
California Underground Facilities Safe Excavation Board

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Agenda Item No. 14 (Information Item) – Staff Report

Planning and Design Process Chart

PRESENTER

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SUMMARY

Late in 2023, Board staff began assembling draft planning and design standards using feedback from previous Board surveys and workshops on the topic. Since minimal feedback has been received to date, and because the planning and design standards will cover a complex process with many stakeholders, Board staff created a draft chart to visually depict the responsibilities, relationships, and actions in the process. The Potholing and Planning and Design Committee plan to hold a workshop to gather feedback about this chart. Staff recommends the Board offer suggestions for additional or revised responsibilities, relationships, and actions that should be captured by the planning and design process chart or that should be covered at the upcoming workshop.

STRATEGIC PLAN

2020 Strategic Plan Objective: Improve Excavation and Location Practice Safety
2024 Plan Activity: Develop a Planning and Design Ticket

BACKGROUND

California Government Code Section 4216.18 requires the Board to develop standards for excavating around utilities and establish procedures to promote best practices. However, California lacks a standardized process to support the planning and design work necessary for large or complex construction projects. Unlike excavation activities, which require notification and response, contractors are not required to request utility information during the planning phase, and utility operators are not obligated to respond to non-excavation requests in a timely or consistent manner.

The Board's 2022 Annual Report to the Governor and Legislature highlighted this issue as a critical safety gap. The report detailed a San Francisco gas line strike, where a restaurant and residence were destroyed, and damages were estimated to exceed \$10 million. The general

contractor’s construction plans failed to account for buried utilities, relying instead on surface indicators like street signs and manholes. Incorporating underground facility data into the project design might have redirected construction away from the gas line or alerted the excavation crew to conflict.

Effective planning and design not only enhances excavation safety but also improves efficiency for utility locators. When excavators have access to comprehensive information, they can better delineate work areas, allowing utility locators to focus on marking only lines directly affected by excavation.

Board Efforts

Designer and Operator Survey

In early 2023, Board staff conducted a survey of designers and operators to gain insight into the planning and design process in California. Designers emphasized the importance of early access to buried facility data for completing accurate design deliverables. However, operator participation in the survey was limited.

To address this, staff recommended outreach to key stakeholders (including Caltrans), local governments, and private utilities to better understand their processes and coordination needs.

Recent Board Efforts: Pennsylvania 811 Workshop

In 2023, the Board hosted a demonstration of Pennsylvania 811’s “Coordinate PA” application, which facilitates that state’s statutorily required design requests. Pennsylvania mandates participation from both designers and operators, with clear timelines and quality standards for records. The demonstration showed that such a system is feasible and highlighted how structured workflows improve efficiency and safety in excavation planning.

Inspired by this model, staff proposed exploring a California specific design request process that could incorporate elements such as:

- Standardized information requests
- Defined response timeframes
- Minimum quality standards for records
- Locate marks for surveying and design purposes

Reports and Recommendations

The Board’s 2022 Annual Report to the Governor and Legislature¹ recommended requiring all operators of subsurface installations in California to participate in a planning and design ticket system. Additionally, the Planning and Design Committee released a special report² emphasizing the value of a common electronic platform for coordinating design processes across the state.

¹ Underground Safety Board. (2023). [2022 Annual Report to the Governor and Legislature](#)

² Underground Safety Board Planning and Design Committee. (2023). [Special Report on Deploying Technology to Hasten the Pace of California Infrastructure Development](#)

DISCUSSION

Board staff are developing draft standards for planning and design, which will be presented to the public later in the year for feedback. These standards will focus on individual and organizational responsibilities while providing practical implementation examples.

Planning and Design Process Chart

To support stakeholder engagement, staff created a process chart depicting the responsibilities, relationships, and actions involved in the planning and design process. The chart provides a common reference point for discussions and will evolve based on stakeholder feedback. To facilitate discussion, a common understanding of terms is required.

Key Terminology

- **Planning and Design Process:** The overall process from project scoping to the approval of final as-builts.
- **Design Request³:** An informal request for utility records using operator contact information provided by the regional notification centers. Operators are not currently required to respond to these requests or meet specific quality or timing standards.
- **Planning and Design Ticket:** A proposed system that formalizes design requests, potentially managed by the regional notification centers, with standardized information, response timelines, and quality standards.

It is important to note that a *design request*, along with any *planning and design ticket* (which has yet to be defined in California law or elsewhere), is part of a larger and more complex process represented by the process chart.

Workshop Planning

Recognizing the need for greater stakeholder input, staff recommend holding a workshop to gather feedback on the responsibilities, relationships, and actions outlined in the process chart. The workshop will focus on:

- Early stage planning: Identifying the types of projects that could benefit from guidance.
- Design requests: Exploring who should submit them, when they should occur, and what they should include.
- Key issues: Addressing gaps or inefficiencies identified by the Board or stakeholders.

Workshop participants will be asked to help identify:

- Gaps: (missing elements in the process)
- Opportunities: (areas for improvement)
- Errors: (misrepresentations in the process chart)

³ In some states, this is also a term defined in statute. For example: [KRS 367.4909](#): “Design Information Request”; [MS Code § 77-13-5](#): “Design Information Request”; [Ind. Code § 8-1-26-16.5](#): “Design Information Notice”; [§ 220 ILCS 50/5.2](#): “Planning Design Request.”

RECOMMENDATION

To advance the Board's mission of enhancing excavation and location practice safety, staff recommends the Board direct staff to undertake the following strategic actions:

- Strengthen stakeholder engagement by expanding outreach efforts to designers, operators, and regional notification centers to aid in a comprehensive understanding of industry needs and challenges in the planning and design process.
- Improve policy transparency and accountability by establishing clear roles, responsibilities, and response timelines in the standards for all stakeholders involved in the planning and design ticket system.
- Open a comment period to gather stakeholder and industry feedback on the responsibilities, relationships, and actions in the planning and design process chart.

Staff also recommends the Board provide their direct input on any additional or revised responsibilities, relationships, and actions in the planning and design process chart.

Attachments:

- 1. Planning and Design Process Chart*

ATTACHMENT 1: PLANNING AND DESIGN PROCESS CHART

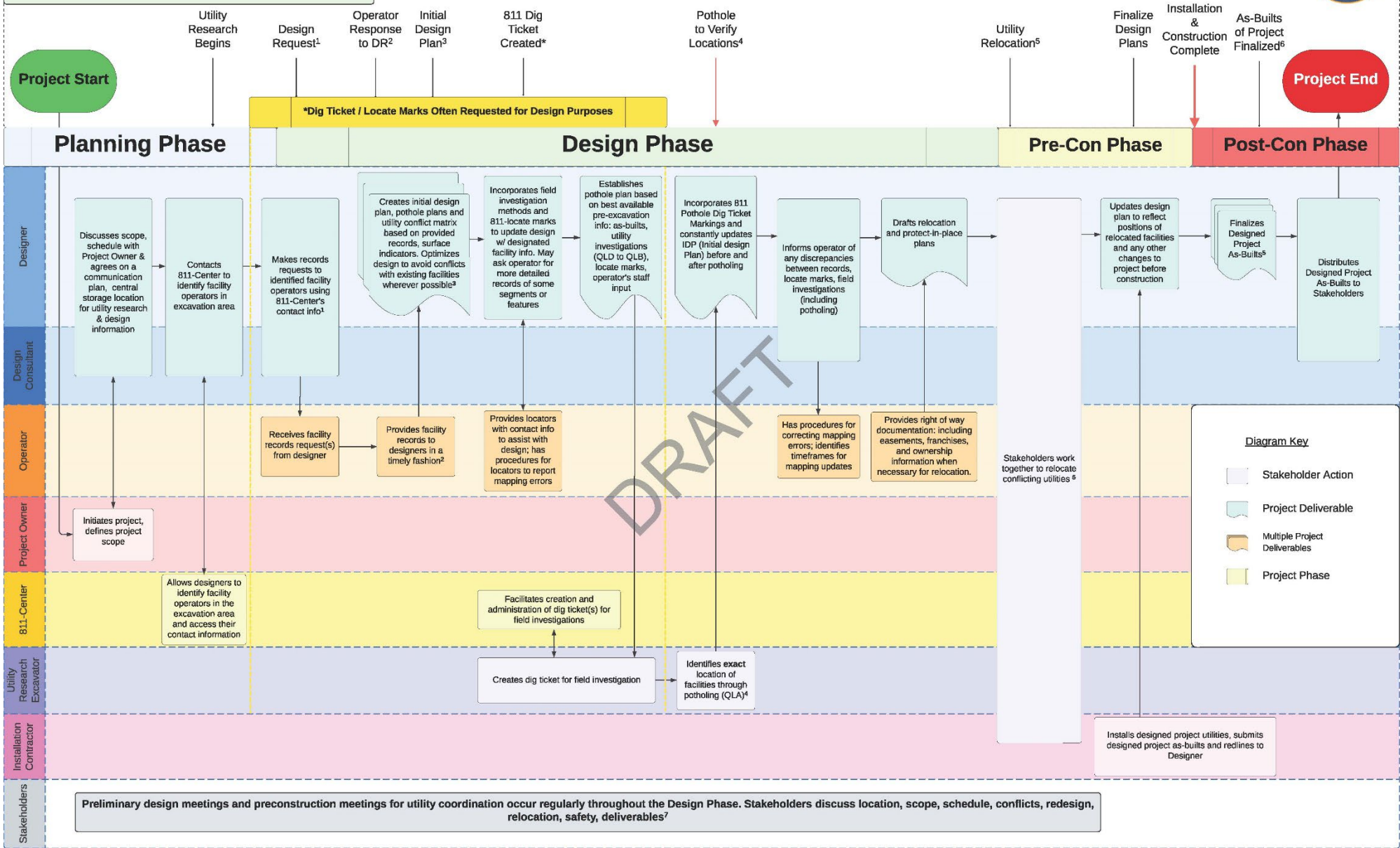
[Chart on following pages.]



Planning and Design Process in California

How to use this chart:

- Actions in the process are separated into lanes by "actor"
- Note: items with superscript^{1,2,3} have explanations on following page
- Left-to-right arrows indicate progression to next step
- Vertical lines/arrows indicate communication/exchange between parties



Responsibilities and Actions Not Shown in the Chart

Additional Responsibilities by Event

1. Design Request

- Designer provides description of project (scope, location, construction type, excavation footprint, estimated schedule) for which utility info is required
- Designer provides operator with their contact information
- Designer only requests what is needed for the project
- Designer also reaches out to local jurisdictions for rights-of-way or franchise info
- Designer provides traffic control plan and site access information to operator for locating

2. Operator's Response to a Design Request

- Operator provides appropriate maps / drawings of affected utilities in the area
- Operator provides facility information such as type, material, diameter, location, presence of critical / high risk facilities and abandoned lines
- Operator informs designer of appropriate clearances during design process

3. Initial Design Plan

- Designer creates an Initial Design Plan, or preliminary area map using acquired utility information set into a georeferenced / scaled background
- Designer identifies any existing facilities that are insufficiently depicted and/or likely to conflict with the design, requests as-builts for these
- Designer ensures design complies with local, state, federal regulations
- Designer notes clearance requirements for facilities relevant to construction
- Designer includes on design plans positions for facilities that will be relocated

4. Conflict Verification in the Field

- Excavator exposes certain facilities and/or features according to pothole plan
- Excavator reports back to designers and operators any unexpected facilities and/or features that impact design documents

5. Utility Relocation Before Construction

- Stakeholders work together to relocate conflicting facilities according to plans discussed during utility coordination meetings

6. Final Depiction of Installed Facilities

- Designers collaborate closely with installation contractors and other stakeholders to ensure the newly installed buried facilities are accurately represented on the drawings
- Designer completes and records the as-built drawings promptly after the completion of construction

7. Meetings for Utility Coordination

- Designer conducts these meetings as early as the planning or 0% conceptual design phase, and continually throughout the design process. These meetings should be held at several points along the way, including the 30%, 60%, and 90% design progress marks, or at similar points agreed upon by stakeholders.
- All affected operators should attend
- Designer / Design Consultant documents attendance and topics covered

Initial and Project-Wide Responsibilities

Designer / Design Consultant

- Designers rely on operator mapping information for utility research and for creating designs that reduce the likelihood of line strikes during construction
- Designers conduct preconstruction meetings for planning, utility coordination
- Designers keep all stakeholders informed of design conflicts, redesigns, or project date changes through regular communications
- Designers keep records of all communication with stakeholders, including meeting logs and positive response information
- Designers interface with operators through a lead utility-research-designer if the project work involves the inputs of multiple designers

Operator

- Operators have plans to service design requests; keep contact list(s) for appropriate staff up-to-date at the 811-Centers
- Operators attend preconstruction meetings for utility coordination; communicate with designers during the design process
- Operators use as-built information to update their records for use in responding to 811-notifications, operational and maintenance needs

Utility Research Excavator / Installation Contractor

- Excavators rely on design plans to appropriately cost projects and to implement measures that ensure the safety of workers in the field