NEPEAN BUSINESS PARK PENRITH

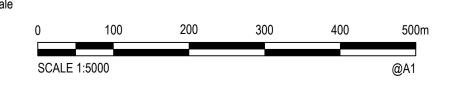
STATE SIGNIFICANT DEVELOPMENT APPLICATION

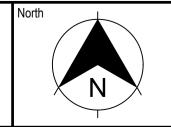
DRAWING SCHEDULE

DRAWING NUMBER	DESCRIPTION ONLY OF THE PROMINE CONFINE FOR THE PROMINE FOR T
200044-DA-C01.01	COVER SHEET AND DRAWING SCHEDULE
200044-DA-C01.21	GENERAL NOTES AND LEGENDS - SHEET 01
200044-DA-C01.22	GENERAL NOTES AND LEGENDS - SHEET 02
200044-DA-C01.31 200044-DA-C01.41	STAGING PLAN GENERAL ARRANGEMENT_
200044-DA-C01.42	ZONE OVERLAY PLAN
200044-DA-C01.80	SUBDIVISION PLAN
200044-DA-C02.01	TREE REMOVAL PLAN - SHEET 01
200044-DA-C02.02	TREE REMOVAL PLAN - SHEET 02
200044-DA-C02.11	TREE REMOVAL PLAN WESTERN BOUNDARY - SHEET 01
200044-DA-C02.12	TREE REMOVAL PLAN WESTERN BOUNDARY - SHEET 02
200044-DA-C03.01	EROSION AND SEDIMENTATION CONTROL PLAN - SHEET 01
200044-DA-C03.02	EROSION AND SEDIMENTATION CONTROL PLAN - SHEET 02
200044-DA-C03.03	EROSION AND SEDIMENTATION CONTROL PLAN - SHEET 03
200044-DA-C03.05	SOIL AND WATER MANAGEMENT NOTES
200044-DA-C03.21	EROSION AND SEDIMENTATION CONTROL DETAILS
200044-DA-C04.01	BULK EARTHWORKS CUT AND FILL PLAN
200044-DA-C04.21	BULK EARTHWORKS CUT AND FILL SECTIONS - SHEET 01
200044-DA-C04.22	BULK EARTHWORKS CUT AND FILL SECTIONS - SHEET 02
200044-DA-C04.23	BULK EARTHWORKS CUT AND FILL SECTIONS - SHEET 03
200044-DA-C04.22A	BULK EARTHWORKS CUT AND FILL SECTIONS - SHEET 04
200044-DA-C04.23A	BULK EARTHWORKS CUT AND FILL SECTIONS - SHEET 05
200044-DA-C04.26	SITE SECTIONS
200044-DA-C05.01	SITEWORKS AND STORMWATER MANAGEMENT PLAN - SHEET 01
200044-DA-C05.02	SITEWORKS AND STORMWATER MANAGEMENT PLAN - SHEET 02
200044-DA-C05.03 200044-DA-C05.04	SITEWORKS AND STORMWATER MANAGEMENT PLAN - SHEET 03 SITEWORKS AND STORMWATER MANAGEMENT PLAN - SHEET 04
200044-DA-C05.05	SITEWORKS AND STORMWATER MANAGEMENT PLAN - SHEET 04 SITEWORKS AND STORMWATER MANAGEMENT PLAN - SHEET 05
200044-DA-C05.06	SITEWORKS AND STORMWATER MANAGEMENT PLAN - SHEET 05
200044-DA-C05.07	SITEWORKS AND STORMWATER MANAGEMENT PLAN - SHEET 07
200044-DA-C05.08	SITEWORKS AND STORMWATER MANAGEMENT PLAN - SHEET 08
200044-DA-C06.01	ROAD TYPICAL CROSS SECTIONS
200044-DA-C07.01	ROAD LONGITUDINAL SECTIONS - SHEET 01
200044-DA-C07.02	ROAD LONGITUDINAL SECTIONS - SHEET 02
200044-DA-C11.01	PAVEMENT, SIGNAGE AND LINEMARKING PLAN - SHEET 01
200044-DA-C11.02	PAVEMENT, SIGNAGE AND LINEMARKING PLAN - SHEET 02
200044-DA-C11.03	PAVEMENT, SIGNAGE AND LINEMARKING PLAN - SHEET 03
200044-DA-C11.04	PAVEMENT, SIGNAGE AND LINEMARKING PLAN - SHEET 04
200044-DA-C11.05	PAVEMENT, SIGNAGE AND LINEMARKING PLAN - SHEET 05
200044-DA-C11.06	PAVEMENT, SIGNAGE AND LINEMARKING PLAN - SHEET 06
200044-DA-C11.07	PAVEMENT, SIGNAGE AND LINEMARKING PLAN - SHEET 07
200044-DA-C11.08	PAVEMENT, SIGNAGE AND LINEMARKING PLAN - SHEET 08
200044-DA-C12.01	CONCEPT SERVICES INFRASTRUCTURE COORDINATION PLAN
200044-DA-C12.50	SERVICING ARRANGEMENTS, WASTE MANAGEMENT AND LOADING ZONES PLAN
200044-DA-C13.01	STORMWATER LONGITUDINAL SECTIONS - SHEET 01
200044-DA-C13.02	STORMWATER LONGITUDINAL SECTIONS - SHEET 02
200044-DA-C13.03 200044-DA-C13.04	STORMWATER LONGITUDINAL SECTIONS - SHEET 03 STORMWATER LONGITUDINAL SECTIONS - SHEET 04
200044-DA-C13.05	STORMWATER LONGITUDINAL SECTIONS - SHEET 05
200044-DA-C13.06	STORMWATER LONGITUDINAL SECTIONS - SHEET 06
200044-DA-C13.07	STORMWATER LONGITUDINAL SECTIONS - SHEET 07
200044-DA-C13.08	STORMWATER LONGITUDINAL SECTIONS - SHEET 08
200044-DA-C14.01	SITEWORKS DETAILS - SHEET 01
200044-DA-C14.02	SITEWORKS DETAILS - SHEET 02
200044-DA-C14.11	COUNCIL STANDARD DETAILS - SHEET 01
200044-DA-C14.12	COUNCIL STANDARD DETAILS - SHEET 02
200044-DA-C14.13	COUNCIL STANDARD DETAILS - SHEET 03
200044-DA-C14.14	COUNCIL STANDARD DETAILS - SHEET 04
200044-DA-C18.01	STORMWATER DETAILS - SHEET 01
200044-DA-C18.02	STORMWATER DETAILS - SHEET 02
200044-DA-C18.03	STORMWATER DETAILS - SHEET 03
200044-DA-C19.01	SITE PLAN - SHEET 01
200044-DA-C19.02	SITE PLAN - SHEET 02
200044-DA-C19.03	SITE PLAN - SHEET 03
200044-DA-C19.04	SITE PLAN - SHEET 04
200044-DA-C22.01	CATCHMENT PLAN
200044-DA-C25.01	TURNING PATH PLAN - SHEET 01
200044-DA-C25.02	TURNING PATH PLAN - SHEET 02
200044-DA-C25.03	TURNING PATH PLAN - SHEET 03
200044-DA-C25.04	TURNING PATH PLAN - SHEET 04
200044-DA-C25 05	TURNING PATH PLAN - SHEFT 05

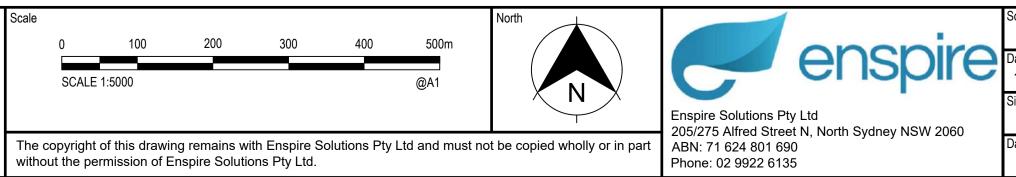
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MDH ML MKH MKH 2 | 17/12/2020 | ISSUED FOR DEVELOPMENT APPLICATION EV. DATE DRN. DES. VERIF. APPD.







200044-DA-C25.05



TURNING PATH PLAN - SHEET 05

FOR INFORMATION ONLY

200044-DA-C01.01 3

SURVEY

- THE EXISTING SITE CONDITIONS SHOWN ON THE FOLLOWING DRAWINGS HAVE BEEN SUPPLIED BY REGISTERED SURVEYORS TO PROVIDE A BASIS FOR DESIGN. THE USE OF THIS SURVEY BASE DOES NOT GUARANTEE THE ACCURACY OR COMPLETENESS OF THE SURVEY BASE OR ITS SUITABILITY AS A BASIS FOR CONSTRUCTION DRAWINGS.
- SHOULD DISCREPANCIES BE ENCOUNTERED DURING CONSTRUCTION BETWEEN THE SURVEY DATA AND ACTUAL FIELD DATA, CONTACT THE DESIGN ENGINEER.
- THE RELATIONSHIP OF IMPROVEMENTS TO BOUNDARIES ARE DIAGRAMMATIC ONLY. WHERE DISTANCES TO BOUNDARIES ARE CRITICAL THEY SHOULD BE CONFIRMED ON SITE PRIOR TO CONSTRUCTION BY FURTHER SURVEY.

LEGEND

Е	ВМ	BENCHMARK
	L	CENTRELINE OF ROAD
Е	В	EDGE OF BITUMEN
-	HYD	HYDRANT
+	·IW	HEADWALL
	K	INVERT OF KERB
	L	INVERT LEVEL
	.K	LIP OF KERB
F	PP	POWER POLE
	SMH	SEWER MANHOLE
5	SV	STOP VALVE
T	EL	TELSTRA PIT
T	K	TOP OF KERB
7	OW	TOP OF WALL
\	/C	VEHICLE CROSSING
\	WELL	MONITORING WELL

GENERAL

- ALL WORKS TO BE CONSTRUCTED IN ACCORDANCE WITH PENRITH CITY COUNCIL STANDARDS.
- 2. PENRITH CITY COUNCIL STANDARD DETAILS TO BE USED WHERE POSSIBLE.
- 3. UTILITY ADJUSTMENTS AT DEVELOPERS EXPENSE.
- 4. CONDUITS TO BE PLACED WHERE REQUIRED BY THE RELEVANT AUTHORITIES.
- . SUBSOIL DRAINAGE LINES AND FLUSHING POINTS AT MAXIMUM 60m CENTRES SHALL BE INSTALLED BEHIND ALL KERBS.
- 6. A MINIMUM OF 3m OF SUBSOIL LINE SHALL BE LAID INTO UPSTREAM SIDE OF ALL DRAINAGE PITS.

_____ e o/h _____

_____ s ____

EXISTING SERVICES LEGEND

EXISTING

OVERHEAD ELECTRICAL COMMUNICATIONS

SEWER

POTABLE WATER

PROPOSED

WATER RISING MAIN (DESIGN BY OTHERS)

www.dialbeforeyoudig.com.au

EXISTING SERVICES

- ALL UTILITY SERVICES INDICATED ON THE DRAWINGS ORIGINATE FROM SUPPLIED DATA, THEREFORE THEIR ACCURACY AND COMPLETENESS IS NOT GUARANTEED. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE AND CONFIRM THE LOCATION AND LEVEL OF ALL EXISTING SERVICES PRIOR TO THE COMMENCEMENT OF ANY WORK. ANY DISCREPANCIES SHALL BE REPORTED TO THE SUPERINTENDENT. CLEARANCES SHALL BE OBTAINED FROM THE RELEVANT SERVICE AUTHORITY.
- CARE TO BE TAKEN WHEN EXCAVATING NEAR EXISTING SERVICES. NO MECHANICAL EXCAVATIONS ARE TO BE UNDERTAKEN OVER ALL LIVE SERVICES. HAND EXCAVATION ONLY IN THESE AREAS.
- THE CONTRACTOR SHALL PROTECT AND MAINTAIN ALL EXISTING SERVICES THAT ARE TO BE RETAINED IN THE VICINITY OF THE PROPOSED WORKS. ANY AND ALL DAMAGE TO THESE SERVICES AS A RESULT OF THESE WORKS SHALL BE REPAIRED BY THE CONTRACTOR UNDER THE DIRECTION OF THE SUPERINTENDENT, AND AT NO EXTRA COST.
- THE CONTRACTOR SHALL ALLOW IN THE PROGRAM FOR ADJUSTMENT (IF REQUIRED) OF EXISTING SERVICES IN AREAS AFFECTED BY WORKS.
- THE CONTRACTOR SHALL ALLOW IN THE PROGRAM FOR THE CAPPING OFF. EXCAVATION AND REMOVAL (IF REQUIRED) OF EXISTING SERVICES IN AREA AFFECTED BY WORKS UNLESS DIRECTED OTHERWISE ON THE DRAWINGS OR BY THE SUPERINTENDENT.
- 6. THE CONTRACTOR SHALL ENSURE THAT AT ALL TIMES SERVICES TO ALL BUILDINGS NOT AFFECTED BY THE WORKS ARE NOT DISRUPTED.
- PRIOR TO COMMENCEMENT OF ANY WORKS THE CONTRACTOR SHALL GAIN APPROVAL OF THE PROGRAM FOR THE RELOCATION AND/OR CONSTRUCTION OF TEMPORARY SERVICES AND FOR ANY ASSOCIATED INTERRUPTION OF SUPPLY.
- THE CONTRACTOR SHALL CONSTRUCT TEMPORARY SERVICES TO MAINTAIN EXISTING SUPPLY TO BUILDINGS REMAINING IN OPERATION DURING WORKS TO THE SATISFACTION AND APPROVAL OF THE SUPERINTENDENT. ONCE DIVERSION IS COMPLETE AND COMMISSIONED THE CONTRACTOR SHALL REMOVE ALL SUCH TEMPORARY SERVICES AND MAKE GOOD TO THE SATISFACTION OF THE SUPERINTENDENT.
- PRIOR TO ANY DEMOLITION, EXCAVATION OR CONSTRUCTION A THOROUGH SEARCH OF ALL SERVICE AUTHORITIES SHOULD BE MADE TO DETERMINE THE POSSIBLE LOCATION OF ANY FURTHER UNDERGROUND SERVICES.
- 10. AUTHORITY PLANS GENERALLY SHOW ONLY THE PRESENCE OF CABLES AND PLANT AND DO NOT WARRANT OR GUARANTEE THAT SUCH PLANS ARE ACCURATE. DO NOT ASSUME DEPTH OR ALIGNMENT OF CABLES OR PLANT AS THESE VARY SIGNIFICANTLY. THE CONTRACTOR HAS A DUTY OF CARE WHEN EXCAVATING NEAR EXISTING SERVICES AND PLANT. BEFORE USING MACHINE EXCAVATORS SERVICES MUST FIRST BE PHYSICALLY EXPOSED BY SOFT DIG POTHOLING TO IDENTIFY IT'S LOCATION.
- 11. THE CONTRACTOR IS TO UNDERTAKE A DIAL-BEFORE-YOU-DIG SEARCH PRIOR TO ANY EXCAVATION AND MAINTAIN A CURRENT SET ON-SITE DURING EXCAVATION WORKS.
- 12. THE LOCATIONS OF UNDERGROUND SERVICES SHOWN IN THIS SET OF DRAWINGS HAVE BEEN PLOTTED FROM SURVEY INFORMATION AND SERVICE AUTHORITY INFORMATION. THE SERVICE INFORMATION HAS BEEN PREPARED ONLY TO SHOW THE APPROXIMATE POSITIONS OF ANY KNOWN SERVICES AND MAY NOT BE AS CONSTRUCTED OR ACCURATE.ENSPIRE SOLUTIONS CAN NOT GUARANTEE THAT THE SERVICES INFORMATION SHOWN ON THESE DRAWINGS ACCURATELY INDICATES THE PRESENCE OR ABSENCE OF SERVICES OR THEIR LOCATION AND WILL ACCEPT NO LIABILITY FOR INACCURACIES IN THE SERVICES INFORMATION SHOWN FROM ANY CAUSE WHATSOEVER.
- 13. CONTRACTORS SHALL TAKE DUE CARE WHEN EXCAVATING ONSITE INCLUDING HAND EXCAVATION WHERE NECESSARY. CONTRACTORS ARE TO CONTACT THE RELEVANT SERVICE AUTHORITY PRIOR TO COMMENCEMENT OF EXCAVATION WORKS. CONTRACTORS ARE TO UNDERTAKE A SERVICES SEARCH, PRIOR TO COMMENCEMENT OF WORKS ON SITE. SEARCH RESULTS ARE TO BE KEPT ON SITE AT ALL TIMES.

EARTHWORKS

- 1. AT THE COMMENCEMENT OF THE CUT AND FILLING OPERATIONS FOR BULK EARTHWORKS A GEOTECHNICAL ENGINEER IS TO VISIT THE SITE & CONFIRM THE SUITABILITY OF THE METHODOLOGY OF ACHIEVING THE REQUIRED BUILDING PLATFORMS AND COMPACTION REQUIREMENTS. SUBSEQUENTLY, THE HEAD CONTRACTOR IS TO CONFIRM, IN WRITING TO THE DESIGNING CIVIL & STRUCTURAL ENGINEERS, THAT THE METHODOLOGY APPROVED AT THE TIME OF THE GEOTECHNICAL ENGINEERS VISIT WAS MAINTAINED DURING ALL THE BULK EARTHWORKS PROCESS.
- WHERE FILLING, STRUCTURAL SLABS OR PAVEMENTS ARE REQUIRED, PROOF ROLL THE EXPOSED NATURAL SURFACE WITH A MINIMUM OF TEN PASSES OF A SMOOTH DRUM VIBRATING ROLLER (MINIMUM STATIC WEIGHT OF 10 TONNES) TO DETECT THEN REMOVE SOFT SPOTS (AREAS WITH MORE THAN 2mm MOVEMENT UNDER ROLLER) IN THE PRESENCE OF THE SUPERINTENDENT. THE CONTRACTOR IS TO ALLOW TO REMOVE AND REPLACE A PROVISIONAL QUANTITY OF UNSUITABLE SUBGRADE MATTER.
- 3. ALL SOFT, WET OR UNSUITABLE MATERIAL IS TO BE REMOVED AS DIRECTED BY THE SUPERINTENDENT AND REPLACED WITH APPROVED MATERIAL SATISFYING THE REQUIREMENTS LISTED BELOW.
- 4. EXCAVATED MATERIAL IS NOT TO BE USED AS STRUCTURAL FILL UNLESS APPROVED BY THE GEOTECHNICAL ENGINEER.
- THE CONTRACTOR IS TO PROVIDE CERTIFICATES VERIFYING THE QUALITY OF IMPORTED MATERIAL FOR THE SUPERINTENDENTS APPROVAL.
- . ALL FILL MATERIAL SHALL BE PLACED IN MAXIMUM 200mm THICK LAYERS AND COMPACTED AT OPTIMUM MOISTURE CONTENT (+ OR - 2%) TO ACHIEVE A DRY DENSITY DETERMINED IN ACCORDANCE WITH AS1289 E3.1 OF NOT LESS THAN THE FOLLOWING STANDARD MINIMUM DRY DENSITY IN ACCORDANCE WITH AS1289 E5.1.1.1:

COMPACTION REQUIREMENT UNDER BUILDING SLABS 98% SMDD 95% SMDD LANDSCAPED AREAS ROADS & PAVED AREAS 98% SMDD

- . FOR NON COHESIVE MATERIAL, COMPACT TO NOT LESS THAN UNDER ROAD 80% DENSITY OTHER AREA 75% DENSITY
- 7. THE CONTRACTOR IS TO ALLOW FOR COMPACTION TESTING BY NATA REGISTERED LABORATORY FOR PLATFORMS AND FILL LAYERS IN ACCORDANCE WITH THE LATEST VERSION OF AS3798 - FOR TYPE 1 OPERATIONS (MINIMUM 3 TESTS PER LAYER).
- 8. FREQUENCY OF COMPACTION TESTING SHALL NOT BE LESS THAN: 1 TEST PER 200m³ OF FILL PLACED PER 300mm LAYER OF FILL
- 3 TESTS PER VISIT

MATERIAL AS ENGINEERED FILL.

- 1 TEST PER 1000m² OF EXPOSED SUBGRADE
- TESTING SHALL BE "LEVEL 1" UNDERTAKEN IN ACCORDANCE WITH AS1398.
- 10. WHERE TEST RESULTS ARE BELOW THE SPECIFIED COMPACTION, RECOMPACT AND RETEST UNTIL SPECIFIED COMPACTION STANDARD IS ACHIEVED.
- 11. ALLOW FOR EXCAVATION IN ALL MATERIALS AS FOUND U.N.O. NO ADDITIONAL PAYMENTS WILL BE MADE FOR EXCAVATION IN WET OR HARD GROUND.
- 12. WHERE THERE IS INSUFFICIENT EXCAVATED MATERIAL SUITABLE FOR FILLING OR SUBGRADE REPLACEMENT, THE CONTRACTOR IS TO ALLOW TO IMPORT FILL. IMPORTED FILL SHALL COMPLY WITH THE FOLLOWING: MAXIMUM SIZE 50mm. PASSING 75 MICRON SIEVE (<25%).

REQUIREMENTS ON SITE PREPARATION AND RE-USE OF EXISTING SITE

- B. PLASTICITY INDEX BETWEEN 2-15% AND CBR>8. FREE FROM ORGANIC AND PERISHABLE MATTER. 13. REFER TO THE SITE SPECIFIC GEOTECHNICAL REPORT FOR GENERAL
- 14. THE CONTRACTOR SHALL PROGRAM THE EARTHWORKS OPERATION SO THAT THE WORKING AREAS ARE ADEQUATELY DRAINED DURING THE PERIOD OF CONSTRUCTION. THE SURFACE SHALL BE GRADED AND SEALED OFF TO REMOVE DEPRESSIONS, ROLLER MARKS AND SIMILAR WHICH WOULD ALLOW WATER TO POND AND PENETRATE THE UNDERLYING MATERIAL. ANY DAMAGE RESULTING FROM THE CONTRACTOR NOT OBSERVING THESE REQUIREMENTS SHALL BE RECTIFIED AT THEIR COST.
- 15. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE AND MAINTAIN THE INTEGRITY OF ALL SERVICES, CONDUITS AND PIPES DURING CONSTRUCTION, SPECIFICALLY DURING THE BACKFILLING AND COMPACTION PROCEDURE. ANY AND ALL DAMAGE TO NEW OR EXISTING SERVICES AS A RESULT OF THESE WORKS SHALL BE REPAIRED BY THE CONTRACTOR AT NO EXTRA COST.

STORMWATER DRAINAGE NOTES

STORMWATER DESIGN CRITERIA: (A) ANNUAL EXCEEDANCE PROBABILITIES (AEP):

MINOR (PIPED) NETWORK

MAJOR (OVERLAND FLOW) SYSTEM

(B) RAINFALL INTENSITIES: ARR 1987 RAINFALL FROM BUREAU OF METEOROLOGY

- (C) HYDROLOGIC METHOD: DRAINS / 12D WITH ILSAX METHOD
- PIPES 375 DIA. AND LARGER TO BE REINFORCED CONCRETE CLASS '2' APPROVED SPIGOT AND SOCKET WITH RUBBER RING JOINTS. U.N.O.
- PIPES 300 DIA AND LESS SHALL BE DWV GRADE (CLASS SN8) uPVC WITH SOLVENT WELDED JOINTS.
- 4. EQUIVALENT STRENGTH FRC PIPES MAY BE USED.
- ALL PIPES ARE TO BE UNIFORMLY SUPPORTED ALONG THE LENGTH OF THE BARREL BY SUITABLE FILL MATERIAL. REFER TO BEDDING SUPPORT TYPE.
- PIPES WITH SOCKETS SHALL BE LAID IN BEDDING WHERE SUITABLE RECESSES HAVE BEEN PROVIDED TO ENSURE PIPES DO NOT BEAR ON THEIR SOCKETS.
- ALL STORMWATER DRAINAGE LINES UNDER PROPOSED BUILDING SLABS TO BE uPVC PRESSURE PIPE PN6. ENSURE ALL VERTICALS AND DOWNPIPES ARE uPVC PRESSURE PIPE, GRADE 6 FOR A MIN OF 3.0m IN HEIGHT.
- PIPES TO BE INSTALLED TO TYPE HS2 SUPPORT IN ACCORDANCE WITH AS 3725 (2007) IN ALL CASES BACKFILL TRENCH WITH SAND TO 300mm ABOVE PIPE. WHERE PIPE IS UNDER PAVEMENTS BACKFILL REMAINDER OF TRENCH TO UNDERSIDE OF PAVEMENT WITH SAND OR APPROVED GRANULAR MATERIAL COMPACTED IN 150mm LAYERS TO MINIMUM 98% STANDARD MAXIMUM DRY DENSITY IN ACCORDANCE WITH AS 1289 5.2.1. (OR A DENSITY INDEX OF NOT LESS THAN 75).
- REFER TO AS/NRS 3725:2007 TABLE B1 FOR REQUIRED FILL DEPTHS ABOVE PIPE BARREL PRIOR TO USE OF COMPACTION MACHINERY OR TRAVERSING OF PIPES BY GENERAL SITE EQUIPMENT.
- 10. WHERE WORKING METHODS REQUIRE HIGHER CLASS PIPE, THE CONTRACTOR SHALL REFER TO AS 3725 (2007) TO DETERMINE THE APPROPRIATE PIPE CLASS. PROPOSED PIPE CLASS SHALL BE REVIEWED BY ENSPIRE SOLUTIONS PRIOR TO INSTALLATION.
- 11. ALL INTERNAL WORKS WITHIN PROPERTY BOUNDARIES ARE TO COMPLY WITH THE REQUIREMENTS OF AS/NZS 3500.3:2015.
- 12. PRECAST PITS MAY BE USED EXTERNAL TO THE BUILDING SUBJECT TO APPROVAL BY ENSPIRE SOLUTIONS.
- 13. ENLARGERS, CONNECTIONS AND JUNCTIONS TO BE PREFABRICATED FITTINGS WHERE PIPES ARE LESS THAN 300 DIA.
- 14. WHERE SUBSOIL DRAINS PASS UNDER FLOOR SLABS AND VEHICULAR PAVEMENTS, UNSLOTTED uPVC SEWER GRADE PIPE IS TO BE USED.
- 15. CARE IS TO BE TAKEN WITH LEVELS OF STORMWATER LINES. GRADES SHOWN ARE NOT TO BE REDUCED WITHOUT APPROVAL.
- 16. GRATES AND COVERS SHALL CONFORM TO AS 3996.
- 17. ALL BOX CULVERTS SHALL BE STRUCTURALLY DESIGNED BY THE MANUFACTURER AND DELIVERED TO SITE AS FIT FOR PURPOSE.
- 18. AT ALL TIMES DURING CONSTRUCTION OF STORMWATER PITS, ADEQUATE SAFETY PROCEDURES SHALL BE TAKEN TO ENSURE AGAINST THE POSSIBILITY OF PERSONNEL FALLING DOWN PITS.
- 19. ALL EXISTING STORMWATER DRAINAGE LINES AND PITS THAT ARE TO REMAIN ARE TO BE INSPECTED AND CLEANED. DURING THIS PROCESS ANY PART OF THE STORMWATER DRAINAGE SYSTEM THAT WARRANTS REPAIR SHALL BE REPORTED TO THE SUPERINTENDENT/ENGINEER FOR FURTHER DIRECTIONS.

KERBS

- ALL KERBS, GUTTERS, DISH DRAINS AND CROSSINGS TO BE CONSTRUCTED ON 175mm GRANULAR BASECOURSE COMPACTED TO MINIMUM 95% MODIFIED DRY DENSITY (AS 1289 5.2.1).
- EXPANSION JOINTS (E.J) TO BE FORMED FROM 10mm COMPRESSIBLE FOAM FILLER BOARD FOR THE FULL DEPTH OF THE SECTION AND CUT TO PROFILE. EXPANSION JOINTS TO BE LOCATED AT DRAINAGE PITS, ON TANGENT POINTS OF CURVES AND ELSEWHERE AT MAX 12m CENTRES EXCEPT FOR INTEGRAL KERBS WHERE THE EXPANSION JOINTS ARE TO MATCH THE JOINT LOCATIONS IN THE SLABS.
- WEAKENED PLANE JOINTS TO BE MIN 3mm WIDE AND LOCATED AT 3m CENTRES EXCEPT FOR INTEGRAL KERBS WHERE THE WEAKENED PLANE JOINTS ARE TO MATCH THE JOINT LOCATIONS IN THE SLABS.
- 4. EXISTING ALLOTMENT DRAINAGE PIPES ARE TO BE BUILT INTO THE NEW KERB AND GUTTER WITH 100mm DIA HOLE OR IN ACCORDANCE WITH LOCAL AUTHORITY REQUIREMENTS.
- 5. IN THE REPLACEMENT OF KERB AND GUTTER:-EXISTING ROAD PAVEMENT IS TO BE SAWCUT 600mm U.N.O FROM THE LIP OF GUTTER. UPON COMPLETION OF THE NEW KERB AND GUTTER NEW BASECOURSE AND SURFACE TO BE LAID 600mm WIDE U.N.O.

CONCRETE

- 1. THIS SECTION REFERS TO CIVIL CONCRETE WORKS AND DOES NOT INCLUDE BUILDINGS OR BRIDGE STRUCTURES.
- 2. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH AS 3600 CURRENT EDITION WITH AMENDMENTS, EXCEPT WHERE VARIED BY THE CONTRACT DOCUMENTS.
- ALL REQUIREMENTS OF THE CURRENT ACSE CONCRETE SPECIFICATION DOCUMENT 1 SHALL APPLY TO THE FORMWORK, REINFORCEMENT AND CONCRETE UNLESS NOTED OTHERWISE.

ELEMENT	AS 3600 F'c MPa AT 28 DAYS		NOMINAL AGG. SIZE	MAX 56 DAY DRYING SHRINKAGE
ERBS AND PATHS ITS AND VEHICULAR AVEMENTS	25 32	60 80	20 20	650um 650um

- 4. CONCRETE PROPERTIES FOR SLABS AND BEAMS SHALL BE VARIED FROM
- NORMAL CLASS AS FOLLOWS:
- A. MINIMUM CEMENT CONTENT 250kg/m3 B. MAXIMUM 56 DAY SHRINKAGE STRAIN = AS NOMINATED ABOVE
- C. PRIOR TO COMMENCEMENT CONCRETE SUPPLIER TO PROVIDE DRYING SHRINKAGE TEST RESULTS FROM PRODUCTION ASSESSMENT AS EVIDENCE THAT SPECIFIED DRYING SHRINKAGE LIMITS CAN BE ACHIEVED USING NORMAL MIX DESIGN.
- 5. CEMENT TYPE SHALL BE (ACSE SPECIFICATION) TYPE SL
- 6. PROJECT CONTROL TESTING SHALL BE CARRIED OUT IN ACCORDANCE
- 7. NO ADMIXTURES SHALL BE USED IN CONCRETE UNLESS APPROVED IN WRITING BY THE DESIGN ENGINEER.
- 8. CLEAR CONCRETE COVERS SHALL BE (UNO): ENVIRONMENT A. SURFACES OF MEMBERS CAST AGAINST, AND IN CONTACT WITH THE GROUND
- B. SURFACES OF MEMBERS CAST AGAINST, AND IN 40mm CONTACT WITH THE GROUND SEPARATED BY MEMBRANE C. SURFACES OF MEMBERS IN ABOVE GROUND 40mm
- EXTERIOR ENVIRONMENTS D. SURFACES OF MEMBERS IN INTERIOR ENVIRONMENTS

9. ALL REINFORCEMENT SHALL BE FIRMLY SUPPORTED ON MILD STEEL

- PLASTIC TIPPED CHAIRS, PLASTIC CHAIRS OR CONCRETE CHAIRS AT NOT GREATER THAN 1m CENTRES BOTH WAYS. BARS SHALL BE TIED AT ALTERNATE INTERSECTIONS.
- 10. THE FINISHED CONCRETE SHALL BE A DENSE HOMOGENEOUS MASS, COMPLETELY FILLING THE FORMWORK, THOROUGHLY EMBEDDING THE REINFORCEMENT AND FREE OF STONE POCKETS.
- 11. FABRIC SHALL BE LAPPED IN ACCORDANCE WITH THE FOLLOWING DETAIL:
- FOLLOWING THE FABRIC SYMBOL SL IS THE REFERENCE NUMBER FOR FABRIC TO AS 1304.
- 12. uPVC SHEET SHALL BE PLACED BELOW ALL CONCRETE PAVEMENTS.
- 13. ALL PENETRATIONS TO HAVE 2/N12 TRIMMER BARS TOP AND BOTTOM TO EACH FACE U.N.O. EXTEND TRIMMERS 700 BEYOND PENETRATION.
- 14. FORMWORK CLASS SHALL BE IN ACCORDANCE WITH AS380.
- 15. SURFACE FINISHES:
- FORMWORK CLASS OFF FORM STORMWATER PIT **PAVEMENTS** MACHINE FLOAT/BROOM FINISHED KERBS STEEL FLOAT/TROWEL
- 16. REINFORCEMENT SYMBOLS: N DENOTES GRADE 450 N BARS TO AS 1302 GRADE N
- R DENOTES 230 R HOT ROLLED PLAIN BARS TO AS 1302 SL DENOTES HARD-DRAWN WIRE REINFORCING FABRIC TO AS 1304
- BAR GRADE AND TYPE NUMBER OF BARS IN A GROUP 17 N 20 250

SPACING IN mm THE FIGURE

NOMINAL BAR SIZE IN mm ———

17/12/2020 ISSUED FOR DEVELOPMENT APPLICATION MDH | ML | MKH | MKH 11/12/2020 ISSUED FOR CLIENT REVIEW MDH | ML | MKH | MKH DRN. DES. VERIF. APPL V. DATE DESCRIPTION



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NEPEAN BUSINESS PARK FOR INFORMATION ONLY NOT TO BE USED FOR CONSTRUCTION 11/12/2020 ject Number/Drawing Number GENERAL NOTES AND LEGENDS A1 2 200044-DA-C01.21

SITEWORKS

- ALL WORKS TO BE IN ACCORDANCE WITH LOCAL AUTHORITY
 REQUIREMENTS, SPECIFICATIONS AND AUSTRALIAN STANDARDS.
 CONFLICTS SHALL BE REFERRED TO THE SUPERINTENDENT FOR DIRECTION.
- 2. CONTRACTOR MUST VERIFY ALL DIMENSIONS AND EXISTING LEVELS ON SITE PRIOR TO COMMENCEMENT OF WORK. ANY DISCREPANCIES TO BE REPORTED TO THE DESIGN ENGINEER.
- 3. THE CONTRACTOR IS TO DESIGN, OBTAIN APPROVALS AND CARRY OUT REQUIRED TEMPORARY TRAFFIC CONTROL PROCEDURES DURING CONSTRUCTION IN ACCORDANCE WITH RMS AND LOCAL AUTHORITY REGULATIONS AND REQUIREMENTS.
- 4. THE CONTRACTOR IS TO OBTAIN ALL AUTHORITY APPROVALS AS REQUIRED.
- 5. RESTORE ALL PAVED, COVERED, GRASSED AND LANDSCAPED AREAS TO THEIR ORIGINAL CONDITION ON COMPLETION OF WORKS.
- 6. ON COMPLETION OF ANY TRENCHING WORKS, ALL DISTURBED AREAS SHALL BE RESTORED TO THEIR ORIGINAL CONDITION, INCLUDING KERBS, FOOTPATHS, CONCRETE AREAS, GRAVEL, GRASSED AREAS AND ROAD PAVEMENTS.
- 7. THE CONTRACTOR SHALL ARRANGE ALL SURVEY SETOUT TO BE CARRIED OUT BY A REGISTERED SURVEYOR.
- 8. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND EXISTING LEVELS ON SITE PRIOR TO LODGMENT OF TENDER AND ON SITE WORKS. THE PRICE AS TENDERED SHALL BE INCLUSIVE OF ALL WORKS SHOWN ON THE TENDER PROJECT DRAWINGS. ADDITIONAL PAYMENTS FOR WORKS SHOWN ON THE TENDER PROJECT DRAWINGS WILL NOT BE APPROVED.
- 9. THESE DRAWINGS ARE TO BE READ IN CONJUNCTION WITH THE ENGINEERING PLANS AND SPECIFICATIONS, AND ANY OTHER WRITTEN INSTRUCTIONS THAT MAY BE ISSUED RELATING TO DEVELOPMENT OF THE SUBJECT SITE.
- 10. 14. THESE PLANS SHALL BE READ IN CONJUNCTION WITH ALL APPROVED DRAWINGS AND SPECIFICATIONS PREPARED BY OTHER PROJECT CONSULTANTS.
- 11. 10. DO NOT OBTAIN DIMENSIONS BY SCALING THE DRAWINGS. ALL DIMENSIONS ARE IN MILLIMETERS (mm) AND ALL LEVELS ARE IN METERS (m), UNO. ALL LEVELS ARE TO AUSTRALIAN HEIGHT DATUM (AHD).
- 12. 11. IN CASE OF DOUBT OR DISCREPANCY REFER TO THE DESIGN ENGINEER AND SUPERINTENDENT FOR CLARIFICATION OR CONFIRMATION PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. OTHERWISE THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COST OF REMEDIATION WORKS.
- 13. 12. WHERE NEW WORKS ABUT EXISTING THE CONTRACTOR SHALL ENSURE THAT A SMOOTH EVEN PROFILE, FREE FROM ABRUPT CHANGES IS OBTAINED.
- 14. THE CONTRACTOR SHALL COMPLY WITH ALL STATUTORY AND INDUSTRIAL REQUIREMENTS FOR PROVISION OF A SAFE WORKING ENVIRONMENT INCLUDING TRAFFIC CONTROL.
- 15. THE CONTRACTOR SHALL ENSURE THAT AT ALL TIMES ACCESS TO ALL BUILDINGS ADJACENT THE WORKS IS NOT DISRUPTED.
- 16. WHERE NECESSARY THE CONTRACTOR SHALL PROVIDE SAFE PASSAGE OF VEHICLES AND/OR PEDESTRIANS THROUGH OR BY THE SITE.
- 17. WHERE NOTED ON THE DRAWINGS THAT WORKS ARE TO BE CARRIED BY OTHERS, (eg. ADJUSTMENT OF SERVICES), THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CO-ORDINATION OF THESE WORKS.
- 18. ALL VARIATIONS TO SPECIFIED PRODUCTS OR DESIGNS SHALL BE REFERRED TO THE DESIGN ENGINEER IN WRITING FOR APPROVAL.
- 19. ANY EXISTING TREES WHICH FORM PART OF THE FINAL LANDSCAPING PLAN WILL BE PROTECTED FROM CONSTRUCTION ACTIVITIES BY:
- A. PROTECTING THEM WITH BARRIER FENCING OR SIMILAR MATERIALS INSTALLED OUTSIDE THE DRIP LINE
- B. ENSURING THAT NOTHING IS NAILED TO THEMC. PROHIBITING PAVING, GRADING, SEDIMENT WASH OR
- UNDER THE FOLLOWING CONDITIONS:

 C.a. ENCROACHMENT ONLY OCCURS ON ONE SIDE AND NO
 CLOSER TO THE TRUNK THAN EITHER 1.5 METRES OR

PLACING OF STOCKPILES WITHIN THE DRIP LINE EXCEPT

- HALF THE DISTANCE BETWEEN THE OUTER EDGE OF THE DRIP LINE AND THE TRUNK, WHICH EVER IS THE GREATER

 C.b. A DRAINAGE SYSTEM THAT ALLOWS AIR AND WATER TO
- CIRCULATE THROUGH THE ROOT ZONE (E.G. A GRAVEL BED) IS PLACED UNDER ALL FILL LAYERS OF MORE THAN 300 MILLIMETRES DEPTH

 C.C. CARE IS TAKEN NOT TO CUT ROOTS UNNECESSARILY NOR
- TO COMPACT THE SOIL AROUND THEM.
- 20. EPA AND COUNCIL REQUIREMENTS MUST BE ADHERED TO REGARDING THE LEVEL OF NOISE AND WORKING HOURS, TO ENSURE THAT RESIDENTS AND OTHER APPLICABLE NEIGHBOURS TO THE SITE ARE NOT DISTURBED UNREASONABLY. THE GENERATION OF NOISE MUST BE MINIMISED.

PAVEMENTS

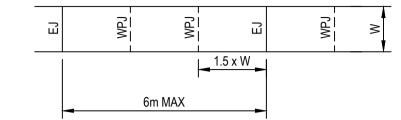
- . ALL PAVEMENT MATERIALS SHALL COMPLY WITH CURRENT RTA SPECIFICATIONS. PROVIDE MECHANICAL ANALYSIS FOR EACH BATCH OF PAVEMENT MATERIAL TO ENSURE CONFORMITY.
- 2. COMPACTION STANDARDS:
- A) BASE: 98% MODIFIED MAXIMUM DRY DENSITY
 B) SUBBASE: 95% MODIFIED MAXIMUM DRY DENSITY
- 3. THE CONTRACTOR SHALL CONFIRM THE DESIGN CBR WITH A MINIMUM OF 3 TESTS TAKEN AT SUBGRADE LEVEL. WHERE DISCREPANCY IS FOUND, CONTACT THE DESIGNING ENGINEER.
- 4. ALLOW FOR COMPACTION TESTING BY NATA REGISTERED LABORATORY FOR: BASE LAYER, SUBBASE LAYER, SUBGRADE IN ACCORDANCE WITH THE LATEST VERSION OF AS3798 FOR PAVEMENTS. ALLOW FOR AT LEAST TWO SUCCESSFUL COMPACTION TESTS IN EACH LAYER.
- 5. MATCH NEW PAVEMENT LAYERS NEATLY AND FLUSH WITH EXISTING WHERE REQUIRED.
- 6. KEY NEW BASE AND SUBBASE LAYERS INTO EXISTING WITH 150mm WIDE STEPS. ASPHALTIC CONCRETE WAERING COURSE IS TO EXTEND 150mm (MIN) PAST BASECOURSE INTERFACE.
- 7. TRENCHES THROUGH EXISTING ROAD AND CONCRETE PAVEMENTS SHALL BE SAWCUT TO FULL DEPTH OF CONCRETE AND A MIN 50mm IN BITUMINOUS PAVING.
- 8. ALL ASPHALTIC CONCRETE (AC) WORK TO BE PREPARED AND CARRIED OUT IN ACCORDANCE WITH GOOD ASPHALTIC PAVING PRACTICE AS DESCRIBED IN AS2734-1994 "ASPHALT (HOT-MIXED) PAVING GUIDE TO GOOD PRACTICE" AND CURRENT RMS SPECIFICATIONS (R116).
- 9. WHERE NOMINATED, THE CONTRACTOR SHALL ALLOW FOR ALL COMPONENTS OF PROPRIETARY JOINTING SYSTEMS INCLUDING FIXING, TEMPLATES & PEGGING TO ENSURE THAT ALL DOWEL BARS REMAIN IN THE CORRECT ALIGNMENT AND POSITION.
- 10. ALL BASECOURSE MATERIAL SHALL BE IGNEOUS ROCK QUARRIED MATERIAL TO COMPLY WITH R.M.S. FORM 3051, COMPACTED TO MINIMUM 98% MODIFIED DENSITY IN ACCORDANCE WITH AS 1289 5.2.1 FREQUENCY OF COMPACTION TESTING SHALL NOT BE LESS THAN 1 TEST PER 50m³ OF BASECOURSE MATERIAL PLACED.
- 11. ALL SUB-BASE COURSE MATERIAL SHALL BE IGNEOUS ROCK QUARRIED MATERIAL TO COMPLY WITH R.M.S. FORM 3051, AND COMPACTED TO MINIMUM 95% MODIFIED DENSITY IN ACCORDANCE WITH A.S 1289 5.2.1 FREQUENCY OF COMPACTION TESTING SHALL NOT BE LESS THAN 1 TEST PER 50m³ OF SUB-BASE COURSE MATERIAL PLACED.
- 12. AS AN ALTERNATIVE TO THE USE OF IGNEOUS ROCK AS A SUB-BASE MATERIAL IN (9) A CERTIFIED RECYCLED CONCRETE MATERIAL COMPLYING WITH R.M.S. FORM 3051 WILL BE CONSIDERED. SUBJECT TO MATERIAL SAMPLES AND APPROPRIATE CERTIFICATIONS BEING PROVIDED TO THE SATISFACTION OF THE DESIGN ENGINEER.
- 13. SHOULD THE CONTRACTOR WISH TO USE A RECYCLED PRODUCT THIS SHALL BE CLEARLY INDICATED IN THEIR TENDER AND THE PRICE DIFFERENCE BETWEEN AN IGNEOUS PRODUCT AND A RECYCLED PRODUCT SHALL BE CLEARLY INDICATED.

PAVEMENT JOINTS

PEDESTRIAN PAVEMENTS

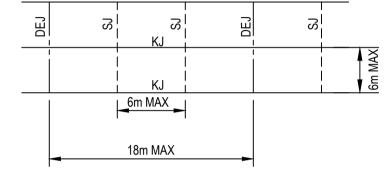
- 1. ALL PEDESTRIAN PAVEMENTS ARE TO BE JOINTED AS FOLLOWS U.N.O ON THE DESIGN DRAWINGS.
- 2. EXPANSION JOINTS ARE TO BE LOCATED WHERE POSSIBLE AT TANGENT POINTS OF CURVES AND ELSEWHERE AT MAX. 6.0m CENTRES.
- 3. WEAKENED PLANE JOINTS ARE TO BE LOCATED AT A MAX. SPACING OF 1.5 x WIDTH OF THE PAVEMENT.
- 4. WHERE POSSIBLE JOINTS SHOULD BE LOCATED TO MATCH KERBING AND
- 5. TYPICAL PEDESTRIAN PAVEMENT JOINT DETAIL.

OR ADJACENT PAVEMENT JOINTS.



VEHICULAR PAVEMENTS

- 6. ALL VEHICULAR PAVEMENTS TO BE JOINTED AS FOLLOWS U.N.O ON THE DESIGN DRAWINGS.
- 7. TIED KEYED CONSTRUCTION JOINTS SHOULD GENERALLY BE LOCATED LONGITUDINALLY AT A MAX OF 6.0m CENTRES
- 8. SAWN JOINTS SHOULD GENERALLY BE LOCATED LATERALLY AT A MAX OF 6.0m CENTRES WITH DOWELED EXPANSION JOINTS AT MAX 30.0m CENTRES
- 9. TYPICAL VEHICULAR PAVEMENT JOINT DETAIL.



- 10. PROVIDE 10mm EXPANSION FOAM BETWEEN NEW CONRETE WORKS AND EXISTING STRUCTURES.
- 11. LOCAL AUTHORITY REQUIREMENTS SHALL TAKE PRECEDENCE WITHIN THE PUBLIC ROAD RESERVE.
- 12. DOWELS TO BE PLACED ON PROPRIETARY CRADLES TO ENSURE CORRECT SPACING AND ALIGNMENT.

								Client
	2	17/12/2020	ISSUED FOR DEVELOPMENT APPLICATION	MDH	ML	MKH	MKH	
	1	11/12/2020	ISSUED FOR CLIENT REVIEW	MDH	ML	MKH	MKH	
F	REV.	DATE	DESCRIPTION	DRN.	DES.	VERIF.	APPD.	



Scale

North

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Project
NEPEAN BUSINESS PARK
PENRITH

Date
11/12/2020

Title
GENERAL NOTES AND LEGENDS
SHEET 02

Scale

Status

FOR INFORMATION ONLY
NOT TO BE USED FOR CONSTRUCTION

Project Number/Drawing Number
A1
Datum
AHD

AHD

Status

FOR INFORMATION ONLY
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Revision
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2

