

SECTION 2

CONTENTS OF A PREDESIGN STUDY

2.1 SECTIONS OF A PREDESIGN STUDY

THE PREDESIGN REPORT IS AN EIGHT-PART REPORT WITH AN APPENDIX

The predesign for a major project should build upon the information generated in the agency's or institution's capital planning process. Stand-alone predesign studies may include all sections, but the report should indicate the reason that a particular section has been omitted.

The sections of a major predesign study allow for flexibility in required content, based on the needs of the project. For example, an addition to a building may not need an analysis of several sites or a new geotechnical study. An infrastructure preservation project of little complexity may focus more on existing conditions and less on program analysis.

The following pages contain a generic model for a complete predesign study when requesting approval for major projects. When a section is not applicable, justification of the omission must be provided. A predesign checklist (located in Appendix A) is provided to help ensure that the submission contains all relevant information.

Any other information the agency or institution believes would be helpful should also be included as an appendix to the document. OFM may require additional information for unique projects.

2.2 EXECUTIVE SUMMARY

The executive summary section presents essential and high-level information about the project to agency or institution management and stakeholders. It clearly states the problem and solution, and summarizes material presented in subsequent sections. The executive summary should not require an extensive technical or contextual background to understand.

The summary should also be contained in the Project Proposal Form. See the Capital Projects Evaluation System Instructions or contact the capital budget assistant for higher education.

2.3 PROJECT ANALYSIS

The project analysis section describes the operational needs, alternatives, scope of the preferred alternative, prior planning, implementation approach and schedule. It also includes the project delivery method to be used. If an alternative methods contracting process — design-build or general contractor/construction manager (GC/CM) — is recommended, it should be documented and justified in this section, and corresponding costs should be included in the project budget analysis section.

OPERATIONAL NEEDS

This subsection contains a discussion of the statutory and other requirements that drive the operational program and service delivery issues. When developing the predesign, describe the agency's mission, goals and objectives and how the predesign supports them. Describe how the

operational needs tie to the strategic framework developed from the Priorities of Government budget approach.

Explain the connection among the agency's strategies, related activities, statewide results and the predesign. For more information on strategic planning, refer to Part I of the operating budget instructions (<http://www.ofm.wa.gov/budget/instructions/operating.asp>).

Other items to consider include:

- The statutory or judicial requirements that drive the project's operational programs, and how these affect the need for space, location or physical accommodations.
- A description and spreadsheet that detail population projections and growth or decline, including projection assumptions. Distinguish between mandatory and non-mandatory requirements for changes. For example, a mandatory caseload or enrollment change arises from an explicit statutory requirement for state-funded services. (A change in the demand or the need for a service is not mandatory unless the recipients of that service or benefactors of the activity are entitled by statute or rule.)
- A summary of the agency's or institution's approved operational program for the project. Detailed information belongs in the report appendix.
- Answers to the questions: Where did the approval for the program originate? What divisions or programs will be part of the project? How many FTEs are involved? Who will pay? (Also see the project budget analysis section.)

EXPLORE ALTERNATIVES

Explore and summarize alternatives that have been or will be considered to meet the project's operational program and service delivery requirements. Frame the discussion using the following categories, if applicable, over a 10-year time frame:

- Co-location and/or consolidation;
- Renovation;
- Rearrangement of uses or users (adjacency needs, back-filling scenarios);
- Leasing;
- Other operational options that may affect need, such as new federal loans, sentencing changes or Governor's initiatives affecting enrollment; and
- No action.

Be sure to address the "no action" alternative. Describe the consequences to public service delivery, stakeholders and client groups of not building, remodeling or renovating. Describe the connection of each alternative to the agency's or institution's mission, strategies, related activities and statewide results. Other categories may be added as needed.

The best predesigns are persuasive at the agency level and within the broader statewide context that the Governor and Legislature must consider in making decisions. A stronger case is made by predesigns that discuss the value and benefits of measurable outcomes they intend to deliver to the state.

SELECT AN ALTERNATIVE

Based on a thorough analysis of operational needs and proposed alternatives, select the preferred alternative. Describe reasons for the proposed solution to the service delivery issue. Include a description of the anticipated results from the proposed project.

SCOPE AND PROJECT DESCRIPTION OF PREFERRED ALTERNATIVE

Provide additional detail on the scope of the preferred alternative. What is it? Is it new space or remodeled space and systems? Is it a new building or renovation of an existing building with new space added on? Where is it? When is it proposed? Ensure that the scope of the preferred alternative is consistent with the capital budget instructions, such as equipment criteria, use of surge space, etc. The summary statement is a description that will stay with the project through completion and occupancy. This statement can also serve as an introductory paragraph to appropriation language and be used in capital budget request forms.

In the alternative discussion, address different levels of funding options. If the request is for a new building with a total cost of \$30 million, what would \$20 million provide? What would not be provided?

ISSUES IDENTIFICATION

Expand on the issues identified in the project request report submitted with the agency's 10-year plan, particularly those needing further study. The issues might include IT, energy conservation, telecommunications and transportation demand management, architectural and engineering programming, general design concepts, sustainable building practices and operational savings. Conduct a sustainable design charette to discuss and clarify sustainable design opportunities. Provide a summary of the charette in the appendix of the predesign document.

PRIOR PLANNING AND HISTORY

Include any relevant history of the project, including previous versions that did not go forward to predesign, design or construction. (Many projects have been the wrong project for a particular time.) If applicable, provide a summary of the history of repair costs and the current state of repair of the building(s) or facilities involved.

STAKEHOLDERS

Discuss all other agencies, organizations, and stakeholders affected by or involved in this project such as local and tribal governments, agencies with regulatory jurisdiction, users of the facility, etc.

PROJECT DESCRIPTION

Detail project information, including:

- Agency Name – name of agency requesting funding
- Agency Code – three-digit agency code number
- Project Number – six-digit project identifier assigned to the project in the Capital Budget System
- Project Title – title conveying location, project type and scope. See OFM's *Capital Budget Instructions* <http://www.ofm.wa.gov/budget/instructions/capinst/11-21capinstr/default.asp>.
- Agency Contact – name, address and phone number of person(s) responsible for preparation of the predesign study who can answer questions about its contents

- Mission – brief mission statement of the agency or institution as it relates to the requested facility
- Goals – goals that will be met by the project
- Administration – policy, program and service sectors
- Facility – technical and facility needs
- Existing Facilities – other existing facilities that will be affected by this project
- Previous Action Taken – project planning and request history
- Explain if the project is in the current 10-year plan or if it has been in prior versions.
- Legislative or Executive Intent – results of previous legislative, executive or agency action that affect the project

IMPLEMENTATION APPROACH

This subsection serves as the organizing framework for decision making. Discuss the overall direction for further work on the project by:

- Identifying roles and responsibilities for the project.
Caveat: Be sure your project predesign team includes people who understand the operating impacts, both from a budget standpoint and from a building operations and maintenance standpoint.
- Identifying in-house staffing requirements for the proposed project.

Co-location projects should have had the following factors considered:

- Central source for customer service;
- Efficiencies by reducing staff travel time and combining similar activities;
- Reduction in capital costs; and
- Reduction in operating costs by sharing costly technical systems and programs.

PROJECT MANAGEMENT

Identify the preferred management method of design and project delivery method for construction to meet the agency's or institution's project schedule. Costs should be developed to reflect the proposed project management approach. The predesign study should address the following issues:

Management Organization – Describe the agency's or institution's ability to manage the design and construction of the project. An assessment of the existing resources, including the technical capability and staff experience in reviewing and approving design and construction work, should be included. Define the needed FTEs and outline duties of agency staff and contract consultants. Identify any costs for consultant services or additional staff, such as DES resources.

Methods of Delivery – Identify one or more techniques to be used, such as design-build, phased construction, GC/CM or conventional design/bid/build. Each of these methods has an influence on the quality, cost and timeliness of providing the required facilities. The predesign study should provide justification for the use of alternative methods of project delivery. The agency or institution must provide advantages to the project for the selected method.

Schedule – Provide a milestone (for example, a Gantt Chart) schedule for the project, including key dates for budget approval, design, bid, construction, equipment installation, testing, startup and full operation. If a correctional facility is required by statute to open by a specific date, include this date

on the schedule. Project phases, long lead items and critical path milestones should be identified. The schedule should reflect the recommended method of contracting.

Include beginning and end dates of all key events of the project and all proposed phases. Highlight the anticipated substantial completion and occupancy dates. Note the midpoint of construction. This date is important because it will be used later for tracking cost inflation and budget impacts of delaying or accelerating a construction proposal. (Midpoint of construction is the date midway between the date of commencement and the date of substantial completion.)

Describe any factors that may place the project schedule at risk, such as an environmentally sensitive site location, possible presence of archaeological or historical assets or possible contamination of the site or buildings undergoing renovation. Describe the permitting climate and whether local government ordinances or neighborhood issues (such as location or parking compatibility) could affect the schedule.

2.4 PROGRAM ANALYSIS

The program analysis section identifies the requirements of all spaces to be included in the design of the proposed project alternative. The requirements should not be unnecessarily restrictive in nature but clearly express the needs of the agency or institution. This section also analyzes all existing program spaces that will have an effect on the proposed project. See Appendix B for details about the programming process.

ASSUMPTIONS

Describe any assumptions used in defining the program for the proposed alternative. Typically, the program will dictate design decisions that are made early in the process. For example, a rooftop observatory in a new science building will dictate the location of other programs within the building. Similarly, access to an unobstructed view of the sky and the proximity of development to the building will need to be taken into consideration.

EXISTING FACILITIES INVENTORY

If existing facilities are affected by the proposed project (such as demolition or renovation), include the following:

- Are current facilities included in State Facility Inventory System (FIS)?
- Are they accurately coded?
- What is the condition as shown on the FIS?

SPACE NEEDS ASSESSMENT

In concert with the agency/institution's facility six-year plan, conduct a space needs assessment for this project with the following minimum steps:

- Calculate the project space needs by using currently recognized space planning guidelines, such as DES's Space Allocation Guidelines or the Facilities Evaluation and Planning Guide for four-year higher education facilities. Identify the guidelines used.
- Compare the space needed to the space currently assigned and space proposed to be retained by the affected programs. Put in table form with explanatory notes as needed.

- Review the facility six-year plan and determine the deficits of space for program functions that justify the capital project.
- Determine the impact of the project on the agency's or institution's overall space needs (refer to facility six-year plan).
- Explain whether the agency has discussed space needs with DES.

SPACE REQUIREMENTS

In developing the space requirements, consider:

- Function of each space included in the program;
- Relationships of the functions;
- Condition assessment/serviceability of existing spaces;
- Efficiencies of proposed and existing spaces;
- Special requirements;
- Voice, data and video communications;
- Energy management systems and power supplies; and
- ADA requirements.

FUTURE REQUIREMENTS

Describe any future phases or other facilities that will affect this project.

CODES/REGULATIONS

List all codes and regulations applicable to this project, such as:

- State and local building codes
- Energy codes (RCW 39.35)
- Environmental regulations, including the Growth Management Act and local, state and federal laws and regulations (such as shoreline and wetlands)
- Sustainability/green building criteria (RCW 39.35D)
- Local ordinances or special comprehensive plan requirements
- Greenhouse gas emission reduction policy (RCW 70.235.020)

2.5 SITE ANALYSIS

EVALUATING POTENTIAL SITES

The site analysis section evaluates the factors to be considered in siting the proposed project alternative. It should include a list of potential site locations and identify factors such as zoning, accessibility, public transportation, geotechnical considerations, etc. See Appendix C for details.

MINIMIZING COSTLY MITIGATION REQUIREMENTS

Identify the site studies that are available, have been completed or are under way. Link this information with the history of the site. Identify all potential sites considered for this project, and for each site consider:

- Ownership of the site
- Acquisition issues, including timing
- Stakeholders (when the local jurisdiction will be contacted and whether community stakeholder meetings are a part of the process)

- Easements, both existing and required for new development
- Location, description and dimensions, including soil type, climate and topography
- Setback requirements
- Adjacent facilities and site features
- Issues with the surrounding neighborhood
- Utility extension or relocation issues
- Green space and natural amenities that need to be preserved or accorded special treatment
- Environmental issues and site mitigation, including history of possible contamination
- Wetlands and shoreline impacts, including a wetlands delineation and the need to fill wetlands
- Shoreline jurisdiction issues
- Requirements for the State Environmental Policy Act and National Environmental Policy Act
- Environmental impact statement requirement
- Other regulatory requirements, such as hydraulic project approval and U.S. Army Corps of Engineers permits
- Parking and access issues, including site access, improvements required by local ordinances, local road impacts and parking demand
- Impact on surroundings and existing development with construction lay-down areas and construction phasing
- Historical and/or archaeological assets. (Review the project with DAHP and affected tribes to determine potential impacts to cultural resources.)
- Site compatibility with sustainability and LEED criteria and possible costs
- Regulatory factors:
 - zoning codes
 - local requirements
 - environmental regulations
 - building codes and requirements
- Energy conservation

ACQUISITION PROCESS

If the site has already been acquired, describe the site selection process used by the agency or institution.

PROJECTS WITHOUT SELECTED SITES

For projects without a site, contact your OFM capital budget analyst to discuss this section. Projects without specific sites require site selection criteria and process. Estimates for site acquisition should be included in the total project costs and be based on justifiable data.

PREFERRED SITE(S)

Provide the advantages and disadvantages for each site and describe reasons for the preferred site. Provide cost estimate comparisons of the alternatives.

2.6 PROJECT BUDGET ANALYSIS 

The project budget analysis section contains a narrative of the major assumptions used in preparing the cost estimate, an outline specification of materials and methods and the completed project cost estimate. See Appendices D and E for more details.

The following are items to be included:

- Written outline of major assumptions used in preparing the cost estimate.
- Detailed estimates from consultants and a basic summary of the project based on the major systems or components (Uniformat).
- Project cost estimate for traditional design/bid/build projects and for alternative public works methods such as design-build or GC/CM. See Appendix E for guidelines for preparing capital project cost estimates.
- Description of existing program and facilities.
- Most appropriate alternative to solve problem and consequences of not proceeding with the preferred alternative.
- Other alternative(s) studied, including economic trade-offs.

RELATE THE BUDGET TO THE SCOPE OF WORK

Relate the budget to the proposed scope of work. A scope of work may not be extended for the sole purpose of remedying a deferred maintenance condition. However, funds for the deferred maintenance part of a renovation project may be applied from an agency's or institution's infrastructure savings account or omnibus minor works list.

EFFECTIVE UTILIZATION OF SPACE

Before budgeting for new space, ensure that all existing space is effectively used before new space is proposed. This will require an update of the agency's or institution's space inventory. If existing space is available to meet program requirements, renovation or reuse is an alternative approach to satisfy the program requirements. Include a description of how space could be backfilled or renovated to reduce overall space needs. Provide justification for not using existing space or space left vacant that could meet the program needs.

COST ESTIMATING VERSUS COST PLANNING

Cost **planning** is different than cost **estimating**. Cost planning occurs before designs have been prepared. It relies on historical or standard industry data to predict the project's overall costs. It answers the question, "Within what range will the project budget fall after the project is fully designed?" Cost estimating measures only the project actually described in drawings and specifications. The predesign is the first step in preparing reasonable and justifiable cost estimates. Identify dollars/square feet and compare to industry standards.

PROJECTS OUTSIDE COST CONTROL RANGES

For projects outside a recognized cost control range (see Appendix E), additional information is required to explain why the range is inappropriate or too general for the proposed facility. Contact your OFM capital budget analyst to discuss such a project.

FUNDING SOURCES

Follow these steps:

- Identify the fund sources and proposed funding sequence for construction (such as federal funds and private donations).
- If alternative financing will be used, provide a comprehensive financing plan that documents the flow of revenues and expenditures for all fund sources and demonstrates that sufficient fund balance exists in the dedicated accounts used for payment of any debt service.

- If the proposed project will bring in revenues, provide a business plan that details the strategies and assumptions for revenue generation.

FUNDING METHODS

An analysis of the preferred funding method should be documented, including the advantages of the method over other methods analyzed. For example, why should 6320 financing be used for the project?

2.7 MASTER PLAN AND POLICY COORDINATION

The master plan and policy coordination section details the relationship of the proposed project to applicable agency or institution or controlling plans (such as Thurston County or Capitol Campus master plans or agency master plan). Identify the date of the controlling plan. Proposed changes to the master plan as a result of the predesign study should be described in this section, along with a proposed schedule for adoption.

Agencies or institutions lacking well-developed strategic objectives or a capital master plan should start with their mission or scope statement as the source document for determining these objectives.

THURSTON COUNTY MASTER PLANS

If applicable, describe how the proposed project does or does not conform to the master or campus plans for the state Capitol, including any revisions.

OTHER SIGNIFICANT STATE REQUIREMENTS

Describe how the proposed project adheres to requirements such as:

- Chapter 12, Laws of 2005 (ESSB 5509) requiring all state-funded buildings over 5,000 square feet to be designed, constructed and certified to at least a LEED silver standard;
- the Growth Management Act of 1990;
- revisions to the state's policy on indoor air quality; and
- the Clean Air Act of 1991.

2.8 FACILITY OPERATIONS AND MAINTENANCE REQUIREMENTS

The facility operations and maintenance requirements section defines the impact of the proposed project on the operating budget for the agency or institution. Items such as staffing, operations and maintenance of the facility's mechanical and electrical systems, utilities and internal rents should be described in this section.

OPERATING BUDGET IMPACTS

Show operating costs over five biennia in a table format. Estimate the project's effects on operating budgets, including staffing levels and corresponding salaries, building repair, replacement and maintenance.

- What are the operating budget impacts during the project? Provide a staffing plan that includes in-house staffing (both operating and capital) requirements (FTEs) for the project.

- What are the operating budget impacts when the project is completed? Identify projected increases or decreases in operational costs. Operational costs should be detailed in a table showing existing operational costs, projected costs and the net differences.
- How will additional operational costs be funded after the project is complete?

2.9 PROJECT DRAWINGS AND DIAGRAMS

The project drawings/diagrams section contains conceptual (pre-schematic) drawings of the proposed capital construction project in enough detail to describe the project. Site diagrams illustrating various alternative sites and site layouts should also be provided. **Drawings/diagrams should be conceptual or pre-schematic only.** Schematic-level documents are neither desirable nor required for predesign.

SITE PLANS

Diagram the spatial needs of the project requirements, including building footprint, massing, elevations, parking, access, circulation and open spaces and any special constraints and requirements (such as highway turnoffs, pedestrian bridges and relationships to other buildings).

BUILDING PLANS

Provide generalized spaces representing program elements organized in realistic relationships (conceptual drawings).

BUILDING VOLUMES

Provide generalized block diagrams representing building massing and configuration as they relate to the site and surrounding structures.

2.10 APPENDIX

At a minimum, the appendix should include the predesign checklist. Agencies also may include additional supporting information in the appendix, including but not limited to:

- The agency strategic plan, relevant excerpts or site maps from the agency master plan or local jurisdiction comprehensive plans
- The agency greenhouse gas emission reduction policy
- Agency performance standards for the project
- Details on programs, divisions or units