TENDER DOCUMENT
Road Construction Project

Tender ID:	TEN20250330135635
Issuing Authority:	Public Works Department (PWD), State Government
Tender Amount:	■20,000,000.00
Bid Start Date:	06-02-2025
Bid End Date:	24-05-2025

Executive Summary

- • Executive Summary

The proposed Road Construction Project aims to develop a 20-kilometer stretch of road, enhancing the regional transportation infrastructure and facilitating the movement of people and goods. With a project value of ■20,000,000.0, this initiative is poised to have a significant impact on the local economy and community. Our team is committed to delivering a high-quality road construction project that meets the required standards, ensuring the safety of road users, and minimizing environmental impacts.

- • Project Overview

The scope of the project includes the construction of a 20-kilometer stretch of road with asphalt paving, drainage systems, and necessary signage. The project will be executed in accordance with industry standards and best practices, including:

- • Compliance with the Indian Road Congress (IRC) guidelines for road design and construction
- • Adherence to the Ministry of Road Transport and Highways (MoRTH) specifications for road construction
- • Implementation of environmental and safety management plans to minimize the project's ecological footprint and ensure a safe working environment
- • Key Requirements and Deliverables

To ensure the successful execution of the project, the following key requirements and deliverables will be met:

- • Provision of experienced personnel, including engineers, technicians, and skilled laborers, to manage and execute the project
- • Deployment of necessary machinery and equipment, such as asphalt pavers, excavators, and rollers, to ensure efficient and highquality construction
- • Implementation of a quality management system to ensure compliance with industry standards and specifications
- • Development and implementation of environmental and safety management plans, including:

+ Waste management and disposal plans

+ Noise and air pollution control measures

+ Traffic management plans to ensure public safety during construction

+ Regular monitoring and reporting of environmental and safety performance

- • Experience and Capabilities

Our team has extensive experience in road construction projects, with a proven track record of delivering high-quality projects on time and within budget. Our capabilities include:

- • Experienced personnel with expertise in road design, construction, and management
- • Access to a fleet of modern machinery and equipment, ensuring efficient and highquality construction
- • A strong commitment to environmental and safety management, with a focus on minimizing the project's ecological footprint and ensuring a safe working environment
- • A robust quality management system, ensuring compliance with industry standards and specifications
- • Conclusion

In conclusion, our team is well-equipped to deliver a high-quality Road Construction Project that meets the required standards and specifications. With a strong focus on environmental and safety management, we are committed to minimizing the project's ecological footprint and ensuring a safe working environment. We believe that our experience, capabilities, and commitment to quality make us an ideal partner for this project, and we look forward to the opportunity to contribute to the development of the region's transportation infrastructure.

Project Overview and Objectives

- • Project Overview

The Road Construction Project aims to develop a 20-kilometer stretch of road that meets the highest standards of quality, safety, and environmental sustainability. With a total project value of ■20,000,000.0, this initiative seeks to provide a durable and efficient transportation infrastructure that supports the region's economic growth and social development. The project's scope encompasses the construction of a high-quality asphalt paved road, complete with drainage systems and necessary signage to ensure safe and smooth traffic flow.

The project's location and design have been carefully planned to minimize environmental impact while maximizing the benefits to the local community. The road will be designed to withstand heavy traffic loads and extreme weather conditions, with a projected lifespan of at least 20 years. The construction process will be carried out in accordance with international best practices and industry standards, including those related to environmental protection, occupational health and safety, and quality management.

- • Project Objectives

The primary objectives of the Road Construction Project are:

- • To design and construct a 20kilometer stretch of road that meets the required technical specifications and standards, including:

+ Asphalt paving with a minimum thickness of 50 mm

+ Drainage systems that can handle a minimum of 100 mm/hour rainfall intensity

+ Signage that meets international standards for visibility and durability

- • To ensure the road is constructed with a high level of quality, safety, and environmental sustainability, including:

+ Compliance with environmental regulations and standards, such as those related to air and water pollution

+ Implementation of occupational health and safety measures to prevent accidents and injuries

+ Use of materials and techniques that minimize waste and reduce the project's carbon footprint

- • To complete the project within the allocated budget of ■20,000,000.0 and timeline of 12 months, including:

+ Mobilization and site preparation: 2 months

+ Construction and paving: 6 months

+ Testing and commissioning: 2 months

+ Defects liability period: 2 months

- • To ensure the road is constructed with a high level of community engagement and social responsibility, including:

+ Consultation with local stakeholders and residents to minimize disruptions and address concerns

+ Implementation of community development programs to support local economic growth and social development

- • Key Performance Indicators (KPIs)

The project's success will be measured against the following KPIs:

- • Construction quality: 95% of the road surface must meet the required technical specifications and standards
- • Safety performance: zero fatalities and a maximum of 5 reportable incidents during the construction period
- • Environmental sustainability: 90% of materials used must be sourced from sustainable suppliers, and 80% of waste generated must be recycled or reused

- • Community engagement: 80% of local stakeholders and residents must report being satisfied with the project's community development programs and engagement efforts
- • Timely completion: the project must be completed within the allocated timeline of 12 months, with a maximum of 2 months' extension due to unforeseen circumstances.

Detailed Technical Specifications

- • Detailed Technical Specifications

The Road Construction Project requires the construction of a 20-kilometer stretch of road with asphalt paving, drainage systems, and necessary signage. The project's technical specifications are outlined below to ensure that the works are executed to the highest standards of quality, safety, and environmental sustainability.

- • Road Alignment and Geometry
- • The road alignment shall be designed to follow the approved route, with a minimum curve radius of 100 meters and a maximum gradient of 4%.
- • The road shall have a camber of 2% to ensure proper drainage and a crossfall of 1.5% to 3% to prevent water accumulation.
- • The road's vertical alignment shall be designed to provide a minimum stopping sight distance of 120 meters and a minimum overtaking sight distance of 200 meters.
- • Asphalt Paving
- • The asphalt pavement shall consist of a 50mm thick surface course, a 70mm thick binder course, and a 150mm thick base course.
- • The asphalt mix shall be designed to meet the requirements of the Indian Roads Congress (IRC) and shall have a minimum Marshall stability of 800 kg and a flow of 24 mm.
- • The asphalt pavement shall be laid in layers, with each layer compacted to a minimum density of 95% of the maximum dry density.
- • Drainage Systems
- • The drainage system shall be designed to collect and discharge stormwater runoff from the road surface and adjacent areas.
- • The system shall consist of a combination of crossdrains, side drains, and culverts, with a minimum diameter of 600mm.
- • The drainage system shall be designed to meet the requirements of the IRC and shall be capable of handling a 10year storm event.
- • Signage and Road Furniture

- • The road shall be provided with necessary signage, including warning signs, guide signs, and informational signs.
- • The signage shall be designed and installed in accordance with the IRC and shall meet the requirements of the Manual of Specifications and Standards for Road and Bridge Works.
- • The road furniture shall include crash barriers, guardrails, and pedestrian crossings, which shall be designed and installed to meet the requirements of the IRC.
- • Environmental and Safety Standards
- • The contractor shall adhere to all environmental and safety standards and regulations, including those related to noise pollution, air pollution, and water pollution.
- • The contractor shall implement measures to minimize the impact of the construction works on the environment, including the use of dust suppression systems and the protection of nearby watercourses.
- • The contractor shall ensure that all personnel working on the project are trained in safety procedures and are equipped with personal protective equipment (PPE).
- • Materials and Testing
- • All materials used in the construction of the road shall meet the requirements of the IRC and shall be tested in accordance with the relevant Indian Standards.
- • The contractor shall provide test reports and certificates of compliance for all materials used in the construction of the road.
- • The following tests shall be carried out during the construction of the road:

+ Asphalt mix design and testing

+ Aggregate testing (gradation, abrasion, and soundness)

+ Concrete testing (compressive strength and slump)

+ Soil testing (classification and compaction)

- • Quality Control and Assurance
- • The contractor shall implement a quality control and assurance plan to ensure that the works are executed to the required standards.
- • The plan shall include procedures for testing and inspection, as well as procedures for corrective action in the event of nonconformity.
- • The contractor shall provide regular progress reports and shall allow the employer's representatives to inspect the works at all times.
- • Compliance with Regulations
- • The contractor shall comply with all relevant laws, regulations, and standards, including those related to labor, health, and safety.

- • The contractor shall obtain all necessary permits and approvals before commencing work on the project.
- • The contractor shall ensure that all personnel working on the project are aware of and comply with the relevant regulations and standards.

By adhering to these detailed technical specifications, the contractor shall ensure that the Road Construction Project is executed to the highest standards of quality, safety, and environmental sustainability, and that the completed road meets the requirements of the Indian Roads Congress and other relevant authorities.

Implementation Methodology

- • Implementation Methodology

The successful implementation of the Road Construction Project requires a well-structured approach, ensuring that all aspects of the project are carefully planned, executed, and monitored. Our implementation methodology is designed to deliver a high-quality road infrastructure that meets the required standards, while ensuring the safety of workers, the public, and the environment.

- • Project Planning and Preparation (Weeks 14)

The project will commence with a thorough planning and preparation phase, which will involve the following activities:

- • Review of project scope, design, and specifications to ensure compliance with the tender requirements
- • Development of a detailed project schedule, including milestones and deadlines
- • Identification and allocation of necessary resources, including labor, machinery, and materials
- • Establishment of a project management team, including a project manager, site engineers, and quality control specialists
- • Development of a quality management plan, which will outline the procedures for ensuring compliance with industry standards and specifications
- • Site Preparation and Clearance (Weeks 58)

Prior to the commencement of construction activities, the site will be prepared and cleared, which will involve:

- • Removal of existing vegetation, debris, and obstacles
- • Grading and excavation of the site to the required levels
- • Installation of temporary drainage systems to prevent erosion and water accumulation

- • Establishment of site offices, storage facilities, and other necessary infrastructure
- • Construction of Road Infrastructure (Weeks 924)

The construction of the road infrastructure will involve the following activities:

- • Laying of the road base course, which will comprise a 150mm thick layer of compacted aggregate
- • Construction of the drainage systems, including culverts, stormwater drains, and catch pits
- • Installation of signage and other road furniture, such as guardrails and streetlights
- • Laying of the asphalt paving, which will comprise two layers of 40mm and 20mm thick asphalt, respectively
- • Application of a seal coat to the asphalt surface to prevent water penetration and damage
- • Quality Control and Assurance (Ongoing)

Throughout the project, quality control and assurance will be a top priority, with the following measures in place:

- • Regular inspections and testing of materials and workmanship to ensure compliance with industry standards and specifications
- • Implementation of a quality management plan, which will outline the procedures for identifying and addressing defects or nonconformities
- • Maintenance of accurate records of construction activities, including photographs, videos, and written reports
- • Conducting regular safety audits and risk assessments to ensure a safe working environment
- • Environmental and Safety Management (Ongoing)

The project will be implemented in accordance with strict environmental and safety standards, with the following measures in place:

- • Implementation of an environmental management plan, which will outline the procedures for minimizing the project's environmental impact
- • Development of a safety management plan, which will outline the procedures for ensuring the safety of workers, the public, and the environment
- • Provision of personal protective equipment (PPE) to all workers, including hard hats, safety glasses, and earplugs
- • Conducting regular training and induction sessions for workers on environmental and safety procedures
- • Project Monitoring and Control (Ongoing)

The project will be closely monitored and controlled throughout its duration, with the following measures in place:

- • Regular progress meetings with the client and other stakeholders to ensure that the project is on track to meet its objectives
- • Maintenance of accurate records of project progress, including photographs, videos, and written reports
- • Implementation of a project management information system (PMIS), which will enable realtime tracking of project progress and performance
- • Conducting regular reviews and assessments of the project's budget and schedule to ensure that it is on track to meet its financial and timeline objectives.
- • Metrics and Key Performance Indicators (KPIs)

The project's performance will be measured against the following metrics and KPIs:

- • Project schedule performance index (SPI): 0.9 or higher
- • Project cost performance index (CPI): 0.9 or higher
- • Quality rating: 90% or higher
- • Safety rating: 95% or higher
- • Environmental rating: 90% or higher
- • Client satisfaction rating: 90% or higher

By following this implementation methodology, we are confident that the Road Construction Project will be delivered to the required standards, on time, and within budget, while ensuring the safety of workers, the public, and the environment.

Quality Control and Standards

- • Quality Control and Standards

The Quality Control and Standards section outlines the requirements and expectations for ensuring the highest quality of workmanship, materials, and overall performance in the construction of the 20-kilometer stretch of road. The successful bidder must demonstrate a commitment to adhering to industry standards, best practices, and regulatory requirements to guarantee the delivery of a safe, durable, and sustainable road infrastructure.

- • Quality Management System

The bidder must have a documented Quality Management System (QMS) in place, which shall be compliant with ISO 9001:2015 standards. The QMS shall cover all aspects of the project, including design, procurement, construction, testing, and commissioning. The bidder shall provide evidence of their QMS certification and demonstrate its implementation throughout the project lifecycle. Key components of the QMS shall include:

- • A quality policy statement outlining the organization's commitment to quality
- • A quality objectives document outlining specific, measurable, achievable, relevant, and timebound (SMART) objectives
- • A quality manual detailing the organization's quality management system
- • Procedures for document control, records management, and internal audits
- • A process for continuous improvement and corrective action
- • Materials and Workmanship

The bidder shall ensure that all materials used in the construction of the road meet or exceed the relevant Indian standards, including but not limited to:

- • Indian Roads Congress (IRC) standards for asphalt paving
- • Bureau of Indian Standards (BIS) standards for aggregates, bitumen, and other construction materials
- • Ministry of Road Transport and Highways (MoRTH) specifications for road construction

The bidder shall provide certification from reputable testing laboratories for all materials used in the project. Workmanship shall be of the highest standard, with a focus on attention to detail, precision, and adherence to specifications.

- • Construction Standards

The bidder shall comply with the following construction standards:

- • Asphalt paving shall be laid in accordance with IRC:SP:792008 and MoRTH specifications
- • Drainage systems shall be designed and constructed in accordance with IRC:SP:512012 and MoRTH specifications
- • Signage shall be installed in accordance with MoRTH specifications and IRC:672012
- • Road geometry and alignment shall be designed and constructed in accordance with MoRTH specifications and IRC:522013

The bidder shall ensure that all construction activities are carried out in accordance with the approved design and specifications, and that all necessary testing and inspection are conducted to verify compliance.

- • Environmental and Safety Standards

The bidder shall adhere to all relevant environmental and safety standards, including but not limited to:

- • The Environment (Protection) Act, 1986
- • The Water (Prevention and Control of Pollution) Act, 1974

- • The Air (Prevention and Control of Pollution) Act, 1981
- • The Occupational Safety, Health and Working Conditions Code, 2020

The bidder shall provide a comprehensive Environmental and Safety Management Plan, which shall include measures for:

- • Minimizing environmental impact during construction
- • Ensuring worker safety and health
- • Managing waste and pollution
- • Preventing accidents and incidents
- • Testing and Inspection

The bidder shall conduct regular testing and inspection to ensure compliance with specifications and standards. The testing and inspection plan shall include:

- • Frequency and scope of testing and inspection
- • Methods and procedures for testing and inspection
- • Acceptance criteria for test results
- • Procedures for addressing defects or nonconformities

The bidder shall provide a testing and inspection schedule, which shall be approved by the employer prior to commencement of work.

- • Quality Control Metrics

The bidder shall track and report on the following quality control metrics:

- • Defect density (number of defects per unit of work)
- • Test pass rate (percentage of tests passed)
- • Compliance with specifications and standards (percentage of work meeting specifications)
- • Customer satisfaction (measured through surveys or feedback forms)

The bidder shall provide regular progress reports, which shall include data on quality control metrics, to the employer.

- • Certifications and Accreditations

The bidder shall hold all necessary certifications and accreditations, including but not limited to:

- • ISO 9001:2015 certification for quality management
- • ISO 14001:2015 certification for environmental management
- • OHSAS 18001:2007 certification for occupational health and safety management

The bidder shall provide evidence of these certifications and accreditations as part of their bid submission.

By adhering to these quality control and standards requirements, the successful bidder shall ensure the delivery of a high-quality road infrastructure that meets the needs of road users, while also minimizing environmental impact and ensuring worker safety and health.

Risk Management Framework

- • Risk Management Framework

The Risk Management Framework is a critical component of the Road Construction Project, as it outlines the approach to identifying, assessing, and mitigating potential risks that may impact the project's timeline, budget, and quality. The framework is designed to ensure that the project is delivered safely, efficiently, and in compliance with environmental and safety standards.

- • Risk Identification

The risk identification process involves a thorough analysis of the project's scope, stakeholder expectations, and potential hazards. The following risks have been identified as potential threats to the project:

- • Design and construction risks: errors in design, inadequate construction techniques, and noncompliance with technical specifications
- • Environmental risks: pollution, soil erosion, and damage to surrounding ecosystems
- • Safety risks: accidents, injuries, and fatalities among workers, pedestrians, and motorists
- • Logistical risks: delays in material delivery, equipment breakdowns, and labor shortages
- • Financial risks: cost overruns, funding shortfalls, and contractual disputes
- • Risk Assessment

The risk assessment process involves evaluating the likelihood and potential impact of each identified risk. The assessment will be based on industry standards, historical data, and expert judgment. The following metrics will be used to assess the risks:

- • Probability: the likelihood of the risk occurring, measured on a scale of 15 (low to high)
- • Impact: the potential consequences of the risk, measured on a scale of 15 (low to high)
- • Risk score: the product of the probability and impact scores, used to prioritize risks and allocate resources
- • Risk Mitigation and Control

The risk mitigation and control process involves developing and implementing strategies to reduce the likelihood and impact of each identified risk. The following strategies will be employed:

- • Design and construction risks:

+ Regular design reviews and audits

+ Implementation of quality control procedures

+ Training and certification of construction personnel

- • Environmental risks:

+ Development of an environmental management plan

+ Implementation of pollution prevention measures

+ Regular monitoring and reporting of environmental impacts

- • Safety risks:

+ Development of a safety management plan

+ Implementation of safety protocols and procedures

+ Regular training and drills for workers and emergency responders

- • Logistical risks:

+ Development of a logistics plan

+ Implementation of just-in-time delivery and inventory management

+ Regular maintenance and inspection of equipment

- • Financial risks:

+ Development of a financial management plan

+ Implementation of cost control measures

+ Regular monitoring and reporting of financial performance

- • Monitoring and Review

The risk management framework will be regularly monitored and reviewed to ensure its effectiveness and identify areas for improvement. The following metrics will be used to measure the framework's performance:

- • Risk score reduction: the reduction in risk scores over time, measured as a percentage
- • Incident rate: the number of incidents and accidents per 100 workers per month
- • Environmental compliance: the number of environmental incidents and noncompliance events per month
- • Schedule performance: the percentage of milestones completed on time

- • Budget performance: the percentage of budget spent versus planned
- • Industry Standards and Compliance

The risk management framework will be developed and implemented in accordance with industry standards and regulatory requirements, including:

- • ISO 31000:2018: Risk management Principles and guidelines
- • ISO 14001:2015: Environmental management systems Requirements with guidance for use
- • OHSAS 18001:2007: Occupational health and safety management systems Requirements
- • National Highway Authority (NHA) guidelines: for road construction and maintenance
- • Environmental Protection Agency (EPA) regulations: for environmental protection and pollution prevention

By implementing a comprehensive risk management framework, the Road Construction Project will be able to identify, assess, and mitigate potential risks, ensuring a safe, efficient, and high-quality delivery of the project.

Financial Terms and Conditions

- • Financial Terms and Conditions

The Financial Terms and Conditions outlined in this section govern the payment, pricing, and financial obligations of the Contractor and the Employer for the Road Construction Project. The total contract value for the project is ■20,000,000.0, and the Contractor is expected to adhere to the terms and conditions outlined below.

- • Payment Terms

The payment terms for the project are as follows:

- • The Employer shall make payments to the Contractor based on the achievement of milestones and completion of work, as specified in the contract schedule.
- • The Contractor shall submit invoices to the Employer on a monthly basis, detailing the work completed and the corresponding payment due.
- • The Employer shall make payments within 30 days of receipt of a valid invoice, provided that the work has been completed to the satisfaction of the Employer.
- • The payment schedule shall be as follows:

+ 20% of the total contract value upon completion of 25% of the work

+ 30% of the total contract value upon completion of 50% of the work

+ 30% of the total contract value upon completion of 75% of the work

+ 20% of the total contract value upon completion of 100% of the work

- • Pricing and Cost Structure

The pricing and cost structure for the project shall be as follows:

- • The Contractor shall provide a detailed breakdown of the costs, including labor, materials, equipment, and overheads.
- • The costs shall be based on the following rates:

+ Labor: ■500 per hour for skilled labor, ■300 per hour for unskilled labor

+ Materials: as per market rates, with a maximum variation of 10% from the rates quoted in the tender

+ Equipment: ■500 per hour for heavy machinery, ■200 per hour for light machinery

+ Overheads: 15% of the total labor and material costs

- • The Contractor shall be responsible for all costs associated with the project, including but not limited to:

+ Mobilization and demobilization costs

+ Site establishment and maintenance costs

+ Safety and environmental management costs

- • Variations and Claims

The Contractor shall be entitled to claim variations and additional costs for work that is not included in the original scope of work, provided that such work is authorized by the Employer in writing. The Contractor shall submit a detailed claim, including supporting documentation and cost breakdown, within 14 days of the event giving rise to the claim. The Employer shall respond to the claim within 30 days, and any disputes shall be resolved through negotiation and mediation.

- • Retention and Defects Liability

The Employer shall retain 5% of the total contract value as retention, which shall be released to the Contractor upon completion of the defects liability period. The defects liability period shall be 12 months from the date of completion of the project. During this period, the Contractor shall be responsible for rectifying any defects or deficiencies in the work, at no additional cost to the Employer.

- • Taxes and Duties

The Contractor shall be responsible for all taxes and duties applicable to the project, including but not limited to:

- • Goods and Services Tax (GST)
- • Value Added Tax (VAT)

- • Income Tax
- • Customs Duty
- • Excise Duty

The Contractor shall ensure that all taxes and duties are paid in accordance with the relevant laws and regulations, and shall provide the Employer with evidence of such payments upon request.

- • Insurance and Risk Management

The Contractor shall be responsible for obtaining and maintaining insurance coverage for the project, including but not limited to:

- • Public Liability Insurance
- • Employer's Liability Insurance
- • Equipment Insurance
- • Professional Indemnity Insurance

The Contractor shall ensure that the insurance policies are valid and in force for the duration of the project, and shall provide the Employer with evidence of such insurance upon request.

- • Dispute Resolution

Any disputes arising out of or in connection with the contract shall be resolved through negotiation and mediation, in accordance with the following procedure:

- • The parties shall attempt to resolve the dispute through direct negotiation and discussion.
- • If the dispute cannot be resolved through negotiation, the parties shall refer the dispute to mediation, in accordance with the rules of the Indian Council of Arbitration.
- • If the dispute cannot be resolved through mediation, the parties shall refer the dispute to arbitration, in accordance with the Arbitration and Conciliation Act, 1996.

Legal and Compliance Requirements

- • Legal and Compliance Requirements

The Road Construction Project, valued at ■20,000,000.0, requires strict adherence to legal and compliance requirements to ensure a successful and sustainable outcome. The bidder must demonstrate a thorough understanding of the relevant laws, regulations, and industry standards to be considered for this project.

- • Statutory Compliance

The bidder must comply with all applicable laws, regulations, and ordinances, including but not limited to:

- • The Indian Contract Act, 1872
- • The Arbitration and Conciliation Act, 1996
- • The Environmental Protection Act, 1986
- • The Factories Act, 1948
- • The Labour Laws, including the Minimum Wages Act, 1948, and the Payment of Wages Act, 1936
- • The Road Transport and Highways Regulations, 2018

The bidder must provide proof of compliance with these statutes, including any necessary licenses, permits, and certifications.

- • Environmental Compliance

The bidder must adhere to environmental standards and regulations, including:

- • The Environmental Impact Assessment (EIA) Notification, 2006
- • The Water (Prevention and Control of Pollution) Act, 1974
- • The Air (Prevention and Control of Pollution) Act, 1981
- • The Noise Pollution (Regulation and Control) Rules, 2000

The bidder must implement measures to minimize the project's environmental footprint, including:

- • Waste management and disposal plans
- • Measures to prevent water and air pollution
- • Noise reduction strategies
- • Plans for the conservation of natural habitats and biodiversity
- • Safety and Health Compliance

The bidder must ensure a safe and healthy work environment, complying with:

- • The Occupational Safety, Health and Working Conditions Code, 2020
- • The Building and Other Construction Workers (Regulation of Employment and Conditions of Service) Act, 1996
- • The National Building Code of India, 2016

The bidder must provide proof of:

- • A safety management plan, including risk assessments and mitigation measures
- • A health management plan, including provisions for medical facilities and emergency response
- • Training programs for workers on safety and health procedures

- • Personal Protective Equipment (PPE) for all workers
- • Labour Laws and Social Compliance

The bidder must comply with labour laws and social regulations, including:

- • The Minimum Wages Act, 1948
- • The Payment of Wages Act, 1936
- • The Employees' State Insurance Act, 1948
- • The Employees' Provident Funds and Miscellaneous Provisions Act, 1952

The bidder must provide proof of:

- • Compliance with minimum wage requirements
- • Payment of wages and benefits to workers
- • Provision of social security benefits, including insurance and provident funds
- • A plan for the employment and training of local workers
- • Quality and Technical Compliance

The bidder must comply with technical standards and regulations, including:

- • The Indian Roads Congress (IRC) standards
- • The Ministry of Road Transport and Highways (MoRTH) specifications
- • The Bureau of Indian Standards (BIS) codes

The bidder must provide proof of:

- • Quality control and assurance plans
- • Technical specifications for materials and equipment
- • Calibration and testing procedures for equipment and instruments
- • A plan for the inspection and testing of works
- • Insurances and Liabilities

The bidder must provide proof of the following insurances:

- • Thirdparty liability insurance, with a minimum coverage of ■5,000,000.0
- • Workers' compensation insurance, with a minimum coverage of ■2,000,000.0
- • Professional indemnity insurance, with a minimum coverage of ■1,000,000.0

The bidder must also provide proof of liability coverage for:

- • Damage to property and infrastructure
- • Environmental damage and pollution
- • Bodily injury and death

- • Certifications and Accreditations

The bidder must provide proof of the following certifications and accreditations:

- • ISO 9001:2015 (Quality Management System)
- • ISO 14001:2015 (Environmental Management System)
- • OHSAS 18001:2007 (Occupational Health and Safety Management System)
- • CE marking or equivalent, for equipment and materials used in the project
- • Documentation and RecordKeeping

The bidder must maintain accurate and detailed records of all aspects of the project, including:

- • Contracts and agreements
- • Permits and licenses
- • Inspections and tests
- • Safety and health records
- • Environmental monitoring and reporting

The bidder must provide proof of a document management system, including:

- • A plan for the storage and retrieval of documents
- • A system for tracking and managing changes to documents
- • A procedure for ensuring the integrity and authenticity of documents

By complying with these legal and compliance requirements, the bidder demonstrates its commitment to delivering a high-quality, sustainable, and socially responsible Road Construction Project.

Performance Metrics and SLAs

- • Performance Metrics and SLAs

The successful bidder for the Road Construction Project will be required to meet specific performance metrics and service level agreements (SLAs) to ensure the project is completed to the required standards, on time, and within budget. The performance metrics and SLAs outlined below will be used to measure the contractor's performance and determine their overall compliance with the contract requirements.

- • Key Performance Indicators (KPIs)

The following KPIs will be used to measure the contractor's performance:

- • Project Timeline: The contractor is expected to complete the project within the specified timeline of 12 months from the date of commencement.

- • Road Quality: The contractor must ensure that the road is constructed to the required standards, with a minimum International Roughness Index (IRI) of 2.5 meters per kilometer.
- • Safety: The contractor must maintain a safe working environment, with a minimum safety rating of 90% based on regular audits and inspections.
- • Environmental Compliance: The contractor must comply with all environmental regulations and standards, with a minimum rating of 95% based on regular audits and inspections.
- • Community Satisfaction: The contractor must maintain a high level of community satisfaction, with a minimum rating of 85% based on regular surveys and feedback.
- • Service Level Agreements (SLAs)

The following SLAs will be applicable to the contract:

- • Response Time: The contractor must respond to all requests and notifications from the client within 2 hours of receipt.
- • Rectification Time: The contractor must rectify all defects and deficiencies within 7 days of notification.
- • Availability: The contractor must ensure that all necessary personnel, equipment, and materials are available on site as required.
- • Communication: The contractor must maintain regular communication with the client, including weekly progress meetings and monthly progress reports.
- • Metrics for Measurement

The following metrics will be used to measure the contractor's performance against the KPIs and SLAs:

- • Project Schedule Performance Index (SPI): The contractor's performance against the project timeline will be measured using the SPI, which will be calculated based on the earned value management (EVM) methodology.
- • Road Condition Index (RCI): The contractor's performance against the road quality KPI will be measured using the RCI, which will be calculated based on regular inspections and tests.
- • Safety Incident Rate: The contractor's performance against the safety KPI will be measured using the safety incident rate, which will be calculated based on the number of reportable incidents per 100,000 manhours worked.
- • Environmental Compliance Rating: The contractor's performance against the environmental compliance KPI will be measured using an environmental compliance rating, which will be calculated based on regular audits and inspections.

- • Customer Satisfaction Index (CSI): The contractor's performance against the community satisfaction KPI will be measured using the CSI, which will be calculated based on regular surveys and feedback.
- • Consequences of NonCompliance

Failure to meet the performance metrics and SLAs may result in consequences, including but not limited to:

- • Liquidated Damages: The contractor may be liable for liquidated damages of up to 10% of the contract value for failure to meet the project timeline.
- • Deductions: The contractor may be subject to deductions of up to 5% of the contract value for failure to meet the road quality KPI.
- • Termination: The contract may be terminated if the contractor fails to meet the safety or environmental compliance KPIs.
- • Reporting and Review

The contractor will be required to submit regular reports to the client, including:

- • Weekly Progress Reports: The contractor must submit weekly progress reports, detailing the work completed, any issues or challenges, and the planned work for the next week.
- • Monthly Progress Reports: The contractor must submit monthly progress reports, detailing the work completed, any issues or challenges, and the planned work for the next month.
- • Quarterly Review Meetings: The contractor must attend quarterly review meetings with the client, to review the project's progress, discuss any issues or challenges, and agree on the plans for the next quarter.

By including these performance metrics and SLAs in the contract, the client can ensure that the contractor is held accountable for their performance and that the project is completed to the required standards, on time, and within budget.

Testing and Acceptance Criteria

- • Testing and Acceptance Criteria

The Testing and Acceptance Criteria section outlines the requirements and standards that the contractor must meet to ensure the road construction project is completed to the desired quality and specifications. The criteria outlined in this section will be used to evaluate the contractor's work and determine whether the project has been completed satisfactorily.

- • Introduction

The road construction project involves the construction of a 20-kilometer stretch of road with asphalt paving, drainage systems, and necessary signage. To ensure that the project meets the required standards, the contractor will be required to conduct various tests and inspections during the construction process. The tests and inspections will be conducted in accordance with industry standards and regulations, including the Indian Road Congress (IRC) and the Ministry of Road Transport and Highways (MoRTH) guidelines.

- • Testing Criteria

The contractor will be required to conduct the following tests to ensure that the road construction project meets the required standards:

- • Asphalt Paving: The contractor will be required to conduct tests on the asphalt paving, including:

+ Density tests to ensure that the asphalt paving meets the required density of 2.4 g/cm³

+ Marshall stability tests to ensure that the asphalt paving meets the required stability of 1000 kg

+ Flow tests to ensure that the asphalt paving meets the required flow of 2-4 mm

- • Drainage Systems: The contractor will be required to conduct tests on the drainage systems, including:

+ Water flow tests to ensure that the drainage systems can handle a flow rate of 10 liters per second

+ Pressure tests to ensure that the drainage systems can withstand a pressure of 10 kg/cm²

- • Signage: The contractor will be required to conduct tests on the signage, including:

+ Reflectivity tests to ensure that the signage meets the required reflectivity of 100 cd/lux/m²

+ Legibility tests to ensure that the signage is legible from a distance of 100 meters

- • Acceptance Criteria

The contractor's work will be accepted based on the following criteria:

- • Visual Inspection: The road will be inspected visually to ensure that it meets the required standards, including:

+ Evenness and smoothness of the road surface

+ Presence and functionality of drainage systems

+ Presence and legibility of signage

- • Technical Inspection: The road will be inspected technically to ensure that it meets the required standards, including:

+ Thickness of the asphalt paving

+ Depth and width of the drainage systems

+ Height and visibility of the signage

- • Functional Inspection: The road will be inspected functionally to ensure that it meets the required standards, including:

+ Ability to handle traffic loads

+ Ability to drain water effectively

+ Ability to provide safe and visible signage

- • Industry Standards

The contractor will be required to comply with the following industry standards:

- • Indian Road Congress (IRC): The contractor will be required to comply with the IRC guidelines for road construction, including:

+ IRC: 37-2018: Guidelines for the design of flexible pavements

+ IRC: 58-2011: Guidelines for the design of rigid pavements

- • Ministry of Road Transport and Highways (MoRTH): The contractor will be required to comply with the MoRTH guidelines for road construction, including:

+ MoRTH: 2019: Guidelines for the construction of national highways

+ MoRTH: 2020: Guidelines for the construction of state highways

- • Documentation

The contractor will be required to maintain detailed records of all tests and inspections conducted during the construction process. The records will include:

- • Test Reports: The contractor will be required to submit test reports for all tests conducted, including:

+ Asphalt paving tests

+ Drainage system tests

+ Signage tests

- • Inspection Reports: The contractor will be required to submit inspection reports for all inspections conducted, including:

+ Visual inspections

+ Technical inspections

+ Functional inspections

- • Certification: The contractor will be required to obtain certification from the relevant authorities, including:

+ Certification of compliance with industry standards

+ Certification of completion of the project

By meeting the testing and acceptance criteria outlined in this section, the contractor will ensure that the road construction project is completed to the desired quality and specifications, and that it meets the required industry standards and regulations.

Additional Details

Contact Information

For queries, contact:

PWD Office, City Road, ABC

Email: tenders@pwdabc.com

Phone: +91 123 456 7890

Eligibility Criteria

Bidders must have completed at least 3 similar road construction projects with a value of ■5,00,00,000 or more in the last 5 years.

MVP Requirements

The MVP will include the construction of the initial 5-kilometer stretch of road, with a completed drainage system and road base layer.

Milestone Deliverables

Completion of initial site survey and soil testing within 2 weeks.

Submission of design plans within 1 month.

Liquidated Damages

In case of project delay beyond the agreed timeline, liquidated damages of ■5,00,000 per week will be charged.