



**Ames  
Procedural  
Requirements**

**APR 8822.1**

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**COMPLIANCE IS MANDATORY**

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Responsible Office: DT/NASA Research Park Office, Ext. 4-6406, M/S 204-2  
Directive Title: NASA Research Park Design Review Program

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## **PREFACE**

### **P.1 PURPOSE**

This directive establishes Ames-specific policies, responsibilities, and procedures for the Design Review Program (DRP) for all proposed development projects within the jurisdiction of Ames Research Center, including the districts in the NASA Ames Master Plan known as the Ames Campus, the NASA Research Park (NRP), Bay View, Wetlands and Eastside/Airfield. Projects within the California Air National Guard cantonment permitted area are not subject to review by the DRP.

- A. Design Review ensures that development projects are properly coordinated and that they comply with all NASA and NASA Ames Development Plan (NADP) planning principles, and with the NADP Programmatic Environmental Impact Statement (PEIS) Mitigation, Implementation, and Monitoring Plan (MIMP).
- B. The DRP reviews proposed projects for environmental compliance and planning consistency. Reviews for building-code compliance and issuance of construction permits are conducted under a separate but related Construction Permit Program (CPP) overseen by Facilities Engineering Branch, Code JCE, as set forth in APD 8829.1.
- C. Proposed projects of limited scope such as building remodeling or tenant improvements that do not involve changes of use or exterior redesign will generally be waived from DRP review. However, special circumstances may determine DRP review at the discretion of the Design Review Board (DRB).

### **P.2 APPLICABILITY**

This directive applies to all development projects under the purview of the NRP Office (Code DT).

### **P.3 AUTHORITY**

NASA Policy Directive (NPD) 8800.14E Policy for Real Estate Management  
NASA Procedural Requirement (NPR) 8800.15C Real Estate Management Program

## **P.4 APPLICABLE DOCUMENTS**

- A. NASA Procedural Requirement (NPR) 1600.1, NASA Security Program Procedural Requirements
- B. NASA Procedural Requirement (NPR) 1620.1A, Security Procedural Requirements
- C. NASA Procedural Requirement (NPR) 1620.2, Facility Security Assessments
- D. NASA Procedural Requirement (NPR) 1620.3, Physical Security Requirements for NASA Facilities and Property
- E. NASA Procedural Requirement (NPR) 8510.1 Cultural Resources Management
- F. NASA Procedural Requirement (NPR) 8553.1, NASA Environmental Management System.
- G. NASA Procedural Requirement (NPR) 8580.1A, NASA National Environmental Policy Act Management Requirements.
- H. NASA Procedural Requirement (NPR) 8715.3, NASA General Safety Program Requirements.
- I. NASA Procedural Requirement (NPR) 8820.2, Facility Project Requirements.
- J. Ames Procedural Directive (APD) 8829.1, Construction Permits
- K. Ames Procedural Requirement (APR) 8829.1, Construction Permit Process
- L. Ames Procedural Requirement (APR) 8500.1 Ames Environmental Procedural Requirements
- M. Ames Procedural Directive (APD) 8500.1 Ames Environmental Policy
- N. Planning Clearance Application
- O. Construction Permit (Form ARC57)
- P. NASA Ames Development Plan Environmental Checklist (NEPA Checklist)

## **P.5 CANCELLATION**

APD 8822.1 NASA Research Park Design Review Program Dated November 23, 2009

/S/

Eugene L. Tu

Director

## CHAPTER 1: RESPONSIBILITIES

### A. Project Applicant

1. The project applicant is the project manager for the proposed project. The project applicant has authority to make project-related decisions for the project.
2. The project applicant shall prepare submittal documents as described in this directive.
3. The project applicant is strongly encouraged to meet with the DRB periodically:
  - a. Before beginning the project design and periodically thereafter in the preparation of the pre-conceptual design in order to understand design constraints under existing design guidelines, existing federal environmental entitlements, and other statutory and regulatory environmental constraints;
  - b. During the pre-conceptual design at formal meetings of the DRB to be the official representative of the project; and
  - c. At completion of the DRB's review.
4. The project applicant shall concur with the DRB's findings and incorporate into the project any changes or recommendations made by the DRB.

### B. NASA-Assigned Project Representative

1. A NASA-assigned project representative will be assigned to all projects. The project representative will be a civil servant project manager.
2. The project representative is responsible for assisting the project applicant through the DRP.
3. The project representative is responsible for:
  - a. referring any project design issues to the DRB members or other applicable agencies for resolution;
  - b. distributing review submissions to the DRB;
  - c. receiving and compiling comments from the DRB; and
  - d. recording and distributing DRB meeting minutes.

### C. Design Review Board

1. The DRB includes the following members, or a designated representative:
  - a. DRB Chair NRP Office -- responsible for approving/disapproving the proposed project and issuing the process closeout memo.
  - b. Planner - Facilities Engineering Branch or the NRP Office
  - c. Architect - Facilities Engineering Branch
  - d. Engineer - Facilities Engineering Branch

- e. NEPA Program Manager - Environmental Management Division
  - f. Historic Preservation Officer (HPO) - NASA representative to the California State Historic Protection Office (SHPO), for projects determined by the HPO that could affect historic properties
  - g. Ad hoc members appropriate to each project designated by the DRB Chair.
2. The DRB determines the extent of design review for each proposed project at the time the project is submitted.
  3. The DRB conducts informal discussions and formal reviews of submitted proposed projects.
  4. The DRB approves or disapproves proposed projects being advanced for review for construction permits.
  5. The DRB conducts reviews of project construction drawings during the construction permitting process to insure conformance with applicable laws, policies and regulations.

## **CHAPTER 2: PROCEDURE**

- A. The DRP will review the proposed project with respect to the following elements. A listing of applicable guidelines appears as Appendix F, Applicable Guidelines.
  1. The Architecture and Planning review element addresses and implements the land use and design regulations of the NADP. The NADP, through the Land Use Plan, NRP Design Guide, Transportation Demand Management (TDM) Plan, MIMP, and other guidelines, places limits on activities and the dimensions of the structures in which they occur.
  2. The environmental review element, performed by the Environmental Management Division, Code JQ, examines all environmental issues studied in the PEIS specific to the NADP. The Environmental review includes a supplemental review of the NEPA Checklist. The latest version of the checklist is electronically available from the Environmental Management Division.
  3. HPO review is required for all projects and activities at Ames. This review will determine if the project conforms to the Secretary of Interior's Standards for Rehabilitation. The review will also determine whether or not the project ("undertaking") requires a Section 106 consultation with SHPO. NASA Ames' HPO will initiate the Section 106 consultation with SHPO and the Advisory Council on Historic Preservation if a consultation is required.

- B. The DRP process includes two stages of review: Pre-Conceptual Design Review and Preliminary Design Review. The process is schematically shown in Appendix C: Design Review Program Flowchart.
1. The first stage for all proposed projects is the Pre-Conceptual Design Review. Its purpose is to provide to the members of the Design Review Board an understanding of the scope of the proposed project, to provide information adequate to determine the scope and level of environmental review and to ensure that the applicant and designers are aware of and in compliance with all NADP development and mitigation requirements under NEPA or other applicable laws. The Pre-Conceptual Design Review is complete when the NEPA decision regarding the proposed action is supported and approved.
    - a. The Pre-Conceptual Design Phase (PDP) should be initiated by the project applicant with a PDP submittal. The pre-conceptual design document requirements are listed in Appendix D: Pre-Conceptual Material Submittal Requirements.
    - b. Upon submission of the PDP submittal package a meeting shall be convened with the Project Applicant to review the scope and to assist the DRB in determining the appropriate level of NEPA review. Prior to proceeding to the Preliminary Design Review a NEPA determination is required.
      1. “Cultural resources” is an environmental impact factor that is addressed in the NEPA review. The HPO reviews the response and determines if a consultation with SHPO needs to occur.
      2. If additional NEPA analysis of environmental impacts (i.e. either Environmental Assessment (EA) or Environmental Impact Statement (EIS) or amendment to the existing PEIS and NADP) is determined to be required then the DRP will be suspended. In order to resume the review the applicant must either revise the scope of the project so the impacts will be consistent with existing environmental documentation, or prepare an EA or EIS and obtain a Finding of No Significant Impact or Record of Decision as appropriate.
      3. If the project is determined to be consistent with existing environmental documentation and records, or qualifies for a Categorical Exclusion (CatEx) then the submission will proceed to Preliminary Design Review.
      4. SHPO concurrence is required prior to beginning the Concept Design Review.

**The Review applicant must complete all required NEPA review prior to moving into the next stage.**

2. After successful completion of the Pre-Conceptual Design Review, the proposed project may proceed to the Preliminary Design Review.
  - a. The applicant shall submit the Concept Design Phase (CDP) submission and work closely with the DRB for review and response. Submittal requirements for the Concept Design are listed in Appendix E: Conceptual and Schematic Design Review Submittal Requirements. Throughout this phase NEPA-compliance materials submitted during the Pre-Conceptual Design Review may be reviewed again as needed prior to approval of the proposed project. This would be true, for instance, in the case of significant change of scope in the CDP submission.
  - b. The applicant and the DRB shall meet at the beginning of the Preliminary Design Review. The meeting has three purposes:
    1. to ensure that minimum requirements/conditions for submission have been met; and
    2. to ensure that the conceptual design is consistent with the concept established in the Pre-Conceptual Design Review (e.g., NEPA SHPO).
  - c. Following satisfactory review of the Concept Design, the DRB may require submission of Schematic Design if required. The DRB will inform the applicant whether a Schematic Design submittal is required. If a Schematic Design review is not required, but the applicant desires to submit a Schematic Design submittal, the DRB, at its sole discretion, may perform a courtesy review. Submittal requirements for Schematic Design are listed in Appendix E. Schematic Design may occur once the applicant has sufficiently addressed any major design issues during Concept Design Phase. The DRB will evaluate the architectural program and required functions of the project. The DRB will review the study drawings, documents, or other media that illustrate the concepts of the design and include spatial relationships, scale, and form of the project.
3. For issuance of a construction permit procedures outlined in APD 8829.1 must be followed. While this process is underway, there will be DRB back-check of the design documentation at major submission milestones. As described in APD 8829.1, construction documents at 90 percent completion or greater must be submitted for issuance of a construction permit by the



Facilities Engineering Branch (Code JCE), and there is a required DRB back-check and concurrence on the NEPA documentation.

4. The Preliminary Design Review is completed when the project DRB clearance, the PCA application submitted by the Applicant, and the NEPA checklist are signed and approved.
- C. The applicant may choose to submit specific design topics known as Optional Technical Reviews during the DRP review. The Optional Technical Reviews are reviewed by NASA in its sole discretion as a courtesy to the applicant. However, the Optional Technical Reviews are not a part of the DRP process. In no case will Optional Technical Reviews be considered prior to approval of a NEPA decision (completion of the PDP). Optional Technical Reviews will in all cases be resolved prior to issuance of the corresponding construction permit.
- D. The Preliminary Design Review is completed when the project DRB clearance, the Planning Clearance Application (PCA) submitted by the Applicant, and the NEPA checklist are signed and approved.

### **CHAPTER 3: RECORDS**

- A. Records document the discussions of the DRB and final clearances of the projects being evaluated by the DRB.
1. Records of meetings will include the topics discussed, the names of individuals attending and their organizational affiliations, action items, and decisions reached. Records of Ames attendees will include their organization or function.
  2. Records will also include a memo documenting the DRB approval of the schematic design. Attached to the memo shall be the completed and executed NEPA checklist for the project, SHPO consultation package and SHPO concurrence, if any.
  3. The DRB approval memo shall clearly list any pending issues that will be backchecked for completion during the APR 8829.1 construction permitting process.
  4. Records shall include a copy of the approved schematic design.
  5. These records are held by the Facilities Engineering Branch and shall be included with the project construction drawings and retained as a part of the closed permits under Ames Procedural Requirement APR 8829.1, Construction Permit Process.]

## APPENDIX A: DEFINITIONS

- A. Conceptual Design: This is a high-level design of the proposed project, a further development of the Pre-Conceptual Design into a realistic and appropriate design. This is the research phase of the project, when zoning requirements or regulatory restrictions are discovered and addressed.
- B. Pre-conceptual Design: The Pre-Conceptual Design shall be sufficient in its detail and Scope Narrative to allow for adequate review of the proposed project and completion of the preliminary NEPA checklist. The design shall not include comprehensive Conceptual Design, engineering, or detailed technical design.
- C. Schematic Design: At this stage of design, technical drawings are prepared at a higher level of detail, typically including measurable dimensions and details. The schematic design will build upon the conceptual design to resolve scope of the project including scale and relationships between building components.
- D. Scope Narrative: A required submittal to accompany the Pre-Conceptual Design. The Scope Narrative contains a summary of the proposed project. The narrative should describe size, scale, location and type of work.

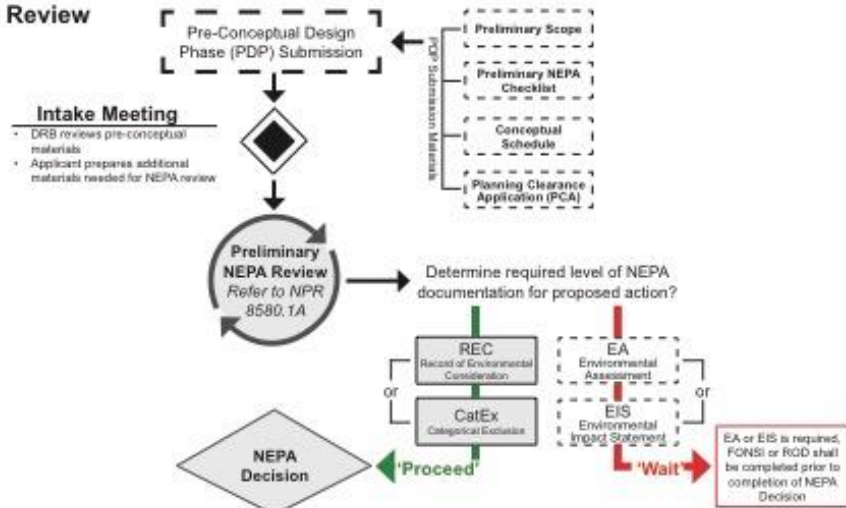
## APPENDIX B: ACRONYMS

CatEx – Categorical Exemption  
CDP - Concept Design Phase  
CPP - Construction Permit Program  
DRB - Design Review Board  
DRP - Design Review Program  
EA – Environmental Assessment  
EIS - Environmental Impact Statement  
MIMP - Mitigation Implementation and Management Plan<sup>(OBJ)</sup>  
NADP - NASA Ames Development Plan  
NASA - National Aeronautics and Space Administration  
NEPA - National Environmental Protection Act  
NRP - NASA Research Park  
PDP - Pre-Conceptual Design Phase  
PEIS - Programmatic Environmental Impact Statement  
TDMP – Traffic Demand Management Plan

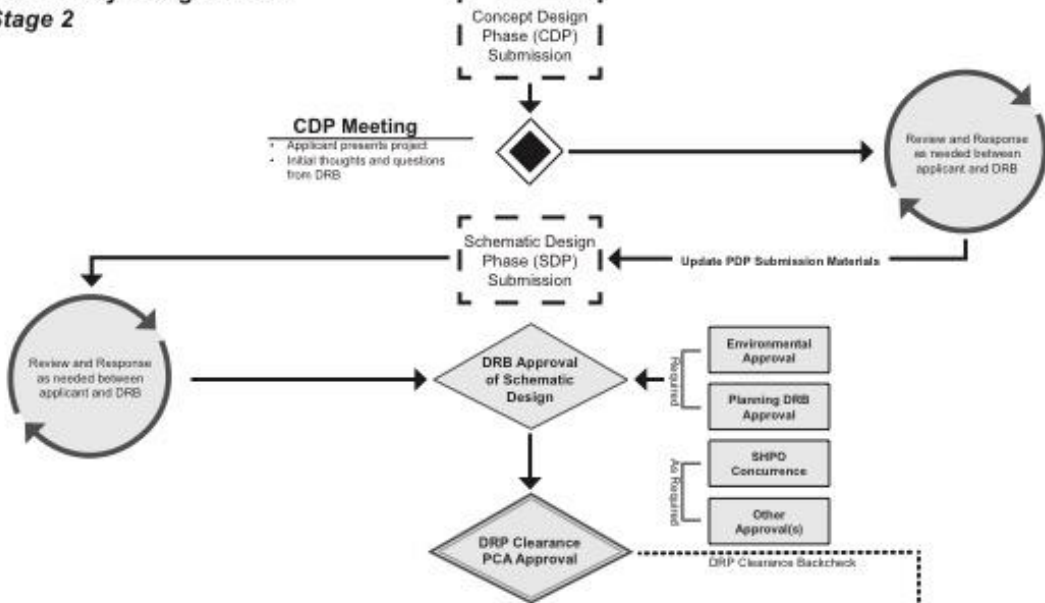
# APPENDIX C: DESIGN REVIEW PROGRAM FLOWCHART

## NASA Research Park Design Review Program (DRP) Workflow - APR 8822.1

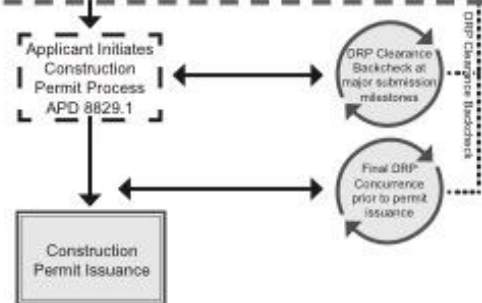
### Pre-Conceptual Design Review Stage 1



### Preliminary Design Review Stage 2



### Construction Permit Program APD 8829.1 (Note: Included to demonstrate DRP Backcheck)



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## **APPENDIX D: PRE-CONCEPTUAL MATERIAL SUBMITTAL REQUIREMENTS**

The following are the submittal requirements for Pre-Conceptual Design Review:

- A. Preliminary Scope for proposed project
- B. Conceptual Project and Submissions Schedule
- C. Preliminary NEPA Checklist
- D. Planning Clearance Application (PCA) including signed Planning Clearance Review Determination page

## **APPENDIX E: CONCEPTUAL AND SCHEMATIC DESIGN REVIEW SUBMITTAL REQUIREMENTS**

### **Conceptual Design Submittal**

Conceptual Design Submittal requirements include five (5) complete "half-size" sets of the following drawings:

- A. Title Sheet: The first sheet must show the following:
  1. Name of the project and description of the proposed use.
  2. Table of Contents listing all plan set sheets, content and page number.
  3. Location map at 1" = 400' scale showing development parcel(s).
- B. Building Data Summary in table format, including the following:
  1. Total acres of subject property (net and gross).
  2. Total amount of floor space for each nonresidential use.
  3. Total number of dwelling units, giving the number of each different type of dwelling unit, if applicable.
  4. Total number of off-street parking and loading spaces required and provided.
  5. Total amount of surface area proposed for off-street parking and lighting and percentage of site area.
  6. Total footprint area of buildings and percentage of site area.
  7. Total landscaped area and percentage of site area.
  8. Density in terms of Floor Area Ratio (FAR) for nonresidential projects, or dwelling units per acre for residential projects.
  9. Site Plan at not smaller than 1" = 40' scale, including dimensions of site, parking areas, buildings and setbacks, adjacent streets, access and egress, proposed street trees, and utilities.
  10. Ground Floor Plan with adjacent site areas at not smaller than 1/16" = 1' scale. For alteration work, show all existing partitions that are to be removed, altered, or remain the same.
  11. Floor Plans for above-and below-ground floors and roof at not smaller than 1/16" = 1' scale.
  12. At least two (2) project sections and all major exterior elevations at not smaller than 1/16" = 1' scale, indicating proposed colors and materials.
  13. Landscape Plan showing preliminary planting materials, furnishings and exterior lighting demonstrating use of native California plants, irrigation with reclaimed water, and reduction of light pollution.
  14. At least one exterior perspective from a street-level viewpoint.

Information should be included on plans to demonstrate compliance with the following requirements: energy conservation, Leadership in Energy and Environmental Design (LEED) certification, sound transmission, disabled access, Programmatic Environmental Impact Statement Mitigation Implementation and Monitoring Plan, Environmental Issues Management Plan, and Transportation Demand Management Plan (TDMP). For a building that is an unsafe structure, show how all-unsafe conditions will be corrected.

In addition to the four complete sets of drawings described previously, Conceptual Design Review Submittal requirements include:

- A. For new buildings, a Design Model constructed of white Strathmore board to fit the NRP Office's 1" = 100' scale site model.
- B. CD of illustrative drawings from the Conceptual Design submittal, including perspective drawing, site plan, and major floor plans for reproduction in an 11" x 17" format.

### **Schematic Design Submittal**

Schematic Design Phase Submittal requirements include five (5) complete "half-size" sets of the architect's Design Development documents, including updated and more-detailed versions of all drawings and information required for the Conceptual Design Review. Six (6) additional "half-size" and one full-size set will be required for the Construction Permit Board if a 30-percent construction Permit Board (CPB) Permit Review is requested.

In addition, the Schematic Design Phase Submittal must also include:

- A. Outline Specifications, including cut sheet information for all exterior products and finishes.
- B. Material Selections, including material and color boards for all exterior and major interior spaces, including a mock-up for each of the major exterior wall treatments of the project.
- C. Landscape Selections, including material and equipment selections for hardscape, lighting, equipment, furnishings and planting schedules demonstrating use of native California plants, irrigation with reclaimed water, and reduction of light pollution.
- D. Lighting Schedules, with samples or manufacturer's literature for exterior and interior public spaces, including parking garages. Lighting locations are to be shown on landscape plans, reflected ceiling plans, and elevations. Spaces such as arcades, colonnades, lobbies, courtyards, and gallerias should be included.
- E. Signage and Graphics master plan including designs, locations, and samples for the building exterior, including parking garages, shown in plan and elevation.
- F. Completed Leadership in Energy and Environmental Design (LEED) checklist to demonstrate that the design will achieve LEED Certification.

## **APPENDIX F: APPLICABLE GUIDELINES**

### **Programmatic Environmental Impact Statement Mitigation Implementation and Mitigation Implementation and Monitoring Plan**

The PEIS is the analysis of the environmental consequences associated with the development under the proposed NASA Ames Development Plan. The MIMP document describes the mitigations and how, by whom, when, and where they are required. All development performed under the PEIS must conform to the MIMP and will be reviewed by the planning review committee.

A TDMP is required to be included in the MIMP. The TDMP is a required mitigation to reduce traffic and air-quality impacts. It meets the requirements of Executive Order 13148 by outlining policies and programs to reduce vehicle trips, thereby reducing emissions of nitrogen oxides and hydrocarbons, in turn reducing ground-level ozone. In addition, vehicle trip reduction reduces the amount of land that must be paved to support roadways and parking lots. TDM includes information on the number of parking spaces allotted to each building, bike and pedestrian amenities, bus-and shuttle-stop spacing, and other overall design and planning elements.

### **Architectural Design Guidelines**

The Architectural Design Guide establishes a consistent and coherent direction for the many separate elements of the Center's built environment-integrating site planning, planting, architecture, signage, lighting, roadways, and other public works into a set of design decisions. It includes both qualitative guidelines and quantitative standards for all areas of the site. In addition, it addresses the planning issues associated with the various districts of Moffett Field in a way that recognizes the individual character of each area.

The guidelines are aimed at establishing the ideals of a general concept. The document recognizes that there may be numerous "correct" solutions within the established framework. Although it serves as a means of direction, the Guide also maintains a level of flexibility in order to allow for interesting and creative solutions.

### **The Environmental Issues Management Plan**

The EIMP provides a decision framework for any disturbance of the existing ground water and remediation systems, and the management of residual hazardous chemicals in soils and ground water at the site during development. It also describes design options for mitigating health risks inside buildings over the contaminated areas of the site. The various phases of health-risk assessment, risk management during construction, and post construction risk management are outlined. These procedures shall be adhered to in the development of project documents.