Building

Schema Name: building_info

The Building Information Management System Module uses the following tables:

Data Tables

- building_surveys: stores building footprint file information received from the Building Information Collection Mobile Application.
- buildings: stores information of the buildings
- owners: relational database that connects buildings and and the corresponding owner information. Foreign_key: bin

Lookup Tables

- structure_types: stores structure types values that is displayed in the Structure Type dropdown.
- functional_uses: stores functional use values that is displayed in the Functional Use dropdown.
- use_categorys: stores use categorys values that is displayed in the Use Category dropdown.
- water_sources: stores water sources values that is displayed in the Main Drinking Water Source dropdown.
- sanitation_systems: stores sanitation system type values that is displayed in the Toilet Connection dropdown and Defecation Area dropdown.
- wms_links: stores the WMS links of geoserver that is used by the mobile app's map interface to display the different layers and attribute information.

Relational Tables

- build_contains: relational database that connects buildings and containments. Foreign Key: bin and containment_id.

Building Survey

Table Name: **building_surveys**

Field Name	Label	Description	Data Type
id		Unique identifier for the data	Integer pk
temp_building_code	Temporary Building Code	Temporary building identification number assigned by user	character varying
tax_code	Tax Code	Identifier for the building tax record	character varying
kml	Building Footprint (KML File)	File name of the KML file that is generated by the mobile app and stored in the server	character varying
collected_date	Surveyed Date	Date when the KML file was collected	date
is_enabled		Boolean indicating whether the record is visible or not, the record is disabled after the building has been approved	boolean (Default True)
user_id		Identifier for the user who created the record (Hidden)	integer fk:auth.users(id)
created_at		Timestamp when the record was created (Auto Fill, Hidden)	timestamp without time zone
updated_at		Timestamp when the record was last updated (Auto Fill, Hidden)	timestamp without time zone
deleted_at		Timestamp when the record was deleted (Auto Fill, Hidden)	timestamp without time zone

Buildings

Data Tables

Table Name: **buildings**

Field Name	Label	Description	Data Type
bin		Unique building identification number (auto generated)	character varying pk
building_associated_to	BIN of Main Building	If the building is not a main building, BIN of the main building for that	character varying

Field Name	Label	Description	Data Type
		associated building	
ward	Ward No	The ward number where the building is situated	integer fk:layer_info.wards(ward)
road_code	Road Code	Road Code of the road to which the building is connected	character varying fk:utility_info.roads(code)
house_number	House Number	Unique address code of the building assigned by the city (e.g., house number, holding number)	character varying
house_locality	House Locality / Address	House address or name of the locality where the building is situated	character varying
tax_code	Tax Code / Holding ID	Building's tax code/ holding ID that is assigned by the city	character varying
structure_type_id	Structure Type	Type of the building structure	integer fk:building_info.structure_types(id)
surveyed_date	Surveyed Date	Date when the building was surveyed, auto generated if building is added from building surveys approve form.	date

Field Name	Label	Description	Data Type
floor_count	Number of Floors	Number of floors of the building (including the ground floor)	numeric
construction_year	Construction Date	Date when the building was constructed	date
functional_use_id	Functional Use of Building	Functional use of the building	integer fk:building_info.functional_uses(id)
use_category_id	Use Category of Buildings	Category of the building use, which depends on functional use	integer fk:building_info.use_categorys(id)
office_business_name	Office or Business Name	Name of the business or office in the building, if not residential	character varying
household_served	Number of Households	Number of households served by the building	integer
population_served	Population of Building	Number of people served by the building	integer
male_population	Male Population	Number of male population	integer
female_population	Female Population	Number of female population	integer
other_population	Other Population	Number of other population	integer
diff_abled_male_pop	Differently Abled Male Population	Number of differently abled male population	integer

Field Name	Label	Description	Data Type
diff_abled_female_pop	Differently Abled Female Population	Number of differently abled female population	integer
diff_abled_others_pop	Differently Abled Other Population	Number of differently abled other population	integer
low_income_hh	Is Low Income House	Boolean indicating if building is low income house	boolean
lic_id	LIC Name	Low income community identifier if the building is part of LIC	integer fk:layer_info.low_income_communities(id)
water_source_id	Main Drinking Water Source	Source of drinking water supply for the building	integer fk:building_info.water_sources(id)
watersupply_pipe_code	Water Supply Pipe Line Code	Water supply pipeline code (if water source is Municipal/Public Water Supply)	character varying fk:utility_info.water_supplys(code)
water_customer_id	Water Supply Customer ID	Unique identifier for the water supply customer record, if available (if water source is Municipal/Public Water Supply)	character varying
well_presence_status	Well in Premises	Boolean indicating whether a well is present in the building premises	character varying

Field Name	Label	Description	Data Type
distance_from_well	Distance of Well from Closest Containment (m)	Distance from the well to the closest containment in meter	numeric
swm_customer_id	SWM Customer ID	Unique identifier for the solid waste management customer record, if available	character varying
toilet_status	Presence of Toilet	Boolean indicating whether the toilets are present in the building premises	boolean
toilet_count	Number of Toilets	Number of toilet facilities in the building if toilet_status (Presence of Toilet) is true	integer
household_with_private_toilet	Households with Private Toilet	No of households with access to private toilets	integer
population_with_private_toilet	Population with Private Toilet	Population with access to private toilets	interger
sanitation_system_id	Toilet Connection / Defecation Place	Sanitation system of the building where toilet is connected/ Defecation Place if there Presence of Toilet is false.	integer fk:building_info.sanitation_systems(id)

Field Name	Label	Description	Data Type
sewer_code	Sewer Code	Identifier for the sewer network that the building is connected to, if applicable	character varying fk:utility_info.sewers(code)
drain_code	Drain Code	Identifier for the drain network that the building is connected to, if applicable	character varying fk:utility_info.drains(code)
desludging_vehicle_accessible	Building Accessible to Desludging Vehicle	Boolean indicating whether the building is accessible to the desludging vehicle	boolean
geom	Building Footprint (KML File)	Geospatial coordinates of the building's footprint initially uploaded as a KML file and stored in the table as a polygon	geometry(MultiPolygon,4326)
verification_status		Status that indicates the need of verification of the buildings footprint.	boolean
estimated_area	Estimated Area of the Building (㎡)	Estimated area of the building excluding the compound in square meters (unit m²) which is auto calculated from the geom	numeric

Field Name	Label	Description	Data Type
user_id		Identifier for the user who created the record (Hidden)	integer fk:auth.users(id)
created_at		Timestamp when the record was created (Auto Fill, Hidden)	timestamp without time zone
updated_at		Timestamp when the record was last updated (Auto Fill, Hidden)	timestamp without time zone
deleted_at		Timestamp when the record was deleted (Auto Fill, Hidden)	timestamp without time zone
block_number	character varying	Unique identifier or label representing the block number within a specific area or neighborhood.	
connected_road_width	numeric	Width of the road (in meters) connected to the building. Used for infrastructure and accessibility assessments.	
water_status	character varying	Status of water connection for the building	
wasa_status	character varying	Status of the building's connection to	

Field Name	Label	Description	Data Type
		the WASA (Water and Sewerage Authority) service	
wasa_bill_no		character varying	Official bill number assigned by WASA for the building's water and sewerage services

Table Name: **Owners**

Field Name	Label	Description	Data Type
id		Unique identifier for the record (auto generated)	integer pk
bin		Building identification number	character varying fk:building_info.buildings(bin)
owner_name	Owner Name	Name of the building owner	character varying
owner_gender	Owner Gender	Gender of the building owner	character varying
owner_contact	Owner Contact Number	Contact Number of the building owner	big integer
nid	Owner NID	National Identification Number of the building owner	big integer
created_at		Timestamp when the record was created (Auto Fill, Hidden)	timestamp without time zone
updated_at		Timestamp when the record was last updated (Auto Fill, Hidden)	timestamp without time zone
deleted_at		Timestamp when the record was deleted (Auto Fill, Hidden)	timestamp without time zone

Lookup Tables

Table Name: **structure_types**

Field Name	Label	Description	Data Type
id		Unique identifier for the record	integer pk
type	Structure Type	The name of the construction technique of the building	character varying

Lookup Table values for structure_types

ID	Type
1	Pucca
2	Tin
3	Kutcha
4	Semi Pucca
5	Other
6	N/A

Table Name: **functional_uses**

Field Name	Description	Data Type
id	Unique identifier for the record	integer pk
name	Name of the Functional Use	character varying

Lookup Table Values for functional_uses

id	name
1	Residential
2	Mixed (Residential, Commercial, Office uses)
3	Educational
4	Health Institution
5	Commercial
6	Industrial
7	Agriculture and Livestock
8	Public Institution
9	Government Institution
10	Recreational Institution
11	Social Institution
12	Cultural and Religious

id	name
13	Financial Institution
14	Vacant/Under Construction

Table Name: **use_categorys**

Field Name	Label	Description	Data Type
id		Unique identifier for the record	integer pk
name	Use Categories of Building	The name of the use category	character varying
functional_use_id	Functional Use of Building	Identifier for the functional use this use category belongs to	integer fk:building_info.functional_uses(id)

Lookup Table values for use_categorys

ID	Name	functional_use_id
1	Residential	1
2	Housing	1
3	Apartment	1
4	Orphanage	1
5	Old-aged Home	1
6	Hostel	1
7	Mixed	2
8	School	3
9	College	3
10	University	3
11	Training Center	3
12	Hospital	4
13	Clinic/Health Post	4
14	Shop	5
15	Restaurant	5
16	Hotel / Resort	5
17	Offices (Private)	5

ID	Name	functional_use_id
18	Shopping mall / Super Market	5
19	Party Palace/Banquets	5
20	Business Complex	5
21	Industry	6
22	Factory	6
23	Warehouse	6
24	Workshop	6
25	Printing Press	6
26	Agriculture Farm	7
27	Livestocks	7
28	City hall	8
29	Museum	8
30	Public Library and archive	8
31	Public transportation terminal	8
32	Parking	8
33	Post office	8
34	Community Toilet	8
35	Public Toilet	8
36	Municipal Office	9
37	Ward Office	9
38	Government Office	9
39	Police Office	9
40	Fire Station	9
41	Army barrack	9
42	Jail	9
43	Club	10
44	Stadium	10
45	Cinema/theatre	10
46	Sports complex	10
47	Fitness center	10
48	Recreational center	10

ID	Name	functional_use_id
49	NGO	11
50	INGO	11
51	Political Party	11
52	Guthi house	11
53	Media	11
54	Social Group /Samiti Bhawan	11
55	Temple	12
56	Church	12
57	Mosque	12
58	Stupa	12
59	Hermitage (kuti)	12
60	Mourning house	12
61	Bihar/Gumba	12
62	Bhajan Mandal	12
63	Cultural Centers	12
64	Bank	13
65	Cooperative / Finance	13
66	Vacant building	14
67	Building under construction	14

Table Name:**water_sources**

Field Name	Label	Description	Data Type
id		Unique identifier for the record	integer pk
source	Main Drinking Water Source	The source of water resource	character varying

Lookup table values for water_sources

ID	Source
1	Municipal/Public water supply
2	Deep boring
3	Tube well
4	Dug well
5	Private Tanker water

ID	Source
6	Jar Water
7	Spring/River/Canal
8	Stone spout/Pond
9	Rainwater
10	Others

Table Name: **sanitaiton_systems**

Field Name	Description	Data Type
id	Unique identifier for the record	integer pk
sanitation_system	Type of sanitation system of the building if toilet is present and Defecation area if toilet is not present	integer
dashboard_display	Boolean value indicating if sanitation systems is to be displayed in dashboard or not	boolean
map_display	Boolean value indicating if sanitation systems is to be displayed in map or not	boolean
icon_name	Name of the icon that is supposed to be displayed for sanitation systems	character varying(255)

Lookup table values for sanitaiton_systems

id	sanitation_system	dashboard_display	map_display	icon_name
1	Sewer Network	True	True	sewers.svg
2	Drain Network	False	True	others.svg
3	Septic Tank	True	True	septic-tank.svg
4	Pit/ Holding Tank	True	True	pit.svg
5	Onsite Treatment (e.g., Anaerobic Digestor/ Biogas, DEWATS)	True	True	no_icon
6	Composting Toilet (e.g., Ecosan, UDDT, etc.)	True	True	no_icon
7	Water Body	False	True	others.svg
8	Open Ground	False	True	others.svg
9	Community Toilet	False	True	others.svg
10	Open Defecation	False	True	others.svg
11	Shared Containment	False	False	NULL

id	sanitation_system	dashboard_display	map_display	icon_name
12	Shared Toilet	False	True	NULL

Table Name: **wms_links**

Field Name	Description	Data Type
name	The name of the wms link used	character varying
link	The link of the wms	character varying

Relational Tables

Table Name: **build_contains**

Field Name	Label	Description	Data Type
id		Unique identifier for the record (auto generated)	integer pk
bin		Building identification number	character varying fk:building_info.buildings(bin)
containment_id		Identifier for the containment that the building is connected to	character varying fk:fsm.containments(id)
created_at		Timestamp when the record was created (Auto Fill, Hidden)	timestamp without time zone
updated_at		Timestamp when the record was last updated (Auto Fill, Hidden)	timestamp without time zone
deleted_at		Timestamp when the record was deleted (Auto Fill, Hidden)	timestamp without time zone

Low Income Communities

Schema Name: **layer_info**

Table Name: **low_income_communities**

This table stores information about low-income communities in the area.

Field Name	Label	Description	Data Type
id		Unique identifier for the record (auto generated)	integer pk
community_name	Community Name	Name of Community	Character varying

Field Name	Label	Description	Data Type
geom	Area	Geospatial coordinates of the boundary of the low income community (represented as a polygon)	geometry(MultiPolygon,4326)
no_of_buildings	No. of Buildings	Total buildings present in the low income community	integer
number_of_households	No. of Households	Number of Households present in the low income community	integer
population_total	Population	Total population in the low income community	integer
population_male	Male Population	Total male population	integer
population_female	Female Population	Total female population	integer
population_others	Other Population	Total other population	integer
no_of_septic_tank	No. of Septic Tanks	Total number of septic tanks	integer
no_of_holding_tank	No. of Holding Tanks	Total number of holding tanks	integer
no_of_pit	No. of Pits	Total number of pits	integer
no_of_sewer_connection	No. of Sewer Connections	Total number of sewer connections	integer
no_of_community_toilets	No. of Community Toilets	Total number of community toilets	integer
user_id		Identifier for the user who created the record (Hidden)	integer fk:auth.users(id)
created_at		Timestamp when the record was created (Auto Fill, Hidden)	timestamp without time zone
updated_at		Timestamp when the record was last updated (Auto Fill, Hidden)	timestamp without time zone

Field Name	Label	Description	Data Type
deleted_at		Timestamp when the record was deleted (Auto Fill, Hidden)	timestamp without time zone

Fecal Sludge IMS

Schema Name: **fsm**

The Fecal Sludge Information Management System Module uses the following tables:

Data Tables

- containments: stores the containment information.

Lookup Tables

- containment_types: stores values of the list of containment types used in the Containment Type field.

Containment IMS

Containments

Data Tables

Table Name: **containments**

Field Name	Label	Description	Data Type
id		Unique identifier for the containment	character varying pk
type_id	Containment Type	Type of the containment with outlet connnection information	integer fk:fsm.containment_types(id)
location	Containment Location	Location of the containment (Inside the house|Outside the house)	character varying
size	Containment Volume (m³)	Volume of the containment in cubic meters (m³)	numeric
pit_diameter	Pit Diameter (m)	Diameter of the pit in meter	numeric
tank_length	Tank Length (m)	Length of the tank in meter	numeric

Field Name	Label	Description	Data Type
tank_width	Tank Width (m)	Width of the tank in meter	numeric
depth	Tank Depth (m)	Depth of the containment in meter	numeric
septic_criteria	Septic Tank Standard Compliance	Boolean value indicating the compliance status of septic tank	boolean
construction_date	Construction Date	Containment construction date	date
emptied_status	Emptied Status	Boolean value indicating the emptying status of the septic system, if emptied or not	boolean
last_emptied_date	Last Emptied Date	Date of the last time the septic system was emptied	date
next_emptying_date	Next Emptying Date	Date of the next scheduled emptying of the septic system	date
no_of_times_emptied	Number of Times Emptied	Number of times the septic system has been emptied	integer
surveyed_at		Date when the septic system was surveyed	date
toilet count		Number of toilet served by the containment	integer
distance_closest_well		Distance to the closest well, if applicable	numeric
geom		Geospatial coordinates of the septic system geometry, auto calculated as center point of the building it is associated with (represented as a point)	geometry(Point,4326)
user_id		Identifier for the user who created the record (Hidden)	integer fk:auth.users(id)
verification_required		Indicates whether the containment requires further	boolean

Field Name	Label	Description	Data Type
		verification after addition into the system	
responsible_bin		The building identification number of the main/responsible building of the containment.	character varying fk:building_info.buildings(bin)
created_at		Timestamp when the record was created (Auto Fill, Hidden)	timestamp without time zone
updated_at		Timestamp when the record was last updated (Auto Fill, Hidden)	timestamp without time zone
deleted_at		Timestamp when the record was deleted (Auto Fill, Hidden)	timestamp without time zone

Lookup Tables

Table Name: **containment_types**

Field Name	Description	Data Type
id	Unique identifier for the record	integer pk
type	Type of containment with outlet connection	character varying
sanitation_system_id	Sanitation system (technology) of the building	integer fk:building_info.sanitation_systems(id)
dashboard_display	Boolean value indicating if containment type is to be displayed in dashboard or not	boolean
map_display	Name to be displayed for containment type in map interface	character varying

Lookup table values for containment_types

ID	Type	sanitation_system_id	dashboard_display	map_display
1	Septic Tank connected to Sewer Network	3	true	Septic Tank
2	Septic Tank connected to Drain Network	3	true	Septic Tank

ID	Type	sanitation_system_id	dashboard_display	map_display
3	Septic Tank connected to Soak Pit	3	true	Septic Tank
4	Septic Tank connected to Water Body	3	true	Septic Tank
5	Septic Tank connected to Open Ground	3	true	Septic Tank
6	Septic Tank without Outlet Connection	3	true	Septic Tank
7	Septic Tank with Unknown Outlet Connection	3	true	Septic Tank
8	Double Pit	4	true	Double Pit
9	Permeable/ Unlined Pit	4	true	Permeable/ Unlined Pit
10	Lined Pit connected to a Soak Pit	4	true	Lined Pit
11	Lined Pit connected to Water Body	4	true	Lined Pit
12	Lined Pit connected to Open Ground	4	true	Lined Pit
13	Lined Pit connected to Sewer Network	4	true	Lined Pit
14	Lined Pit connected to Drain Network	4	true	Lined Pit
15	Lined Pit without Outlet	4	true	Lined Pit
16	Lined Pit with Unknown Outlet Connection	4	true	Lined Pit
17	Lined Pit with Impermeable Walls and Open Bottom	4	true	Lined Pit

Utility IMS

The Utility IMS Module uses the following tables:

Schema Name: **utility_info**

Data Tables

- roads: stores information of the road infrastructure.
- sewers: stores information of the sewer network of the city.
- water_supplys: stores information of the water supply networks of the city.
- drains: stores information of the drainage networks of the city.

Road Network Information

Table name: **roads**

Field Name	Label	Description	Data Type
name	Road Name	The name of the road	character varying
code	Code	A unique identifier for each road (City endorsed road code, if available)	character varying pk
hierarchy	Hierarchy	The hierarchy of road based on its network (Strategic Urban Road| Feeder Road | Other Road)	character varying
right_of_way	Right of Way (m)	The width of the road (right of way) in meters	numeric
carrying_width	Carrying Width (m)	The carriageway width of the road that can be used for traffic in meters	numeric
surface_type	Surface Type	The type of surface on the road (Earthen| Gravelled | Metalled | Brick Paved)	character varying
length	Road Length (m)	The length of the road in meters	numeric
geom		The geometric shape of the road (represented as a linestring)	geometry(MultiLineString,4326)
user_id		Identifier for the user who created the record (Hidden)	integer fk:auth.users(id)
created_at		Timestamp when the record was created (Auto Fill, Hidden)	timestamp without time zone
updated_at		Timestamp when the record was last updated (Auto Fill, Hidden)	timestamp without time zone
deleted_at		Timestamp when the record was deleted (Auto Fill, Hidden)	timestamp without time zone

Sewer Network Information

Table name: **sewers**

Field Name	Label	Description	Type
code	Code	Unique identifier for the sewer section (City endorsed sewer code, if available)	Character varying pk
road_code	Road Code	Corresponding road code	character varying fk:utility_info.roads(code)
location	Location	Location of the sewer section (Middle| Left | Right) side of the road	character varying
length	Length (m)	Length of the sewer section in meters	numeric
diameter	Diameter (mm)	Diameter of the sewer section in mm	numeric
treatment_plant_id	Treatment Plant	Corresponding treatment plant ID, if network is treated	integer fk:fsm.treatment_plants(id)
geom		Geometric information for the sewer network (represented as a linestring)	geometry(MultiLineString,4326)
user_id		Identifier for the user who created the record (Hidden)	integer fk:auth.users(id)
created_at		Timestamp when the record was created (Auto Fill, Hidden)	timestamp without time zone
updated_at		Timestamp when the record was last updated (Auto Fill, Hidden)	timestamp without time zone
deleted_at		Timestamp when the record was deleted (Auto Fill, Hidden)	timestamp without time zone

Water Supply Network Information

Table name: **water_supplys**

Field Name	Label	Description	Data Type
code	Code	A unique identifier for each water supply pipeline (City endorsed sewer code, if available)	character varying pk

Field Name	Label	Description	Data Type
road_code	Road Code	Corresponding road code	character varying fk:utility_info.roads(code)
project_name	Project Name	Name of the Project	character varying
type	Type	Type of the pipeline (Main| Secondary | Distribution)	character varying
material_type	Material Type	Type of the pipe material (HDPE| GI | Others)	character varying
diameter	Diameter (mm)	The diameter of the water supply pipe in mm	numeric
length	Length (m)	The length of the water supply pipe in meter	numeric
geom		The geometry of the water supply pipe (represented as a linestring)	geometry(MultiLineString,4326)
user_id		Identifier for the user who created the record (Hidden)	integer fk:auth.users(id)
created_at		Timestamp when the record was created (Auto Fill, Hidden)	timestamp without time zone
updated_at		Timestamp when the record was last updated (Auto Fill, Hidden)	timestamp without time zone
deleted_at		Timestamp when the record was deleted (Auto Fill, Hidden)	timestamp without time zone

Drain Network Information

Table name: **drains**

Field Name	Label	Description	Data Type
code	Code	A unique identifier for each drain	character varying pk
road_code	Road Code	Corresponding road code	character varying fk:utility_info.roads(code)
cover_type	Cover Type	The type of the drain cover (Open| Closed | Unknown)	character varying
surface_type	Surface Type	The type of the surface lining (Lined| Unlined | Unknown)	character varying

Field Name	Label	Description	Data Type
size	Width (mm)	The size of the drain in mm	numeric
length	Length (m)	The length of the drain in meter	numeric
treatment_plant_id	Treatment Plant	Corresponding treatment plant id	integer fk:fsm.treatment_plants(id)
geom		The geometry of the drain (represented as a linestring)	geometry(MultiLineString,4326)
user_id		Identifier for the user who created the record (Hidden)	integer fk:auth.users(id)
created_at		Timestamp when the record was created (Auto Fill, Hidden)	timestamp without time zone
updated_at		Timestamp when the record was last updated (Auto Fill, Hidden)	timestamp without time zone
deleted_at		Timestamp when the record was deleted (Auto Fill, Hidden)	timestamp without time zone