

Project Delivery Directive PD-10
Activities Considered in Preliminary and Final Design**Attachment A**

Derived from FHWA *Policy on Permissible Project Related Activities During the NEPA Process*
(Order 6640.1A)

Preliminary Design

As specified in Code of Federal Regulations (CFR) Title 23 Section 636.103, Preliminary design defines the general project location and design concepts. It includes, but is not limited to, preliminary engineering and other activities and analyses, such as:

- environmental assessments,
- topographic surveys, metes and bounds surveys,
- geotechnical investigations,
- hydrologic analysis,
- hydraulic analysis,
- utility engineering,
- traffic studies,
- financial plans,
- revenue estimates,
- hazardous materials assessments,
- general estimates of the types and quantities of materials, and
- other work needed to analyze alternatives and establish parameters for the final design.

The activities specified above are not the only activities that are considered preliminary design. Other activities include design and engineering tasks undertaken for the purposes of:

- Defining project alternatives, completing the NEPA alternatives analysis and review process, complying with other related environmental laws and regulations;
- Environmental justice analyses; supporting agency coordination, public involvement, and permit applications
- Development of environmental mitigation plans
- Title and deed research
- Engineering such as development of:
 - Typical section, grading plans, geometric alignment (horizontal alignment, vertical alignment and any clearances necessary to meet approved design criteria), noise wall justifications,
 - Intersection and interchange design and configuration,
 - Nonstandard design decision justifications
 - Bridge type, size, and location studies, temporary structure requirements, staged bridge construction requirements, structural design (substructure and superstructure), retaining wall design, noise wall design
 - Guardrail length and layout
 - Existing property lines
 - Soil boring and geotechnical studies
 - Pavement design, pavement details and elevation tables
 - Materials studies
 - Railroad and utility impact studies
 - Right-of-Way impact studies

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- Cross sections with flow line elevations
- Ditch designs
- Storm water and sanitary sewer design and profile
- Culvert design
- Preliminary traffic control plans to be maintained during construction
- Traffic forecasts and modeling
- Multimodal features evaluation
- Value analysis
- Identification of removal items
- Quantity estimates

The activities specified above are deemed to not materially affect the objective consideration of alternatives or have adverse environmental impacts. However, on a case-by-case basis, if FHWA believes that special factors are present related to the NEPA analysis, it may be determined that one or more activities listed above do materially affect the objective consideration of alternatives in the NEPA review process or have adverse environmental impacts. In such cases, the activity shall not be advanced as preliminary design.

The list of activities above is not exclusive. Other activities necessary to the NEPA decision and that establish the parameters for final design may proceed as preliminary design so long as those activities do not materially affect the objective consideration of alternatives in the NEPA process or have an adverse environmental impact. The determination as to whether any activity materially affect the objective consideration of alternatives or has an adverse environmental impact is a discretionary FHWA determination that is to be made by the division administrator. As such, early consultation with FHWA is recommended.

Final Design

As defined in 23 CFR 636.103, final design defines any design activities following preliminary design and expressly includes the preparation of final construction plans and detailed specifications for the performance of construction work. Other activities constituting final design include final plans, project site plan, final quantities, and final engineer's estimate for construction.

Activities considered to be advanced as preliminary design for a project but rejected as materially affecting the objective consideration of alternatives or having an adverse environmental impact are considered final design.