD.)

Chapter 5 — Producing the assessment: the roadmap and the claim

The roadmap is the deliverable. A score tells a community where it stands; the roadmap tells it what to do next, in what order, at what cost. This chapter is how the roadmap is built and how the claim is stated.

Inherit the scope; trace every line

The roadmap is anchored to the declared scope and nothing is widened or absorbed into it. Whatever sits outside the scope is named as a dependency, not quietly adopted. Every initiative in the roadmap traces to a specific dimension, vector, current level, and target level, so that a reader can follow any line from the recommendation back to the finding that justifies it.

Requirements, then gaps, then solutions

The method moves in three analyses, in order. The Functional Area Analysis sets the requirements baseline — what the scope must be able to do — with no solutions yet. The Functional Needs Analysis lays each requirement against what is on hand, finds the delta, and risk-ranks it. The Functional Solutions Analysis opens all eight DOTMLPF-P levers — doctrine, organization, training, materiel, leadership, personnel, facilities, and policy — before reaching for equipment, and classes each solution as accept, non-materiel, or materiel. Each solution is handed to the dimension that owns it, and nothing is re-scored in the process.

Test the plan, then phase it

A materiel plan is tested before it is trusted: for responsiveness and attainability (are supplies and distribution on hand or assured), for sustainability (do stocks and resupply cover an extended event), for survivability (are the logistics nodes hardened across all three vectors), and for economy, simplicity, and flexibility (are the highest-risk gaps closed simply, with room to adapt). Then every initiative is placed against the seven phase gates and sequenced — Bronze, Silver, Gold, Diamond Basic, then the Diamond tiers Transition, Core, and Optimized, per vector. Each tier gets a budgeted plan to reach the next. The 60-day buffer is treated as a benchmark, and the food stockpile duration compared to next harvest season is stated. One rule stands above the sequence: never start work with Optimized hardening on a foundation that has not been planned.

Route the heavy questions before writing them

Some parts of a continuity plan carry real legal and civil weight — gate management, population movement, detention, community rules of engagement and above all the use of force, refugee reception, correctional contingency, and the warden structure. These are planned as provisions and routed to the entity's counsel before they are written as recommendations. Applying law to facts is a lawyer's work, not an assessor's.

Conformance, not outcomes

The claim that comes out of all this is carefully bounded. FIR certifies that an entity has met a standard's gate; it never certifies that a community will survive. Each of the seven phase gates — Bronze, Silver, Gold, Diamond Basic, Diamond Transition, Diamond Core, Diamond Optimized — is evidence-certified, and each marks the beginning of a level or tier. Proof is ranked by an evidence hierarchy, strongest first: exercised, demonstration, inspection, documentation, narrative. And evidence itself is labeled verified, attested, or asserted — directly examined, formally stated true, or merely said. This is the Trust but Verify doctrine: no claim is credited on trust, and each is verified to the strength the hierarchy requires, with an unbroken chain of custody from collection to signature.

Chapter 6 — Building the pair: mutual aid and defense

Many communities sit beside a military installation, and the two depend on the same civilian infrastructure. A city–base pair is how that shared dependence becomes a written, exercised relationship. The rule for the whole chapter is agreements, not assurances.

Map, then walk the ladder

Map before asking for anything: the active installations within mutual-aid range and what each holds, the Guard armories and readiness centers, the emergency-operations hierarchy from federal to special-purpose, and what the community itself brings to the table. Then walk the legal ladder and route the specifics to counsel: Defense Support of Civil Authorities, under which the military supports and civil authorities lead; the Guard statuses — State Active Duty, Title 32, and federal service — that decide who commands and who pays; the wider civil frame of the Stafford Act, state emergency powers, and interstate mutual aid through EMAC; and the mutual-aid agreement itself.

Open the relationship, run the instruments

The relationship is opened early and by the right person — the mayor or city manager — across all eight planning domains, each walked for what each side can offer and needs, with counsel reviewing as it goes. A memorandum of understanding is briefed at exactly its size: never described as presence, capability, rescue, or a defense commitment it does not contain, and once signed it is exercised, not filed. Four instruments carry the analytical work: a Military Dependency Inventory, a DSCA Demand Estimate, a Deployment Impact Assessment, and a Gap-to-Readiness Crosswalk.

Fund the gap, and hold the lines

Funding the pair runs its own lanes: complete the Office of Local Defense Community Cooperation (OLDCC) consultation, confirm Installation Readiness and Defense Critical Infrastructure Program eligibility, and work the community-resilience funding lane beside it, carrying the crosswalk and a bipartisan narrative. There is no award warranty — the honest statement is eligible and applying, and the plan is built on what is actually committed. Before any documents are shipped, check them thoroughly on every statement, sorting it into one of four kinds: a fact held, an estimate with its basis, a signed text quoted at its exact size, or a question with an owner. Never give an assurance beyond a signed text, never make a legal determination, and never speak on behalf of the military. This is coordination, not command.

Chapter 7 — Making it bankable: paying for investable roadmap components

A roadmap that cannot be paid for is a wish. Components of a roadmap may be deliverable via public-private partnership, or completely via private investment and development. This chapter is how an assessment's plan is structured so that it can actually be financed in part or in whole by private parties. The rule is models, not promises.

Hold the order of the layers

Funding is built in four layers, in a fixed order. Layer 1 of an investable plan is the revenue anchor — recurring money that stands on its own terms, and the only layer that answers for itself. Layer 2 is private capital, which prices the risk and is the first real audit of whether the plan is sound. Layer 3 is municipal participation — the community's own contribution, in whatever mode it chooses. Layer 4 is grants, treated as an opportunistic supplement only, never as the foundation. A plan that leads with grant money can be the most difficult to accomplish.

Draw the split honestly

The canonical structure keeps ownership clear. For Diamond hardened industrial development options, the anchor tenant is a private waste to synthetic fuel plant or a waste to power plant that recovers investment cost through a long-term power-purchase agreement. The community's side can be confined to commitments only, a bounded site-and-civic scope — or, by the community's own election, the plant itself. Two honesties hold the whole thing together: projected revenue is not promised money, and the operator's plant is not the town's purchase. Each layer is read on its own terms — the private layer for its revenue thesis, allocated risk, and visible assumptions; the municipal layer for the level of involvement it set before anyone priced a share; the grant layer as eligible and applying, never "awarded" before it is.

Test for bankable, then build the crosswalk

A plan is bankable when three things are true: there is an identified, modeled revenue stream; the architecture is ordered with the split visible; and every material risk has an owner built to carry it. Bankable does not mean guaranteed, and the word is never stretched to mean it. The crosswalk maps the roadmap to the funding and edits the roadmap not at all; it is submitted before the roadmap is finalized, and each phase shows its layers, assumptions, and conditions. It is released only through the development project engagement's channels.

What an assessor may never represent

The same honesty that governs a score governs the money. An assessor may present structures, models with their assumptions visible, scenarios, and comparisons. An assessor may never represent a projection as committed money, a modeled return as an expected one, or an application as an award. Every question that calls for financial, legal, or investment advice is routed whole to the licensed professionals the parties have retained. The Affordability Decision

itself belongs to the governing authority, not the assessor — the assessor's job is to make that decision an informed one.

Appendices

The reference material for this book — the glossary of record, the assessor field cards for BSE 201 through 207, and the sources — is gathered in the companion *FIR Field Handbook* rather than repeated here, so that one document stays the single source of record. Where this book and the Handbook differ on a definition, the Handbook governs; where either differs from the online courses on instruction, the course governs, and the difference should be reported for correction.

Take the next step

This book is a free introduction. To learn the method in full — and to earn FIR's credentials — take the courses, which are the version of record for instruction. The assessor's path in this book is taught as a course sequence — the BSE 200-series, BSE 201 through 207 — leading to the CIRP and CBRA credentials. Whatever your path, the four Foundation courses (BSE 099, 101, 102, and 100) and the free member orientation (FIR 001) are the place to start, and they cost nothing. Browse every course and enroll at the FIR course catalog, and learn more about FIR at fir.foundation.