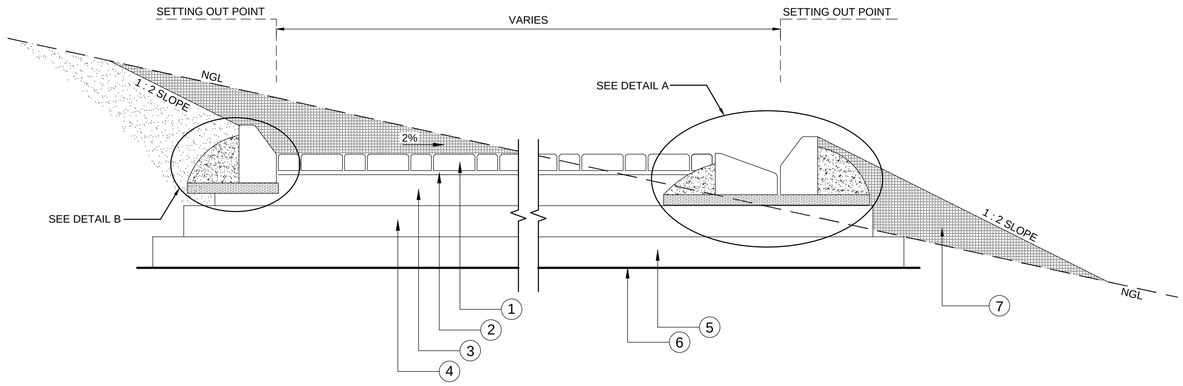
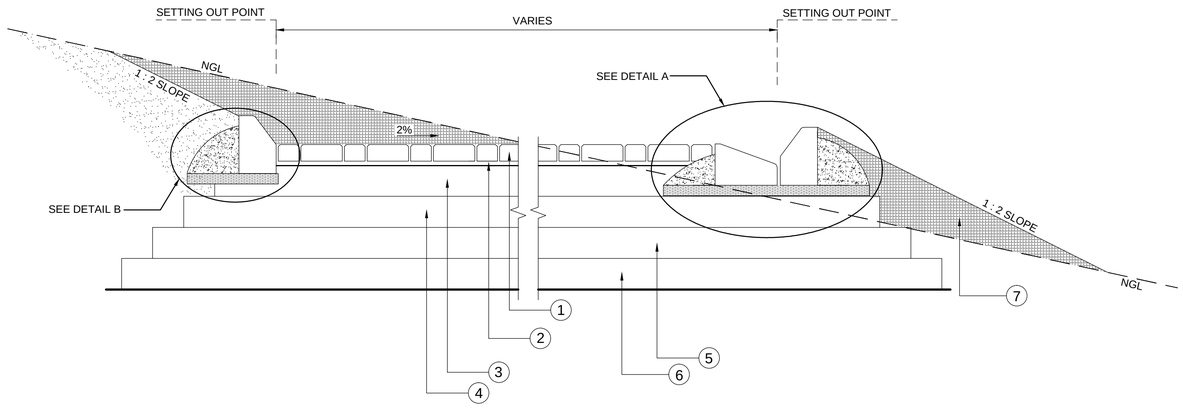



# TYPICAL CROSS SECTION OF BLOCK PAVED ROADS LIGHT TRAFFIC ROADS AND PARKING AREAS

## TYPE 1

SCALE 1:20




# TYPICAL CROSS SECTION OF BLOCK PAVED ROADS HEAVY TRAFFIC ROADS, FILLING STATIONS AND ACCESS ROADS

## TYPE 2

SCALE 1:20

## BASIC PAVEMENT DESIGN: LIGHT TRAFFIC ROADS AND PARKING AREAS

| LAYER NO. | DESCRIPTION | MATERIAL TYPE (TRH 14) | DENSITY % MOD AASHTO | G.M | P.I (MAX) | C.B.R. @ MOD AASHTO (MIN) | U.C.S. @ 100% MOD AASHTO (MPa) | I.T.S. @ 100% MOD AASHTO (KPa)(MIN) | SWELL 100% MOD AASHTO | WDD (% LOSS) (MAX) | ICS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 80mm TYPE S - A INTERLOCKING CONCRETE PAVING BLOCKS PROVIDED IN A HERRINGBONE PATTERN (35MPa)<br>10mm JOINT FILLED WITH 1:3 CEMENT:SAND MORTAR | | | | | | | | | | |
| 2 | 20mm RIVERSAND BEDDING | | | | | | | | | | |
| 3 * | 150mm CEMENT STABILISED BASE (CEM IV B-V 32.5N) | C4 | 97 % | 2.7≥GM≥1.2 | 6 | | MIN: 0.75<br>MAX: 1.5 | 200 | 0.5% | 20 | |
| 4 | 150mm SELECTED SUBBASE G6 MATERIAL | G6 | 95 % | 2.5≥GM≥1.5 | 12 | 24 | 9 | | | | |
| 5 | 150mm SELECTED SUBGRADE G7 MATERIAL | G7 | 93 % | 2.7≥GM≥0.75 | 12 or 3GM +10 | | | | 1.5% | | |
| 6 | RIP AND RE-COMPACT 150mm IN SITU MATERIAL | | 90% | | | | | | | | |
| 7 | VERGE / FILL | G9 | 90% | 2.7≥GM≥0.75 | 12 or 3GM +10 | | | | 1.5% | | |

NOTE:

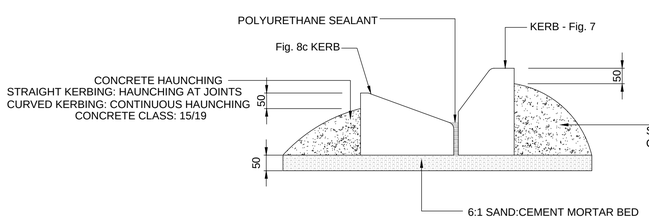
*1. MIX DESIGN TO BE CONDUCTED USING THE INDICATED CEMENT AS WELL AS THOSE AVAILABLE IN THE AREA. THE MIX DESIGN SHALL CONTAIN ALL INFORMATION AS REQUIRED IN THE TRH 13. THIS SHALL BE SUBMITTED TO THE ENGINEER PRIOR TO CONSTRUCTION. ICS TESTING SHALL INCLUDE BOTH THE INTERNAL CEMENTS AS WELL AS A SEPARATE TEST ON LIME AND SUBMITTED PRIOR TO CONSTRUCTION WITH THE DESIGN.
2. IN PLACES WHERE THE IN-SITU MATERIALS ARE OF G5 QUALITY, THE IN-SITU MATERIALS CAN BE RIPPED AND RECOMPACTED TO THE SPECIFIED DENSITIES TO FORM THE SELECTED SUBGRADE LAYERS.
3. IF ROCK IS ENCOUNTERED THEN CLAUSE 1200DM 5.2.3.3 SHALL APPLY. REPLACE "ROADBED" WITH "UPPER SUBBASE"
4. ~~UCS (CONSHUPTION OF STABILIZER) +1% MINIMUM, ITS & UCS AS PER DRAWING~~ 9
5. THE CONTRACTOR MUST SATISFY HIMSELF THAT THE G6 MATERIAL MEET THE G6 REQUIREMENTS AS PER TRH 14 PRIOR TO PROCESSING THE LAYER. IF THE MATERIAL DOES NOT MEET THE MINIMUM REQUIREMENTS OF G6 MATERIAL,THE CONTRACTOR SHALL STABILIZE THE MATERIAL TO ACHIEVE C4 TYPE MATERIAL WITH A UCS OF 750kPa AND ITS of 150kPa.

## BASIC PAVEMENT DESIGN: HEAVY TRAFFIC ROADS, FILLING STATIONS AND ACCESS ROADS

| LAYER NO. | DESCRIPTION | MATERIAL TYPE (TRH 14) | DENSITY % MOD AASHTO | G.M | P.I (MAX) | C.B.R. @ MOD AASHTO (MIN) | U.C.S. @ 100% MOD AASHTO (MPa) | I.T.S. @ 100% MOD AASHTO (KPa)(MIN) | SWELL 100% MOD AASHTO | WDD (% LOSS) (MAX) | ICS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 80mm TYPE S - A INTERLOCKING CONCRETE PAVING BLOCKS PROVIDED IN A HERRINGBONE PATTERN (35MPa)<br>10mm JOINT FILLED WITH 1:3 CEMENT:SAND MORTAR | | | | | | | | | | |
| 2 | 20mm RIVERSAND BEDDING | | | | | | | | | | |
| 3 * | 150mm CEMENT STABILISED BASE (3% BY VOLUME CEM II 32.5N) | C3 | 97 % | 2.5≥GM≥1.5 | 6 | | MIN: 1.5<br>MAX: 3.0 | 250 | 0.5% | 20 | |
| 4 | 150mm CEMENT STABILISED SUBBASE | C4 | 95 % | 2.6≥GM≥1.2 | 6 | | MIN: 0.75<br>MAX: 1.5 | 200 | 0.5% | 20 | |
| 5 | 150mm SELECTED SUBGRADE G6 MATERIAL | G6 | 93 % | 2.5≥GM≥1.5 | 12 | 24 | 9 | | 0.5% | | |
| 6 | INSITU MATERIAL: RIP AND RE-COMPACT 150mm | G7 | 90% | 2.7>GM≥0.75 | 12 or 3GM +10 | 15 | | | | | |
| 7 | VERGE / FILL | G9 | 90% | 2.7≥GM≥0.75 | 12 or 3GM +10 | | | | 1.5% | | |

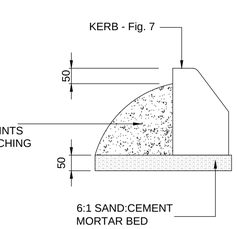
NOTE:

*1. MIX DESIGN TO BE CONDUCTED USING THE INDICATED CEMENT AS WELL AS THOSE AVAILABLE IN THE AREA. THE MIX DESIGN SHALL CONTAIN ALL INFORMATION AS REQUIRED IN THE TRH 13. THIS SHALL BE SUBMITTED TO THE ENGINEER PRIOR TO CONSTRUCTION. ICS TESTING SHALL INCLUDE BOTH THE INTERNAL CEMENTS AS WELL AS A SEPARATE TEST ON LIME AND SUBMITTED PRIOR TO CONSTRUCTION WITH THE DESIGN.
2. IN PLACES WHERE THE IN-SITU MATERIALS ARE OF G5 QUALITY, THE IN-SITU MATERIALS CAN BE RIPPED AND RECOMPACTED TO THE SPECIFIED DENSITIES TO FORM THE SELECTED SUBGRADE LAYERS.
3. IF ROCK IS ENCOUNTERED THEN CLAUSE 1200DM 5.2.3.3 SHALL APPLY. REPLACE "ROADBED" WITH "UPPER SUBBASE"
4. ~~UCS (CONSHUPTION OF STABILIZER) +1% MINIMUM, ITS & UCS AS PER DRAWING~~ 9
5. THE CONTRACTOR MUST SATISFY HIMSELF THAT THE G6 MATERIAL MEET THE G6 REQUIREMENTS AS PER TRH 14 PRIOR TO PROCESSING THE LAYER. IF THE MATERIAL DOES NOT MEET THE MINIMUM REQUIREMENTS OF G6 MATERIAL,THE CONTRACTOR SHALL STABILIZE THE MATERIAL TO ACHIEVE C4 TYPE MATERIAL WITH A UCS OF 750kPa AND ITS of 150kPa.




## DETAIL A

SCALE 1:10




## DETAIL B

SCALE 1:10

## KKS LEGEND

| STRUCTURE | KKS CODE |
|---|---|
| MEDUPI PLANT STREETS AND ROADS | 0 0UZA |
| BUS PARKING AREA | 0 0UZD |
| VISITORS PARKING AREA (OUTSIDE STATION PERIMETER) | 0 1UZD |
| VISITORS PARKING AREA (INSIDE STATION PERIMETER) | 0 2UZD |
| MEDUPI EXECUTION TEAM CONSTRUCTION OFFICES PARKING LOT | 0 3UZD |
| ASH DUMP STRUCTURE FOR PARKING AREAS | 0 4UZD |
| LARGE VEHICLE STAGING AREA | 0 5UZD |

**FOR CONSTRUCTION**

| D.O. | REV | DATE | ** REVISION ** | REV BY | CHKD BY | AUTH BY | KKS APP | REFERENCE DRAWINGS |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | 0.84/7252/2 | ACCESS CONTROL PLATFORM & PARKING |
| | | | | | | | | LAYOUT SHEET 1 |
| | | | | | | | 0.84/7245/8 | ADMIN ISLAND, WORKSHOP & STORES |
| | 9 | 23/03/2015 | G5 MATERIAL CHANGED TO G6. | PS | CM | CM | | ROAD SETTING OUT LAYOUT: SHEET 3 |
| | 8 | 01/09/2014 | TYPICAL CROSS SECTION DETAILS AMENDED | PS | CM | CM | 0.84/7257/3 | SANDBLAST ROAD LAYOUT |
| | 7 | 07/07/2014 | TYPICAL CROSS SECTION LAYER WORKS AND LAYER WORKS TABLES AMENDED | PS | CM | CM | 0.84/7252/5 | ACCESS CONTROL PLATFORM AND |
| | 6 | 08/04/2013 | TITLEBLOCK UPDATED | RE | CM | LJ | | PARKING LAYOUT SHEET 2 |
| | 5 | 18/06/2012 | CHANGING RED LINE DRAWING TO BLACK LINE | PN | DE | LJ | 0.84/7245/5 | ADMIN ISLAND, WORKSHOP & STORES |
| | 4 | 23/04/2012 | KKS CODE ADDED | PN | DE | LJ | | ROAD SETTING OUT LAYOUT: SHEET 1 |
| | 3 | 14/02/2012 | CEMENT CONTENT & HAUNCHING SPECIFICATIONS UPDATED | PN | LJ | LJ | 0.84/7245/3 | ADMIN ISLAND, WORKSHOP & STORES |
| | | | | | | | | ROAD SETTING OUT LAYOUT |
| | 2 | 15/12/2011 | KERBING AND PAVEMENT DETAIL REVISED | PN | LJ | LJ | | SHEET 2 |
| | 1 | 27/09/2011 | CUT AND FILL INFORMATION ADDED | PN | LJ | LJ | 0.84/7245/1 | OFFICE PLATFORM AND ROADS |
| | 0 | 24/11/2010 | ISSUED FOR CONSTRUCTION | FS | FdL | FdL | | LAYOUT |

INDEX REFERENCE:

| | | AUTHORISED FOR ESKOM BY | DATE |
|---|---|---|---|
| DRG REGISTER | | | |
| DESIGN APPROVED | 28/05/2009 | FdL | FC VENTER 07/07/2014 |
| KKS APP | | | |
| DO AUTH | 28/05/2009 | FdL | |
| CHKD BY | 28/05/2009 | FdL | |
| DRAWN BY | 12/03/2009 | FS | |
| SCALE | 1:20 | | |

2 Lynwood Galleries
354 Rosemary Road
Lynwood, Tshwane
Tel: (012) 361 3629
Fax: (012) 361 3525

MEDUPI POWER STATION
GENERAL CONSTRUCTION DRAWING (Package 35 & 8)
TYPICAL CROSS SECTIONS THROUGH PAVING

14031 - C - 404

0.84 / 7246 | SHEET 3 | REV 9

SIZE GROOTTE A1L