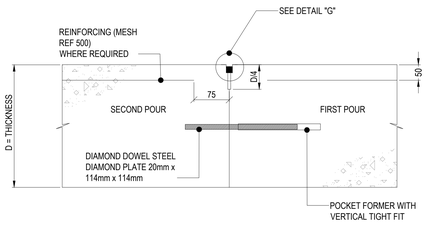
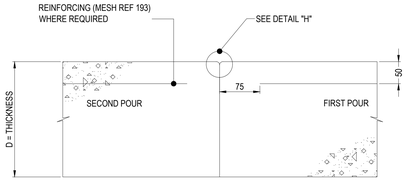


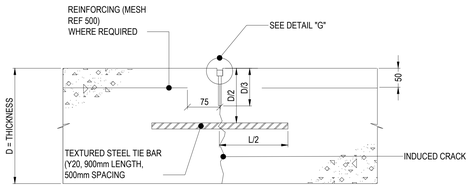
DETAIL "A1"
UNDOWELLED CONTRACTION JOINT



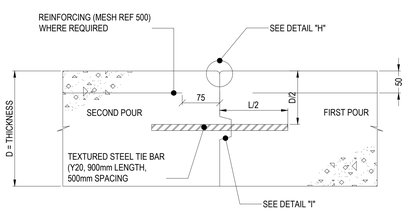
DETAIL "A2"
DIAMOND DOWEL TRANSVERSE CONSTRUCTION JOINT



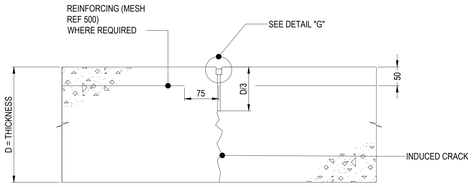
DETAIL "A3"
SIDEWALK CONSTRUCTION JOINT



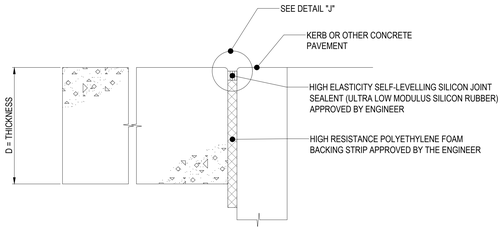
DETAIL "B1"
SAWCUT LONGITUDINAL CONTRACTION JOINT WITH TIEBARS



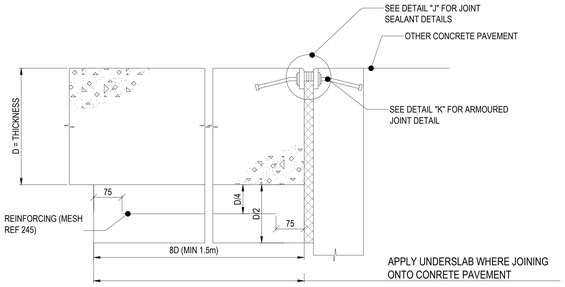
DETAIL "B2"
KEYED LONGITUDINAL CONSTRUCTION JOINT WITH TIEBARS



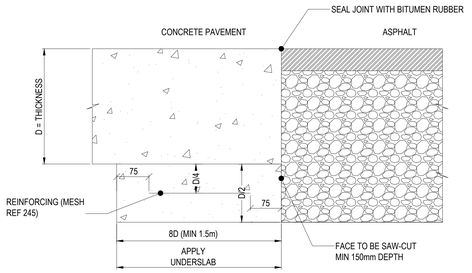
DETAIL "C"
LONGITUDINAL CONTRACTION JOINT WITHOUT TIEBARS



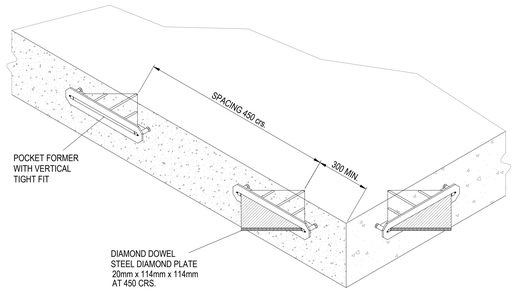
DETAIL "D"
ISOLATION JOINT



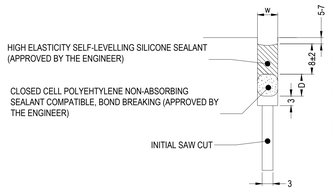
DETAIL "E"
ARMOURED ISOLATION JOINT



DETAIL "F"
JOINT BETWEEN CONCRETE AND EXISTING ASPHALT



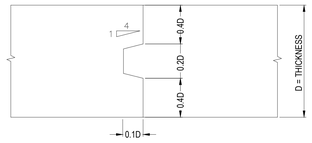
TYPICAL SECTION ISOMETRIC DIAMOND DOWEL CONSTRUCTION JOINT



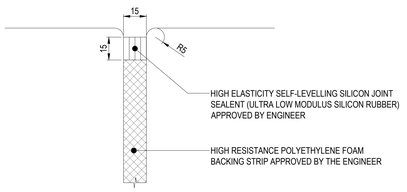
W = 6mm FOR TIED JOINTS
= 8mm FOR TRANSVERSE CONTRACTION JOINTS
D = W FOR JOINT WIDTHS UP TO 12mm

FOR JOINTS WIDTHS GREATER THAN 12mm,
D = W/2

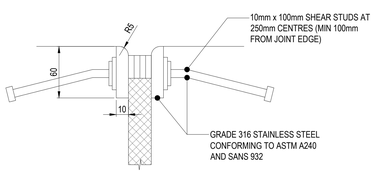
DETAIL "G"
TYPICAL SEALANT RESERVOIR



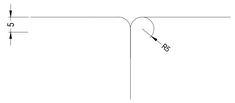
DETAIL "I"
KEY DIMENSIONS



DETAIL "J"
ISOLATION JOINT SEALANT



DETAIL "K"
ARMOURED JOINT DETAIL



DETAIL "H"
FORMED CHAMFERED JOINT

NOTES ON CONCRETE CONSTRUCTION.

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONSTRUCTING A PAVEMENT WHICH WILL NOT EXHIBIT ANY CRACKS .
2. ANY CONCRETE DAMAGED BY ADVERSE WEATHER, SUCH AS, ANY COMBINATION OF HIGH OR LOW AMBIENT TEMPERATURE, LOW HUMIDITY, WIND, RAIN AND HAIL, SHALL BE REMOVED AND REPLACED AT THE CONTRACTOR'S EXPENSE.
3. PAVING OPERATIONS SHALL CEASE WHEN
   - THE CONCRETE TEMPERATURE WHEN LAID, EXCEEDS 32°C UNLESS SPECIAL PRECAUTIONS ARE TAKEN
   - THE PREVAILING EVAPORATION RATE, EXCEEDS 1,0 kg/m²/hr
4. TEXTURING SHALL BE DONE IMMEDIATELY AFTER FINAL FINISHING AND BEFORE THE CONCRETE HAS SET WITHOUT CAUSING TEARING OR DISLODGING OF THE CONCRETE.
5. ALL EXPOSED CONCRETE SURFACES, INCLUDING THE SIDES OF THE SLAB, SHALL BE TREATED WITH THE SPECIFIED CURING COMPOUND, IMMEDIATELY AFTER THE REQUIRED TEXTURING OF THE SURFACE HAS BEEN AFFECTED. THE CURING MEMBRANE SHALL BE MAINTAINED INTACT FOR AT LEAST 7 DAYS AFTER THE CONCRETE HAS BEEN PLACED.
6. THE EXACT TIME AND SEQUENCE OF SAWING OF THE JOINTS SHALL BE DETERMINED BY THE CONTRACTOR, BEARING IN MIND RISK OF EXCESSIVE RAVELING AND SPALLING, WITH EARLY SAWING AND THE RISK OF CRACKING WITH DELAYED SAWING, BUT NOT THAN 24 HOURS AFTER THE CONCRETE HAS BEEN PLACED
7. THE CONTRACTOR SHALL USE A SHARP SAW BLADE, APPROPRIATE FOR THE TYPE OF AGGREGATE AND CONCRETE HARDNESS.
8. THE CONTRACTOR SHALL CONSIDER THE PREVAILING WEATHER CONDITIONS AND MONITOR THE CONCRETE CURING PROCESS CLOSELY TO DETERMINE THE TIMING OF JOINT SAWING.
9. THE CONTRACTOR SHALL DOCUMENT THE TIMING AND CONDITIONS DURING JOINT CUTTING FOR QUALITY CONTROL.
10. ALL TRANSVERSE JOINTS SHALL INITIALLY BE SAWN TO THE FULL DEPTH AS INDICATED, AND NOT MORE THAN 3mm WIDE. IMMEDIATELY AFTER SAWING, THE JOINT GROOVES SHALL BE WASHED OUT WITH A JET OF CLEAN WATER TO REMOVE ALL FINE MATERIAL WHICH SHALL BE APPROPRIATELY DISPOSED OF AT AN APPROVED SITE. THE JOINTS SHALL THEN BE SEALED TEMPORARILY BY MEANS OF AN APPROVED MATERIAL, FLUSH WITH THE PERMANENT SURFACE. IN SEALED JOINTS THE TOP PORTION OF THE GROOVE SHALL BE REAMED OUT TO THE SPECIFIED FINAL WIDTH AND DEPTH NOT SOONER THAT 7 DAYS AFTER THE INITIAL SAWING. JOINTS SHOULD NOT BE STRESSED FOR AT LEAST 24 HOURS AFTER SEALING.
11. NO VEHICLE WITH AN AXLE LOAD EXCEEDING 20kN SHALL TRAVEL OVER THE COMPLETED CONCRETE SURFACE WITHIN 14 DAYS AFTER IT HAS BEEN COMPLETED, OR SUCH LONGER PERIODS AS MAY BE DIRECTED BY THE ENGINEER. NO TRAFFIC OF ANY KIND SHALL BE ALLOWED ON THE PAVEMENT UNTIL ALL THE JOINTS HAVE BEEN PERMANENTLY SEALED.
12. DIAMOND DOWEL TO BE SET OUT AND POSITIONED ACCORDING TO MANUFACTURER'S SPECIFICATIONS.
13. DEVIATIONS ON JOINT SPACING FOR FINISHING REASONS : - TRANSVERSE JOINTS SHOULD NOT EXCEED 125% OF THE LONGITUDINAL JOINT LENGTH AND A MAXIMUM LENGTH OF 4.5m IS ALLOWED.

ADDITIONAL NOTES ON CONCRETE JOINTS

1. JOINTS MUST BE DRY AND DUST FREE, LOOSE MATERIAL MUST BE BLOWN AWAY WITH OIL-FREE COMPRESSED AIR, BEFORE IT IS SEALED.
2. JOINTS CONTAMINATED WITH BITUMEN, OIL etc. MUST BE RE-CUT.
3. JOINTS MUST BE CHAMFERED TO 5mm
4. INSERT BACKING STRIPS TO REQUIRED DEPTH, PREFERABLY USING A DEPTH-GAUGE TOOL TO ENSURE EVEN JOINT.
5. JOINT MUST BE SEALED WITH THE SPECIFIED SILICON SEALANT . THE SEALANT MUST BE POURED INTO THE JOINT, ENSURING THAT THE JOINT IS FILLED AS INDICATED IN THE DRAWINGS.
6. JOINT SURFACE MUST BE TOOLED WITH A CONCAVE SMOOTHING TOOL AND ANY EXCESS SEALANT REMOVED.
7. JOINT SEALANT DIMENSIONS ARE INDICATIVE AND SHOULD CONFORM TO THE SUPPLIERS SPECIFICATIONS.

ADDITIONAL NOTES ON CONCRETE

THE RELATIONSHIP BETWEEN THE 28-DAY CUBE COMPRESSIVE STRENGTH AND THE 28-DAY FLEXURAL STRENGTH OF THE 300mm PJCP CONCRETE SHALL BE ESTABLISHED BY LABORATORY TESTS.

THE SPECIFIED COMPRESSIVE STRENGTH FOR THE 300mm PJCP SHALL BE THE HIGHEST OF THE FOLLOWING FOUR VALUES:

(i) 40MPa AT 28 DAYS; OR
(ii) 0.85 fc1 WHERE fc1 IS THE 28-DAY COMPRESSIVE STRENGTH CORRESPONDING TO A 28-DAY FLEXURAL STRENGTH OF 5.2MPa.
(iii) 0.85 fc2, WHERE fc2 IS THE 28-DAY COMPRESSIVE STRENGTH CORRESPONDING TO A WATER: CEMENT RATIO OF 0.53.
(iv) 0.85 fc3, WHERE fc3 IS THE 28-DAY COMPRESSIVE STRENGTH CORRESPONDING TO A CEMENT CONTENT OF 320 kg/m3.

WHERE fc1, fc2 AND fc3 SHALL BE THE 28-DAY COMPRESSIVE STRENGTHS DETERMINED FROM LABORATORY MIXES AS PRESCRIBED IN CLAUSE 7104.

THE MINIMUM REQUIRED 28-DAY SPECIFIED COMPRESSIVE STRENGTH FOR THE LMC AND PJCP FOR THE SIDEWALKS SHALL BE INDICATED IN THE TABLE BELOW:

PAVEMENT TYPE	COMPRESSIVE STRENGTH
100 TO 150 LMC	15MPa
100mm PJCP (SIDEWALKS)	30MPa

NOTES

1. DO NOT SCALE DRAWING - ONLY DIMENSIONS SHOWN TO BE USED.
2. THE CONTRACTOR SHALL VERIFY ALL CONDITIONS, DIMENSIONS AND LEVELS ON THE SITE AND NOTIFY THE NEC SUPERVISOR OF ANY VARIATIONS BEFORE CONSTRUCTION.
3. ALL LEVELS ARE IN METERS TO MEAN SEA LEVEL.
4. DRAWINGS MUST BE READ IN CONJUNCTION WITH PROJECT SPECIFICATIONS AND GENERAL NOTES DRAWINGS.
5. IF APPLICABLE, DRAWINGS SHALL BE READ IN CONJUNCTION WITH ARCHITECT'S DRAWINGS AND ANY DISCREPANCIES TO BE REPORTED TO THE ENGINEER.

LOCALITY



LEGEND

SYMBOL	DESCRIPTION

NO.	DESCRIPTION	BY	CHKD	APPD	DATE
E2	FOR TENDER	TS	LL	AHM	18 07 25
E1	FOR TENDER	TS	LL	AHM	26 06 25

REVISIONS

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ZUTARI
IMPACT. ENGINEERED.

CONTRACTOR / CONSULTANT				
TITLE	NAME	SIGN	DATE	
DRAWN	N. VILAKAZI		18 07 25	
CHECKED	W. BOTES		18 07 25	
DESIGNED	T. SWANEPOEL		18 07 25	
CHECKED	L. LOMBARD		18 07 25	
PR.ENG. / PR.TECH./PR. ARCH				
NAME	A. HARTMAN		DATE	
SIGNATURE			18 07 25	
REG. NUMBER	20040405			
TITLE	DR			

TRANSNET NATIONAL PORTS AUTHORITY			
TITLE	NAME	SIGN	DATE
DRAWN			
CHECKED			
DESIGNED			
CHECKED			
PR.ENG. / PR.TECH./PR. ARCH			
NAME			DATE
SIGNATURE			
REG. NUMBER			
SCALE	AS SHOWN		

TRANSNET

Transnet National Ports Authority
TRANSNET SOC Ltd : REG No. 1990/000900/30
NEWARK ROAD
RICHARDS BAY TEL: 035 788 0067
PO BOX 181, RICHARDS BAY 3900, SOUTH AFIRCA

PROJECT / AREA / ASSET / SUBJECT/DRAWING TITLE

PORT OF RICHARDS BAY

PORT ROADS REHABILITATION & UPGRADE (REPAIRS TO PORT ROADS)
PAVEMENT JOINT DETAILS

PAPER SIZE	TRANSNET DRW. NO.	REV.
A0	TBC	E2
	PROJECT DRG. NO.	REV.
	1006614-DRG-12-VT-CC-D002	T2