

# SEKISUI HOUSE

# **49 BLACKBUTTS ROAD** FRENCHS FOREST **CIVIL ENGINEERING WORKS** DEVELOPMENT APPLICATION (DA 2024/0492)

## DRAWING SCHEDULE

DRAWING NUMBER 230057-00-DA-C01.01 230057-00-DA-C01.21 230057-00-DA-C01.22 230057-00-DA-C01.41 230057-00-DA-C03.01 230057-00-DA-C03.21 230057-00-DA-C04.01 230057-00-DA-C04.21 230057-00-DA-C05.01 230057-00-DA-C05.02 230057-00-DA-C06.01 230057-00-DA-C07.01 230057-00-DA-C11.01 230057-00-DA-C11.02 230057-00-DA-C13.01 230057-00-DA-C14.01 230057-00-DA-C15.01 230057-00-DA-C15.02 230057-00-DA-C17.01 230057-00-DA-C18.01 230057-00-DA-C20.01 230057-00-DA-C20.21 230057-00-DA-C22.01

DESCRIPTION COVER SHEET AND DRAWING SCHEDULE SPECIFICATION NOTES - SHEET 01 SPECIFICATION NOTES - SHEET 02 GENERAL ARRANGEMENT PLAN EROSION AND SEDIMENTATION CONTROL PLAN EROSION AND SEDIMENTATION CONTROL DETAILS EARTHWORKS CUT AND FILL PLAN EARTHWORKS CUT AND FILL SECTIONS SITEWORKS AND STORMWATER MANAGEMENT PLAN SHEET 01 SITEWORKS AND STORMWATER MANAGEMENT PLAN SHEET 02 ROAD TYPICAL CROSS SECTIONS ROAD LONGITUDINAL SECTION PAVEMENT, SIGNAGE AND LINEMARKING PLAN - SHEET 01 PAVEMENT, SIGNAGE AND LINEMARKING PLAN - SHEET 02 SITE SECTIONS SITEWORKS DETAILS RETAINING WALL ELEVATIONS - SHEET 01

RETAINING WALL ELEVATIONS - SHEET 02 OSD TANK PLAN AND SECTION STORMWATER DETAILS PRE-DEVELOPMENT CATCHMENT PLAN

POST-DEVELOPMENT CATCHMENT PLAN TURNING PATH PLAN



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### SURVEY

### ORIGIN OF SURVEY

RL:

51298 001DT

PROJECT: CARRIED OUT BY: LTS SSM/PM:

PERMANENT MARK 3392 164.23 AHD

DATE: 20/04/2021

- 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 SUPERINTENDENT.
- 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.

### GENERAL

- ALL WORKS TO BE CONSTRUCTED IN ACCORDANCE WITH NORTHERN BEACHES COUNCIL STANDARDS.
- NORTHERN BEACHES 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.

## CONSTRUCTION INSPECTIONS

THE CONTRACTOR IS TO NOTIFY THE ENGINEER OF THE FOLLOWING HOLD POINT INSPECTIONS (MIN 48 HOURS NOTICE)

- STORMWATER PIPE AND PIPE INSTALLATION PRIOR TO BACKFILL VEHICULAR CROSSING AND LAYBACK FORMWORK PRIOR TO CONCRETE
- POUR (COUNCIL VERGE WORKS)
- RAINWATER REUSE TANK FORMWORK PRIOR TO CONCRETE POUR BELOW GROUND FIRST FLUSH DEVICE PRIOR TO BACKFILL
- 5. FINAL INSPECTION ON COMPLETION OF CIVIL WORKS

### **EXISTING SERVICES**

- ALL UTILITY SERVICES INDICATED ON THE DRAWINGS ORIGINATE FROM SUPPLIED DATA, SURVEY INFORMATION AND SERVICE AUTHORITY INFORMATION. THE SERVICE INFORMATION HAS BEEN PREPARED ONLY TO SHOW THE PRESENCE AND APPROXIMATE POSITION OF ANY KNOWN SERVICES, 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, 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.
- 2. 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 AREAS AFFECTED BY WORKS UNLESS DIRECTED OTHERWISE ON THE DRAWINGS OR BY THE SUPERINTENDENT.
- 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 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 BEFORE YOU DIG AUSTRALIA SET ON-SITE DURING EXCAVATION WORKS.
- DRAWINGS HAVE BEEN PLOTTED FROM SURVEY INFORMATION AND SERVICE AUTHORITY INFORMATION. THE SERVICE INFORMATION H BEEN PREPARED ONLY TO SHOW THE APPROXIMATE POSITIONS ( KNOWN SERVICES AND MAY NOT BE AS CONSTRUCTED OR ACCUR ENSPIRE SOLUTIONS CAN NOT GUARANTEE THAT THE SERVICES INFORMATION SHOWN ON THESE DRAWINGS ACCURATELY INDICAT PRESENCE OR ABSENCE OF SERVICES OR THEIR LOCATION AND W ACCEPT NO LIABILITY FOR INACCURACIES IN THE SERVICES INFOR 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.

<u>SERVICES LEGEND</u>	
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SEWER	s
GAS	a

WATER



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ZW	LD		MKH	SEKISUI HUUSE
DRN.	DES.	VERIF.	APPD.	

							Client
3	31/03/2025	UPDATES ADDRESSING COUNCIL COMMENTS DA ISSUE	DK	AL		MKH	
2	15/01/2025	ISSUED FOR DEVELOPMENT APPLICATION	DK	AL		MKH	
1	7/03/2024	ISSUED FOR DEVELOPMENT APPLICATION	ZW	LD		MKH	
REV.	DATE	DESCRIPTION	DRN.	DES.	VERIF.	APPD.	

- SUPERINTENDENT. b. EPA REQUIREMENTS

- THOROUGH SEARCH OF ALL SERVICE AUTHORITIES SHOULD BE MADE TO DETERMINE THE POSSIBLE LOCATION OF ANY FURTHER UNDERGROUND
- (BYDA) SEARCH PRIOR TO ANY EXCAVATION AND MAINTAIN A CURRENT
- 12. THE LOCATIONS OF UNDERGROUND SERVICES SHOWN IN THIS SET OF

### **EROSION AND SEDIMENT CONTROL**

### **GENERAL INSTRUCTIONS**

. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE CONTROL OF EROSION AND SEDIMENTATION TO THE SATISFACTION OF COUNCIL, NSW OFFICE OF WATER, DEPARTMENT OF PLANNING, INDUSTRY AND ENVIRONMENT. THE EROSION AND SEDIMENTATION CONTROLS SHOWN ON THE DRAWINGS SHALL ONLY BE USED AS A GUIDE BY THE CONTRACTOR. AND SHALL REPRESENT THE MINIMUM REQUIREMENT ONLY.

2. THE CONTRACTOR SHALL ENSURE THAT ALL SOIL AND WATER MANAGEMENT WORKS ARE LOCATED TO SUIT CONSTRUCTION STAGING AND WORK PRACTICES OR AS OTHERWISE DIRECTED BY THE

ALL WORK SHALL BE GENERALLY CARRIED OUT IN ACCORDANCE WITH a. LOCAL AUTHORITY REQUIREMENTS

c. LANDCOM MANUAL "MANAGING URBAN STORMWATER, SOILS AND CONSTRUCTION", 4th EDITION, MARCH 2004.

3. MAINTAIN THE EROSION CONTROL DEVICES TO THE SATISFACTION OF THE SUPERINTENDENT AND THE LOCAL AUTHORITY.

4. WHEN STORMWATER PITS ARE CONSTRUCTED, PREVENT SITE RUNOFF ENTERING UNLESS SEDIMENT FENCES ARE ERECTED AROUND PITS.

5. CONTRACTOR IS TO ENSURE ALL EROSION & SEDIMENT CONTROL DEVICES ARE MAINTAINED IN GOOD WORKING ORDER AND OPERATE EFFECTIVELY. REPAIRS AND OR MAINTENANCE SHALL BE UNDERTAKEN AS REQUIRED, PARTICULARLY FOLLOWING STORM EVENTS.

### LAND DISTURBANCE

. WHERE PRACTICAL, THE SOIL EROSION HAZARD ON THE SITE WILL BE KEPT AS LOW AS POSSIBLE. TO THIS END, WORKS SHOULD BE UNDERTAKEN IN THE FOLLOWING SEQUENCE:

a. INSTALL A SEDIMENT FENCE ALONG THE BOUNDARIES AS SHOWN ON PLAN. REFER DETAIL. b. CONSTRUCT STABILISED CONSTRUCTION ENTRANCE TO LOCATION AS

DETERMINED BY SUPERINTENDENT/ENGINEER. REFER DETAIL. c. INSTALL SEDIMENT BASIN AS SHOWN ON PLAN. INSTALL SEDIMENT TRAPS AS SHOWN ON PLAN.

d. UNDERTAKEN SITE DEVELOPMENT WORKS IN ACCORDANCE WITH THE ENGINEERING PLANS. WHERE POSSIBLE, PHASE DEVELOPMENT SO THAT LAND DISTURBANCE IS CONFINED TO AREAS OF WORKABLE SIZE. **EROSION CONTROL** 

. DURING WINDY WEATHER, LARGE, UNPROTECTED AREAS WILL BE KEPT MOIST (NOT WET) BY SPRINKLING WITH WATER TO KEEP DUST UNDER

FINAL SITE LANDSCAPING WILL BE UNDERTAKEN AS SOON AS POSSIBLE AND WITHIN 20 WORKING DAYS FROM COMPLETION OF CONSTRUCTION ACTIVITIES.

### SEDIMENT CONTROL

CONTROL.

FENCING.

9. STOCKPILES WILL NOT BE LOCATED WITHIN 2 METRES OF HAZARD AREAS, INCLUDING LIKELY AREAS OF CONCENTRATED OR HIGH VELOCITY FLOWS SUCH AS WATERWAYS. WHERE THEY ARE BETWEEN 2 AND 5 METRES FROM SUCH AREAS, SPECIAL SEDIMENT CONTROL MEASURES SHOULD BE TAKEN TO MINIMISE POSSIBLE POLLUTION TO DOWNSTREAM WATERS, E.G. THROUGH INSTALLATION OF SEDIMENT

10. ANY SAND USED IN THE CONCRETE CURING PROCESS (SPREAD OVER THE SURFACE) WILL BE REMOVED AS SOON AS POSSIBLE AND WITHIN 10 WORKING DAYS FROM PLACEMENT.

11. WATER WILL BE PREVENTED FROM ENTERING THE PERMANENT DRAINAGE SYSTEM UNLESS IT IS RELATIVELY SEDIMENT FREE. I.E. THE NT AREA HAS BEEN PERMANENTLY LANDSCAPED AND/OR ANY DIMENT HAS BEEN FILTERED THROUGH AN APPROVED

> ARY SOIL AND WATER MANAGEMENT STRUCTURES WILL BE ONLY AFTER THE LANDS THEY ARE PROTECTING ARE ATED.

13. ACCEPTABLE RECEPTORS WILL BE PROVIDED FOR CONCRETE AND MORTAR SLURRIES, PAINTS, ACID WASHINGS, LIGHT-WEIGHT WASTE MATERIALS AND LITTER.

14. ANY EXISTING TREES WHICH FORM PART OF THE FINAL LANDSCAPING PLAN WILL BE PROTECTED FROM CONSTRUCTION ACTIVITIES IN ACCORDANCE WITH SECTION 4 OF AS4970 "PROTECTION OF TREES ON DEVELOPMENT SITES" AND COUNCIL CONSENT CONDITIONS.

### EARTHWORKS

- 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 SUPERINTENDENT THAT THE METHODOLOGY APPROVED AT THE TIME OF THE GEOTECHNICAL ENGINEERS VISIT WAS MAINTAINED DURING ALL THE BULK EARTHWORKS PROCESS.
- STRIP TOPSOIL, ORGANIC MATTER AND RUBBLE FROM CONSTRUCTION AREA TO EXPOSE NATURALLY OCCURRING MATERIAL AND STOCKPILE ON SITE AS DIRECTED BY THE SUPERINTENDENT.
- WHERE FILLING, STRUCTURAL SLABS OR PAVEMENTS ARE REQUIRED, PROOF ROLL THE EXPOSED NATURAL SURFACE WITH A MINIMUM OF TEN PASSES OF A SMOOTH DRUM NON-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.
- 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.
- 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 LAYER THICKNESS TO COUNCIL SPECIFICATIONS 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:

LOCATION UNDER BUILDING SLABS LANDSCAPED AREAS ROADS & PAVED AREAS

COMPACTION REQUIREMENT 98% SMDD 95% SMDD 100% SMDD

- FOR NON COHESIVE MATERIAL, COMPACT TO NOT LESS THAN UNDER ROAD 80% DENSITY OTHER AREA 75% DENSITY
- 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).
- 10. FREQUENCY OF COMPACTION TESTING SHALL NOT BE LESS THAN: 1 TEST PER 200m<sup>3</sup> OF FILL PLACED PER LAYER OF FILL A.
- **3 TESTS PER VISIT** Β. 1 TEST PER 1000m<sup>2</sup> OF EXPOSED SUBGRADE C.
- 11. TESTING SHALL BE "LEVEL 1" UNDERTAKEN IN ACCORDANCE WITH AS 3798.
- 12. WHERE TEST RESULTS ARE BELOW THE SPECIFIED COMPACTION, RECOMPACT AND RETEST UNTIL SPECIFIED COMPACTION STANDARD IS ACHIEVED.
- 13. ALLOW FOR EXCAVATION IN ALL MATERIALS AS FOUND U.N.O. NO ADDITIONAL PAYMENTS WILL BE MADE FOR EXCAVATION IN WET OR HARD GROUND.
- 14. REFER TO THE SITE SPECIFIC GEOTECHNICAL REPORT FOR GENERAL REQUIREMENTS ON SITE PREPARATION AND RE-USE OF EXISTING SITE MATERIAL AS ENGINEERED FILL.
- 15. 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.
- 16. 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.
- 7. PROTECT FINAL SURFACE WITH EITHER A TEMPORARY LOOSE SOIL LAYER OR A GRANULAR SUB-BASE LAYER TO PREVENT DRYING OUT PRIOR TO ON-GROUND SLAB CONSTRUCTION.

## SITEWORKS

- 1. 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 SUPERINTENDENT.
- 3. THE CONTRACTOR IS TO DESIGN, OBTAIN APPROVALS AND CARRY OUT REQUIRED TEMPORARY TRAFFIC CONTROL PROCEDURES DURING CONSTRUCTION IN ACCORDANCE WITH TINSW 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. THESE PLANS SHALL BE READ IN CONJUNCTION WITH ALL APPROVED DRAWINGS AND SPECIFICATIONS PREPARED BY OTHER PROJECT CONSULTANTS.
- 11. DO NOT OBTAIN DIMENSIONS BY SCALING THE DRAWINGS. ALL DIMENSIONS ARE IN MILLIMETERS (mm) AND ALL LEVELS ARE IN METRES (m), UNO. ALL LEVELS ARE TO AUSTRALIAN HEIGHT DATUM (AHD).
- 12. IN CASE OF DOUBT OR DISCREPANCY REFER TO THE SUPERINTENDENT FOR CLARIFICATION OR CONFIRMATION PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. OTHERWISE THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COST OF REMEDIATION WORKS.
- 13. 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. 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.

Scale	North	enspire	Project 49 BLACKBUTTS ROAD FRENCHS FOREST CIVIL ENGINEERING WORKS	Scale N.T.S Date 07/03/2024	Status FOR INFORMATION ONLY NOT TO BE USED FOR CONSTRUCTION	l
		Enspire Solutions Pty Ltd	Title SPECIFICATION NOTES	Size A1	Project Number/Drawing Number	Revision
The copyright of this drawing remains with Enspire Solutions Pty Ltd and must not without the permission of Enspire Solutions Pty Ltd.	be copied wholly or in part	ABN: 71 624 801 690 Phone: 02 9922 6135 enspiresolutions.com.au	SHEET 01	Datum GDA 2020	230057-00-DA-C01.21	3

# TELSTRA - DUTY OF CARE NOTE

TELSTRA'S PLANS SHOW ONLY THE PRESENCE OF CABLES AND PLANT. THEY ONLY SHOW THEIR POSITION RELATIVE TO ROAD BOUNDARIES, PROPERTY FENCES ETC. AT THE TIME OF INSTALLATION AND TELSTRA DOES NOT WARRANT OR HOLD OUT THAT SUCH PLANS ARE ACCURATE THEREAFTER DUE TO CHANGES THAT MAY OCCUR OVER TIME. DO NOT ASSUME DEPTH OR ALIGNMENT OF CABLES OR PLANT AS THESE VARY SIGNIFICANTLY. THE CONTRACTOR HAS A DUTY OF CARE WHEN EXCAVATING NEAR TELSTRA CABLES AND PLANT.

BEFORE USING MACHINE EXCAVATORS TELSTRA PLANT MUST FIRST BE PHYSICALLY EXPOSED BY SOFT DIG POTHOLING TO IDENTIFY IT'S LOCATION TELSTRA WILL SEEK COMPENSATION FOR DAMAGES CAUSED TO IT'S PROPERTY AND LOSSES CAUSED TO TELSTRA AND IT'S CUSTOMERS.

### STORMWATER DRAINAGE

- STORMWATER DESIGN CRITERIA (A) ANNUAL EXCEEDANCE PROBABILITIES (AEP): 1% (1 IN 100) PIPED NETWORK 1% (1 IN 100) MAJOR (OVERLAND FLOW) SYSTEM (B) RAINFALL INTENSITIES:
- ARR 1987 RAINFALL FROM NORTHERN BEACHES COUNCIL WATER MANAGEMENT FOR DEVELOPMENT POLICY. (C) HYDROLOGIC METHOD:
- DRAINS 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.
- ALL PIPES ARE TO BE UNIFORMLY SUPPORTED ALONG THE LENGTH OF THE BARREL BY SUITABLE FILL MATERIAL. REFER TO BEDDING SUPPORT TYPE.
- 5. ALL PIPES ARE TO BE LAID AT (mi.n.) 1.0% GRADE (U.N.O).
- 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
- ALL PIPE PENETRATIONS (EXISTING, IN-SITU AND PRECAST) ARE TO BE FINISHED FLUSH WITH THE INTERNAL PIT WALL AND PROPERLY SEALED WITH CEMENT RENDER. MASS CONCRETE BENCHING IS TO BE INSTALLED TO MATCH THE OUTLET PIPE INVERT LEVEL.
- ALL CONCRETE PIPES AND ALL uPVC PIPES UNDER ROAD PAVEMENTS TO BE INSTALLED TO TYPE HS2 SUPPORT IN ACCORDANCE WITH AS3725 (U.N.O). uPVC PIPES IN GENERAL AREAS (NOT UNDER ROAD PAVEMENTS) TO BE INSTALLED TO TYPE H2 SUPPORT IN ACCORDANCE WITH AS3725 (U.N.O). 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).
- 0. REFER TO AS/NRS 3725 TABLE B1 FOR REQUIRED FILL DEPTHS ABOVE PIPE BARREL PRIOR TO USE OF COMPACTION MACHINERY OR TRAVERSING OF PIPES BY GENERAL SITE EQUIPMENT.
- . WHERE WORKING METHODS REQUIRE HIGHER CLASS PIPE, THE CONTRACTOR SHALL REFER TO AS 3725 TO DETERMINE THE APPROPRIATE PIPE CLASS. PROPOSED PIPE CLASS SHALL BE SUBMITTED TO THE SUPERINTENDENT FOR APPROVAL PRIOR TO INSTALLATION.
- 12. ALL INTERNAL WORKS WITHIN PROPERTY BOUNDARIES ARE TO COMPLY WITH THE REQUIREMENTS OF AS/NZS 3500.3.
- 13. PRECAST PITS MAY BE USED EXTERNAL TO THE BUILDING SUBJECT TO APPROVAL BY THE SUPERINTENDENT.
- 14. ENLARGERS, CONNECTIONS AND JUNCTIONS TO BE PREFABRICATED FITTINGS WHERE PIPES ARE 300 DIA AND LESS.
- 15. Ø100mm SUB-SOIL DRAINAGE LINES SHALL BE CONNECTED TO A STORMWATER DRAINAGE PIT AND PROVIDED IN THE FOLLOWING LOCATIONS:
- ADJACENT ALL TRAFFICKED AND CARPARK PAVEMENT AREAS Α. (BEHIND KERB); EXCEPT WHERE DRAINAGE IS LOCATED ALONG THE KERBLINE.
- ALL PLANTER AND TREE BEDS PROPOSED ADJACENT TO Β.
- PAVEMENT AREAS: BEHIND RETAINING WALLS (IN ACCORDANCE WITH DRAWINGS); BELOW ALL TRAFFICABLE DISH DRAINS: D.
- ALL OTHER AREAS SHOWN ON THE DRAWINGS. E.
- 16. A MINIMUM OF 3m OF SUBSOIL LINE SHALL BE LAID INTO UPSTREAM SIDE OF ALL DRAINAGE PITS.
- 17. FLUSHING POINTS SHALL BE INSTALLED ON SUBSOIL LINES TO COUNCIL SPECIFICATION.
- 18. SUBSOIL TRENCHES SHALL BE BACKFILLED WITH SINGLE SIZED 10mm AGGREGATE WRAPPED IN NON-WOVEN GEOTEXTILE FABRIC. SUBSOIL TRENCHES BELOW TRAFFICABLE PAVEMENTS SHALL BE BACKFILLED WITH NO FINES CONCRETE WRAPPED IN NON-WOVEN GEOTEXTILE FABRIC, U.N.O.
- 9. WHERE SUBSOIL DRAINS PASS UNDER FLOOR SLABS AND VEHICULAR PAVEMENTS, UNSLOTTED uPVC PRESSURE PIPE PN6 IS TO BE USED.
- 20. CARE IS TO BE TAKEN WITH LEVELS OF STORMWATER LINES. GRADES SHOWN ARE NOT TO BE REDUCED WITHOUT APPROVAL.
- 21. GRATES AND COVERS SHALL CONFORM TO AS 3996.

2 15/01/2025 ISSUED FOR DEVELOPMENT APPLICATION

V. DATE

7/03/2024 ISSUED FOR DEVELOPMENT APPLICATION

- 22. UNLESS DETAILED OR SPECIFIED OTHERWISE COVERS AND GRATES TO BE CLASS "D" IN VEHICULAR PAVEMENTS AND CLASS "B" ELSEWHERE.
- 23. NOTE THAT THE PIT COVER LEVEL NOMINATED IN GUTTERS ARE TO THE INVERT OF THE GUTTER WHICH IS 40mm LOWER THAN THE PAVEMENT LEVEL AT LIP OF GUTTER.
- 24. ALL BOX CULVERTS SHALL BE STRUCTURALLY DESIGNED BY THE MANUFACTURER AND DELIVERED TO SITE AS FIT FOR PURPOSE.
- 25. AT ALL TIMES DURING CONSTRUCTION OF STORMWATER PITS, ADEQUATE SAFETY PROCEDURES SHALL BE TAKEN TO ENSURE AGAINST THE POSSIBILITY OF PERSONNEL FALLING DOWN PITS.

DESCRIPTION

### STORMWATER DRAINAGE (CONT.)

- 26. 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.
- 27. ELECTRICAL PITS ARE TO DRAIN TO THE NEAREST STORMWATER PIT WITH VERMIN PROOF NON-RETURN FLAP VALVES AS REQUIRED. THE CONTRACTOR IS TO CONFIRM WITH THE ELECTRICAL DESIGNER AS PART OF THE TENDER.
- 28. THE CONTRACTOR SHALL ENSURE AND PROTECT THE INTEGRITY OF ALL STORMWATER PIPES DURING CONSTRUCTION. ANY AND ALL DAMAGE TO THESE PIPES AS A RESULT OF THESE WORKS SHALL BE REPAIRED BY THE CONTRACTOR UNDER THE DIRECTION OF THE SUPERINTENDENT, AND AT NO EXTRA COST.
- 29. ANY VARIATION TO SPECIFIED PRODUCTS OR DETAILS SHALL BE REFERRED TO THE SUPERINTENDENT FOR APPROVAL.
- 30. ALL RECTANGULAR HOLLOW SECTIONS (RHS) SPECIFIED AS STORMWATER CONDUITS TO BE HOT DIPPED GALVANISED AND HAVE (MINIMUM) 5mm WALL THICKNESS.

### PAVEMENTS

- ALL PAVEMENT MATERIALS SHALL COMPLY WITH CURRENT TINSW SPECIFICATIONS. PROVIDE MECHANICAL ANALYSIS FOR EACH BATCH OF PAVEMENT MATERIAL TO ENSURE CONFORMITY.
- 2. COMPACTION STANDARDS: BASE: 98% MODIFIED MAXIMUM DRY DENSITY A) 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 SUPERINTENDENT.
- 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 WEARING COURSE IS TO EXTEND 150mm (MIN) PAST BASECOURSE INTERFACE.
- 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 "ASPHALT (HOT-MIXED) PAVING - GUIDE TO GOOD PRACTICE" AND CURRENT TINSW 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 TINSW. SPECIFICATION 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 50m<sup>3</sup> OF BASECOURSE MATERIAL PLACED.
- 11. ALL SUB-BASE COURSE MATERIAL SHALL BE IGNEOUS ROCK QUARRIED MATERIAL TO COMPLY WITH TINSW. SPECIFICATION 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 50m<sup>3</sup> OF SUB-BASE COURSE MATERIAL PLACED.
- 12. AS AN ALTERNATIVE TO THE USE OF IGNEOUS ROCK AS A SUB-BASE MATERIAL IN (11) A CERTIFIED RECYCLED CONCRETE MATERIAL COMPLYING WITH TRNSW. SPECIFICATION 3051 WILL BE CONSIDERED. SUBJECT TO MATERIAL SAMPLES AND APPROPRIATE CERTIFICATIONS BEING PROVIDED TO THE SATISFACTION OF THE COUNCIL 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.

### CONCRETE

- CONCRETE QUALITY;

### ELEMENT

### KERBS AND P PITS AND VEH PAVEMENTS

- 8. CLEAR CON ENVIRONM A. SURFAC
- CONTAG B. SURFAC
- CONTAG C. SURFAC
- EXTERI

# TO AS 1304.

- 15. SURFACE FINISHES: ELEMENT PAVEMENTS

# 16. REINFORCEMENT SYMBOLS:

NOMINAL BAR SIZE IN mm



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 AS3600 CONCRETE SPECIFICATION DOCUMENT 1 SHALL APPLY TO THE FORMWORK, REINFORCEMENT AND CONCRETE UNLESS NOTED OTHERWISE.

	AS 3600 F'c MPa AT 28 DAYS	SPECIFIED SLUMP	Nominal Agg. size	MAX 56 DAY DRYING SHRINKAGE
ATHS	25	60	20	650um
IICULAR	32	80	20	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

5. PROJECT CONTROL TESTING SHALL BE CARRIED OUT IN ACCORDANCE WITH AS 1379.

. NO ADMIXTURES SHALL BE USED IN CONCRETE UNLESS APPROVED IN WRITING BY THE DESIGN ENGINEER.

CLEAR CONCRETE COVERS SHALL BE (UNO):	
	COVER
A. SURFACES OF MEMBERS CAST AGAINST, AND IN	50mm
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	20mm

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:

LAP TWO WIRES

FOLLOWING THE FABRIC SYMBOL SL IS THE REFERENCE NUMBER FOR FABRIC

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.

STORMWATER PIT KERBS

FORMWORK CLASS OFF FORM MACHINE FLOAT/BROOM FINISHED STEEL FLOAT/TROWEL

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

NUMBER OF BARS IN A GROUP — BAR GRADE AND TYPE

17 N 20 250

└── SPACING IN mm THE FIGURE

# BRICKWORK AND BLOCKWORK

1. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH AS 2. STRENGTHS OF MASONRY UNITS AND TYPE OF MORTAR SHALL BE AS FOLLOWS:

ELEMENT	MATERIAL	CHARACTERISTIC UNCONFINED COMPRESSIVE STRENGTH (F'c)	MORTAR (CEMENT: LIME: SAND) (F'c)
BRICKS	CLAY	20 MPa	1:1:6
BLOCKS			
CORE FILLED	CONC	15 MPa	1:0.25:3
BLOCKS			
SOLID	CONC	12 MPa	1:0.25:3

MORTAR ADMIXTURES SHALL NOT BE USED WITHOUT THE WRITTEN APPROVAL OF THE SUPERINTENDENT.

3. ONLY LOAD BEARING MASONRY WALLS ARE SHOWN UNDER CONCRETE SLABS.

4. OTHER THAN REINFORCED CONCRETE BLOCKWORK, MASONRY SUPPORTING SLABS AND BEAMS SHALL BE TROWELLED SMOOTH WITH MORTAR FILLING ALL VOIDS. TWO LAYERS OF MALTHOID SHALL BE PLACED FULL WIDTH ACROSS SUCH LOAD BEARING SURFACES EXCEPT WHERE PROPRIETARY BEARING STRIP IS NOTED OR ALTERNATIVE DETAIL IS DOCUMENTED. THE HEADS OF LOAD BEARING WALLS SHALL NOT EXTEND

ABOVE THE SOFFIT OF THE CONCRETE SLAB ABOVE.

5. ALL DOUBLE SKIN SOLID WALLS SUCH AS 230mm THICK BRICKWORK SHALL BE BONDED BY A HEADER COURSE EVERY 4th COURSE.

6. ALL MASONRY SUPPORTING OR SUPPORTED BY CONCRETE FLOORS SHALL BE PROVIDED WITH VERTICAL JOINTS TO MATCH ANY CONTROL JOINTS IN THE CONCRETE.

7. NON LOAD BEARING WALLS BUILT PRIOR TO POURING CONCRETE SHALL BE SEPARATED FROM CONCRETE ABOVE BY 16 mm THICK CLOSED CELL POLYSTYRENE STRIP. WHERE BUILT AFTER CONCRETE IS POURED LEAVE 12 mm CLEAR OF CONCRETE SOFFIT.

8. NO CHASES OR RECESSES ARE PERMITTED IN LOAD BEARING MASONRY WITHOUT THE APPROVAL OF THE ENGINEER.

9. PROVIDE VERTICAL CONTROL JOINTS AT 10 m MAX. CENTRES GENERALLY, AND 5 m MAX. FROM CORNERS FOR BRICKWORK AND UNREINFORCED BLOCKWORK.

10. REFER TO CONCRETE NOTES FOR DE-PROPPING PRIOR TO CONSTRUCTION OF MASONRY WALLS ON SUSPENDED SLABS.

11. ALL CAVITY CONSTRUCTION SHALL INCLUDE STAINLESS STEEL TIES INSTALLED IN ACCORDANCE WITH CLAUSE 3.8 AS 3700.

12. REINFORCED CONCRETE BLOCKWORK SHALL COMPLY WITH THE FOLLOWING, UNLESS NOTED

\* BLOCKS SHALL BE STRENGTH GRADE 15 CONFORMING TO AS 2733.

\* PROVIDE CLEANOUT HOLES 100 mm SQUARE MINIMUM AT BASE OF ALL WALLS AND ROD CORE HOLES TO REMOVE PROTRUDING MORTAR FINS

\* CORE FILLING GROUT SHALL BE :-F'c = 20 MPa MINIMUM = 300 ka/m

\* REINFORCEMENT PROJECTING FROM FOUNDATION OR SLABS INTO CORES, SHALL BE SET ACCURATELY IN PLACE USING TEMPLATES TO ALIGN WITH THE CENTRE OF THE LENGTH OF CORES AND WITH COVER AS NOTED. WHERE HORIZONTAL BARS ARE INDICATED, THE WEBS OF THE BLOCKS BELOW THE BARS SHALL BE CUT DOWN TO ACCOMMODATE THE BARS.

\* GROUT ALL CORES IN REINFORCED BLOCKWORK UNLESS OTHERWISE NOTED. HEIGHT OF BLOCKWORK TO BE GROUTED ON ONE DAY SHALL BE 2400mm. GROUT SHALL BE PLACED IN LIFTS OF 1200mm MAXIMUM AND COMPACTED BY POKER VIBRATOR. A SHORT TIME SHOULD ELAPSE BETWEEN SUCCESSIVE LIFTS TO ALLOW PLASTIC SETTLEMENT TO OCCUR.

\* PROVIDE 50 mm COVER FROM THE OUTSIDE OF THE BLOCKWORK UNLESS NOTED.

13. BACKFILL TO RETAINING WALLS SHALL BE FREE DRAINING GRANULAR MATERIAL, PROVIDE SUBSOIL DRAIN AT BASE OF WALL. DO NOT BACKFILL UNTIL 14 DAYS AFTER GROUTING, OR IF APPLICABLE, AFTER RESTRAINING SLAB OVER HAS BEEN POURED AND CURED FOR 7 DAYS. BACKFILL SHALL BE COMPACTED TO 98% STANDARD MAXIMUM DRY DENSITY AT OPTIMUM MOISTURE CONTENT ± 2 %.

## **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 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 18.0m CENTRES
- 9. TYPICAL VEHICULAR PAVEMENT JOINT DETAIL.



- 10. PROVIDE 10mm EXPANSION FOAM BETWEEN NEW CONCRETE 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.

# KERBS

- 1. ALL KERBS, GUTTERS, DISH DRAINS AND CROSSINGS TO BE CONSTRUCTED ON 220mm GRANULAR BASECOURSE COMPACTED TO MINIMUM 95% MODIFIED DRY DENSITY (AS 1289 5.2.1).
- 2. 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 AS SPECIFIED BY COUNCIL EXCEPT FOR INTEGRAL KERBS WHERE THE EXPANSION JOINTS ARE TO MATCH THE JOINT LOCATIONS IN THE SLABS.
- 3. WEAKENED PLANE JOINTS TO BE MIN 3mm WIDE AND LOCATED AS SPECIFIED BY COUNCIL 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.

le	North	e	enspire	Project 49 BLACKBUTTS ROAD FRENCHS FOREST CIVIL ENGINEERING WORKS Title
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\* MORTAR SHALL COMPRISE 1 CEMENT:0.25 LIME:3 SAND.

PRIOR TO GROUTING. CEMENT CONTENT SLUMP = 230 ± 30 mm.

Scale N.T.S Date 07/03/2024	Status FOR INFORMATION ONLY NOT TO BE USED FOR CONSTRUCTION	
Size A1 Datum GDA 2020	Project Number/Drawing Number 230057-00-DA-C01.22	Revision 3



							Client
3	31/03/2025	UPDATES ADDRESSING COUNCIL COMMENTS DA ISSUE	DK	AL		MKH	
2	15/01/2025	ISSUED FOR DEVELOPMENT APPLICATION	DK	AL		MKH	СГ
1	7/03/2024	ISSUED FOR DEVELOPMENT APPLICATION	ZW	LD		MKH	) SE
REV.	DATE	DESCRIPTION	DRN.	DES.	VERIF.	APPD.	



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	Date 07/03/2024	NOT TO BE USED FOR CONSTRUCTION					
	Size	Project Number/Drawing Number	Revision				
AN	A1						
	Datum	230037-00-DA-C01.41	J				
	GDA 2020						

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DESCRIPTION

EV. DATE

DRN. DES. VERIF. APPD

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CONSTRUCTION NOTES

FLOW, ROADS AND HAZARD AREAS.

2. CONSTRUCT ON THE CONTOUR AS LOW, FLAT, ELONGATED MOUNDS.

SWMP TO REDUCE THE C-FACTOR TO LESS THAN 0.10.

		Total basin volume (m <sup>3</sup> ) 224.7 No	ot Type C Not Type C	Not Type C Not Type C Not Type C Auto-calculated	
North	enspire	Project 49 BLACKBUTTS ROAD FRENCHS FOREST	Scale N.T.S Date	Status FOR INFORMATION ONLY NOT TO BE USED FOR CONSTRUCTION	N
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# 4. Volur



1. PLACE STOCKPILES MORE THAN 2m (PREFERABLY 5m) FROM EXISTING VEGETATION, CONCENTRATED WATER

4. WHERE THEY ARE TO BE IN PLACE FOR MORE THAN 10 DAYS, STABILISE FOLLOWING THE APPROVED ESCP OR

5. CONSTRUCT EARTH BANKS (STANDARD DRAWING 5-5) ON THE UPSLOPE SIDE TO DIVERT WATER AROUND

STOCKPILES (SD 4-1)

3. WHERE THERE IS SUFFICIENT AREA, TOPSOIL STOCKPILES SHALL BE LESS THAN 2m IN HEIGHT.

STOCKPILES AND SEDIMENT FENCES (STANDARD DRAWING 6-8) 1 TO 2m DOWNSLOPE.

SEDIMENT FENCE ISOMETRIC NOT TO SCALE





1. Erosion Hazard an	d Se	dime	ent B	asin	s					
Site Name:	49 Bla	ckbutts	Road							
Site Location:	Frenchs Forest									
Precinct/Stage:										
Other Details:										
Site area	Sub-c	atchm	ent or	Name	of Structu	Notes				
Total catchment area (ha)	1.017									
Disturbed catchment area (ha)	1.017									
Soil analysis (enter sediment t	ype if l	known	or lab	orator	y particle	size data)				
Sediment Type (C, F or D) if known:	С					From Appendix C (if known)				
% sand (fraction 0.02 to 2.00 mm)						Enter the percentage of each soil				
% silt (fraction 0.002 to 0.02 mm)						fraction. E.g. enter 10 for 10%				
% clay (fraction finer than 0.002 mm)										
Dispersion percentage						E.g. enter 10 for dispersion of 10%				
% of whole soil dispersible	-					See Section 6.3.3(e). Auto-calculated				
Soli lexiure Group	C					Automatic calculation from above				
Rainfall data		_								
Design rainfall depth (no of days)	5					See Section 6.3.4 and particularly				
Design rainfall depth (percentile)	85					Table 6.3 on pages 6-24 and 6-25				
x-day, y-percentile rainfall event (mm)	44					Table 0.0 01 pages 0-24 and 0-25.				
Rainfall R-factor (if known)						Only need to enter one or the other here				
IFD: 2-year, 6-hour storm (if known)	14									
RUSLE Factors										
Rainfall erosivity (R -factor)	4280			) ))		Auto-filled from above				
Soil erodibility (K -factor)	0.007	Ì								
Slope length (m)	170									
Slope gradient (%)	5.5					RUSLE LS factor calculated for a high				
Length/gradient (LS -factor)	2.07					rill/interrill ratio.				
Erosion control practice (P -factor)	1.3	1.3	1.3	1.3	1.3 1	.3				
Ground cover (C-factor)	1	1	1	1	1	1				

4. Volume of Typ	e C (C	coarse)	Sedim	ent Ba	sins				
. volume or typ		(curee)	ocum		lonno				
Type C Basin Design Crite	ria								
Structure Name							Auto-filled from Worksheet 1		
Catchment Area (ha)	1.017						Auto-filled from Worksheet 1		
Sediment type (C, F or D)	С						Auto-filled from Worksheet 1		
Design rainfall event	0.5		1	(		i i i	Choose design event from dropdown		
Flow volume (m <sup>3</sup> /s)	0.087						Calculated from IFD values above		
Area Factor	4100	4100	4100	4100	4100	4100	Default is 4,100. See pg 6-12		
Depth of settling (water zone) (m)	0.6	0.6	0.6	0.6	0.6	0.6	Minimum is 0.6m (pg 6-12)		
Type C Basin Volume Cal	culation	S							
Basin Surface Area (m <sup>2</sup> )	356.7	Not Type C	Auto-calculated						
Settling (water) zone volume (m <sup>3</sup> )	214	Not Type C	Auto-calculated						
Storage (soil) zone volume (m <sup>3</sup> )	10.7	Not Type C	Auto-calculated						
Total basin volume (m <sup>3</sup> )	224.7	Not Type C	Auto-calculated						



МКН DK AL 4 31/03/2025 UPDATES ADDRESSING COUNCIL COMMENTS DA ISSUE MKH MKH MKH DK AL 3 22/01/2025 ISSUED FOR DEVELOPMENT APPLICATION DK AL 2 15/01/2025 ISSUED FOR DEVELOPMENT APPLICATION ZW LD 7/03/2024 ISSUED FOR DEVELOPMENT APPLICATION DESCRIPTION DRN. DES. VERIF. APPD. EV. DATE



METAL COLORBOND







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			7111 <u>111111111111111111111111111111111</u>	LOT BDY		2000	
DATUM RL 139.0							
EXISTING SURFACE	160.37	59.57	59.75	59.96	58.76	57.89	
DESIGN SURFACE	-		159.91	159.25	1	158.57	
CHAINAGE	0.00	10.00	20.00	30.00	40.00	50.00	





							Client
3	31/03/2025	UPDATES ADDRESSING COUNCIL COMMENTS DA ISSUE	DK	AL		MKH	
2	15/01/2025	ISSUED FOR DEVELOPMENT APPLICATION	DK	AL		MKH	
1	7/03/2024	ISSUED FOR DEVELOPMENT APPLICATION	ZW	LD		MKH	
REV.	DATE	DESCRIPTION	DRN.	DES.	VERIF.	APPD.	



HORIZONTAL SCALE 1:500@A1 VERTICAL SCALE 1:250@A1



Project Vorth 49 BLACKBUTTS ROAD FRENCHS FOREST CIVIL ENGINEERING WORKS 10m SCALE: H:1:500 V:1:100 

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EARTHWORKS CUT AND FILL

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	Date				
	07/03/2024	NOT TO BE USED FOR CONSTRUCTION			
	Size	Project Number/Drawing Number	Revision		
SECTIONS	A1		2		
	Datum	1 Z30037-00-DA-604.Z1			
	GDA 2020				

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5	31/03/2025	UPDATES ADDRESSING COUNCIL COMMENTS DA ISSUE	DK	AL		MKH	
4	22/01/2025	ISSUED FOR DEVELOPMENT APPLICATION	DK	AL		MKH	
3	15/01/2025	ISSUED FOR DEVELOPMENT APPLICATION	DK	AL		MKH	
1	7/03/2024	ISSUED FOR DEVELOPMENT APPLICATION	ZW	LD		MKH	
1	28/02/2024	80% ISSUED FOR INFORMATION	ZW	LD		MKH	
REV.	DATE	DESCRIPTION	DRN.	DES.	VERIF.	APPD.	







### NOTE

PROVIDE STORMWATER FILTER BASKETS AT THE FOLLOWING PITS: A01/01, A01/02, A01/04, A01/12, A02/01, A05/01, A06/01 B01/01, B02/02, B02/03, B02/04, B02/05, B02/06, B02/07, B02/08, B02/09, C01/02, C01/03

Status 1:200 FOR INFORMATION ONLY Date NOT TO BE USED FOR CONSTRUCTION 28/02/2024 oject Number/Drawing Number A1 230057-00-DA-C05.02 5 Datum GDA 2020

CAD File: P:\230057 BlackbuttsRd\D-Civil\00-SiteWide\Drawings\6-DACC\230057-00-DA-C05.01-C05.02 SITEWORKS AND STORMWATER MANAGEMENT PLAN.dwg



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3 31/03/2025	UPDATES ADDRESSING COUNCIL COMMENTS DA ISSUE	DK	AL		MKH		
2 15/01/2025	ISSUED FOR DEVELOPMENT APPLICATION	DK	AL		MKH		<u> </u>
1 7/03/2024	ISSUED FOR DEVELOPMENT APPLICATION	ZW	LD		MKH	SEKISUI MUUSE	The co
REV. DATE	DESCRIPTION	DRN.	DES.	VERIF.	APPD.		withou



		Enspire Solutions Pty Ltd	North Sydney NSW/ 2060	ROAD TYPICAL CROSS SECTI
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without the permission of Enspire Solutions Pty Ltd.		Phone: 02 9922 6135	enspiresolutions.com.au	

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IONS	A1		3
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CAD File: P:\230057 BlackbuttsRd\D-Civil\00-SiteWide\Drawings\6-DACC\230057-00-DA-C06.01 ROAD TYPICAL CROSS SECTIONS.dwg

							Client
3	31/03/2025	UPDATES ADDRESSING COUNCIL COMMENTS DA ISSUE	DK	AL		MKH	
2	15/01/2025	ISSUED FOR DEVELOPMENT APPLICATION	DK	AL		MKH	
1	7/03/2024	ISSUED FOR DEVELOPMENT APPLICATION	ZW	LD		MKH	
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		SAG VIP R.L. 155.06 VIP R.L. 155.19					X VIP R.L. 158.50											
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HORIZONTAL GEOMETRY						~	2	20.00m RAD	><		-28.90m RAD		><	30.00m RAD	>			
DATUM RL 151.0																		
FINISHED SURFACE	—	155.06 155.09 155.16 155.19	155.54 156.12	156.93	157.45	158.00	158.33	158.56	158.89	159.38 159.43		160.18	160.55	160.93	161.25	161.68 161.73	161.97	162.41
EXISTING SURFACE	155.16	155.11 155.12 155.20 155.35	155.53 155.99	156.73	157.30	157.89	158.28	158.51	158.95	159.52 159.57		159.60	160.10	160.88	161.20	161.46 161.51	161.44	161.62
CHAINAGE	00.0	4.59 4.60 5.05 6.54	8.62	24.02	30.00	37.00	41.52	45.00	50.08	59.02 60.00		75.00	82.43	00.06	96.38	105.00 106.01	110.84	120.00
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V: 0 1 SCALE: H:1:250 V:1:50	2	3	4	5 @A1			
				C		Enspire Solutions Pty Ltd Level 4, 153 Walker Street, North Sydney NSW 200	
The copyright of this drawing r without the permission of Ensp	emains with E bire Solutions	Enspire Solu Pty Ltd.	itions Pty L	td and must no	t be copied wholly or in part	ABN: 71 624 801 690 Phone: 02 9922 6135 enspiresolutions.com.au	



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NOTE

CONCRETE DRIVEWAY TO NORTHERN BEACHES COUNCIL STANDARD DRAWING No.1.
 CONCRETE LAYBACK TO NORTHERN BEACHES COUNCIL STANDARD DRAWING No.3.



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- 11. RELOCATE OR REMOVE EXISTING SIGNS AS REQUIRED.
- 12. PROVIDE ADEQUATE APPROACH WARNING SIGNS DURING AND AFTER CONSTRUCTION.

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GDA 2020		





1000mm Project North 49 BLACKBUTTS ROAD enspire FRENCHS FOREST CIVIL ENGINEERING WORKS 2000mm Enspire Solutions Pty Ltd Level 4, 153 Walker Street, North Sydney NSW 2060 SITEWORKS DETAILS The copyright of this drawing remains with Enspire Solutions Pty Ltd and must not be copied wholly or in part ABN: 71 624 801 690 Phone: 02 9922 6135 enspiresolutions.com.au



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							Client
2	31/03/2025	UPDATES ADDRESSING COUNCIL COMMENTS DA ISSUE	DK	AL		MKH	
1	15/01/2025	ISSUED FOR DEVELOPMENT APPLICATION	DK	AL		MKH	
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ale 0 1 2 4 6 8 10m SCALE 1:100 @A1	North	enspire	49 BLACKBUTTS ROAD FRENCHS FOREST CIVIL ENGINEERING WORKS
e copyright of this drawing remains with Enspire Solutions Pty Ltd and must	ot	Enspire Solutions Pty Ltd Level 4, 153 Walker Street, North Sydney NSW 2060 ABN: 71 624 801 690	Title RETAINING WALL ELEVATIONS
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### RETAINING WALL ELEVATION RW01 SCALE 1:100

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Ale North Project	
	FTS ROAD
	REST
SCALE 1:100 @A1 CIVIL ENGINE	ERING WORKS
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Enspire Solutions Pty Ltd	VALL ELEVATION
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		T	ABLE 1 - REINFORCEM	1FNT A	ND WALL THICKNESS			NOTES:
DEPTH "D" SEE TABLE 1	WIDTH/LENGTH	TW		TS (mm)		TB (mm)	BASE REINFORCEMENT	1. CONCRETE CO 2. YIELD STRENG
(m)	(m)	(mm)						3. ASSUMED SOIL 4. ALL CONCRETE 5. THE CONTRACT
1.5 - 3.0	2/2	200	2 LAYERS N12 - 200 EACH FACE	200	2 LAYERS N12 - 200 EACH FACE	200	2 LAYERS N12 - 200 EACH FACE	6. PITS TO BE CO 7. STEP IRONS W
1.5 - 3.0	3/3	200	2 LAYERS N16 - 200 EACH FACE	250	2 LAYERS N16 - 200 EACH FACE	250	2 LAYERS N16 - 200 EACH FACE	DETAILS. 8. PITS WHICH WI
3.0 - 4.5	2/2	250	2 LAYERS N12 - 200 EACH FACE	200	2 LAYERS N12 - 200 EACH FACE	200	2 LAYERS N12 - 200 EACH FACE	EDGES OF THE 9. CONTACT ENG
SLAB -	WA 		TW C.J.					
4 BARS (MIN)		DETAI SCALE 1 ENGTH	LENGTH A 5	(MIN)				REFER TO T, SLAB REINF(
		DETAI SCALE 1		-			Μ	SEE DETAIL B
3 31/03/2025 UPE 2 15/01/2025 ISSI 1 7/03/2024 ISSI REV. DATE	DATES ADDRESSING C JED FOR DEVELOPME JED FOR DEVELOPME	LAP LE DETAI SCALE 1 COUNCIL CO INT APPLIC	ENGTH	DK AL ZW LD	Client	SEK		SE

MPRESSIVE STRENGTH @ 28 DAYS fc' = 40MPa GTH OF STEEL fy = 500 MPa

L BEARING CAPACITY = 150 kPa (MAX 3m DEPTH), 200kPa (MAX 6m DEPTH)

![](_page_19_Figure_7.jpeg)

CAD File: P:\230057 BlackbuttsRd\D-Civil\00-SiteWide\Drawings\6-DACC\230057-00-DA-C18.01 STORMWATER DETAILS.dwg

![](_page_20_Figure_0.jpeg)

![](_page_21_Figure_0.jpeg)

![](_page_22_Figure_0.jpeg)

							Client	S
3	31/03/2025	UPDATES ADDRESSING COUNCIL COMMENTS DA ISSUE	DK	AL		MKH		
2	15/01/2025	ISSUED FOR DEVELOPMENT APPLICATION	DK	AL		MKH		
1	7/03/2024	ISSUED FOR DEVELOPMENT APPLICATION	ZW	LD		MKH	SEKISUI HUUSE	
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CAD File: P:\230057 BlackbuttsRd\D-Civil\00-SiteWide\Drawings\6-DACC\230057-00-DA-C22.01 TURNING PATH PLANS.dwg