

CARETAKER

Column	Data Type	Justification
Caretaker_ID	INTEGER	Primary Key, numeric ID
Animal_ID	INTEGER	Foreign key referencing Animal.Animal_ID

INDEXES: Caretaker_ID: Automatically indexed as the primary key. Animal_ID: Indexed to speed up joins with the Animal table.

ENCLOSURE

Column	Data Type	Justification
Enclosure_ID	INTEGER	Pk numeric ID
Size	FLOAT	For flexible size measurements
Location	VARCHAR(255)	Text for enclosure location
Maintenance_status	TEXT	Longer descriptive text
Animal_ID	INTEGER	Fk referencing Animal.Animal_ID

Indexes: Enclosure_ID: Automatically indexed as the primary key. Animal_ID: Indexed for joins with Animal.

ANIMAL

Column	Data Type	Justification
Animal_ID	INTEGER	Pk, numeric ID
Name	VARCHAR(100)	Animal name, max 100 characters
Arrival_Date	DATE	Animal Arrival Date
Behavior_Notes	Text	Long textual notes
Treatment_ID	INTEGER	Fk referencing Treatment.Treatment_ID
Med_ID	INTEGER	Fk referencing Medication.Med_ID.

Indexes: Animal_ID: Automatically indexed as the primary key. Name: Indexed for searches by animal name. Treatment_ID and Med_ID: Indexed to support frequent joins with Treatment and Medication.

VOLUNTEER

Column	Data Type	Justification
Volunteer_ID	INTEGER	Pk, numeric ID
Name	VARCHAR(100)	Max 100 characters for volunteer name
Role	VARCHAR(50)	Short descriptive role
Availability	TEXT	Description of volunteer availability

Indexes: Volunteer_ID: Automatically indexed as the primary key. Role: Indexed for filtering volunteers by their role.

SPECIES

Column	Data Type	Justification
Species_ID	INTEGER	Pk numeric ID
Name	VARCHAR(100)	Species name, max 100 characters
Diet_Plan	TEXT	Detailed text for diet plans
Enclosure_Requirements	TEXT	Text for enclosure
Breeding_Program_Status	BOOLEAN	True/False Value for breeding program
Protocol_ID	INTEGER	Fk referencing Emergency_Protocol.Protocol_ID.

Indexes: Species_ID: Automatically indexed as the primary key. Name: Indexed for searches by species name. Protocol_ID: Indexed for joins with Emergency_Protocol.

CONSERVATION

Column	Data Type	Justification
Program_ID	INTEGER	Pk, numeric ID
Name	VARCHAR(255)	CONSERVATION PROGRAM NAME
Partner_Organization	VARCHAR(255)	Associated partner organization name
Species_ID	INTEGER	Fk referencing Species.Species_ID.

Indexes: Program_ID: Automatically indexed as the primary key. Species_ID: Indexed for frequent joins with Species.

EMERGENCY_PROTOCOL

Column	Data Type	Justification
Protocol_ID	INTEGER	Pk, numeric ID
Description	TEXT	Detailed description of emergency protocol

Indexes: Protocol_ID: Automatically indexed as the primary key.

MEDICATION

Column	Data Type	Justification
Med_ID	INTEGER	Pk, numeric ID
Name	VARCHAR(100)	Name medication max 100 characters
Usage	TEXT	Description of usage

Indexes: Med_ID: Automatically indexed as the primary key.

TREATMENT

Column	Data Type	Justification
Treatment_ID	INTEGER	Pk, Numeric_ID
Date	DATE	Date of the treatment
Additional_Notes	TEXT	Text for additional details about treatment

Indexes: Treatment_ID: Automatically indexed as the primary key.

VETERINARIAN

Column	Data Type	Justification
Vet_ID	INTEGER	Pk, numeric ID
Medical_License	VARCHAR(50)	Unique identifier for license
Treatment_ID	INTEGER	Fk referencing Treatment.Treatment_ID .
Med_ID	INTEGER	Fk referencing Medication.Med_ID.

Indexes: Vet_ID: Automatically indexed as the primary key. Medical_License: Indexed for unique searches. Treatment_ID and Med_ID: Indexed for joins.

SUPERVISION

Column	Data Type	Justification
Employee_ID	INTEGER	Fk referencing Employee.Employee_ID.
Volunteer_ID	INTEGER	Fk referencing Volunteer.Volunteer_ID .

Indexes: Composite Index on Employee_ID, Volunteer_ID: For efficient lookups by employee and volunteer pair.

FINANCIAL_TRANSACTION

Column	Data Type	Justification
Transaction_ID	INTEGER	Pk, numeric ID
Type	VARCHAR(50)	Transaction Type
Amount	Decimal(10,2)	Monetary Value
Date	DATE	Date of transaction

Indexes: Transaction_ID: Automatically indexed as the primary key. Type: Indexed for filtering by transaction type. Date: Indexed for sorting or filtering by date.

DONATION

Column	Data Type	Justification
Donation_ID	INTEGER	Pk, Numeric_ID
Donor	VARCHAR(100)	Name of the donor
Amount	DECIMAL(10.2)	Donation Value
Date	DATE	Date of donation
Transactio_ID	INTEGER	Fk referencing Financial_Transaction.Transaction_ID

Indexes: Donation_ID: Automatically indexed as the primary key. Transaction_ID: Indexed for joins.

EMPLOYEE

Column	Data Type	Justification
Employee_ID	INTERGER	Pk, numeric ID
Name	VARCHAR(100)	Employee Name
Role	VARCHAR(50)	Job role of the employee
Certifications	TEXT	Description of Certifications
Availability	TEXT	Work avaiability

Indexes: Employee_ID: Automatically indexed as the primary key.

VISITOR

Column	Data Type	Justification
Visitor_ID	INTEGER	Primary key, numeric ID
Name	VARCHAR(100)	Visitor Name
Membership	VARCHAR(50)	Membership status or type

Indexes: Visitor_ID: Automatically indexed as the primary key.

ANIMAL_MONITORING

Column	Data Type	Justification
Volunteer_ID	INTEGER	Foreign key referencing Volunteer.Volunteer_ID
Animal_ID	INTEGER	Foreign key referencing Animal.Animal_ID.

Indexes: Composite Index on Volunteer_ID, Animal_ID: To speed up lookups for volunteer-animal pairings.

ANIMAL_RESPONSIBILITY

Column	Data Type	Justification
Vet_ID	INTEGER	Foreign key referencing Veterinarian.Vet_ID
Animal_ID	INTEGER	Foreign key referencing Animal.Animal_ID

Indexes: Composite Index on Vet_ID, Animal_ID: To speed up queries involving specific veterinarian-animal pairings.