**Standard Operating Procedure (SOP) for Residential Waste Collection Workflow**

**Category:** Residential | Small Scale

**Application Flow via Web Portal/Mobile App**

**1. Registration Process**

1. **Access Portal/App:**
   * Customer logs into the web portal or mobile app.
   * Selects "Residential" as the category.
2. **Fill Registration Details:**
   * Enter the following mandatory details:
     + **Name**
     + **Address** (with auto-complete and geolocation tagging)
     + **Geolocation** (using GPS or map integration)
     + **Property Tax Number** (used for identification)
     + **Photo** of the waste or location (uploaded via camera or file upload).
3. **Waste Details:**
   * Enter approximate **Quantity** of waste (in kilograms).
   * Select the **Type of Waste** (e.g., bricks, debris, mixed waste, etc.).
4. **Submit Request:**
   * Customer reviews the details entered and submits the request.

**2. Request Evaluation by Agency Supervisor**

1. **Assignment to Supervisor:**
   * The system auto-assigns the request to the nearest agency supervisor based on the location provided.
2. **Evaluation of Request:**
   * Supervisor visits the site to:
     + Verify the **location and waste details** submitted.
     + Confirm the validity of the request parameters.
   * If the request is valid, the supervisor marks the request as "Ready for Employer Approval."

**3. Employer Approval**

1. **Review by Employer:**
   * Employer receives the request for approval, including:
     + Customer details.
     + Waste details.
     + Supervisor’s evaluation report.
   * Employer approves or rejects the request.
2. **Notification to Agency:**
   * Upon approval, a notification is sent to the agency for scheduling pickup.
   * If rejected, the customer is notified with a reason for rejection.

**4. Waste Pickup by Agency**

1. **Scheduling Pickup:**
   * The agency assigns a pickup date and time for the waste collection.
2. **Waste Collection:**
   * Collection team picks up the waste from the customer’s location.
3. **Challan Generation:**
   * After collection, the system generates a **Challan** that:
     + Records the waste quantity and type.
     + Confirms successful pickup.

**5. Charges and Payment**

1. **Up to 500 Kg:**
   * Transportation and processing are **free of cost**.
2. **Above 500 Kg:**
   * Customer is charged for transportation and processing costs.
   * Charges are calculated based on the approved rate and shared via the app/portal.
3. **Self-Transfer to Ward Office Transfer Station:**
   * Up to 500 Kg: Processing is **free of cost**.
   * Above 500 Kg: Customer is charged for **processing only**.

**6. Post-Pickup Actions**

1. **Confirmation Notification:**
   * Customer receives a notification confirming the waste has been collected and processed.
2. **Feedback and Closure:**
   * Customer is prompted to provide feedback on the service.
   * The request is marked as closed in the system.

**Summary of Workflow**

1. **Customer** registers and submits a request via web portal/mobile app.
2. **Agency Supervisor** validates the request on-site.
3. **BMC staff** approves or rejects the request.
4. **Agency** schedules and collects the waste.
5. **Challan** is generated, and charges (if applicable) are processed.
6. Request is completed, and feedback is collected.

This SOP ensures an organised, efficient, and customer-friendly process for residential waste collection.

**Standard Operating Procedure (SOP) for Waste Collection in Slum Areas**

**Category:** Slum Area

**Application Flow via Web Portal/Mobile App**

**1. Registration Process**

1. **Access Portal/App:**
   * Customer logs into the web portal or mobile app.
   * Selects "Slum Area" as the category (Category 2).
2. **Fill Registration Details:**
   * Enter the following mandatory details:
     + **Name**
     + **Address** (with auto-complete and geolocation tagging)
     + **Geolocation** (using GPS or map integration)
     + **Photo** of the waste or location (uploaded via camera or file upload).
3. **Submit Registration:**
   * Customer reviews and confirms the details entered.

**2. Raising a Waste Collection Request**

1. **Request Submission:**
   * Customer logs into the app or portal and raises a waste pick-up request.
   * Fill the following details:
     + Approximate **Quantity** of waste (in kilograms).
     + **Type of Waste** (e.g., debris, mixed waste, etc.).
2. **Request Confirmation:**
   * The system provides a confirmation number for tracking the request.

**3. Request Validation by Agency Supervisor**

1. **Assignment to Supervisor:**
   * The system auto-assigns the request to the nearest agency supervisor based on the location provided.
2. **On-Site Evaluation:**
   * Supervisor visits the site to:
     + Verify the **location and waste details** submitted.
     + Confirm the validity of the request.
3. **Validation Status:**
   * If valid, the supervisor marks the request as "Ready for Employer Approval."
   * If invalid, the supervisor provides feedback via the app, and the customer is notified.

**4. Employer Approval**

1. **Review and Approval:**
   * Employer reviews the request, including:
     + Customer details.
     + Supervisor's evaluation report.
     + Waste type and quantity.
   * Employer either approves or rejects the request.
2. **Notification to Agency:**
   * If approved, a notification is sent to the agency for scheduling waste pickup.
   * If rejected, the customer is informed with the reason for rejection.

**5. Waste Pickup by Agency**

1. **Scheduling Pickup:**
   * The agency assigns a vehicle and schedules the pickup date and time.
2. **Waste Collection:**
   * The collection team picks up the waste from the customer’s location.
3. **Challan Generation:**
   * After the waste is collected, a **Challan** is generated, which includes:
     + Waste quantity and type.
     + Confirmation of successful pickup.

**6. Charges and Payment**

1. **Up to 500 Kg:**
   * Transportation and processing are **free of cost** for waste up to 500 kg.
   * These free trips are billed to the employer.
2. **Above 500 Kg:**
   * Customer is charged for transportation and processing.
   * Charges are calculated based on the approved rate and communicated via the app/portal.
3. **Self-Transfer to Ward Office Transfer Station:**
   * For up to 500 kg, processing is **free of cost**.
   * Above 500 kg, charges are applied for **processing only**.

**7. Post-Pickup Actions**

1. **Confirmation Notification:**
   * Customer receives a notification confirming the waste has been collected and processed.
2. **Feedback and Closure:**
   * Customer is prompted to provide feedback on the service.
   * The request is marked as closed in the system.

**Summary of Workflow**

1. **Customer** registers via the web portal/mobile app and raises a collection request.
2. **Agency Supervisor** validates the request through on-site evaluation.
3. **Employer** approves or rejects the request.
4. **Agency** collects the waste and generates a challan.
5. Free trips are billed to the employer, while additional charges are applied for waste exceeding 500 kg.
6. Notifications are sent to customers throughout the process, and feedback is collected post-service.

This SOP provides a streamlined, efficient, and customer-friendly process tailored to the needs of slum areas.

**Standard Operating Procedure (SOP) for Waste Collection in Category 4: Illegal Dumping**

**Category:** Illegal Dumping (Category 4)

**Application Access:** Mobile App Only (Employer App)

**1. Monitoring and Surveillance**

1. **Vigilance Squad Deployment:**
   * Employer-defined Vigilance Squad monitors areas for instances of illegal waste dumping.
   * Squad identifies illegal waste dumping locations through routine surveillance or citizen reports.
2. **Gathering Evidence:**
   * Vigilance Squad collects evidence of illegal dumping, including:
     + Exact **Address**.
     + **Geolocation** (via GPS).
     + **Photos** of the dumped waste.
3. **Logging the Request:**
   * Squad logs the illegal dumping case in the Employer mobile app by entering:
     + Address and Geolocation.
     + Photos of the waste.
     + Description of the type and approximate quantity of waste.

**2. Employer Actions**

1. **Review and Request Creation:**
   * Employer reviews the logged illegal dumping request.
   * Employer generates and approves the request for waste collection.
2. **Notification to Agency:**
   * Once approved, the system notifies the assigned Agency to collect the waste.
   * The request includes all logged details (location, geolocation, photos, and description).

**3. Penalty for Illegal Dumping**

1. **Penalty Calculation:**
   * The system calculates the penalty for illegal dumping as **10 times the transportation and processing cost** based on the estimated waste quantity.
2. **Immediate Payment:**
   * Penalty payment must be made **online immediately** by the offending party.
   * Payment options and a penalty invoice are provided within the Employer app.

**4. Waste Pickup by Agency**

1. **Scheduling Pickup:**
   * Agency schedules a vehicle for waste pickup based on the Employer’s request.
2. **Waste Collection:**
   * Collection team visits the logged location to collect the dumped waste.
3. **Challan Generation:**
   * A **Challan** is generated upon waste collection, recording:
     + Waste quantity and type.
     + Confirmation of pickup.
4. **Billing:**
   * The system generates a bill for the pickup, which is charged to the **Employer**.

**5. Post-Pickup Actions**

1. **Confirmation Notification:**
   * Employer receives a notification confirming the waste has been collected.
   * A detailed report, including the challan and penalty collection status, is shared.
2. **Record Maintenance:**
   * The case of illegal dumping is recorded in the system for monitoring repeat violations.

**Summary of Workflow**

1. **Vigilance Squad** monitors and logs cases of illegal dumping through the Employer app, including geolocation and photos.
2. **Employer** reviews, approves, and sends the request to the Agency for collection.
3. **Penalties** are calculated as 10x the transportation and processing costs and must be paid online immediately by offenders.
4. **Agency** collects the waste, generates a challan, and bills the Employer for pickup.
5. Notifications and records are maintained for monitoring and enforcement.

This SOP ensures a systematic approach to address illegal dumping while enforcing penalties and maintaining accountability.

**Responsibilities and Dashboard Reports for BMC Ward Staff**

**Access Level:**  
BMC Ward Staff are provided access via credentials created and shared by the Employer through the web application. This access is specific to Ward or Zone operations.

**Responsibilities of BMC Ward Staff**

1. **Account Management:**
   * **ID and Password Management:**
     + Use Employer-provided login credentials to access the system.
   * **Customer Account Setup:**
     + Create new customer accounts for **Category 1 Customers** within their assigned Ward/Zone.
     + Ensure accurate entry of customer details, including Name, Address, Geolocation, and Property Tax Number.
2. **Customer Credit Management:**
   * Post-payment by **Category 1 Customers**, update their credit balance in the system using the Employer-provided functionality.
   * Maintain proper records of credit updates to ensure accountability.
3. **Request Monitoring:**
   * Monitor waste pick-up requests from various customer categories within their assigned Ward/Zone.
   * Validate and verify requests where required, ensuring all necessary details (e.g., geolocation, waste type) are complete.
4. **Data Verification and Reporting:**
   * Cross-verify waste collection data logged by agencies, ensuring it aligns with actual operations.
   * Track and manage waste collection requests to avoid delays.
5. **Supervising Operations:**
   * Oversee the live movement of vehicles in the Ward/Zone using the vehicle tracking system.
   * Ensure vehicles are deployed to their designated locations without delay.
6. **Penalty Enforcement (Illegal Dumping):**
   * Verify instances of illegal waste dumping logged by the Vigilance Squad.
   * Assist in calculating penalties and ensuring that offenders are notified for immediate payment.
7. **Coordination with Agencies:**
   * Communicate and coordinate with waste collection agencies for efficient operations.
   * Address any issues related to waste pick-up or vehicle deployment.
8. **Report Analysis:**
   * Regularly review system-generated reports to assess operational efficiency and identify gaps in waste management processes.

**Reports Available from Dashboard for BMC Ward Staff**

1. **Waste Pick-Up Reports:**
   * Detailed records of all waste collection activities within the Ward/Zone, including:
     + Customer Category.
     + Waste Type and Quantity.
     + Pickup Date and Time.
     + Vehicle Details (e.g., vehicle ID, driver name).
2. **Customer Reports:**
   * Status of registered customers within the Ward/Zone:
     + Number of active customers.
     + Credits available in customer accounts.
     + Pending payments and transaction histories.
3. **Vehicle Tracking Reports:**
   * Live and historical vehicle tracking information, including:
     + Current vehicle locations.
     + Vehicle utilisation rates.
     + Route history for specific vehicles.
4. **Invoice Reports:**
   * Comprehensive details of invoices generated for waste pick-up, including:
     + Total invoices issued for each category.
     + Payment statuses (paid, pending).
     + Outstanding amounts.
5. **Penalty and Illegal Dumping Reports:**
   * Cases of illegal dumping identified, including:
     + Locations and geolocations of dumped waste.
     + Penalties imposed and payment statuses.
     + Offender details and repeat violations.
6. **Operational Performance Reports:**
   * Summary of key operational metrics:
     + Total waste collected (daily, weekly, monthly).
     + Average response time for pick-up requests.
     + Ward/Zone-wise performance metrics for agencies.
7. **Live Operational Summary:**
   * Real-time data on:
     + Active waste pick-up requests.
     + Vehicles on duty and their operational status.
     + Pending and completed tasks for the day.

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