SEKISUI HOUSE

49 BLACKBUTTS ROAD FRENCHS FOREST

CIVIL ENGINEERING WORKS

DEVELOPMENT APPLICATION

DRAWING SCHEDULE

DRAWING NUMBER	DESCRIPTION
230057-00-DA-C01.01	COVER SHEET AND DRAWING SCHEDULE
230057-00-DA-C01.21	SPECIFICATION NOTES - SHEET 01
230057-00-DA-C01.22	SPECIFICATION NOTES - SHEET 02
230057-00-DA-C01.41	GENERAL ARRANGEMENT PLAN
230057-00-DA-C03.01	EROSION AND SEDIMENTATION CONTROL PLAN
230057-00-DA-C03.21	EROSION AND SEDIMENTATION CONTROL DETAILS
230057-00-DA-C04.01	EARTHWORKS CUT AND FILL PLAN
230057-00-DA-C04.21	EARTHWORKS CUT AND FILL SECTIONS
230057-00-DA-C05.01	SITEWORKS AND STORMWATER MANAGEMENT PLAN SHEET 01
230057-00-DA-C05.02	SITEWORKS AND STORMWATER MANAGEMENT PLAN SHEET 02
230057-00-DA-C06.01	ROAD TYPICAL CROSS SECTIONS
230057-00-DA-C07.01	ROAD LONGITUDINAL SECTION
230057-00-DA-C11.01	PAVEMENT, SIGNAGE AND LINEMARKING PLAN - SHEET 01
230057-00-DA-C11.02	PAVEMENT, SIGNAGE AND LINEMARKING PLAN - SHEET 02
230057-00-DA-C14.01	SITEWORKS DETAILS
230057-00-DA-C17.01	OSD TANK PLAN AND SECTION
230057-00-DA-C18.01	STORMWATER DETAILS
230057-00-DA-C20.01	PRE-DEVELOPMENT CATCHMENT PLAN
230057-00-DA-C20.21	POST-DEVELOPMENT CATCHMENT PLAN
230057-00-DA-C22.01	TURNING PATH PLAN

REV.	DATE	DESCRIPTION	DRN.	DES.	VERIF.	APPD.
2	14/03/2024	ISSUED FOR DEVELOPMENT APPLICATION	ZW	LD	-	MKH
1	7/03/2024	ISSUED FOR DEVELOPMENT APPLICATION	ZW	LD	-	MKH

Client: SEKISUI HOUSE

Scale: 0 20 40 60 80 100m
SCALE 1:1000 @A1

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SURVEY

1. ORIGIN OF SURVEY

   PROJECT: 51298 001DT DATE: 20/04/2021
   CARRIED OUT BY: LTS
   SSM/PM: PERMANENT MARK 3392
   RL: 164.23 AHD

2. 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.

3. SHOULD DISCREPANCIES BE ENCOUNTERED DURING CONSTRUCTION BETWEEN THE SURVEY DATA AND ACTUAL FIELD DATA, CONTACT THE SUPERINTENDENT.

4. 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

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

2. 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)

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

EXISTING SERVICES

1. 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.

3. 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.

4. THE CONTRACTOR SHALL ALLOW IN THE PROGRAM FOR ADJUSTMENT (IF REQUIRED) OF EXISTING SERVICES IN AREAS AFFECTED BY WORKS.

5. 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.

6. THE CONTRACTOR SHALL ENSURE THAT AT ALL TIMES SERVICES TO ALL BUILDINGS NOT AFFECTED BY THE WORKS ARE NOT DISRUPTED.

7. 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.

8. 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.

9. PRIOR TO ANY DEMOLITION, EXCAVATION OR CONSTRUCTION A THOROUGH SEARCH OF ALL SERVICE AUTHORITIES SHOULD BE MADE TO DETERMINE THE POSSIBLE LOCATION OF ANY FURTHER UNDERGROUND SERVICES.

10. AUTHORITY PLANS GENERALLY SHOW ONLY THE PRESENCE OF CABLES AND PLANT AND DO NOT WARRANT OR GUARANTEE THAT SUCH PLANS ARE ACCURATE. DO NOT ASSUME DEPTH OR ALIGNMENT OF CABLES OR PLANT AS THESE VARY SIGNIFICANTLY. THE CONTRACTOR HAS A DUTY OF CARE WHEN EXCAVATING NEAR EXISTING SERVICES AND PLANT. BEFORE USING MACHINE EXCAVATORS SERVICES MUST FIRST BE PHYSICALLY EXPOSED BY SOFT DIG POTHOLING TO IDENTIFY IT'S LOCATION.

11. THE CONTRACTOR IS TO UNDERTAKE A BEFORE YOU DIG AUSTRALIA (BYDA) SEARCH PRIOR TO ANY EXCAVATION AND MAINTAIN A CURRENT SET ON-SITE DURING EXCAVATION WORKS.

12. THE LOCATIONS OF UNDERGROUND SERVICES SHOWN IN THIS SET OF DRAWINGS HAVE BEEN PLOTTED FROM SURVEY INFORMATION AND SERVICE AUTHORITY INFORMATION. THE SERVICE INFORMATION HAS BEEN PREPARED ONLY TO SHOW THE APPROXIMATE POSITIONS OF ANY KNOWN SERVICES AND MAY NOT BE AS CONSTRUCTED OR ACCURATE. ENSPIRE SOLUTIONS CAN NOT GUARANTEE THAT THE SERVICES INFORMATION SHOWN ON THESE DRAWINGS ACCURATELY INDICATES THE PRESENCE OR ABSENCE OF SERVICES OR THEIR LOCATION AND WILL ACCEPT NO LIABILITY FOR INACCURACIES IN THE SERVICES INFORMATION SHOWN FROM ANY CAUSE WHATSOEVER.

13. CONTRACTORS SHALL TAKE DUE CARE WHEN EXCAVATING ONSITE INCLUDING HAND EXCAVATION WHERE NECESSARY. CONTRACTORS ARE TO CONTACT THE RELEVANT SERVICE AUTHORITY PRIOR TO COMMENCEMENT OF EXCAVATION WORKS. CONTRACTORS ARE TO UNDERTAKE A SERVICES SEARCH, PRIOR TO COMMENCEMENT OF WORKS ON SITE. SEARCH RESULTS ARE TO BE KEPT ON SITE AT ALL TIMES.

SERVICES LEGEND

EXISTING

OVERHEAD ELECTRICAL	e o/h
COMMUNICATIONS	c
SEWER	s
GAS	g
WATER	w

BEFORE YOU DIG www.byda.com.au

EROSION AND SEDIMENT CONTROL

GENERAL INSTRUCTIONS

1. 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 SUPERINTENDENT.
   ALL WORK SHALL BE GENERALLY CARRIED OUT IN ACCORDANCE WITH
   a. LOCAL AUTHORITY REQUIREMENTS
   b. EPA 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

6. 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

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

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

SEDIMENT CONTROL

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 FENCING.

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 CATCHMENT AREA HAS BEEN PERMANENTLY LANDSCAPED AND/OR ANY LIKELY SEDIMENT HAS BEEN FILTERED THROUGH AN APPROVED STRUCTURE.

12. TEMPORARY SOIL AND WATER MANAGEMENT STRUCTURES WILL BE REMOVED ONLY AFTER THE LANDS THEY ARE PROTECTING ARE REHABILITATED.

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

1. AT THE COMMENCEMENT OF THE CUT AND FILLING OPERATIONS FOR BULK EARTHWORKS A GEOTECHNICAL ENGINEER IS TO VISIT THE SITE & CONFIRM THE SUITABILITY OF THE METHODOLOGY OF ACHIEVING THE REQUIRED BUILDING PLATFORMS AND COMPACTION REQUIREMENTS. SUBSEQUENTLY, THE HEAD CONTRACTOR IS TO CONFIRM, IN WRITING TO THE SUPERINTENDENT THAT THE METHODOLOGY APPROVED AT THE TIME OF THE GEOTECHNICAL ENGINEERS VISIT WAS MAINTAINED DURING ALL THE BULK EARTHWORKS PROCESS.

2. STRIP TOPSOIL, ORGANIC MATTER AND RUBBLE FROM CONSTRUCTION AREA TO EXPOSE NATURALLY OCCURRING MATERIAL AND STOCKPILE ON SITE AS DIRECTED BY THE SUPERINTENDENT.

3. 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.

4. 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.

5. EXCAVATED MATERIAL IS NOT TO BE USED AS STRUCTURAL FILL UNLESS APPROVED BY THE GEOTECHNICAL ENGINEER.

6. THE CONTRACTOR IS TO PROVIDE CERTIFICATES VERIFYING THE QUALITY OF IMPORTED MATERIAL FOR THE SUPERINTENDENTS APPROVAL.

7. 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	COMPACTION REQUIREMENT
UNDER BUILDING SLABS	98% SMDD
LANDSCAPED AREAS	95% SMDD
ROADS & PAVED AREAS	100% SMDD

8. FOR NON COHESIVE MATERIAL, COMPACT TO NOT LESS THAN
   UNDER ROAD 80% DENSITY
   OTHER AREA 75% DENSITY

9. 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:
    A. 1 TEST PER 200m^3 OF FILL PLACED PER LAYER OF FILL
    B. 3 TESTS PER VISIT
    C. 1 TEST PER 1000m² OF EXPOSED SUBGRADE

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.

17. 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.

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.

REV.	DATE	DESCRIPTION	DRN.	DES.	VERIF.	APPD.
1	7/03/2024	ISSUED FOR DEVELOPMENT APPLICATION	ZW	LD	-	MKH

Client: SEKISUI HOUSE

Scale:

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Project: 49 BLACKBUTTS ROAD
FRENCHS FOREST
CIVIL ENGINEERING WORKS

Title: SPECIFICATION NOTES

SHEET 01

Scale: N.T.S

Date: 07/03/2024

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STORMWATER DRAINAGE

1. 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
2. PIPES 375 DIA. AND LARGER TO BE REINFORCED CONCRETE CLASS '2' APPROVED SPIGOT AND SOCKET WITH RUBBER RING JOINTS. U.N.O.
3. PIPES 300 DIA AND LESS SHALL BE DWV GRADE (CLASS SN8) uPVC WITH SOLVENT WELDED JOINTS.
4. 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).
6. PIPES WITH SOCKETS SHALL BE LAID IN BEDDING WHERE SUITABLE RECESSES HAVE BEEN PROVIDED TO ENSURE PIPES DO NOT BEAR ON THEIR SOCKETS.
7. 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.
8. 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.
9. 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).
10. 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.
11. 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:
    A. ADJACENT ALL TRAFFICKED AND CARPARK PAVEMENT AREAS (BEHIND KERB); EXCEPT WHERE DRAINAGE IS LOCATED ALONG THE KERBLINE
    B. ALL PLANTER AND TREE BEDS PROPOSED ADJACENT TO PAVEMENT AREAS;
    C. BEHIND RETAINING WALLS (IN ACCORDANCE WITH DRAWINGS);
    D. BELOW ALL TRAFFICABLE DISH DRAINS;
    E. ALL OTHER AREAS SHOWN ON THE DRAWINGS.
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.
19. 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.
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.

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

1. ALL PAVEMENT MATERIALS SHALL COMPLY WITH CURRENT TfNSW SPECIFICATIONS. PROVIDE MECHANICAL ANALYSIS FOR EACH BATCH OF PAVEMENT MATERIAL TO ENSURE CONFORMITY.
2. COMPACTION STANDARDS:
   A) BASE: 98% MODIFIED MAXIMUM DRY DENSITY
   B) SUBBASE: 95% MODIFIED MAXIMUM DRY DENSITY
3. THE CONTRACTOR SHALL CONFIRM THE DESIGN CBR WITH A MINIMUM OF 3 TESTS TAKEN AT SUBGRADE LEVEL. WHERE DISCREPANCY IS FOUND, CONTACT THE 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.
7. TRENCHES THROUGH EXISTING ROAD AND CONCRETE PAVEMENTS SHALL BE SAWCUT TO FULL DEPTH OF CONCRETE AND A MIN 50mm IN BITUMINOUS PAVING.
8. ALL ASPHALTIC CONCRETE (AC) WORK TO BE PREPARED AND CARRIED OUT IN ACCORDANCE WITH GOOD ASPHALTIC PAVING PRACTICE AS DESCRIBED IN AS2734 "ASPHALT (HOT-MIXED) PAVING - GUIDE TO GOOD PRACTICE" AND CURRENT TfNSW 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 TfNSW. 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^3 OF BASECOURSE MATERIAL PLACED.
11. ALL SUB-BASE COURSE MATERIAL SHALL BE IGNEOUS ROCK QUARRIED MATERIAL TO COMPLY WITH TfNSW. 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^3 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 TfNSW. 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

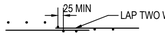
1. THIS SECTION REFERS TO CIVIL CONCRETE WORKS AND DOES NOT INCLUDE BUILDINGS OR BRIDGE STRUCTURES.
2. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH AS 3600 CURRENT EDITION WITH AMENDMENTS, EXCEPT WHERE VARIED BY THE CONTRACT DOCUMENTS.
3. CONCRETE QUALITY;
   ALL REQUIREMENTS OF THE CURRENT AS3600 CONCRETE SPECIFICATION DOCUMENT 1 SHALL APPLY TO THE FORMWORK, REINFORCEMENT AND CONCRETE UNLESS NOTED OTHERWISE.

ELEMENT	AS 3600 F'c MPa AT 28 DAYS	SPECIFIED SLUMP	NOMINAL AGG. SIZE	MAX 56 DAY DRYING SHRINKAGE
KERBS AND PATHS	25	60	20	650um
PITS AND VEHICULAR PAVEMENTS	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
6. PROJECT CONTROL TESTING SHALL BE CARRIED OUT IN ACCORDANCE WITH AS 1379.
7. NO ADMIXTURES SHALL BE USED IN CONCRETE UNLESS APPROVED IN WRITING BY THE DESIGN ENGINEER.
8. CLEAR CONCRETE COVERS SHALL BE (UNO):

ENVIRONMENT	COVER
A. SURFACES OF MEMBERS CAST AGAINST, AND IN CONTACT WITH THE GROUND	50mm
B. SURFACES OF MEMBERS CAST AGAINST, AND IN CONTACT WITH THE GROUND SEPARATED BY MEMBRANE	40mm
C. SURFACES OF MEMBERS IN ABOVE GROUND EXTERIOR ENVIRONMENTS	40mm
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:

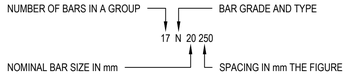


FOLLOWING THE FABRIC SYMBOL SL IS THE REFERENCE NUMBER FOR FABRIC TO AS 1304.

12. uPVC SHEET SHALL BE PLACED BELOW ALL CONCRETE PAVEMENTS.
13. ALL PENETRATIONS TO HAVE 2/N12 TRIMMER BARS TOP AND BOTTOM TO EACH FACE U.N.O. EXTEND TRIMMERS 700 BEYOND PENETRATION.
14. FORMWORK CLASS SHALL BE IN ACCORDANCE WITH AS380.
15. SURFACE FINISHES:

ELEMENT	FORMWORK CLASS
STORMWATER PIT	OFF FORM
PAVEMENTS	MACHINE FLOAT/BROOM FINISHED
KERBS	STEEL FLOAT/TROWEL

16. REINFORCEMENT SYMBOLS:
    N DENOTES GRADE 450 N BARS TO AS 1302 GRADE N
    R DENOTES 230 R HOT ROLLED PLAIN BARS TO AS 1302
    SL DENOTES HARD-DRAWN WIRE REINFORCING FABRIC TO AS 1304



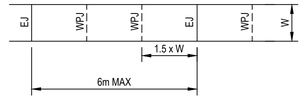
KERBS

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.

PAVEMENT JOINTS

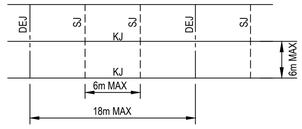
PEDESTRIAN PAVEMENTS

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.
5. TYPICAL PEDESTRIAN PAVEMENT JOINT DETAIL.



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.

REV.	DATE	DESCRIPTION	DRN.	DES.	VERIF.	APPD.
1	7/03/2024	ISSUED FOR DEVELOPMENT APPLICATION	ZW	LD	-	MKH

Client: SEKISUI HOUSE

Scale:

North:

enspire
Enspire Solutions Pty Ltd
Level 4, 153 Walker Street, North Sydney NSW 2060
ABN: 71 624 801 690
Phone: 02 9922 6135 enspiresolutions.com.au

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

Title: SPECIFICATION NOTES
SHEET 02

Size: A1

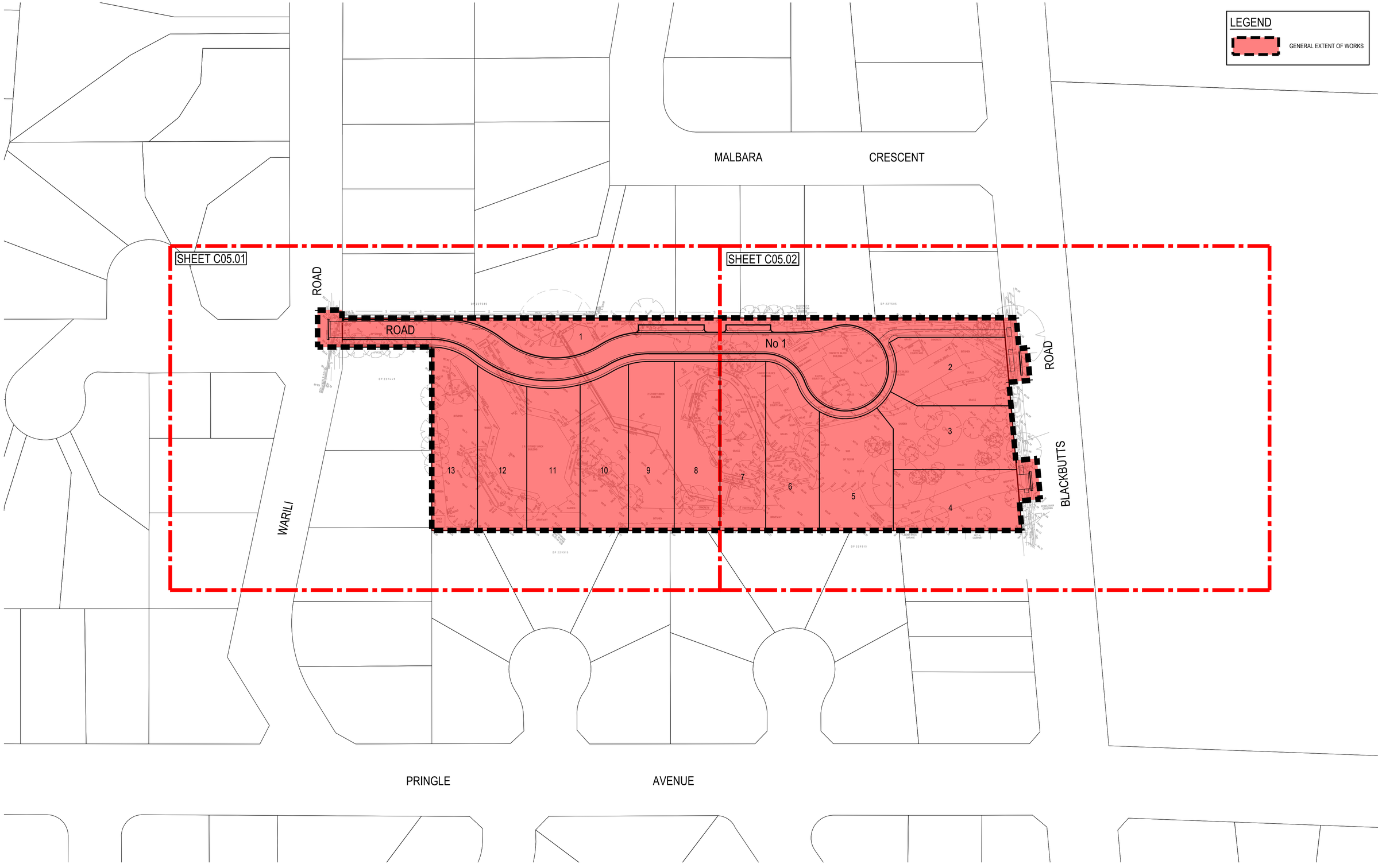
Datum: GDA 2020

Project Number/Drawing Number: 230057-00-DA-C01.22

Revision: 1

DATE PLOTTED: 7 March 2024 5:51 PM BY: LACHLAN DRAKE

CAD File: P:\230057 BlackbuttsRd\D-Civil\00-SiteWide\Drawings\6-DACC\230057-00-DA-C01.21-C01.22 SPECIFICATION NOTES.dwg



REV.	DATE	DESCRIPTION	DRN.	DES.	VERIF.	APPD.
1	7/03/2024	ISSUED FOR DEVELOPMENT APPLICATION	ZW	LD	-	MKH

Client

SEKISUI HOUSE

Scale

0 10 20 30 40 50m

SCALE 1:500 @A1

North

enspire

Enspire Solutions Pty Ltd
Level 4, 153 Walker Street, North Sydney NSW 2060
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Project
49 BLACKBUTTS ROAD
FRENCHS FOREST
CIVIL ENGINEERING WORKS

Title
GENERAL ARRANGEMENT PLAN

Scale
1:500

Date
07/03/2024

Size
A1

Datum
GDA 2020

Status
FOR INFORMATION ONLY
NOT TO BE USED FOR CONSTRUCTION

Project Number/Drawing Number
230057-00-DA-C01.41

Revision
1

DATE PLOTTED: 7 March 2024 5:51 PM BY - LACHLAN DRAKE

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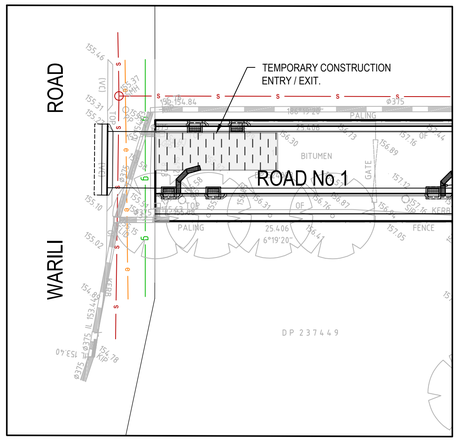

CONTINUATION 'A'

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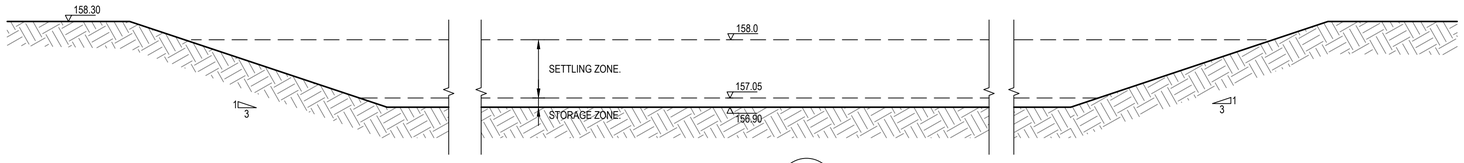


SECTION 1

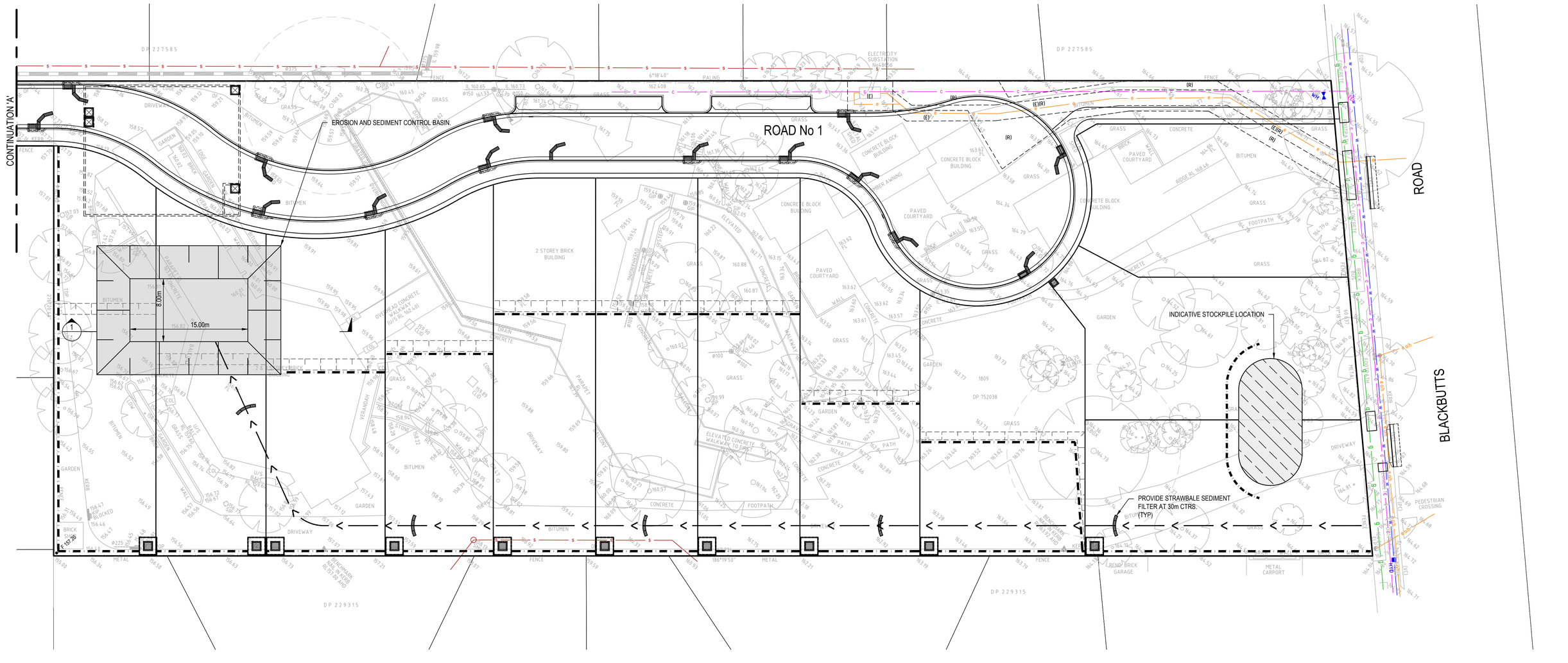
SCALE 1:50

NOTE

REFER DRG: CC03.21 FOR EROSION AND SEDIMENT BASIN CALCULATION TABLE.

LEGEND

- TEMPORARY CONSTRUCTION EXIT — REFER TO DRG. C03.21 FOR DETAIL
- STOCKPILES (SD 4-1) — REFER TO DRG. C03.21 FOR DETAIL
- SEDIMENT FENCE (SD 6-8) — REFER TO DRG. C03.21 FOR DETAIL
- CATCH DRAIN — REFER TO DRG. C03.21 FOR DETAIL
- SEDIMENT TRAP FOR KERB INLET (ON GRADE - SANDBAG) — REFER TO DRG. C03.21 FOR DETAIL
- GEOTEXTILE INLET FILTER (SD 6-12) — REFER TO DRG. C03.21 FOR DETAIL
- STRAWBALE SEDIMENT FILTER (SD 6-7) — REFER TO DRG. C03.21 FOR DETAIL



REV.	DATE	DESCRIPTION	DRN.	DES.	VERIF.	APPD.
1	7/03/2024	ISSUED FOR DEVELOPMENT APPLICATION	ZW	LD	-	MKH

Client: SEKISUI HOUSE

Scale: 0 1 2 3 4 5m — SCALE 1:50 @A1; 0 5 10 15 20 25m — SCALE 1:250 @A1

North

enspire
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Project: 49 BLACKBUTTS ROAD
FRENCHS FOREST
CIVIL ENGINEERING WORKS

Title: EROSION AND SEDIMENTATION CONTROL PLAN

Scale: AS SHOWN

Date: 07/03/2024

Size: A1

Datum: GDA 2020

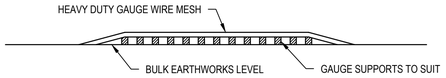
Status: FOR INFORMATION ONLY
NOT TO BE USED FOR CONSTRUCTION

Project Number/Drawing Number: 230057-00-DA-C03.01

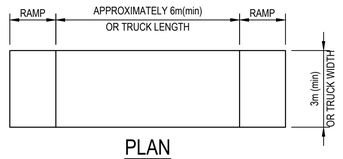
Revision: 1

DATE PLOTTED: 7 March 2024 5:52 PM BY : LACHLAN DRAKE

CAD File: P:\230057 BlackbuttsRd\D-Civil\00-SiteWide\Drawings\6-DACC\230057-00-DA-C03.01 EROSION AND SEDIMENTATION CONTROL PLAN.dwg



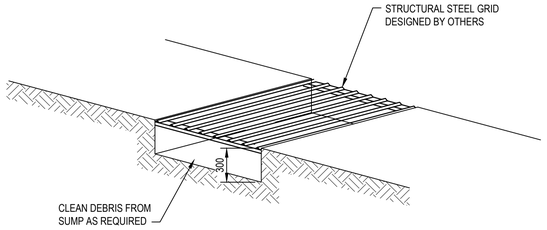
ELEVATION



PLAN

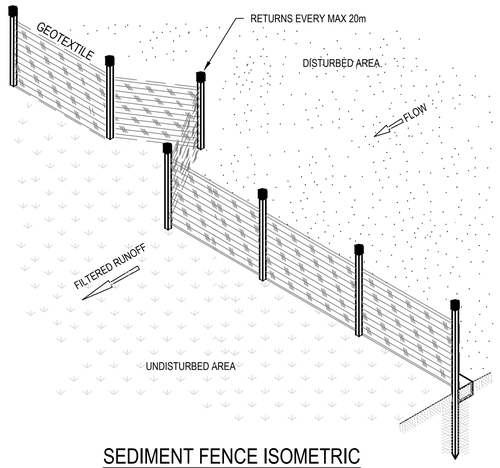
TEMPORARY CONSTRUCTION EXIT (SHAKER PAD DETAIL)

THE EXIT SHALL BE MAINTAINED IN A CONDITION WHICH PREVENTS TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS OF WAY. THIS MAY REQUIRE REPAIR AND OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS OF WAY MUST BE REMOVED IMMEDIATELY.



SHAKER PAD

NOT TO SCALE



SEDIMENT FENCE ISOMETRIC

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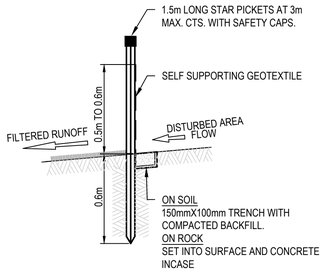

SEDIMENT FENCE SECTION

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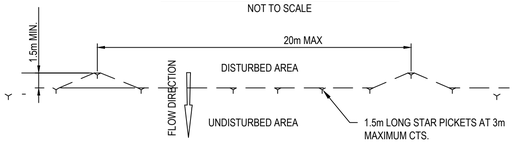

SEDIMENT FENCE PLAN

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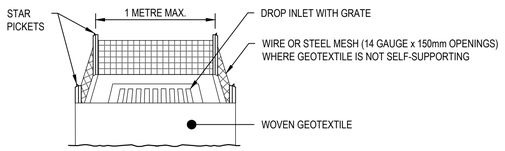
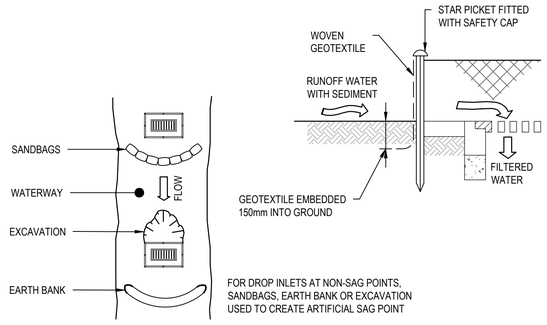
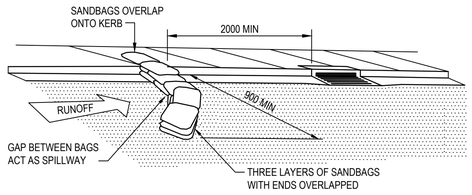




CONSTRUCTION NOTES

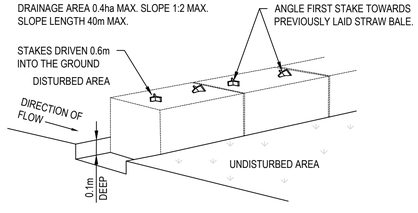
1. FABRICATE A SEDIMENT BARRIER MADE FROM GEOTEXTILE OR STRAW BALES.
2. FOLLOW STANDARD DRAWING 6-7 AND STANDARD DRAWING 6-8 FOR INSTALLATION PROCEDURES FOR THE STRAW BALES OR GEOFABRIC. REDUCE THE PICKET SPACING TO 1 METRE CENTRES.
3. IN WATERWAYS, ARTIFICIAL SAG POINTS CAN BE CREATED WITH SANDBAGS OR EARTH BANKS AS SHOWN IN THE DRAWING.
4. DO NOT COVER THE INLET WITH GEOTEXTILE UNLESS THE DESIGN IS ADEQUATE TO ALLOW FOR ALL WATERS TO BYPASS IT.

GEOTEXTILE INLET FILTER (SD 6-12)



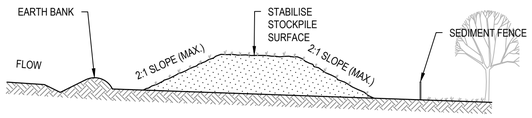
SEDIMENT TRAP FOR KERB INLET (ON GRADE - SANDBAG)

NOT TO SCALE



STRAW BALE SEDIMENT FILTER

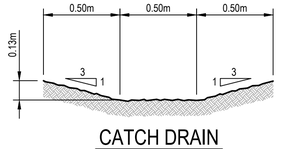
NOT TO SCALE



CONSTRUCTION NOTES

1. PLACE STOCKPILES MORE THAN 2m (PREFERABLY 5m) FROM EXISTING VEGETATION, CONCENTRATED WATER FLOW, ROADS AND HAZARD AREAS.
2. CONSTRUCT ON THE CONTOUR AS LOW, FLAT, ELONGATED MOUNDS.
3. WHERE THERE IS SUFFICIENT AREA, TOPSOIL STOCKPILES SHALL BE LESS THAN 2m IN HEIGHT.
4. WHERE THEY ARE TO BE IN PLACE FOR MORE THAN 10 DAYS, STABILISE FOLLOWING THE APPROVED ESCP OR SWMP TO REDUCE THE C-FACTOR TO LESS THAN 0.10.
5. CONSTRUCT EARTH BANKS (STANDARD DRAWING 5-5) ON THE UPSLOPE SIDE TO DIVERT WATER AROUND STOCKPILES AND SEDIMENT FENCES (STANDARD DRAWING 6-8) 1 TO 2m DOWNSLOPE.

STOCKPILES (SD 4-1)



CATCH DRAIN

SCALE 1:20

1. Erosion Hazard and Sediment Basins

Site Name: 49 Blackbutts Road

Site Location: Frenchs Forest

Precinct/Stage:

Other Details:

Site area	Sub-catchment or Name of Structure						Notes
Total catchment area (ha)	1.017						
Disturbed catchment area (ha)	1.017						
Soil analysis (enter sediment type if known, or laboratory particle size data)							
Sediment Type (C, F or D) if known:	C						From Appendix C (if known)
% sand (fraction 0.02 to 2.00 mm)							Enter the percentage of each soil fraction. E.g. enter 10 for 10%
% silt (fraction 0.002 to 0.02 mm)							
% 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
Soil Texture Group	C						Automatic calculation from above
Rainfall data							
Design rainfall depth (no of days)	5						See Section 6.3.4 and, particularly, Table 6.3 on pages 6-24 and 6-25.
Design rainfall depth (percentile)	85						
x-day, y-percentile rainfall event (mm)	44						
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						RUSLE LS factor calculated for a high rill/interrill ratio.
Slope length (m)	170						
Slope gradient (%)	5.5						
Length/gradient (*LS*-factor)	2.07						
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 Type C (Coarse) Sediment Basins

Type C Basin Design Criteria							
Structure Name							Auto-filled from Worksheet 1
Catchment Area (ha)	1.017						Auto-filled from Worksheet 1
Sediment type (C, F or D)	C						Auto-filled from Worksheet 1
Design rainfall event	0.5						Choose design event from dropdown
Flow volume (m^3/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 Calculations							
Basin Surface Area (m^2)	356.7	Not Type C	Not Type C	Not Type C	Not Type C	Not Type C	Auto-calculated
Settling (water) zone volume (m^3)	214	Not Type C	Not Type C	Not Type C	Not Type C	Not Type C	Auto-calculated
Storage (soil) zone volume (m^3)	10.7	Not Type C	Not Type C	Not Type C	Not Type C	Not Type C	Auto-calculated
Total basin volume (m^3)	224.7	Not Type C	Not Type C	Not Type C	Not Type C	Not Type C	Auto-calculated

REV.	DATE	DESCRIPTION	DRN.	DES.	VERIF.	APPD.
1	7/03/2024	ISSUED FOR DEVELOPMENT APPLICATION	ZW	LD	-	MKH

Client: SEKISUI HOUSE

Scale:

North:

enspire
Enspire Solutions Pty Ltd
Level 4, 153 Walker Street, North Sydney NSW 2060
ABN: 71 624 801 690
Phone: 02 9922 6135 enspiresolutions.com.au

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

Title: EROSION AND SEDIMENTATION CONTROL DETAILS

Size: A1

Datum: GDA 2020

Project Number/Drawing Number: 230057-00-DA-C03.21

Revision: 1

DATE PLOTTED: 7 March 2024 5:52 PM BY - LACHLAN DRAKE

CAD File: P:\230057 BlackbuttsRd\D-Civil\00-SiteWide\Drawings\6-DACC\230057-00-DA-C03.21 EROSION AND SEDIMENTATION CONTROL DETAILS.dwg

CONTINUATION 'A'

SCALE 1:250

NOTES

1. NO ALLOWANCE HAS BEEN MADE FOR BULKING FACTORS. NOTE ALL VOLUMES DEPICTED ARE SOLID VOLUMES ONLY AND MAY NOT REFLECT DETAILED EARTHWORKS.
2. NO ALLOWANCE HAS BEEN MADE FOR DETAILED EARTHWORKS. ie SERVICE TRENCHING, DETAILED EXCAVATION AND THE LIKE.
3. APPROXIMATE BULK EARTHWORKS VALUES AS FOLLOWS;
   CUT 1,775m^3
   FILL 3,200m^3
   BALANCE 1,425m^3 (IMPORT)

VOLUMES BASED ON EXISTING SURFACE LEVEL VERSES DESIGN SURFACE LEVEL. ALLOWANCE HAS BEEN MADE FOR STRIPPING AND BULKING OF ROAD.

LEGEND

- GREATER THAN 3.5m CUT
- 3.0m TO 3.5m CUT
- 2.5m TO 3.0m CUT
- 2.0m TO 2.5m CUT
- 1.5m TO 2.0m CUT
- 1.0m TO 1.5m CUT
- 0.5m TO 1.0m CUT
- 0.0m TO 0.5m CUT
- 0.0m TO 0.5m FILL
- 0.5m TO 1.0m FILL
- 1.0m TO 1.5m FILL
- 1.5m TO 2.0m FILL
- 2.0m TO 2.5m FILL
- GREATER THAN 2.5m FILL

REV.	DATE	DESCRIPTION	DRN.	DES.	VERIF.	APPD.
1	7/03/2024	ISSUED FOR DEVELOPMENT APPLICATION	ZW	LD	-	MKH

Client: SEKISUI HOUSE

Scale: 0 5 10 15 20 25m
SCALE 1:250 @A1

North

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Enspire Solutions Pty Ltd
Level 4, 153 Walker Street, North Sydney NSW 2060
ABN: 71 624 801 690
Phone: 02 9922 6135 enspiresolutions.com.au

Project: 49 BLACKBUTTS ROAD
FRENCHS FOREST
CIVIL ENGINEERING WORKS

Title: EARTHWORKS CUT AND FILL PLAN

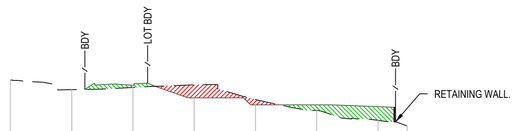
Scale: 1:250
Date: 07/03/2024
Size: A1
Datum: GDA 2020

Status: FOR INFORMATION ONLY
NOT TO BE USED FOR CONSTRUCTION

Project Number/Drawing Number: 230057-00-DA-C04.01
Revision: 1

DATE PLOTTED: 8 March 2024 12:09 PM BY - LACHLAN DRAKE

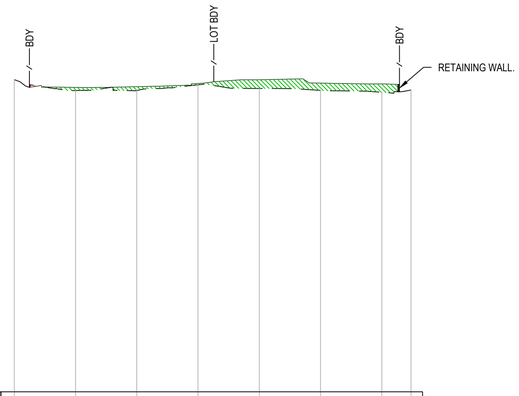
CAD File: P:\230057 BlackbuttsRd\D-Civil\00-SiteWide\Drawings\6-DACC\230057-00-DA-C04.01 EARTHWORKS CUT AND FILL PLAN.dwg



DATUM RL 139.0

EXISTING SURFACE	160.37	159.57	159.75	159.96	158.76	157.89	157.07	156.61
DESIGN SURFACE			159.91	158.91	158.33	158.33	158.18	
CHAINAGE	0.00	10.00	20.00	30.00	40.00	50.00	60.00	64.74

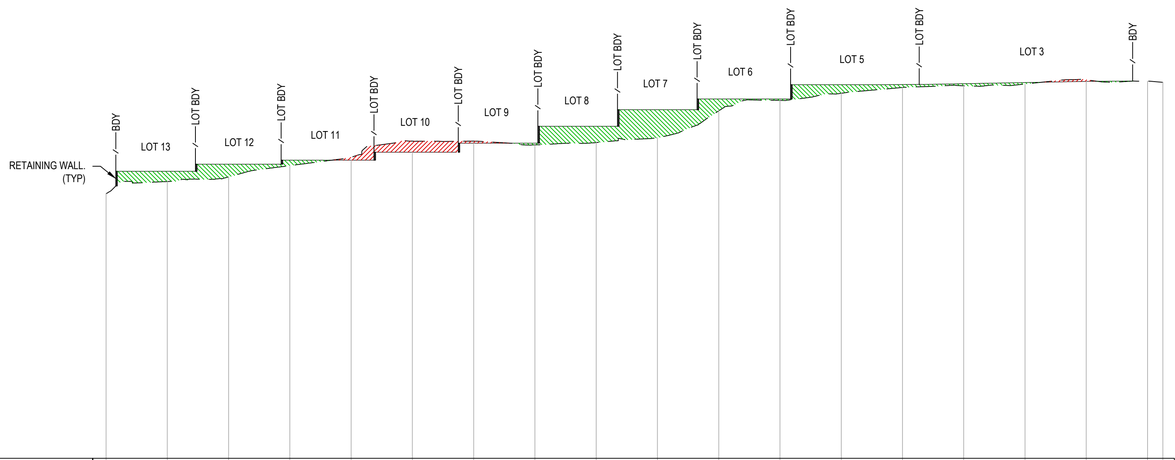
SECTION A
C04.01
HORIZONTAL SCALE 1:500@A1
VERTICAL SCALE 1:250@A1



DATUM RL 139.0

EXISTING SURFACE	164.46	163.58	163.58	164.04	163.75	163.58	163.44	163.63
DESIGN SURFACE		163.84	163.90	164.16	164.46	164.18	164.12	
CHAINAGE	0.00	10.00	20.00	30.00	40.00	50.00	60.00	64.76

SECTION B
C04.01
HORIZONTAL SCALE 1:500@A1
VERTICAL SCALE 1:250@A1



DATUM RL 134.0

BASE SURFACE	155.59	156.59	156.97	157.89	158.56	159.89	159.89	159.58	159.77	160.17	162.36	163.21	163.79	164.26	164.41	164.55	164.89	164.78	164.77
DESIGN SURFACE		157.43	158.01	158.33	158.33	158.98	159.72	159.72	161.10	162.45	163.33	163.33	164.50	164.51	164.58	164.67	164.76		
CHAINAGE	0.00	10.00	20.00	30.00	40.00	50.00	60.00	70.00	80.00	90.00	100.00	110.00	120.00	130.00	140.00	150.00	160.00	170.00	170.47

SECTION C
C04.01
HORIZONTAL SCALE 1:500@A1
VERTICAL SCALE 1:250@A1

REV.	DATE	DESCRIPTION	DRN.	DES.	VERIF.	APPD.
1	7/03/2024	ISSUED FOR DEVELOPMENT APPLICATION	ZW	LD	-	MKH

Client: SEKISUI HOUSE

Scale: H: 0 10 20 30 40 50m; V: 0 2 4 6 8 10m; SCALE: H:1:500 V:1:100 @A1

North

Enspire Solutions Pty Ltd
Level 4, 153 Walker Street, North Sydney NSW 2060
ABN: 71 624 801 690
Phone: 02 9922 6135 enspiresolutions.com.au

Project: 49 BLACKBUTTS ROAD
FRENCHS FOREST
CIVIL ENGINEERING WORKS

Title: EARTHWORKS CUT AND FILL SECTIONS

Scale: AS SHOWN
Date: 07/03/2024
Size: A1
Datum: GDA 2020

Status: FOR INFORMATION ONLY
NOT TO BE USED FOR CONSTRUCTION

Project Number/Drawing Number: 230057-00-DA-C04.21

Revision: 1

DATE PLOTTED: 7 March 2024 5:52 PM BY: LACHLAN DRAKE

CAD File: P:\230057 BlackbuttsRd\D-Civil\00-SiteWide\Drawings\6-DACC\230057-00-DA-C04.21 EARTHWORKS CUT AND FILL SECTIONS.dwg

LEGEND

- SITE BOUNDARY
- 100.00 — CONTOUR
- BATTER
- RW — RETAINING WALL
- K&G — KERB AND GUTTER
- KO — KERB ONLY
- RK&G — ROLL KERB AND GUTTER
- DD — DISH DRAIN
- KERB RAMP
- LBK — LAYBACK KERB REFER COUNCIL SD03 STANDARD DETAIL
- FFL 158.00 — FINISHED FLOOR LEVEL
- GFL 157.89 — GARAGE FINISHED FLOOR LEVEL
- F 100.00 — FINISHED LEVEL
- IL 100.00 — INVERT LEVEL
- SS — SUBSOIL DRAINAGE LINE
- FP — SUBSOIL FLUSHING POINT
- IR — SUBSOIL INTERMEDIATE RISER
- 375 — PIPE SIZE STORMWATER DRAINAGE LINE FLOW DIRECTION
- A01/01 — STORMWATER LINE/PIT NUMBER
- KERB INLET PIT
- SURFACE INLET PIT/JUNCTION PIT

NOTE

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

ROAD

ROAD No 1

WARILI

DECOMMISSION EXISTING 300mm PVC PIPE. CUT AND CAP

SAWCUT AC PAVEMENT 0.60m FROM EXISITNG LIP LINE. CONSTRUCT LAY BACK KERB AND MAKE SMOOTH CONNECTION WITH EXISTING.

CONSTRUCT LAY BACK KERB AND MAKE SMOOTH CONNECTION WITH EXISTING.

MAKE SMOOTH CONNECTION TO EXISTING STORMWATER PIT.

PROVIDE Ø215 ORIFICE PLATE.

EXISTING SW PIT AND PIPE TO BE REMOVED.

TRANSITION K&G TO RK&G OVER 1m

TRANSITION ROAD WIDTH FROM 5.5m TO 8M FROM CH 33.96 TO 51.49

OSD TANK, REFER DRG: C17.01 FOR DETAIL.

TRANSITION ROAD WIDTH FROM 8m TO 6m FROM CH 51.49 TO 92.03

EXISTING TREE TO BE RETAINED. (TYP)

CH 0.00 · CH 6.45 · CH 7.45 · CH 8.49 · CH 15.00 · CH 23.57 · CH 30.00 · CH 33.90 · CH 45.00 · CH 51.49 · CH 54.68 · CH 60.57 · CH 61.00 · CH 64.53 · CH 75.00 · CH 77.54 · CH 85.95 · CH 90.00 · CH 92.20 · CH 99.74 · CH 105.00 · CH 106.88 · CH 111.79

COMMUNITY PROPERTY

DP 227585 · DP 237449 · DP 229315

RETAINING WALL MAX. 2.2m HIGH.
RETAINING WALL MAX. 0.25m HIGH.
RETAINING WALL MAX. 0.8m HIGH.
RETAINING WALL MAX. 0.55m HIGH.
RETAINING WALL MAX. 0.55m HIGH.
RETAINING WALL MAX. 0.65m HIGH.
RETAINING WALL MAX. 0.65m HIGH.
RETAINING WALL MAX. 1.3m HIGH.
RETAINING WALL MAX. 0.60m HIGH.
RETAINING WALL MAX. 0.35m HIGH.
RETAINING WALL MAX. 0.75m HIGH.
RETAINING WALL MAX. 1.4m HIGH.
RETAINING WALL MAX. 1.4m HIGH.
RETAINING WALL MAX. 1.4m HIGH.
RETAINING WALL MAX. 1.4m HIGH.
RETAINING WALL MAX. 1.5m HIGH.
RETAINING WALL MAX. 1.4m HIGH.
EXISTING SEWER LINE TO REMAIN.

FFL 158.11 · GFL158.00 · GFL158.24 · FFL 158.35 · GFL158.90 · FFL 159.01 · GFL159.55 · FFL 159.66 · GFL160.29 · FFL 160.40 · GFL161.67 · FFL 161.78

13 FFL 157.43 · 12 FFL 158.01 · 11 FFL 158.33 · 10 FFL 158.98 · 9 FFL 159.72 · 8 FFL 161.10

FOR CONTINUATION REFER DRG: C05.02

REV.	DATE	DESCRIPTION	DRN.	DES.	VERIF.	APPD.
1	7/03/2024	ISSUED FOR DEVELOPMENT APPLICATION	ZW	LD	-	MKH
1	28/02/2024	80% ISSUED FOR INFORMATION	ZW	LD	-	MKH

Client: SEKISUI HOUSE

Scale: 0 5 10 15 20m — SCALE 1:200 @A1

North

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Project: 49 BLACKBUTTS ROAD FRENCHS FOREST CIVIL ENGINEERING WORKS

Title: SITEWORKS AND STORMWATER MANAGEMENT PLAN SHEET 01

Scale: 1:200

Date: 28/02/2024

Size: A1

Datum: GDA 2020

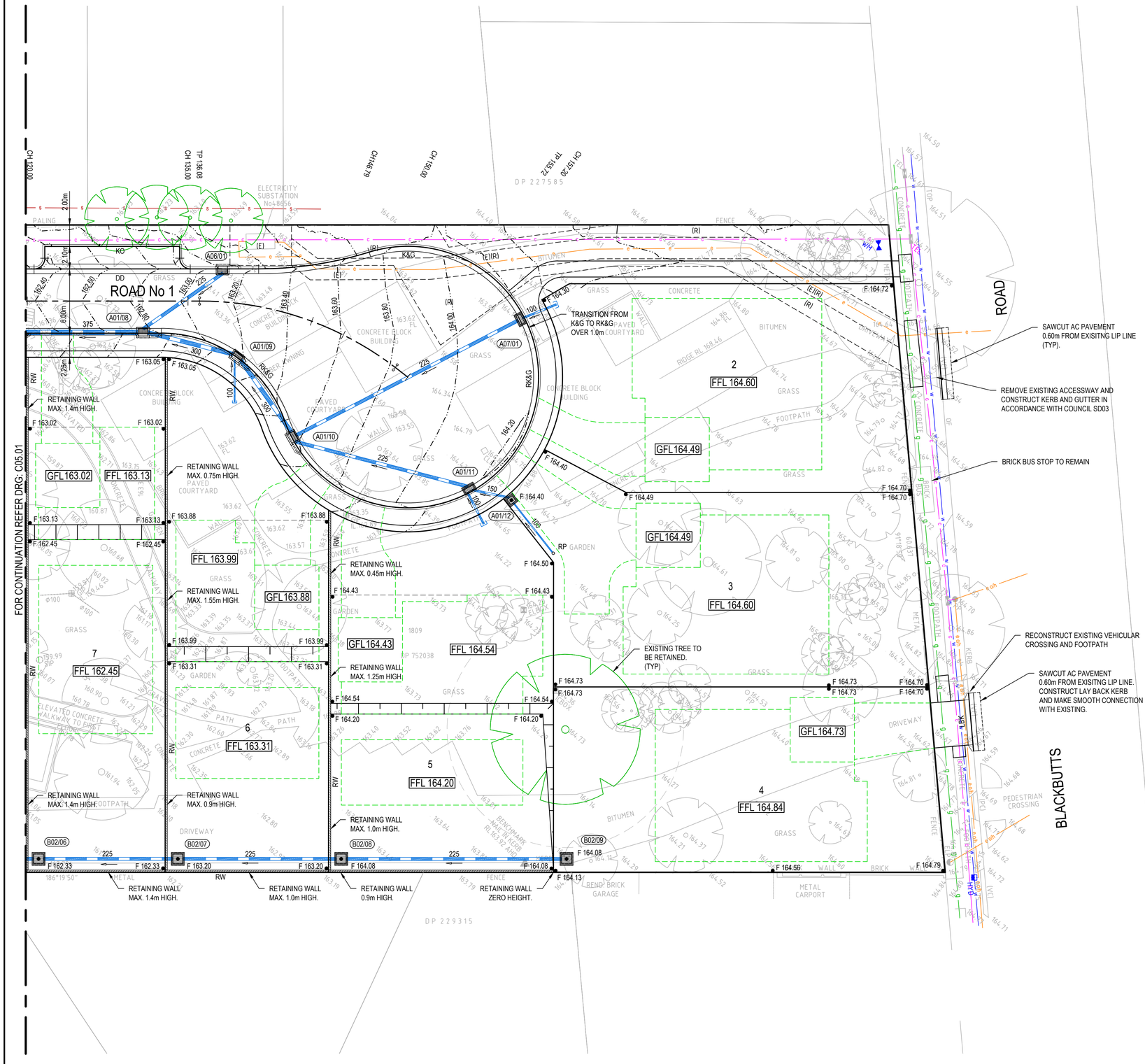
Status: FOR INFORMATION ONLY — NOT TO BE USED FOR CONSTRUCTION

Project Number/Drawing Number: 230057-00-DA-C05.01

Revision: 1

DATE PLOTTED: 7 March 2024 5:52 PM BY : LACHLAN DRAKE

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



LEGEND

- SITE BOUNDARY
- 100.00 — CONTOUR
- BATTER
- RW — RETAINING WALL
- K&G — KERB AND GUTTER
- KO — KERB ONLY
- RK&G — ROLL KERB AND GUTTER
- DD — DISH DRAIN
- KERB RAMP
- LBK — LAYBACK KERB REFER COUNCIL SD03 STANDARD DETAIL
- FFL 158.00 — FINISHED FLOOR LEVEL
- GFL 157.89 — GARAGE FINISHED FLOOR LEVEL
- F 100.00 — FINISHED LEVEL
- IL 100.00 — INVERT LEVEL
- SS — SS — SUBSOIL DRAINAGE LINE
- FP — SUBSOIL FLUSHING POINT
- IR — SUBSOIL INTERMEDIATE RISER
- 375 — PIPE SIZE STORMWATER DRAINAGE LINE FLOW DIRECTION
- A01/01 — STORMWATER LINE/PIT NUMBER
- KERB INLET PIT
- SURFACE INLET PIT/JUNCTION PIT

NOTE

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

REV.	DATE	DESCRIPTION	DRN.	DES.	VERIF.	APPD.
1	7/03/2024	ISSUED FOR DEVELOPMENT APPLICATION	ZW	LD	-	MKH
1	28/02/2024	80% ISSUED FOR INFORMATION	ZW	LD	-	MKH

Client: SEKISUI HOUSE

Scale: 0 5 10 15 20m — SCALE 1:200 @A1

North

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ABN: 71 624 801 690
Phone: 02 9922 6135 enspiresolutions.com.au

Project: 49 BLACKBUTTS ROAD
FRENCHS FOREST
CIVIL ENGINEERING WORKS

Title: SITEWORKS AND STORMWATER MANAGEMENT PLAN SHEET 02

Scale: 1:200
Date: 28/02/2024
Size: A1
Datum: GDA 2020

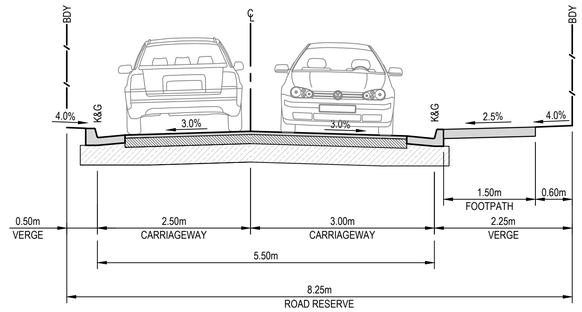
Status: FOR INFORMATION ONLY
NOT TO BE USED FOR CONSTRUCTION

Project Number/Drawing Number: 230057-00-DA-C05.02

Revision: 1

DATE PLOTTED: 7 March 2024 5:52 PM BY : LACHLAN DRAKE

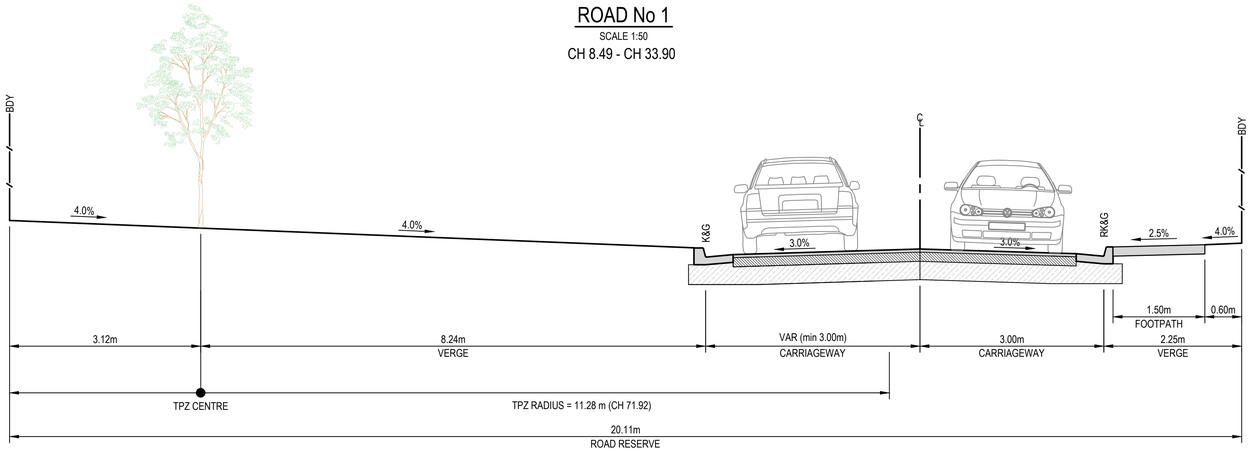
CAD File: P:\230057 BlackbuttsRd\D-Civil\00-SiteWide\Drawings\6-DACC\230057-00-DA-C05.01-C05.02 SITEWORKS AND STORMWATER MANAGEMENT PLAN.dwg



ROAD No 1

SCALE 1:50

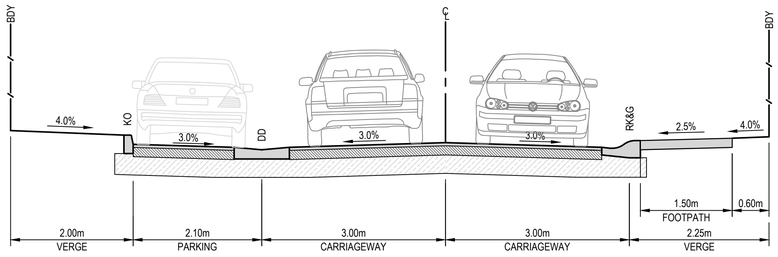
CH 8.49 - CH 33.90



ROAD No 1 - TPZ

SCALE 1:50

CH 54.09 - CH 88.28

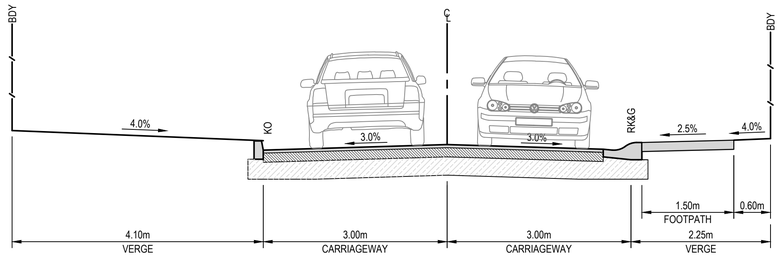


ROAD No 1 WITH PARKING

SCALE 1:50

CH 97.73 TO 115.33

CH 121.63 TO 134.23



ROAD No 1 WITHOUT PARKING

SCALE 1:50

CH 115.33 TO 121.63

REV.	DATE	DESCRIPTION	DRN.	DES.	VERIF.	APPD.
1	7/03/2024	ISSUED FOR DEVELOPMENT APPLICATION	ZW	LD	-	MKH

Client: SEKISUI HOUSE

Scale: 0 1 2 3 4 5m — SCALE 1:50 @A1

North

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Project: 49 BLACKBUTTS ROAD
FRENCHS FOREST
CIVIL ENGINEERING WORKS

Title: ROAD TYPICAL CROSS SECTIONS

Scale: 1:50

Date: 07/03/2024

Size: A1

Datum: GDA 2020

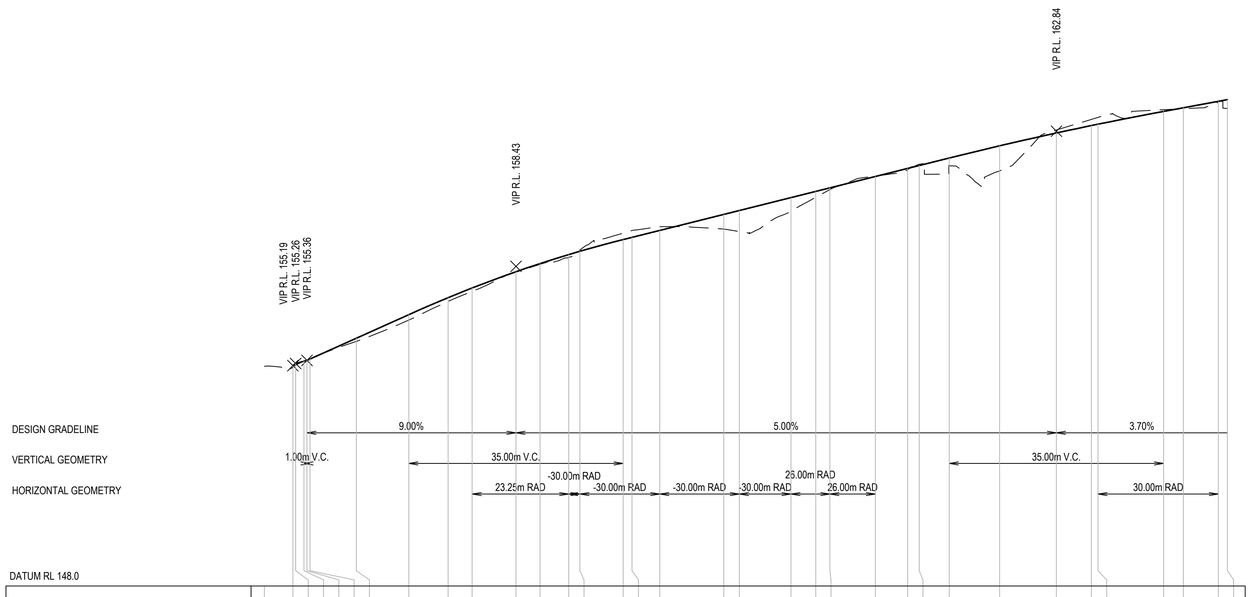
Status: FOR INFORMATION ONLY
NOT TO BE USED FOR CONSTRUCTION

Project Number/Drawing Number: 230057-00-DA-C06.01

Revision: 1

DATE PLOTTED: 7 March 2024 5:52 PM BY : LACHLAN DRAKE

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



FINISHED SURFACE		155.19	155.26	155.33	155.37	155.41	156.09	156.86	157.41	157.73	158.26	158.52	158.82	158.93	159.31	159.38	159.61
EXISTING SURFACE	155.17	155.19	155.21	155.34	155.39	155.43	155.98	156.68	157.29	157.62	158.25	158.50	158.72	158.97	159.52	159.60	159.72
CHAINAGE	0.00	4.65	5.10	6.45	6.95	7.45	15.00	23.57	30.00	33.90	41.07	45.00	49.68	51.49	58.57	60.00	64.53

FINISHED SURFACE	160.13	160.26	160.68	160.88	160.99	161.37	161.63	161.72	161.97	162.37	162.79	163.03	163.07	163.49	163.61	163.82	163.88
EXISTING SURFACE	159.65	159.57	160.23	160.69	160.94	161.38	161.58	161.77	161.72	161.55	162.88	163.23	163.30	163.54	163.58	163.79	163.59
CHAINAGE	75.00	77.54	85.95	90.00	92.30	99.74	105.00	106.88	111.79	120.00	129.29	135.00	136.08	146.79	150.00	155.72	157.20

ROAD 01 LONGITUDINAL SECTION

SCALE 1:500 HORI
SCALE 1:100 VERT

REV.	DATE	DESCRIPTION	DRN.	DES.	VERIF.	APPD.
1	7/03/2024	ISSUED FOR DEVELOPMENT APPLICATION	ZW	LD	-	MKH

Client
SEKISUI HOUSE

Scale
0 2 4 6 8 10m
SCALE: 1:100
@A1

North

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Level 4, 153 Walker Street, North Sydney NSW 2060
ABN: 71 624 801 690
Phone: 02 9922 6135
enspiresolutions.com.au

Project
49 BLACKBUTTS ROAD
FRENCHS FOREST
CIVIL ENGINEERING WORKS

Title
ROAD LONGITUDINAL SECTION

Scale
AS SHOWN

Date
07/03/2024

Size
A1

Datum
GDA 2020

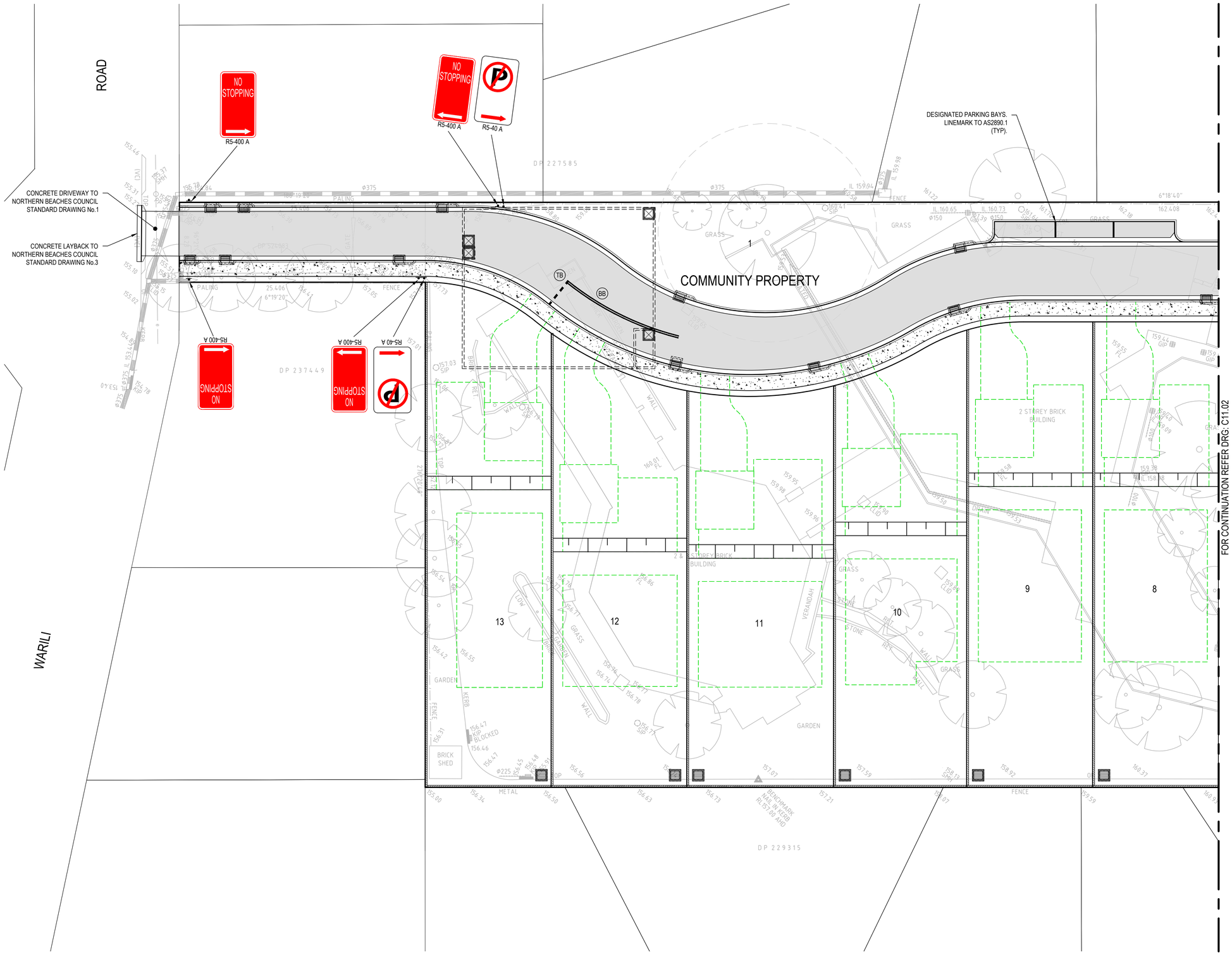
Status
FOR INFORMATION ONLY
NOT TO BE USED FOR CONSTRUCTION

Project Number/Drawing Number
230057-00-DA-C07.01

Revision
1

DATE PLOTTED: 7 March 2024 5:52 PM BY : LACHLAN DRAKE

CAD File: P:\230057 BlackbuttsRd\D-Civil\00-SiteWide\Drawings\6-DACC\230057-00-DA-C07.01 ROAD LONGITUDINAL SECTION.dwg



LEGEND

PAVEMENT TYPE 1
PRIVATE ROAD

PAVEMENT TYPE 2
PRIVATE CUL DE SAC

PAVEMENT TYPE 3
CONCRETE FOOTPATH
REFER NORTHERN BEACHES COUNCIL S004 & S005

NOTE:
REFER DRG: C14.01 FOR PAVEMENT DETAILS

PAVEMENT MARKING LEGEND

BARRIER LINES (BB)

GIVEWAY LINES (TB)

SIGNAGE AND LINE MARKING

1. LINE MARKING AND PAINT SHALL BE IN ACCORDANCE WITH AS 2700 AND AS 4049 AND TINSW SPECIFICATIONS.
2. ALL PAINT SHALL BE APPLIED BY MECHANICAL SPRAYER.
3. LINE MARKING SHALL BE SPOTTED OUT AND APPROVED PRIOR TO SPRAYING.
4. PAINT SHALL BE APPLIED AT A WET THICKNESS OF BETWEEN 0.35mm TO 0.40mm.
5. TRANSITION LINEMARKING TO SUIT EXISTING WHERE REQUIRED.ALL SIGNAGE TO BE INSTALLED IN ACCORDANCE WITH AUSTRALIAN STANDARDS.
6. REMOVE ALL REDUNDANT PAVEMENT MARKING AS REQUIRED.
7. PROVIDE RETRO-REFLECTORISED PAVEMENT MARKERS TO COUNCIL AND TINSW. REQUIREMENTS.
8. ALL LINEMARKING TO BE WHITE IN COLOUR WITH THE EXCEPTION OF C2 AND C3 LINES ARE TO BE YELLOW.
9. CARPARK LINEMARKING PAINT SHALL BE TYPE 3, CLASS A, AND THE COLOUR SHALL BE WHITE AND NOT DISCOLOURED BY BITUMEN. EACH LINE SHALL BE 80mm WIDE.
10. ALL SIGNAGE TO BE IN ACCORDANCE WITH THE CURRENT VERSION OF THE TINSW. REGULATORY SIGNS MANUAL.
11. RELOCATE OR REMOVE EXISTING SIGNS AS REQUIRED.
12. PROVIDE ADEQUATE APPROACH WARNING SIGNS DURING AND AFTER CONSTRUCTION.

REV.	DATE	DESCRIPTION	DRN.	DES.	VERIF.	APPD.
1	7/03/2024	ISSUED FOR DEVELOPMENT APPLICATION	ZW	LD	-	MKH

Client: SEKISUI HOUSE

Scale: 0 5 10 15 20m — SCALE 1:200 @A1

North

enspire
Enspire Solutions Pty Ltd
Level 4, 153 Walker Street, North Sydney NSW 2060
ABN: 71 624 801 690
Phone: 02 9922 6135 enspiresolutions.com.au

Project: 49 BLACKBUTTS ROAD
FRENCHS FOREST
CIVIL ENGINEERING WORKS

Title: PAVEMENT, SIGNAGE AND LINEMARKING PLAN
SHEET 01

Scale: 1:200
Date: 07/03/2024
Size: A1
Datum: GDA 2020

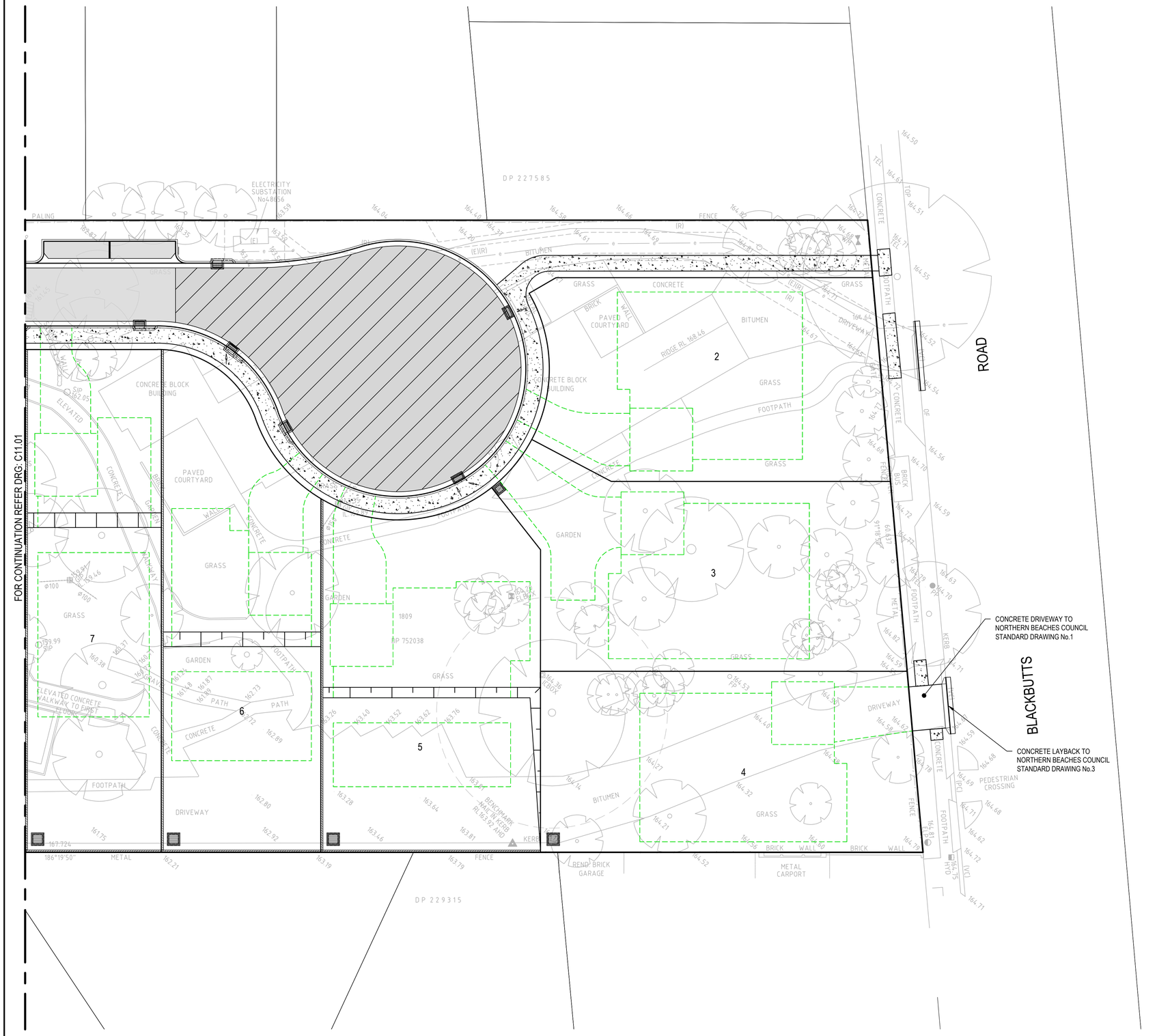
Status: FOR INFORMATION ONLY
NOT TO BE USED FOR CONSTRUCTION

Project Number/Drawing Number: 230057-00-DA-C11.01

Revision: 1

DATE PLOTTED: 7 March 2024 5:53 PM BY : LACHLAN DRAKE

CAD File: P:\230057 BlackbuttsRd\D-Civil\00-SiteWide\Drawings\6-DACC\230057-00-DA-C11.01-C11.02 PAVEMENT, SIGNAGE AND LINEMARKING PLAN.dwg



LEGEND

- PAVEMENT TYPE 1
  PRIVATE ROAD
- PAVEMENT TYPE 2
  PRIVATE CUL DE SAC
- PAVEMENT TYPE 3
  CONCRETE FOOTPATH
  REFER NORTHERN BEACHES COUNCIL S004 & S005

NOTE:
REFER DRG: C14.01 FOR PAVEMENT DETAILS

PAVEMENT MARKING LEGEND

BARRIER LINES (BB)

GIVEWAY LINES (TB)

SIGNAGE AND LINE MARKING

1. LINE MARKING AND PAINT SHALL BE IN ACCORDANCE WITH AS 2700 AND AS 4049 AND TfNSW SPECIFICATIONS.
2. ALL PAINT SHALL BE APPLIED BY MECHANICAL SPRAYER.
3. LINE MARKING SHALL BE SPOTTED OUT AND APPROVED PRIOR TO SPRAYING.
4. PAINT SHALL BE APPLIED AT A WET THICKNESS OF BETWEEN 0.35mm TO 0.40mm.
5. TRANSITION LINEMARKING TO SUIT EXISTING WHERE REQUIRED.ALL SIGNAGE TO BE INSTALLED IN ACCORDANCE WITH AUSTRALIAN STANDARDS.
6. REMOVE ALL REDUNDANT PAVEMENT MARKING AS REQUIRED.
7. PROVIDE RETRO-REFLECTORISED PAVEMENT MARKERS TO COUNCIL AND TfNSW. REQUIREMENTS.
8. ALL LINEMARKING TO BE WHITE IN COLOUR WITH THE EXCEPTION OF C2 AND C3 LINES ARE TO BE YELLOW.
9. CARPARK LINEMARKING PAINT SHALL BE TYPE 3, CLASS A, AND THE COLOUR SHALL BE WHITE AND NOT DISCOLOURED BY BITUMEN. EACH LINE SHALL BE 80mm WIDE.
10. ALL SIGNAGE TO BE IN ACCORDANCE WITH THE CURRENT VERSION OF THE TfNSW. REGULATORY SIGNS MANUAL.
11. RELOCATE OR REMOVE EXISTING SIGNS AS REQUIRED.
12. PROVIDE ADEQUATE APPROACH WARNING SIGNS DURING AND AFTER CONSTRUCTION.

REV.	DATE	DESCRIPTION	DRN.	DES.	VERIF.	APPD.
1	7/03/2024	ISSUED FOR DEVELOPMENT APPLICATION	ZW	LD	-	MKH

Client: SEKISUI HOUSE

Scale: 0 5 10 15 20m — SCALE 1:200 @A1

North

Enspire Solutions Pty Ltd
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Project: 49 BLACKBUTTS ROAD
FRENCHS FOREST
CIVIL ENGINEERING WORKS

Title: PAVEMENT, SIGNAGE AND LINEMARKING PLAN

SHEET 02

Scale: 1:200
Date: 07/03/2024
Size: A1
Datum: GDA 2020

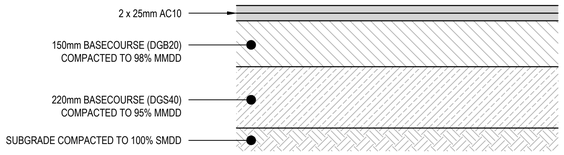
Status: FOR INFORMATION ONLY
NOT TO BE USED FOR CONSTRUCTION

Project Number/Drawing Number: 230057-00-DA-C11.02

Revision: 1

DATE PLOTTED: 7 March 2024 5:53 PM BY : LACHLAN DRAKE

CAD File: P:\230057 BlackbuttsRd\D-Civil\00-SiteWide\Drawings\6-DACC\230057-00-DA-C11.01-C11.02 PAVEMENT, SIGNAGE AND LINEMARKING PLAN.dwg

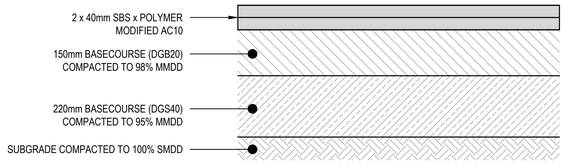


PAVEMENT TYPE 1 - ROAD No 1

SCALE 1:10

NOTES:

1. MIN CBR 4% (CONTRACTOR TO CONFIRM ONSITE).
2. DESIGN LOADING = $5x10^5$ ESA's
3. PRIME AND TACK COAT BASECOURSE SURFACE PRIOR TO PLACEMENT OF AC WEARING COURSE.

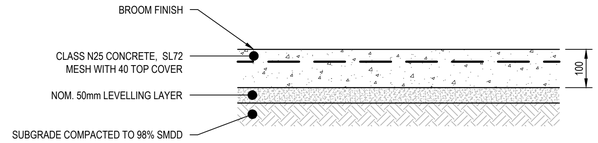


PAVEMENT TYPE 2 - CUL DE SAC

SCALE 1:10

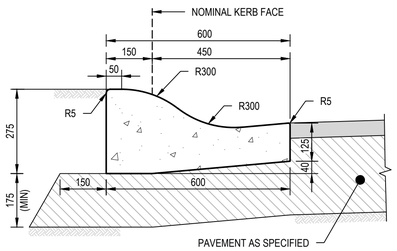
NOTES:

1. MIN CBR 4% (CONTRACTOR TO CONFIRM ONSITE).
2. DESIGN LOADING =5 $x10^4$ ESA's
3. PRIME AND TACK COAT BASECOURSE SURFACE PRIOR TO PLACEMENT OF AC WEARING COURSE.



PAVEMENT TYPE 3 - CONCRETE FOOTPATH

SCALE 1:10

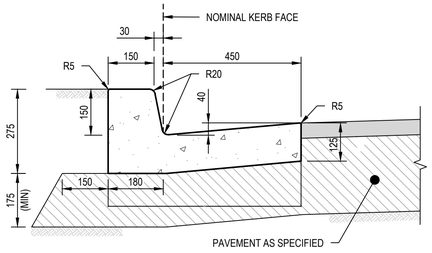


ROLL KERB AND GUTTER (RK&G)

SCALE 1:10

NOTE:

PROVIDE TOOL JOINTS AT MAX. 3.0m CTRS.

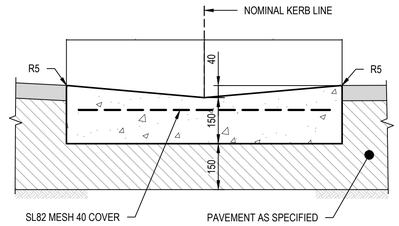


KERB AND GUTTER (K&G)

SCALE 1:10

NOTE:

PROVIDE TOOL JOINTS AT MAX. 3.0m CTRS.

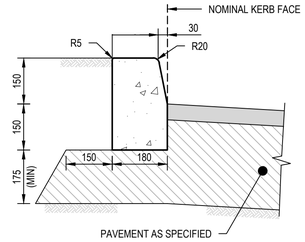


DISH DRAIN (DD)

SCALE 1:10

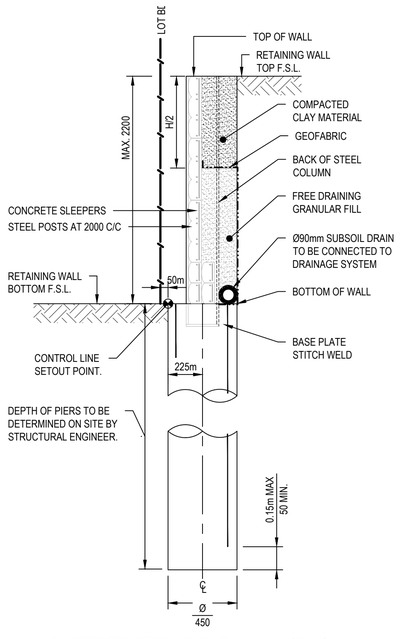
NOTE:

1. PROVIDE TOOL JOINTS AT MAX. 3.0m CTRS.
2. PROVIDE SUBSOIL BELOW DISH DRAIN. REFER DETAIL.



KERB ONLY (KO)

SCALE 1:10

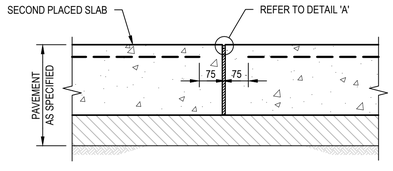


SLEEPER RETAINING WALL (RW)

SCALE 1:20

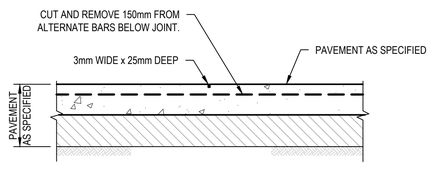
NOTE:

1. FOR WALL DETAILS REFER TO CONCRIB TECHNICAL DRAWING 'CONCRIB SLEEPERWALL 2006 SYSTEM DETAILS-S1'
2. WALLS TO BE STRUCTURALLY CERTIFIED BY WALL SUPPLIER PRIOR TO CONSTRUCTION.



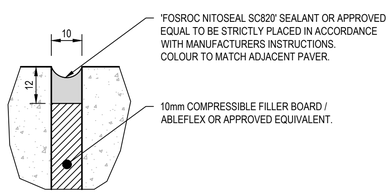
FOOTPATH EXPANSION JOINT

SCALE 1:10



FOOTPATH TOOL JOINT (TJ)

SCALE 1:10



DETAIL 'A'

N.T.S

REV.	DATE	DESCRIPTION	DRN.	DES.	VERIF.	APPD.
1	7/03/2024	ISSUED FOR DEVELOPMENT APPLICATION	ZW	LD	-	MKH

Client: SEKISUI HOUSE

Scale: SCALE 1:10 @A1; SCALE 1:20 @A1

North

Enspire Solutions Pty Ltd
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Phone: 02 9922 6135 enspiresolutions.com.au

Project: 49 BLACKBUTTS ROAD FRENCHS FOREST CIVIL ENGINEERING WORKS

Title: SITEWORKS DETAILS

Scale: AS SHOWN

Date: 07/03/2024

Size: A1

Datum: GDA 2020

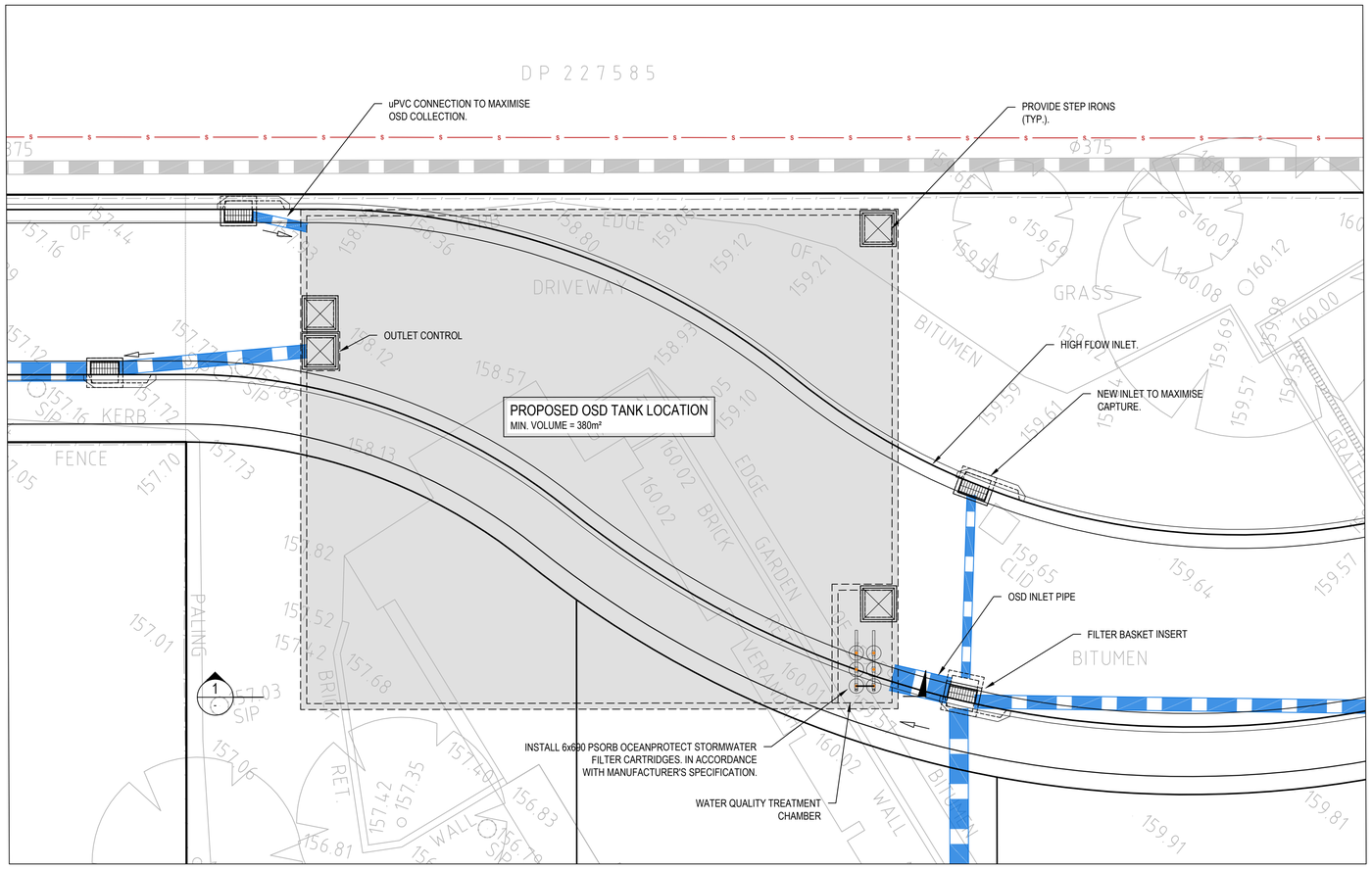
Status: FOR INFORMATION ONLY NOT TO BE USED FOR CONSTRUCTION

Project Number/Drawing Number: 230057-00-DA-C14.01

Revision: 1

DATE PLOTTED: 7 March 2024 5:53 PM BY : LACHLAN DRAKE

CAD File: P:\230057 BlackbuttsRd\D-Civil\00-SiteWide\Drawings\6-DACC\230057-00-DA-C14.01 SITEWORKS DETAILS.dwg

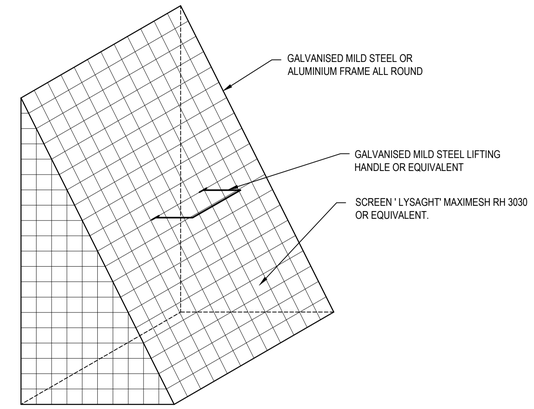


WATER QUALITY TREATMENT AND OSD TANK PLAN

SCALE 1:100

OSD TANK PERFORMANCE TABLE

STORM (AEP)	PSD (m^3s)	PIPED POST-DEVELOPMENT Q_{OUT} (m^3/s)	OVERLAND FLOW POST-DEVELOPMENT Q_{OUT} (m^3/s)	TOTAL POST-DEVELOPMENT Q_{OUT} (m^3/s)	BASIN TWL (mAHD)
20	0.13	0.12	0.00	0.12	156.03
5	0.23	0.11	0.11	0.23	156.32
1	0.36	0.12	0.24	0.36	156.51

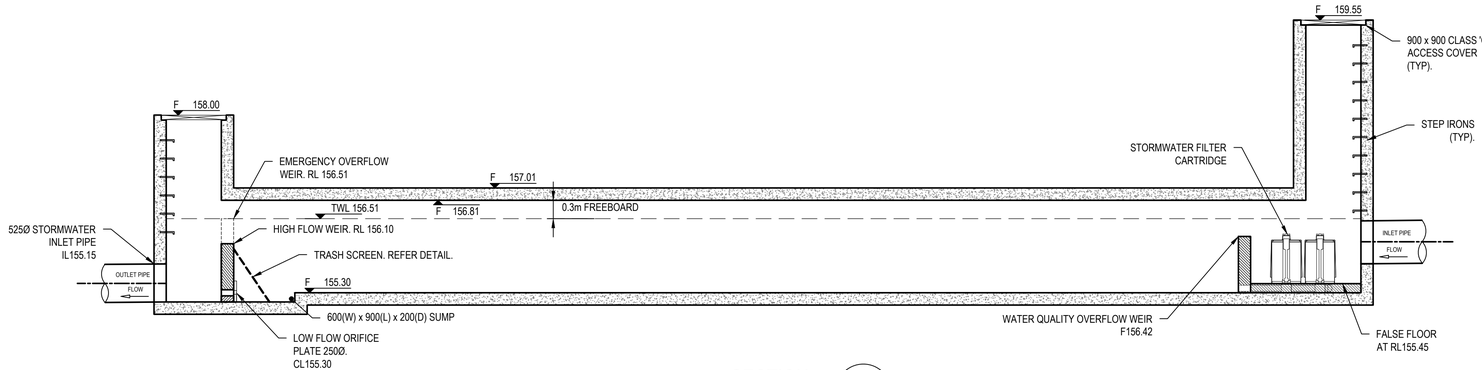


TYPICAL TRASH SCREEN DETAIL

NOT TO SCALE

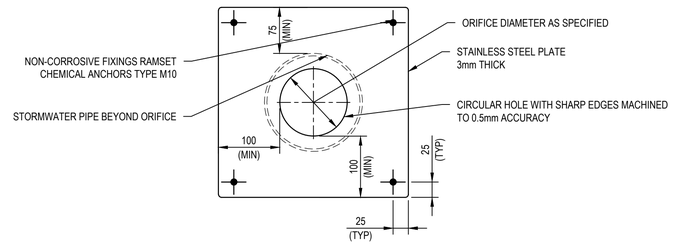
NOTE

PROVIDE FIXING CLIPS OR BRACKETS TO WALL OF PIT AT OUTLET. ALLOW FOR EASE OF REMOVAL



SECTION 1/-

1:50



NOTE:

ORIFICE DIAMETER TO BE ENGRAVED ON THE PLATE SURFACE.
ORIFICE TO BE EPOXY SEALED AROUND OUTER EDGES.

ORIFICE PLATE DETAIL

SCALE 1:5

REV.	DATE	DESCRIPTION	DRN.	DES.	VERIF.	APPD.
1	7/03/2024	ISSUED FOR DEVELOPMENT APPLICATION	ZW	LD	-	MKH

Client: SEKISUI HOUSE

Scale: 0 1 2 3 4 5m — SCALE 1:50 @A1; 0 1 2 4 6 8 10m — SCALE 1:100 @A1

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Project: 49 BLACKBUTTS ROAD FRENCHS FOREST CIVIL ENGINEERING WORKS

Title: OSD TANK PLAN AND SECTION

Scale: AS SHOWN

Date: 07/03/2024

Size: A1

Datum: GDA 2020

Status: FOR INFORMATION ONLY NOT TO BE USED FOR CONSTRUCTION

Project Number/Drawing Number: 230057-00-DA-C17.01

Revision: 1

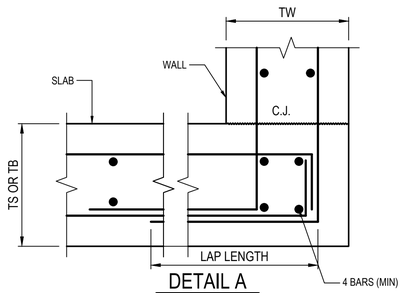
DATE PLOTTED: 8 March 2024 12:04 PM BY: - LACHLAN DRAKE

CAD File: P:\230057 BlackbuttsRd\D-Civil\00-SiteWide\Drawings\6-DACC\230057-00-DA-C17.01 OSD TANK PLAN AND SECTION.dwg

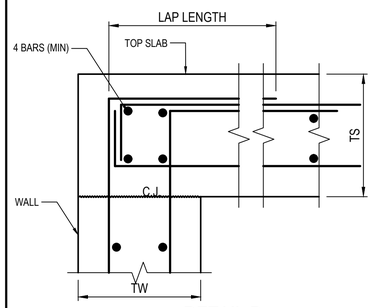
TABLE 1 - REINFORCEMENT AND WALL THICKNESS							
DEPTH "D" SEE TABLE 1 (m)	WIDTH/LENGTH (m)	TW (mm)	WALL REINFORCEMENT	TS (mm)	TOP SLAB REINFORCEMENT	TB (mm)	BASE REINFORCEMENT
1.5 - 3.0	2 / 2	200	2 LAYERS N12 - 200 EACH FACE	200	2 LAYERS N12 - 200 EACH FACE	200	2 LAYERS N12 - 200 EACH FACE
1.5 - 3.0	3 / 3	200	2 LAYERS N16 - 200 EACH FACE	250	2 LAYERS N16 - 200 EACH FACE	250	2 LAYERS N16 - 200 EACH FACE
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
4.5 - 6.0	2 / 2	250	2 LAYERS N16 - 200 EACH FACE	200	2 LAYERS N16 - 200 EACH FACE	200	2 LAYERS N16 - 200 EACH FACE

NOTES:

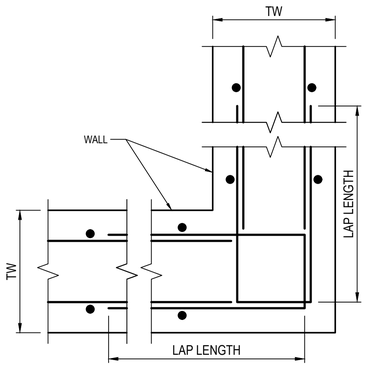
1. CONCRETE COMPRESSIVE STRENGTH @ 28 DAYS fc' = 40MPa
2. YIELD STRENGTH OF STEEL fy = 500 MPa
3. ASSUMED SOIL BEARING CAPACITY = 150 kPa (MAX 3m DEPTH), 200kPa (MAX 6m DEPTH)
4. ALL CONCRETE COVER = 55mm
5. THE CONTRACTOR SHALL NOTIFY THE STRUCTURAL ENGINEER ABOUT ACTUAL SOIL CONDITION ON SITE.
6. PITS TO BE CONSTRUCTED IN ACCORDANCE WITH LANE COVE COUNCIL STANDARDS AND DETAILS.
7. STEP IRONS WHERE THE PIT EXCEEDS 1200 IN DEPTH AS PER LANE COVE COUNCIL STANDARDS AND DETAILS.
8. PITS WHICH WILL HAVE PIPES GREATER THAN 525mm, 2N16 TRIMMER BARS ARE REQUIRED AROUND THE EDGES OF THE PIPE.
9. CONTACT ENGINEER IF PIT IS WITHIN WATER TABLE.



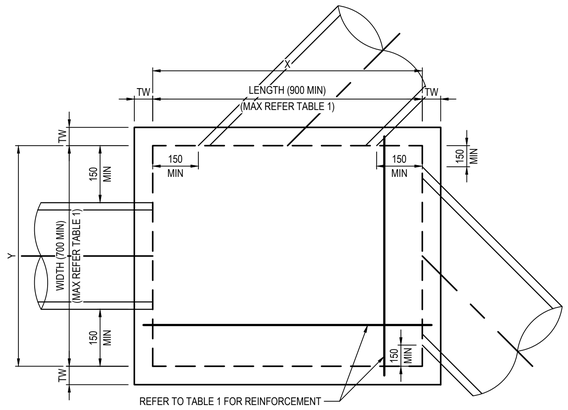
DETAIL A
SCALE 1:5



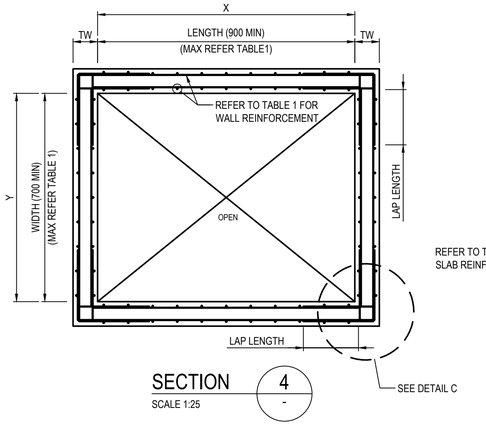
DETAIL B
SCALE 1:5



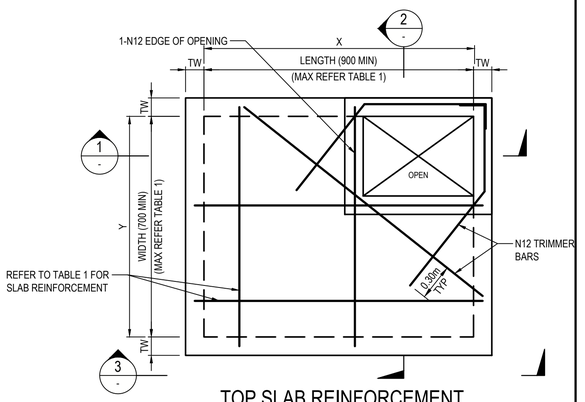
DETAIL C
SCALE 1:5



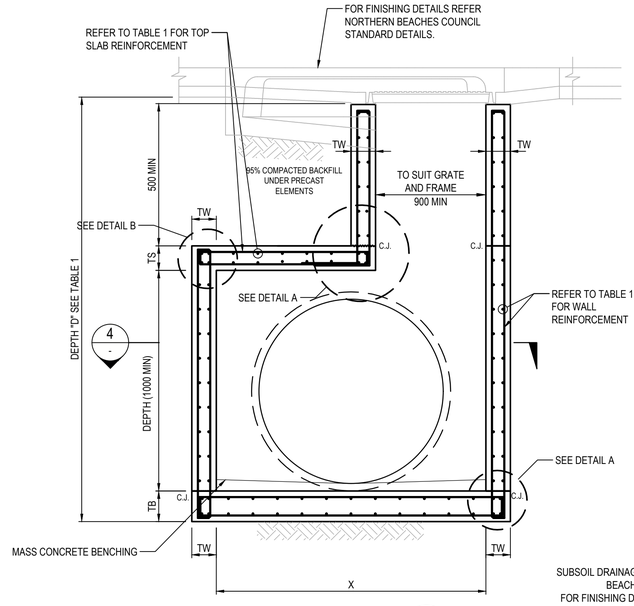
BASE SLAB PLAN
SCALE 1:25



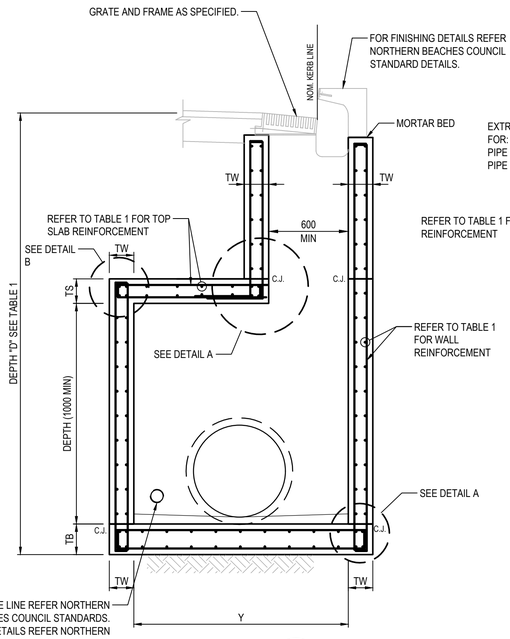
SECTION 4 / -
SCALE 1:25



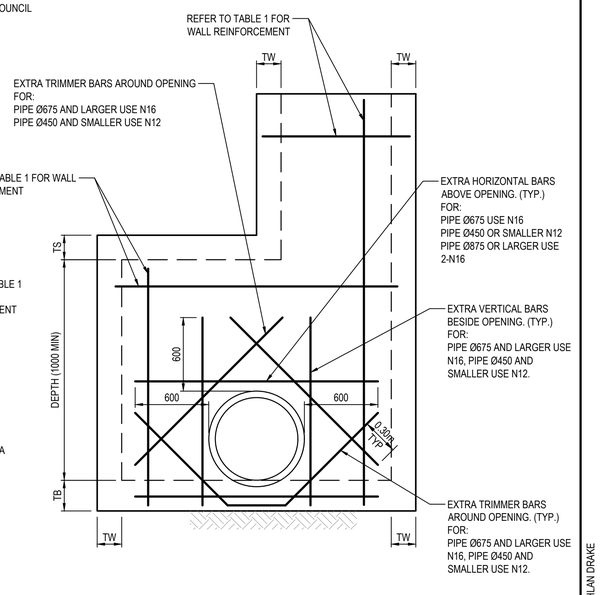
TOP SLAB REINFORCEMENT
SCALE 1:25



SECTION 1 / -
SCALE 1:25



SECTION 2 / -
SCALE 1:25



SECTION 3 / -
SCALE 1:25

REV.	DATE	DESCRIPTION	DRN.	DES.	VERIF.	APPD.
1	7/03/2024	ISSUED FOR DEVELOPMENT APPLICATION	ZW	LD	-	MKH

Client: SEKISUI HOUSE

Scale: 0 0.1 0.2 0.3 0.4 0.5m — SCALE 1:5 @A1
0 0.5 1 1.5 2 2.5m — SCALE 1:25 @A1

North

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Project: 49 BLACKBUTTS ROAD
FRENCHS FOREST
CIVIL ENGINEERING WORKS

Title: STORMWATER DETAILS

Scale: AS SHOWN
Date: 07/03/2024
Size: A1
Datum: GDA 2020

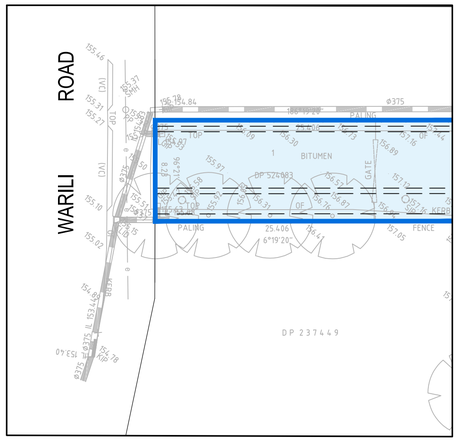
Status: FOR INFORMATION ONLY
NOT TO BE USED FOR CONSTRUCTION

Project Number/Drawing Number: 230057-00-DA-C18.01

Revision: 1

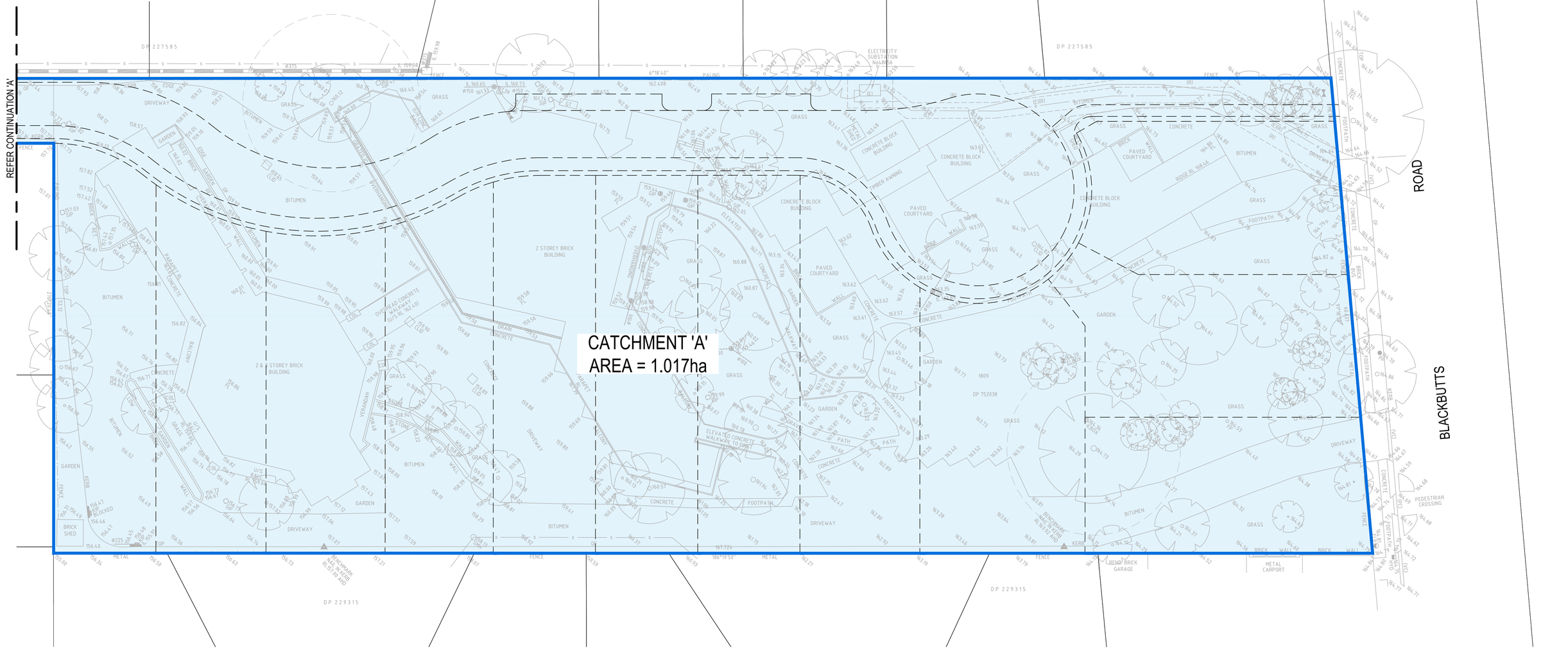
DATE PLOTTED: 7 March 2024 5:53 PM BY : LACHLAN DRAKE

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



CONTINUATION 'A'

SCALE 1:250



LEGEND

- CATCHMENT BOUNDARY
- 0.0388ha — CATCHMENT AREA
- CATCHMENT 'A'

REV.	DATE	DESCRIPTION	DRN.	DES.	VERIF.	APPD.
1	7/03/2024	ISSUED FOR DEVELOPMENT APPLICATION	ZW	LD	-	MKH

Client: SEKISUI HOUSE

Scale: 0 5 10 15 20m — SCALE 1:200 @A1

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Project: 49 BLACKBUTTS ROAD
FRENCHS FOREST
CIVIL ENGINEERING WORKS

Title: PRE-DEVELOPMENT CATCHMENT PLAN

Scale: 1:250

Date: 07/03/2024

Size: A1

Datum: GDA 2020

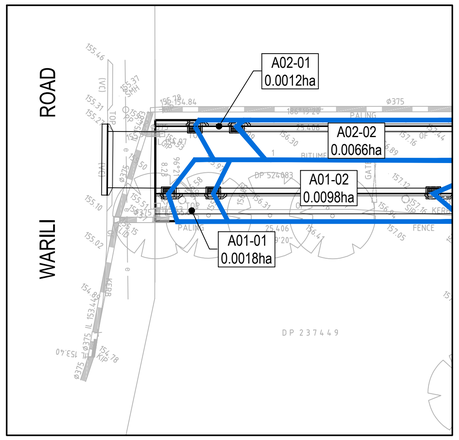
Status: FOR INFORMATION ONLY
NOT TO BE USED FOR CONSTRUCTION

Project Number/Drawing Number: 230057-00-DA-C20.01

Revision: 1

DATE PLOTTED: 7 March 2024 5:53 PM BY : LACHLAN DRAKE

CAD File: P:\230057 BlackbuttsRd\D-Civil\00-SiteWide\Drawings\6-DACC\230057-00-DA-C20.01 PRE-DEVELOPMENT CATCHMENT PLAN.dwg



CONTINUATION 'A'

SCALE 1:250

LEGEND

- CATCHMENT BOUNDARY
- GC-05 0.0388ha — PIT NO. / CATCHMENT AREA

CONTINUATION 'A'

ROAD

BLACKBUTTS

COMMUNITY PROPERTY

A01-03 0.0168ha
A03-01 0.0278ha
A04-01 0.0309ha
A05-01 0.0312ha
A06-01 0.0506ha
A01-04 0.0071ha
A01-05 0.0087ha
A01-06 0.0132ha
A01-06 0.0038ha
A01-07 0.0060ha
A01-08 0.0082ha
A01-09 0.0123ha
A01-10 0.0154ha
A01-11 0.0026ha
A02-01 0.0689ha
A01-12 0.0681ha
B01-01 0.0656ha
B02-01 0.0606ha
B02-02 0.0616ha
B02-03 0.607ha
B02-04 0.0622ha
B02-05 0.0624ha
B02-06 0.0625ha
B02-07 0.0645ha
B02-08 0.0681ha
B02-09 0.0620ha

DP 227585
DP 752038
DP 229315

REV.	DATE	DESCRIPTION	DRN.	DES.	VERIF.	APPD.
1	7/03/2024	ISSUED FOR DEVELOPMENT APPLICATION	ZW	LD	-	MKH

Client: SEKISUI HOUSE

Scale: 0 5 10 15 20 25m — SCALE 1:250 @A1

North

enspire
Enspire Solutions Pty Ltd
Level 4, 153 Walker Street, North Sydney NSW 2060
ABN: 71 624 801 690
Phone: 02 9922 6135 enspiresolutions.com.au

Project: 49 BLACKBUTTS ROAD
FRENCHS FOREST
CIVIL ENGINEERING WORKS

Title: POST-DEVELOPMENT CATCHMENT PLAN

Scale: 1:250

Date: 07/03/2024

Size: A1

Datum: GDA 2020

Status: FOR INFORMATION ONLY
NOT TO BE USED FOR CONSTRUCTION

Project Number/Drawing Number: 230057-00-DA-C20.21

Revision: 1

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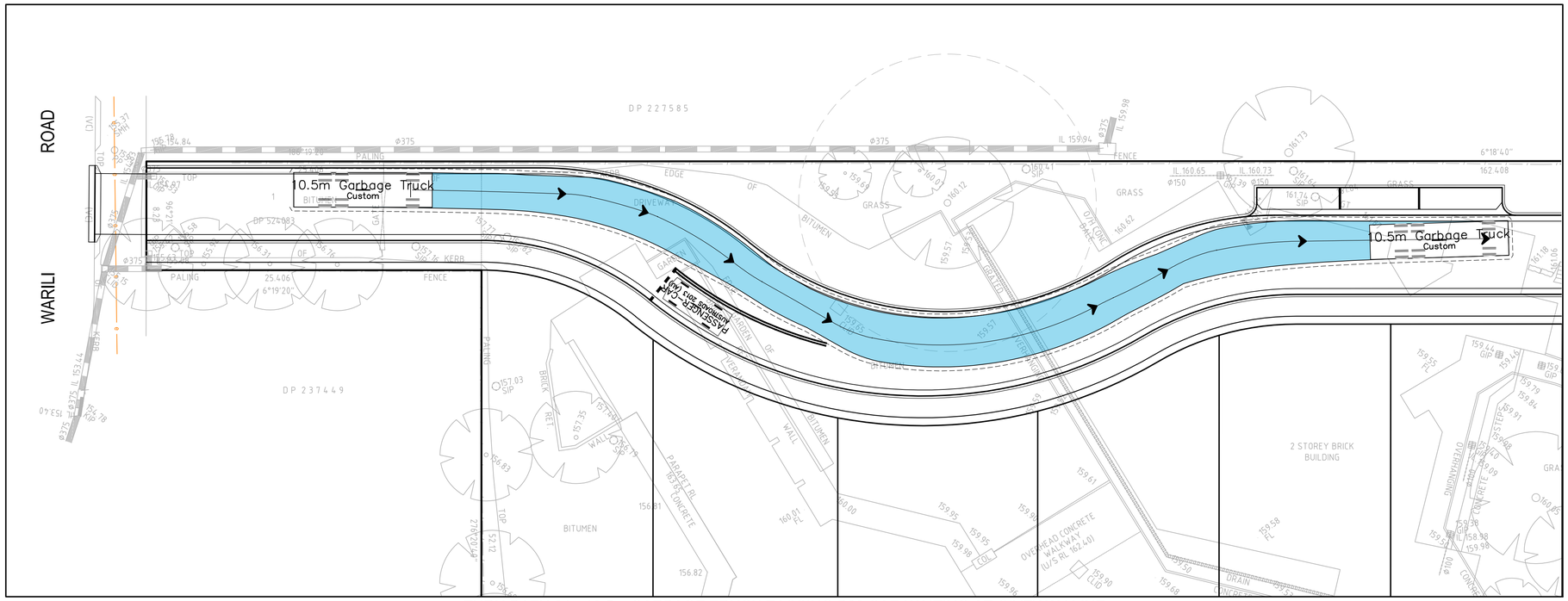
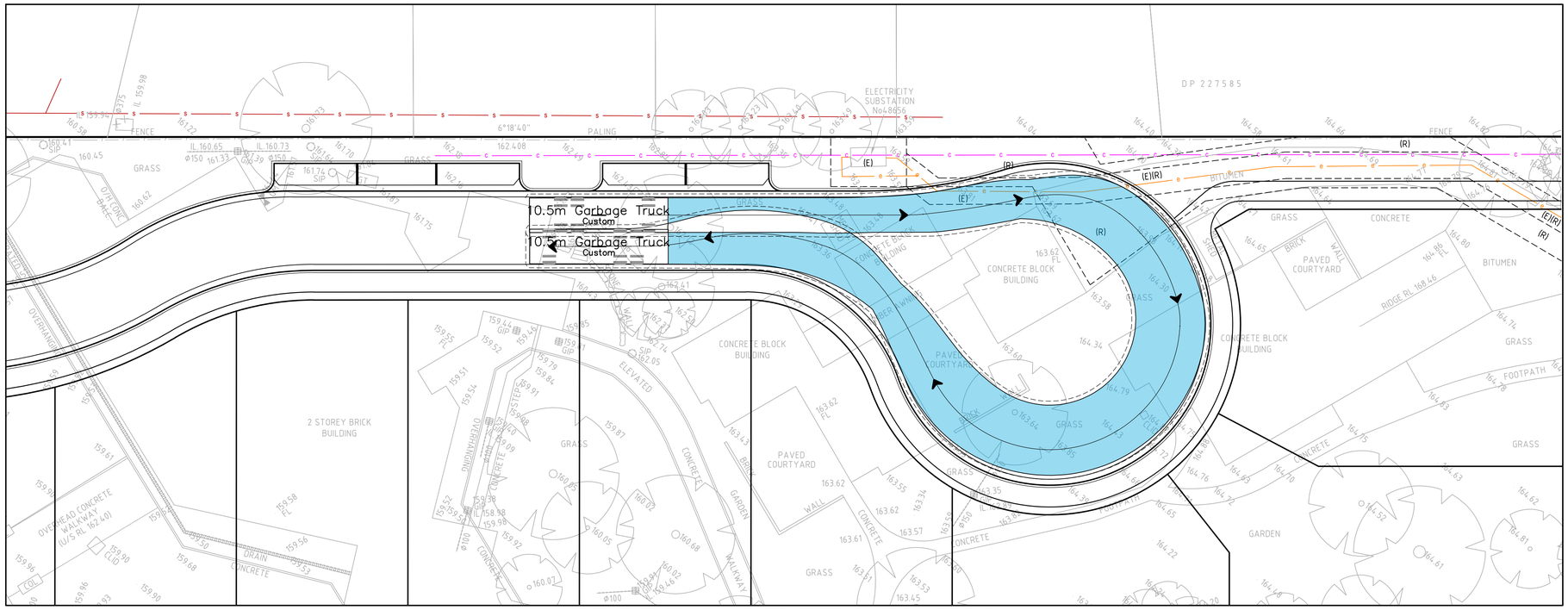


TURN PATH 01 - 10.5m GARBAGE TRUCK PASSING B99 CAR WAITING AT GIVEWAY LINE

SCALE 1:200



TURN PATH 02 - 10.5m GARBAGE TRUCK AT CUL-DE-SAC

SCALE 1:200

REV.	DATE	DESCRIPTION	DRN.	DES.	VERIF.	APPD.
1	7/03/2024	ISSUED FOR DEVELOPMENT APPLICATION	ZW	LD	-	MKH

Client: SEKISUI HOUSE

Scale: 0 5 10 15 20m — SCALE 1:200 @A1

North

Enspire Solutions Pty Ltd
Level 4, 153 Walker Street, North Sydney NSW 2060
ABN: 71 624 801 690
Phone: 02 9922 6135 enspiresolutions.com.au

Project: 49 BLACKBUTTS ROAD
FRENCHS FOREST
CIVIL ENGINEERING WORKS

Title: TURNING PATH PLAN

Scale: 1:200

Date: 07/03/2024

Size: A1

Datum: GDA 2020

Status: FOR INFORMATION ONLY
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Project Number/Drawing Number: 230057-00-DA-C22.01

Revision: 1

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