

PROPOSED INDUSTRIAL SUB-DIVISION
OLD WALLGROVE RD EASTERN CREEK
BULK EARTHWORKS PLAN SET

PLAN NO.

- 1
- COVER SHEET
- 2
- CONSTRUCTION NOTES - SHEET 1 OF 2
- 3
- CONSTRUCTION NOTES - SHEET 2 OF 2
- 4
- SITE LAYOUT AND BULK EARTHWORKS CONTOURS
- 5
- DEPTH (CUT / FILL) CONTOURS
- 6
- BULK EARTHWORKS CONTOURS - INSET 1 OF 4
- 7
- BULK EARTHWORKS CONTOURS - INSET 2 OF 4
- 8
- BULK EARTHWORKS CONTOURS - INSET 3 OF 4
- 9
- BULK EARTHWORKS CONTOURS - INSET 4 OF 4
- 10
- RETAINING WALL LAYOUT PLAN
- 11
- RETAINING WALL TYPICAL SECTION (WESTERN WALL, LOT 6)
- 12
- RETAINING WALL TYPICAL SECTION (SOUTHERN WALL, LOT 6)
- 13
- REINFORCED & CORE FILLED RETAINING WALLS WITH BASE TYPE 1
- 14
- REINFORCED & CORE FILLED RETAINING WALLS WITH BASE TYPE 2

CLIENT/ PROJECT		TITLE		DESIGNED:	DATUM:	SHEET 1 OF 14 SHEETS	REV.	DESCRIPTION	DATE	ISSUED
HANSON / OLD WALLGROVE RD EASTERN CREEK		COVER SHEET		MGD	NA		1	DRAFT PLAN SET	09.02.2012	ASN
THIS PLAN MUST NOT BE USED FOR CONSTRUCTION UNLESS SIGNED AS APPROVED BY PRINCIPAL CERTIFYING AUTHORITY <small>All measurements in mm unless otherwise specified.</small>		PROJECT MANAGER: ANDREW NORRIS		DRAWN:	HORIZONTAL RATIO:		2	BULK EARTHWORKS LEVELS REVISED	26.03.2012	ASN
				MGD	NA		3	RETAINING WALLS REMOVED	08.05.2012	ASN
				REVIEWED:	VERTICAL RATIO:	PAPER SIZE:				
		DRAWING NUMBER: P1002913JD03V03		ASN	NA	A1 / A3				

GENERAL NOTES

- 1
- ALL WORK TO BE CARRIED OUT IN ACCORDANCE WITH, AND THESE NOTES ARE TO BE READ IN CONJUNCTION WITH, THE RELEVANT AUSTRALIAN STANDARDS, COUNCIL'S SPECIFICATIONS AND NOTICE OF DEVELOPMENT APPLICATION DETERMINATION (DA CONDITIONS).
- 2
- SURVEY INFORMATION SHOWN, AND DESIGN LEVELS, ARE BASED ON THE SURVEY BY MSK ARCHITECTS (DWG REFERENCE 72683_DWG_TRACK.DWG).
- 3
- PRIOR TO COMMENCING ANY WORKS, THE CONTRACTOR SHALL CARRY OUT A "DIAL BEFORE YOU DIG" FOR A SERVICES SEARCH. THE CONTRACTOR SHALL THEN ARRANGE FOR ALL SERVICES TO BE PHYSICALLY LOCATED, IDENTIFIED AND CLEARLY MARKED WITHIN THE WORKS AREA PRIOR TO THE COMMENCEMENT OF ANY WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR OF ANY DAMAGE CAUSED TO SERVICES DURING THE COURSE OF THE WORKS. ANY SERVICE LOCATION SHOWN ON THE FOLLOWING DRAWINGS ARE INDICATIVE ONLY AND THE POSITION AND DEPTH INDICATED SHOULD NOT BE RELIED UPON.
- 4
- THESE DRAWINGS SHALL BE READ IN CONJUNCTION WITH ALL OTHER DRAWINGS, SPECIFICATIONS, GEOTECHNICAL REPORTS AND WRITTEN INSTRUCTIONS THAT MAY BE ISSUED DURING THE COURSE OF THE CONTRACT. THE CONTRACTOR SHALL ENSURE THAT THEY HAVE THE LATEST DRAWING REVISION PRIOR TO COMMENCING ANY WORKS.
- 5
- IF THE CONTRACTOR HAS ANY QUESTIONS, REQUIRES CLARIFICATION OF ANY ISSUES, OR FINDS ANY DISCREPANCIES WITHIN THESE DRAWINGS, THE CONTRACTOR SHALL ADVISE THE SUPERINTENDENT BEFORE PROCEEDING.
- 6
- ALL SET OUT DIMENSIONS SHALL BE VERIFIED BY THE CONTRACTOR ON SITE BEFORE WORK COMMENCES. DRAWINGS SHALL NOT BE SCALED FOR DIMENSIONS. ALL LEVELS ARE IN METRES AND ALL DIMENSIONS ARE IN METRES UNLESS NOTED OTHERWISE.
- 7
- LEVELS ARE TO AUSTRALIAN HEIGHT DATUM (AHD).
- 8
- ALL MATERIALS AND WORKMANSHIP USED SHALL BE IN ACCORDANCE WITH THE RELEVANT AUSTRALIAN STANDARDS, BY-LAWS AND ORDINANCES OF THE RELEVANT BUILDING AUTHORITIES OR ENGINEER'S SPECIFICATIONS AND INDUSTRY BEST PRACTICE, EXCEPT WHERE VARIED BY THE PROJECT SPECIFICATIONS. WHERE THE CONTRACTOR BELIEVES THAT NECESSARY DIMENSIONS ARE NOT SHOWN, REFER THE MATTER TO THE DESIGN CONSULTANT.
- 9
- ALL ENGINEERING WORK MUST BE CERTIFIED AT A MINIMUM AT THE "HOLD POINTS" AS FOLLOWS OR AS REQUESTED BY THE PCA:

AFTER SEDIMENT AND EROSION CONTROL MEASURES INSTALLED.

EACH COMPACTED ROAD SUB-GRADE LAYER IS TO BE CERTIFIED PRIOR TO PROCEEDING TO THE FOLLOWING LAYER.

COMPLETION OF SITE WORKS.

CERTIFICATES ARE TO BE ISSUED ON COMPLETION CONFIRMING THAT THE WORKS COMPLY WITH THE DEVELOPMENT CONSENT AND CONSTRUCTION CERTIFICATE.
- 10
- DURING CONSTRUCTION, THE WORKS SITE SHALL BE MAINTAINED DAILY IN A SAFE AND STABLE CONDITION. PERIMETER SAFETY FENCING, TEMPORARY BRACING, BENCHING OF EXCAVATIONS AND BATTERS SHALL BE PROVIDED BY THE CONTRACTOR TO KEEP THE WORKS AND EXCAVATIONS STABLE AT ALL TIMES.
- 11
- THE CONTRACTOR IS TO NOTIFY THE SUPERINTENDENT AND DESIGN ENGINEER IF IT BECOMES EVIDENT THAT CONDITIONS ON SITE (INCLUDING ENCOUNTERING OF GROUNDWATER) HAVE POTENTIAL TO NEGATIVELY IMPACT ON THE INTENDED ENGINEERING DESIGN.
- 12
- ALL CONSTRUCTION WORK SHALL BE CARRIED OUT SO THAT AT ANY TIME THE AMENITY OF THE ADJOINING PROPERTIES IS NOT COMPROMISED - I.E. DISCHARGE OF ADDITIONAL OR POLLUTED STORMWATER RUNOFF, ALL WEATHER ACCESS TO THE PROPERTY, NOISE, DUST, BUILDING WASTE ETC.
- 13
- THE CONTRACTOR SHALL PLACE CONDUITS WHERE REQUIRED BY THE RELEVANT UTILITY SERVICE AUTHORITIES AND SHALL UNDERTAKE ALL UTILITY ADJUSTMENTS AS DIRECTED NECESSARY FOR THE COMPLETION OF THE WORKS.
- 14
- THE CONTRACTOR SHALL MAINTAIN AND RESTORE ANY DAMAGE WHICH MAY HAVE BEEN CAUSED BY THE CONSTRUCTION OF THE "WORKS" TO EXISTING ROAD SURFACES, ROADSIDE DRAINAGE OR UTILITY SERVICES.
- 15
- ALL DISTURBED AREAS ARE TO BE REINSTATED AS NEAR AS POSSIBLE TO THE PRE-CONSTRUCTION CONDITION AND/OR IN ACCORDANCE WITH THE SITE'S LANDSCAPING PLAN.
- 16
- THE CONTRACTOR SHALL ENSURE THAT A SMOOTH CONNECTION IS MADE TO ALL EXISTING ENGINEERING WORKS AND NATURAL SURFACES.
- 17
- EROSION AND SEDIMENT CONTROLS IN ACCORDANCE WITH APPROVED EROSION SEDIMENT CONTROL PLAN ARE TO BE IN PLACE AT ALL TIMES. CONTROLS TO BE INSPECTED, MAINTAINED AND REPLACED AS REQUIRED BY THE CONTRACTOR UNTIL WORKS ARE COMPLETED AND PERMANENT MEASURES HAVE BEEN ESTABLISHED OR SITE IS REVEGETATED.
- 18
- PROVISION IS TO BE MADE FOR MAINTAINING TRAFFIC FLOW IN PUBLIC ROADS AT ALL TIMES. TRAFFIC CONTROL MEASURES ARE TO BE IN ACCORDANCE WITH COUNCIL GUIDELINES AND APPROVED CONSTRUCTION TRAFFIC MANAGEMENT PLAN (CTMP).
- 19
- THE CONTRACTOR IS TO ENSURE THAT NO BUILDING MATERIALS, STOCKPILES OR FILL ENCROACHES UPON ADJACENT PROPERTY OR IMPACTS RETAINED TREES FOR THE DURATION OF THE WORKS.

- 20
- THE SITE SUPERINTENDENT MUST BE NOTIFIED IMMEDIATELY SHOULD THE PRESENCE OF ASBESTOS OR OTHER SOIL CONTAMINATION, NOT RECOGNISED DURING THE ORIGINAL ASSESSMENT PROCESS, BE IDENTIFIED DURING DEMOLITION OR CONSTRUCTION WORKS.
- 21
- A SUFFICIENT SUPPLY OF APPROPRIATE SPILL CONTROL EQUIPMENT MUST BE KEPT ON THE PREMISES AT ALL TIMES. MATERIALS USED IN THE CLEAN UP OF A SPILL MUST BE DISPOSED OF TO AN APPROPRIATELY LICENSED WASTE FACILITY.
- 22
- ALL ABOVE GROUND STORAGE'S OF HAZARDOUS MATERIALS, OILS, CHEMICALS OR FERTILISERS MUST BE BUNDED. THE BUND IS TO BE MADE FROM AN IMPERVIOUS MATERIAL AND MUST BE COVERED AND LARGE ENOUGH TO HOLD THE CONTENTS OF THE LARGEST CONTAINER PLUS 10%.
- 23
- NO SITE WORKS, INCLUDING THE REMOVAL OF VEGETATION OR ANY DEMOLITION WORKS, SHALL BE COMMENCED PRIOR TO A CONSTRUCTION CERTIFICATE BEING ISSUED.
- 24
- TOILET FACILITIES ARE TO BE PROVIDED AT THE WORK SITE AT ALL TIMES AT THE RATE OF ONE CLOSET FOR EVERY 20 PERSONS AND BE LOCATED WHOLLY WITHIN THE BOUNDARIES OF THE PROPERTY..

QUALITY ASSURANCE & OCCUPATIONAL HEALTH & SAFETY

- 1
- THE CONTRACTOR SHALL IMPLEMENT AND MAINTAIN A QUALITY ASSURANCE SYSTEM WHICH COMPLIES WITH THE REQUIREMENTS OF A.S. 9001 (2000) AND AUS-SPEC COC & COS. THE QUALITY SYSTEM SHALL BE SUCH THAT RECORDS ARE KEPT OF ALL ASPECTS AND STAGES OF THE WORK.
- 2
- THE RECORDS FOR EACH CONSTRUCTION TASK SHALL BE STAGED AND ITEMISED TO THE SATISFACTION OF THE SUPERINTENDENT. THE PRO-FORMERS SHALL BE SUBMITTED TO THE SUPERINTENDENT FOR APPROVAL PRIOR TO ANY WORK BEING COMMENCED.
- 3
- DURING THE COURSE OF CONSTRUCTION, THE CONTRACTOR SHALL MAINTAIN ACCURATE AND UP TO DATE RECORDS (SUCH AS GOODS RECEIVED / REJECTED / RETURNED, ALL "ISSUED NOTICES / INSTRUCTIONS / CERTIFICATES", RETAIN ALL DRAWING REVISIONS, REPORTS, MARKED UP DRAWINGS OF EITHER AMENDMENTS OR "WAE"); AND SHALL MAKE SUCH RECORDS AVAILABLE TO THE SUPERINTENDENT IF REQUESTED. FAILURE TO MAINTAIN THE APPROPRIATE RECORDS MAY RESULT IN THE CONTRACTOR RE-INSPECTING COMPLETED WORKS IF INSTRUCTED BY THE SUPERINTENDENT.
- 4
- AT THE COMPLETION OF EACH STAGE OF THE WORKS, THE CONTRACTOR SHALL CERTIFY THAT THOSE WORKS HAVE BEEN UNDERTAKEN AND COMPLETED IN ACCORDANCE WITH THE DRAWINGS, SPECIFICATIONS AND INSTRUCTIONS ISSUED DURING THE COURSE OF THE CONTRACT.
- 5
- THE CONTRACTOR SHALL OBTAIN AND KEEP ON SITE AT ALL RELEVANT MATERIAL SAFETY DATA SHEETS (MSDS) THAT ARE APPLICABLE FOR MATERIALS BEING USED ON THE SITE. ALL TRANSPORTATION, STORAGE, USE OF, AND DISPOSAL OF THESE MATERIALS SHALL BE IN ACCORDANCE WITH MSDS. THE LOCATION OF THESE MSDS SHALL BE MADE KNOWN TO ALL PERSONS DURING THE SITE INDUCTION AND ARE TO BE ACCESSIBLE AT ALL TIMES TO ALL SITE PERSONNEL.
- 6
- ATTENTION IS DRAWN TO THE OCCUPATIONAL HEALTH AND SAFETY ACT NSW. (2000) NO.40 AND ITS REGULATIONS, WHICH REQUIRES THAT EMPLOYERS ENSURE THE HEALTH, SAFETY AND WELFARE OF ALL PERSONS WORKING ON OR VISITING THE SITE.
- 7
- THE CONTRACTOR SHALL AT ALL TIMES EXERCISE ALL NECESSARY AND REASONABLE SAFETY PRECAUTIONS APPROPRIATE TO ENSURE THE SAFETY OF ALL PERSONS ON THE WORK SITE OR IN THE VICINITY OF THE WORKS.
- 8
- THE CONTRACTOR SHALL IMPLEMENT AN OH&S SYSTEM AND MAINTAIN ALL THE REQUIREMENTS OF THE RELEVANT OH&S ACT, SUCH AS LOG BOOKS RECORDING OF: PERSONNEL INDUCTIONS, PERSONNEL SIGN-IN AND SIGN-OUT, INJURIES ETC, AND FIRST AID STATIONS ETC.
- 9
- THE CONTRACTOR SHALL PROVIDE A SECURE PERIMETER FENCE AROUND THE SITE TO EXCLUDE THE PUBLIC; SAFETY FENCING AROUND EXCAVATIONS WITHIN THE SITE; AND ANY OTHER FENCING THAT IS REQUIRED TO ENSURE THE SAFETY OF SITE PERSONNEL / VISITOR PEDESTRIANS, ANIMALS AND VEHICLES.
- 10
- THE LAND AND ADJOINING AREAS ARE TO BE KEPT IN A CLEAN AND TIDY CONDITION AT ALL TIMES. LITTER AND RUBBISH SHALL BE PLACED IN CONTAINERS AND REMOVED FROM THE SITE. WASTE STORAGE IS TO BE PROVIDED THROUGHOUT BUILDING WORK.
- 11
- THE WORK SITE IS TO BE KEPT LIT BETWEEN SUNSET AND SUNRISE IF IT IS LIKELY TO BE HAZARDOUS TO PERSONS USING A PUBLIC PLACE OR UPON INSTRUCTION BY COUNCIL TO ENHANCE THE SAFETY AND SECURITY OF THE AREA IN WHICH THE WORK IS LOCATED.
- 12
- ANY HOARDING, FENCE OR AWNING IS TO BE REMOVED WHEN NO LONGER REQUIRED.

EXISTING SERVICES

- 1
- PRIOR TO COMMENCING ANY WORKS, THE CONTRACTOR SHALL CARRY OUT A "DIAL BEFORE YOU DIG" FOR A SERVICES SEARCH. THE CONTRACTOR SHALL THEN ARRANGE FOR ALL SERVICES TO BE PHYSICALLY LOCATED, IDENTIFIED AND CLEARLY MARKED WITHIN THE WORKS AREA PRIOR TO THE COMMENCEMENT OF ANY WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR OF ANY DAMAGE CAUSED TO SUCH SERVICES DURING THE COURSE OF THE WORKS.
- 2
- ANY SERVICE LOCATION SHOWN ON THE DESIGN PLANS ARE INDICATIVE ONLY AND THE POSITION AND DEPTH INDICATED SHOULD NOT BE RELIED UPON.
- 3
- ALL CARE IS TO BE EXERCISED WHEN EXCAVATING NEAR EXISTING UTILITY SERVICES. MANUAL EXCAVATION PARALLEL TO THE SERVICE IS RECOMMENDED AND. MECHANICAL DIGGING IS NOT TO BE CARRIED OUT OVER OR NEAR ANY ELECTRICAL /

TELECOMMUNICATIONS CABLES OR GAS PIPES. EXCAVATIONS ARE TO BE UNDERTAKEN IN ACCORDANCE WITH THE REQUIREMENTS OF THE NSW WORK COVER CODE OF EXCAVATION 2000.

- 4
- DURING THE EXECUTION OF WORKS, THE CONTRACTOR SHALL MAINTAIN THE INTEGRITY OF ALL EXISTING UTILITY SERVICES. THE CONTRACTOR SHALL REPAIR ANY DAMAGE CAUSED TO THE EXISTING SERVICES TO THE SATISFACTION OF THE SUPERINTENDENT AND THE RELEVANT UTILITY SERVICE PROVIDER, AT NO COST TO THE PRINCIPAL OR OTHER PROPERTY OWNER.
- 5
- WHERE IT IS NECESSARY TO REMOVE, DIVERT OR CUT INTO ANY EXISTING UTILITY SERVICE, AND ON COMPLETION OF THE NEW "WORKS, THE CONTRACTOR SHALL GIVE AT LEAST THREE (3) DAYS NOTICE OF THE REQUIREMENTS TO THE SUPERINTENDENT, WHO WILL ADVISE WHAT ARRANGEMENTS SHOULD BE MADE FOR THE ALTERATION OF SUCH EXISTING WORKS.
- 6
- PRIOR TO THE COMMENCEMENT OF ANY WORKS THE CONTRACTOR SHALL OBTAIN THE SUPERINTENDENT'S APPROVAL OF THE PROGRAMME FOR THE RELOCATION / CONSTRUCTION OF TEMPORARY SERVICES.
- 7
- ALL NEW OR EXCAVATED EXISTING UTILITY SERVICES THAT CROSS EXISTING AND FUTURE ROADS/PAVEMENTS SHALL HAVE APPROPRIATE WARNING TAPES AND/OR WIRES PLACED IN ACCORDANCE WITH THE RELEVANT STANDARDS AND THEN BE BACKFILLED WITH DGB20 MATERIAL TO SUBGRADE LEVEL AND COMPACTED TO 98% STANDARD DENSITY RATIO, SUBJECT TO PRIOR APPROVAL FROM THE RELEVANT AUTHORITY.
- 8
- ON COMPLETION OF SERVICES INSTALLATION, ALL DISTURBED AREAS SHALL BE RESTORED TO THEIR ORIGINAL CONDITION, INCLUDING NATURE STRIPS, FOOTPATHS, CONCRETE AND GRAVEL AREAS, KERBS AND ROAD PAVEMENTS.
- 9
- THE CONTRACTOR SHALL ALLOW FOR THE EXCAVATION, CAPPING OFF AND REMOVAL IF REQUIRED OF ALL EXISTING SERVICES IN AREAS AFFECTED BY THE WORKS WITHIN THE CONTRACT AREA AS SHOWN ON THE DRAWINGS UNLESS DIRECTED OTHERWISE BY THE SUPERINTENDENT. ALL TO REGULATORY AUTHORITY STANDARDS AND APPROVAL.
- 10
- THE CONTRACTOR SHALL CONSTRUCT TEMPORARY SERVICES AS REQUIRED TO MAINTAIN THAT SERVICE TO ANY PROPERTY OR BUILDING IN OPERATION DURING THE CONSTRUCTION WORKS, TO THE SATISFACTION AND APPROVAL OF THE SUPERINTENDENT. WHEN ALL NEW WORKS / DIVERSIONS ARE COMPLETED, COMMISSIONED AND INSPECTED, THE CONTRACTOR SHALL REMOVE ALL SUCH TEMPORARY UTILITY SERVICES AND MAKE GOOD TO THE SATISFACTION OF THE SUPERINTENDENT.
- 11
- INTERRUPTION TO EXISTING UTILITY SERVICES SHALL BE CARRIED OUT SO AS NOT TO CAUSE ANY INCONVENIENCE OR DAMAGE TO ADJACENT PROPERTIES. THE CONTRACTOR IS RESPONSIBLE FOR GAINING PERMISSION OF THE SUPERINTENDENT FOR TIME OF INTERRUPTION.
- 12
- THE CONTRACTOR SHALL MAINTAIN THE EXISTING STORMWATER DRAINAGE FLOWS THROUGH THE SITE AT ALL TIMES, AND MAKE DUE ALLOWANCE FOR ALL SUCH FLOWS AT ALL TIMES.
- 13
- THE CONTRACTOR SHALL ENSURE THAT APPROPRIATE UTILITY SERVICES ABOVE GROUND MARKERS ARE PLACED IN ACCORDANCE WITH SERVICE PROVIDER AND COUNCIL SPECIFICATIONS.
- 14
- ALL NEW AND REPLACEMENT UTILITY SERVICES SHALL BE LAID AT THE DEPTH AND POSITION WITHIN THE SERVICES TRENCH IN ACCORDANCE WITH RELEVANT AUTHORITY REQUIREMENTS AND SPECIFICATIONS OR AS DIRECTED IN THE DETAILED DRAWINGS.
- 15
- SERVICES TRENCHES TO BE GRADED AT A MINIMUM OF 1% TO EITHER SUBSOIL OR STORMWATER DRAINAGE LINES.
- 16
- THE CONTRACTOR SHALL ENSURE THAT ALL LOCATED AND NEW UTILITY SERVICES WITHIN AND OUTSIDE THE SITE ARE SURVEYED BY A DULY QUALIFIED SURVEYOR AS PART OF THE "WORK AS EXECUTED" RECORDS.

CONSTRUCTION MATERIALS

- 1
- MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH RELEVANT AUSTRALIAN STANDARDS; WITH THE BY-LAWS AND ORDINANCE REQUIREMENTS OF THE RELEVANT BUILDING AUTHORITY; AND INDUSTRY BEST PRACTICE EXCEPT WHERE VARIED BY THE PROJECT SPECIFICATIONS.
- 2
- SUFFICIENT NOTICE SHALL BE GIVEN BY THE CONTRACTOR TO THE SUPERINTENDENT TO ENABLE MATERIALS THAT ARE TO BE BROUGHT ON SITE TO BE EXAMINED. ALL MATERIALS ARE TO BE STACKED IN A SUITABLE MANNER TO FACILITATE EXAMINATION.
- 3
- MATERIALS SUCH AS FILL / TOPSOIL / SAND SHALL HAVE A VALIDATION CERTIFICATE FROM AN APPROVED TESTING LABORATORY / ENVIRONMENTAL CONSULTANT IF SUCH MATERIAL IS NOT PROCURED FROM THE SITE OR SUPPLIED OR ARRANGED BY THE SUPERINTENDENT.
- 4
- WHERE THE CONTRACTOR SUPPLIES MATERIALS OF A MIXED OR POOR QUALITY, THE SUPERINTENDENT SHALL HAVE THE AUTHORITY TO REQUIRE THE CONTRACTOR TO PICK OUT AND STACK THOSE MATERIALS WHICH IN HIS OPINION ARE SUITABLE FOR THE WORKS, AND TO HAVE THOSE WHICH ARE UNSUITABLE REMOVED FROM THE WORKS SITE AT THE CONTRACTOR'S COST.
- 5
- ANY MATERIAL WHICH IS BROUGHT ONTO THE SITE AND PLACED IN SITU PRIOR TO ANY APPROVAL BY THE SUPERINTENDENT / ENGINEER OR THEIR AGENTS SHALL BE REMOVED AND WORKS REMEDIATED TO THEIR PRIOR CONDITION BY THE CONTRACTOR AT HIS COST.

EARTHWORKS GENERAL


- 1
- GENERALLY ALL EARTHWORKS ARE TO BE UNDERTAKEN IN ACCORDANCE WITH THE GUIDELINES FOR EARTHWORKS FOR COMMERCIAL AND RESIDENTIAL DEVELOPMENTS AS SET OUT IN A.S. 3798 (2007), THE PROJECT APPROVAL CONDITIONS AND THE GEOTECHNICAL REPORT FOR THE DEVELOPMENT PREPARED BY MARTENS AND ASSOCIATES (P1002913JR02V01, MARCH 2012). WHERE INCONSISTENCIES BETWEEN THESE NOTES AND PROJECT GEOTECHNICAL REPORT ARE IDENTIFIED, THE REPORT SHALL BE CONSIDERED TO PREVAIL AND THE PROJECT GEOTECHNICAL ENGINEER IS TO BE CONSULTED.
- 2
- LEVEL 1 SUPERVISION AND TESTING OF EARTHWORKS IS TO BE UNDERTAKEN IN ACCORDANCE WITH AS3798 (2007).
- 3
- THE CONTRACTOR SHALL ENSURE THAT ALL EXCAVATION WORKS COMPLY WITH THE NSW WORK COVER 'CODE OF PRACTICE: EXCAVATION 2000' OR THAT REQUIRED IN THE STATE WHERE THIS CONTRACT IS BEING UNDERTAKEN.
- 4
- THE CONTRACTOR SHALL TAKE ALL DUE CARE THAT ONLY THE ABSOLUTE MINIMUM OF AREA FOR CONSTRUCTION IS USED AND THAT NO UNDUE DAMAGE IS DONE TO EXISTING VEGETATION MARKED FOR RETENTION.
- 5
- THE CONTRACTOR SHALL PROGRAMME 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 BY THE CONTRACTOR AT THEIR COST.
- 6
- THE CONTRACTOR SHALL BE DEEMED TO HAVE INVESTIGATED THE SITE AND BE SATISFIED AS TO THE QUANTITY AND TYPE OF MATERIAL TO BE EXCAVATED AND THE SUB-SURFACE CONDITIONS LIKELY TO BE ENCOUNTERED DURING BULK EARTHWORKS.
- 7
- PROVIDED ESTIMATES OF CUT AND FILL VOLUMES ARE TO BE VERIFIED BY CONTRACTOR PRIOR TO TENDER.
- 8
- WORKS AREAS SHALL BE STRIPPED OF STRUCTURES, PAVEMENTS, VEGETATION AND OTHER 'UNSUITABLE MATERIAL' (AS DEFINED IN AS 3798, 2007). TOPSOIL IS TO BE STOCKPILED ON SITE FOR RE-USE IN LANDSCAPING AREAS. STOCKPILE LOCATION IS TO BE CONFIRMED ON SITE BY THE SUPERINTENDENT AND IN ACCORDANCE WITH THE SECP. STOCKPILES TO BE IN ACCORDANCE WITH APPROVED PROJECT SECP.
- 9
- ALL GENERATED WASTE AND SPOIL TO BE MANAGED IN ACCORDANCE WITH THE APPROVED SITE WASTE MANAGEMENT PLAN AND/OR RELEVANT NSW DECC GUIDELINES. ANY SPOIL OR OTHER MATERIAL SUSPECTED OF BEING CONTAMINATED IS TO BE REFERRED TO THE SUPERINTENDENT.
- 10
- EARTHWORKS SHALL INCLUDE THE EXCAVATION, PLACING AND COMPACTION OF CUT MATERIALS TO THE LEVELS AND PROFILES AS DETAILED ON THE BULK EARTHWORKS PLAN. EXCESS SPOIL IS TO BE MANAGED AS DIRECTED BY THE SUPERINTENDENT. BATTERS SHALL CONTINUE IN REGULAR LINES AROUND CURVES.
- 10
- THE PRINCIPAL RESERVES THE RIGHT TO AMEND ALL LEVELS SHOWN ON THE DRAWINGS AT ANY STAGE DURING THE CONTRACT PERIOD, PRIOR TO THE PLACEMENT OF TOPSOIL, SHOULD SUCH AMENDMENT BE DEEMED BY THE OWNER'S REPRESENTATIVE / SUPERINTENDENT PRIOR TO PLACEMENT.
- 11
- WHERE BATTERS ARE NOT DETAILED ON PLANS AND SECTIONS, AN EVEN GRADE BETWEEN NOMINATED LEVELS WILL APPLY. THE MAXIMUM UNSUPPORTED BATTER SHALL BE 1V:3H UNLESS NOTED OTHERWISE.
- 12
- BATTERS SHALL BE FREE OF LOOSE MATERIAL AND SHALL BE NEATLY TRIMMED AND ROLLED TO SEAL THE SURFACE (PRIOR TO REVEGETATION AS REQUIRED IN ACCORDANCE WITH SITE VMP).
- 13
- FILL BATTERS TO BE CONSTRUCTED BY OVER PLACEMENT OF ENGINEERED FILL AND TRIMMING BACK TO THE FINAL PROFILE.

SITE PREPARATION

- 1
- PRIOR TO COMMENCEMENT OF ALL SITE EARTHWORKS, THE FOLLOWING IS REQUIRED:

REMOVAL AND DISPOSAL OF EXISTING TREES AND SHRUBS (INCLUDING ENTIRE ROOTBALLS) FROM THE WORKS AREA. VEGETATION IS TO BE MULCHED AND RE-USED OR REMOVED FROM THE SITE.

STRIPPING OF ALL GRASS, TOPSOIL AND ROOT AFFECTED SOILS. STRIPPED TOPSOIL TO BE STOCKPILED SEPARATELY AND NOT TO BE USED AS ENGINEERED FILL. SUCH MATERIALS MAY BE REUSED IN LANDSCAPED AREAS.
- 2
- ANY UNSUITABLE MATERIALS AS OUTLINED IN THE GEOTECHNICAL REPORT (MA REFERENCE P1002913JR02V01, MARCH 2012) ARE TO BE RE-USED IN LANDSCAPING OR REMOVED FROM THE SITE.

<div><div><div><div><div><div></div><div>6/37 Leighton Place Hornsby, NSW 2077 Australia Phone: (02) 9476 9999 Fax: (02) 9476 8767 Email: mail@martens.com.au Internet: http://www.martens.com.au</div></div></div><div><div><div><div>MARTENS & ASSOCIATES PTY LTD</div><div>Sustainable Solutions</div><div>Environmental - Geotechnical - Civil Hydraulic - Wastewater Engineers</div></div></div></div></div></div></div>	CLIENT/PROJECT HANSON / OLD WALLGROVE RD EASTERN CREEK	TITLE CONSTRUCTION NOTES - SHEET 1 OF 2	DESIGNED: MGD	DATUM: NA	SHEET 2 OF 14 SHEETS	REV.	DESCRIPTION	DATE	ISSUED
						1	DRAFT PLAN SET	09.02.2012	ASN
						2	BULK EARTHWORKS LEVELS REVISED	26.03.2012	ASN
						3	RETAINING WALLS REMOVED	08.05.2012	ASN
	THIS PLAN MUST NOT BE USED FOR CONSTRUCTION UNLESS SIGNED AS APPROVED BY PRINCIPAL CERTIFYING AUTHORITY <small>All measurements in mm unless otherwise specified.</small>	PROJECT MANAGER: ANDREW NORRIS	DRAWING NUMBER: P1002913J003V03	REVIEWED:	VERTICAL RATIO:	PAPER SIZE:			
				ASN	NA	A1 / A3			

REMEDIAL WORKS

- | | |
|---|--|
| 1 | THE AREA IN THE VICINITY OF TEST LOCATIONS 208, 209 AND 210 (SEE GEOTECHNICAL REPORT P1002913JR02V01, MARCH 2012) IS TO BE REMEDIATED PRIOR TO COMMENCEMENT OF SITE EARTHWORKS. THIS AREA HAS BEEN IDENTIFIED AS HAVING DEEP SATURATED LAYERS OF POTENTIALLY UNSUITABLE FILL MATERIALS. |
| 2 | <p>REMEDIATION OF THIS AREA IS TO BE UNDERTAKEN UNDER THE SUPERVISION OF THE PROJECT GEOTECHNICAL ENGINEER AND IS LIKELY TO INCLUDE THE FOLLOWING WORKS:</p> <ul style="list-style-type: none"> - REDIRECTION / DIVERSION OF DEWATERING FLOWS FROM FORMER HANSON QUARRY TO THE NORTH OF THE PROPOSED SUB-DIVISION. - EXCAVATION OF DRAINAGE TRENCHES AND SUB-SURFACE DRAINS THROUGH THE AREA. - BULK EXCAVATION OF UNDERLYING SATURATED MATERIALS FOR DRYING AND RE-USE OR OFF-SITE DISPOSAL. |

EXCAVATION

- 1 THE EXCAVATION SHALL BE CARRIED OUT IN THE LOCATIONS SHOWN AND TO THE LEVELS,
WIDTHS AND BATTER SLOPES INDICATED ON THE DRAWINGS. IN ALL AREAS WHERE
EXISTING LEVELS ARE ABOVE DESIGN LEVELS, EXCAVATION OF EXCESS MATERIAL IS TO
BE COMPLETED. WHERE EXPOSED UNDERLYING MATERIAL IS FILL, EXCAVATION IS TO
PROCEED TO A LEVEL OF 1.0 M BELOW DESIGN FINISHED SURFACE LEVELS. WHERE
NATURAL SOIL / ROCK PROFILES ARE EXPOSED, EXCAVATION IS TO PROCEED TO DESIGN
FINISHED LEVEL.
- 2 EXCAVATED MATERIAL NOT MEETING THE SPECIFICATION FOR FILL MATERIAL AND
CLASSIFIED AS UNSUITABLE SHALL BE DISPOSED OF IN AN APPROPRIATE MANNER AND AS
DIRECTED BY THE SUPERINTENDENT.
- 3 ALL EXCAVATED MATERIAL REMOVED FROM THE SITE MUST BE CLASSIFIED IN
ACCORDANCE WITH NSW DECC (2008) ENVIRONMENTAL GUIDELINES: ASSESSMENT,
CLASSIFICATION AND MANAGEMENT OF LIQUID AND NON-LIQUID WASTES PRIOR TO
DISPOSAL. ALL EXCAVATED MATERIAL MUST BE DISPOSED OF TO AN APPROVED WASTE
MANAGEMENT FACILITY.
- 4 WHERE EXCAVATION WORK IS REQUIRED IN THE VICINITY OF EXISTING UTILITY SERVICES,
THE CONTRACTOR SHALL SUPPORT ALL SUCH UTILITY SERVICES DURING THE WORKS. ON
COMPLETION OF EXCAVATION WORKS SUCH UTILITY SERVICES SHALL BE BACK FILLED IN
SUCH A MANNER AS TO RETAIN THE UTILITY SERVICE IN ITS ORIGINAL GRADE AND
POSITION TO THE SATISFACTION OF THE SUPERINTENDENT AND UTILITY SERVICE
PROVIDER.
- 5 WHERE EXCAVATED MATERIAL IS TO BE USED FOR FILLING, THE MATERIAL SHALL BE
INSPECTED AND APPROVED BY THE SUPERINTENDENT PRIOR TO USE.
- 6 THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE MAINTENANCE OF ANY
EXCAVATIONS AND IS LIABLE FOR ANY DAMAGE WHICH MAY BE CAUSED TO ANY WATER
/ SEWER PIPE / STORMWATER, PUBLIC UTILITY SERVICE, CAUSED BY THE COLLAPSE OF
THE EXCAVATION.
- 7 WHERE DIRECTED BY THE SUPERINTENDENT THE BOTTOM OF TRENCHES OR EXCAVATIONS
SHALL BE COMPACTED PRIOR TO PLACING OF ANY PAVEMENT SUB-BASE, BEDDING OR
CONCRETE MATERIALS. SHOULD THE FOUNDATION MATERIAL, IN THE OPINION OF THE
SUPERINTENDENT, BE INCAPABLE OF EFFECTIVE COMPACTION, SUCH MATERIAL SHALL BE
REMOVED AND REPLACED WITH APPROPRIATE MATERIAL.
- 8 STRIPPED PAVEMENT SUB-GRADES MUST BE PROOF ROLLED (PRIOR TO THE ADDITION OF
SUITABLE FILL) BY A MINIMUM 12 TONNE MASS SMOOTH DRUM ROLLER WITHOUT
VIBRATION UNDER THE SUPERVISION OF THE GEOTECHNICAL TESTING AUTHORITY (GTA)
AND/OR SITE ENGINEER.
- 9 SUBGRADE IN ROCK IS TO BE RIPPED, SCARIFIED, SPREAD AND COMPACTED TO A MINIMUM
DEPTH OF 300MM BELOW THE FINISHED SUBGRADE LEVEL.
- 10 IF APPROVED BY THE SUPERINTENDENT EXCAVATED MATERIAL MAY BE USED FOR
BACKFILL OVER PIPES PROVIDED IT COMPLIES WITH RELEVANT BUILDING AND
CONSTRUCTION CODES AND SPECIFICATIONS. THIS MATERIAL SHALL REMAIN THE PROPERTY
OF THE PRINCIPAL AND ANY EXCESS SHALL BE SPOILED OR USED FOR FILLING WITHIN THE
SITE AS DIRECTED BY THE SUPERINTENDENT.
- 11 ALL EXCAVATIONS MUST BE PROPERLY GUARDED AND PROTECTED TO PREVENT THEM
FROM BEING DANGEROUS TO LIFE OR PROPERTY.
- 12 RETAINING WALLS OR OTHER APPROVED METHODS NECESSARY TO PREVENT THE
MOVEMENT OF EXCAVATED OR FILLED GROUND, ARE TO BE CONSTRUCTED TOGETHER WITH
ASSOCIATED STORMWATER DRAINAGE MEASURES PRIOR TO OCCUPATION OF THE
DEVELOPMENT OR BEFORE WHERE SITE CONDITIONS REQUIRE.

FILL

- FOUNDATION MATERIAL DEEMED BY THE GEOTECHNICAL INSPECTION TESTING AUTHORITY (GITA) AS UNSUITABLE IS TO BE REMOVED AS DIRECTED BY THE SUPERINTENDENT AND REPLACED WITH APPROVED MATERIAL SATISFYING THE REQUIREMENTS BELOW.
- 2 ANY IMPORTED SOILS TO THE SUBJECT SITE MUST BE VIRGIN EXCAVATED NATURAL MATERIAL (VENM) AS DEFINED IN SCHEDULE 1 OF THE PROTECTION OF THE ENVIRONMENT OPERATIONS ACT 1997.
- 3 PRIOR TO THE IMPORTATION AND / OR PLACEMENT OF ANY FILL MATERIAL, A VALIDATION REPORT AND SAMPLING LOCATION PLAN MUST BE SUBMITTED TO AND APPROVED BY THE PRINCIPAL. THE VALIDATION REPORT AND SAMPLING LOCATION PLAN MUST:
- CERTIFY THE MATERIAL TO BE VENM IN ACCORDANCE WITH THE POEO ACT (1997).
 - BE PREPARED BY A PERSON WITH EXPERIENCE IN THE GEOTECHNICAL ASPECTS OF THE EARTHWORKS.
 - BE PREPARED IN ACCORDANCE WITH: DEPARTMENT OF ENVIRONMENT AND CONSERVATION (2006) CONTAMINATED SITES GUIDELINES "GUIDELINES FOR THE NSW SITE AUDITOR SCHEME (SECOND EDITION) – SOIL INVESTIGATION LEVELS FOR URBAN DEVELOPMENT SITES IN NSW".
 - CONFIRM THAT THE FILL MATERIAL:
 - A) PROVIDES NO UNACCEPTABLE RISK TO HUMAN HEALTH AND THE ENVIRONMENT.
 - B) IS FREE OF CONTAMINANTS.
 - C) IS SUITABLE FOR ITS INTENDED PURPOSE AND LAND USE; AND
 - D) HAS BEEN LAWFULLY OBTAINED.
- 5 UNLESS OTHERWISE APPROVED OR SPECIFIED, ALL FILL MATERIAL SHALL BE FROM A SOURCE APPROVED BY THE SUPERINTENDENT AND SHALL COMPLY WITH THE FOLLOWING:
- FREE FROM ORGANIC AND PERISHABLE MATTER AND OTHER DELETERIOUS / UNSUITABLE MATERIAL AS DEFINED BY AS 3798 (2007).
 - MAXIMUM PARTICLE SIZE 75MM.
 - PLASTICITY INDEX BETWEEN 2% AND 20%.
 - A MINIMUM CBR TO BE DETERMINED DURING CONSTRUCTION OR AS SPECIFIED ON THESE DRAWINGS.
 - ENGINEERED FILL IS TO BE PLACED IN LAYERS NOT GREATER THAN 300 MM (LOOSE) AND COMPACTED TO ACHIEVE 98% SMD. FINAL FILL LAYER ON ALL AREAS TO BE COMPACTED TO ACHIEVE 100% SMD. PAVEMENT AND ROAD SUB-GRADE IS TO BE COMPACTED TO LEVELS AS SPECIFIED IN THE GEOTECHNICAL REPORT.
- 6 MATERIAL ACCEPTANCE AND SELECTION SHOULD BE SUBJECT TO LEVEL 1 FULL TIME-MONITORING BY THE GITA NOMINATED FOR THE PROJECT.
- 7 A LOG-BOOK SHALL BE KEPT ON SITE AND MAINTAINED TO RECORD ALL DAILY TRUCK LOADS OF FILL BROUGHT TO THE SITE. THIS LOG-BOOK SHALL BE MADE AVAILABLE FOR PERUSAL TO AUTHORISED COUNCIL OFFICERS UPON REQUEST.
- 8 PRIOR TO ANY FILL BEING PLACED, TOPSOIL AND UNSUITABLE MATERIAL SHALL BE STRIPPED OFF TO A MINIMUM DEPTH OF 150MM AND STOCKPILED AS DIRECTED BY THE SUPERINTENDENT OR AS SPECIFIED IN THE DESIGN DRAWINGS. UNSUITABLE TOPSOIL MATERIAL SO DEEMED BY THE SUPERINTENDENT SHALL BE SEPARATELY STOCKPILED.
- 9 WHERE FILL IS TO BE PLACED ON THE EXISTING SURFACE, THE EXISTING SURFACE WILL BE PREPARED SUCH THAT A SERIES OF LEVEL TERRACES ARE 'KEYED INTO' EXISTING STIFF TO VERY STIFF SOILS.
- 10 THE STRIPPED SURFACE MUST BE PROOF ROLLED (PRIOR TO THE ADDITION OF FILL) BY A MINIMUM 12 TONNE STATIC MASS SMOOTH DRUM ROLLER WITHOUT VIBRATION UNDER THE SUPERVISION OF THE GTA.
- 11 WHERE EXISTING FILL IS ENCOUNTERED, FOLLOWING STRIPPING / EXCAVATION TO SUB-GRADE LEVELS OR WHERE LEVELS ARE TO BE RAISED BY FILLING, THE FOLLOWING WORKS ARE REQUIRED:
- EXCAVATION TO A DEPTH OF 1.0 M BELOW DESIGN FINISHED SURFACE LEVELS (NOTE: NOT REQUIRED WHERE SURFACE IS GREATER THAN 1.0 M BELOW DESIGN LEVEL).
 - COMPACTION OF *IN-SITU* FILL USING AN IMPACT ROLLER. ALL IMPACT ROLLING OPERATIONS ARE TO BE SUPERVISED BY A GEOTECHNICAL ENGINEER WITH FINAL REQUIREMENT FOR WORKS TO BE DETERMINED ON-SITE.
 - PROOF ROLL AFTER IMPACT ROLLING TO DETECT ANY HEAVING OR SOFT AREAS. ALL SUCH AREAS TO BE REMEDIATED UNDER GEOTECHNICAL ENGINEER'S DIRECTION.
- 12 WHERE ROCK IS ENCOUNTERED AT FINISHED LEVELS OR DEEPER, NO FURTHER WORKS ARE REQUIRED PRIOR TO FILLING.
- 13 SHOULD GROUNDWATER SEEPAGE THROUGH SOIL / FILL BE OBSERVED, THEN SUB-SOIL DRAINS SHALL BE REQUIRED.
- 14 THE CONTRACTOR SHALL ENSURE THAT LEVEL 1 TESTING AS PER AS3798-2007 CLAUSE 8.2 IS CARRIED OUT FOR ANY FILLING OPERATIONS. DENSITY AND COMPACTION TESTING

TO BE UNDERTAKEN ON EACH FILL LAYER (MAXIMUM 300 MM RISE IN VERTICAL HEIGHT)
BY A NATA REGISTERED LABORATORY OR MINIMUM REQUIREMENTS OF AS.3798 (2007).

- | | |
|----|--|
| 15 | DENSITY AND COMPACTION TESTING TO BE UNDERTAKEN ON EACH FILL LAYER TO MINIMUM REQUIREMENTS OF AS.3798 (2007). |
| 16 | FILL TO BE PLACED AND COMPACTED TO RELATIVE COMPACTION LEVELS AS SPECIFIED IN AS 3798-2007 TABLE 5.1 AND IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION 6.2. MINIMUM RELATIVE COMPACTION REQUIREMENTS ARE SUMMARISED FOR THE SITE AS FOLLOWS: |
| | <ul style="list-style-type: none"> - 98% SMDD FOR GENERAL ENGINEERED FILL LAYERS AND AREAS TO BE REGRADED UP TO 300 MM BELOW FINISHED SURFACE LEVELS. - 100% SMDD FOR TOP 300 MM LAYER OF FILL FOR ALL AREAS AND FOR PAVEMENT SUB-GRADE. |
| 17 | MOISTURE CONTROL OF FILLING MATERIALS TO BE AT $\pm 2\%$ OMC OR AS SPECIFIED ELSEWHERE BY RELEVANT GEOTECHNICAL REPORT OR AS INSTRUCTED BY GTA. |
| 18 | FILL TO BE PLACED AND COMPACTED UNDER SUPERVISION OF A GEOTECHNICAL ENGINEER WITH LEVEL 2 QUALIFICATION, IN ACCORDANCE WITH A.S. 3798 (2007). |
| 19 | BATTERS SHALL BE CONSTRUCTED BY 'OVER PLACING' SOILS AND TRIMMING BACK TO THE FINAL PROFILE (BEFORE TOP DRESSING) UNLESS OTHERWISE INSTRUCTED ON THE DESIGN DRAWINGS. |
| 20 | TOPSOIL WHERE PLACED OR REQUIRED IS TO HAVE A MAXIMUM THICKNESS OF 300MM AND SHALL BE LIGHTLY ROLLED TO ACHIEVE A 'NATURAL IN-SITU' COMPACTION TO PREVENT EROSION BUT TO ACHIEVE THE REQUIRED GRADES AS SPECIFIED ON THE DESIGN DRAWINGS. |
| 21 | SURFACE RUNOFF AND SCOUR MUST BE CONTROLLED AND THE SURFACE BETWEEN LAYERS GRADED WITH A 1% MINIMUM FREE DRAINING SLOPE. |
| 22 | DURING CLEARING AND EXCAVATION FOR SLABS AND FOOTINGS CUT OUT SOFT SPOTS AND FILL AS ABOVE AND AS DIRECTED BY THE GTA. |

INSPECTIONS AND TESTING


- 1 THE CONTRACTOR SHALL ENSURE THAT LEVEL 1 INSPECTION AND TESTING AS DEFINED IN
AS 3798-2007 IS CARRIED OUT FOR ANY FILLING OPERATIONS. THIS INCLUDES
ENGAGEMENT OF AN APPROPRIATELY QUALIFIED GEOTECHNICAL TESTING AUTHORITY.
- 2 LEVEL 2 INSPECTION AND TESTING REQUIREMENTS ARE TO BE IMPLEMENTED FOR ALL
OTHER EARTHWORKS OPERATIONS FORMING PART OF THE CONTRACT.

TREES

- 1 ALL TREE PROTECTION REQUIREMENTS AS OUTLINED IN THE APPROVED PROJECT
BIODIVERSITY AND CONSERVATION MANAGEMENT PLAN (BCMP) ARE TO BE COMPLIED WITH.
- 2 A TREE RETENTION PLAN AS REQUIRED BY THE BCMP IS TO BE KEPT ON SITE INDICATING TREES TO
BE RETAINED AND AREAS LEFT UNDISTURBED THAT ARE TO BE CORDONED OFF FROM
CONSTRUCTION WORKS.
- 3 PRIOR TO WORK COMMENCING, TREE PROTECTION FENCING MUST BE ERECTED AROUND THE
TREES THAT ARE TO BE RETAINED AT A 3M SETBACK. THE TREE FENCING MUST BE
CONSTRUCTED OF 1.8 METRE CYCLONE CHAINMESH FENCE. THE TREE PROTECTION FENCING
MUST BE MAINTAINED IN GOOD WORKING ORDER UNTIL THE COMPLETION OF ALL BUILDING
OR DEVELOPMENT WORKS. A STATEMENT OF COMPLIANCE FROM A QUALIFIED TREE
SURGEON OR ENVIRONMENTAL CONSULTANT SHALL BE SUBMITTED TO COUNCIL PRIOR TO
THE ISSUE OF THE CONSTRUCTION CERTIFICATE. PENALTIES APPLY FOR NON-COMPLIANCE.
- 4 TO PREVENT DAMAGE TO TREE ROOTS, EXCAVATION (FOR SERVICES AND OTHER WORKS),
CHANGE OF SOIL LEVEL (CUT OR FILL), PARKING (VEHICLES OR PLANT), OR PLACEMENT OF
BUILDING MATERIALS (INCLUDING DISPOSAL OF CEMENT SLURRY AND WASTE WATER)
WITHIN THE SPECIFIED TREE PROTECTION SETBACKS, AND WITHIN 3M OF ALL OTHER TREES
TO BE RETAINED ONSITE, IS STRICTLY FORBIDDEN. NO TREE ROOTS LOCATED WITHIN THE
SPECIFIED TREE SETBACK/S, SHALL BE SEVERED OR INJURED IN THE PROCESS OF ANY
SITE WORKS DURING THE CONSTRUCTION OR LANDSCAPING PHASES OF THE APPROVED
PROJECT. THE APPLICANT SHALL ENSURE THAT ALL UNDERGROUND SERVICES (I.E. WATER,
DRAINAGE, GAS, AND SEWER) SHALL NOT BE LAID WITHIN 3M OF ANY TREE LOCATED ON
THE PROPERTY PROTECTED UNDER COUNCIL'S TREE PRESERVATION ORDER OR LISTED FOR
PROTECTION IN THE APPROVED PROJECT BCMP.

SEDIMENT AND EROSION CONTROL PLAN

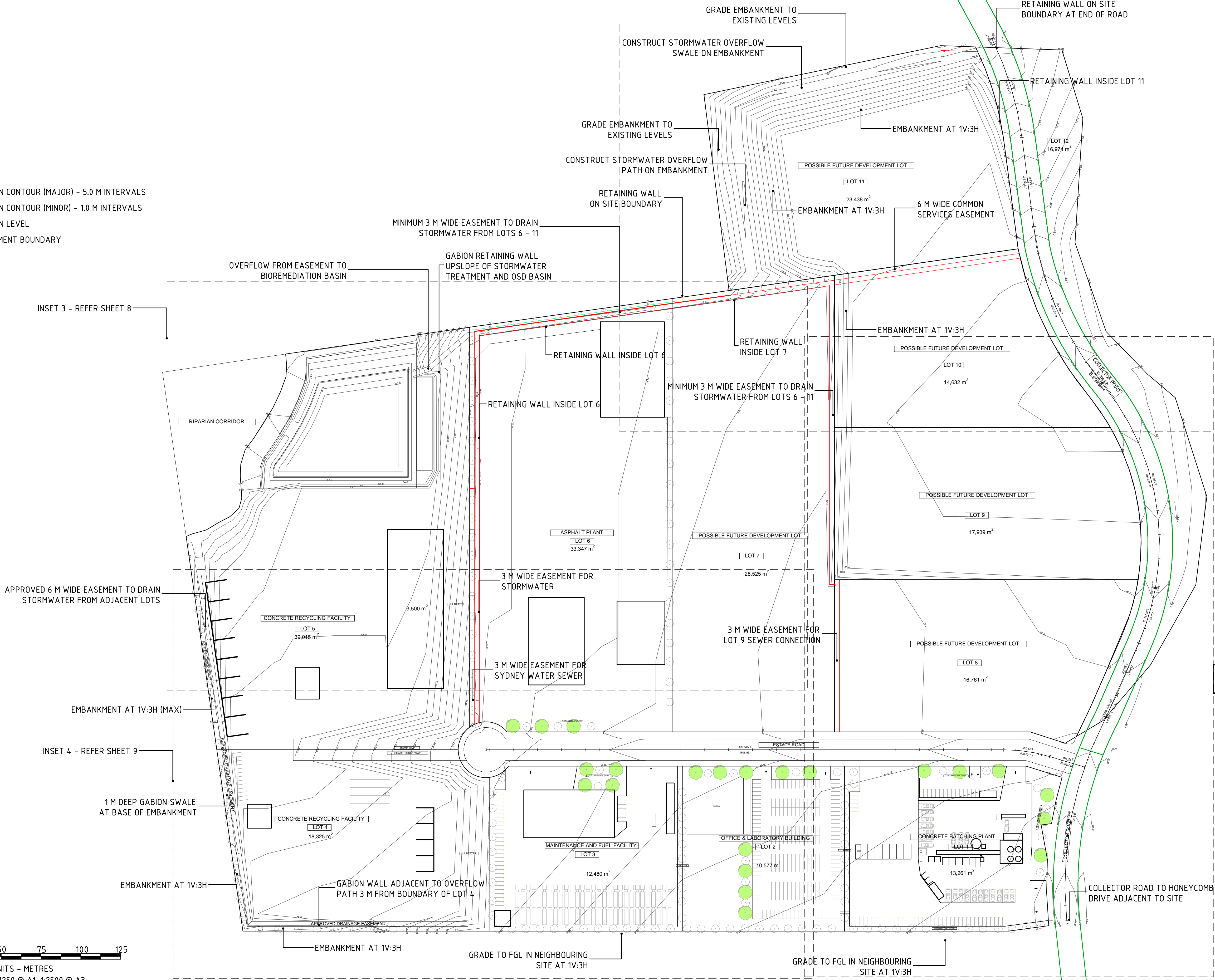
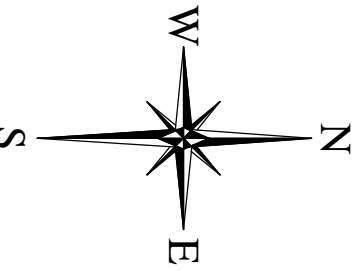
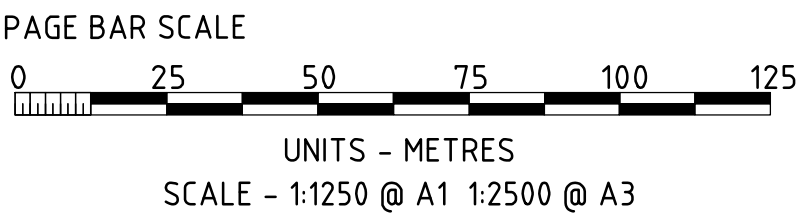
- 1 A SEDIMENT AND EROSION CONTROL PLAN (SECP) FOR ALL SITE WORKS IS TO BE
SUBMITTED FOR APPROVAL. MEASURES FOR SEDIMENT AND EROSION CONTROL NOTED IN
THE APPROVED SECP ARE TO BE INSTALLED BY THE CONTRACTOR PRIOR TO
COMMENCEMENT OF ANY WORK TO ELIMINATE THE DISCHARGE OF SEDIMENT FROM THE
SITE. THE CONTROLS ARE TO BE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF
LANDCOM'S "MANAGING URBAN STORMWATER: SOILS AND CONSTRUCTION", VOLUME 1, 4TH
EDITION, MARCH 2004, (THE BLUE BOOK).

 MARTENS & ASSOCIATES PTY LTD Sustainable Solutions 6/37 Leighton Place Hornsby, NSW 2077 Australia Phone: (02) 9476 9399 Fax: (02) 9476 8767 Email: mail@martens.com.au Internet: http://www.martens.com.au	CLIENT/ PROJECT	TITLE	DESIGNED:	DATUM:	SHEET	REV.	DESCRIPTION	DATE	ISSUED
	HANSON / OLD WALLGROVE RD EASTERN CREEK	CONSTRUCTION NOTES - SHEET 2 OF 2	MGD	NA	3 OF 14 SHEETS	1	DRAFT PLAN SET	09.02.2012	ASN
			DRAWN:	HORIZONTAL RATIO:		2	BULK EARTHWORKS LEVELS REVISED	26.03.2012	ASN
			MGD	NA		3	RETAINING WALLS REMOVED	08.05.2012	ASN
THIS PLAN MUST NOT BE USED FOR CONSTRUCTION UNLESS SIGNED AS APPROVED BY PRINCIPAL CERTIFYING AUTHORITY <small>All measurements in mm unless otherwise specified.</small>	PROJECT MANAGER: ANDREW NORRIS	DRAWING NUMBER: P1002913.D003V03	REVIEWED: ASN	VERTICAL RATIO: NA	PAPER SIZE: A1 / A3				

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KEY

- DESIGN CONTOUR (MAJOR) - 5.0 M INTERVALS
- DESIGN CONTOUR (MINOR) - 1.0 M INTERVALS
- DESIGN LEVEL
- EASEMENT BOUNDARY



NOTES:

- BULK EARTHWORKS TO BE UNDERTAKEN IN ACCORDANCE WITH PROJECT GEOTECHNICAL REPORT (MA P1002913JR02V01, MARCH 2012), CONSTRUCTION NOTES AND AN APPROVED SITE SPECIFIC SEDIMENT AND EROSION CONTROL PLAN (SECP).
- LOCATIONS FOR STOCKPILING, SEDIMENT BASIN, EROSION CONTROL, STABILISED SITE ACCESS AND OTHER MEASURES TO BE IN ACCORDANCE WITH THE SECP.
- BULK EARTHWORKS DO NOT REFLECT TRENCHING FOR SERVICES, FOOTINGS, FOUNDATIONS OR STRUCTURES (E.G. SEWAGE PUMPING STATION, ROADS, ETC).
- BULK EARTHWORKS CONTOURS ARE FINAL DESIGN LEVELS. ADDITIONAL MATERIAL TO BE REMOVED FOR ROAD PAVEMENT CONSTRUCTION. REFER TO ROAD LEVELS (MA PLAN SET P1002913JD04 V01, MARCH 2012)

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CLIENT/PROJECT		TITLE		DESIGNED:	DATUM:	SHEET 4 OF 14 SHEETS	REV.	DESCRIPTION	DATE	ISSUED
HANSON / OLD WALLGROVE RD EASTERN CREEK		SITE LAYOUT AND BULK EARTHWORKS CONTOURS		MGD	M R.L.		1	DRAFT PLAN SET	09.02.2012	ASN
THIS PLAN MUST NOT BE USED FOR CONSTRUCTION UNLESS SIGNED AS APPROVED BY PRINCIPAL CERTIFYING AUTHORITY All measurements in mm unless otherwise specified.		PROJECT MANAGER: ANDREW NORRIS		DRAWN: MGD	HORIZONTAL RATIO: 1:1250 @ A1 1:2500 @ A3	VERTICAL RATIO: 1:1250 @ A1 1:2500 @ A3	2	BULK EARTHWORKS LEVELS REVISED	26.03.2012	ASN
							3	RETAINING WALLS REMOVED	08.05.2012	ASN
		DRAWING NUMBER: P1002913JD03V03		REVIEWED: ASN						

KEY

DESIGN CONTOUR (MAJOR) - 5.0 M INTERVALS
DESIGN CONTOUR (MINOR) - 1.0 M INTERVALS

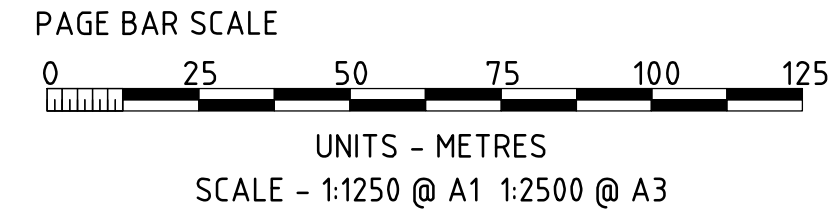
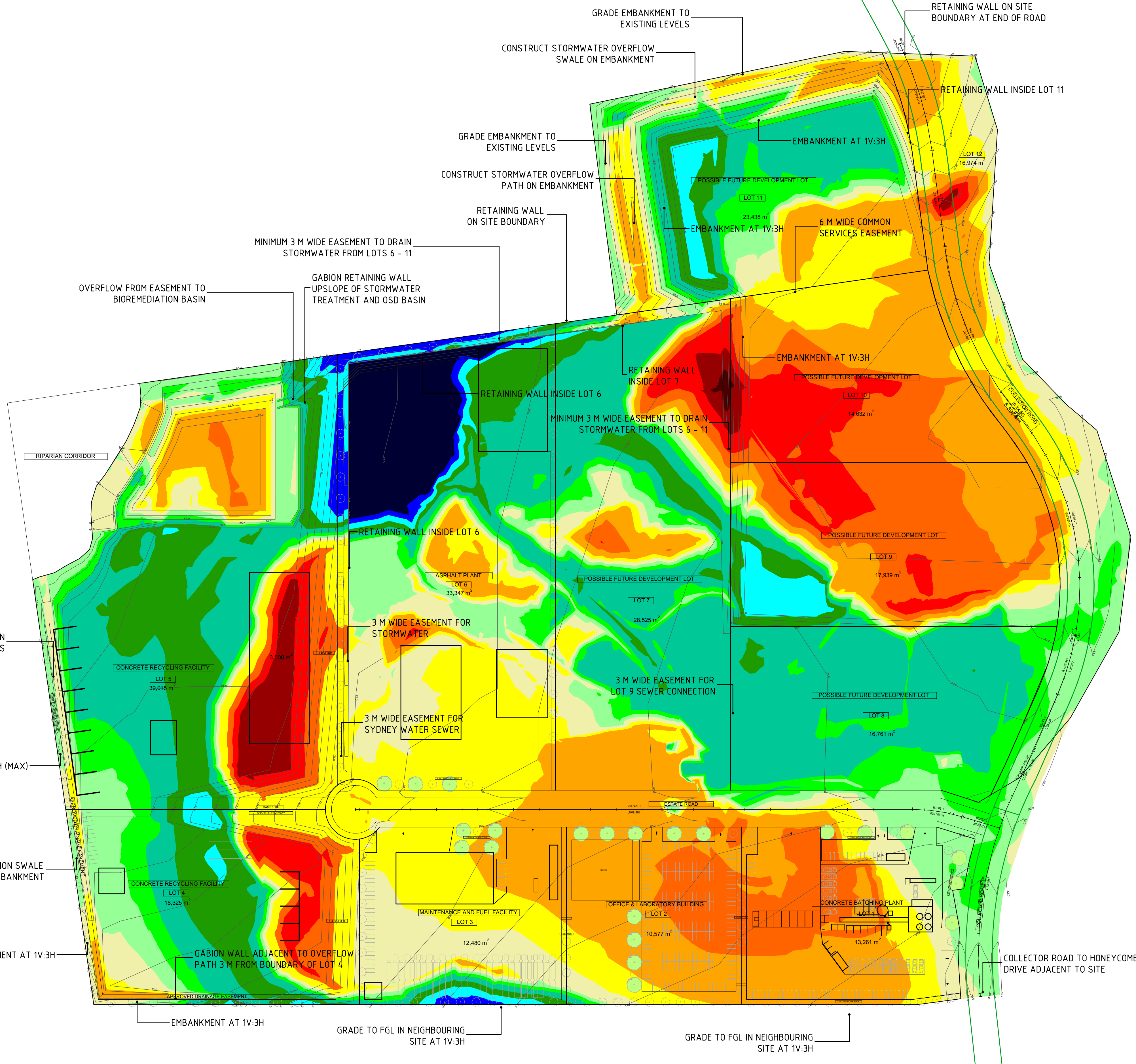
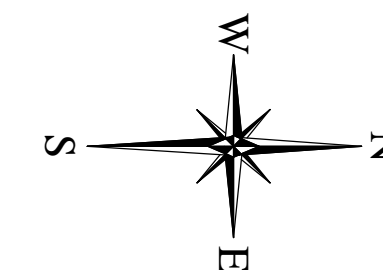
R.L. 61.00

DESIGN LEVEL

DEPTH (M)	CUT	FILL
0 TO 1		
1 TO 2		
2 TO 4		
4 TO 6		
6 TO 8		
8 TO 10		
> 10		

Cut and Fill Balance Summary

Lot	Total Cut (m³)	Total Fill (m³)	Balance (m³)
1	35151.1	613.2	-34538.0
2	33892.6	198.9	-33693.7
3	14368.7	6624.1	-7744.6
4	27137.7	30893.7	3756.0
5	62158.2	73315.8	11157.6
6	21683.7	114616.9	92933.1
7	33764.1	42851.8	9087.7
8	86.0	42444.1	42358.1
9	59721.9	17831.4	-41890.5
10	61393.2	0.0	-61393.2
11	15232.9	33721.2	18488.3
12	22496.1	3403.0	-19093.1
Road Reserve	13915.6	3182.1	-10733.5
Total Site Less Lot 11	385768.9	335974.8	-49794.1
Total Site	401001.8	369696.0	-31305.8

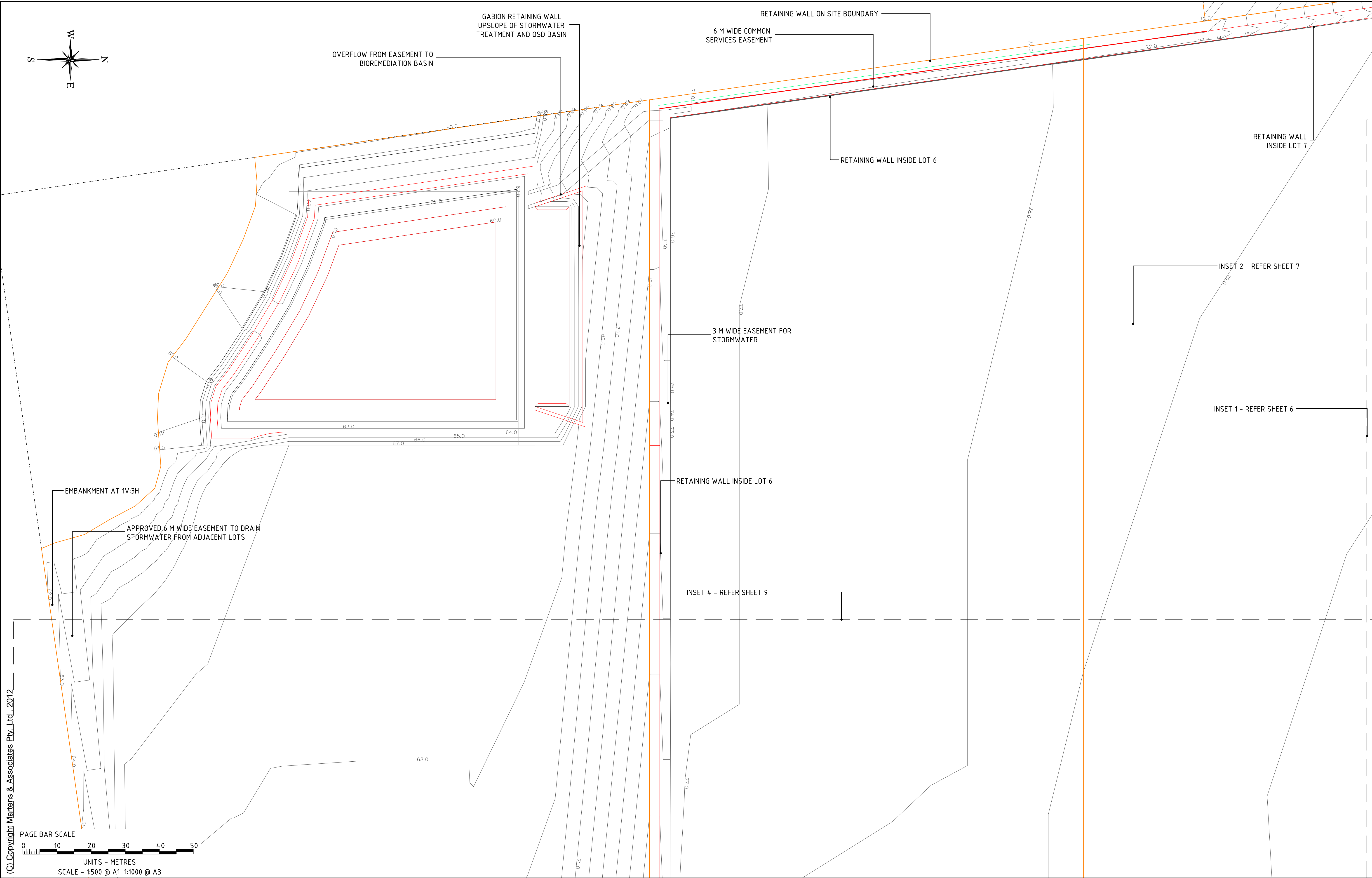


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CLIENT/PROJECT	HANSON / OLD WALLGROVE RD EASTERN CREEK	TITLE	DEPTH (CUT / FILL) CONTOURS	DESIGNED:	MGD	DATUM:	M R.L.	SHEET	5	REV.	DESCRIPTION	DATE	ISSUED
THIS PLAN MUST NOT BE USED FOR CONSTRUCTION UNLESS SIGNED AS APPROVED BY PRINCIPAL CERTIFYING AUTHORITY All measurements in mm unless otherwise specified.	PROJECT MANAGER: ANDREW NORRIS	DRAWING NUMBER: P1002913.D03V03	REVIEWED:	ASN	DRAWN:	MGD	HORIZONTAL RATIO: 1:1250 @ A1 1:2500 @ A3	VERTICAL RATIO: 1:1250 @ A1 1:2500 @ A3	OF 14 SHEETS PAPER SIZE: A1 / A3	1	DRAFT PLAN SET	09.02.2012	ASN
										2	BULK EARTHWORKS LEVELS REVISED	26.03.2012	ASN
										3	RETAINING WALLS REMOVED	08.05.2012	ASN



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CLIENT/ PROJECT
HANSON / OLD WALLGROVE
RD EASTERN CREEK

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All measurements in mm unless otherwise specified.

TITLE
BULK EARTHWORKS CONTOURS - INSET 3 OF 4

PROJECT MANAGER:
ANDREW NORRIS

DRAWING NUMBER:
P1002913JD03V03

DESIGNED:
MGD

DRAWN:
MGD

REVIEWED:
ASN

DATUM:
MAHD

HORIZONTAL RATIO:
1:500 @ A1
1:1000 @ A3

VERTICAL RATIO:
1:500 @ A1
1:1000 @ A3

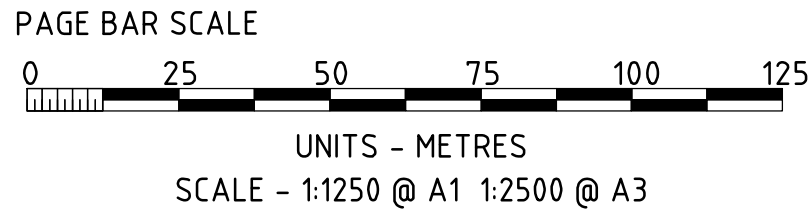
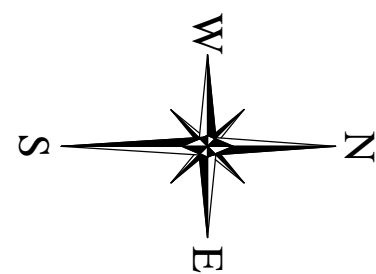
SHEET
8
OF 14
SHEETS

PAPER SIZE:
A1 / A3

REV.	DESCRIPTION	DATE	ISSUED
1	DRAFT PLAN SET	09.02.2012	ASN
2	BULK EARTHWORKS LEVELS REVISED	26.03.2012	ASN
3	RETAINING WALLS REMOVED	08.05.2012	ASN

KEY

- DESIGN CONTOUR (MAJOR) - 5.0 M INTERVALS
- DESIGN CONTOUR (MINOR) - 1.0 M INTERVALS
- 76.71 TOP OF RETAINING WALL
- 71.07 BOTTOM OF RETAINING WALL



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CLIENT/PROJECT
HANSON / OLD WALLGROVE RD EASTERN CREEK

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All measurements in mm unless otherwise specified.

TITLE
RETAINING WALL LAYOUT PLAN

PROJECT MANAGER:
ANDREW NORRIS

DRAWING NUMBER:
P1002913JD03V03

DESIGNED:
MGD
DRAWN:
MGD
REVIEWED:
ASN

DATUM:
M R.L.
HORIZONTAL RATIO:
1:1250 @ A1
1:2500 @ A3
VERTICAL RATIO:
1:1250 @ A1
1:2500 @ A3

SHEET
10
OF 14
SHEETS
PAPER SIZE:
A1 / A3

REV.	DESCRIPTION	DATE	ISSUED
1	DRAFT PLAN SET	09.02.2012	ASN
2	BULK EARTHWORKS LEVELS REVISED	26.03.2012	ASN
3	RETAINING WALLS REMOVED	08.05.2012	ASN

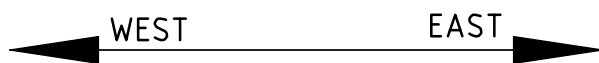
NOTE:

1. SOIL TYPE 'S2', IRRESPECTIVE OF THE TABLE ABOVE HAS A COMPACTION REQUIREMENT OF 98%. REFER TO MARTENS GEOTECHNICAL REPORT REF: P1002913J02V01. THE ABOVE TABLE PROVIDES MINIMUM VALUES ONLY REQUIRED FOR RETAINING WALL PERFORMANCE.
2. WALL FOUNDATION MATERIAL TO BE CONFIRMED PRIOR TO CONSTRUCTION. WHERE MATERIAL DOES NOT MEET 'S3' PROPERTIES IN THE TABLE ABOVE, REMEDIATION OR REPLACEMENT OF MATERIAL DOWN TO ROCK OR TO 2m BELOW BASE OF WALL (WHICHEVER IS LESSER) IS TO BE UNDERTAKEN. ANY REQUIRED WORKS ARE TO PROVIDE MATERIALS WITH MINIMUM VALUES PROVIDED IN THE TABLE ABOVE AND IN ACCORDANCE WITH THE CONSTRUCTION NOTES.
3. MATERIAL TESTING AND ACCEPTANCE IS TO BE AS OUTLINED IN THE CONSTRUCTION NOTES.
4. COMPACTION REQUIREMENTS FOR FILL CLASS IN ABOVE TABLE TO BE IN ACCORDANCE WITH AS 4678. FOR COHESIONLESS SOILS, CLASS 1 CONTROLLED FILL TO BE COMPACTED TO AT LEAST 75% DENSITY INDEX. CLASS 2 CONTROLLED FILL TO BE COMPACTED TO AT LEAST 65% DENSITY INDEX.
5. ALL RETAINING WALL EARTHWORKS TO BE UNDER LEVEL 1 FULL TIME SUPERVISION BY THE GITA.
6. ENGINEERED FILL IS TO BE PLACED IN LAYERS NOT GREATER THAN 300 MM (LOOSE) AND COMPACTED TO THE REQUIREMENTS ABOVE AND IN ACCORDANCE WITH THE CONSTRUCTION NOTES.
7. ANY HORIZONTAL LOADINGS ONTO REINFORCED EARTH WALL OR CONCRETE FACADE (I.E. VEHICLE BARRIERS OR OTHER) ARE TO BE ASSESSED BY RE WALL ENGINEER.
8. THE DESIGN OF SERVICES AND UTILITIES LOCATED WITHIN THE REINFORCED EARTH WALL TO BE DESIGNED FOR DEFLECTIONS FROM LATERAL WALL MOVEMENT.
9. UNFACTORED WALL DESIGN LOADINGS ARE AS FOLLOWS:

PERMANENT ACTION (DEAD LOADS):

- × SURCHARGE ONTO BOTTOM WALL FROM WALL ABOVE = 114kPa
- × FUTURE BUILDING STRIP FOOTING ALLOWANCE - 1m FOOTING WIDTH STARTING 9m FROM TOP WALL = 100kPa

NATURAL SURFACE

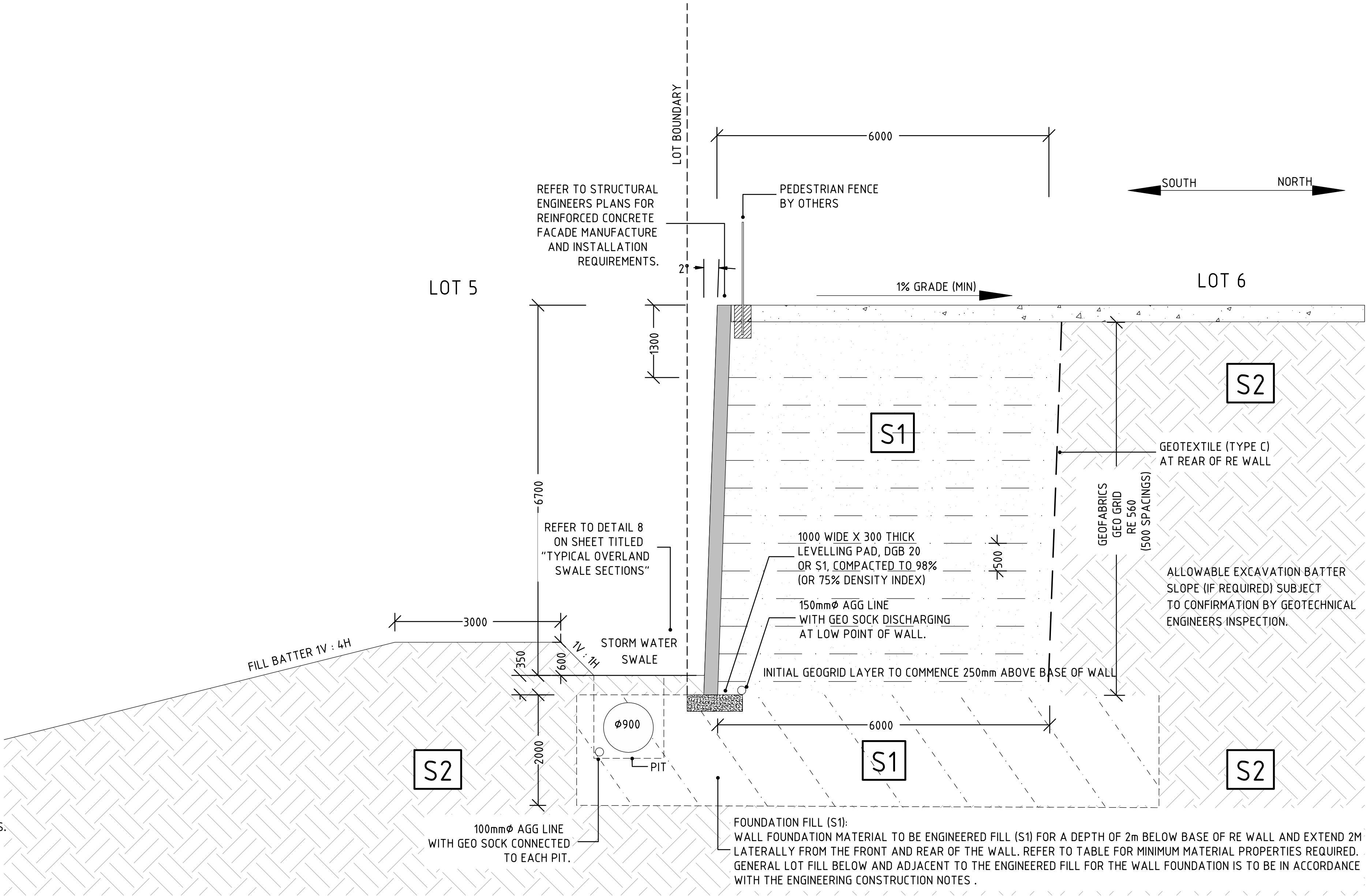


MATERIAL PROPERTIES (MINIMUM)					
SOIL TYPE	EFFECTIVE FRICTION ANGLE ϕ' (Deg)	BULK DENSITY γ (kN/m ³)	EFFECTIVE COHESION c' (kN/m ²)	FILL CLASS (AS 4678:2002)	COMPACTION
S1	34	19	0	CONTROLLED FILL CLASS 1	98%
S2	23	19	0	CONTROLLED FILL CLASS 2	95%
S3	26	18	0	INSITU MATERIAL	95%

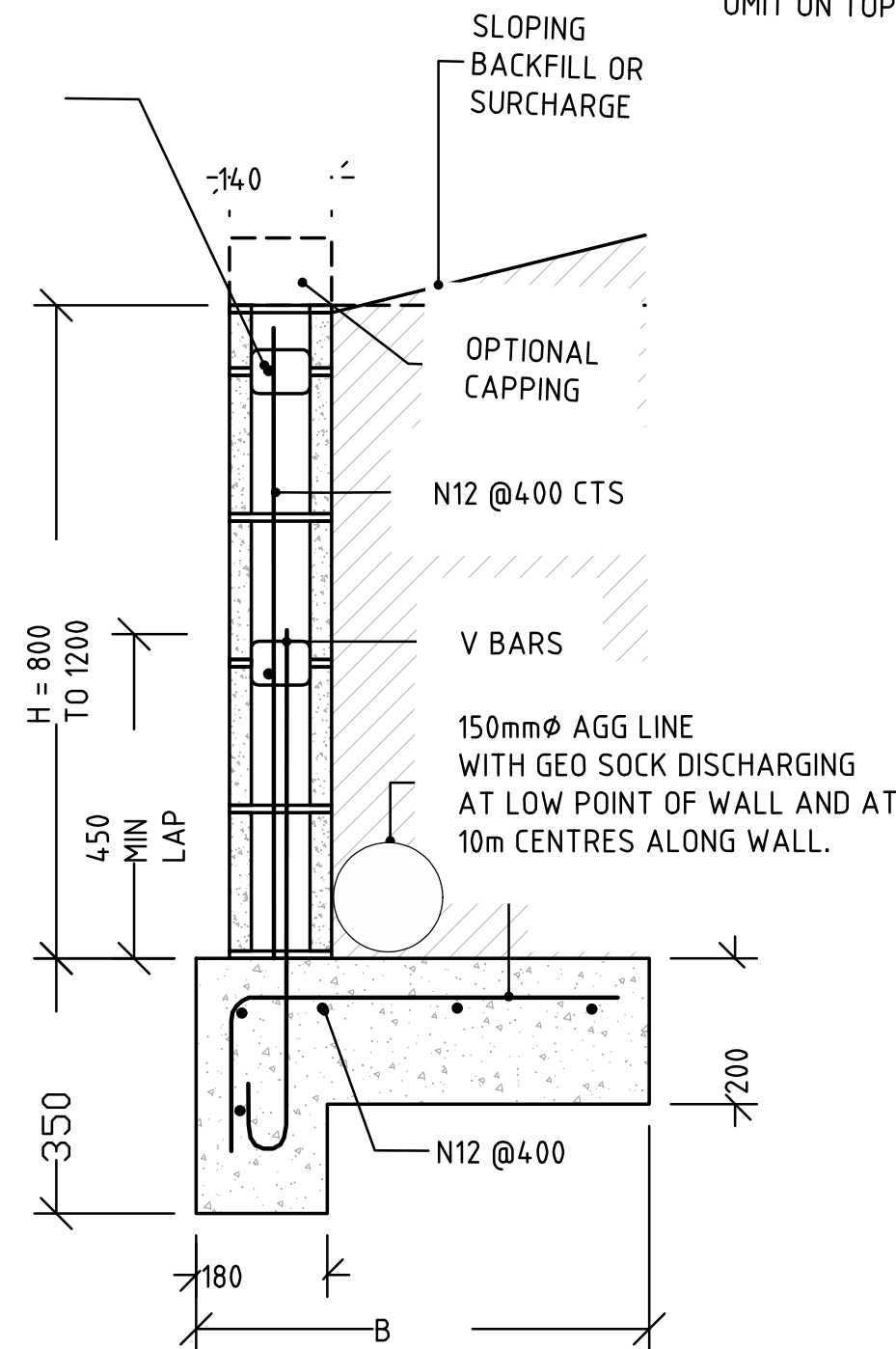
NOTE:

- SOIL TYPE 'S2', IRRESPECTIVE OF THE TABLE ABOVE HAS A COMPACTION REQUIREMENT OF 98%. REFER TO MARTENS GEOTECHNICAL REPORT REF: P1002913JR02V01. THE ABOVE TABLE PROVIDES MINIMUM VALUES ONLY REQUIRED FOR RETAINING WALL PERFORMANCE.
- MATERIAL TESTING AND ACCEPTANCE IS TO BE AS OUTLINED IN THE CONSTRUCTION NOTES.
- COMPACTION REQUIREMENTS FOR FILL CLASS IN ABOVE TABLE TO BE IN ACCORDANCE WITH AS 4678. FOR COHESIONLESS SOILS, CLASS 1 CONTROLLED FILL TO BE COMPACTED TO AT LEAST 75% DENSITY INDEX. CLASS 2 CONTROLLED FILL TO BE COMPACTED TO AT LEAST 65% DENSITY INDEX.
- ALL RETAINING WALL EARTHWORKS TO BE UNDER LEVEL 1 FULL TIME SUPERVISION BY THE GITA.
- ENGINEERED FILL IS TO BE PLACED IN LAYERS NOT GREATER THAN 300 MM (LOOSE) AND COMPACTED TO THE REQUIREMENTS ABOVE AND IN ACORDANCE WITH THE CONSTRUCTION NOTES.
- ANY HORIZONTAL LOADINGS ONTO REINFORCED EARTH WALL OR CONCRETE FACADE (I.E. VEHICLE BARRIERS OR OTHER) ARE TO BE ASSESSED BY RE WALL ENGINEER.
- THE DESIGN OF SERVICES AND UTILITIES LOCATED WITHIN THE REINFORCED EARTH WALL TO BE DESIGNED FOR DEFLECTIONS FROM LATERAL WALL MOVEMENT.
- UNFACTORED WALL DESIGN LOADINGS ARE AS FOLLOWS:

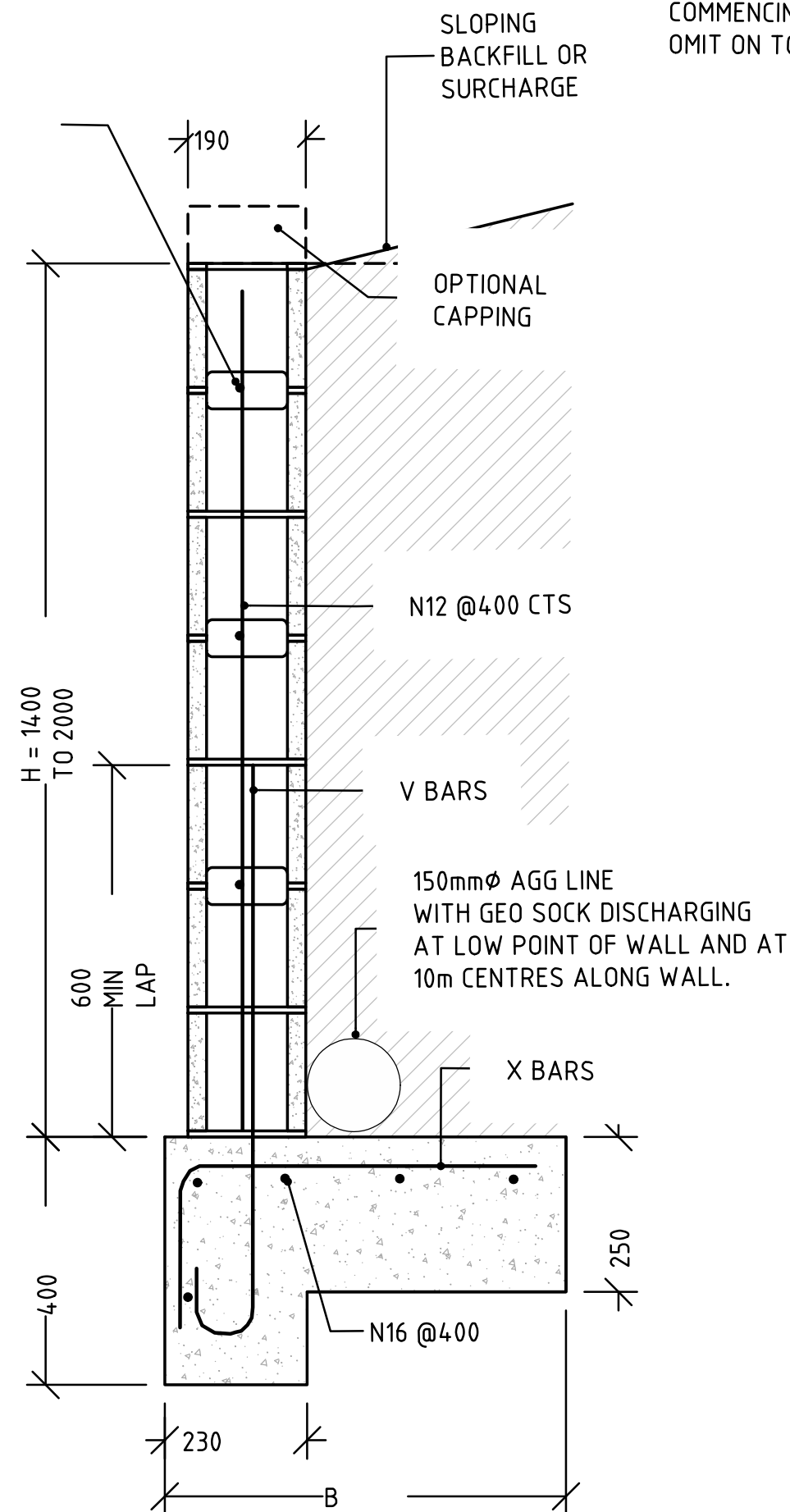
IMPOSED ACTION (LIVE LOADS):
 - IN FRONT OF WALL = 10kPa
 - BEHIND TOP WALL (FROM TOP OF WALL EXTENDING OUT) = 10kPa
 - RTA HEAVY VEHICLE LOAD (1m FROM TOP OF WALL EXTENDING TO 4.2m - ONE LANE) = 44kPa
PERMANENT ACTION (DEAD LOADS):
 - FUTURE BUILDING STRIP FOOTING ALLOWANCE - 1m FOOTING WIDTH STARTING 9m FROM TOP WALL = 100kPa
ANY HIGHER LOADINGS (OR ADDITIONAL LOADINGS) PROPOSED FOR THE WALL SYSTEM NEED TO BE ASSESSED AND CERTIFIED BY THE DESIGN ENGINEER PRIOR TO APPLYING LOADS.
- NO GLOBAL STABILITY CHECKS HAVE BEEN UNDERTAKEN TO IDENTIFY POSSIBLE GLOBAL FAILURE SURFACES WITH THE CORRESPONDING FACTORS OF SAFETY RESULTING FROM WALL SURCHARGES ONTO THE 1V:4H FILL BATTER. THIS ANALYSIS IS OUTSIDE THE SCOPE OF THESE DESIGNS, HOWEVER IS RECOMMENDED TO ENSURE THE LONG TERM SLOPE STABILITY IN FRONT OF THE LOT 6 RETAINING WALL.
- THE USE OF REINFORCED MASONRY WALLS CAN BE USED IN LIEU OF REINFORCED EARTH WALLS WHERE WALL HEIGHT IS 2m OR LESS.



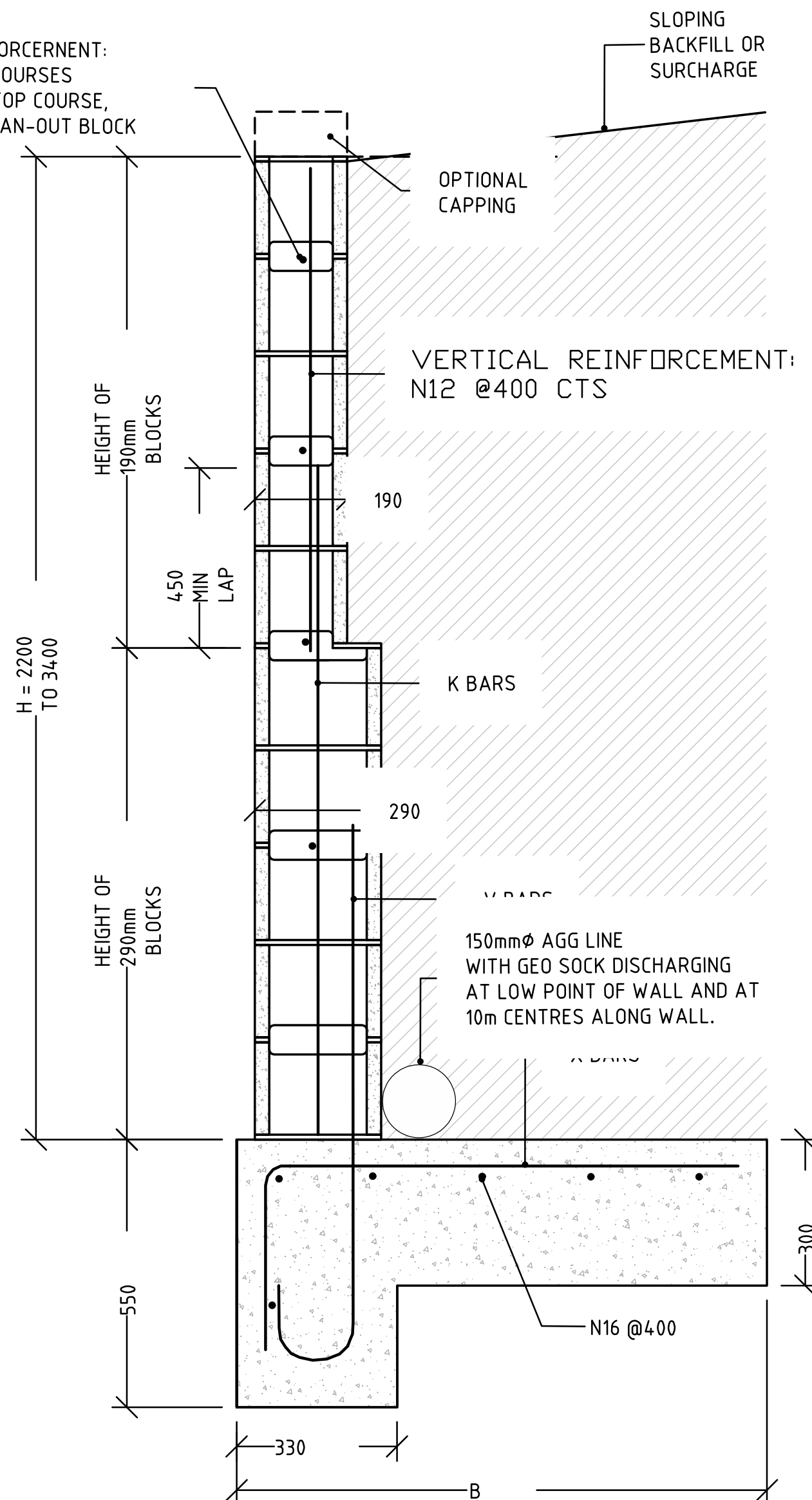
LONGITUDINAL REINFORCERNENT:
N12 IN ALTERNATE COURSES
COMMENCING FROM TOP COURSE,
OMIT ON TOP OF CLEAN-OUT BLOCK



LONGITUDINAL REINFORCERNENT:
N12 IN ALTERNATE COURSES
COMMENCING FROM TOP COURSE,
OMIT ON TOP OF CLEAN-OUT BLOCK

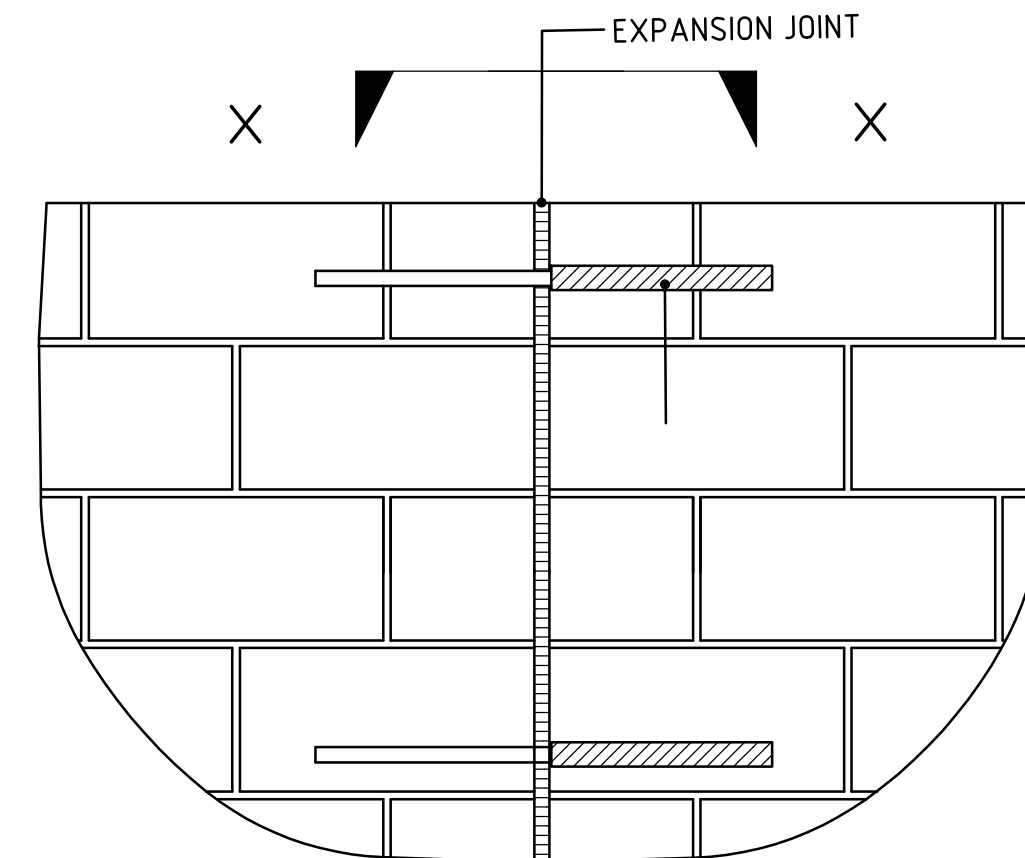


LONGITUDINAL REINFORCERNENT:
N12 IN ALTERNATE COURSES
COMMENCING FROM TOP COURSE,
OMIT ON TOP OF CLEAN-OUT BLOCK



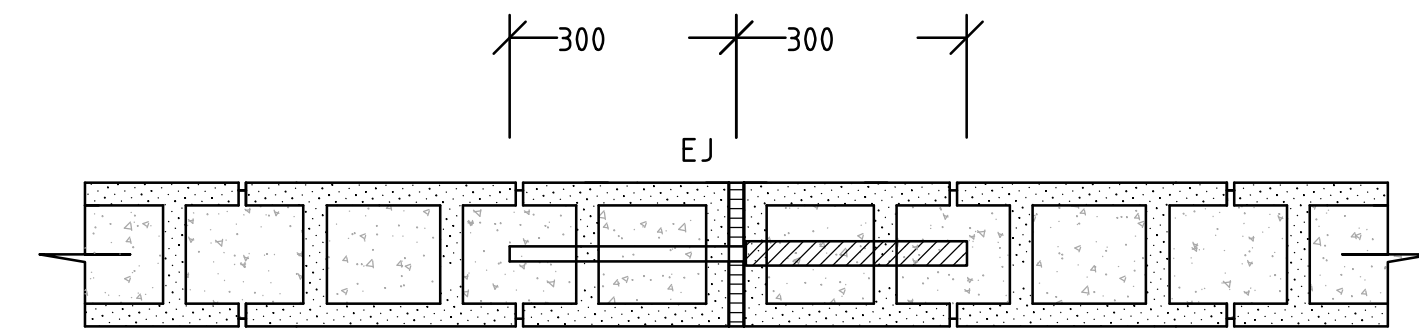
SLOPING
BACKFILL OR
SURCHARGE

VERTICAL REINFORCEMENT:
N12 @400 CTS



LOCATE JOINTS AT 8 m MAXIMUM CENTRES
OR IN ACCORDANCE WITH AS 3700

ELEVATION

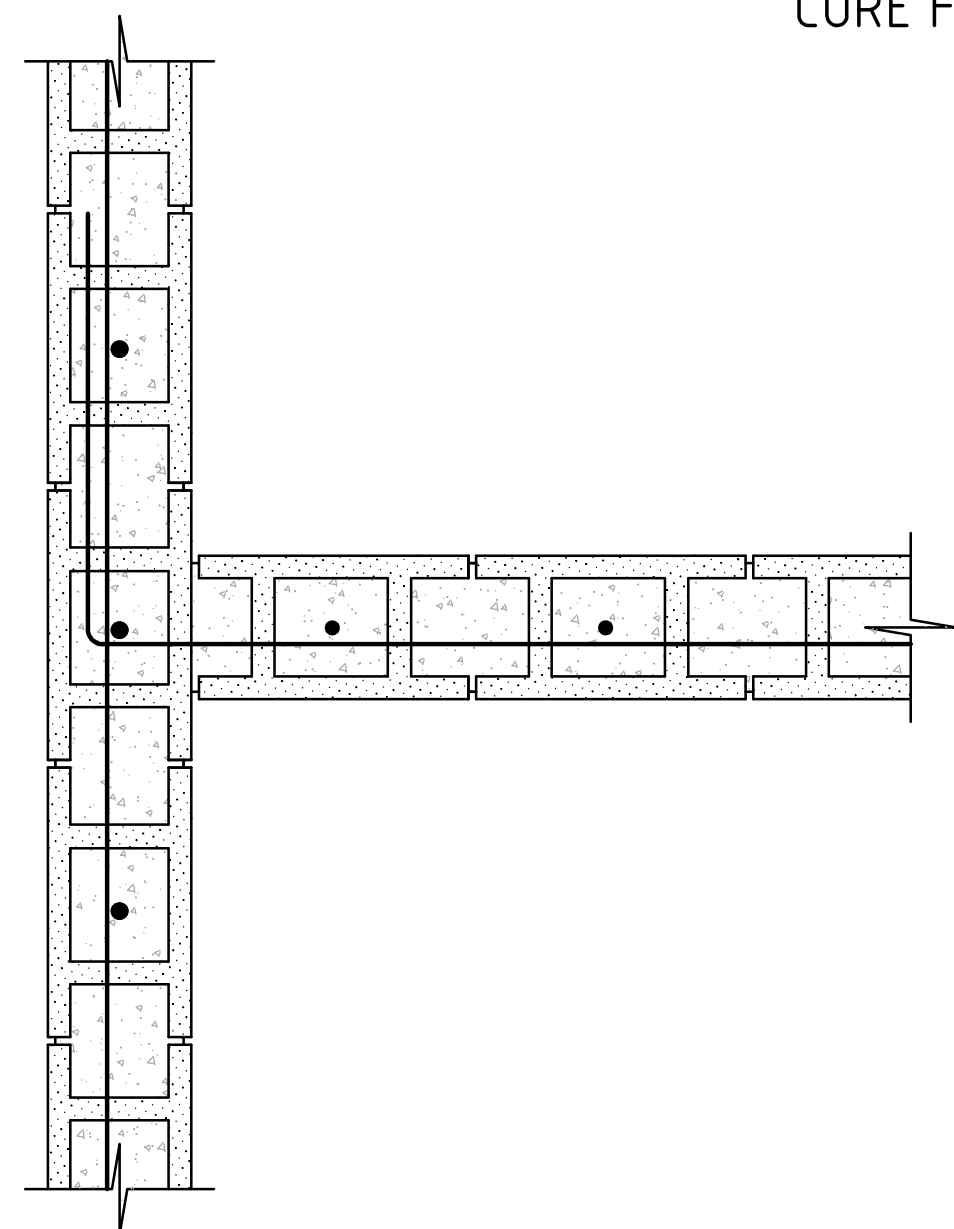


TYPICAL EXPANSION
JOINT DETAILS
NOT TO SCALE

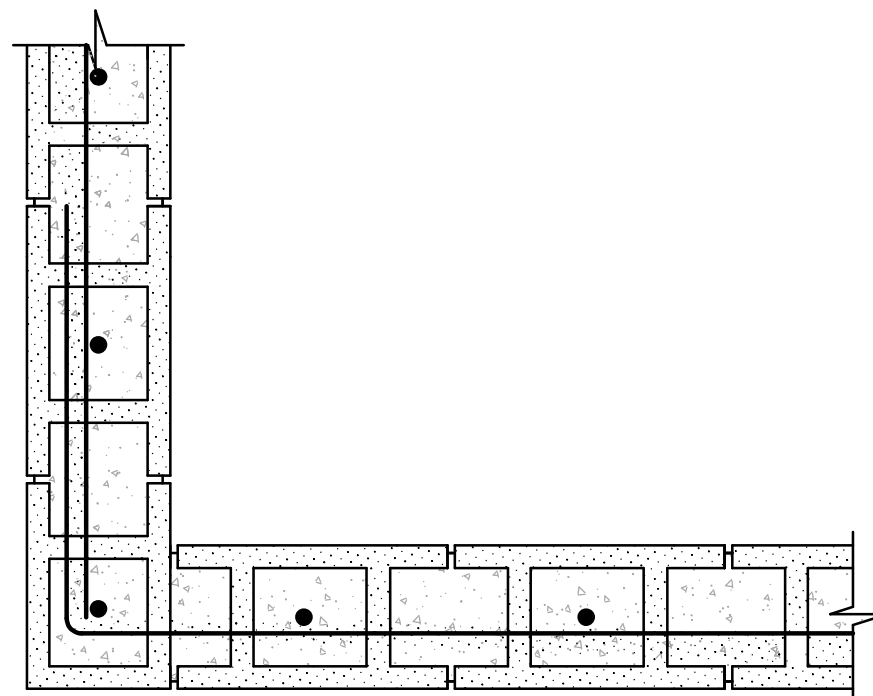
R20 DOWELS AT 400-
600 mm LONG, GREASE
AND TAPE ONE END.
SAW CUT ENDS
DO NOT SHEAR
(DOWELS TO BE HOT
DIP GALVANIZED)

FIG B9 - CONSTRUCTION GUIDELINES FOR REINFORCED &
CORE FILLED RETAINING WALLS WITH BASE TYPE 1

NOT TO SCALE



TYPICAL 'T' INTERSECTION
NOT TO SCALE



TYPICAL CORNER DETAIL
NOT TO SCALE

REINFORCED & CORE FILLED RETAINING WALLS WITH BASE TYPE 1									
WALL HEIGHT				REINFORCEMENT		BASE DIMENSIONS			
Total Height (mm) H	Height of Blockwork			X-Bars and V-Bars	K-Bars	Width, B (mm) with the following backfill conditions			
	150 Series	200 Series	300 Series			Level		Max 1 in 4 Slope	
800	800	-	-	N12 @ 400	-	800		1000	
1000	1000	-	-	N12 @ 400	-	1000		1200	
1200	1200	-	-	N12 @ 400	-	1100		1500	
1400	-	1400	-	N12 @ 400	-	1300		1700	
1600	-	1600	-	N16 @ 400	-	1400		2000	
1800	-	1800	-	N16 @ 400	-	1600		2200	
2000	-	2000	-	N16 @ 400	-	1700		2500	

NOTES:

1. WALL DESIGN IS BASED ON THE BACKFILL BEING LEVEL AND WITH A MAXIMUM IMPOSED (LIVE) LOADING OF 5kPa BEHIND THE WALL.
2. ANY HIGHER LOADINGS (OR ADDITIONAL LOADINGS) PROPOSED FOR THE WALL SYSTEM NEED TO BE ASSESSED AND CERTIFIED BY THE DESIGN ENGINEER PRIOR TO APPLYING LOADS. HIGHER LOADINGS ARE LIKELY TO RESULT IN THE WALL BEING RE-DESIGNED.
3. WALL FOUNDATION MATERIAL TO BE ENGINEERED FILL (S1) FOR A DEPTH OF 1m BELOW BASE OF WALL AND EXTEND 1m LATERALLY FROM THE FRONT AND REAR OF THE WALL. REFER TO TABLE (SEE TYPICAL REINFORCED EARTH WALL DETAILS) FOR MINIMUM MATERIAL PROPERTIES REQUIRED.
4. 20mm CLEAN DRAINAGE AGGREGATE FREE OF FINES TO BE PLACED BEHIND WALLS FOR ENTIRE HEIGHT OF WALL 300mm (MIN) THICKNESS AND WRAPPED WITH GEOTEXTILE (TYPE C), NOT SHOWN ON WALL DETAILS.
5. THE USE OF REINFORCED MASONRY WALLS CAN BE USED IN LIEU OF REINFORCED EARTH WALLS WHERE WALL HEIGHT IS 2m OR LESS.

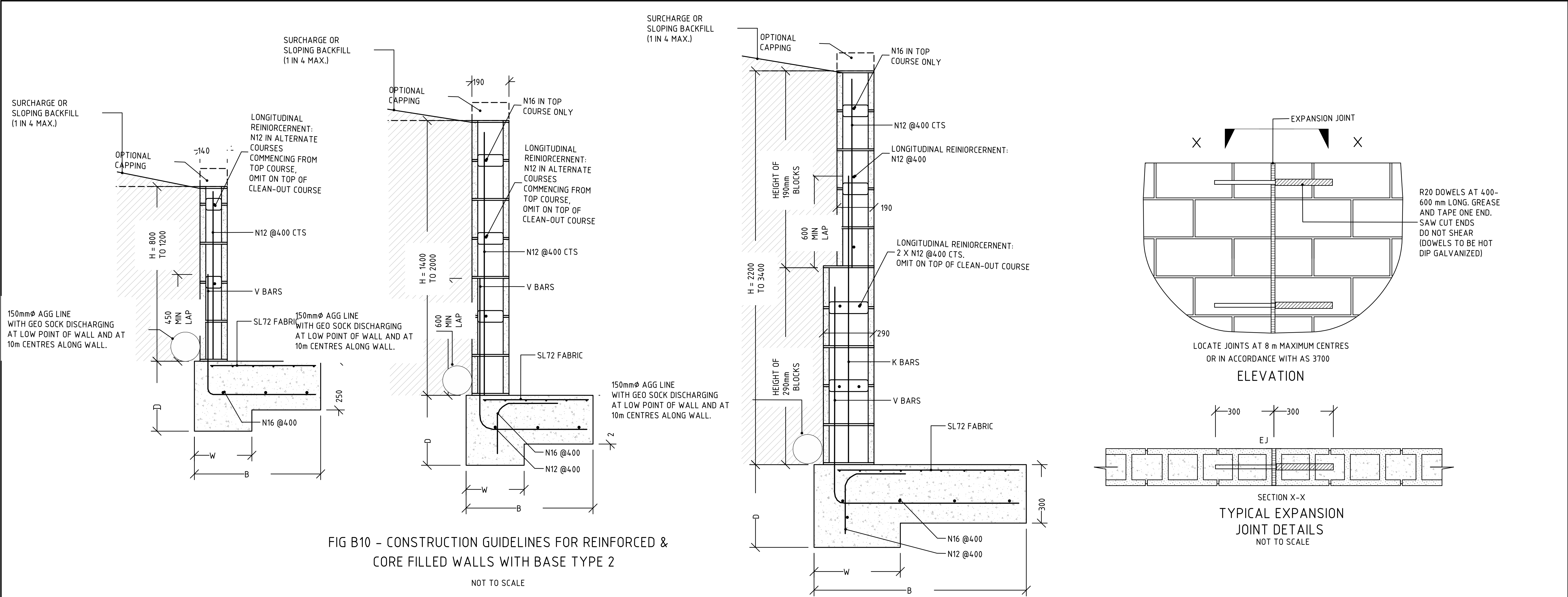
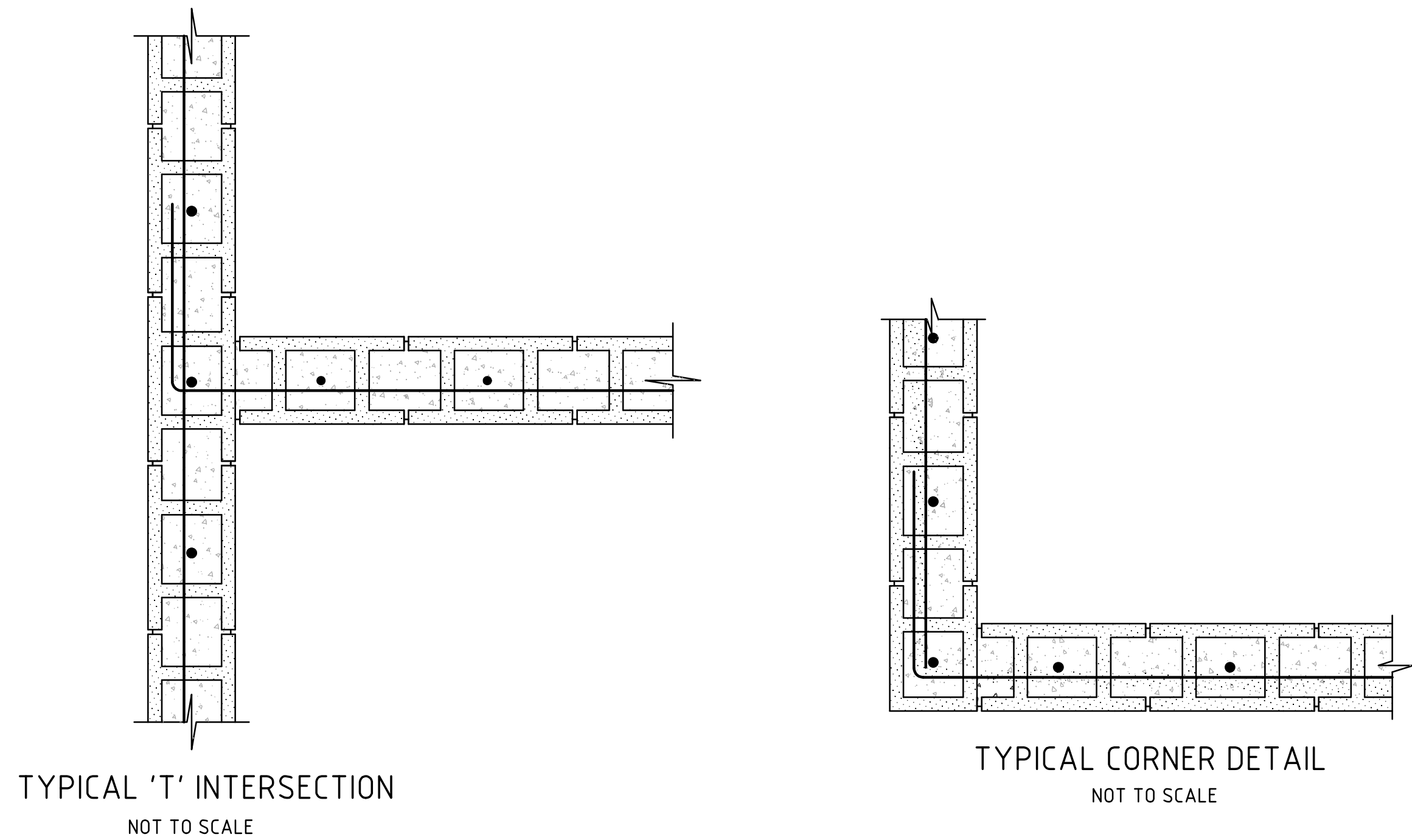
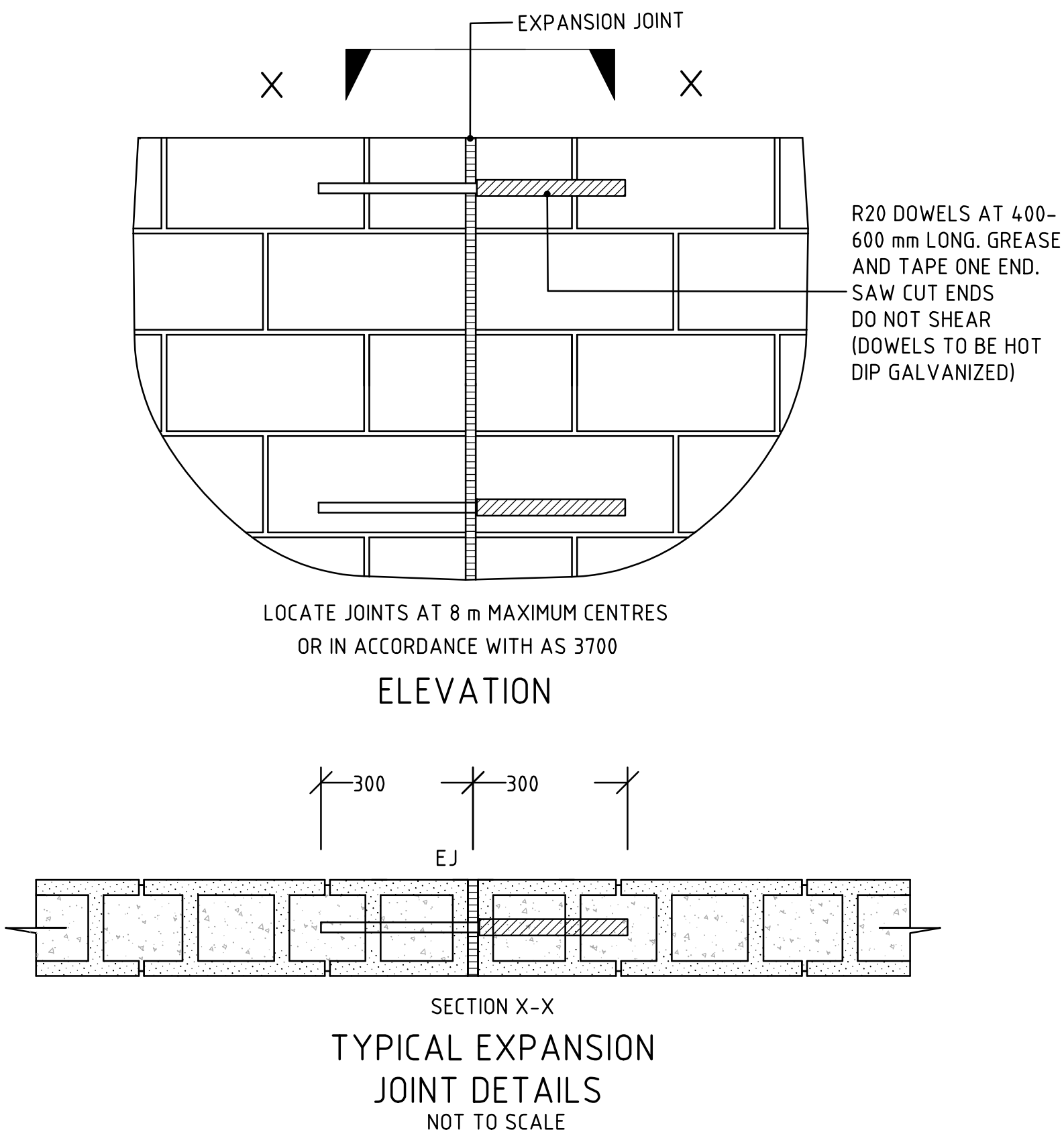


FIG B10 - CONSTRUCTION GUIDELINES FOR REINFORCED & CORE FILLED WALLS WITH BASE TYPE 2

NOT TO SCALE



REINFORCED & CORE FILLED RETAINING WALLS WITH BASE TYPE 2												
WALL HEIGHT					REINFORCEMENT			BASE DIMENSIONS				
Total Height (mm) H	Height of Blockwork				X-Bars and V-Bars	K-Bars		Heel Width (mm) W	Level Backfill		Max. 1 in 4 Sloping backfill	
	150 Series	200 Series	300 Series						Base Width (mm) B	Heel Depth (mm) D	Base Width (mm) B	Heel Depth (mm) D
800	800	-	-	N12 @ 400	-	450	600	500	800	500		
1000	1000	-	-	N12 @ 400	-	450	800	500	1000	500		
1200	1200	-	-	N12 @ 400	-	450	1000	500	1200	600		
1400	-	1400	-	N12 @ 400	-	450	1200	500	1400	600		
1600	-	1600	-	N16 @ 400	-	450	1400	600	1600	700		
1800	-	1800	-	N16 @ 400	-	450	1600	700	1800	800		
2000	-	2000	-	N16 @ 400	-	600	1800	700	2000	800		

NOTES:

1. WALL DESIGN IS BASED ON THE BACKFILL BEING LEVEL AND WITH A MAXIMUM IMPOSED (LIVE) LOADING OF 5kPa BEHIND THE WALL.
2. ANY HIGHER LOADINGS (OR ADDITIONAL LOADINGS) PROPOSED FOR THE WALL SYSTEM NEED TO BE ASSESSED AND CERTIFIED BY THE DESIGN ENGINEER PRIOR TO APPLYING LOADS. HIGHER LOADINGS ARE LIKELY TO RESULT IN THE WALL BEING RE-DESIGNED.
3. WALL FOUNDATION MATERIAL TO BE ENGINEERED FILL (S1) FOR A DEPTH OF 1m BELOW BASE OF WALL AND EXTEND 1M Laterally FROM THE FRONT AND REAR OF THE WALL. REFER TO TABLE (SEE TYPICAL REINFORCED EARTH WALL DETAILS) FOR MINIMUM MATERIAL PROPERTIES REQUIRED.
4. 20mm CLEAN DRAINAGE AGGREGATE FREE OF FINES TO BE PLACED BEHIND WALLS FOR ENTIRE HEIGHT OF WALL 300mm (MIN) THICKNESS AND WRAPPED WITH GEOTEXTILE (TYPE C), NOT SHOWN ON WALL DETAILS.
5. THE USE OF REINFORCED MASONRY WALLS CAN BE USED IN LIEU OF REINFORCED EARTH WALLS WHERE WALL HEIGHT IS 2m OR LESS.