GENERAL:

1. THESE DRAWINGS SHALL BE READ IN CONJUNCTION WITH THE SHOALHAVEN CITY COUNCIL DCP100, RELEVANT AUSTRALIAN STANDARDS, OTHER CONSULTANTS DRAWINGS AND SPECIFICATIONS AND WITH SUCH OTHER WRITTEN INSTRUCTIONS AS MAY BE ISSUED.
2. ANY DISCREPANCIES OR OMISSIONS SHALL BE REFERRED TO THE SUPERINTENDENT FOR A DECISION BEFORE PROCEEDING WITH THE WORK.
3. ALL WORKMANSHIP AND MATERIALS SHALL COMPLY WITH THE BUILDING CODE OF AUSTRALIA AS AMENDED AND THE APPROPRIATE AND CURRENT AUSTRALIAN STANDARDS.
4. ALL DIMENSIONS ARE IN METRES UNLESS NOTED OTHERWISE.
5. DIMENSIONS SHALL NOT BE OBTAINED BY SCALING THE DRAWINGS.
6. ALL DIMENSIONS SHOWN ON THE DRAWINGS SHALL BE VERIFIED ON SITE BY THE BUILDER PRIOR TO CONSTRUCTION OR FABRICATION.
7. THE CONTRACTOR SHALL LOCATE AND LEVEL ALL EXISTING SERVICES PRIOR TO COMMENCING CONSTRUCTION AND SHALL MAKE ALL NECESSARY
8. ARRANGEMENTS WITH THE RELEVANT AUTHORITY TO RELOCATE OR ADJUST AS
9. REQUIRED. ALL COSTS TO BE BORNE BY THE APPLICANT.
10. THE CONTRACTOR SHALL NOT ENTER UPON OR DO ANY WORK WITHIN ADJACENT LAND WITHOUT PRIOR WRITTEN PERMISSION OF THE LAND OWNER.
11. THE CONTRACTOR SHALL PROVIDE MINIMUM 48 HOURS NOTICE TO THE PRINCIPAL FOR ALL INSPECTIONS.

SITE WORKS:

1. ALL WORKS TO BE IN ACCORDANCE WITH SPECIFICATIONS AND AUSTRALIAN STANDARDS. CONFLICTS SHALL BE REFERRED TO THE SUPERINTENDENT FOR DIRECTION.
2. THE CONTRACTOR IS TO DESIGN, OBTAIN APPROVALS AND CARRY OUT REQUIRED TEMPORARY TRAFFIC CONTROL PROCEDURES DURING CONSTRUCTION IN ACCORDANCE WITH RMS & SHOALHAVEN CITY COUNCIL REGULATIONS AND REQUIREMENTS.
3. THE CONTRACTOR IS TO OBTAIN ALL AUTHORITY APPROVALS AS REQUIRED.
4. RESTORE ALL PAVED, COVERED, GRASSED AND LANDSCAPED AREAS TO THEIR ORIGINAL CONDITION ON COMPLETION OF WORKS.
5. 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.
6. THE CONTRACTOR SHALL ARRANGE ALL SURVEY SETOUT TO BE CARRIED OUT BY A REGISTERED SURVEYOR.
7. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND EXISTING LEVELS ON SITE PRIOR TO LODGMENT OF TENDER AND PRIOR TO CONSTRUCTION.
8. THIS PLAN IS TO BE READ IN CONJUNCTION WITH THE ENGINEERING PLANS, AND ANY OTHER PLANS OR WRITTEN INSTRUCTIONS THAT MAY BE ISSUED RELATING TO DEVELOPMENT OF THE SUBJECT SITE.
9. ANY EXISTING TREES WHICH FORM PART OF THE FINAL LANDSCAPING PLAN SHALL BE PROTECTED FROM CONSTRUCTION ACTIVITIES BY:
   - (A) PROTECTING THEM WITH BARRIER FENCING OR SIMILAR MATERIALS INSTALLED OUTSIDE THE DRIP LINE,
   - (B) ENSURING THAT NOTHING IS NAILED TO THEM,
   - (C) PROHIBITING PAVING, GRADING, SEDIMENT WASH OR PLACING OF STOCKPILES WITHIN THE DRIP LINE EXCEPT UNDER THE FOLLOWING CONDITIONS:
     1. ENCROACHMENT ONLY OCCURS ON ONE SIDE AND NO CLOSER TO THE TRUNK THAN EITHER 1.5 METRES OR HALF THE DISTANCE BETWEEN THE OUTER EDGE OF THE DRIP LINE AND THE TRUNK, WHICH EVER IS GREATER.
     2. A DRAINAGE SYSTEM THAT ALLOWS AIR AND WATER TO CIRCULATE THROUGH THE ROOT ZONE (E.G. A GRAVEL BED) IS PLACED UNDER ALL FILL LAYERS OF MORE THAN 300 MILLIMETRES DEPTH.
     3. CARE IS TAKEN NOT TO CUT ROOTS UNNECESSARILY NOR TO COMPACT THE SOIL AROUND THEM.
10. DO NOT OBTAIN DIMENSIONS BY SCALING THE DRAWINGS.
11. IN CASE OF DOUBT OR DISCREPANCY REFER TO SUPERINTENDENT FOR CLARIFICATION OR CONFIRMATION PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.
12. WHERE NEW WORKS ABUT EXISTING THE CONTRACTOR SHALL ENSURE THAT A SMOOTH EVEN PROFILE, FREE FROM ABRUPT CHANGES IS OBTAINED.
13. MAKE SMOOTH TRANSITION TO EXISTING FEATURES AND CONSTRUCTION.
14. THESE PLANS SHALL BE READ IN CONJUNCTION WITH ALL APPROVED DRAWINGS AND SPECIFICATIONS PREPARED BY OTHER PROJECT CONSULTANTS.
15. TRENCHES THROUGH EXISTING ROAD AND CONCRETE PAVEMENTS SHALL BE SAWCUT TO FULL DEPTH OF CONCRETE AND A MIN 50mm IN BITUMINOUS PAVING.
16. ALL CONSTRUCTION WORK IS TO BE CARRIED OUT SO THAT AT ANY TIME ADJOINING PROPERTY OWNERS ARE NOT DEPRIVED OF AN ALL-WEATHER ACCESS OR SUBJECTED TO ADDITIONAL STORM WATER RUN-OFF DURING THE PERIOD OF CONSTRUCTION.
17. ALL GREEN WASTE IS EITHER TO BE REMOVED FROM SITE OR MULCHED ON SITE AND SPREAD OVER DISTURBED AREAS. NO GREEN WASTE IS TO BE BURNT ON SITE.

EXISTING SERVICES:

1. CARE TO BE TAKEN WHEN EXCAVATING NEAR EXISTING SERVICES. NO MECHANICAL EXCAVATIONS ARE TO BE UNDERTAKEN OVER COMMUNICATION, GAS OR ELECTRICAL SERVICES. HAND EXCAVATION ONLY IN THESE AREAS.
2. 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 DISCUSSED WITH THE RELEVANT SERVICE AUTHORITIES.
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 FOR ADJUSTMENT (IF REQUIRED) OF EXISTING SERVICES IN AREAS AFFECTED BY WORKS.
5. THE CONTRACTOR SHALL ALLOW FOR THE CAPPING OFF, EXCAVATION AND REMOVAL (IF REQUIRED) OF EXISTING SERVICES IN AREA AFFECTED BY WORKS UNLESS DIRECTED OTHERWISE ON THE DRAWINGS OR BY THE SUPERINTENDENT.
6. THE CONTRACTOR SHALL ENSURE THAT AT ALL TIMES SERVICES TO ALL BUILDINGS NOT AFFECTED BY THE WORKS ARE NOT DISRUPTED.
7. PRIOR TO COMMENCEMENT OF ANY WORKS THE CONTRACTOR SHALL GAIN APPROVAL 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 COMMENCEMENT OF EXCAVATION, THE CONTRACTOR SHALL DETERMINE THE LOCATION OF ALL SERVICES AND WILL BE RESPONSIBLE FOR ADJUSTMENT AND REPAIR OF SERVICES.
10. ADJUST ALL UTILITY SERVICE COVERS TO SUIT NEW GRADES & LEVELS TO SERVICE PROVIDERS SATISFACTION.

EARTHWORKS:

1. EARTHWORKS ARE TO BE CARRIED OUT IN ACCORDANCE WITH GEOTECHNICAL ENGINEERS RECOMMENDATIONS. REFER TO DOUGLAS & PARTNERS REPORT REFERENCE 78319.02.
2. STRIP TOPSOIL, VEGETABLE MATTER AND RUBBLE TO EXPOSE NATURALLY OCCURRING MATERIAL AND STOCKPILE ON SITE AS DIRECTED BY THE SUPERINTENDENT.
3. WHERE FILLING IS REQUIRED TO ACHIEVE DESIGN SUBGRADE, PROOF ROLL EXPOSED NATURAL SURFACE WITH A MINIMUM OF TEN PASSES OF A VIBRATING ROLLER (MINIMUM STATIC WEIGHT OF 10 TONNES) IN THE PRESENCE OF THE SUPERINTENDENT.
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. 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 THE CONTRACTORS COST.
6. 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. USE OF VIBRATING ROLLERS ARE TO BE LIMITED DUE TO THE CLOSENESS OF EXISTING STRUCTURES. SAFE DISTANCE = 1.5 x DRUM WEIGHT (DMW)

SUBGRADE NOTES:

1. FOLLOWING SITE ESTABLISHMENT THE CONTRACTOR IS TO PROOF ROLL EXPOSED SUBGRADE IN THE PRESENCE OF THE GEOTECHNICAL ENGINEER TO CONFIRM SUITABILITY OF SUBGRADE.
2. THE SUBGRADE IS TO BE COMPACTED TO ACHIEVE 100% STANDARD MAXIMUM DRY DENSITY, (AS1289E1.1), AT A MOISTURE CONTENT WITHIN 2% OF STANDARD OPTIMUM, OR ALTERNATIVE INSTRUCTION IS TO BE OBTAINED FROM A GEOTECHNICAL ENGINEER.
3. REMOVE ANY SOFT, HEAVING, WET OR UNSTABLE AREAS IDENTIFIED DURING PROOF ROLLING AND REPLACE USING SELECT IMPORTED FILL COMPACTED IN LAYERS NOT EXCEEDING 200mm MEASURED LOOSE TO ACHIEVE 100% STANDARD COMPACTION AS SPECIFIED ABOVE. OBTAIN WRITTEN APPROVAL FROM CLIENT PRIOR TO PROCEEDING WITH THE ABOVE WORK.
4. ANY FILL REQUIRED TO RAISE LEVELS TO UNDERSIDE OF PROPOSED SLAB OR PAVEMENT FORMATION TO BE APPROVED GRANULAR MATERIAL COMPACTED IN LAYERS NOT EXCEEDING 200mm MEASURED LOOSE TO ACHIEVE A MINIMUM 98% STANDARD MAXIMUM DRY DENSITY AT A MOISTURE CONTENT WITHIN 2% OF STANDARD OPTIMUM.
5. IMPORTED FILL IS TO CONSIST OF IMPORTED WELL-GRADED MATERIAL WITH A MAXIMUM PARTICLE SIZE OF 75mm, WITH 80% LESS THAN 20MM, AND A SOAKED C.B.R. GREATER THAN 15% AND PLASTICITY INDEX LESS THAN 12%.
6. BACKFILLING FOR SERVICE TRENCHES UNDER SLABS AND PAVEMENTS SHALL BE APPROVED WELL-GRADED GRANULAR MATERIAL. EITHER SELECT INSITU OR IMPORTED FILL COMPACTED AS SPECIFIED ABOVE.
7. DO NOT PROCEED WITH ANY EARTHWORKS WHICH WILL BE SUBJECT TO A VARIATION CLAIM WITHOUT PRIOR APPROVAL FROM CLIENT. VARIATIONS FOR EARTHWORKS WILL NOT BE APPROVED UNLESS FORMAL INSTRUCTION, INCLUDING VARIATION VOLUMES, IS OBTAINED FROM ENGINEER.

PAVEMENT NOTES:

1. PAVEMENT DETAILS HAVE BEEN DESIGNED ASSUMING A SUBGRADE WITH A MINIMUM SOAKED C.B.R. OF 2%. CBR. PAVEMENT DESIGN TO BE CONFIRMED BY GEOTECHNICAL TESTING BY BUILDER DURING CONSTRUCTION.
2. BASE AND SUB-BASE COURSES SHALL BE COMPACTED TO 98% MODIFIED MAXIMUM DRY DENSITY AS A MOISTURE CONTENT WITHIN 2% OF STANDARD OPTIMUM, MINIMUM SOAKED C.B.R. 80% UNO.
3. SUBGRADE SHALL BE APPROVED NATURAL SUBGRADE OR IMPORTED FILL. PROOF ROLL AND COMPACTED TO 100% STANDARD MAXIMUM DRY DENSITY UNO.
4. FILL MATERIALS WHICH ARE PRONE TO ACCELERATED WEATHERING WILL NOT BE ACCEPTED EG. SOME MUDSTONES, CLAYSTONES, SILTSTONES, SHALES AND OTHER ROCKS. ENDORSEMENT OF THE SUITABILITY OF THE PROPOSED FILLING MATERIAL IS TO BE MADE BY A GEOTECHNICAL ENGINEER PRIOR TO APPROVAL.

CONCRETE:

1. EACH CONCRETE POUR INCLUDING KERB & GUTTER SHALL BE INSPECTED PRIOR TO POURING.
2. THE CONTRACTOR SHALL GIVE 48 HOURS NOTICE OF POURS.
3. MINIMUM CONCRETE STRENGTH FOR PAVEMENTS SHALL BE F'C=25 MPA AT 28 DAYS.
4. ALL WORK SHALL BE COMPLETED TO AS3600.
5. REINFORCING SHALL BE TIED WITH MINIMUM COVER OF 40MM.
6. ALL CONCRETE SHALL BE FULLY COMPACTED BY MECHANICAL MEANS SUCH AS IMMERSION VIBRATOR.
7. SAMPLING AND TESTING TO AS 3600 SHALL BE UNDERTAKEN AND ALL COSTS MET BY THE CONTRACTOR.
8. ALL CONCRETE SHALL BE CURED BY IMPERMEABLE MEMBRANE, CURING COMPOUND OR OTHER EQUAL METHOD.
9. FORMWORK SHALL BE TO AS3610.
10. ALL DISTURBED AREAS INCLUDING BATTERS AND FOOTPATH AREAS ARE TO BE TOPSOILED, FERTILISED AND TURFED.

SIGNAGE AND LINEMARKING:

1. LINE MARKING AND PAINT SHALL BE IN ACCORDANCE WITH THE FOLLOWING STANDARDS. AS 2700 AND AS 2709
2. PAINT SHALL BE TYPE 3, CLASS A AND THE COLOUR SHALL BE WHITE AND NOT SUBJECT TO DISCOLOURATION BY BITUMEN FROM THE ROAD SURFACE. EACH LINE SHALL BE 80mm WIDE. 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. PAINT 80mm LINEMARKING TO CARPARK PAVEMENT.
6. ALL SIGNAGE TO BE INSTALLED IN ACCORDANCE WITH AUSTRALIAN STANDARDS.

ACCESS AND SAFETY:

1. THE CONTRACTOR SHALL COMPLY WITH ALL STATUTORY AND INDUSTRIAL REQUIREMENTS FOR PROVISION OF A SAFE WORKING ENVIRONMENT INCLUDING TRAFFIC CONTROL.
2. THE CONTRACTOR SHALL ENSURE THAT AT ALL TIMES ACCESS TO ALL BUILDINGS ADJACENT THE WORKS IS NOT DISRUPTED.
3. WHERE NECESSARY THE CONTRACTOR SHALL PROVIDE SAFE PASSAGE OF VEHICLES AND/OR PEDESTRIANS THROUGH OR BY THE SITE.
4. TRAFFIC CONTROL MEASURES IN ACCORDANCE WITH AS1742.3 ARE TO BE IN PLACE AND MAINTAINED AT ALL TIMES. (TRAFFIC CONTROL PLANS TO BE SUBMITTED PRIOR TO COMMENCEMENT OF WORK.)

TRAFFIC MANAGEMENT:

1. PARKING OF VEHICLES OR LOADING/UNLOADING OF VEHICLES ON ROADWAYS MAY CAUSE A TRAFFIC HAZARD. DURING CONSTRUCTION, MAINTENANCE OR DEMOLITION DESIGNATED PARKING FOR WORKERS AND LOADING AREAS SHOULD BE PROVIDED. TRAINED TRAFFIC MANAGEMENT PERSONNEL SHOULD BE RESPONSIBLE FOR THE SUPERVISION OF THESE AREAS. DELIVERY OF CONSTRUCTION MATERIALS SHOULD BE WELL PLANNED TO AVOID CONGESTION OF TRAFFIC AREAS AND TRAINED TRAFFIC MANAGEMENT PERSONNEL SHOULD BE USED TO SUPERVISE LOADING/UNLOADING AREAS.

2. BUSY CONSTRUCTION AND DEMOLITION SITES PRESENT A RISK OF COLLISION WHERE DELIVERIES AND OTHER TRAFFIC ARE MOVING WITHIN THE SITE. A TRAFFIC CONTROL PLAN SUPERVISED BY TRAINED TRAFFIC MANAGEMENT PERSONNEL SHOULD BE ADOPTED FOR THE WORK SITE.

SURVEY NOTE:

1. THE LOCATION OF UNDERGROUND SERVICES SHOWN ON THESE PLANS IS INDICATIVE ONLY.
2. IT IS THE CONTRACTORS RESPONSIBILITY TO LOCATE UNDERGROUND SERVICES BY CAREFUL HAND POT-HOLING PRIOR TO ANY EXCAVATION AND EXERCISE DUE CARE DURING THAT EXCAVATION.

STORMWATER NOTES:

1. CONTRACTOR IS TO VERIFY THE LEVEL OF ALL EXISTING SERVICES PRIOR TO COMMENCEMENT OF ANY EXCAVATION.
2. CONTRACTOR SHALL CONFIRM ALL INVERTS AND GRADES PRIOR TO CONSTRUCTION.
3. ALL PIPES LESS THAN OR EQUAL TO Ø225mm AND PIPES RUNNING UNDER FLOOR SLABS ARE TO BE SOLVENT WELD-JOINTED SEWER GRADE uPVC CLASS SH.
4. ALL PIPES ARE TO BE LAID AT (min) 1.0% GRADE (UNO), UNLESS OTHERWISE NOTED ON DRAWINGS.
5. MATERIAL USED FOR BEDDING OF PIPES SHALL BE APPROVED NON-COHESIVE GRANULAR MATERIAL HAVING HIGH PERMEABILITY AND HIGH STABILITY WHEN SATURATED AND FREE OF ORGANIC AND CLAY MATERIAL.
6. HAND-EXCAVATE STORMWATER PIPES IN THE VICINITY OF TREE ROOTS.
7. ANY PIPES OVER 16% GRADE SHALL HAVE CONCRETE BULKHEADS AT ALL JOINTS.
8. WHERE TRENCHES ARE IN ROCK, THE PIPE SHALL BE BEDDED ON A MIN. 50mm CONCRETE BED (OR 75mm THICK BED OF 12mm BLUE METAL) UNDER THE BARREL OF THE PIPE. THE PIPE COLLAR AT NO POINT SHALL BEAR ON THE ROCK.
9. BEDDING SHALL BE TYPE HS2 UNDER ROADS; H2 GENERAL AREAS, IN ACCORDANCE WITH CURRENT RELEVANT INDUSTRY STANDARDS AND GUIDELINES.
10. PROVIDE 100mm MIN COVER TO PIPES NOT SUBJECT TO VEHICULAR LOADING TO AREAS WITHOUT PAVEMENT AND 500mm COVER IN AREAS SUBJECT TO CONSTRUCTION EQUIPMENT LOADING. MINIMUM COVER TO PIPES 300mm DIA. AND OVER GENERALLY SHALL BE 600mm IN CARPARK & ROADWAY AREAS U.N.O.
11. PROVIDE SEPARATION BETWEEN SERVICES IN ACCORDANCE WITH AS 3500.
12. **COVERS:**
    - A) USE HOT DIPPED GALVANISED COVERS AND GRATES COMPLYING WITH RELEVANT AUSTRALIAN STANDARDS.
    - B) UNLESS DETAILED OR SPECIFIED OTHERWISE COVERS AND GRATES TO BE CLASS "C" IN VEHICULAR PAVEMENTS AND CLASS "B" ELSEWHERE.
13. GRATED DRAINS SHALL BE MINIMUM 150wx150d INTERNAL DIMENSIONS WITH 1% FALL (MIN.) TO THE INVERT OF THE GRATED DRAIN (REFER TO STORMWATER PLANS). GRATES TO DRAINS SHALL BE SCREW FIXED INTO POSITION.
14. ALL PIPE BENDS, JUNCTIONS, ETC. ARE TO BE PROVIDED USING PURPOSE MADE FITTINGS OR STORMWATER PITS.
15. THE CONTRACTOR SHALL SUPPLY AND INSTALL ALL FITTINGS AND SPECIALS INCLUDING VARIOUS PIPE ADAPTERS TO ENSURE PROPER CONNECTION BETWEEN DISSIMILAR PIPEWORK.
16. PIT DIMENSIONS SHALL BE IN ACCORDANCE WITH AS 3500.3 TABLE 8.2. ALL BASES OF PITS TO BE BENCHED TO HALF PIPE DEPTH AND PROVIDE GALVANISED ANGLE SURROUNDS TO GRATE.
    ALL CONNECTIONS TO EXISTING DRAINAGE PITS SHALL BE MADE IN A TRADESMAN-LIKE MANNER AND THE INTERNAL WALL OF THE PIT AT PIPE PENETRATIONS SHALL BE CEMENT RENDERED TO ENSURE A SMOOTH FINISH.
17. INSPECTION OPENINGS SHALL BE INSTALLED WHERE REQUIRED IN ACCORDANCE WITH AS 3500.3.
18. 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.
19. INSTALL TEMPORARY SEDIMENT BARRIERS TO INLET PITS, UNTIL SURROUNDING AREAS ARE PAVED AND TURFED.
20. ALL OTHER STORMWATER WORKS SHALL BE CARRIED OUT IN ACCORDANCE WITH AS3500.3 AND SHOALHAVEN CITY COUNCIL DEVELOPMENT DESIGN SPECIFICATIONS.

SUB-SOIL DRAINAGE NOTES:

21. 100Ø SUBSOIL DRAINAGE LINES WITH NON-WOVEN GEOTEXTILE FILTER SOCK SURROUND (LAID AT MIN. 1.0% GRADE) ARE TO BE CONNECTED TO A STORMWATER DRAINAGE PIT. SUBSOIL DRAINAGE LINES TO BE PROVIDED IN THE FOLLOWING LOCATIONS:
    - 21.1. TO THE HIGH SIDE OF PROPOSED TRAFFICKED PAVEMENT AREAS.
    - 21.2. TO ALL PLANTER AND TREE BEDS ADJACENT TO PAVEMENT AREAS.
    - 21.3. BEHIND RETAINING WALLS (IN ACCORDANCE WITH TYPICAL DETAILS).
    - 21.4. IN LOCATIONS SHOWN ON DRAWINGS (BOTH ON THESE DRAWINGS AND OTHER PROJECT DOCUMENTATION).
    - 21.5. TO ADDITIONAL AREAS WHERE SUB-SOIL DRAINAGE IS DEEMED TO BE REQUIRED BY THE CONTRACTOR.

22. WHERE SUBSOIL DRAINAGE PASSES BENEATH BUILDINGS, PAVED AREAS AND/OR PAVEMENTS THE CONTRACTOR IS TO ENSURE 100Ø CLASS 'SN10' uPVC DRAINAGE LINE IS USED. PROPRIETARY FITTINGS ARE TO CONNECT BETWEEN THE TWO PIPE TYPES.

23. THE CONTRACTOR IS TO INSTALL INSPECTION OPENINGS/FLUSH POINTS TO ALL SUBSOIL DRAINAGE LINES AND DOWNPIPE LINES IN ACCORDANCE WITH COUNCIL SPECIFICATIONS AND AT MAXIMUM 30m CENTRES AND ALL UPSTREAM ENDPOINTS.

24. PROVIDE 3.0m LENGTH OF 100Ø SUBSOIL DRAINAGE LINE WRAPPED IN NON-WOVEN GEOTEXTILE FILTER FABRIC TO THE UPSTREAM SIDE OF STORMWATER PITS (LAID IN STORMWATER PIPE TRENCHES AND CONNECTED TO DRAINAGE PIT).

3D INFORMATION DISCLAIMER:

1. PLEASE BE ADVISED THAT THE 3D INFORMATION FILE, IF SUPPLIED, IS DEEMED TO BE AN ACCURATE REFLECTION OF WESTLAKE PUNNETT'S DESIGN AT THE TIME OF FINAL DESIGN DEVELOPMENT AND MAY NOT FULLY REFLECT THE DESIGN SURFACE AS PRESENTED ON BOTH THE CIVIL ENGINEERING AND LANDSCAPE ARCHITECTURE PLANS. THIS INFORMATION SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO INCORPORATION OF THE 3D INFORMATION FILE INTO THE CONSTRUCTION WORKS.
2. YOU ARE FURTHER ADVISED THAT ISSUED/HARDCOPY PDF PLANS AND DOCUMENTS TAKE PRECEDENCE OVER THE SUPPLIED ELECTRONIC INFORMATION AND ANY INCONSISTENCIES SHOULD BE REPORTED TO WESTLAKE PUNNETT PRIOR TO THEIR INCORPORATION INTO THE WORKS.
3. WESTLAKE PUNNETT & ASSOCIATES TAKES NO RESPONSIBILITY FOR THE USE OF NON-VERIFIED 3D DESIGN INFORMATION USED IN THE WORKS.
4. THE USE OF THE 3D INFORMATION FILE SHALL CONSTITUTE ACKNOWLEDGEMENT AND ACCEPTANCE OF THE ABOVE STATEMENTS BY THE FILES RECIPIENT.

VIEWING PLATFORM & CARPARK
SURFERS AVENUE, NARRAWALLEE

CIVIL DRAWING LIST

Rev.	Amendments	Approved	Date

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PO Box 1573 NOWRA 2541

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RESIDENTIAL - COMMERCIAL - INDUSTRIAL

NOTES

PROJECT: VIEWING PLATFORM & CARPARK
AT: SURFERS AVENUE, NARRAWALLEE
FOR: SHOALHAVEN CITY COUNCIL

Design:	J.Taylor
Drawn:	J.Taylor
Checked:	S.Punnett
Date:	17/10/2020
Drawing No.	22142/C01
Rev	–

SITE PLAN
SCALE 1:200

LEGEND

- EXISTING CONTOUR LINE 0.2m INTERVAL
- EXISTING 375ØRCP STORMWATER DRAINAGE LINE
- EXISTING OVER HEAD POWER LINES
- EXISTING 150VCP GRAVITY SEWER MAIN
- EXISTING 200AC SEWER RISING MAIN
- EXISTING 100AC WATER MAIN
- EXISTING COMMUNICATIONS LINE

www.dialbeforeyoudig.com.au
DIAL 1100
BEFORE YOU DIG

NOT ALL SERVICES ARE SHOWN. SERVICES ARE TO BE POT HOLED PRIOR TO COMMENCEMENT OF WORKS AND CLEARANCE REQUIREMENT DISCUSSED WITH WESTLAKE PUNNETT & THE SERVICE PROVIDERS.

UNDERGROUND SERVICES SEARCH SHOULD BE UNDERTAKEN PRIOR TO ANY EXCAVATION TAKING PLACE UPON THE SITE

FOR CC APPROVAL

0 5 10 15 20m
SCALE 1:200 (A1), 1:400 (A3)

Rev.	Amendments	Approved	Date

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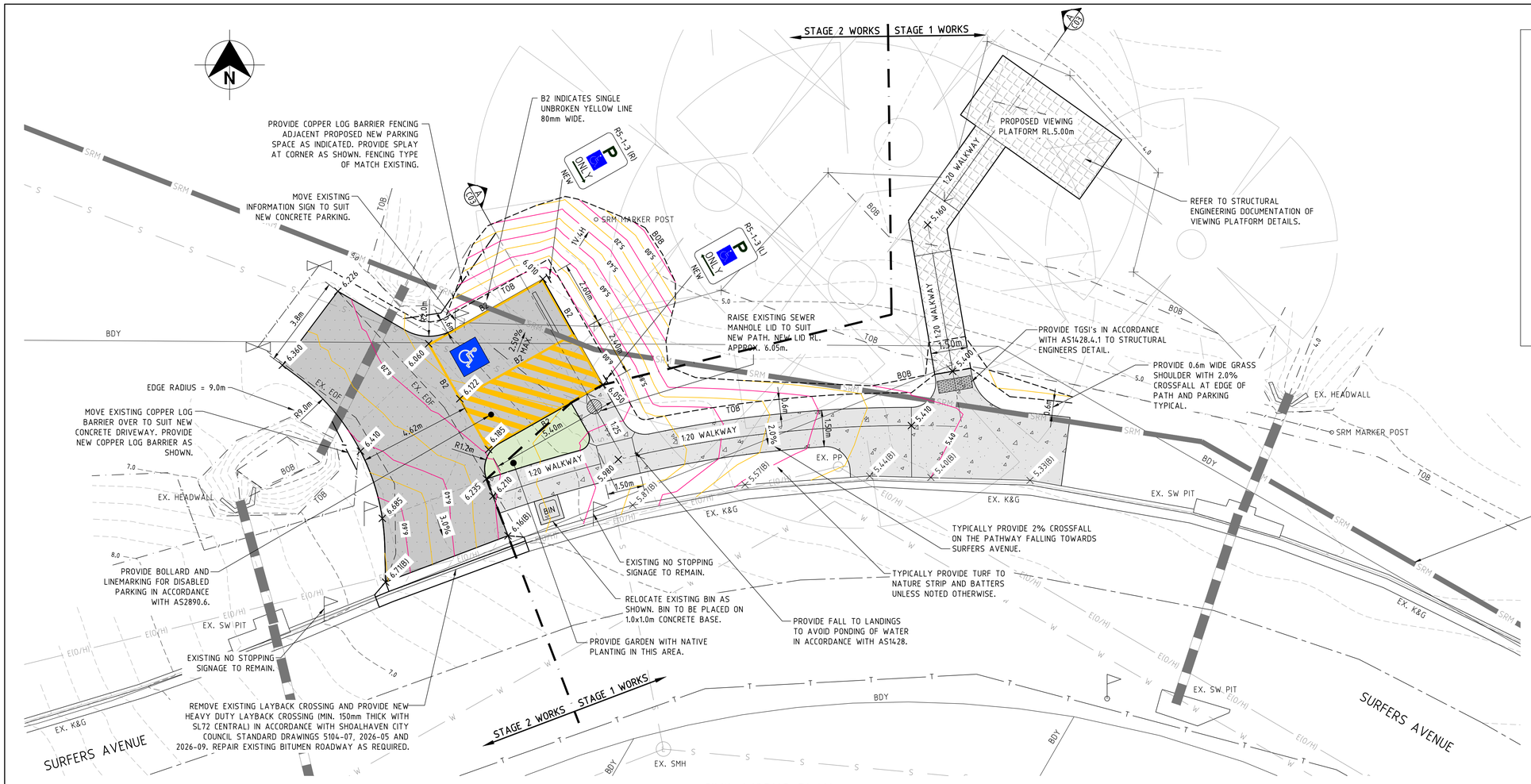
SITE PLAN

PROJECT: VIEWING PLATFORM & CARPARK
AT: SURFERS AVENUE, NARRAWALLEE
FOR: SHOALHAVEN CITY COUNCIL

Design:	J.Taylor
Drawn:	J.Taylor
Checked:	S.Punnett
Date:	17/10/2022
Drawing No.	22142/C02
Rev	–



CIVIL WORKS PLAN

SCALE 1:100

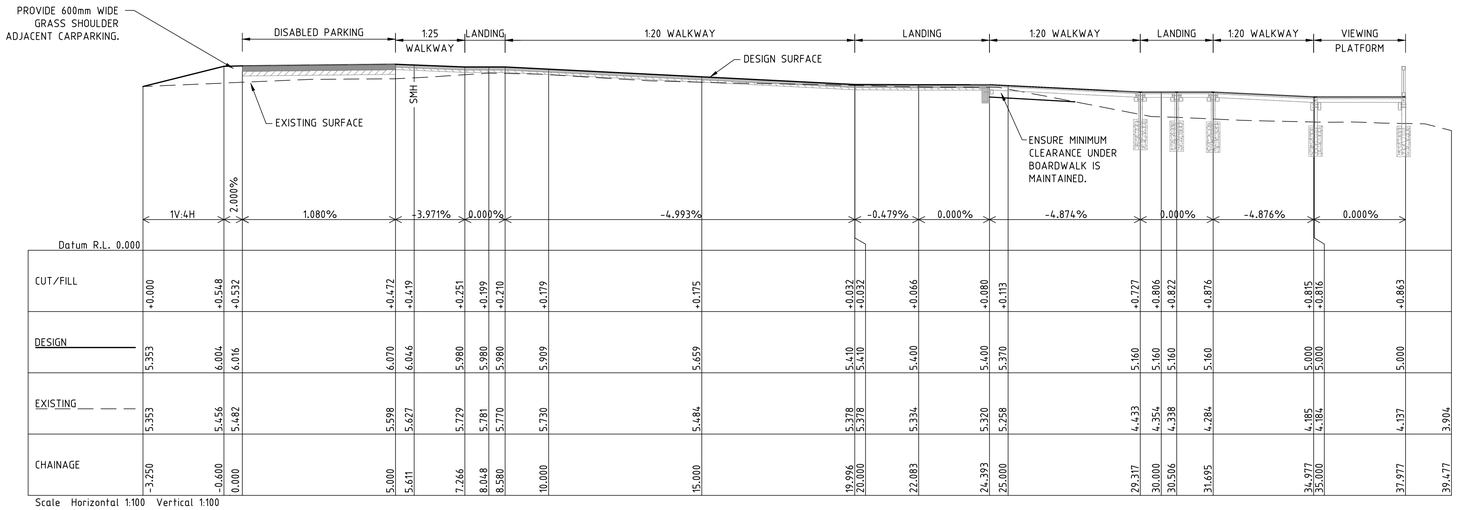
LEGEND

- PROPOSED DESIGN MAJOR CONTOUR LINE 0.20m INTERVAL
- PROPOSED DESIGN MINOR CONTOUR LINE 0.10m INTERVAL
- EXISTING CONTOUR LINE 0.2m INTERVAL
- EXISTING 375ØRCP STORMWATER DRAINAGE LINE
- EXISTING OVER HEAD POWER LINES
- EXISTING 150VCP GRAVITY SEWER MAIN
- EXISTING 200AC SEWER RISING MAIN
- EXISTING 100AC WATER MAIN
- EXISTING COMMUNICATIONS LINE
- DESIGN SPOT LEVEL
- DESIGN SPOT LEVEL (BACK OF KERB)

LINEMARKING AND SIGNAGE NOTES

1. ALL TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH AS1742 & RTA STANDARDS.
2. ALL LINES TO BE MARKED WITH REFLECTIVE PAVEMENT MARKING PAINT.
3. ALL SIGN POSTS ARE TO BE INSTALLED WITH A "V-LOCK INSERT".
4. ALL REGULATORY SIGNS TO BE "B" SIZE UNLESS SHOWN OTHERWISE.

NOTE:
LOCATION OF EXISTING SEWER RISING MAIN APPROXIMATE ONLY BASED ON SHOALHAVEN CITY COUNCILS ONLINE GIS MAPPING DATA. SEWER RISING MAIN TO BE POTHOLED ON SITE PRIOR TO COMMENCING CONSTRUCTION WORKS.



CHAINAGE	-3.250	-0.600	0.000	5.000	5.611	7.266	8.048	8.580	10.000	15.000	19.996	20.000	22.083	24.393	25.000	29.317	30.000	30.506	31.695	34.977	35.000	37.977	39.477
CUT/FILL	+0.000	+0.548	+0.532	+0.472	+0.419	+0.251	+0.199	+0.210	+0.179	+0.175	+0.032	+0.032	+0.066	+0.080	+0.113	+0.727	+0.806	+0.822	+0.876	+0.815	+0.816	+0.863	
DESIGN	5.353	6.004	6.016	6.070	6.046	5.980	5.980	5.980	5.909	5.659	5.410	5.410	5.400	5.400	5.370	5.160	5.160	5.160	5.160	5.000	5.000	5.000	
EXISTING	5.353	5.456	5.482	5.598	5.627	5.729	5.781	5.770	5.730	5.484	5.378	5.378	5.334	5.320	5.258	4.433	4.354	4.338	4.284	4.185	4.184	4.137	3.904

SECTION A-A (DISABLED WALKWAY LONGITUDINAL SECTION)

SCALE 1:100V 1:100H

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NOT ALL SERVICES ARE SHOWN. SERVICES ARE TO BE POT HOLED PRIOR TO COMMENCEMENT OF WORKS AND CLEARANCE REQUIREMENT DISCUSSED WITH WESTLAKE PUNNETT & THE SERVICE PROVIDERS.

UNDERGROUND SERVICES SEARCH SHOULD BE UNDERTAKEN PRIOR TO ANY EXCAVATION TAKING PLACE UPON THE SITE

0 1 2 4 6 8 10m
SCALE 1:100 (A1), 1:200 (A3)

Rev.	Amendments	Approved	Date
A	REVISED FOR STAGING OF WORKS.	S.P	21.11.2022
B	STAGING BOUNDARY REVISED.	S.P	25.11.2022

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RESIDENTIAL - COMMERCIAL - INDUSTRIAL

CIVIL WORKS PLAN

PROJECT: VIEWING PLATFORM & CARPARK
AT: SURFERS AVENUE, NARRAWALLEE
FOR: SHOALHAVEN CITY COUNCIL

Design:	J.Taylor
Drawn:	J.Taylor
Checked:	S.Punnett
Date:	17/10/2022
Drawing No.	22142/C03
Rev	B

SETOUT POINTS		
LOCATION	EASTING	NORTHING
A	270198.6731	6088854.4054
B	270200.9552	6088857.4473
C	270203.7059	6088855.8573
D	270205.6981	6088855.8578
E	270209.3902	6088857.9488
F	270211.8542	6088853.5981
G	270207.6019	6088851.1898
H	270207.0712	6088849.7205
I	270226.9863	6088854.2814
J	270231.0742	6088852.2543
K	270226.0115	6088860.0004
L	270231.4621	6088861.2313
M	270233.1990	6088863.6773
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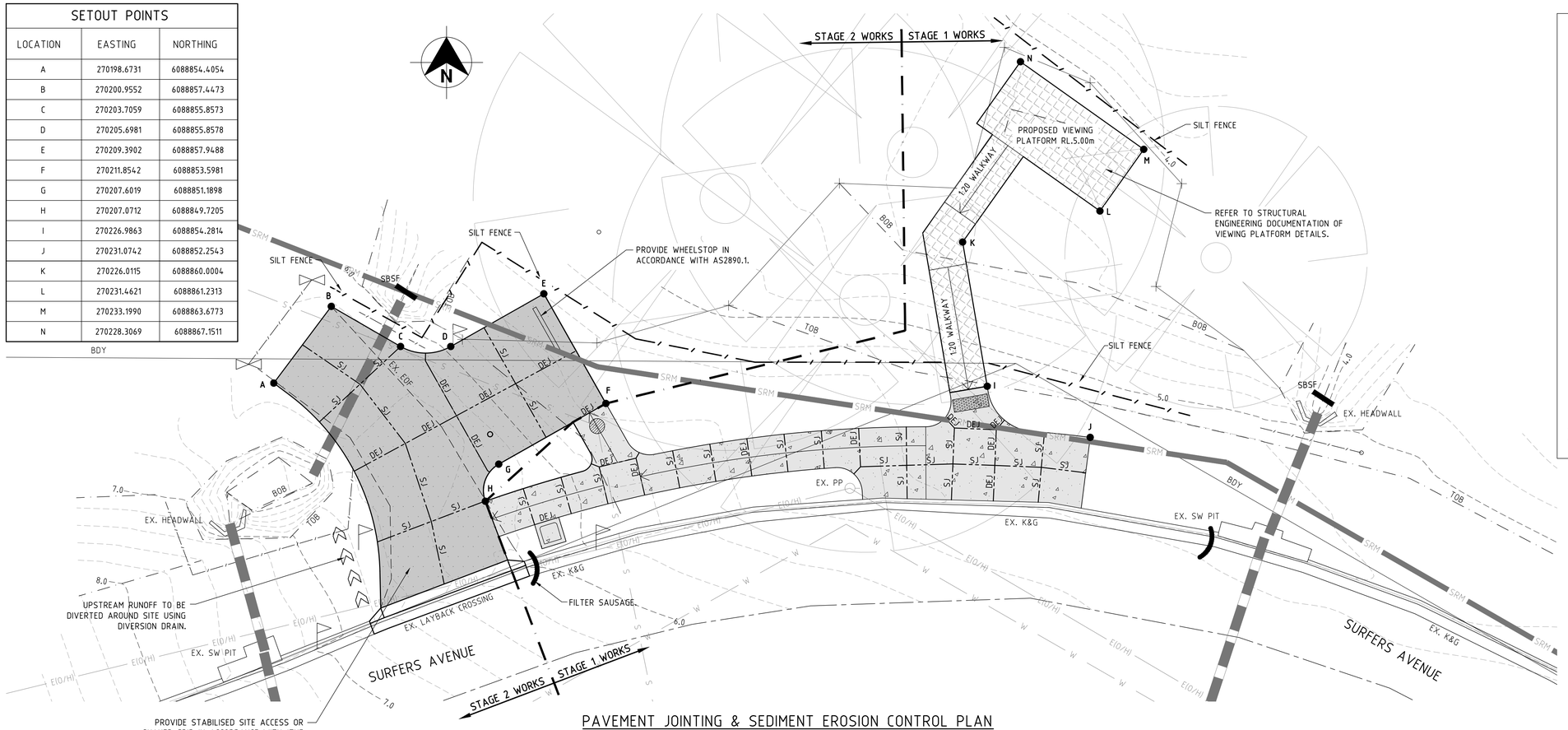


PAVEMENT JOINTING & SEDIMENT EROSION CONTROL PLAN

SCALE 1:100

LEGEND

- 14.0 — PROPOSED DESIGN MAJOR CONTOUR LINE 0.20m INTERVAL
- 14.1 — PROPOSED DESIGN MINOR CONTOUR LINE 0.10m INTERVAL
- 16.8 — EXISTING CONTOUR LINE 0.2m INTERVAL
- EXISTING 375ØRCP STORMWATER DRAINAGE LINE
- E(O/H) — EXISTING OVER HEAD POWER LINES
- S — EXISTING 150VCP GRAVITY SEWER MAIN
- SRM — EXISTING 200AC SEWER RISING MAIN
- W — EXISTING 100AC WATER MAIN
- T — EXISTING COMMUNICATIONS LINE
- E — SET-OUT POINT
- EROSION CONTROL MEASURES PROVIDE FILTER 'SAUSAGES' AT ALL STORMWATER PITS AND SPACED AT MAX 30m INTERVALS IN KERBS
- SBSF — STRAW BALE SEDIMENT FILTER
- SILT STOP FENCE
- EARTH BANK LOW FLOW (SD 5-5)

JOINTING LEGEND:

DEJ = DOWELLED EXPANSION JOINT. REFER TO DETAIL.
SJ = WEAKENED PLANE SAWN JOINT. REFER TO DETAIL.
KJ = KEY JOINT. REFER TO DETAIL.
EJ = EXPANSION JOINT. REFER TO DETAIL.
IK = INTEGRAL KERB. REFER TO DETAIL.

\ = 2-N12 RE-ENTRANT CORNER BARS 1500 LONG TIED TO UNDERSIDE OF TOP REINFORCING STEEL.

PAVEMENT NOTES:

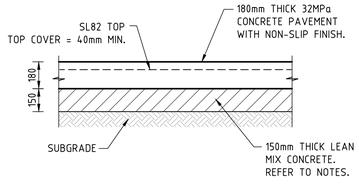
1. SUB BASE = REFER TO PAVEMENT KEY
2. BASE = REFER TO PAVEMENT KEY.
3. ANY FILL TO BE APPROVED GRANULAR MATERIAL.
4. REPLACEMENT OF NATURAL SUBGRADE TO BE RIPPED SANDSTONE OR SIMILAR MATERIAL WITH CBR NOT LESS THAN 10% WHEN COMPACTED TO 100% STANDARD COMPACTION.
5. PAVEMENT HAS BEEN DESIGNED ASSUMING A MINIMUM SUBGRADE CBR OF 2%. CBR TO BE CONFIRMED BY BUILDER PRIOR TO CONSTRUCTION.
6. CONTRACTOR TO ALLOW FOR COMPACTION TESTING IN ACCORDANCE WITH THE RELEVANT AUSTRALIAN STANDARDS DURING CONSTRUCTION.

PAVEMENT KEY:

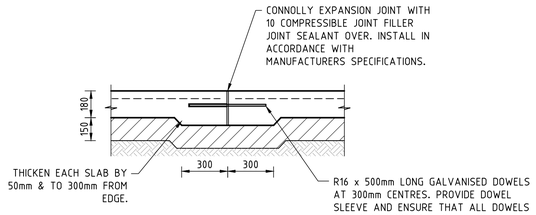
= **CONCRETE PAVEMENT** 180mm THICK 32MPa REINFORCED WITH SL82 MESH JOINTED ON 150mm THICK LEAN MIX CONCRETE SUB-BASE. 40mm TOP COVER.

= **CONCRETE WALKWAY PAVEMENT** 110mm THICK 25MPa REINFORCED WITH SL82 MESH JOINTED ON 75mm THICK DGB20 COMPACTED TO 98% MODIFIED. 40mm TOP COVER.

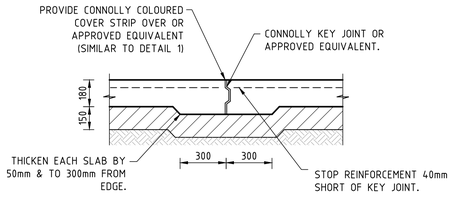
NOTE:
THE CONCRETE PAVEMENT THICKNESS AND DETAILS HAVE BEEN DESIGNED ASSUMING A SUBGRADE WITH A MINIMUM SOAKED C.B.R OF 2.0%. THE PAVEMENT DESIGN IS TO BE CONFIRMED BY GEOTECHNICAL ENGINEER ENGAGED BY THE BUILDER DURING CONSTRUCTION.



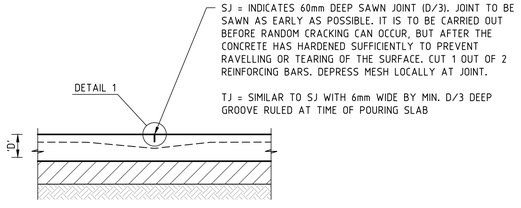
TYPICAL PAVEMENT TYPE 1 DETAIL
SCALE 1:20



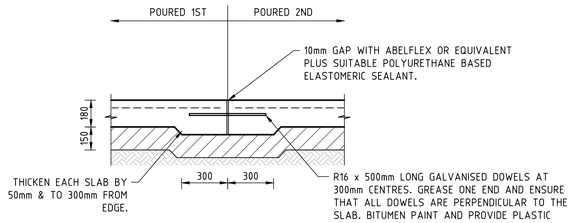
DEJ
TYPICAL DOWELLED EXPANSION JOINT DETAIL
SCALE 1:20



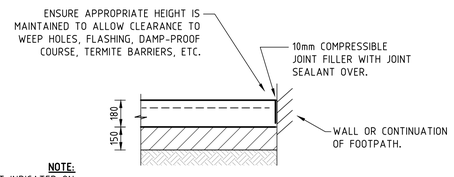
KJ
TYPICAL KEY JOINT DETAIL
SCALE 1:20



TJ/SJ
TYPICAL TOOLED JOINT/SAWN JOINT DETAIL
SCALE 1:20



DEJ
ALTERNATIVE DOWELLED EXPANSION JOINT DETAIL
SCALE 1:20



NOTE:
EJ TYPICALLY NOT INDICATED ON PLAN. PROVIDE THIS DETAIL WHERE PAVING SLABS ABUT BUILDINGS, RETAINING WALLS AND OTHER STRUCTURES.

EJ
TYPICAL EXPANSION JOINT DETAIL
SCALE 1:20

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FOR CC APPROVAL

0 0.5 1 1.5 2m
SCALE 1:20 (A1), 1:40 (A3)

0 1 2 4 6 8 10m
SCALE 1:100 (A1), 1:200 (A3)

Rev.	Amendments	Approved	Date
A	REVISED FOR STAGING OF WORKS. SET OUT POINTS ADDED.	S.P	21.11.2022
B	STAGING BOUNDARY REVISED.	S.P	25.11.2022

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PAVEMENT JOINTING & SEDIMENT EROSION CONTROL PLAN

PROJECT: VIEWING PLATFORM & CARPARK
AT: SURFERS AVENUE, NARRAWALLEE
FOR: SHOALHAVEN CITY COUNCIL

Design:	J.Taylor
Drawn:	J.Taylor
Checked:	S.Punnett
Date:	17/10/2022
Drawing No.	22142/C04
Rev	B

SOIL AND WATER MANAGEMENT NOTES

1. THE SOIL AND WATER MANAGEMENT PLAN IS TO BE READ IN CONJUNCTION WITH THE ENGINEERING PLANS AND COUNCIL'S WRITTEN GUIDELINES FOR THE DEVELOPMENT OF LAND.

2. CONTRACTORS SHALL ENSURE THAT ALL SOIL AND WATER MANAGEMENT WORKS ARE UNDERTAKEN AS SPECIFIED ON THE PLAN AND IN ACCORDANCE WITH THE GUIDELINES SHOWN IN 'MANAGING URBAN STORMWATER - SOILS AND CONSTRUCTION 4TH EDITION 2004' (THE BLUE BOOK).

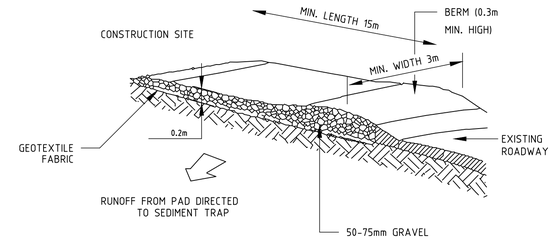
3. ALL CONTRACTORS AND SUBCONTRACTORS ARE RESPONSIBLE FOR REDUCING THE SOIL EROSION AND POLLUTION OF DOWNSLOPE AREAS.

4. THE SOIL EROSION HAZARD ON THE SITE IS TO BE KEPT AS LOW AS POSSIBLE AND GENERALLY IN ACORDANCE WITH THE FOLLOWING SCHEDULE.

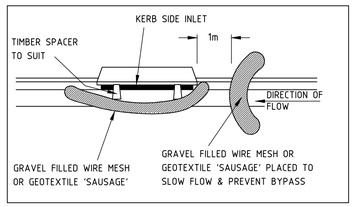
LAND USE	LIMITATION	COMMENTS
CONSTRUCTION AREAS	DISTURBANCE TO BE NO FURTHER THAN 5m (pref.2m) FROM THE EDGE OF ANY ESSENTIAL ENGINEERING ACTIVITY AS SHOWN ON THESE PLANS	ALL SITE WORKERS WILL CLEARLY RECOGNISE THESE ZONES - WHERE APPROPRIATE THE CONSTRUCTION AREAS ARE TO BE IDNTIFIED WITH BARRIER FENCING (UPSLOPE) & SEDIMENT FENCING (DOWNSLOPE) OR SIMILAR MATERIAL.
ACCESS AREAS	LIMITED TO A MAX. WIDTH OF 10m.	THE SITE MGR. SHALL DETERMINE AND MARK THE LOCATION OF THESE ZONES ONSITE. THEY CAN VARY IN POSITION TO BEST CONSERVE THE EXISTING VEGETATION AND PROTECT DOWNSTREAM AREAS WHILE BEING CONSIDERATE OF THE NEEDS OF EFFICIENT WORKS ACTIVITIES. ALL SITE WORKERS SHALL CLEARLY RECOGNISE THEIR BOUNDARIES - WHERE APPROPRIATE THE ACCESS AREAS ARE TO BE MARKED WITH BARRIER MESH, SEDIMENT FENCING OR SIMILAR MATERIALS
REMAINING LANDS	ENTRY PROHIBITED EXCEPT FOR ESSENTIAL THINNING OF PLANT GROWTH.	THINNING OF GROWTH MAY BE REQUIRED FOR FIRE HAZARD REDUCTION

NOTE: WORKS WITHIN WATERWAYS AND CREEKS SHALL BE RESTRICTED AS DIRECTED - ALL LANDS WITHIN CREEKS AND WATERWAYS SHALL HAVE C-FACTORS BELOW 0.05 FROM 1 JAN. TO 15 MAY USING MATERIALS THAT CAN CATER FOR CONCENTRATED FLOWS.

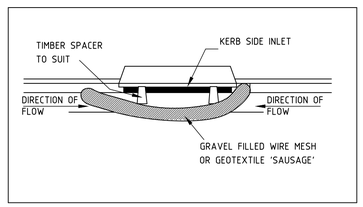
5. WORKS ARE TO BE UNDERTAKEN IN THE FOLLOWING SEQUENCE. EACH SUBSEQUENT STAGE IS NOT TO COMMENCE UNTIL THE PREVIOUS ONE IS COMPLETE.-
a) INSTALL ALL BARRIER AND AND SEDIMENT FENCING WHERE SHOWN ON THE PLAN AND TO DETAIL (SD) 6-8,
b) CONSTRUCT STABILISED SITE ACESS AS SHOWN ON THE PLAN AND TO DETAIL (SD) 6-14,
c) CONSTRUCT LOW FLOW EARTH BANKS WHERE SHOWN ON THE PLAN AND TO DETAIL (SD) 5-5,
d) PROVIDE TEMP. ACCESS TO THE SEDIMENT BASINS AND PROTECT THIS WITH SEDIMENT FENCING (SD) 6-8 OR BARRIER FENCING AND EARTH BANKS (SD) 5-5,
e) PLACE SEDIMENT FENCING (SD) 6-8 DOWNSLOPE OF LANDS TO BE DISTURBED FOR CONSTRUCTION OF SEDIMENT BASINS,
f) CONSTRUCT SEDIMENT BASIN GENERALLY IN ACCORDANCE WITH (SD)6-4,
g) STABILISE LAND SURFACES DISTURBED BY CONSTRUCTION OF THE SEDIMENT BASINS AS SOON AS FINAL LEVELS ARE ESTABLISHED,
h) CLEAR THE SITE AND STRIP AND STOCKPILE THE TOPSOIL IN THE LOCATIONS SHOWN ON THE PLANS OR AS DIRECTED BY THE SITE SUPERINTENDENT TO DETAIL (SD)4-1,
i) UNTERTAKE ALL ESSENTIAL CONSTRUCTION WORKS,
j) INSTALL MESH AND GRAVEL INLET PROTECTION (SD)6-11 FOR ADJACENT KERB INLETS NOT SHOWN,
k) INSTALL GEOTEXTILE INLET FILTERS (SD)6-12 AROUND ALL DROP INLETS ONSITE. (NOT SHOWN),
l) COMPLETE TRIMMING TO FINAL GRADES AND APPLY TURF TO DISTURBED AREAS WITHIN 5 DAYS OF COMPLETION OF CONSTRUCTION WORKS,
m) REMOVE TEMPORARY EROSION CONTROL MEASURES AFTER THE PERMANENT LANDSCAPING HAS BEEN COMPLETED.



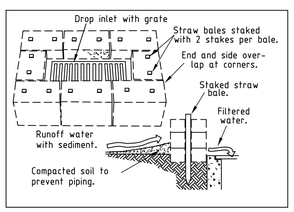
STABILISED SITE ACESS (SD 6-14)
NTS



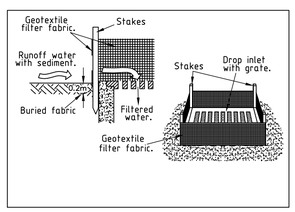
MESH AND GRAVEL INLET FILTER TYPE A - LINTEL INLET
NTS



MESH AND GRAVEL INLET FILTER TYPE B - SAG LINTEL INLET
NTS



STRAW BALE DROP INLET SEDIMENT TRAP
NTS



GEOTEXTILE FILTER FABRIC DROP INLET SEDIMENT TRAP
NTS

6. CLEARLY VISIBLE BARRIER FENCING SHALL BE INSTALLED WHERE DIRECTED BY THE SITE SUPERINTENDENT TO CONTROL AND PROHIBIT UNNECESSARY SITE DISTURBANCE.

7. EARTH BATTERS SHALL BE CONSTRUCTED WITH AS LOW A GRADIENT AS PRACTICABLE BUT NO STEEPER THAN:
a) 2(h) - 1(v) WHERE SLOPE LENGTH IS LESS THAN 7m
b) 2.5(h) - 1(v) WHERE SLOPE LENGTH IS BETWEEN 7m AND 10m
c) 3(h) - 1(v) WHERE SLOPE LENGTH IS BETWEEN 10m AND 12m
d) 4(h) - 1(v) WHERE SLOPE LENGTH IS BETWEEN 12m AND 18m
e) 5(h) - 1(v) WHERE SLOPE LENGTH IS BETWEEN 18m AND 27m
f) 6(h) - 1(v) WHERE SLOPE LENGTH IS GREATER THAN 27m

SLOPE LENGTHS CAN BE SHORTENED BY USING LOW FLOW EARTH BANKS AS CATCH DRAINS ABOVE THE EARTH BATTER AREA.

8. PROTECTION FROM EROSIVE FORCES SHALL BE UNDERTAKEN ON ALL LANDS TO MEET THE REQUIREMENTS OF TABLE 9-7 'MAXIMUM ACCEPTABLE C-FACTORS AT NOMINATED TIMES DURING WORKS' FROM 'MANAGING URBAN STORMWATER - SOILS AND CONSTRUCTION 3RD EDITION'

9. TEMPORARY GROUND COVER IN SHEET FLOW AREAS IS TO BE IN ACCORDANCE WITH TABLE 9-7 'PLANT SPECIES FOR GROUND COVER' FROM ' MANAGING URBAN STORMWATER - SOILS AND CONSTRUCTION 3RD EDITION'. WHERE PRACTICAL FOOT AND VEHICULAR TRAFFIC SHALL BE KEPT AWAY FROM REHABILITATION AREAS.

10. WHERE POSSIBLE THE CONSTRUCTION PROGRAM IS TO BE SCHEDULED SO THAT THE TIME FROM STARTING LAND DISTURBANCE ACTIVITIES TO STABILISATION IS A DURATION OF LESS THAN 6 MONTHS THIS MEANS ACHIEVING A C-FACTOR OF LESS THAN 0.1 AND SETTING IN MOTION A PROGRAM THAT ENSURES THAT IT DROPS PERMANENTLY, (BY VEGETATION, PAVING, ARMOURING etc.) TO LESS THAN 0.05 WITHIN A FURTHER 60 DAYS. LOCAL WATER RESTRICTIONS PERMITTING. LANDS THAT HAVE BEEN NEWLY PLANTED WITH GRASS SPECIES SHALL BE WATERED REGULARLY UNTIL AN EFFECTIVE COVER HAS BEEN ESTABLISHED AND PLANTS ARE GROWING VIGOROUSLY. FOLLOW-UP SEED AND FERTILISER SHALL BE APPLIED AS NECESSARY IN AREAS OF MINOR SOIL EROSION AND/OR INADEQUATE VEGETATIVE PROTECTION. NOTWITHSTANDING THIS SCHEDULE OF WORKS SO THAT THE DURATION FROM THE CONCLUSION OF LAND SHAPING TO THE COMPLETION OF FINAL STABILISATION IS LESS THAN 20 WORKING DAYS.

11. THE VEGETATION SHALL BE AIMED AT RE-ESTABLISHING NATURAL SPECIES. THEREFORE, THE NATURAL SURFACE SOILS SHALL BE REPLACED AND NON PERSISTENT ANNUAL COVER CROPS SHALL BE USED.

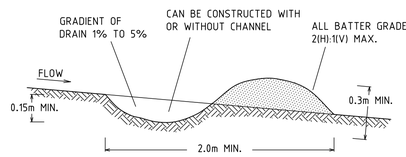
12. SEDIMENT FENCES (SD)6-8 SHALL:

a) BE INSTALLED WHERE SHOWN ON THE PLAN AND AS DIRECTED AT THE DISCRETION OF THE SITE SUPERINTENDENT DURING THE COURSE OF CONSSTRUCTION TO CONTAIN THE COARSER SEDIMENT FRACTIONS AS NEAR AS POSSIBLE TO THEIR SOURCE.
b) HAVE A CATCHMENT AREA NOT EXCEEDING 720sq.m. AND A STORAGE DEPTH OF AT LEAST 0.6m.
c) PROVIDE AN UPSLOPE RETURN OF 1m AT INTERVALS ALONG THE FENCE WHERE THE CATCHMENT AREA EXCEEDS 720sq.m. TO LIMIT THE DISCHARGE REACHING EACH SECTION TO 40litres/sec IN A MAX. 20yr Tc DISCHARGE.

13. STOCKPILES (SD) 4-1 SHALL BE LOCATED AS SHOWN ON THE PLANS AND AT DISCRETION OF THE SITE SUPERINTENDENT.

14. DURING WINDY WEATHER LARGE UNPROTECTED AREAS ARE TO BE KEPT MOIST (NOT WET) BY SPRINKLING WITH WATER TO KEEP DUST UNDER CONTROL. IN THE EVENT WATER IS NOT AVAILABLE IN SUFFICIENT QUANTITIES SOIL BINDERS AND/OR DUST RETARDENTS SHALL BE USED OR THE SURFACE SHALL BE LEFT IN A CLODDY STATE THAT RESISTS REMOVAL BY WIND.

15. NOTWITHSTANDING NOTE 5d STOCKPILES SHALL NOT BE LOCATED WITHIN 5m OF HAZARD AREAS, INCLUDING LIKELY AREAS OF HIGH VELOCITY FLOWS SUCH AS WATERWAYS, PAVED AREAS OR DRIVEWAYS.



EARTH BANK (LOW FLOW) (SD 5-5)
NTS

NOTE:
ONLY TO BE USED AS TEMPORARY BANK WHERE MAXIMUM UPSLOPE LENGTH IS 80m.

CONSTRUCTION NOTES
1. BUILD WITH GRADIENTS BETWEEN 1 PERCENT AND 5 PERCENT.
2. AVOID REMOVING TREES AND SHRUBS IF POSSIBLE - WORK AROUND THEM.
3. ENSURE THE STRUCTURES ARE FREE OF PROJECTIONS OR OTHER IRREGULARITIES THAT COULD IMPEDE WATER FLOW.
4. BUILD THE DRAINS WITH CIRCULAR, PARABOLIC OR TRAPEZOIDAL CROSS SECTIONS, NOT V-SHAPED
5. ENSURE THE BANKS ARE PROPERLY COMPACTED TO PREVENT FAILURE.
6. COMPLETE PERMANENT OR TEMPORARY STABILISATION WITHIN 10 DAYS OF CONSTRUCTION.

CATCHMENT PLAN
NTS

16. SEDIMENT REMOVED FROM ANY TRAPPING DEVICE SHALL BE DISPOSED IN LOCATIONS WHERE FURTHER EROSION AND CONSEQUENT POLLUTION TO DOWNSLOPE LANDS AND WATERWAYS SHALL NOT OCCUR

17. WATER SHALL BE PREVENTED FROM DIRECTLY ENTERING THE PERMANENT DRAINAGE SYSTEM UNLESS IT IS RELATIVELY SEDIMENT FREE (ie THE CATCHMENT HAS BEEN LANDSCAPED AND/OR ANY LIKELY SEDIMENT HAS BEEN TREATED IN AN APPROVED DEVICE) NEVERTHELESS STORMWATER INLETS SHALL BE PROTECTED (SD)6-11 & 6-12

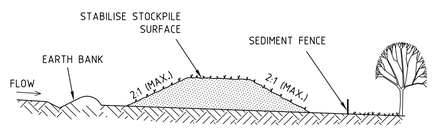
18. TEMPORARY SOIL AND WATER MANAGEMENT STRUCTURES SHALL BE REMOVED ONLY AFTER THE LANDS THEY ARE PROTECTING ARE STABILISED

19. ACCEPTABLE BINS SHALL BE PROVIDED FOR ANY CONCRETE AND MORTAR SLURRIES, PAINTS, ACID WASHINGS, LIGHTWEIGHT WASTE MATERIALS AND LITTER. CLEARANCE SERVICES SHALL BE PROVIDED AT LEAST ONCE A WEEK.

SITE INSPECTION AND MAINTENANCE

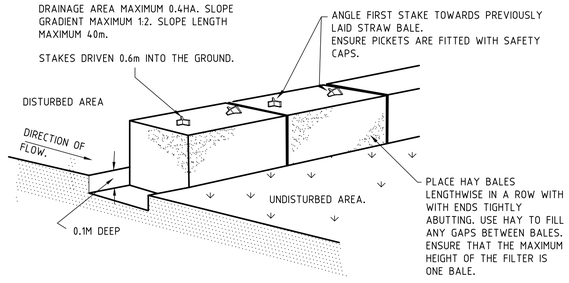
20. A SELF AUDITING PROGRAM SHALL BE ESTABLISHED BASED ON A CHECK SHEET. A SITE INSPECTION USING THE CHECK SHEET SHALL BE MADE BY THE SITE MANAGER.-
a) AT LEAST WEEKLY
b) IMMEADIATELY BEFORE SITE CLOSURE
c) IMMEADIATELY FOLLOWING RAINFALL EVENTS IN EXCESS OF 5mm IN ANY 24hr PERIOD. THE SELF AUDIT SHALL INCLUDE.-
a) RECORDING THE CONDITION OF EVERY 'BEST MANAGEMENT PRACTICE'
c) RECORDING MAINTENANCE REQUIREMENTS (IF ANY) FOR EACH 'BEST MANAGEMENT PRACTICE'
d) RECORDING THE SITE WHERE SEDIMENT IS DISPOSED
e) FORWARDING A SIGNED DUPLICATE OF THE COMPLETED CHECK SHEET TO THE PROJECT MANAGER/DEVELOPER FOR THEIR INFORMATION.

21. IN ADDITION A SUITABLY QUALIFIED PERSON SHALL BE RESPONSIBLE FOR OVERSEEING THE INSTALLATION AND MAINTENANCE OF ALL SOIL AND WATER MANAGEMENT WORKS IN THE SITE. THE PERSON SHALL BE REQUIRED TO SPEND A MIN. OF.-
a) 2hrs ONSITE EACH FORTNIGHT UP UNTIL COMPLETION OF ROAD AND DRAINAGE WORKS AND/OR THE COMMISIONING OF SEDIMENT BASINS/WATER QUALITY CONTROL FACILITIES AND DURING THE DECOMMISIONING OF SAME AND/OR FINAL SITE STABILISATION. TO PROVIDE A SHORT MONTHLY WRITTEN REPORT.
b) ONE HOUR ONSITE EACH 2 MONTHS DURING THAT PHASE WHERE THE DEVELOPERS RESPONSIBILITIES ARE LIMITED TO MAINTENANCE OF THE SEDIMENT DEVICES AND/OR SEDIMENT BASINS (ie DURING THE STAGE WHEN BUILDING WORKS CAN BE UNDERTAKEN TO PROVIDE A SHORT WRITTEN REPORT EACH 4 mths.
THE RESPONSIBLE PERSON SHALL ENSURE THAT.-
a) THIS PLAN IS BEING IMPLEMENTED CORRECTLY
b) REPAIRS ARE BEING UNDERTAKEN AS REQUIRED
c) ESSENTIAL MODIFICATIONS TO THIS PLAN ARE MADE IF AND WHEN NECESSARY AND EACH REPORT SHALL CERTIFY THAT WORKS HAVE BEEN CARRIED OUT ACCORDING TO THE APPROVED PLANS.

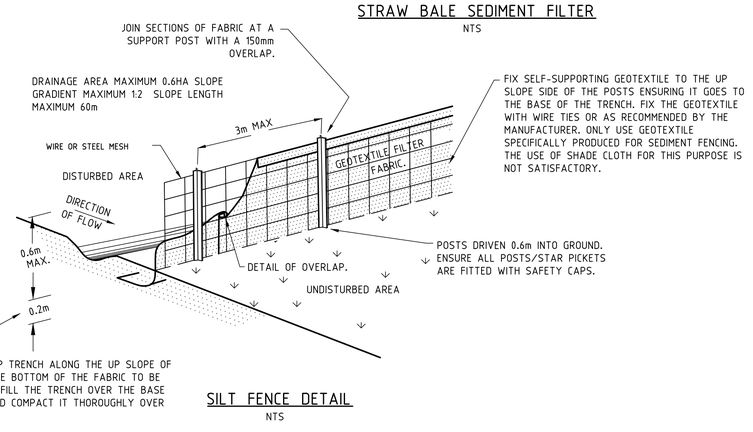


STOCKPILES (SD 4-1)
NTS

CONSTRUCTION NOTES
1. PLACE STOCKPILES MORE THAN 2 (PREFERABLY 5) METRES 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 2 METRES 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 2 METRES DOWNSLOPE.



STRAW BALE SEDIMENT FILTER
NTS



SILT FENCE DETAIL
NTS

AIR & NOISE POLLUTION CONTROL

1. SUPPRESS DUST BY THE FOLLOWING METHODS WHERE APPLICABLE:
a) STAGE WORKS TO LIMIT THE EXTENT OF EXPOSED AND UNPROTECTED AREAS.
b) CONDUCT REGULAR SPRAYING OF WATER.
c) COVER AND SECURE VEHICULAR LOADS ENTERING/EXITING THE SITE.
d) USE AN ENVIRONMENTALLY FRIENDLY CHEMICAL SPRAY TO BIND SOIL TOGETHER THUS STABILISING UNUSED SOIL.
e) RESTRICT SPEED OF VEHICLES ONSITE.
f) COVER STOCKPILES TO PROTECT THEM FROM WIND.
g) PROVIDE 1.8m HIGH DUST SCREENS; SHADE CLOTH, PVC BANNER OR POLYESTER MESH; SECURELY FIXED TO PERIMETER FENCE.

2. IMPLEMENT MEASURES TO LIMIT AIR POLLUTION BY VEHICLES AND PLANT WORKING ON OR PASSING THROUGH THE SITE.

3. MAINTAIN POLLUTION CONTROL MEASURES DURING CONSTRUCTION AND UNTIL FULL STABILISATION. ROUTINELY INSPECT EACH WEEK AND AFTER SIGNIFICANT RAINFALL EVENTS. REPAIR AND REINSTATE WORKS AS NEEDED TO MAINTAIN PROTECTION. RECORD MAINTENANCE ACTIVITIES AND DETAILS AND PROVIDE TO EPA FOR INSPECTION WHEN REQUESTED.

24. WASTE BINS SHALL BE EMPTIED AS NECESSARY. DISPOSAL OF WASTE SHALL BE IN A MANNER APPROVED BY THE SITE SUPERINTENDENT.

25. PROPER DRAINAGE OF THE SITE SHALL BE MAINTAINED. TO THIS END DRAINS (INCLUDING INLET AND OUTLET WORKS) SHALL BE CHECKED TO ENSURE THAT THEY ARE OPERATING AS INTENDED, ESPECIALLY THAT.-
a) NO LOW POINTS EXIST WHICH CAN OVERTOP IN LARGE STORM EVENTS.
b) AREAS OF EROSION ARE REPAIRED (eg LINED WITH SUITABLE MATERIAL) AND/OR VELOCITY OF FLOW IS REDUCED APPROPRIATELY THROUGH CONSTRUCTION OF SMALL CHECK DAMS OR INSTALLING ADDITIONAL DIVRESIONS UPSLOPE.
c) BLOCKAGES ARE CLEARED (THESE MIGHT OCCUR BECAUSE OF SEDMINET POLLUTIONS, SAND/SOIL/SPOIL BEING DEPOSITED IN OR TOO CLOSE TO THEM, BREACHED BY VEHICLE WHEELS etc)

26. SAND/SOIL/SPOIL MATERIAL PLACED CLOSER THAN 2m FROM HAZARD AREAS SHALL BE REMOVED, SUCH HAZARD AREAS INCLUDE ANY AREAS OF HIGH VELOCITY WATER FLOWS (eg WATERWAYS AND GUTTERS) PAVED AREAS AND DRIVEWAYS.

27. RECENTLY STABILISED LANDS SHALL BE CHECKED TO ENSURE THAT THE EROSION HAZARD HAS BEEN EFFECTIVELY REDUCED. ANY REPAIRS SHALL BE INITIATED AS APPROPRIATE.

28. EXCESSIVE VEGETATION GROWTH SHALL BE CONTROLLED THROUGH MOWING OR SLASHING.

29. ALL SEDIMENT DETENTION SYSTEMS SHALL BE KEPT IN GOOD WORKING CONDITION. IN PARTICULAR ATTENTION SHALL BE GIVEN TO.-
a) RECENT WORKS TO ENSURE THAT THEY HAVE NOT RESULTED IN DIVERSION OF SEDIMENT LADEN WATER AWAY FROM THEM.
b) DEGRADEABLE PRODUCTS TO ENSURE THAT THEY ARE REPLACED AS REQUIRED
c) SEDIMENT REMOVAL TO ENSURE THE DESIGN CAPACITY OR LESS REMAINS IN THE SETTLING ZONE.

30. ADDITIONAL EROSION AND/OR SEDIMENT CONTROL WORKS SHALL BE CONSTRUCTED AS MIGHT BECOME NECESSARY TO ENSURE THE DESIRED PROTECTION IS GIVEN TO DOWNSLOPE LANDS AND WATERWAYS (ie MAKE ONGOING CHANGES TO THIS PLAN WHERE IT PROVES INADEQUATE IN PRACTICE OR IS SUBJECTED TO CHANGES IN CONDITIONS AT THE WORKS SITE OR ELSEWHERE IN THE CATCHEMNT.

31. EROSION AND SEDIMENT CONTROL MEASURES SHALL BE MAINTAINED IN A FUNCTIONING CONDITION UNTIL ALL EARTHWORKS ACTIVITIES ARE COMPLETED AND THE SITE STABLISED.

32. LITTER, DEBRIS AND COARSE SEDIMENT SHALL BE REMOVED FROM THE GROSS POLLUTANT TRAPS AND TRASH RACKS AS REQUIRED.

33. PROVIDE OFF-STREAM SEDIMENT CONTROL PONDS PRIOR TO DISCHARGE OF RUN-OFF. PLACE A LEVEL INDICATOR WITHIN THE POND SHOWING 10% CAPACITY AND 20% CAPACITY. CLEAN OUT SEDIMENT WHEN ABOVE 10% CAPACITY AND REMOVE FROM SITE TO COUNCIL APPROVED LOCATION. CLARIFY AND PUMP OUT WATER WHEN ABOVE 20% CAPACITY SO RUN-OFF FROM THE NEXT RAIN EVENT CAN BE CAPTURED.

34. DISCHARGE FROM SEDIMENT CONTROL PONDS IS ONLY ALLOWED WHEN WATER PH IS 6.5-8.5, IS CLARIFIED BELOW 60mg/L SUSPENDED SOLIDS (SONTU) AND WITH THE PRIOR APPROVAL OF THE EPA.

35. MAINTAIN TEMPORARY SEDIMENT CONTROL PONDS UNTIL AT LEAST 85% OF THE PROJECT WORKS ARE COMPLETE OR WHEN ALL DISTURBED AREAS ARE STABILISED.

CONSTRUCTION NOTES

1. REMOVE ANY ROCKS, CLODS, STICKS OR GLASS FROM SURFACE BEFORE LAYING MATTING.

2.TOPSOIL TO BE MINIMUM 75mm DEEP.

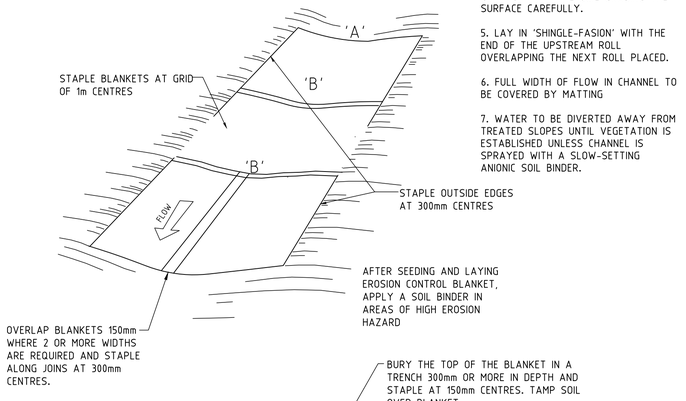
3. FERTILISING AND SEEDING TO BE COMPLETED BEFORE MATTING.

4. ENSURE FABRIC IS CONTINUOUSLY IN CONTACT WITH THE SOIL GRADING THE SURFACE CAREFULLY.

5. LAY IN 'SHINGLE-FASION' WITH THE END OF THE UPSTREAM ROLL OVERLAPPING THE NEXT ROLL PLACED.

6. FULL WIDTH OF FLOW IN CHANNEL TO BE COVERED BY MATTING

7. WATER TO BE DIVERTED AWAY FROM TREATED SLOPES UNTIL VEGETATION IS ESTABLISHED UNLESS CHANNEL IS SPRAYED WITH A SLOW-SETTING ANIONIC SOIL BINDER.



JUTE MATTING DETAIL
NTS

FOR CC APPROVAL

Rev.	Amendments	Approved	Date

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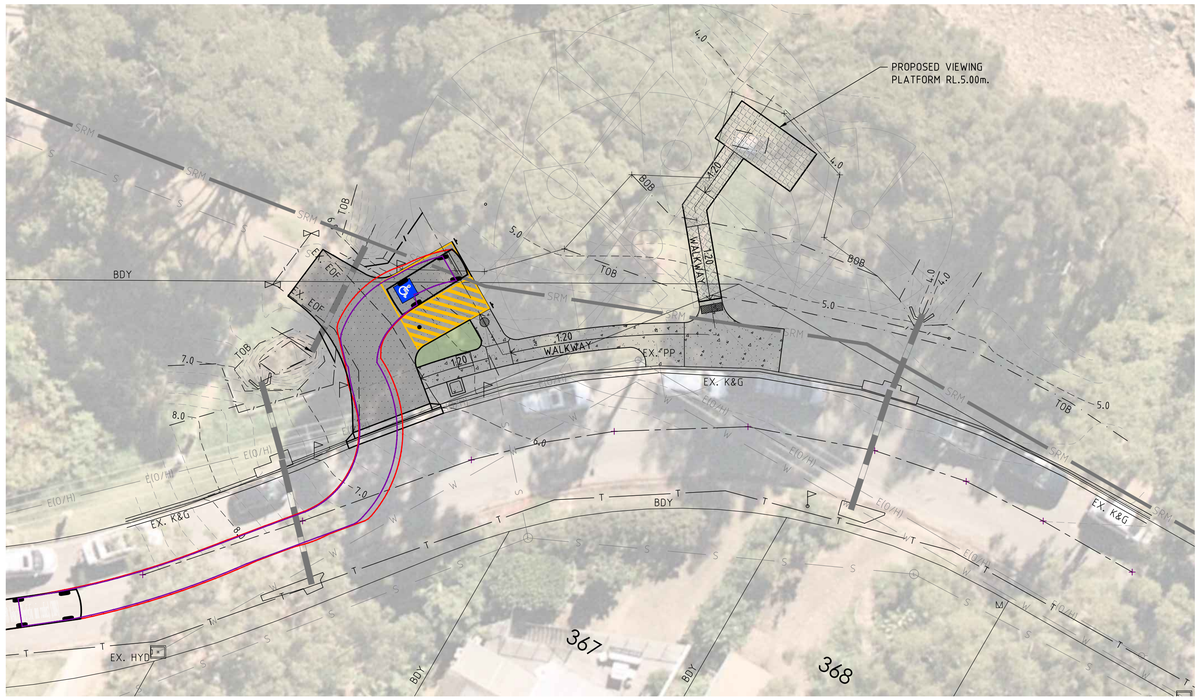
RESIDENTIAL - COMMERCIAL - INDUSTRIAL

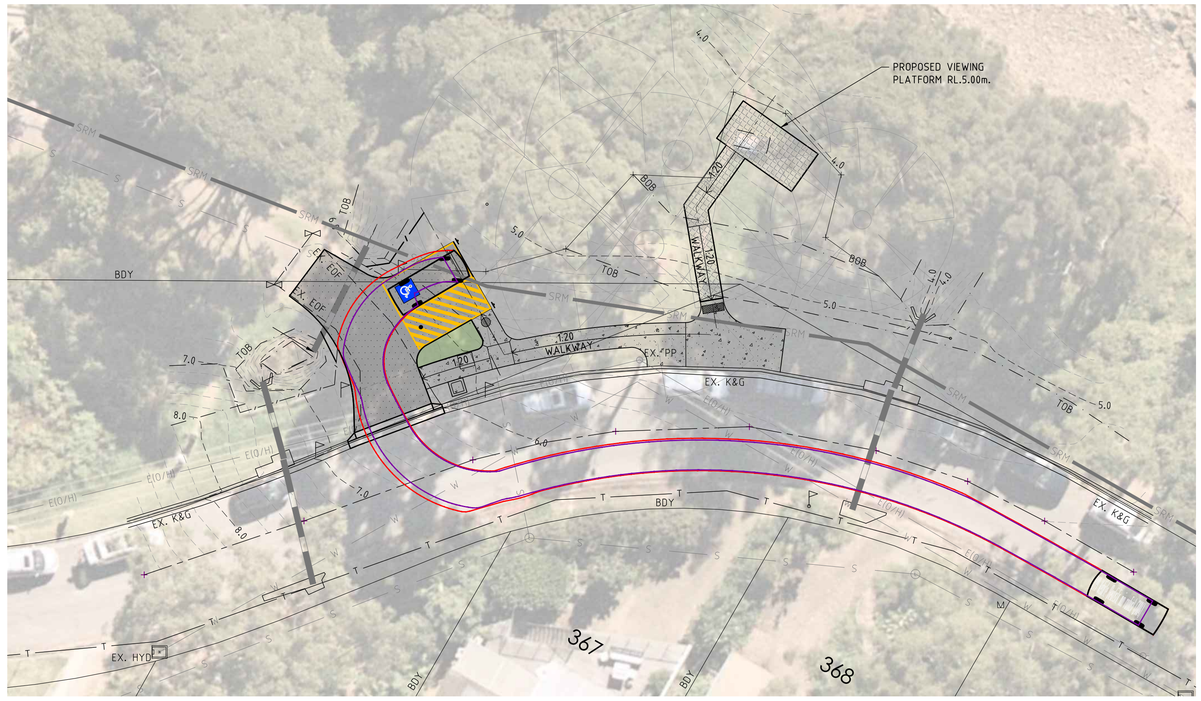
SEDIMENT EROSION CONTROL DETAILS

PROJECT: VIEWING PLATFORM & CARPARK
AT: SURFERS AVENUE, NARRAWALLEE
FOR: SHOALHAVEN CITY COUNCIL

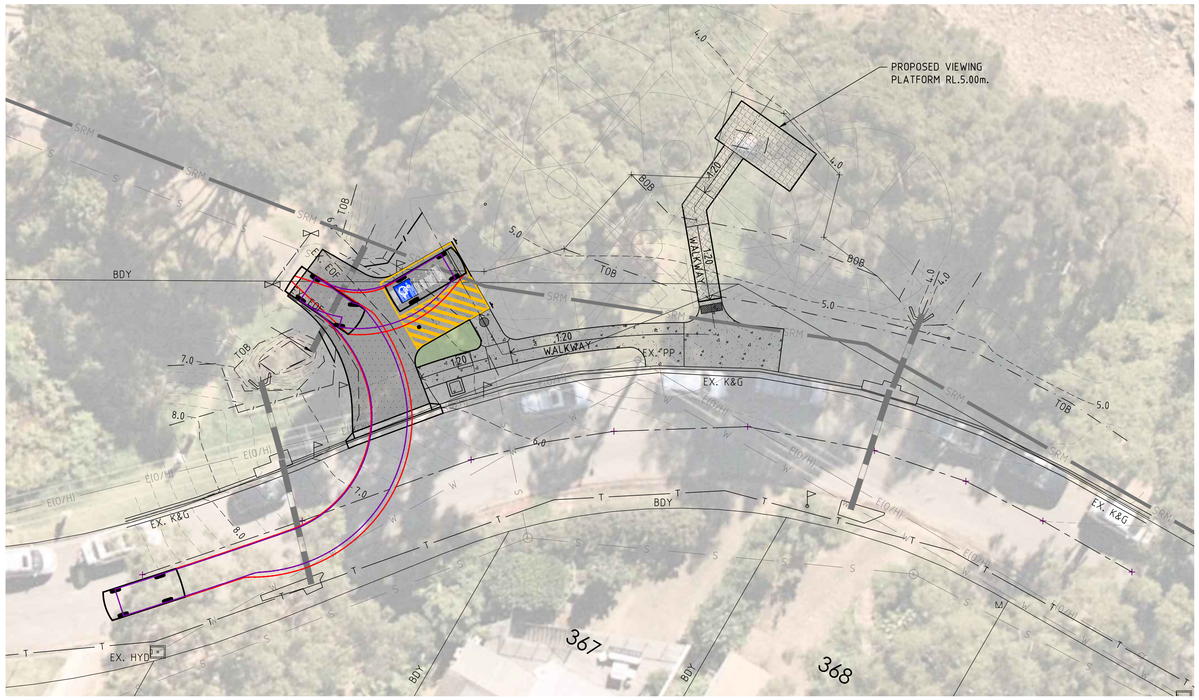
Design: J.Taylor
Drawn: J.Taylor
Checked: S.Punnett
Date: 17/10/2022
Drawing No. 22142/C05
Rev –



TURNING PATH PLAN 1
B99 VEHICLE ENTERING SITE FROM WEST
SCALE 1:100



TURNING PATH PLAN 2
B99 VEHICLE ENTERING SITE FROM EAST
SCALE 1:100



TURNING PATH PLAN 3
B99 VEHICLE EXITING SITE
SCALE 1:100

FOR CC APPROVAL

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DIAL 1100
BEFORE YOU DIG

NOT ALL SERVICES ARE SHOWN. SERVICES ARE TO BE POT HOLED PRIOR TO COMMENCEMENT OF WORKS AND CLEARANCE REQUIREMENT DISCUSSED WITH WESTLAKE PUNNETT & THE SERVICE PROVIDERS.

UNDERGROUND SERVICES SEARCH SHOULD BE UNDERTAKEN PRIOR TO ANY EXCAVATION TAKING PLACE UPON THE SITE

0 1 2 4 6 8 10m
SCALE 1:100 (A1), 1:200 (A3)

Rev.	Amendments	Approved	Date

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VEHICLE TURNING PATH PLAN

PROJECT: VIEWING PLATFORM & CARPARK
AT: SURFERS AVENUE, NARRAWALLEE
FOR: SHOALHAVEN CITY COUNCIL

Design:	J.Taylor
Drawn:	J.Taylor
Checked:	S.Punnett
Date:	17/10/2022
Drawing No.	22142/C06
Rev	–