

29190284

SCRTD METRO RAIL PROJECT

Preliminary Engineering

CONFIGURATION MANAGEMENT PLAN

WBS 14DAH

Prepared by

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## PREFACE

This Preliminary Engineering Configuration Management Plan has been developed to provide the Metro Rail Project management with a means for control over the Metro Rail System design configuration and documents that will be prepared during the preliminary engineering phase of the system development. These documents, including reports, specifications, plans and drawings, form the baseline used in further design, construction and operation of the Metro Rail System. Effective control of the development of these document will ensure effective documentation of the system design and transition from preliminary design to the final design and operational phases.

The plan identifies the documents to be controlled. It describes the control processes for obtaining approval of these designs and documents, for retaining and disseminating approved documents, and for affecting changes to the approved documents.

The plan describes responsibilities of individuals and groups relative to the management and operation of the configuration management plan.

The plan also addresses the establishment of a configuration status reporting system. This system focuses on monitoring and reporting of such items as approved (accepted) documents, design approval status, document status, and the status of all requested changes.

1. INTRODUCTION

## 1. INTRODUCTION

### 1.1 PURPOSE

Configuration management is the technical and administrative discipline enabling Metro Rail management to effectively:

- . Identify and document the operational and physical characteristics of the Metro Rail System
- . Control changes to these characteristics
- . Record and report the change process and status.

Configuration management is necessary:

- . To ensure that the efforts of all design groups are integrated and compatible
- . To ensure consistency and integrity in system design across Work Breakdown Structure (WBS) elements
- . To ensure effective documentation of system design and transition from design to operational phase.

Effective configuration management will also foster a low cost and efficient Metro Rail design program. Configuration management should:

- . Reduce design error
- . Save design and engineering time and expense
- . Facilitate the resolution of design conflicts and incorporation of design changes.

### 1.2 DEFINITION

The configuration management plan is a formalized program enabling Metro Rail project management to monitor and control the development of documents that effect the

design considerations and configuration of the Metro Rail System during all phases of system development. Specifically the plan:

- . Identifies the design activities and products to be subjected to configuration control
- . Describes the control processes
- . Identifies responsible parties and their functions.

The plan described in this report is currently tailored to control study and design activities relative to preliminary engineering. The plan can be modified and expanded to satisfy configuration management requirements of subsequent final design and construction phases.

### 1.3 SCOPE

The preliminary engineering configuration management plan is applicable to those documents prepared for the Metro Rail Project during the preliminary engineering phase. These documents serve as basic data sources for the design and analyses efforts required during preliminary engineering and any follow-on phase in the system development.

### 1.4 STRUCTURE

This plan is structured in four chapters. Chapter 1 is the introduction. Chapter 2 describes the configuration control process. Chapter 3 describes the responsibilities of individuals and groups administering the plan. Chapter 4 describes the status reporting system, associated with the configuration management plan.

There are also two appendices. Appendix A provides a list of documents subject to configuration control. Appendix B contains all forms associated with the configuration management plan.

## 2. CONFIGURATION CONTROL PROCESS



## 2. CONFIGURATION CONTROL PROCESS

### 2.1 OVERVIEW

The configuration management plan divides the document life cycle into four stages. Document control will be maintained through various control processes to be followed by design groups during each life cycle stage. The four stages and relevant control processes are summarized on Table 2-1.

Table 2-1  
Summary of Configuration Control Processes

Document Life Cycle Stage	Control Process
1. Preparation	<ul style="list-style-type: none"><li>• Design Directive</li><li>• Identifier Code</li><li>• Interface Management</li></ul>
2. Approval	<ul style="list-style-type: none"><li>• Formal Review and Approval</li></ul>
3. Distribution and Retention	<ul style="list-style-type: none"><li>• Storage and Retrieval</li><li>• Update and Status Accounting</li></ul>
4. Change Approval and Implementation	<ul style="list-style-type: none"><li>• Formal Change Review And Approval</li><li>• Change Implementation</li></ul>

The plan recognizes that several types of documents will be generated by design groups throughout preliminary engineering. The purpose and content of each type of document will determine the degree of configuration management required. The following describes the three categories of documents that will be generated during preliminary engineering and the appropriate degree of configuration management.

- CATEGORY 1

Documents that define or specify a system function or related parameter. Category 1 documents are subject to strict configuration

control. These documents will be subject to all control processes identified in Table 2-1. They include design documents that reflect system configuration.

- CATEGORY 2

Documents that provide general information on design alternatives, bases for designs or technical data. Category 2 documents are subject to limited configuration control. They will be subject to the control processes pertaining to only two document life cycle stages: (1) Preparation and (3) Storage.

- CATEGORY 3

Reports not directly related to system design. Category 3 documents are not subject to any of the control processes.

Appendix A is a list of documents that will be generated by design groups during preliminary engineering. The list categorizes each document according to the appropriate degree of configuration management.

The remainder of this chapter is divided into four parts, each focusing on one of the four document life cycle stages. Each part provides a description of the control processes to be followed in each stage.

## 2.2 DOCUMENT PREPARATION

Document preparation stage includes all study and design activities of design groups associated with the initial development of category 1 and 2 documents. There are three control processes to be followed during this stage. They are:

- Design Directives
- Identifier Code
- Interface Management

### 2.2.1 Design Directives

Design direction is the process of providing specific guidance to a design group for the analyses of selected approaches and alternatives, for the resolution of design conflicts among design groups, and for initiating change requests to approved

documents. Design direction is given by the Manager/Chief Engineer using a written design directive. All design directives are to be issued over the signature of the Manager/Chief Engineer.

Design directives further define and authorize technical work and related activities to be performed by design groups. Scope of directives may include, yet not be limited to, the following:

- Definition of the areas and alternatives to be studied
- Identification of the depth to which the analyses will be taken
- Specification of time and cost limitations
- Determination of methods to be used in the presentation of study results.

#### 2.2.2. Identifier Code

Document identifier codes should be issued and reported to the document control center by design groups at the start of document preparation. The document identifier is unique to each document and serves as a means for identifying, storing and retrieving documents. The document originator is responsible for the proper marking of the document with the document identifier and for timely reporting to the document control center.

The identifier code is an alpha-numeric number consisting of five segments (i.e., AP-16CAD1-E-063-01). The code is consistent with the drawing numbering system described in Metro Rail Procedural Memo No. A-18, dated July 21, 1981. Table 2-2 on the following page describes the composition of the code.

#### 2.2.3. Interface Management

The requirements for control of design development extending beyond a single group's authority are addressed in this section. The purpose of interface management is to ensure that:

- Project documents, individually and collectively, reflect project objectives and the current version of the System Specification.
- Development of the system design proceeds effectively across group boundaries.

Table 2-2  
Description of Document Identifier Code

Code Segment	Number Spaces	Description
1	2	<ul style="list-style-type: none"> <li>● First letter identifies the line (i.e., A = starter line).</li> <li>● Second letter identifies system development phase (i.e., P = Preliminary Engineering).</li> </ul>
2	9	<ul style="list-style-type: none"> <li>● Indicates WBS document number (See Appendix A).</li> </ul>
3	2	<ul style="list-style-type: none"> <li>● Indicates design discipline as follows:               <ul style="list-style-type: none"> <li>- A = Architectural</li> <li>- C = Civil</li> <li>- E = Electrical</li> <li>- M = Mechanical</li> <li>- PC= Project Control</li> <li>- S = Structural</li> <li>- SA= System Analysis</li> <li>- O = Other.</li> </ul> </li> </ul>
4	3	<ul style="list-style-type: none"> <li>● Indicates drawing number. Drawings shall be numbered in sequence as they are produced for each WBS task. Use 000 for all documents other than drawings.</li> </ul>
5	2	<ul style="list-style-type: none"> <li>● Indicates revision number (i.e., 0 = initial version, 1 = first revision etc.).</li> </ul>

The process of interface management is divided into three activities:

- . Identify required interfaces. During the interface identification activity, all design interfaces, or points of interaction of one group's design with other groups' designs are identified. The System Engineering and Analysis (SEA) section will perform interface identification with assistance from the design groups. The interface matrix is the systematic tool used for identifying these interfaces. An example of the matrix is shown in Exhibit 2-1. Matrices will be prepared to cover all work tasks.
- . Define Interface Requirements. The SEA section, in conjunction with design groups, will then define interface requirements. Examples of interface requirements include traction power voltage, cabling duct sizes, and platform to top of rail dimensions.
- . Incorporate interface requirements into the System Specification. Control of the interfaces developed in the proceeding paragraphs will be achieved by incorporating these requirements into the System Specification. Control is thereby achieved as part of the approval, release and change processes in the configuration management plan. Design managers are ultimately responsible for the incorporation of interface requirements into the System Specification.

### 2.3 DOCUMENT APPROVAL

The document approval stage entails the review and approval of Category 1 design and study documents that define or specify a system function or related parameter. This stage is initiated with the completion of a project document by a design group that is subject to strict configuration management (See Appendix A, List of Documents Subject To Configuration Management).

The purpose of this approval process is fourfold:

- . To ensure that all documentation meets project requirements
- . To ensure that the efforts of all design groups are integrated and compatible

**EXHIBIT 2-1  
REPRESENTATIVE INTERFACE MATRIX  
(WAYS AND STRUCTURES)**

Prepared by: \_\_\_\_\_

Date: \_\_\_\_\_

Approved: \_\_\_\_\_

		TUNNEL SECTION		ALIGNMENT	
		WBS	TASK LEADER ( )	WBS	TASK LEADER ( )
<b>SUBSYSTEMS</b>	<b>PASSENGER VEHICLES</b>	TASK LEADER ( )	<ul style="list-style-type: none"> <li>• DYNAMIC ENVELOPE -TANGENT SECTION -CURVE SECTION</li> <li>• TRACTION POWER PICKUP</li> <li>• EMERGENCY WALKWAY LOCATION</li> <li>• VEHICLE LOADS</li> </ul>	TASK LEADER ( )	<ul style="list-style-type: none"> <li>• GRADE, MAXIMUM</li> <li>• VEHICLE CURVE LIMITS</li> <li>• HORIZONTAL CURVE LIMITS</li> <li>• -----</li> <li>• -----</li> </ul>
	<b>TRAIN CONTROL</b>	TASK LEADER ( )	<ul style="list-style-type: none"> <li>• CABLE WAYS</li> <li>• EQUIPMENT LOCATIONS</li> <li>• -----</li> </ul>	TASK LEADER ( )	<ul style="list-style-type: none"> <li>• CIVIL SPEED LIMITS</li> </ul>
		WBS		WBS	

**MATRICES**

- SUBSYSTEMS/WAYS & STRUCTURES
- SUBSYSTEMS/STATIONS
- WAYS & STRUCTURES/STATIONS
- WAYS & STRUCTURES/SEA
- STATIONS/SEA
- SUBSYSTEMS/SEA

Initial matrix to identify key interface points. Subsequent updates will include interface data or reference to data or drawings.

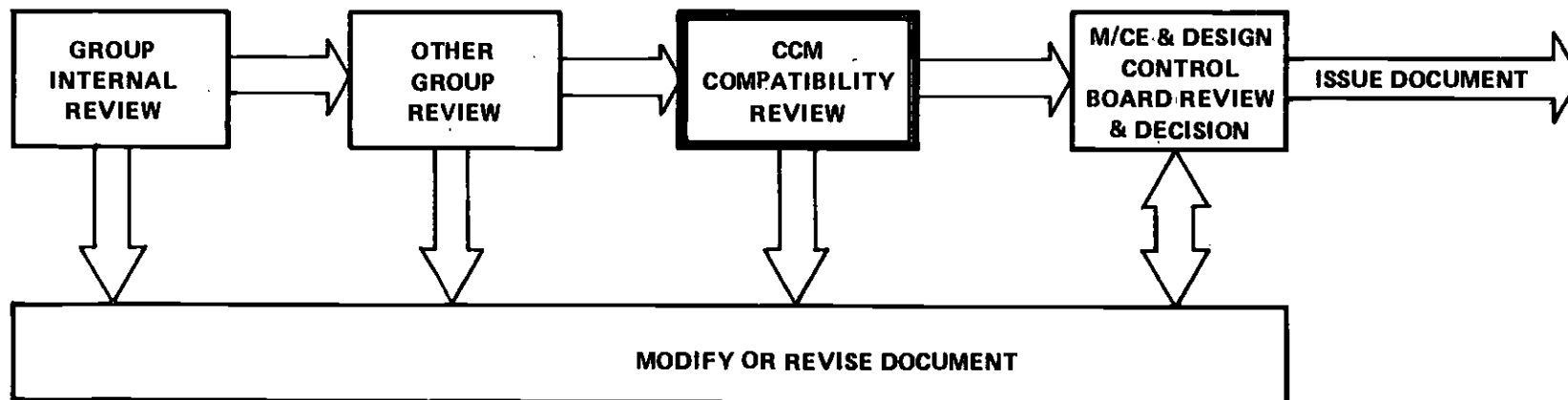
- . To ensure consistency and integrity in system design across Work Breakdown Structure (WBS) elements
- . To ensure effective documentation of system baseline characteristics.

Document approval is conducted using both internal design group review and external review by other design groups, Configuration Control Manager (CCM), Manager/Chief Engineer and the Design Control Board. A document approval status form should be attached to the cover of the document by the originator at the beginning of the approval process. This form, contained in Appendix B, will record the signature of approving parties, the date of approval and comments of each party pertaining to document approval or to reasons for disapproval. For all approved documents, the form is to be filed with the master copy of the document in the document control center as part of the permanent file.

The approval process consists of four activities illustrated on Exhibit 2-2 and outlined below.

- . Group Internal Review. Design managers will review their respective documents upon completion by their group. After approval, managers will distribute copies of the document to the other groups and involved consultants as appropriate.
- . Other Group Review. The other groups will review and comment on the document and return it to the issuing manager who will resolve the comments and revise the document as necessary. If a comment cannot be resolved among the groups, the issuing manager will notify the Manager/Chief Engineer that an unresolved issue should be included on the Design Control Board agenda.
- . CCM Compatibility Review. Next, the CCM will conduct a compatibility review of the document. This review will focus on whether the contents of the document are consistent with the design and study activities of other groups and with the System Specification. The CCM will comment on the document and return it to the issuing manager. The issuing manager will resolve the comments and revise the document as necessary. Unresolved comments will be discussed at the Design Control Board meeting when the item is presented.

**EXHIBIT 2-2**  
**DOCUMENT APPROVAL PROCESS**





. M/CE and Design Control Board Review. After completion of the CCM compatibility review the originating group will then submit the document to the Manager/Chief Engineer for final review and approval. If approved by the Manager/Chief Engineer, the originator has the responsibility for submitting a master copy of the approved document to the document control center to be stored in the permanent file - See next section Document Distribution and Retention. Finally, the Manager/Chief Engineer, prior to final approval, can subject the document to a review to be conducted by the Design Control Board. The appropriate Design manager will be responsible for conducting a presentation on the document's conformance to project objectives and on any issue relating to the document identified by the Manager/Chief Engineer. The Manager/Chief Engineer will approve the document or direct that it be revised, based on the comments of the Design Control Board. Revised documents will be resubmitted directly to the Manager/Chief Engineer for approval.

#### 2.4 DOCUMENT DISTRIBUTION AND RETENTION

Document distribution and retention are means for controlling approved documents that form the baseline used in further design, construction and operation of the Metro Rail System. Document storage is to be effected with the establishment and operation of a document control center. Through the document control center, the Metro Rail Project management maintains complete traceability of information that impacts on the design, construction and operation of the Metro Rail System and on related activities. This ensures that all participants in the design and in later phases are working from a common baseline, i.e., a common and currently correct description of the Metro Rail System.

The plan provides for the storage, distribution, retrieval, update and status accounting of documents generated in support of the Metro Rail System.

The plan is designed to encompass system configuration related documents prepared for the Metro Rail Project including reports, drawings and correspondence.

Specifically, the plan applies to two types of documents:<sup>1</sup>

- . Approved Category 1 documents (see section 2.3) that define or specify a system function or related parameter and are subject to strict configuration management.
- . Other documents (Category 2) that provide general information on design alternatives, bases for designs or technical data. These documents are not subject to the formal approval process yet a need for storage has been determined by a design manager or the Manager/Chief Engineer.

Two related control processes are to be followed during document storage. They are:

- . Storage and Retrieval
- . Update and Accounting.

#### 2.4.1 Storage and Retrieval

Document storage and retrieval will be accomplished through the establishment of a document control center. The center will receive, log, store distribute, and retrieve all documents that are subject to document storage.

Responsibility for administering the document control center lies with the document control specialist. The specific responsibilities of this individual are discussed in Chapter 3 of this plan.

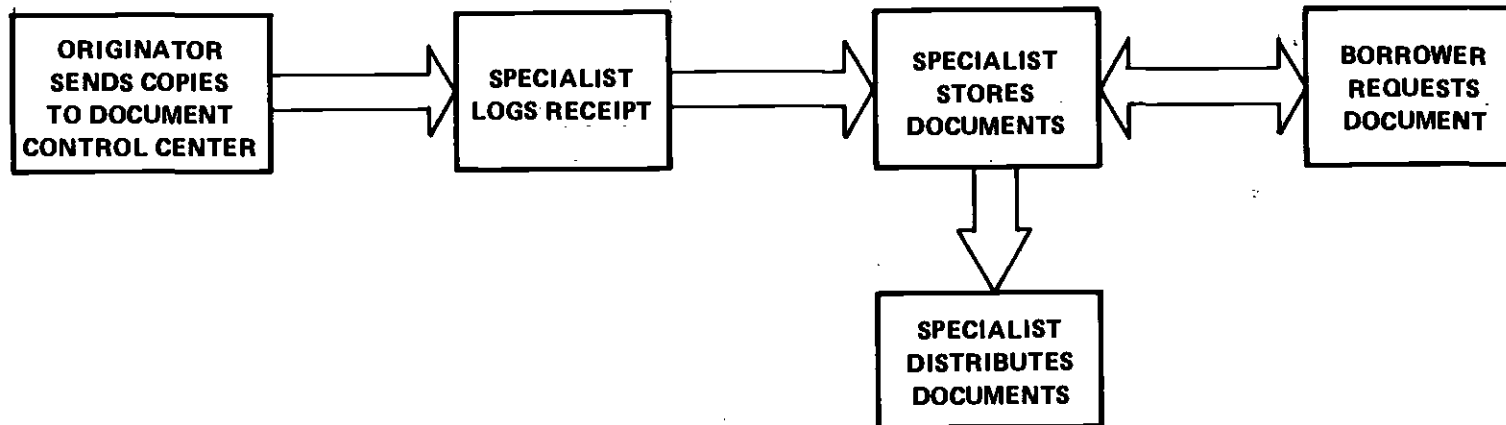
There are five activities to be performed as part of the document storage and retrieval process. These activities are illustrated on Exhibit 2-3 and described below:

- . Document receipt. The document control center will receive the approved master copy of the controlled document. The master copy will be in the form of a hard copy (i.e., report or drawing) and word processing disc or microfilm. The originator of the document has the primary responsibility for transmitting the document to the control center.

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<sup>1</sup> See Appendix A, List of Documents Subject to Configuration Management.

**EXHIBIT 2-3**  
**DOCUMENT STORAGE AND RETRIEVAL PROCESS**



- . Document logging. Each document received at the document control center will be logged by the clerk. Data contained in the document log will include:

- Document identifier code plus title
- Originator
- Date of receipt
- Distribution list for document with number of copies to each addressee, and date of distribution (i.e., mailing date, etc.)
- Date of approval by Manager/Chief Engineer

- . Document storage. The master copy will be retained by the document control center in the permanent project files. This copy can only be removed by the originator to incorporate approved changes. If determined necessary by either the originator or document control specialist other copies may be maintained in the storage files. These copies may be used for:

- Satisfying requests for documents by organizations or individuals outside or inside SCRTD.
- Satisfying temporary loan requests for documents by parties or individuals within SCRTD that are not on the original distribution list for the document.

- . Document distribution. The control specialist has the responsibility for reproducing copies and distributing the document to pertinent individuals. Distribution procedure for technical, milestone and EIS reports is outlined in the Metro Rail Procedural memo No. A-25.

The document control specialist will be responsible for ensuring that the most recent approved copy of a report or drawing

is distributed. The control specialist shall maintain a record of who received the document, number of copies received and date of receipt.

In the case of revised documents that have been distributed, it is the responsibility of each Design manager to ensure that earlier versions of a document are no longer being used in this part of the organization.

Document loan and retrieval. Documents can also be temporarily borrowed by individuals not on the initial distribution list only after the completion of a written request. A separate document request form will be required for each document to be borrowed from the document control center. The document request form is shown in Appendix B. All information requested by the form, except entry 6, must be completed before the document is loaned. The information needed to obtain a document includes: the document identifier; the document title; the name, organization, telephone and location of the requestor; the date of loan; the date the document is due to be returned; and the signature of the requestor. The control specialist is responsible for retrieving the document when it is due to be returned.

For all document loan requests, the document control specialist will:

- Place one copy of the request form in the appropriate WBS folder when the requested document is removed.
- Place the original request form in the document loan tickler file by due date.
- Attach one copy of the document loan request to the front of the loaned document to serve as a reminder to the borrower of the date the document is due to be returned.

#### 2.4.2 Update and Status Accounting

Document update and status accounting process ensures that a current record of document change status is maintained on file and that the most recent version of a document is stored in the document control center.

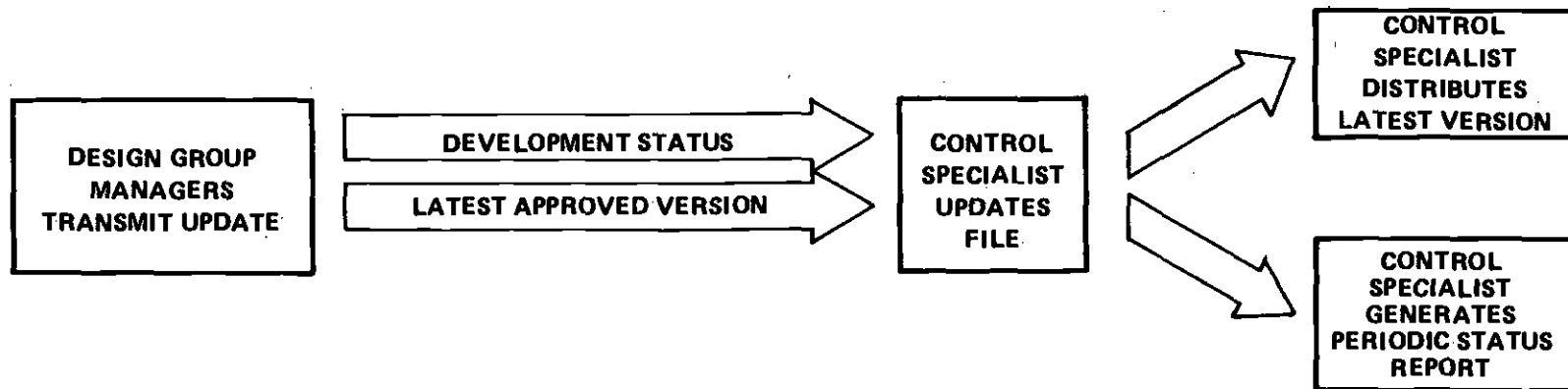
There are four activities to be performed as part of the document update and accounting process. These activities are illustrated on Exhibit 2-4 and described below:

- Update transmittal. The design group manager is ultimately responsible for ensuring that information on document change status and that the master copy of the latest approved version of a document are transmitted to the document control specialist in a timely manner. The manager may delegate this responsibility to the document originator or other individual within the design group.

Information on document change status will be transmitted to the document control center on a timely basis. The document control center should be informed of all change requests approved by the System Design and Analysis (SDA) manager for further action. In addition, information needed to monitor the status of all change requests should be reported. Required change request status information is described in Chapter 4 and shown on form titled Change Request Status Form (SCRTD/ MRP-CM5) contained in Appendix B.

- File update. The document control specialist is responsible for recording up-to-date document status and for logging and storing the latest version of an approved document into the control center. Document logging and storing activities are discussed above, under Storage and Retrieval.
- Document distribution. The document control specialist is also responsible for proper distribution of latest approved versions of a document. Document distribution activity is discussed above, under Storage and Retrieval.

**EXHIBIT 2-4**  
**DOCUMENT UPDATE AND STATUS ACCOUNTING PROCESS**



- . Status reporting. The document control specialist is responsible for generating periodic status reports relating to document development and system configuraton. These reports will be distributed to the Manager/Chief Engineer and Design managers. The frequency and format of these reports should be determined by the Manager/Chief Engineer and Design managers. Chapter 4 of this plan provides a description of the type of information to be reported.

## 2.5 DOCUMENT CHANGE APPROVAL AND IMPLEMENTATION

The document change approval and implementation stage entails the review and approval of changes to approved category 1 documents and the implementation of approved changes by design groups. This stage consists of two processes:

- . Change Approval
- . Change Implementation

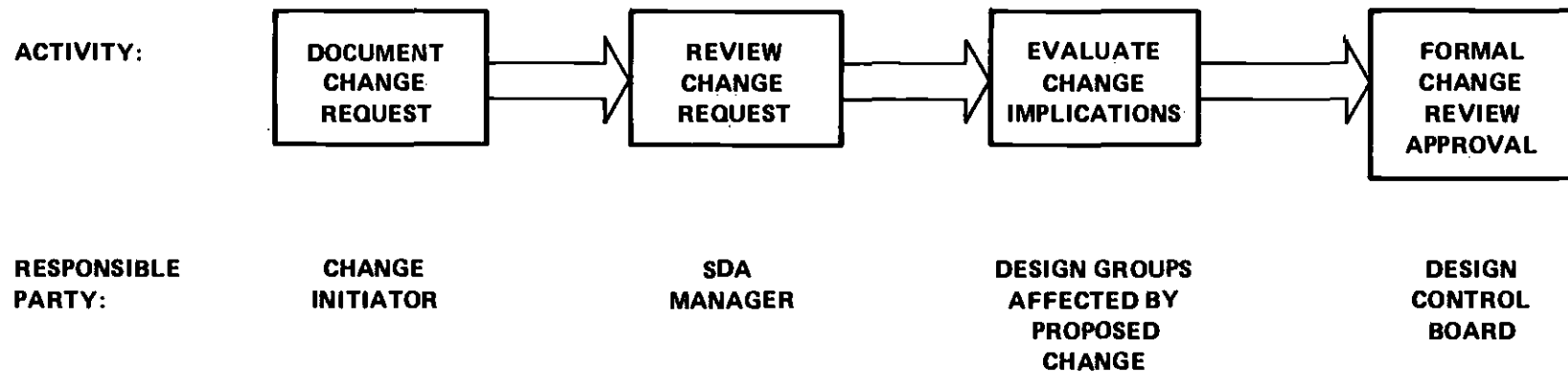
### 2.5.1 Change Approval

The change approval process begins with the initiation of a change request and terminates with the approval of the request. The control of changes to approved documents is accomplished through a formalized review process involving design groups, the SDA manager and the Design Control Board. This process consists of four activities shown in Exhibit 2-5 and described below.

- . Change Request Initiation. The need for a change in any element of the Metro Rail System may be identified by any of the design groups. The identifier of the need for a change will prepare a change request. The change request form is provided in Appendix B. The request should be reviewed and approved by the manager of the design group initiating the change request.
- . Change Request Review. The change request is then submitted to the SDA manager or his designate for review. The SDA manager will review the request in terms of its consistency with project objectives and current needs and whether the change has adequately been examined and documented by the originator.



**EXHIBIT 2-5**  
**DOCUMENT CHANGE APPROVAL PROCESS**



The SDA manager will determine what, if any, further action should be taken. The SDA manager will work with the manager of the design group initiating the change to resolve any issues relative to whether the request should proceed into the next change request approval activity. If further action is determined necessary, the SDA manager will approve the request and cause the change request to be properly logged by the document control center. If no further action is determined necessary, the SDA manager will appropriately complete the request form and return it to the initiating manager.

- . Change Request Evaluation. Next the initiator of the change request will ensure that copies of the request are distributed to other design groups for review and evaluation. The other design groups will examine the requested change. They will prepare a statement of its impact on their areas of responsibilities and on the documents they are preparing. The statement should also address estimated cost or savings and schedule impact of the change request. Cost implications should include system construction, operating and maintenance costs. This impact evaluation should cover both preliminary and final engineering phases. The evaluation reports will be sent to the SDA manager for submission to the Design Control Board.
  
- . Design Control Board Action. The Board will conduct change request review meetings on an as needed basis to be determined by the Manager/Chief Engineer. The Board will review the change request and inputs from other groups. The Board's action on the requested change will be one of the following:
  - Approved
  - Approved with specific modification
  - Disapproved and returned for additional investigation
  - Disapproved.

For all approved changes, the Board will determine whether the implemented change is to be subject to the formal approval process discussed in Part 2.3. The Board can also direct that the revised document be submitted directly to the document control center.

#### 2.5.2 Change Implementation

Following the completion of the Design Control Board's meeting, the Manager/Chief Engineer will document the Board's decision on the change request form and sign it. The CCM will file the change request in the document control center. Design groups will implement all changes as noted and approved by the Manager/Chief Engineer in a timely manner.

3. CONFIGURATION MANAGEMENT PLAN ADMINISTRATION

### 3. CONFIGURATION MANAGEMENT PLAN ADMINISTRATION

Configuration control is the ultimate responsibility of the Manager/Chief Engineer. Control is accomplished with direct support from the Design Control Board. The Supervising Engineer for System Engineering and Analysis is responsible for the implementation and operation of the configuration management plan. The Configuration Control Manager is responsible for day-to-day management and administration of the configuration control process. Reporting to the Configuration Control Manager is the document control specialist who is responsible for administering the document control center and associated activities. The following provides a detailed description of the responsibilities of the individuals identified above.

#### 3.1 METRO RAIL MANAGER/CHIEF ENGINEER

The Metro Rail Manager/Chief Engineer is responsible for monitoring, controlling and directing the Metro Rail project. In this role, he assumes the responsibilities of meeting the Metro Rail Project objectives and policies as defined by the Board of Directors and general manager and of managing the configuration management plan. Specific configuration management responsibilities include:

- . Issuing design directives
- . Reviewing and approving studies and design
- . Chairing the Design Control Board.

#### 3.2 DESIGN CONTROL BOARD

The Design Control Board serves as a formal management function that performs the following tasks:

- . Resolves conflicts in designs
- . Reviews designs
- . Reviews, evaluates and recommends approval/disapproval of requested changes to Category 1 documents.

The Board, composed of the Manager/Chief Engineer and design managers, reviews technical progress from each design group during regularly scheduled project meetings. Data needs, problems and design conflicts are also presented and discussed at these meetings. The Board will provide direction through the responsible design manager to design groups regarding the achievement of objectives and requirements.

When design conflicts occur, the design manager will bring the matter to the attention of the Board. The conflicting design groups will present their design rationales and the System Engineering and Analyses section will present an objective analysis of the design alternatives. The Manager/Chief Engineer, who chairs the Board, will have final say in resolving conflicts.

In its capacity as the controller of the design configuration, the Design Control Board will meet to review any change requests. The documentation examined by the Board, in arriving at its decision, will include the recommendations from the design groups affected.

### 3.3 SUPERVISING ENGINEER FOR SYSTEM ENGINEERING AND ANALYSIS

The function of the System Engineering and Analysis (SEA) Section is to ensure that the design of all system elements (ways and structures, stations and subsystems) is fully and effectively integrated and that the design effort is directed toward meeting established objectives and requirements. To accomplish this function, the SEA Section will provide both technical analysis and management support to the Manager/Chief Engineer.

The supervising engineer for System Engineering and Analysis is responsible for the implementation and overall operation of the configuration management plan. This individual is responsible for ensuring that all control processes described in this plan are effectively carried out.

### 3.4 CONFIGURATION CONTROL MANAGER

The Configuration Control Manager (CCM) is responsible for day-to-day management and administration of the configuration control process. The CCM reports directly to the Supervising Engineer for System Engineering and Analysis. Specifically, the CCM:

- . Organizes and directs operation of the document control center.

- . Implements identification of design interfaces and coordination of related design activities.
- . Reviews documents and drawings for conformance with system configuration and control requirements.
- . Reviews change requests for completeness and conformance with change control requirements and directs processing of request to assure appropriate and timely action.
- . Reviews design directives for configuration control conformance and provides for distribution of directives and monitoring for compliance.
- . Provides support to Design Control Board for organization of meetings and recording of actions, including special design review meetings.

### 3.5 DOCUMENT CONTROL SPECIALIST

The document control specialist is responsible for maintaining day-to-day operation of the document control center. The specialist reports directly to the CCM. Primary responsibilities of the specialist are listed below.

- . Receive master copies of all approved Metro Rail Project documents, drawings and specifications.
- . Log all receipts using the data elements described in Chapter 2.
- . Store, in proper files, the master copy of all approved documents, reproducible drawings and specifications.
- . Effect the distribution of officially approved documents.
- . Issue and retrieve documents for loan to authorized persons upon the receipt of a completed document loan request. Issue additional permanent copies on request.
- . Periodically prepare status reports relating to the development of documents and to system configuration. Distribute these reports to appropriate Metro Rail Project participants.

4. STATUS REPORTING



#### 4. STATUS REPORTING

The principle objective of status reporting is to provide management and all participants with a complete and current description of the approved system configuration. This system configuration will be under constant revision until the end of the preliminary engineering phase.

Status reporting records are required for each element of design and each controlled document. The information contained in these records should provide a description of the design or the document from the start of configuration control, through each successive approved change to the current configuration.

The status reporting records should also permit the monitoring of each proposed change as it progresses through the review and approval cycle.

##### 4.1 Document Inventory

The document control center maintains an inventory of all approved documents. This inventory provides data on the latest approved revision along with the date that the revision was approved.

##### 4.2 Design Element Status

Each element of the Metro Rail System design shall have its current configuration described by drawings and associated documents. A record of these drawings and associated documents will be maintained with reference to all approved changes thereto.

The design element status is recorded using forms SCRTD/MRP-CM1 and SCRTD/MRP-CM2. These forms are provided in Appendix B to this plan. The information reported on CM1 starts with the identification of the design element at the top level. This identification is by drawing number and date of the drawing release or approval. Listed for each element, in indented form, will be the

sub-elements, assemblies, components, and parts that make up the element. Each of these will be listed by name and drawing number. For each of the sub-elements, etc., the latest approved change request will be shown and the page number of the form CM2 that contains a description of the specific changes that were approved to that sub-element, etc.

A CM1 form is used for each repairable component, assembly, sub-element and element, and a CM2 form is required for each component, assembly, sub-element or element that has an approved change.

#### 4.3 Document Status

Each controlled document of the Metro Rail System shall have its current status maintained following its initial approval by the Manager/Chief Engineer. A record of system changes that cause changes to or impacts on the basic document content will be provided through the status reporting records.

These status records are maintained using forms SCRTD/MRP-CM3 and SCRTD/MRP-CM4. The forms are provided in Appendix B to this plan. The information reported on CM3 is assembled first by the type of document, i.e., alternative evaluation, reliability analysis, hazard analysis, etc. For each document of a type that has been prepared, the document title, document identifier and date of approval are provided. The form also contains the identification of the latest approved change that modifies the results reported on the document without requiring the document to be corrected, and the page number of form CM4 that contains a description of the difference between the basic approved document and the current approved data. As with form CM2, a separate form CM4 is used for each specific document title that is impacted by an approved change.

#### 4.4 Change Request Status

The status of change requests is another important part of status reporting. Monitoring the movement of a requested change through the change control cycle is accomplished as a part of status accounting using form SCRTD/MRP-CM5. This form is provided in Appendix B to this plan.

The information entered on the form CM5 is in the sequence of the assigned change numbers. The other data on the form includes the identification of the change request, originating organization, the document identifier(s) and/or drawing numbers(s) of the top level item to be changed along with the appropriate document title(s) or element name(s) and the approval date of these items. The movement of the change through the approval cycle is monitored by the entry of the following dates:

- . Date the change request was submitted for consideration
- . Date the change request review was completed by the SDA manager
- . Date the evaluation by the other design groups was completed
- . Date of the Design Control Board decision and the decision of the board
- . Date the change was reported to have been effected to the appropriate documents and drawings.

APPENDIX A

LIST OF DOCUMENTS SUBJECT TO  
CONFIGURATION MANAGEMENT

## APPENDIX A

### LIST OF DOCUMENTS SUBJECT TO CONFIGURATION MANAGEMENT

This appendix lists those documents that will be generated by design groups during preliminary engineering. The list is divided into three categories as follows:

1. Documents Subject to Strict Configuration Management. These documents define or specify a system function or related parameter. They are subject to all control processes presented in the configuration management plan.
2. Documents Subject to Limited Configuration Management. These documents provide general information on project status or technical data. They are subject to those control processes pertaining to two document life cycle stages: (1) Preparation and change and (3) Storage.
3. Documents Not Subject to Configuration Management. The documents are not critical to system design.

1. DOCUMENTS SUBJECT TO STRICT CONFIGURATION MANAGEMENT

TITLE	WBS REFERENCE	PREPARATION RESPONSIBILITY	
		STAFF	CONSULTANT
Preliminary Engineering Project Management Plan	11A	SA	
Configuration Management Plan	14DAH	SA	BAH
Utility Relocation Plans and Estimates (Stations)	16BAK	STA	City
System Specification Initial Version	13DAL	SA	BAH
System Specifications Update #1	15F	SA	BAH
Update #2	15F	SA	BAH
Final System Specification	16DAM	SA	BAH
Outline Specifications	16AAN	W & S	DMJM/PBQD
PRELIMINARY DESIGN SPECIFICATIONS FOR:			
Passenger Vehicle	16CAA	SUBS	KE
Train Control	16CAB	SUBS	KE
Communications	16CAC	SUBS	KE
Traction Power & Distribution	16CAD11	SUBS	KE
Auxiliary Power	16CAD12	SUBS	KE
Fare Collection	16CAE11	SUBS	KE
Mechanical & Electrical Equipment	16CAE12	SUBS	KE
Auxiliary Vehicles	16CAE13	SUBS	KE
Proposed Alternative Horizontal and Vertical Alignments, Plans and Profiles	14AAA	W & S	DMJM/PBQD
Stations Planning Drawings (as required)	14BAM	STA	HWA
Contract Packaging Drawings	16AAR	W & S	DMJM/PBQD

1. DOCUMENTS SUBJECT TO STRICT CONFIGURATION MANAGEMENT (continued)

TITLE	WBS REFERENCE	PREPARATION	RESPONSIBILITY
		STAFF	CONSULTANT
Directive and Standard Drawings	16AAW	W & S	DMJM/PBQD
Framing Plans and Sections	16BAC	W & S	DMJM/PBQD
Mechanical Plans and Sections	16BAD	STA	HWA
Electrical Plans and Sections	16BAE	STA	HWA
Elevator/Escalator Drawings	16BAJ	STA	HWA
Stations Planning Drawings (as required)	16BAY	STA	HWA
PRELIMINARY DESIGN DRAWINGS FOR:			
Passenger Vehicles	16CAA	SUBS	KE
Train Control	17CAB	SUBS	KE
Communications	16CAC	SUBS	KE
Traction Power and Distribution	16CAD11	SUBS	KE
Auxiliary Power	16CAD12	SUBS	KE
Fare Collection	16CAE11	SUBS	KE
Mechanical and Electrical Equipment	16CAE12	SUBS	KE
Auxiliary Vehicles	16CAE13	SUBS	KE
Civil Criteria	13AAA	W & S	DMJM/PBQD
Structural Criteria	13AAB	W & S	DMJM/PBQD
Track Work Criteria	13AAC	W & S	DMJM/PBQD
Yards and Shops Criteria	13AAD	W & S	DMJM/PBQD
Ventilation Criteria	13AAE	W & S	DMJM/PBQD
Corrosion Control Criteria	13AAG	W & S	PSG/WATERS
Noise and Vibration Criteria	13AAH	W & S	WIA
Station/Architectural Criteria	13BAA	STA	HWA

1. DOCUMENTS SUBJECT TO STRICT CONFIGURATION MANAGEMENT (continued)

TITLE	WBS REFERENCE	PREPARATION RESPONSIBILITY	
		STAFF	CONSULTANT
Standard Directives and Drawings	13BAB		
Passenger Vehicle Criteria	13CAA	SUBS	KE
Train Control Criteria	13CAB	SUBS	KE
Communications Criteria	13CAC	SUBS	KE
Traction Power Criteria	13CAD11	SUBS	KE
Auxiliary Power Criteria	13CAD12	SUBS	KE
Mechanical/Electrical Criteria	13CAE12	SUBS	KE
Auxiliary Vehicle Criteria	13CAE13	SUBS	KE
Elevator and Escalator Criteria	13CAE14	SUBS	KE
Energy Management Study Report	13DAA	SA	BAH
System Safety, Assurance and Security Criteria	13DAD	SA	BAH
Yards and Shops Operating Criteria	13DAJ	SA	BAH
Fire Protection Criteria	13DAK	SA	KE/GBA
Fare Collection Criteria	14CAE11	SA	BAH
Life Cycle MODEC Report and Users Manual	14DAA	SA	BAH
Report on Preferred System Configuration and Basis for Selection	15B	SA	BAH
Criteria and Methodology for Selection of Preferred System Configuration	15A	W&S, SA	BAH
System Safety, Assurance and Security Plans	16DAD	SA	BAH
Civil/Structure Plans	16AAA	W & S	DMJM/PBQD
General Yards and Shops Plans	16AAB	W & S	DMJM/PBQD
Trackwork Design Report and Plans	16AAC	W & S	DMJM/PBQD



1. DOCUMENTS SUBJECT TO STRICT CONFIGURATION MANAGEMENT (continued)

TITLE	WBS REFERENCE	PREPARATION STAFF	RESPONSIBILITY CONSULTANT
Construction Staging Report and Plans for Lines and Stations	16AAG	W & S	DMJM/PBQD
Right-of-Way Plans	16AAH11	W & S	DMJM/PBQD
General Plans	16AAV	W & S	DMJM/PBQD
Floor Plans, Sections and Elevations for Each Section	16BAA	STA	HWA
Site Plan(s) for Each Station	16BAB11	STA	HWA
Preliminary Street Plans	16BAB12	W & S	City
Station Utility Relocation Plans	16BAK	STA	City
System Operating Plan	16DAA	SA	BAH
Interface Matrices (Configuration Control)	16DAH	SA	BAH
System Maintenance Plan	16DAJ	SA	BAH
Configuration Management Plan for Final Design	16DAL	SA	BAH
Milestone 12, Preliminary Engineering System Plan	16DAK	SA	BAH
Operating and Maintenance Cost Estimates	17BAB	SA	BAH
Master Final Design and Construction Schedule and Project Criteria Path Plan	17E	PC	

2. DOCUMENTS SUBJECT TO LIMITED CONFIGURATION MANAGEMENT

TITLE	WBS REFERENCE	PREPARATION RESPONSIBILITY	
		STAFF	CONSULTANT
Procedural Memos	11DAA1112	MCE	
Work Breakdown Structure	11DAA3112	PC	
Current SCRID Fare Structure	13CAE11	SA	BAH
Rail Transit Fare Collection State of the Art	13CAE11	SA	BAH
Design Control Plan	13DAG	SA	BAH
Project Definition and Objectives	13DAG	SA	BAH
Procedures for Capital, Operating and Maintenance Cost Estimates	14AAE	W & S	DMJM/PBQD
Capital, Operating and Maintenance Cost for the Most Promising Alter- natives	14AAE	W & S	DMJM/PBQD
Fare Collection Design and Speci- fication Review	14CAE11	SA	BAH
Capital, Operating and Maintenance Cost Estimates for the Most Promis- ing Station Alternatives	14BAE	STA	HWA
Capital, Operating and Maintenance Cost Estimates for the Most Promis- ing Alternatives	14CAF	SUBS	KE
Property Acquisition Costs	16AAH12	W & S	Spec. Consul
Relocation Plan and Costs	16AAH13	W & S	Spec. Consul
Ways and Structures Cost Estimates	16AAK	W & S	DMJM/PBQD
Station Cost Estimates	16BAM	STA	HWA
Subsystem Cost Estimates	16CAF	SUBS	KE
Reports on Constructability and Review of Capital Costs and Con- tract Packaging	17A	W & S	Spec. Consul
Capital Cost Estimates	17BAA	W & S	DMJM/PBQD
Cost Estimates for Construction of Alternative Operable Segments	17C	W & S	DMJM/PBQD

2. DOCUMENTS SUBJECT TO LIMITED CONFIGURATION MANAGEMENT (continued)

TITLE	WBS REFERENCE	PREPARATION RESPONSIBILITY	
		STAFF	CONSULTANT
Preliminary Drawings, Tunnels, Stations	14AAB	W & S	DMJM/PBQD
Tentative Layouts for Authorized Yards and Shops Alternatives	14AAG12	W & S	DMJM/PBQD
Alternative Station Diagrammatics	14BAB	STA	HWA
Geotechnical Report	12AAC	W & S	CWDD
Seismic Design Criteria Report	12AAD	W & S	CWDD
Corrosion Control Report	12AAH	W & S	PSG/WATERS
General Noise and Vibration Report	12AAJ	W & S	WIA
System Wide Signage and Graphics Report	12AAK	STA	
Phase 1 and 2 System Patronage Forecasts	12B	SCRTD Planning	BA
Operating Alternatives Analysis Report	13DAA	SA	BAH
Preliminary Property Identifica- tion Report	14AAC	W & S	DMJM/PBQD
Construction Methods, Report on Authorized Alternatives	14AAF	W & S	DMJM/PBQD
Report on Functional Plans for Yards and Shops	14AAG11	W & S	DMJM/PBQD
Site Specific EIS, Report on Authorized Alternatives	14AAH	W & S	DMJM/PBQD
Report on Authorized Ventilation System	14AAJ	W & S	DMJM/PBQD
Trackwork, Report on Authorized Alternatives	14AAK	W & S	DMJM/PBQD
Tunnel Arrangements, Report on Authorized Alternatives	14AAM	W & S	DMJM/PBQD
Muck Disposal, Report on Author- ized Alternatives	14AAN	W & S	DMJM/PBQD

2. DOCUMENTS SUBJECT TO LIMITED CONFIGURATION MANAGEMENT (continued)

TITLE	WBS REFERENCE	PREPARATION RESPONSIBILITY	
		STAFF	CONSULTANT
Alternative Station Locations Report	14BAA	STA	HWA
Preliminary Property Identification	14BAC	STA	HWA
Utilities and Street Work Considerations, Report on Authorized Alternatives	14BAD	W & S	City
Station Construction Methods	14BAF	W & S	DMJM/PBQD
Escalators and Elevators	14BAG	STA	HWA
Site Specific EIS	14BAH	STA	HWA
Reports on Special Studies of Stations (as required)	14BAK	STA	HWA
Lighting	14BAL	STA	HWA
Station Planning Reports (as required)	14BAM	STA	HWA
Passenger Vehicles Alternatives Report	14CAA	SUBS	KE
Train Control Alternatives Report	14CAB	SUBS	KE
Communications Alternatives Report	14CAC	SUBS	KE
Traction Power and Distribution Alternatives Report	14CAD11	SUBS	KE
Auxiliary Power Alternatives Report	14CAD12	SUBS	KE
Fare Collection Alternatives Report	14CAE11	SA	BAH
Auxiliary Vehicles Alternatives Report	14CAE13	SUBS	KE
System Safety, Assurance and Security, Reports on Compatibility of Authorized Alternatives	14DAD	SA	BAH
Report on Preferred System Configuration and Basis for Selection	15B	SA	BAH

2. DOCUMENTS SUBJECT TO LIMITED CONFIGURATION MANAGEMENT (continued)

TITLE	WBS REFERENCE	PREPARATION RESPONSIBILITY	
		STAFF	CONSULTANT
Preliminary Constructability Review Reports	15C		
Long Lead Procurement Report	16AAP	W & S	DMJM/PBQD
Long Lead Procurement Report	16BAQ	STA	HWA
Long Lead Procurement Report	16CAH	SUBS	KE
Contract Packaging Report	16AAR	W & S	DMJM/PBQD
Contract Packaging Report	16BAY	STA	HWA
Contract Packaging Report	16CAL	SUBS	KE
Report on Planning for Final Design	16AAS	W & S	
Muck Disposal Report	16AAT	W & S	DMJM/PBQD
Elevator/Escalator Requirement Report	16BAJ	STA	HWA
Design Reports on Each Station	16BAR	STA	HWA
Lighting Design Report	16BAS	STA	HWA
Station Planning Reports (as required)	16BAY	STA	HWA
Test and Evaluation Recommendations	16CAJ	SUBS	KE
Reports on Constructability and Review of Capital Costs and Contract Packaging	17A	W & S	Spec. Consul
Support Analysis Reports (as required)	17F	SA	BAH
Facilities Rearrangement Atlantic Co.-Four Corners Pipeline	12G	W & S	
Facilities Rearrangement Cal Trans	12G	W & S	
Facilities Rearrangement City of Los Angeles	12G	W & S	
Facilities Rearrangement County of Los Angeles	12G	W & S	

2. DOCUMENTS SUBJECT TO LIMITED CONFIGURATION MANAGEMENT (continued)

TITLE	WBS REFERENCE	PREPARATION RESPONSIBILITY	
		STAFF	CONSULTANT
Facilities Rearrangement Dept. of Water and Power - Water	12G	W & S	
Facilities Rearrangement Dept. of Water and Power - Power	12G	W & S	
System Power (City Area) Dept. of Water and Power - Power	11DAF	SUBS	
System Power (County Area)	11DAF	SUBS	
So. Calif. Edison-Power	11DAF	SUBS	
Facilities Rearrangement LACFCD - Flood Control	12G	W & S	
Facilities Rearrangement Pacific Telephone and Telegraph	12G	W & S	
Facilities Rearrangement Santa Fe Railroad	12G	W & S	
Facilities Rearrangement Southern Calif. Edison Co. - Power	12G	W & S	
Facilities Rearrangement Southern Calif. Gas Co.	12G	W & S	
Facilities Rearrangement Southern Pacific Railroad Co.	12G	W & S	
Facilities Rearrangement Western Union Telegraph Co.	12G	W & S	
Facilities Rearrangement County Sanatation District	12G	W & S	
Facilities Rearrangement LAUPT Union Station (SP, UP, Santa Fe, RRS)	12G	W & S	
Preliminary System Operating Plan	13DAA	SA	BAH
Preliminary Maintenance Plan	14DAG	SA	BAH
Train Performance Simulation Model and Users Manual	13DAA	SA	BAH

2. DOCUMENTS SUBJECT TO LIMITED CONFIGURATION MANAGEMENT (continued)

TITLE	WBS REFERENCE	PREPARATION RESPONSIBILITY	
		STAFF	CONSULTANT
Train Performance Simulation Model and Users Manual	16DAA	SA	BAH
Final Design and Construction Schedule	16AAM	W & S	DMJM/PBQD
Final Design and Construction Schedule	16BAP	STA	HWA
Final Design and Construction Schedule	16CAG	SUBS	KE
EIS Draft (Print and Distribute)	18CAC12	STA	S/C
EIS Preliminary Final	18CAC12	STA	S/C
Final EIS/EIR; Record of Decision, Certification	18CAA13	STA	S/C
Milestone 1, Preliminary System Definition and Operating Plan	12H	S/A	BAH
Milestone 2, System Design Criteria	12H	S/A	BAH
Milestone 3, Route Alignment and Alternatives		W & S	DMJM/PBQD
Milestone 4, Station Location and Alternatives		STA	HWA
Milestone 5, Right-of-Way Acquisition and Relocation Policy		Legal	VECMA Marshal
Milestone 6, Development and Land-Use Policy		PLNE	
Milestone 7, Safety, Security and System Assurance Plan	15D	S/A	BAH
Milestone 8, System and Subsystem Configuration	15D	S/A/SUBS	BAH/KE
Milestone 9, Supporting Service Plan		STA (and Bus Planning Div.	

2. DOCUMENTS SUBJECT TO LIMITED CONFIGURATION MANAGEMENT (continued)

TITLE	WBS REFERENCE	PREPARATION STAFF	RESPONSIBILITY CONSULTANT
Milestone 10, Fixed Facilities Plans		STA, W&S, SUBS	DMJM/PBQD
Milestone 11, Cost Estimate		STA, W&S, SUBS, S/A	DMJM/PBQD



3. DOCUMENTS NOT SUBJECT TO CONFIGURATION MANAGEMENT

TITLE	WBS REFERENCE	PREPARATION RESPONSIBILITY	
		STAFF	CONSULTANT
Cost/Schedule Reports	11B	PC	
Management Information Report	11DAA3116	PC	
Quarterly Progress Reports on MBE/EEO/AA	11DAC	MBE	
Periodic Document Status Audit Reports	14DAH 15E 16DAH	SA	BAH
Monthly Progress Reports (Staff)		All Techni- cal Divs/ Elements	
Monthly Progress Reports (Con- sultants)		ALL	
Bi-weekly or Semi-monthly Labor Reports (Consultants)		All Major Consultants	
Direct Labor/Cost Estimates		All Major Consultants	
Activity Network Diagrams		All Major Consultants	
Preliminary Utilities Relocation and Construction Estimate	16AAF	W & S	City
Estimate of Cash Flow Requirements of Capital Grant Application	17D	PC	
Aerial Photogrammetry and Topo- graphic Mapping	12AAB	W & S	TEL/GEO
Utility Locations	12AAG 13AAF	W & S	City
Community Liason (Station Design Reports, Drawings, Sketches as Needed)	16BAT	STA/CR	HWA.

3. DOCUMENTS NOT SUBJECT TO CONFIGURATION MANAGEMENT (continued)

TITLE	WBS REFERENCE	PREPARATION RESPONSIBILITY	
		STAFF	CONSULTANT
Reports on Peer Review Sessions	12D	W & S; STA SUBS; SA	
Joint Development/Value Capture Report	12E	SCRTD Plan.	
Reports on Results of Reviews of Codes, Guidelines, Regulations, etc.	12F	W & S; STA; SUBS; SA	DMJM/PBQD KE;HWA;BAH
Utility Relocation Requirements Report	14AAD	W & S	City
Summary of Work Program Comments	18AAA	STA	S/C
Environmental Impact Assessment Reports (as required)	16AAX	W & S	
Notice of Preparation for Scoping Process	18AAA	STA	
Definition of Existing Conditions	18BAA	STA	S/C
Identification of Objectives, Policies, Programs, Legal Obligations and Institutional Constraints	18BAB	STA	S/C
Growth Scenarios, Formulation and Assessment	18BAC	STA	S/C
System Alternatives Definition	18BAD	STA	S/C
Implications of System Alternatives	18BAE	STA	S/C
Definition of Sub-Area and Collection of Data	18BAF	STA	S/C
Definition of Sub-Area Alternatives	18BAG	STA	S/C
Traffic Analysis	18BAH1144	STA	S/C
Parking Needs and Impacts at Station Areas	18BAH1342	STA	City DOT

3. DOCUMENTS NOT SUBJECT TO CONFIGURATION MANAGEMENT (continued)

TITLE	WBS REFERENCE	PREPARATION RESPONSIBILITY	
		STAFF	CONSULTANT
Parking Policies	18BAH1343	STA	City DOT
Geologic Impacts	18BAH16	STA	S/C
Hydraulic Impacts	18BAH17	STA	S/C
Noise and Vibration Impacts	18BAH18	STA	S/C
Air Quality Impacts	18BAH19	STA	S/C
Ecological Impacts	18BAH21	STA	S/C
Utility System Impacts	18BAH26	STA	S/C
Station Location Analysis	18BAH2741	STA	City Pln
Station Area Boundaries	18BAH2742	STA	City Pln
Station Locations	18BAH2744	STA	LA Co.
Specific Plan Alternatives	18BAH2941	STA	City Pln
Interim Specific Plan	18BAH2943	STA	City Pln
Land Use Impact Evaluation	18BAH2949	STA	S/C
Energy Impacts	18BAH31	STA	S/C
Urban and Visual Design Impacts	18BAH32	STA	S/C
Economic Impact	18BAH33	STA	S/C
Fiscal Impacts	18BAH34	STA	S/C
Impact on Resources (Historic and Open Space)	18BAH3541	STA	S/C
Effect Determination	18BAH3542	STA	S/C
Memorandum of Agreement	18BAH3453	STA	S/C
Construction	18BAH36	STA	S/C
Consequences of Sub-Area Impacts and Potential Mitigation Measures	18DAJ	STA	S/C
Aggregation of Sub-Area Alternatives and Implementation	18BAK	STA	S/C

3. DOCUMENTS NOT SUBJECT TO CONFIGURATION MANAGEMENT (continued)

TITLE	WBS REFERENCE	PREPARATION RESPONSIBILITY	
		STAFF	CONSULTANT
Sub-Area and Regional Effects of System Variations	18BAL	STA	S/C
Environmental Consequences of System Alternatives Including No Build	18BAM	STA	S/C
Mitigation Measures	18BAN	STA	S/C
1980 Traffic Data (ADT, PKHR, VMT)	18BAH1141	STA	City DOT
1995 Traffic Projections "Base" Condition "With Project" Conditions	18BAH1143	STA	City DOT
Traffic Circulation Data and Projections:			
1980 V/C Ratios	18BAH1242	STA	City DOT
1995 "Base" Condition Vehicle Flow	18BAH1242	STA	City DOT
1995 Station Area Circulation Vehicle Flows	18BAH1243	STA	City DOT
Inventory of Existing on/off Street Parking	18BAH1341	STA	City DOT
Traffic Control Policies During Construction	18BAH14	STA	City DOT
Revised/Overall Work Program for EIS	18AAB	STA	S/C
Traffic Impact Mitigation Measures	18BAH15	STA	City DOT
Demographic Impacts	18BAH22	STA	S/C
Impacts of Community Cohesion	18BAH23	STA	S/C
Impacts of Accessibility of Facilities and Services	18BAH24	STA	S/C
Land Use and Activity Inventory	18BAH2841	STA	City Pln
Compendium of Socio-Economic and Demographic Data	18BAH2842	STA	City Pln
Land Use Data	18BAH2843	STA	LA Co.

3. DOCUMENTS NOT SUBJECT TO CONFIGURATION MANAGEMENT (continued)

TITLE	WBS REFERENCE	PREPARATION RESPONSIBILITY	
		STAFF	CONSULTANT
Review of 4(f) and 106 Impacts	18BAH2944	STA	City Pln
Resolution of Adoption for Specific Plan	18BAH2945	STA	City Pln
County Zoning Regulations	18BAH2946	STA	LA Co.
County Land Use Plan	18BAH2947	STA	LA Co.
Resolution of Adoption for Land Use Plan	18BAH2948	STA	LA Co.
EIS Task Reports	18CAA11	STA	S/C
EIS Initial Reports	18CAA	STA	S/C
EIS Periodic Reports	18CAA13	STA	City Pln, S/C, LA Co.
EIS Preliminary Draft	18CAB11	STA	S/C
L.A. DOT Traffic Analysis Draft/ Final Report	18CAA21	STA	City DOT
L.A. City Planning Draft/Final Reports	18CAA22	STA	City Pln
L.A. County Planning Land Draft/ Final Reports	18CAA23	STA	LA Co.

APPENDIX B  
CONFIGURATION MANAGEMENT PLAN FORMS

Appendix B  
Configuration Management Plan Forms

This appendix contains forms to be used in conjunction with the configuration management plan outlined in this report. These forms are described below:

- . DOCUMENT APPROVAL STATUS FORM. This form is to be initiated by document originators. It is to be attached to all category 1 documents when subjected to formal approval. When completed, the form will record the signature of approving parties, the date of approval and comments of each party pertaining to document approval or reasons for disapproval.
- . DOCUMENT LOAN REQUEST. This form is to be completed by individuals wishing to temporarily borrow a controlled document from the document control center.
- . CHANGE REQUEST FORM. This form is to be initiated by individuals requesting a change to an approved category 1 document. The originating individual will complete all sections of the form with the exception of section C which will record the decisions of individuals regarding the approval or disapproval of the change request.
- . DESIGN ELEMENT STATUS FORM (SCRTD/MRP-CM1). This status reporting form is to be maintained by the document control center clerk. This form will provide a record of a design element's current configuration.
- . DESIGN ELEMENT CHANGE STATUS FORM (SCRTD/MRP-CM2). This status reporting form is to be maintained by the document control center clerk. This form will provide a description of all approved changes to a design element.
- . DOCUMENT STATUS FORM (SCRTD/MRP-CM3). This status reporting form is to be maintained by the document control center clerk. This form will provide a record of a document's current status.

- DOCUMENT CHANGE STATUS FORM (SCRTD/MRP-CM4). This status reporting form is to be maintained by the document control center clerk. This form will provide a description of all approved changes to a document.
- CHANGE REQUEST STATUS FORM (SCRTD/MRP-CM5). This status reporting form is to be maintained by the document control center clerk. This form will record and track the status of all change requests.



DOCUMENT APPROVAL STATUS FORM

DOCUMENT APPROVAL STATUS FORM

A. BACKGROUND INFORMATION (To be completed by originator)

- 1. Document Title: \_\_\_\_\_  
\_\_\_\_\_
- 2. Document Description: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
- 3. Identifier Code: \_\_\_\_\_
- 4. Originating Party:   a. Individual (s) \_\_\_\_\_  
                                  b. Organization \_\_\_\_\_
- 5. Date Initiated \_\_\_\_\_

B. APPROVAL PROCESS (Insert comments in section C as appropriate)

ACTION (Check One)

- |   | <u>Approved</u>                   | <u>Disapproved</u>       | <u>Other</u>             |
|---|-----------------------------------|--------------------------|--------------------------|
| 1. Group Internal Review                  | a. <input type="checkbox"/>       | <input type="checkbox"/> | <input type="checkbox"/> |
|   | b. Design Manager Signature _____ |                          |                          |
|   | c. Date _____                     |                          |                          |
| 2. Other Group Review                     | a. <input type="checkbox"/>       | <input type="checkbox"/> | <input type="checkbox"/> |
|   | b. Design Manager Signature _____ |                          |                          |
|   | c. Date _____                     |                          |                          |
| 3. CCM Review                             | a. <input type="checkbox"/>       | <input type="checkbox"/> | <input type="checkbox"/> |
|   | b. Manager Signature _____        |                          |                          |
|   | c. Date _____                     |                          |                          |
| 4. Design Control Board Review (Optional) | a. <input type="checkbox"/>       | <input type="checkbox"/> | <input type="checkbox"/> |
|   | b. M/CE Signature _____           |                          |                          |
|   | c. Date _____                     |                          |                          |

---

**C. DOCUMENT REVIEW COMMENTS:**  
(Use additional sheet if more space is needed)

**1. Internal Group:** \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**2. Other Groups:** \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**3. CCM:** \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**4. M/CE:** \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

DOCUMENT LOAN REQUEST

Request Number \_\_\_\_\_

**DOCUMENT LOAN REQUEST**  
(Print all information except entry 5)

1. DOCUMENT IDENTIFIER CODE \_\_\_\_\_

2. DOCUMENT TITLE


3. REQUESTOR

Name:	
Organization:	
Telephone: (    )	Extension
Location/Room:	

4. DATES

Date Released:
Date DUE Back:

5. REQUESTOR'S SIGNATURE

--

6. RETURNED

Date:	Document Clerk:
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CHANGE REQUEST FORM

### CHANGE REQUEST FORM

**A. CHANGE ORIGINATOR (To be completed by originator)**

- 1. Name: \_\_\_\_\_
- 2. Organization \_\_\_\_\_
- 3. Telephone: \_\_\_\_\_

**B. DOCUMENT (to be completed by originator)**

- 1. Title: \_\_\_\_\_
- 2. Identifier Code: \_\_\_\_\_
- 3. Originating Group: \_\_\_\_\_
- 4. Date of Initial Document Approval \_\_\_\_\_

**C. APPROVAL PROCESS AND CHANGE**

**1. Design Group Manager (Check One)**

- a.  Approved  Disapproved  
 Approved with modifications  Disapproved-resubmit

b. Signature: \_\_\_\_\_

c. Date: \_\_\_\_\_

**2. SYSTEM DESIGN AND ANALYSIS MANAGER (Check One)**

- a.  Approved  Disapproved  
 Approved with modifications  Disapproved-resubmit

b. Signature: \_\_\_\_\_

c. Date: \_\_\_\_\_

**3. MANAGER/CHIEF ENGINEER (Check One)**

- a.  Approved  Disapproved  
 Approved with modifications  Disapproved-resubmit

b. Signature: \_\_\_\_\_

c. Date: \_\_\_\_\_

**4. DESCRIPTION OF APPROVED CHANGE:** \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

---

**D. CHANGE REQUEST (To be completed by originator)**

**1. Description:** \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**2. Reasons for Change:** \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

---

**E. EXPECTED IMPLICATIONS OF CHANGE REQUEST (To be completed by originator)**

**1. Metro Rail Preliminary Engineering Phase Project Cost:** \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**2. Metro Rail System Cost:** \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**3. Other:** \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



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**F. AFFECTED DOCUMENTS/ORGANIZATION (To be completed by originator)**

1. a. Title: \_\_\_\_\_

b. Identifier code: \_\_\_\_\_

c. Organization: \_\_\_\_\_

d. Impact on Document: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

1. a. Title: \_\_\_\_\_

b. Identifier code: \_\_\_\_\_

c. Organization: \_\_\_\_\_

d. Impact on Document: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

1. a. Title: \_\_\_\_\_

b. Identifier code: \_\_\_\_\_

c. Organization: \_\_\_\_\_

d. Impact on Document: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

(USE ADDITIONAL SHEET IF MORE SPACE IS NEEDED)

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**G. COMMENTS**

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

DESIGN ELEMENT STATUS FORM  
(SCRTD/MRP-CM1)

**DESIGN ELEMENT STATUS FORM**

<b>Design Element:</b>					<b>PAGE</b>	
<b>Drawing Identifier Code:</b>			<b>Approved Date:</b>		<b>REV.</b>	
Subelement, Assembly, Component, or Part Name	Baseline Configuration	Current Configuration		Change		Page with Change Data CM 2
	Part Drawing Identifier Code	Change No.	Part Drawing Identifier Code	Type	Approved Number	

DESIGN ELEMENT CHANGE STATUS FORM  
(SCRID/MRP-CM2)

DESIGN ELEMENT CHANGE STATUS FORM

<b>Design Element:</b>		<b>PAGE</b>	
<b>Drawing Identifier Code:</b>		<b>Approved Date:</b>	<b>REV.</b>
<b>Change Log Number</b>	<b>Part Drawing Identifier Code</b>	<b>Description of Change to this Design Element</b>	

DOCUMENT STATUS FORM  
(SCRTD/MRP-CM3)

DOCUMENT STATUS FORM

Document Type:				PAGE	
				REV.	
Title	Document Identifier Code	Initial Approved Date	Revision/Change		Page with Change Data CM 4
			Type	Date	

DOCUMENT CHANGE STATUS FORM  
(SCRTD/MRP-CM4)



**DOCUMENT CHANGE STATUS FORM**

<b>Document Title:</b>		<b>PAGE</b>	
<b>Document Identifier Code</b>		<b>Approved Date:</b>	<b>REV.</b>
<b>Change Log Number</b>	<b>Revision Number &amp; Date</b>	<b>Description of Change to this Document</b>	

CHANGE REQUEST STATUS FORM  
(SCRTD/MRP-CM5)

**CHANGE REQUEST STATUS FORM**

Change Log Number	Change Originator	Document Identifier Code	Document Title	Change Request Completion Dates				
				Submitted	SDA Review	Other Groups Review	DCB Decision	Change Implemented