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		Rev: 01
		July 2016
KLM Technology Group #03-12 Block Aronia, Jalan Sri Perkasa 2 Taman Tampoi Utama 81200 Johor Bahru Malaysia	Roadway and Paving Specification (PROJECT STANDARDS AND SPECIFICATIONS)	

KLM Technology Group has developed; 1) Process Engineering Equipment Design Guidelines, 2) Equipment Design Software, 3) Project Engineering Standards and Specifications, and 4) Unit Operations Manuals. Each has many hours of engineering development.

KLM is providing the introduction to this guideline for free on the internet. Please go to our website to order the complete document.

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1.0 Scope

This Specification provides minimum requirements for design, materials, construction methods, and inspection and testing for roadways and area paving.

2.0 References

Applicable requirements in the following specifications, codes and standards, and government regulations shall be considered an integral part of this Specification. The edition in effect on the date of offer award shall be used, except as otherwise noted. Short titles will be used herein when appropriate.

2.1 Specifications

2.2 Industry Codes and Standards

- American Society for Testing and Materials (ASTM)
 - ASTM C33 – *Standard Specification for Concrete Aggregates*
 - ASTM C131 – *Standard Test Method for Resistance to Degradation of Small-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine*
 - ASTM C150 – *Standard Specification for Portland Cement*
 - ASTM C171 – *Standard Specification for Sheet Materials for Curing Concrete*
 - ASTM C260 – *Standard Specification for Air-Entraining Admixtures for Concrete*
 - ASTM C309 – *Standard Specification for Liquid Membrane-Forming Compounds for Curing Concrete*
 - ASTM D8 – *Standard Terminology Relating to Materials for Roads and Pavements*
 - ASTM D242 – *Standard Specification for Mineral Filler for Bituminous Paving Mixtures*

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- ASTM D692 – *Standard Specification for Coarse Aggregate for Bituminous Paving Mixtures*
- ASTM D977 – *Standard Specification for Emulsified Asphalt*
- ASTM D994 – *Standard Specification for Preformed Expansion Joint Filler for Concrete (Bituminous Type)*
- ASTM D1073 – *Standard Specification for Fine Aggregate for Bituminous Paving Mixtures*
- ASTM D1190 – *Standard Specification for Concrete Joint Sealer, Hot-Poured Elastic Type*
- ASTM D1557 – *Standard Specification for Test Method for Laboratory Compaction Characteristics of Soil Using Modified Effort*
- ASTM D1751 – *Standard Specification for Preformed Expansion Joint Filler for Concrete Paving and Structural Construction (Non-extruding and Resilient Bituminous Types)*
- ASTM D1883 – *Standard Test Method for CBR (California Bearing Ratio) of Laboratory Compacted Soils*
- ASTM D2026 – *Standard Specification for Cutback Asphalt (Slow-Curing Type)*
- ASTM D2027 – *Standard Specification for Cutback Asphalt (Medium-Curing Type)*
- ASTM D2028 – *Standard Specification for Cutback Asphalt (Rapid-Curing Type)*
- ASTM D2041 – *Standard Test Method for Theoretical Maximum Specific Gravity and Density of Bituminous Paving Mixtures*
- ASTM D2487 – *Standard Specification for Classification of Soils for Engineering Purposes*
- ASTM D2628 – *Standard Specification for Preformed Polychloroprene Elastomeric Joint Seals for Concrete Pavements*
- ASTM D2726 – *Standard Test Method for Bulk Specific Gravity and Density of Non-Absorptive Compacted Bituminous Mixtures*
- ASTM D2940 – *Standard Specification for Graded Aggregate Material for Bases or Sub-bases for Highways or Airports*
- ASTM D3282 – *Standard Classification of Soils and Soil-Aggregate Mixtures for Highway Construction Purposes*
- ASTM D3381 – *Standard Specification for Viscosity-Graded Asphalt Cement for Use in Pavement Construction*
- ASTM D3628 – *Standard Practice for Selection and Use of Emulsified Asphalts*

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3.0 Definitions

area paving: Paving that is provided around or beneath equipment or that which is used as a work area or storage area.

engineer of record: Owner's authorized representative with overall authority and responsibility for the civil engineering design, referred to in this Specification as engineer.

offer documents: Any and all documents, including design drawings, that the owner has transmitted or otherwise communicated (either by incorporation or by reference) and has made part of the legal offer or purchase order agreement between the owner and the contractor.

contractor: The party responsible for performing roadway and area paving work.

owner: The party that awards the offer. The owner may be the owner or the owner's authorized agent.

primary road: A main traffic road for operational and maintenance vehicles, equipment, tanker trucks, or semi-trailer trucks.

secondary road: A road subject to regular operational or maintenance traffic but not subject to high traffic volume.

tertiary road: A road subject to occasional traffic by security, maintenance, and/or firefighting vehicles.

4.0 General

4.1 Quality Assurance

- 4.1.1 The contractor shall submit to the buyer a written Quality Control Program and Inspection Procedures document for approval that shall provide details of how compliance with the requirements of this specification and offer documents will be achieved.
- 4.1.2 Unless otherwise specified in the offer documents, an inspection and testing agency will be retained by the owner to perform field and laboratory testing and soil evaluations to verify compliance of the work with the requirements of this specification and to ensure the achievement of the intents and purposes of work.
- 4.1.3 The performance or lack of performance of such tests and inspections shall not be construed as granting relief from the requirements of these specifications or the other offer documents.