**Proposed Solution Template – Sustainable Smart City Assistant Using IBM Granite LLM**

Date: 26 June 2025

Team ID: LTVIP2025TMID32032

Project Name: Sustainable Smart City Assistant Using IBM Granite LLM

**Maximum Marks:** 2 Marks

**Proposed Solution Template**

The project team shall fill the following information in the proposed solution template.

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| **S.No.** | **Parameter** | **Description** |
| 1 | Problem Statement (Problem to be solved) | City administrators and residents face challenges accessing simplified policy information, forecasting resource consumption, detecting anomalies, and promoting sustainable behavior. Current processes are fragmented, time-consuming, and lack AI-powered insights. |
| 2 | Idea / Solution Description | The Sustainable Smart City Assistant is an AI-powered platform that enhances urban governance and sustainability using IBM Watsonx Granite LLM. It provides document summarization, semantic policy search, KPI forecasting, anomaly detection, eco-advice generation, and an AI chat assistant within a single Streamlit interface. |
| 3 | Novelty / Uniqueness | Unlike traditional smart city dashboards, this solution combines AI-powered natural language processing, semantic search with Pinecone, and real-time anomaly detection. The modular architecture intelligently integrates these components for an interactive, accessible smart city experience. |
| 4 | Social Impact / Citizen Satisfaction | The assistant empowers citizens through simplified policy access, actionable eco-advice, and real-time data. It boosts administrative efficiency, enhances resource management, and promotes citizen engagement for more sustainable, transparent urban living. |
| 5 | Business Model (Revenue Model) | Freemium model: Basic features such as document summarization, eco-tips, and KPI viewing are free. Premium features like detailed sustainability reports, anomaly detection, advanced analytics, and customization for city governments are subscription-based. Target markets include city councils, municipal bodies, and smart city solution providers. |
| 6 | Scalability of the Solution | Built on IBM Cloud, the assistant supports regional scalability across cities. It allows modular feature extensions, AI model fine-tuning, and seamless integration with existing smart city infrastructure, ensuring flexibility for small municipalities or large metropolitan areas. |