

**DATABASE**

**SPECIFICATIONS**

*Project or System Name*

**U.S. Department of Housing and Urban Development**

Month, Year

**Revision 4 Sheet**

|  |  |  |
| --- | --- | --- |
| **No.** | **Date** | **Controls Description** |
| AC-1 | 11/30/20 | ACCESS CONTROL POLICY AND PROCEDURES |
| AC-2 | 11/30/20 | ACCOUNT MANAGEMENT |
| AC-3 | 11/30/20 | ACCESS ENFORCEMENT |
| AC-7 | 11/30/20 | UNSUCCESSFUL LOGON ATTEMPTS |
| AC-8 | 11/30/20 | SYSTEM USE NOTIFICATION |
| PS-1 | 11/30/20 | PERSONNEL SECURITY POLICY AND PROCEDURES |
| PS-2 | 11/30/20 | POSITION RISK DESIGNATION |
| PS-3 | 11/30/20 | PERSONNEL SCREENING |
| PS-4 | 11/30/20 | PERSONNEL TERMINATION |
| PS-5 | 11/30/20 | PERSONNEL TRANSFER |
| PS-6 | 11/30/20 | ACCESS AGREEMENTS |
| PS-7 | 11/30/20 | THIRD-PARTY PERSONNEL SECURITY |
| PS-8 | 11/30/20 | PERSONNEL SANCTIONS |
| RA-2 | 11/30/20 | SECURITY CATEGORIZATION |
| RA-3 | 11/30/20 | RISK ASSESSMENT |
| RA-5 | 11/30/20 | VULNERABILITY SCANNING |
| AU-1 | 11/30/20 | AUDIT AND ACCOUNTABILITY POLICY AND PROCEDURES |
| AU-2 | 11/30/20 | AUDIT EVENTS |
| AU-3 | 11/30/20 | CONTENT OF AUDIT RECORDS |
| AU-4 | 11/30/20 | AUDIT STORAGE CAPACITY |
| AU-5 | 11/30/20 | RESPONSE TO AUDIT PROCESSING FAILURES |
| AU-6 | 11/30/20 | AUDIT REVIEW, ANALYSIS, AND REPORTING |
| AU-8 | 11/30/20 | TIME STAMPS |
| IA-4 | 11/30/20 | IDENTIFIER MANAGEMENT |
| IA-5 | 11/30/20 | AUTHENTICATOR MANAGEMENT |
| IA-6 | 11/30/20 | AUTHENTICATOR FEEDBACK |
| SC-20 | 11/30/20 | SECURE NAME / ADDRESS RESOLUTION SERVICE (AUTHORITATIVE SOURCE) |
| SC-15 | 11/30/20 | COLLABORATIVE COMPUTING DEVICES |
| SC-13 | 11/30/20 | CRYPTOGRAPHIC PROTECTION |
| SC-12 | 11/30/20 | CRYPTOGRAPHIC KEY ESTABLISHMENT AND MANAGEMENT |
| SC-7 | 11/30/20 | BOUNDARY PROTECTION |
| SI-3 | 11/30/20 | MALICIOUS CODE PROTECTION |
| SI-4 | 11/30/20 | INFORMATION SYSTEM MONITORING |
| SI-2 | 11/30/20 | FLAW REMEDIATION |
| SI-12 | 11/30/20 | INFORMATION HANDLING AND RETENTION |

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|  | **Database Specifications Authorization Memorandum** |

I have carefully assessed the Database Specifications for the (System Name). This document has been completed in accordance with the requirements of the HUD System Development Methodology.

MANAGEMENT CERTIFICATION - Please check the appropriate statement.

\_\_\_\_\_\_ The document is accepted.

\_\_\_\_\_\_ The document is accepted pending the changes noted.

\_\_\_\_\_\_ The document is not accepted.

We fully accept the changes as needed improvements and authorize initiation of work to proceed. Based on our authority and judgment, the continued operation of this system is authorized.

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

NAME DATE

Project Leader

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

NAME DATE

Operations Division Director

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

NAME DATE

Program Area/Sponsor Representative

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

NAME DATE

Program Area/Sponsor Director

**DATABASE SPECIFICATIONS**

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**1.0 GENERAL INFORMATION**

***NOTE TO AUTHOR:*** *Highlighted, italicized text throughout this template is provided solely as background information to assist you in creating this document. Please delete all such text, as well as the instructions in each section, prior to submitting this document.* ***ONLY YOUR PROJECT-SPECIFIC INFORMATION SHOULD APPEAR IN THE FINAL VERSION OF THIS DOCUMENT****.*

*The Database Specifications are intended to support program coding and database generation by the development group. The database structure, content, data fields, and records are defined.*

# **GENERAL INFORMATION**

## **1.1 Purpose**

Describe the purpose of the Database Specifications.

## **1.2 Scope**

Describe the scope of the Database Specifications as it relates to the project.

## **1.3 System Overview**

Provide a brief system overview description as a point of reference for the remainder of the document. In addition, include the following:

* Responsible organization
* System name or title
* System code
* System category
* *Major application*: performs clearly defined functions for which there is a readily identifiable security consideration and need
* *General support system*: provides general ADP or network support for a variety of users and applications
* Operational status
* Operational
* Under development
* Undergoing a major modification
* System environment and special conditions

## **1.4 Project References**

Provide a list of the references that were used in preparation of this document. *Examples of references are:*

* Previously developed documents relating to the project
* Documentation concerning related projects
* HUD standard procedures documents

## **1.5 Acronyms and Abbreviations**

Provide a list of the acronyms and abbreviations used in this document and the meaning of each.

## **1.6 Points of Contact**

### **1.6.1 Information**

Provide a list of the points of organizational contact (POCs) that may be needed by the document user for informational and troubleshooting purposes. Include type of contact, contact name, department, telephone number, and e-mail address (if applicable). Points of contact may include, but are not limited to, helpdesk POC, development/maintenance POC, and operations POC.

### **1.6.2 Coordination**

Provide a list of organizations that require coordination between the project and its specific support function (e.g., installation coordination, security, etc.). Include a schedule for coordination activities.

### **1.6.3 Additional Points of Contact**

Additional points of contact are included in section 3.1.

### **1.6.4 Data Owners**

Identify points of contact for those who either own or are responsible for data quality, currency, accuracy, etc.

**2.0 DATABASE IDENTIFICATION AND DESCRIPTION**

# **DATABASE IDENTIFICATION AND DESCRIPTION**

## **2.1 Naming Conventions**

Discuss the logical and physical naming standards and conventions.

## **2.2 Database Identification**

Identify the names or labels by which the database may be uniquely identified. Specify the code name, tag, or label by which each database table or file may be uniquely identified.

*Descriptive information may also be provided.*

## **2.3 Systems Using the Database**

Identify the systems that will use the database. Include the full system identification and model, modification, version number, and IAS system code.

## **2.4 Relationship to Other Databases**

Indicate whether the database will supersede or interface with other databases, and specify which one(s).

## **2.5 Schema Information**

Describe the overall structure in the schema or other global definition of the database.

### **2.5.1 Description**

Describe the schema and each sub-schema of the system including name, file type and name, data description language, access control keys, concurrence locking, data name mapping, overall partition/file limitations and controls, redefinition and access path restrictions and any other limitations or restrictions.

### **2.5.2 Physical Design**

Graphically depict the physical design of the database.

### **2.5.3 Physical Structure**

Describe and depict in a graphic representation the physical structure (partitions, files, indexes, pointers) and the logical components of the database. Identify the criteria required to achieve operating efficiency.

## **2.6 Data Dictionary**

Reference the data dictionary and attach it as an appendix to this document.

## **2.7 Special Instructions**

Identify instructions to be followed by personnel who will contribute to the generation of the database and who will use it for testing and operational purposes. Such instructions may include:

* Identify any specialized criteria for entering data into the database.
* Identify source documents for the rules and procedures to be followed when submitting data for entry into the database.
* Identify source documents for the machine run instructions for generating, modifying, updating, or otherwise using the database. In very large systems, in which the details of such instructions are extensive, reference sections of other documents in which this specific information may be found.

**3.0 DATABASE ADMINISTRATIVE INFORMATION**

# **DATABASE ADMINISTRATIVE INFORMATION**

## **3.1 Responsibility**

Identify the organizations and personnel responsible for the following database administrative functions: database administrator, system administrator, and security administrator. Describe specific administration skill requirements.

## **3.2 System Information**

Document the Database Management System configuration, hardware configuration, database software utilities, and any support software used. If any of these software elements or hardware configurations are not HUD-approved standards, indicate the date these items were approved for this project by the Configuration Change Management Board (CCMB).

### **3.2.1 Database Management System (DBMS) Configuration**

Identify the vendor, version or release date and targeted hardware for the DBMS. Describe any restrictions on the initialization and use of the DBMS to support any intended distributed processing.

### **3.2.2 Hardware Configuration**

Identify the hardware configurations on which the database will reside.

### **3.2.3 Database Software Utilities**

List and reference the documentation of any DBMS utility software available to support the use or maintenance of the database.

### **3.2.4 Support Software Available for Maintaining Database**

Describe all support software, including the operating system, directly related to the database, including name, version, function, and major operating characteristics. Cite documentation by title, number, and appropriate sections. Examples of such software include database management systems, query language, report writers, storage allocation software, database loading software programs, and file processing programs, and data cleaning software.

### **3.2.5 Security**

Describe the use and management of integrity and access controls that apply to all database components such as schema, sub-schema, partitions or physical files, records or tables, sets or relations, and data elements.

## **3.3 Storage Requirements**

Describe the storage device. Provide sizing formulas for determining the storage required to support the database content and associated software. Estimate the internal and peripheral storage requirements. Identify multiple storage requirements for distributed processing.

## **3.4 Recovery**

Describe the methodology for reestablishment or recreation of the necessary data schema and system support files.

## **3.5 Partition/File Information**

### **3.5.1 Content**

Describe the content of each partition/file, listing the records it contains and explaining the purpose.

### **3.5.2 Description**

Describe the design and format of each partition/file, including name, type, code, mapping, limitations and controls, access procedures, and mechanisms.

### **3.5.3 Partition/File Interdependencies**

Identify the interdependencies of each partition/file in the database.

## **3.6 Database Interfaces**

Provide a description of the interfaces with other application software including these of other operational capabilities and from other organizations. For each interface, specify the following information:

### **3.6.1 Description of Operational Implications**

Describe operational implications of data transfer, including security considerations.

### **3.6.2 Description of Data Transfer Requirements**

Describe data transfer requirements to and from the software, including data content, format, sequence, and any conversion issues.

### **3.6.3 Description of Formats of Data**

Describe formats of data for both the sending and receiving systems, including the data item names, codes, or abbreviations that are to be interchanged, as well as any units of measure/conversion issues.

## **3.7 Error Handling**

Describe those system error handling routines and procedures that are available during execution of database software.