# Project Management Planning

## Project Plan Format

| | |
|---|---|
| **Initial Release** | **1.0** |
| **Date:** | **January 1997** |

### *The Project Plan Template*


The project plan forms the basis for all management efforts associated with the project. A project plan template is included in this document.

The information contained in this plan is required for IT projects in varying degrees. The actual plan items required are defined specifically in project management policies. The exact format of the information may vary from the template; however, the basic information is required as defined.

This plan template emphasizes documenting only the pertinent information associated with the plan. The blank template for the project plan is provided in Appendix B: *Templates & Sample Forms*.

The information associated with the plan evolves as the project moves through its various stages and is updated as new information is determined about the project.

The plan does not require verbose textual content filled with boilerplate material. Information associated with detailed procedures for executing such processes as technical development, configuration management, and quality assurance should be documented in the state organization's procedures. For example, the configuration management information contained in the plan might reference a procedures document that defines the specific activities and responsibility for each configuration item. The project plan only summarizes who is responsible for the configuration management activities, what is under configuration control, and where the repository will reside.

The project plan documents the project planning process and consists of the following basic tasks:

- Defining the sequence of tasks to be performed.
- Identifying all deliverables associated with the project.
- Defining the dependency relationship between tasks.
- Estimating the resources required to perform each task.
- Scheduling all tasks to be performed.
- Defining the budget for performing the tasks.
- Defining the organization executing the project.
- Identifying the known project risks.
- Defining the process ensuring quality of the project product.
- Defining the process for configuration management.
- Defining the process specifying and controlling requirements.

The plan documents and defines the objectives of the project, the approach to be taken, and the commitment being assumed. The project plan evolves through

the early stages and, at project start-up time, contains the detail required to successfully execute the project. Once project execution begins, the plan should be reviewed, baselined, and updated on a regular basis.

***Plan Approval***

It is important that project plans are approved prior to beginning a project. These approvals should be easily located at the beginning of the plan to emphasize support for the project plan. In the template format, approval signatures are included on the cover of the plan, as shown below.

**Project Management Plan Approval Signatures Form**
**(Page one of the sample)**

**PROJECT MANAGEMENT PLAN**

Project Name: Document Handling System

Date: August 1, 1996

Plan Release #: 1.0

Project Manager: John Smith

Approvals:

| | |
|---|---|
| John Smith | Betty White |
| Project Manager | Prime Contractor Manager - If applicable |
| Tom Snow | Steve Brown |
| State Organization Mangement | User Management |
| Faye McNeill | Peter Chan |
| Oversight Manager (if applicable) | DOIT |
| Gene Tim | Tina Black (DGS) |
| Department of Finance) | Other: |

### *Project Summary*

Following the approvals page, there should be a project summary and charter information that defines:

- The estimated value of the project.
- The project deliverables.
- The duration of the effort.
- The purpose of the project.
- The goals, acceptance, and completion criteria.
- Assumptions made affecting cost and/or schedule.
- Major dependencies/constraints.

The Project Summary, begun at project initiation, is maintained over the course of the project. The first page includes areas that need to be filled in and then updated with each new release of the plan. These include:

- Project name and start date.
- State organization, name, and submitted by.
- Prime Contractor (if applicable) and date awarded.
- Current stage of the project.
- Project status in terms of schedule and budget.
- Budget summary.

Page 2 of the Project Summary includes points of contact and prime contractor information.

The following two pages show a completed sample project summary from the template.

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### *1. Project Summary (Sample)*

*Information in the project summary areas was started during the project concept phase and should be included here*

| | | | |
|---|---|---|---|
| Project Name: | Document Handling System | Start Date: | August 15, 1996 |
| State Organization: | EDD | Submitted By: | John Smith |
| Prime Contractor: | Vision Quest | Date Awarded: | June 30, 1996 |
| Current Stage of Project: | Development Life Cycle (Design, Development, Integration, Testing or Implementation) | | |

| | | | |
|---|---|---|---|
| Project is On Schedule: | Yes: X No: <br> X Details are on page 6 | Project is within Budget: | Yes: No: X <br> Comments: Additional funds were needed to add more hardware for statewide rollout |

Please answer the following questions by marking "Yes" or "No" and provide a brief response as appropriate

| | Yes | No |
|---|---|---|
| Is this an updated Project Plan? If so, reason for update: Included additional activities for statewide rollout | X | |
| Budget for project by fiscal year and is project funded? If so, for what amount(s) and periods(s): | | |
| Budget Amount: 1.2 m Year: FY 96 Funded? | X | |
| Budget Amount: .8 Year: FY 97 Funded? | | X |
| Budget Amount: Year: Funded? | | |
| Total Amount: 2.0 m | | |

## *Project Summary - Continued*

### *Points of Contact*

*This should be the list of individuals that will be involved with the project during the execution phase.*

| Position | Name / Organization | Phone | E-Mail |
|---|---|---|---|
| Project Manager | John Smith EDD | 916-692-0962 | JSmith@EDD.gov |
| Senior Management Sponsor | Joe Done EDD | 916-752-1666 | JDone@EDD.gov |
| Senior Technical Sponsor | Mary Lane EDD | 916-359-0993 | MLane@EDD.gov |
| Procurement Contact | Tina Black DGS | 916-425-1254 | TBlack@DGS.gov |
| Customers:<br>Unemployment<br>Audit<br>Compliance | <br>Bill Nick<br>Anne Wright<br>Lance Gonlin | <br>916-694-3442<br>916-358-6996<br>916-536-8888 | <br>BNick@EDD.gov<br>AWright@EDD.gov<br>LGonlin@DGS.gov |
| Other Stakeholders (Top 3):<br>Same as above | | | |

**Prime Contractor Information**

**Company:**

| Position | Name | Phone | E-Mail |
|---|---|---|---|
| Project Manager | Betty White | 415-664-3229 | BWhite@VQuest.com |
| Senior Management Sponsor | Ned Jack | 415-664-3994 | NJack@VQuest.com |
| Senior Technical Sponsor | Bob Bowman | 415-664-6421 | BBowman@VQuest.com |

## *Project Charter*

The project charter follows the project summary information. Like the project summary, the project charter information was developed during the project conception and definition phase and includes a business problem, statement of work, objective, success factors, project dependencies, and constraints. In the plan template, this information is contained on two pages or in the following two figures. A sample of the completed information from the template is shown below.

### *2. Project Charter(Sample)*

**B. Project Charter:**

**Business Problem.**

*All projects start with a business problem/issue to solve.*

| **Sample** |
|---|
| The lack of a statewide automated planning system for scheduling transportation road repair maintenance resources has resulted in road closures, duplicated capital expenditures, and increased staff overtime costs. |

***Statement of Work (Goal).***

*The statement should be short and to the point. It should not contain language or terminology that might not be understood.*

| **Sample** |
|---|
| Design and prototype an automated, dynamic planning system by Q4, 1997, based on an SQL database and GUI front end. Based on the prototype, pilot the system and complete full implementation by Q4, 1998. |

***Project Objectives**:*

*Provide a brief, concise list of what the project is to accomplish.*

| |
|---|
| *The project objectives are a detailed version of the statement of work. Taken with the statement of work, the objectives define the boundaries (scope) of the project. The objective statement can also be seen as a decomposition of the statement of work into a set of necessary and sufficient objective statements, including:*<br>*Outcome - Be specific in targeting an objective*<br>*Measurement- Establish a measurable indicator(s) of the progress*<br>*Ownership - Make the object assignable to a person for completion*<br>*Timeframe - State what can realistically be done with available resources* |
| **Sample** |
| 1. Define the planning requirements for the system by Q2, 1997 |
| 2. Define user needs in terms of inputs and outputs by Q2, 1997 |
| 3. Conduct user and stakeholder meetings during Q1 and Q2, 1997 |
| 4. Develop the prototype and test, with a completion date of Q4, 1997 |
| 5. Conduct the pilot of system with completion by Q2, 1998, with the pilot lasting at least three months |
| 6. Complete system acceptance and user documentation by Q3, 1998 |
| 7. Complete system installation at all locations by Q4, 1998 |

### *Project Trade Off Matrix and Status Summary*

Managing a project requires the balancing of three factors: resource, schedule, and scope. These three factors are interrelated, i.e., a change in one of them causes the others to change as well. The project trade off matrix shows the relative importance of each factor:

- constrained means the factor cannot be changed
- accepted means the factor is somewhat flexible to the project circumstance
- improved means that the factor can be adjusted.

Also included on this page of the template is a matrix for project status. The matrix reflects whether the technical, schedule, and cost estimates for each task are behind, on schedule, or ahead of schedule. Comments are added for any deviation from the original estimate. For each project, the unique teams or phase should be filled in the appropriate category.

## *3. Project Tradeoff Matrix and Status Summary*

| Schedule | Scope | Resources |
|---|---|---|
| CONSTRAINED | ACCEPTED | IMPROVED |

Identify variable to be CONSTRAINED, IMPROVED, ACCEPTED

+/- Status

| Team/Phase | Technical | Schedule | Cost | Comment |
|---|---|---|---|---|
| Req | On | Ahead | On | Completed this phase ahead of schedule, on budget |
| Dev Team 1 | On | Ahead | On | Completed this phase ahead of schedule, on budget |
| Dev Team 2 | On | On | On | Completed this phase ahead of schedule, on budget |
| Testing | On | On | On | Cannot be closed until installation is complete |
| Installation | Behind | Behind | On | Additional pieces of hardware were required to complete statewide rollout causing impact to technical, schedule & cost |

## *Project Organization*

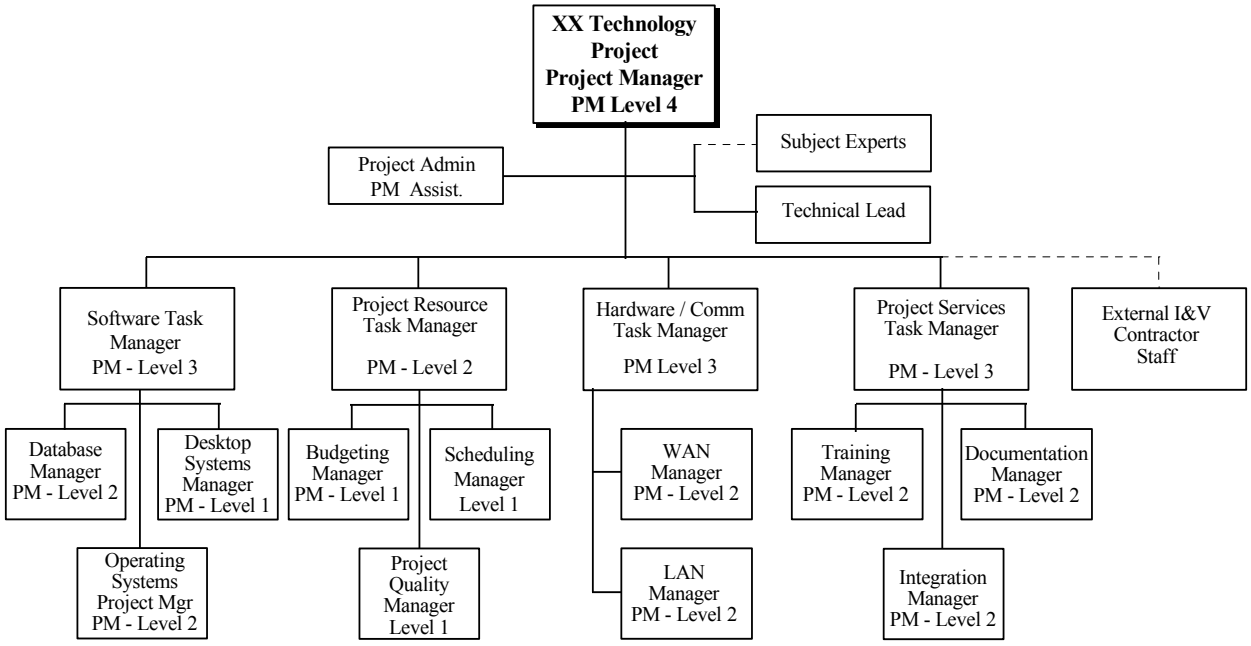
The project plan should include a description of the organization that defines the persons responsible for the following types of functions: project manager, development manager, quality assurance, and configuration management. A project manager is required for every project.

Many plans may also include a narrative of key project member responsibilities. This would include the person's name, project position, and key responsibilities.

Small projects will require less organizational definition than larger projects, but responsibilities should always be defined.

A sample project organization chart is shown in the following figure. Most times this information is graphically presented.

### *4. Project Organization (Sample)*



***Activity List***

Activity sequencing involves dividing the project into smaller, more manageable components (activities) and then specifying the order of completion. The following figure shows: 1) activities organized in outline form, and 2) activities in graph form.

### *5. Activity List (Sample Work Breakdown Structure)*

Provide an activity list (work breakdown structure) that describes each task required by the project, with a reference to the statement of work. For large projects, work packages might be included that describe in detail how specific tasks will be completed by specific project teams. These work packages describe required schedule, identify requirements to be completed and describe specific work to be performed

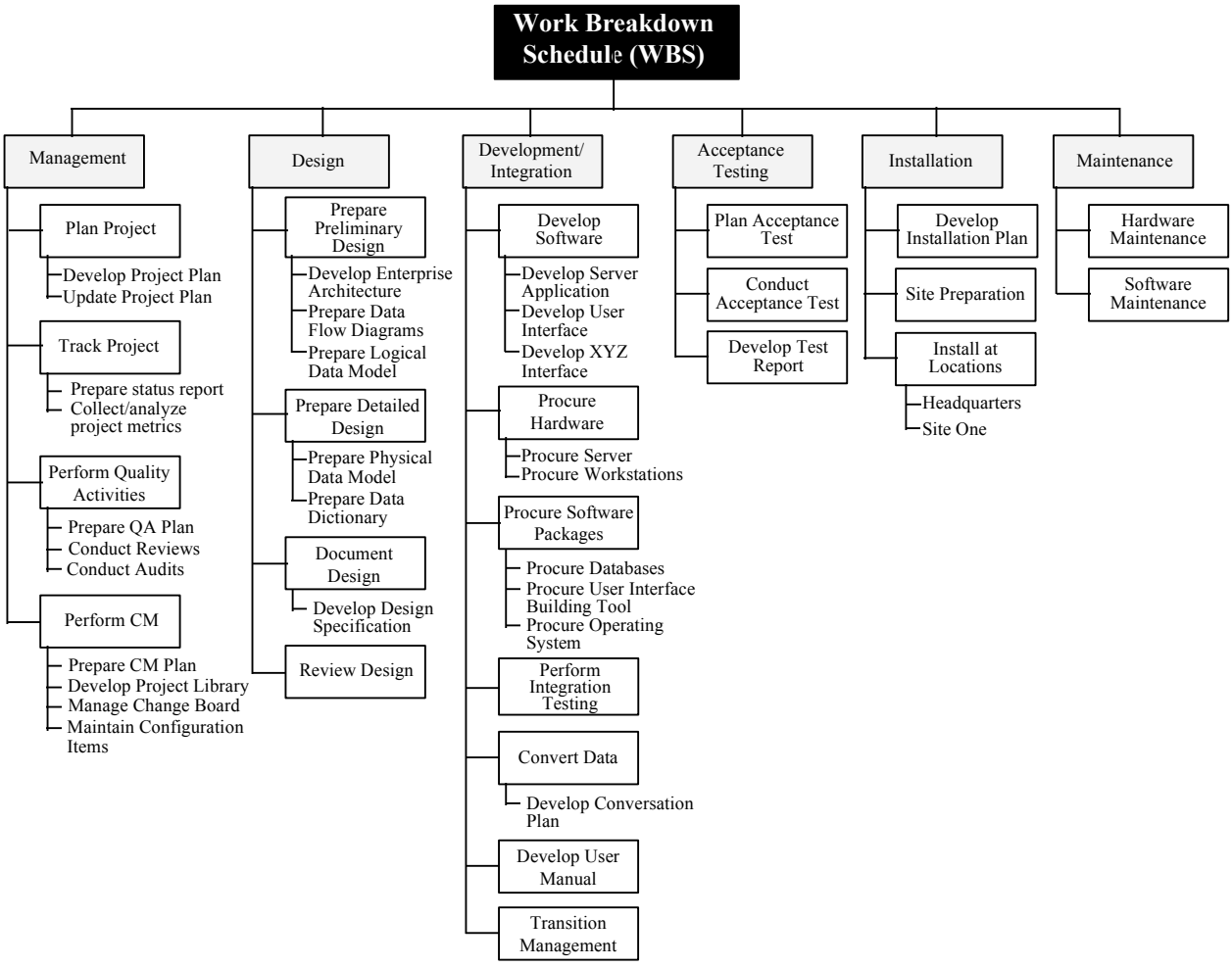
| Activity # | Activity Name | Activity Name Description | # of Days | Start Date | Dependency | Milestone |
|---|---|---|---|---|---|---|
| 1 | Design | System Architecture | 30 | 9/1/96 | | Detailed Design |
| 2 | Develop | System Development | 40 | 10/1/96 | IFS | Software Code |
| 2.1 | Code | Code Sub-routine | 20 | | | |
| 2.2 | Integrate | Integrate Sub-routine | 20 | | | |
| 3 | Testing | Testing System | 30 | 11/10/96 | | Completed Accept. test of doc |
| 4 | Installation | State Rollout | 35 | 12/15/96 | | |
| 4.1 | Pilot | Pilot Installation | 15 | 12/15/96 | | |
| 4.2 | Statewide | Statewide Installation | 20 | 01/15/96 | 4.1FS + 5 day lag | Installation Certificate |
| 5 | Support | Provides User Support | 60 | 12/30/96 | 4.1FS | |
| 6 | Training | Provide User Training | 20 | 12/15/96 | 4.1SS | Training Certificate |
| 7 | Close-Out | Transfer System to Operations | 1 | 01/30/97 | 4.2FS + 5 day lag | |

Legend:
FS = The specific task must finish prior to starting the identified task
SS = Two identified tasks start at the same time, but are not linked to finish at the same time.
FF = Two identified tasks finish a the same time, but are not linked to start at the same time.
Blank = Task has no dependency
Lag = Additional days can be added for reserve to ensure project stays on schedule.

### *Work Breakdown Structure*

The activity list can also be graphically presented as a work breakdown structure and included in the project plan. The work breakdown structure, describes each task required in the project. For large projects, work packages, with a description showing how specific tasks are to be completed by specific project teams, may also be included.

These work packages describe required schedules, identify requirements to be completed and describe specific work to be performed. Refer to *Activity Definition and Sequencing* for further information on activity sequencing and development of a work breakdown structure. A sample graphical work breakdown structure is shown in the following figure.



***Work Product Identification***

The list of project deliverables that includes the date due and the person responsible for the delivery should be part of the plan. This information is derived from the project activity list, and is expanded to include the assignment of the deliverable to a specific author and tracking of delivery of the document. A sample of the Work Product Identification Template is shown below.

### *6. Work Product Identification*

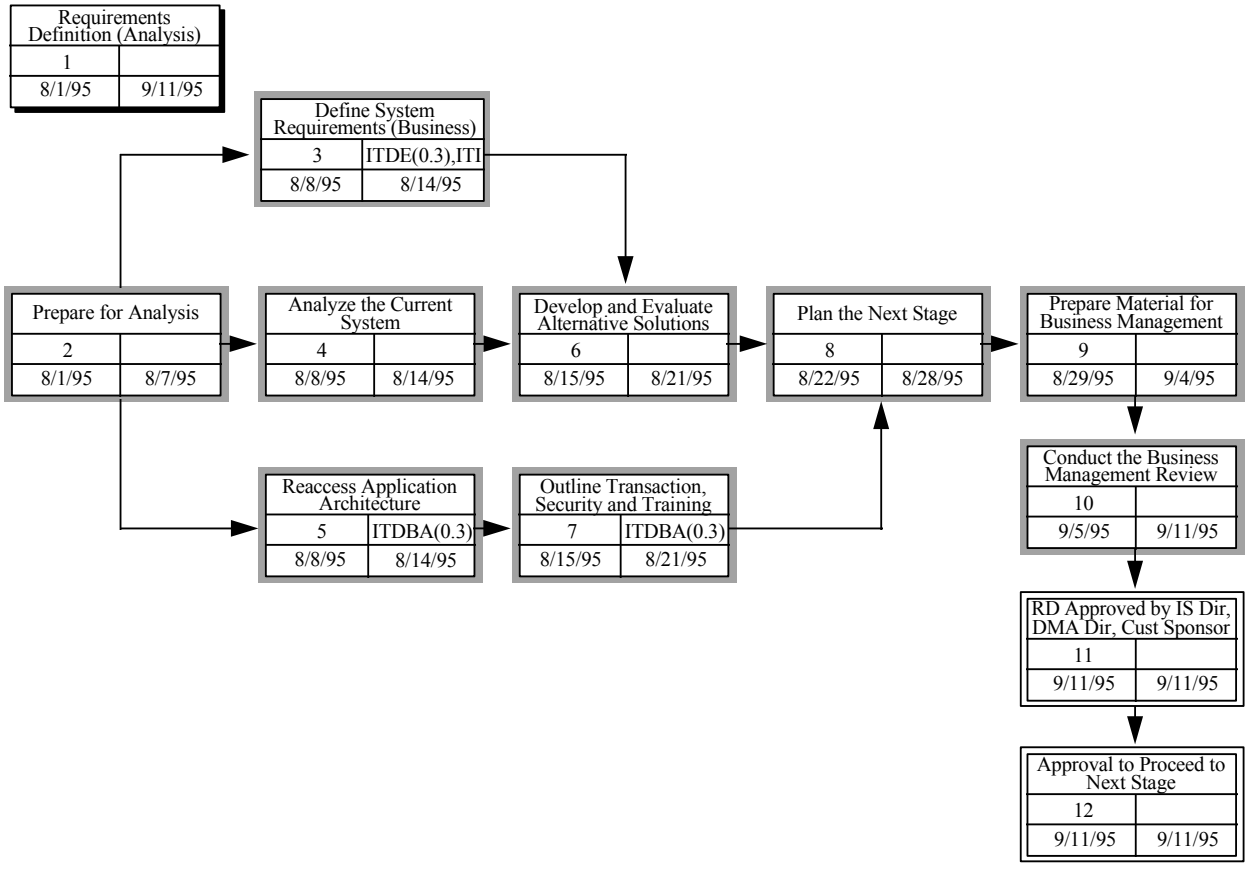
Provide a list of all deliverables required by the project, the due date and the person responsible for the deliverable.

| Deliverable Name | Due Date | Date Delivered | Point of Contact |
|---|---|---|---|
| Design Document | 10/1/96 | 10/15/96 | Joe Done |
| Test Plan | 10/1/96 | 10/15/96 | Joe Done |
| Installation Plan | 11/1/96 | 11/1/96 | Terrie Kelly |
| Source Code | 12/1/96 | | Joe Done |
| Installation Certificate | 1/30/97 | | Steve Hugh |
| Training Plan | 10/1/96 | 10/15/96 | Tim Wise |
| Training Certificate | 1/30/97 | | Tim Wise |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

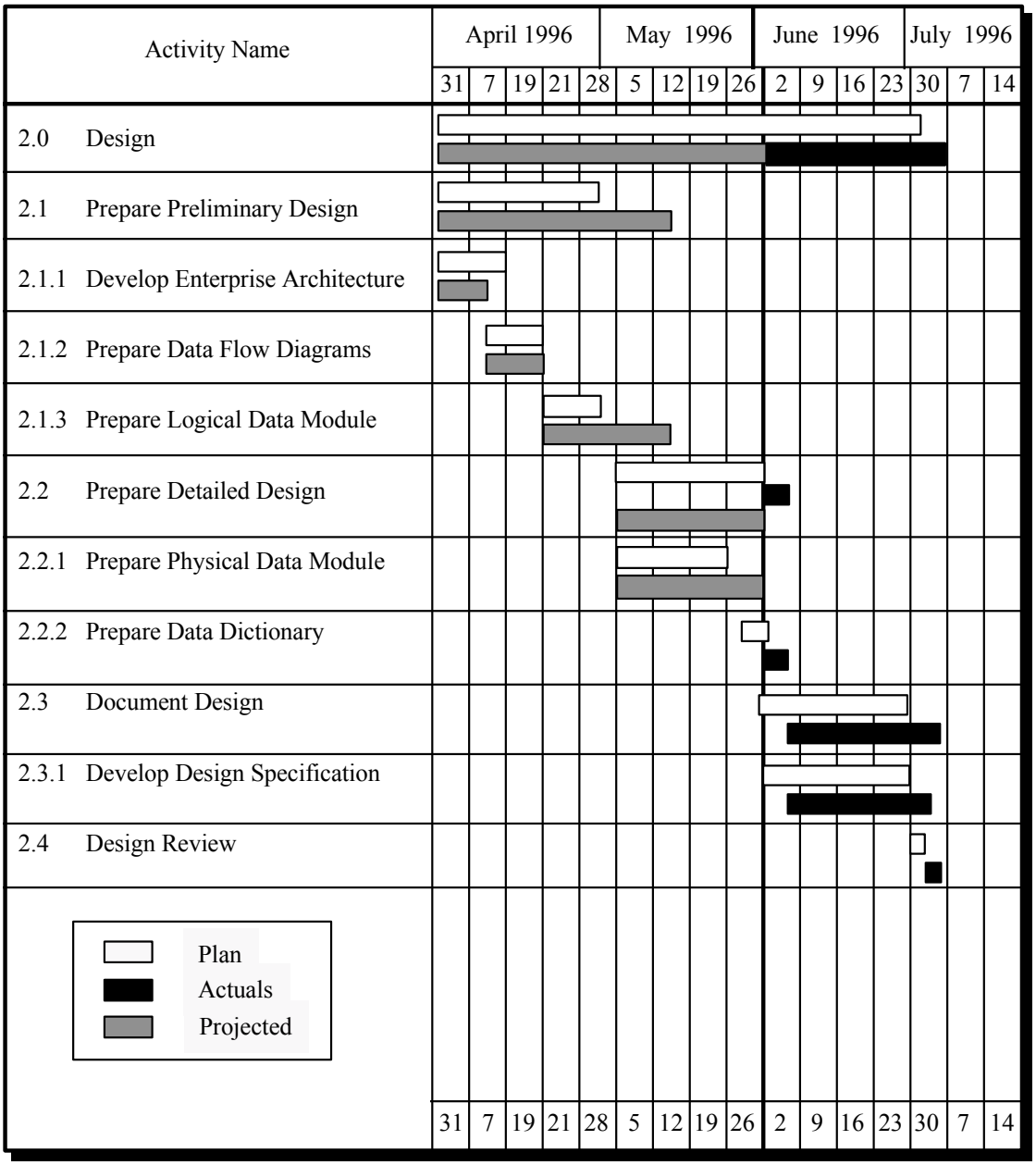
### *Project Schedule*

The project schedule included in the project plan can either be a GANTT or PERT chart. It should include milestones, task dependencies, task duration, work product delivery dates, quality milestones (reviews/audits/inspections), configuration management milestones, and action items (with deadlines and responsibilities). A sample project schedule is shown below.

**PERT Chart**
**7. Project Schedule (Sample)**



***GANTT Chart***
***7. Project Schedule (Sample)***



***Estimate Cost at Completion***

This estimated cost at completion is an assessment of the total project effort in terms of either time or dollars. The template provides space for both types of analyses.

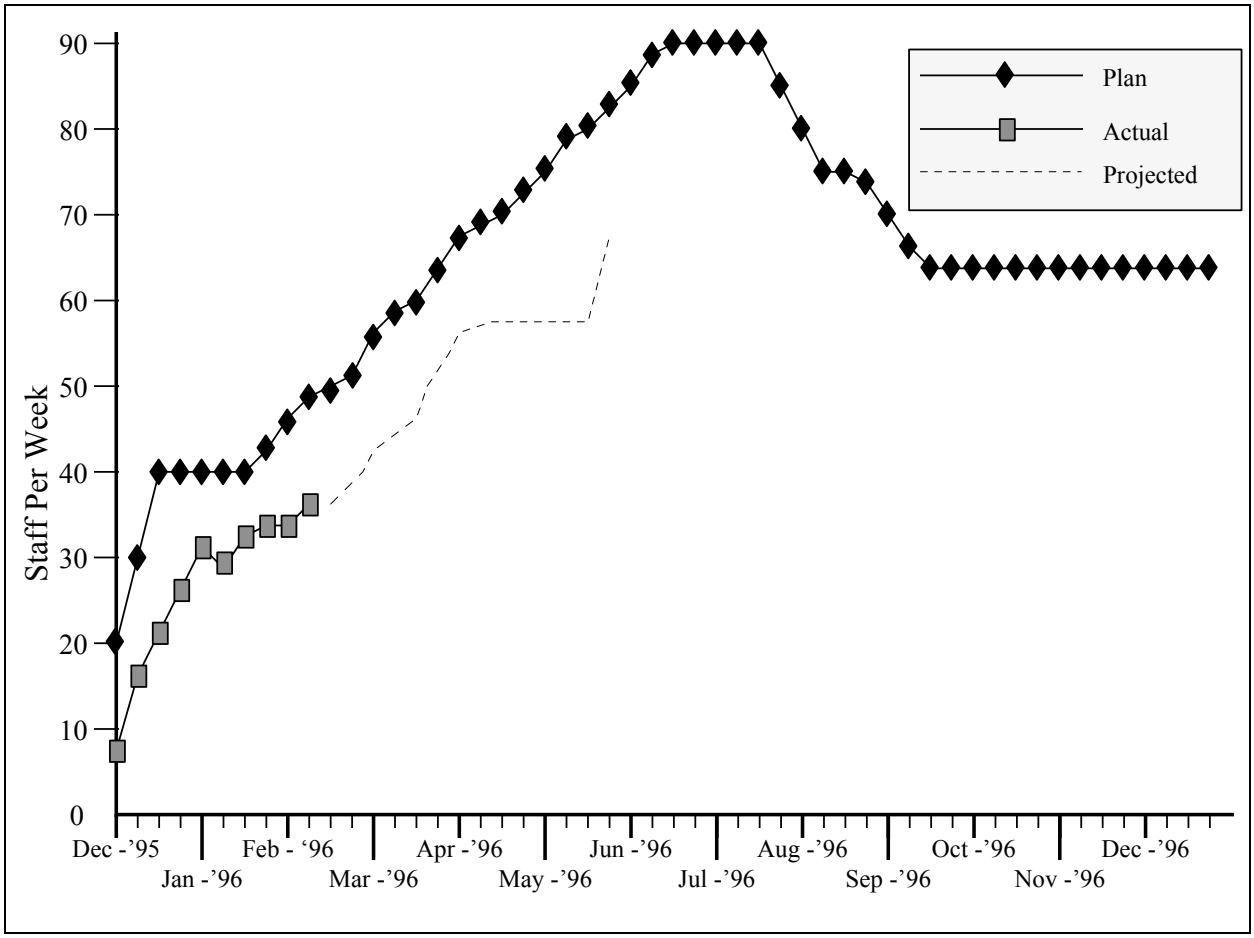
## *8. Estimated Cost at Completion*

| WBS | Activity Description | Analysis in Hours | | | | | | Analysis in Dollars | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Res # | Budget hours | Actual hours | Est to Complete | Est @ Complete | Variance (+=More) | Budget hours | Actual hours | Est to Complete | Est @ Complete | Variance (+=More) |
| 2.0 | DESIGN | | | | | | | | | | | |
| 2.1 | Prepare Preliminary Design | 3 | 900 | 1,150 | 0 | 1,150 | 250 | 90,000 | 115,000 | 0 | 115,000 | 25,000 |
| 2.1.1 | Develop Enterprise Architecture | | 400 | 500 | 0 | 500 | 100 | 40,000 | 50,000 | 0 | 50,000 | 10,000 |
| 2.1.2 | Prepare Data Flow Diagrams | | 300 | 250 | 0 | 250 | (50) | 30,000 | 25,000 | 0 | 25,000 | (5,000) |
| 2.1.3 | Prepare Logical Data Module | | 200 | 400 | 0 | 400 | 200 | 20,000 | 40,000 | 0 | 40,000 | 20,000 |
| 2.2 | Prepare Detailed Design | 5 | 1,000 | 640 | 408 | 1,048 | 48 | 100,000 | 64,000 | 40,8000 | 104,800 | 4,800 |
| 2.2.1 | Prepare Physical Data Model | | 600 | 600 | 8 | 608 | 8 | 60,000 | 60,000 | 800 | 60,800 | 800 |
| 2.2.2 | Prepare Data Dictionary | | 400 | 40 | 400 | 440 | 40 | 40,000 | 4,000 | 40,000 | 44,000 | 4,000 |
| 2.3 | Document Design | 2 | 430 | 0 | 430 | 430 | 0 | 43,000 | 0 | 43,000 | 43,000 | 0 |
| 2.3.1 | Develop Design Specification | | 430 | | 430 | 430 | 0 | 43,000 | 0 | 43,000 | 43,000 | 0 |
| 2.4 | Design Review | 10 | 160 | | | | | | | | | |
| | Total for the Project | | 4,820 | 3,620 | 1676 | 5,256 | 646 | 466,000 | 358,000 | 167,600 | 525,600 | 59,600 |

***Resource Loading Profiles***

The staffing plan shows the number of personnel, by type, that are required on the project on a monthly basis. A sample is included. This information is compared monthly on a planned versus actual basis. Refer to the *Resource Planning* section for further information about resource planning. For small 1 - 2 person efforts, a graph should not be necessary.

***9. Project Staffing Plan (Sample)***



***Project Requirements***

The detailed listing of project requirements, with references to the statement of work, work breakdown structure, and specifications, is included. Refer to *Top-Level Requirements Specification.* A sample listing is shown in the figure below.

***10. Project Requirements***

| No. | Requirement | RFP Reference | SOW Reference | Task Reference | Specification Reference | Completed | Comments / Clarification |
|---|---|---|---|---|---|---|---|
| 1. | The system shall incorporate a well defined help function | 2.2.10<br>2.4.2 | S01230 | S01230 | SSS 3.2.6.4 | Yes | |
| 2. | Function key macros and /or other shortcut techniques shall be provided for "power users" | 2.2.10 | S01230.1 | S01230.1 | SSS 3.2.6.4 | Yes | |
| 3. | The system shall require each user to sign on to the system with a password | 2.2.10<br>2.4.2 | S01230 | S01230 | SSS 3.2.6.1 | Yes | |
| 4. | The average response time to all entries shall be 1/2 second or less. | 2.2.10 | S01230.1 | S01230.1 | SSS 3.2.6.1 | Yes | Yes |
| 5. | Any data item shall only have to be entered once. | 2.2.10<br>2.4.2 | S01240 | S01240 | SSS 3.2.6.1 | Yes | |
| 6. | | | | | | | |
| 7. | | | | | | | |
| 8. | | | | | | | |
| 9. | | | | | | | |
| 10. | | | | | | | |

SOW = Statement of Work

***Risk Identification***

A description of the risks identified for the project is included. A risk is

anything that could potentially affect the successful completion of the project. The contractual, management, and technical risks associated are identified and assessed for the probability of the risk occurring, the cost to correct if the risk occurs, the impact of the risk on the project, and the suggested mitigation activities and cost of mitigation. Refer to *Risk Identification* section for further information.

## *11. Risk Identification*

| Category | Prob | Imp | Risk | Migation Approaches |
|---|---|---|---|---|
| MANAGEMENT | | | | |
| Personnel Availability | High | Med | Personnel developing the sytem did not participate in the design effort, resulting in less understanding of the system functionality | Ensure that specifications/overview documents contain sufficient information to allow new personnel to understand system |
| Personnel Skills | Low | High | Personnel assigned to project will not have skills to perform work | Since contractor provided quality personnel in design effort, anticipate that skills will be met. |
| Schedule | Med | High | Completed system (i.e., the system ready for use) not delivered within 18 month timeframe. | Break project into smaller segments to ensure schedule being maintained |
| Cost | Med | High | Proposed budget does not reflect all required activities. | Review costing to ensure that all state organization activities reflected. |
| Change Control | Med | Med | System requirements will change during the developement time. | Ensure that a change control process is established that limits changes to those essential to business |

***Configuration Management Plan***

The Configuration Management Plan, which defines the person responsible for project configuration management, the procedures used, the planned configuration items, planned release dates for configuration items, and resources required to conduct Configuration Management, is included. This Configuration Management Plan is summarized in a format depicted in the figure below. Refer to the *Configuration Management* section for further information on configuration management planning.

## *12. Configuration Management Plan*

Provide a configuration management plan that defines the person responsible for project configuration management, the procedures that will be used, the planned configuration items, planned release dates for configuration items, and resources required to conduct CM.

CM Responsibility
Manager: J. Smith
Additional Staff for CM:
No additional staff anticipated

Procedure Reference: EDD CM-01 to CM-03

Configuration Items: Ensure that CM is implemented throughout the project's life cycle.

| No. | Item | Comments |
|---|---|---|
| 1. | System / Management / PPlan | Project Plan |
| 2. | System / Req / Sys Spec | System Specification |
| 3. | System / Test / TPlan | Test Plan |
| 4. | System / Management / TPlan | Implementation |

Ensure that project has a respository for storing configuration items and associated CM records. Briefly describe.

QA Audits will occur as included on the project schedule

## *Quality Plan*

The Quality Plan, which defines the person responsible for project quality activities, the procedures used, the planned quality activities, and resources required to conduct QA activities is summarized in the project plan. Refer to the *Quality Plan Development* section for further information on quality planning. The QA Plan is summarized in a format illustrated in the figure below.

### *13. Quality Plan*

Provide quality plan that defines the person responsible for project quality assurance, the procedures that will be used and resources required to conduct quality assurance.

QA Responsibility
Manager: M. Anderson
Additional Staff for QA:
Support needed by lead design and development members

Procedure Reference: EDD QA01 to QA-10

Planned Quality Event: Ensure the QA is implemented throughout the project's life cycle. Dates include QA audits and reviews, design walkthroughs and other project activities that QA staff will participate in.

| No. | Item | Comments |
|---|---|---|
| 1. | Requirement Review | Due 10/1/96 |
| 2. | Code Walk Through | 11/1/96 |
| 3. | User Interface Prototype | 11/15/96 |
| 4. | Testing Audit | 12/13/96 |

Ensure that project has a respository for storing configuration items and associated QA records. Briefly describe.
QA records are stored w/project CM material

Ensure that QA audits the baselines and CM activities on a regular basis. Briefly describe.
Defined on detailed schedule

***Top Five Issues***

Included is the list of known issues associated with the project, personnel responsible for resolving the issue, and an associated open and close date, with proposed or recommended solutions. See the figure below and refer to the *Change and Issue Management* section for further information about issue management.

***14. Top Five Issues***

| Issue Description | Responsible Individual | Open Date | Closure Date | Status |
|---|---|---|---|---|
| Change order pending for accounts payable processing | A. Smith | 4/5/96 | | Estimated release date 4/15/96 |
| Enhancement number 1 inactive; requirements still not defined | D. Hall | 4/1/96 | | Awaiting input from Jim who needs to meet with Bob on 3/15/96 and then draft specification |
| Out of scope item on month end processing must be decided | A. Smith | 2/15/96 | 3/1/96 | Determined effort was out of scope. No action to be taken |
| Configuration Item Status Reporting system not yet installed | B. Jones | 1/15/96 | 1/25/96 | System installed and operational. Baselines entered into CM. |

***Action Item Status***

The plan should include a list of action items, that are maintained as part of project tracking. A sample table is included as part of the template and shown here.

### *15. Action Item Status*

Maintain a list of action items, including a description of the item, a point of contact, a date by which action should be taken and a description of the action taken to close items.

| Action Item # | Action Item Description | Responsible Individual | Open Date | Closure Date | Status |
|---|---|---|---|---|---|
| 0001 | Document Flow for hardware acq | R. Smith | 8/1/96 | | Developing Flow |
| 0002 | Check status of subcontract agreement | B. Hill | 8/2/96 | 8/4/96 | Signed and Executed |
| 0003 | Organize team meeting to review support requirements | M. Jones | 8/1/96 | 8/2/96 | Meeting scheduled for 8/12/96 |
| 0004 | Contact W. Smith regarding coordination of delivery | B. Hill | 8/3/96 | | |
| 0005 | PMP updates Past Due | C. White | 8/4/96 | | Required by 8/10/96 |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

***References:***

The template for the Project Management Plan is included in Appendix B: *Templates & Sample Forms*.