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Project Lifecycle Matrix

Illustrative US lifecycle and approvals map across five phases and six sectors. Code adoption, permitting, inspections, procurement, and closeout vary by jurisdiction, funding source, delivery model, and asset class. IBC used as reference framework; not a single national code.

Baseline delivery model: Design-Bid-Build (DBB). In Design-Build (DB) and CMAR models phases overlap significantly — see the [Delivery Models page](#). | **Phased permitting:** Grading, foundation, and shell permits often issue ahead of full plan check approval on large commercial, institutional, and infrastructure projects. | **Regulatory references** use IBC as a reference framework — not a single national code. NEPA applies where a federal nexus exists (federal funding, permits, or land). All requirements vary by jurisdiction.

SECTORS **Residential** **Commercial** **Institutional** **Industrial** **Heavy Civil** **Mixed-Use / Mission Critical** | TAGS **PHASED PERMITTING** **LONG-LEAD PROCUREMENT**

PRE-CX SERVICES ADVISABLE

Residential	Commercial	Institutional	Industrial	Heavy Civil / Infrastructure	Mixed-Use & Mission Critical
Single-family Multi-family	Office Retail	School Hospital	Factory Warehouse	Bridge Highway	Mixed-Use Data Center

PHASE 1 Planning & Feasibility	Zoning & Land Use <i>(Entitlements / Variances)</i>	Zoning & entitlements Zoning checks, land acquisition review, neighborhood compatibility, HOA & deed restriction review, Fair Housing Act applicability (4+ unit multifamily), preliminary budget	Entitlements & feasibility Zoning approvals, facade design guidelines, MEP system feasibility, state/local environmental review, preliminary program & budget PRE-CX ADVISABLE	Public approvals & funding Bond authorization or public funding approval, community needs study, state/local environmental review (NEPA where federal funding or permits are involved), state educational/health agency pre-consultation PRE-CX ADVISABLE	Site & use entitlements Industrial zoning confirmation, state/local environmental impact review, utility infrastructure capacity study, preliminary process design	Feasibility & funding Traffic & load studies, federal/state funding authorization, right-of-way acquisition planning, NEPA environmental clearance (required where federal funding or federal permits are in scope — FHWA, FTA, Army Corps, etc.)	Dual-use or mission-critical entitlements Mixed-use: residential + commercial zoning overlay approvals. Data centers: utility power capacity confirmation (10–100+ MW), state/local environmental review, preliminary program. Note: mixed-use and mission critical are distinct categories sharing this column. PRE-CX ADVISABLE
PHASE 2 Design & Engineering	Plan Check Submission <i>(AHJ — Authority Having Jurisdiction)</i>	Plan check submission Architectural & structural drawings, state energy code compliance, soils report, civil grading plans. Multifamily (4+ units): Fair Housing Act design-and-construction requirements. ADA applies to public/commercial portions only.	Full construction documents Structural engineering, facade system design, fully coordinated MEP drawings, IBC compliance, ADA accessibility LONG-LEAD: SWITCHGEAR, ELEVATORS, CURTAIN WALL	Full construction documents Complex structural design, integrated MEP systems, ADA compliance, state educational/health authority plan review (varies by state) LONG-LEAD: MED EQUIPMENT, LAB SYSTEMS, HVAC	Plan check & process design Industrial structural drawings, equipment layout, process piping, electrical one-line diagrams, hazardous materials review (IFC)	Engineering plans & agency review Structural bridge/road design, grading & drainage plans, traffic engineering, utility conflict analysis, state DOT plan review	Integrated design — dual standards Residential & commercial code compliance in one structure, MEP design for high-density power (data centers: 10–100+ MW), structural for mixed occupancy loads



Abbreviations: AHJ = Authority Having Jurisdiction · IBC = International Building Code (reference framework; jurisdictions adopt and amend independently) · ADA = Americans with Disabilities Act

FHA = Fair Housing Act (design-and-construction requirements apply to multifamily housing with 4+ units) · NEPA = National Environmental Policy Act (applies where federal agency action, federal funding, or federal permits are involved — not a general private-development requirement)

PSSR = Pre-Startup Safety Review · FHWA = Federal Highway Administration (oversight applies on federal-aid projects) · ASHRAE = American Society of Heating, Refrigerating and Air-Conditioning Engineers

DB = Design-Build · CMAR = Construction Manager at Risk · DBB = Design-Bid-Build · * applicable under DB/CMAR delivery models

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→ Delivery Models companion