

Civilinfra.ai

AI-powered civil infrastructure plan review
for California municipalities

Patent Pending — 7 Inventions

NSF SBIR Submitted

515 PE-Curated Rules

CA Civil PE #C64769
Stanford MS CEE
23+ years CA public works
\$100M+ federal grants secured

Pre-seed Research Phase
Delaware C-Corp upon trigger

Founder

Koosun Kim, PE — Stanford MS CEE

Contact

info@civilinfra.ai

Website

civilinfra.ai

California's 483 cities are drowning in plan review backlogs

4–12 week backlogs

Multi-month delays block housing delivery and infrastructure approvals. Every week costs developers tens of thousands in carrying costs.

\$150–\$300/hr outsourced cost

Small cities outsource plan review at premium consulting rates — with zero institutional knowledge retained after each engagement.

Silver Tsunami

Median age of California public works PEs exceeds 50. Decades of institutional engineering knowledge retiring with no capture mechanism.

As-built acceptance gap

Cities permanently accept non-conforming infrastructure — creating multi-million dollar long-term liability with no automated check.

"I did not discover this problem because of AI — I discovered AI because of this problem." — Koosun Kim, PE, 23-year Public Works Director

THE SOLUTION

A PE reasoning engine — not a chatbot

Civilinfra.ai reads civil engineering plans exactly as a licensed PE reads them — sheet by sheet, discipline by discipline, rule by rule — generating structured compliance comments with dual citations traceable to both city standard numbers and master rule IDs.

[PERMIT]

Permit Review

Automated plan check before construction. Comments cite city standard + master rule.

[AS-BUILT]

As-Built Acceptance

Verify completed infrastructure before city accepts permanent ownership. Unique to Civilinfra.ai.

[PRE-CHECK]

Pre-Check Mode

Engineering firms pre-check plans before submission — eliminating costly revision cycles.

Two revenue sessions per project

515 PE-curated rules

17 civil engineering disciplines

60–90 sec per plan sheet

CIVILINFRA.AI — CONFIDENTIAL — Patent Pending #64/069,095 Slide 3 of 10

U.S. Provisional App. #64/069,095 — Filed May 19, 2026

1	Universal Rule Mapping & Citation Engine	Maps any city's local standard numbers to 515 master rule IDs. Dual-citation output per comment.
2	Sheet-Title Routing Engine	Loads only discipline-specific rules per sheet — 90%+ token reduction, 60–90 sec review.
3	Three-Layer Standards Hierarchy Engine	Special Provisions → City Standards → CA Title 22/DPH baseline. Automated conflict resolution.
4	Master Template + City Delta Architecture	515-rule baseline; each new city maps only 10–15% delta. Onboarding: \$5–10K vs. \$50–100K.
5	Universal Gap Detection & Advisory Engine	Flags missing city standards; applies master values as advisory across all 17 disciplines.
6	Confidence-Gated Extraction Engine	Mathematical confidence scoring on every OCR parameter. Flags uncertain extractions for PE review.
7	3D Model Generation & As-Built Verification	2D plan parameters → 3D digital twins. Cross-utility spatial conflict detection and deviation flagging.

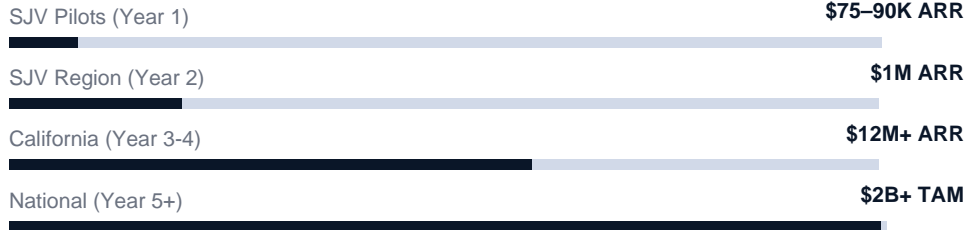
MARKET OPPORTUNITY

\$2B+ national TAM — two revenue sessions per project



Go-to-market sequence

3 SJV pilot cities → 40 SJV agencies (\$1M ARR) → 483 CA municipalities (\$12M+) → national



Two-sided market

Agency adoption drives firm demand. Same 515-rule dataset serves both sides.

- Public agencies — \$15–30K/yr per city
- Engineering firms — \$5–50K/yr per firm
- Special districts — \$15–25K/yr

Source: 2022 US Census of Governments

We occupy the regulatory compliance layer no one else has built

Capability	Civilinfra.ai	Bluebeam Max	Generic AI
Jurisdiction-specific rule mapping	✓	✗	✗
Dual-citation output (city std + master rule)	✓	✗	✗
Three-layer hierarchy resolution	✓	✗	✗
As-built acceptance verification	✓	✗	✗
3D cross-utility spatial conflict detection	✓	✗	✗
PE-validated confidence gating	✓	✗	✗
May 2026 priority patent date	✓	✗	✗

Bluebeam Max (using Anthropic Claude) launched in early 2026 — validating the market. But Bluebeam targets private contractors. We own the public agency regulatory compliance layer they cannot reach.

Built in research phase — zero dilution to date

IP Portfolio

Patent — 7 inventions — App. #64/069,095 — May 19, 2026

Copyright — 17 datasets — Cases 1-15166194041 & 1-15166194107

Trade secrets — 515 rule values & city mapping tables — never published

PCT pending — International filing — 150+ countries — May 2027

Milestones Achieved

✓ 515 PE-curated rules across 17 disciplines — complete

✓ Live functional demo — civilinfra.ai

✓ SAM.gov registered — UEI PWETR87JB9E1

✓ NSF SBIR Project Pitch submitted — #00113625

✓ FBN registered — Santa Clara County #726815

✓ Mercury Bank account — active

→ **StartX & Alchemist applications submitted**

→ **Delaware C-Corp formation — upon trigger event**

ADA Title II WCAG 2.1 compliance deadline — April 26, 2027 (agencies 50K+ pop). Civilinfra.ai's structured output is inherently compliant. Bluebeam Revu is not. This creates a forced migration event directly into our beachhead market.

BUSINESS MODEL

Annual SaaS — two sessions per project, two customer segments

AGENCY MODE

Small city (<50K) — **\$15,000/yr**
Mid-size city (50K–200K) — **\$25,000/yr**
Large city (>200K) — **\$30K + \$500–1K/set**
County public works — **\$20–30K/yr**
Special district — **\$15–25K/yr**

ENGINEERING FIRM MODE

Small firm (<10 eng) — **\$5,000/yr**
Mid firm (10–50 eng) — **\$10,000/yr**
Large firm (>50 eng) — **\$15–50K/yr**

1 revision cycle saved = more than annual subscription cost. One agency drives 5–10 firm subscriptions in that orbit.

80%+

Plan check overhead reduction

2x

Revenue per project (permit + as-built)

85-90%

Rule inheritance — new city onboarding

Domain authority that cannot be hired, replicated, or accelerated



Koosun Kim, PE

Founder & Chief Engineer | Civil PE California #C64769 | Stanford MS CEE

- ✓ 23+ years California municipal public works leadership
- ✓ Director of Public Works — City of Mountain House, CA (2025–present)
- ✓ City Engineer — City of Tracy, CA (2022–2025) — secured \$41.35M US DOT federal grant
- ✓ Led California's first Diverging Diamond Interchange — ASCE + APWA Outstanding Project 2021
- ✓ \$100M+ in total federal grants secured across career
- ✓ AI optimization research 1997–1999 — Hanyang University — predates ChatGPT by 25 years

The 27-Year Arc: In 1999, the problem was visible. At Stanford in 2001, the technology was not ready — so the founder went inside the industry rather than pursue a PhD. 23 years building the domain expertise the technology would eventually need. In 2024, the LLM inflection point arrived. This is not a pivot to AI. It is the completion of the arc.

"I did not discover this problem because of AI — I discovered AI because of this problem. In 1999 the problem was visible. In 2001 the technology was not ready — so I went inside the industry to build what no algorithm could: 23 years of PE-validated domain expertise. In 2024 the technology finally caught up. This is the completion of a 27-year arc."

Seeking: Technical co-founder — Full-stack + computer vision + 3D rendering. Joining post-NSF award.

THE ASK

Seed round — \$2M at \$12–14M post-money cap

Use of Funds

Technical co-founder + eng team	50%
Platform development & cloud infra	25%
PE validation & pilot city onboarding	15%
Legal, IP prosecution, operations	10%

Milestones This Funding Achieves

- ✓ 3 pilot city contracts signed (SJV beachhead)
- ✓ Full-stack platform production-ready
- ✓ 50+ PE-validated projects — moat established
- ✓ NSF SBIR Phase I award (\$275K non-dilutive)
- ✓ \$1M ARR — SJV regional footprint
- ✓ Series A ready — 483 CA city expansion

Non-Dilutive Pipeline

NSF SBIR Phase I (\$275K) + DOT SBIR (\$200K) + EPA SBIR (\$200K) + EDA Tech Hub (\$500K) = up to **\$1.175M** non-dilutive alongside seed round