जावक क्रमांक:- पमपा/मातंवि/३०२५/प्र.क्र.०८/३६७/२०२५      दि. ०८/१०/२०२५

**कामाचे नाव** : नागरी सुविधांचे नेटवर्कचे मॅपींग (१:४०००) व ॲट्रीब्युट्स तयार करुन GIS डेटा तयार करणेबाबत.

(Water Supply, Storm Water, Sewerage Drain, Road Network & Administrative Boundaries)

## SCOPE OF WORK

1. **Scope of work for Administrative Boundaries**

   a) Gather spatial and non-spatial data from ULBs, engineering departments, and other line departments.

   b) Collect maps, drawings, surveys, and existing digital records related to administrative boundaries, utilities, and infrastructure.

   c) Verify data completeness, accuracy, and consistency across different sources.

   d) Digitize ward boundaries, municipal limits, zones, and other jurisdictional divisions.

   e) Standardize boundary layers using GIS-compatible formats with appropriate projection systems.

   f) Attribute population, household counts, ULB codes, and relevant demographic/administrative information to each boundary.

   g) Represent utility and infrastructure networks (water supply, sewerage, stormwater, electricity, telecommunication, roads, etc.) as line features.

   h) Ensure alignment with administrative boundaries for accurate planning and analysis.

   i) Add attributes such as pipe type, diameter, material, length, voltage levels, road type, etc., depending on the utility.

   j) Represent all nodal features such as starting points, intersections, valves, manholes, hydrants, junctions, pumps, transformers, or end points as point layers.

   k) Link nodes logically with line features to create a connected network topology.

   l) Add attributes like node ID, type, operational status, installation date, etc.

   m) Develop a spatial database integrating administrative boundaries, line layers, and node layers.

   n) Maintain unique IDs for boundaries, networks, and nodes to enable interoperability across systems.

   o) Enable relational linkage between spatial features and associated tabular data (asset details, maintenance records, etc.

   p) Conduct field verification and GPS surveys (if required) to ensure positional accuracy of mapped features.

   q) Perform consistency checks between line and node layers (e.g., all nodes must be connected to valid lines).

   r) Validate boundary accuracy with official ULB records.

| Sr No | CODE | CLASS | SUB-CLASS | GEOMETRY |
|-------|------|-------|-----------|----------|
| 1 | 37-01 | Administrative Boundaries | International Boundary | Polygon |
| | 37-02 | | State Boundary | Polygon |
| | 37-03 | | District Boundary | Polygon |
| | 37-04 | | Tehsil/ Mandal/Block Boundary | Polygon |
| | 37-05 | | Village Boundary | Polygon |
| | 37-06 | | Forest Boundary | Polygon |
| | 37-07 | | Revenue Boundary | Polygon |

Table No 1: Administrative Boundaries – Geo-Spatial Data Content

| Attribute Name | Attribute Field Name | Attribute Field Type | Attribute Field Width | Description/Value |
|---|---|---|---|---|
| Code | Code | Alphanumeric | 10 | Code as given in table 21 |
| Sub-class | Sub-class | Text | 50 | Sub-class as given in table 21 |
| Area in sq.km | Area | Double | Up to 4 decimals | Area of corresponding Admin boundary |
| Name | Name | Text | 50 | Name of the Admin boundary |

Table No 1a: Administrative Boundaries GIS Data Structure

Geo-spatial layer name: Admin_Bnd_Ploy

| Sr No | CODE | CLASS | SUB-CLASS | GEOMETRY |
|---|---|---|---|---|
| 2 | 38-01 | Planning Boundaries | Planning Area Boundary | Polygon |
| | 38-02 | | Highway Corridor Development Zone | Polygon |
| | 38-03 | | Peripheral Control Belt Boundary | Polygon |
| | 38-04 | | Controlled Area Boundary | Polygon |
| | 38-05 | | Unban sable Area Boundary | Polygon |
| | 38-06 | | Industrial zone/ area | Polygon |
| | 38-07 | | Special Economic zone | Polygon |
| | 38-08 | | National Park / Sanctuary /Conservation Area | Polygon |

Table No 2: Planning boundaries – Geo-spatial data content

| Attribute Name | Attribute Field Name | Attribute Field Type | Attribute Field Width | Description/Value |
|---|---|---|---|---|
| Code | Code | Alphanumeric | 10 | Code as given in table 22 |
| Sub-class | Sub-class | Text | 50 | Sub-class as given in table 22 |
| Area in sq.km | Area | Double | Up to 4 decimals | Area of corresponding Planning boundary |
| Name | Name | Text | 50 | Name of the Planning boundary |

Table No 2a: Planning Boundaries GIS Data Structure

Geo-spatial layer name: Planning_Bnd_Ploy

| Sr No | CODE | CLASS | SUB-CLASS | GEOMETRY |
|---|---|---|---|---|
| 3 | 39-01 | Municipal Boundaries | Municipal boundary | Polygon |
| | 39-02 | | Zone Boundary | Polygon |
| | 39-03 | | Ward Boundary | Polygon |
| | 39-04 | | Tax zone Boundary | Polygon |

Table No 3: Municipal boundaries – Geo-spatial data content

| Attribute Name | Attribute Field Name | Attribute Field Type | Attribute Field Width | Description/Value |
|---|---|---|---|---|
| Code | Code | Alphanumeric | 10 | Code as given in table 23 |
| Sub-class | Sub-class | Text | 50 | Sub-class as given in table 23 |
| Area in sq.km | Area | Double | Up to 4 decimals | Area of corresponding Municipal boundary |
| Name | Name | Text | 50 | Name of the Municipal boundary |
| Ward Number | Ward no | Numeric | 5 | Ward number in case of Ward boundary |
| Tax zone Number | Tax zone no | Numeric | 5 | Tax zone number in case of Tax zone boundary |

Table No 3a: Planning Boundaries GIS Data Structure

Geo-spatial layer name: Planning_Bnd_Ploy

| Sr No | CODE | CLASS | SUB-CLASS | GEOMETRY |
|---|---|---|---|---|
| 4 | 40-01 | Other Boundaries | Urban frame survey boundary | Polygon |
| | 40-02 | | Entimeration block boundary | Polygon |
| | 40-03 | | Mining area boundary | Polygon |

Table No 4: Other boundaries (EB, UFS, Mining area) – Geo-spatial data content

## 2. Scope of Work for Road Network

1) Collect road network data from ULBs and respective engineering departments.
2) Source existing drawings, road registers, traffic plans, highway maps, and satellite imagery.
3) Gather associated tabular data such as road ownership, classification, width, surface type, and condition.
4) Conduct field verification (where necessary) to validate geometry and attributes.
5) Represent all road segments as line features with proper geo-referencing.
6) Digitize and standardize roads based on hierarchy and classification (national highways, state highways, arterial roads, sub-arterial, collector roads, local/colony roads).
7) Attribute key details for each line segment, such as:
8) Road ID / Code
9) Name of the road / street
10) Length and width
11) Surface type (asphalt, concrete, gravel, earthen)
12) Lane details (single, double, divided, etc.)
13) Traffic direction (one-way / two-way)
14) Jurisdiction / ownership (ULB, PWD, NHAI, etc.)
15) Ensure logical connectivity across all road segments to form a complete transportation network.
16) Represent all nodal features as point layers connected to road lines.
17) Examples of nodes include:
18) Starting and end points of roads
19) Intersections and junctions
20) Traffic signals, roundabouts, crossings
21) Toll booths, check-posts, barriers
22) Bus stops, parking locations, terminals (if included in scope)
23) Attribute details such as node ID, type, functional status, jurisdiction, and connectivity
24) Develop an integrated GIS-based road network database linking line and node layers.
25) Maintain unique IDs for road segments and intersections to support routing and analysis.
26) Include road inventory data (condition, last maintenance date, traffic volume, accident-prone points).

27) Design the database for transportation modelling, routing optimization, and urban mobility planning.
28) Ensure that all road segments are connected properly at intersections (no gaps/overshoots).
29) Validate geometry against satellite imagery or official maps.
30) Cross-check road attributes with engineering/ULB records.
31) Perform consistency checks between nodes and line layers (e.g., every intersection should have valid connecting roads).
32) Ensure that all road segments are connected properly at intersections (no gaps/overshoots).
33) Validate geometry against satellite imagery or official maps.
34) Cross-check road attributes with engineering/ULB records.
35) Perform consistency checks between nodes and line layers (e.g., every intersection should have valid connecting roads).

| Sr. No | CODE | CLASS | SUB-CLASS | GEOMETRY |
|---|---|---|---|---|
| 1 | 01-01 | Road | National Highway | Polygon/Line |
| | 01-02 | | State Highway | Polygon/Line |
| | 01-03 | | Major District Road | Polygon/Line |
| | 01-04 | | Other District Road | Polygon/Line |
| | 01-05 | | Expressway | Polygon/Line |
| | 01-06 | | Bypass | Polygon/Line |
| | 01-07 | | Ring Road | Polygon/Line |
| | 01-08 | | Service Road | Polygon/Line |
| | 01-09 | | Major City Road | Polygon/Line |
| | 01-10 | | Minor City Road | Polygon/Line |
| | 01-11 | | Other Public Road | Polygon/Line |
| | 01-12 | | Other Private Road | Polygon/Line |
| | 01-13 | | BRTS | Polygon/Line |
| | 01-14 | | Cycle Track | Polygon/Line |
| | 01-15 | | Village road | Polygon/Line |
| | 01-16 | | Fool path | Polygon/Line |
| | 01-17 | | Cart Track | Line |

| | 01-18 | | Ropeway | Line |
|---|---|---|---|---|
| | 01-19 | | Carriageway | Line |
| | 01-20 | | Right of way | Line |

Table 1: Road: Geo-Spatial Data Content

| Attribute Name | Attribute Field Name | Attribute Field Type | Attribute Field Width | Description/ Values |
|---|---|---|---|---|
| Road Id | Rd_ID | Alphanumeric | 15 | Unique Id |
| Code | Code | Alphanumeric | 10 | Code as give Table 6 |
| Sub-Class | Sub_Class | Text | 20 | Sub Class as given in Table 6 |
| Length in km | Length_km | Double | 10 Up to 4 decimals | Length (in.km) |
| Ward Number | Ward_No | Alphanumeric | 10 | Ward Number |
| Road Name | Rd_Name | Text | 30 | Specific Name of the feature, if any |
| Road Construction Material | Cons_Mat | Text | 10 | Concrete Asphalt/WBM/Any Other |
| Carriage Width (in mt.) | CW_Width | Double | 10 Up to 4 decimals | Carriage Width in metres |
| Right of Way Width (in mt.) | Row_Width | Double | 10 Up to 4 decimals | Right of way Width in metres |
| Maintained By | Maintain | Text | 15 | Municipal body / NHAI/R & B Dept/Other |
| Foot Path | FP | Text | 3 | Yes/No |
| Foot path width (in mL in case Yes) | FP_Width | Double | 10 Up to 4 decimals | Footpath Width in metres |
| Foot Path Construction material | FP_Cons_Ma | Text | 15 | Shabad/Tiles/Concrete/Other Stone |

Table 1a: Road Line GIS Data Structure
Geo-spatial Layer Name: Road_Cline

| Attribute Name | Attribute Field Name | Attribute Field Type | Attribute Field Width | Description/ Values |
|---|---|---|---|---|
| Code | Code | Alphanumeric | 10 | Code as given in Table |
| Sub-Class | Sub_Class | Text | 50 | Sub Class as given in Table 6 |
| Road Name | Rd_Name | Text | 30 | Specific Name of the road, if any |

Table 1b: Road Polygon GIS Data Structure
Geo-spatial Layer Name: Road_Poly

| Sr. No | CODE | CLASS | SUB-CLASS | GEOMETRY | SYMBOL |
|---|---|---|---|---|---|
| 1 | 02-01 | Rail | Broad Gauge | Line | |
| | 02-02 | | Narrow Gauge | Line | |
| | 02-03 | | Meter Gauge | Line | |
| | 02-04 | | Metro/MRTS | Line | |
| | 02-05 | | NMTS | Line | |

Table 2: Rail -Geo-Spatial Data Content

### 3. Scope of work for Sewerage Network

1) Collect sewerage system data from ULBs, engineering departments, and relevant line departments.
2) Source existing drawings, as-built layouts, drainage maps, and digital records.
3) Gather associated tabular data such as pipe sizes, material type, year of installation, slope, and maintenance history.
4) Conduct field verification/GPS survey (if required) to validate missing or inaccurate information.
5) Represent all sewerage pipes and channels as line features with proper geo-referencing.
6) Digitize and standardize sewer lines according to classification (primary trunk lines, secondary lines, tertiary/local lines).

   Attribute key details for each line segment, such as:
7) Pipe ID / Code
8) Diameter and length
9) Material type (PVC, RCC, CI, etc.)
10) Depth and slope
11) Installation year
12) Condition status (functional, damaged, blocked)
13) Ownership / jurisdiction (ULB, PWD, Development Authority, etc.)
14) Ensure logical connectivity of sewer lines to support flow analysis.

15) Represent all nodal features as point layers connected to the sewer line features.
16) Examples of nodes include:
17) Starting and end points of sewer lines
18) Manholes and inspection chambers
19) Intersections/junctions of sewer lines
20) Sewage pumping stations (SPS)
21) Sewage treatment plants (STPs)

22) Inlets/outlets to natural drains or rivers
23) Attribute details such as node ID, type, depth, operational status, and maintenance records.
24) Develop a GIS-enabled sewerage network database linking line and node layers.
25) Maintain unique IDs across sewer lines and manholes/nodes for relational mapping.
26) Incorporate asset management details such as maintenance history, repair dates, and inspection schedules.
27) Enable support for hydraulic modelling, blockage detection, and flow analysis.
28) Verify network topology to ensure continuous connectivity (no breaks, overshoots, or disconnected lines).
29) Cross-check ULB-provided records with on-ground conditions.
30) Validate manhole and pumping station locations with GPS/field survey.
31) Conduct attribute accuracy checks (diameter, material, condition, etc.)

| Sr. No | CODE | CLASS | SUB-CLASS | GEOMETERY | SYMBOL |
|---|---|---|---|---|---|
| 1 | 18-03-01 | Sewerage Network | Sewage Treatment Plant | Point | |
| | 18-03-02 | | Sewage Pumping Station | Point | |
| | 18-03-03 | | Pumping Line | Line | |
| | 18-03-04 | | Main Sewer Line | Line | |
| | 18-03-05 | | Branch Sewer Line | Line | |
| | 18-03-06 | | Service Sewer Line | Line | |
| | 18-03-07 | | Manhole | Point | |
| | 18-03-08 | | Vent Valve | Point | |

Table 1: Sewerage network

| Attribute Name | Attribute Field Name | Attribute Field Type | Attribute Field Width | Description/Value |
|---|---|---|---|---|
| Sewerage ID | SW_Line_ID | Alphanumeric | 15 | Unique Id |
| Code | Code | Alphanumeric | 10 | Code as given in Table 14 |
| Sub-Class | Sub_Class | Text | 50 | Sub Class as given in Table 14 |
| Ward Number | Ward No | Alphanumeric | 10 | Ward Number |
| Road ID | Rd_ID | Alphanumeric | 15 | Road ID same as in Road_CLine |
| Road Name | Rd_Name | Text | 30 | Road Name same as in Road_CLine |
| Locality Name | Locality | Text | 50 | Locality Name |
| Distance from road (in mt.) | Dis_frm_rd | Double | 10 up to 2 Decimals | Distance from road in meters |
| Depth in mt. | Depth | Double | 10 up to 2 Decimals | Depth of Sewer line in meters |
| Pipe Dia in mm. | Pipe_Dia | Double | 10 up to 2 Decimals | Pipe Diameter in millimetres |
| Construction Material | Cons_Mat | Text | 10 | RCC/CI/SWG/PVC/GI/AC /Others |

Table 1a: Sewerage network line GIS data structure

| Attribute Name | Attribute Field Name | Attribute Field Type | Attribute Field Width | Description/Value |
|---|---|---|---|---|
| Sewerage ID | SW_Pnt_ID | Alphanumeric | 15 | Unique Id |
| Code | Code | Alphanumeric | 10 | Code as given in Table 14 |
| Sub-Class | Sub_Class | Text | 50 | Sub Class as given in Table 14 |
| Ward Number | Ward No | Alphanumeric | 10 | Ward Number |
| Road ID | Rd_ID | Alphanumeric | 15 | Road ID same as in Road_CLine |
| Road Name | Rd_Name | Text | 30 | Road Name same as in Road_CLine |
| Locality Name | Locality | Text | 50 | Locality Name |

Table 1b: Sewerage network points GIS data structure

**4. Scope of work for Water Supply Network**

1) Collect detailed information on water supply, sewerage, stormwater, electricity, gas, and telecommunication networks from ULBs and their respective engineering/line departments.
2) Gather existing maps, AutoCAD drawings, as-built plans, and digital records.
3) Validate available records through field verification, GPS surveys
4) Represent each network (water pipelines, sewer lines, storm drains, electrical cables, telecom cables, etc.) as line features.
5) Digitize and standardize the line features with accurate geo-referencing and projection system

**Attribute key technical details to each line segment, such as:**

1) Water Supply: pipe diameter, material, length, installation date, service status.
2) Sewerage/Drainage: pipe/channel size, type (open/closed), slope, capacity.
3) Electricity/Telecom: voltage level, cable type, length, underground/overhead.
4) Ensure logical connectivity across the entire network for analysis and planning.
5) Represent all nodal features as **point layers** connected to the corresponding networks.

**Examples of nodes include:**

1) **Water Supply:** source points (wells, reservoirs), valves, hydrants, junctions, meters, treatment plants.
2) **Sewerage/Drainage:** manholes, chambers, inlets/outlets, pumping stations.
3) **Electricity/Telecom**: poles, transformers, substations, distribution boxes, junction cabinets.
4) Attribute essential details such as node ID, type, operational status, installation date, and maintenance history.
5) Develop an integrated GIS-enabled utility database linking line and node layers.
6) Maintain unique IDs across layers to ensure relational mapping (e.g., node connected to specific line segment).
7) Incorporate asset management details: ownership, department, maintenance schedules, cost, and replacement cycle.
8) Design the database to support network analysis (flow direction, pressure zones, load distribution, leakage points, outage management).
9) Ensure network topology integrity
10) Cross-check ULB-provided records against field survey/GPS coordinates.
11) Validate node positions (valves, manholes, transformers, etc.) with physical ground reality.
12) Conduct attribute accuracy checks to avoid mismatched technical details.

| Sr. No | Code | CLASS | SUB-CLASS | GEOMETRY | SYMBOL |
|---|---|---|---|---|---|
| 1 | 18-01-01 | Water Supply Network | Water Treatment Plant | Point | |
| | 18-01-02 | | Water Pumping Station | Point | |
| | 18-01-03 | | Ground Level Reservoir | Point | |
| | 18-01-04 | | Raw Water Main Pipeline | Line | |
| | 18-01-05 | | Pumping Line | Line | |
| | 18-01-06 | | Distribution Pipeline | Line | |
| | 18-01-07 | | Service Pipeline | Line | |
| | 18-01-08 | | Supply Valve | Point | |
| | 18-01-09 | | Over Head Tank | Point | |
| | 18-01-10 | | Public Stand Post | Point | |
| | 18-01-11 | | Tube Well | Point | |
| | 18-01-12 | | Hand Pump | Point | |

Table 1: Water Supply Network -Geo-Spatial Data Content

**5. Scope of work for Storm Water Network**

**Objectives of the Project:**

1) Preparation of GIS based Maps & thematic layers
2) Formulation of a comprehensive, scalable & sustainable Master plan using GIS tools
3) Facilitate evidence based planning, monitoring & decision making
4) Enable resource code allocation and service delivery to citizens
5) Build capacity within Urban Local Bodies to maintain & use GIS data

**Scope of Work:**

1) All utility layers like Storm Water Network (pipes, culverts, manholes, channels, outfalls, natural drains, water bodies), database will be prepared from the data collected by ULB's from the concerned engineering and line department. All network lines are represented as lines and the nodes (Starting point, intersections, valves & points etc) are represented as points.

> ➢ Data Collection and Survey

    1) Topographical Survey: Conduct DGPS/Total Station surveys to capture alignments, invert levels, slopes, manholes, outfalls, natural drains, and water bodies.
    2) Utility Mapping: Collect information on existing utilities (water supply, sewerage, gas, telecom, electricity) that may intersect with storm water drains.
    3) Hydrological & Hydraulic Data: Gather rainfall intensity, catchment characteristics, runoff coefficients, and flow patterns.
    4) Secondary Data: Collect maps, as-built drawings, past project reports, and flood records from relevant departments.

> ➢ Condition Assessment

    1) Assess the physical and hydraulic condition of existing drains.
    2) Identify bottlenecks such as siltation, encroachments, inadequate sizes, broken links, and missing connections.
    3) Map flood-prone areas and water logging points based on ground survey and citizen reports.

> ➢ GIS Database Development

    1) Create a GIS-based geodatabase of the storm water network (pipes, culverts, manholes, channels, outfalls, natural drains, water bodies).
    2) Link spatial features with attribute data (dimensions, materials, year of construction, condition, capacity).
    3) Integrate high-resolution satellite imagery and city base maps.
    4) Ensure the database follows open standards and is compatible with municipal GIS platforms.

**6. Scope of work for Maintenance proposal of Module**

    1) Updating every 3 months maintaining database & GIS shape files as per following tables as instructed by DMA & RDMA Government office
    2) Data finding & Correction process to resolve data inaccuracies and redundancy
    3) Updating & Patching database

| SR. NO | LAYERS | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1 | Administrative Boundary | DATA BASE | | | | | | | |
| 1.1 | City_Boundary | ulb_name | ulb_type | Class | division | State | est_year | landmark | tot_wards |
| | | tot_member | tot_area | tot_pop | male_pop | female_pop | sc_pop | st_pop | lit_rate |
| | | Remark | | | | | | | |
| 1.2 | DMA_Location .shp | ulb_name | ulb_type | class | division | state | est_ycar | landmark | tot_wards |
| | | tot_member | tot_area | tot_pop | male_pop | female_pop | sc_pop | st_pop | lit_rate |
| | | Remark | | | | | | | |
| 1.3 | Prabhag_ward_ Boundary | ward_no | ward_name | landmark | sc_pop | st_pop | tot_member | Remark | ORIG_FID |
| 2 | Adminstrative Bullding | DATA BASE | | | | | | | |
| 2.1 | Building | build_type | build_name | build_str | landmark | build hgt | pre_area | | |
| 3 | Electric Network | DATA BASE | | | | | | | |
| 3.1 | EV_Charging_ Station | Authority | evcs_ratin | evcs_v | landmark | lat | long | Remark | |

| # | Name | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|---|
| 3.2 | Highmast | Authority | hm_type | hm_hgt | light_type | no_of_lts | lts_watt | sp_rating | location |
| | | lat | long | Remark | | | | | |
| 3.3 | LT_Poles | ltpole_typ | landmark | ltpole_hgt | no_of_Its | light_watt | lat | long | Remark |
| 3.4 | Solar_Roof_Top | Authority | sr_type | sr_rating | lat | long | Remark | | |
| 3.5 | Street_Light_Control_Panel | Authority | cp_type | phase | lat | long | Remark | | |
| 3.6 | Strect_Light_Pole | Authority | slpole_typ | landmatk | slpole_hgt | light_type | no_of_Its | Its watt | sp_rating |
| | | lat | long | Remark | | | | | |
| 4 | Road Network | DATABASE | | | | | | | |
| 4.1 | Railway_Underpass | Rail Route | unp_name | unp_type | traffic | length | width | Remark | SHAPE_Leng |
| 4.2 | Road | road_type | road_no | road_name | authority | traffic | landmark | length | width |
| | | Remark | SHAPE_Leng | | | | | | |
| 4.3 | Road_Bridge | bridg_name | bridg_type | authority | width | Remark | SHAPE_Leng | | |
| 4.4 | Road_Flyover | fly_name | landmark | authority | length | width | Remark | SHAPE Leng | |
| 4.5 | Road_Underpass | unp_name | unp_type | authority | width | Remark | SHAPE_Le ng | | |
| 4.6 | Traffic_Signal | junc_name | landmark | Facility | long | Remark | | | |
| 5 | Sewerage Network | DATABASE | | | | | | | |
| 5.1 | Chambers_Manhole | chmbr_type | chmbr_no | depth | chmbr mat | zone | lat | long | Remark |
| 5.2 | Sewer_Pipeline_Network | line_type | length | I_diameter | zone | Remark | SHAPE_Le ng | | |
| 5.3 | Sewerage_Collection_Point | src_type | src_name | landmark | capacity | avg_depth | p_capacity | zone | src_status |
| | | SHAPE_Leng | SHAPE_Area | | | | | | |
| 5.4 | Treatment Plant | tp_type | tp_name | landmark | est_year | des period | zone | ph_capacit | tech |
| | | Remark | SHAPE_Leng | SHAPE_Area | | | | | |
| 6 | Strom Water Drainage Network | DATABASE | | | | | | | |
| 6.1 | Drainage | drain_type | drain_clas | drain_mat | landmark | length | width | SHAPE_Le ng | |
| 6.2 | Sewage_Treatment_Plant | tp_type | tp_name | landmark | est_year | des_period | p_capacity | tech | SHAPE_Leng |
| | | SHAPE_Area | | | | | | | |
| 7 | Water Supply Network | DATABASE | | | | | | | |
| 7.1 | Pipeline_Network | pline_type | pline_mat | pline_dia | length | w_zone | Remark | SHAPE Le ng | |
| 7.2 | Raw_Water_Station | rws_type | rws_name | landmark | des_period | p_capacity | lat | long | Remark |
| 7.3 | Storage_Tank | tank_type | tank_name | landmark | est_year | des_period | w_zone | s_height | lat |
| | | long | | | | | | | |
| 7.4 | Water_Source | src_type | src_name | landmark | capacity | avg_depth | length | diameter | p_capacity |

| | | src_status | | src_dep th | SHAPE _Leng | SHAP_ Area | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 7.5 | Water Treatment_Plan t | | wtp_na me | landmar k | capacit y | des_p eriod | SHAPE _Leng | SHAPE _Area | | |

सदरच्या कामाची व्याप्ती दिनांक ०८/१०/२०२५ ते १७/१०/२०२५ पर्यंत पनवेल महानगरपालिकेच्या अधिकृत संकेतस्थळावर उपलब्ध असेल.

जा.क्र.पमपा/मातंवि/३६७/२०२५
दिनांक — ०८/१०/२०२५

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**Sd/-**
उप आयुक्त (मातंवि)
पनवेल महानगरपालिका

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