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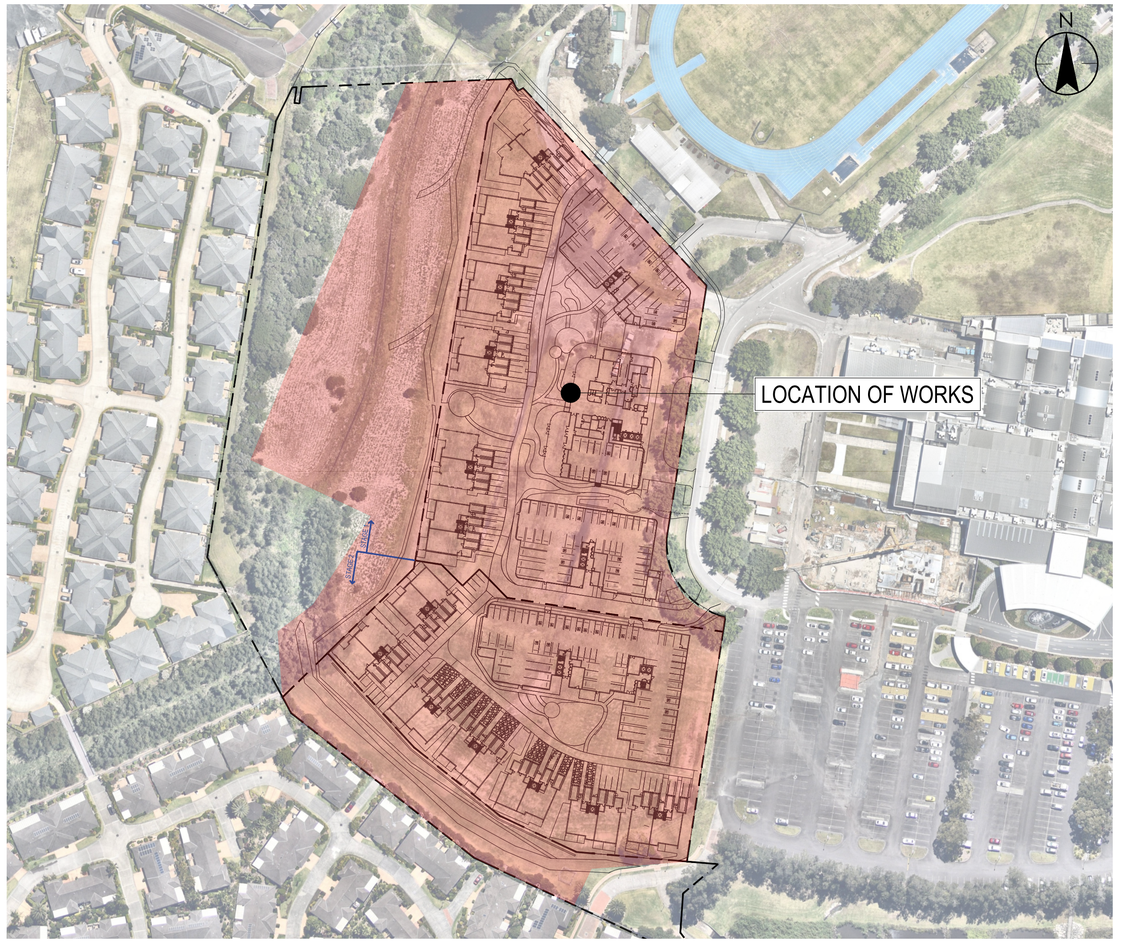
TUMBI UMBI RETIREMENT LIVING

12-14 MINGARA DRIVE, TUMBI UMBI

SSDA ISSUE
2024.07.10

Stantec Project Number: 301351398
Client Project Number: 16072

DRAWING LIST			
NO.	DRAWING NAME	REVISION	DATE
301351398-CI-000-001	COVER SHEET, DRAWING REGISTRY AND LOCALITY PLAN	C	2024.07.10
301351398-CI-007-001	GENERAL NOTES SHEET 1 OF 3	C	2024.07.10
301351398-CI-007-002	GENERAL NOTES SHEET 2 OF 3	C	2024.07.10
301351398-CI-007-003	GENERAL NOTES SHEET 3 OF 3	C	2024.07.10
301351398-CI-050-001	EXISTING CONDITIONS PLAN	C	2024.07.10
301351398-CI-060-001	GENERAL ARRANGEMENT PLAN	E	2024.07.10
301351398-CI-066-001	ROADS AND GENERAL DETAILS SHEET 1 OF 3	C	2024.07.10
301351398-CI-066-002	ROADS AND GENERAL DETAILS SHEET 2 OF 3	C	2024.07.10
301351398-CI-066-003	ROADS AND GENERAL DETAILS SHEET 3 OF 3	C	2024.07.10
301351398-CI-070-001	EROSION AND SEDIMENT CONTROL PLAN	C	2024.07.10
301351398-CI-076-001	EROSION AND SEDIMENT CONTROL DETAILS	C	2024.07.10
301351398-CI-100-001	BULK EARTHWORKS PLAN	D	2024.07.10
301351398-CI-440-001	PAVEMENT PLAN	C	2024.07.10
301351398-CI-500-001	STORMWATER CATCHMENT PLAN	C	2024.07.10
301351398-CI-520-001	STORMWATER DRAINAGE PLAN STAGE 1	E	2024.07.10
301351398-CI-520-002	STORMWATER DRAINAGE PLAN STAGE 2	E	2024.07.10
301351398-CI-526-001	STORMWATER DRAINAGE DETAILS SHEET 1 OF 3	C	2024.07.10
301351398-CI-526-002	STORMWATER DRAINAGE DETAILS SHEET 2 OF 3	C	2024.07.10
301351398-CI-526-003	STORMWATER DRAINAGE DETAILS SHEET 3 OF 3	C	2024.07.10
301351398-CI-526-101	STORMWATER DRAINAGE OSD DETAILS SHEET 1 OF 4	C	2024.07.10
301351398-CI-526-102	STORMWATER DRAINAGE OSD DETAILS SHEET 2 OF 4	C	2024.07.10
301351398-CI-526-103	STORMWATER DRAINAGE OSD DETAILS SHEET 3 OF 4	C	2024.07.10
301351398-CI-526-104	STORMWATER DRAINAGE OSD DETAILS SHEET 4 OF 4	C	2024.07.10
301351398-CI-527-001	STORMWATER DRAINAGE - PIT SCHEDULE	C	2024.07.10



SOURCE: NEARMAPS, SCALE: 1:1250

Plotted: 10/07/2024 4:15:48 PM By: JALL MARSHL
ORIGINAL SHEET - ISO A1 - C:\301351398\PROJECT DOCUMENTATION\CIVIL\DRAWINGS & DESIGN\SHEET SET\CI-000-001.DWG

GENERAL

1. DESIGN HEREIN HAS BEEN PREPARED BY STANTEC AUSTRALIA PTY LTD LEVEL 9, THE FORUM, 203 PACIFIC HIGHWAY, ST LEONARDS NSW 2065
2. CONTRACTOR TO CHECK WITH ENGINEER IF THESE NOTES ARE TO SUPPLEMENT A CIVIL SPECIFICATION.
3. ALL WORKS TO BE CARRIED OUT IN ACCORDANCE WITH COUNCIL / RELEVANT AUTHORITY SPECIFICATIONS AND DETAILS.
4. THESE DRAWINGS SHALL BE READ IN CONJUNCTION WITH OTHER CONSULTANTS' DRAWINGS AND SPECIFICATIONS AND WITH OTHER SUCH WRITTEN INSTRUCTIONS AS MAY BE ISSUED DURING THE COURSE OF THE CONTRACT. ANY DISCREPANCY SHALL BE REFERRED TO THE ENGINEER BEFORE PROCEEDING WITH THE WORK.
5. ALL DIMENSIONS ARE IN MILLIMETRES (mm) & ALL LEVELS ARE IN METRES (m), UNO (UNLESS NOTED OTHERWISE).
6. NO DIMENSION SHALL BE OBTAINED BY SCALING THE DRAWINGS.
7. ALL LEVELS AND SETTING OUT DIMENSIONS SHOWN ON THE DRAWINGS SHALL BE CHECKED ON SITE PRIOR TO COMMENCEMENT OF WORKS.
6. EXISTING SERVICES WHERE SHOWN HAVE BEEN PLOTTED FROM SUPPLIED DATA AND SUCH THEIR ACCURACY CAN NOT BE GUARANTEED. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ESTABLISH THE LEVEL OF ALL EXISTING SERVICES PRIOR TO THE COMMENCEMENT OF WORK.

ELECTRONIC FILES

1. IF APPLICABLE AND UPON REQUEST, ELECTRONIC FILES CAN BE SUPPLIED IN AUTOCAD FORMAT FOR INFORMATION PURPOSES ONLY. THESE FILES ARE NOT INTENDED FOR SETOUT AND ARE NOT TO BE RELIED UPON FOR CONSTRUCTION PURPOSES. THE FILES MAY FORM JUST PART OF OUR DESIGN PACKAGE / PROCESS AND, AS SUCH, THEIR ACCURACY AND COMPLETENESS CANNOT BE GUARANTEED.
2. THE FILES ARE CONSIDERED TO BE "UNCONTROLLED" AND, AS STANTEC ARE UNABLE TO CONTROL THE ACCURACY OF THESE EDITABLE FILES, ALL RESPONSIBILITY FOR SUCH ACCURACY AND THE SUITABILITY OF THESE FILES RESTS WITH THE RECIPIENT.
3. REFER TO THE LATEST HARD COPY ENGINEERING DRAWINGS FOR ALL CURRENT INFORMATION. IN THE EVENT OF ANY DISCREPANCY BETWEEN PAPER AND ELECTRONIC VERSIONS, THE PAPER VERSION IS TO TAKE PRECEDENCE.
4. THE ELECTRONIC FILES SHALL BE USED SOLELY BY THE INTENDED RECIPIENT AND SHALL NOT BE DISTRIBUTED TO OTHERS WITHOUT THE EXPRESS CONSENT OF STANTEC. STANTEC ACCEPTS NO LIABILITY FOR USE OF THE INFORMATION BY ANY THIRD PARTIES.

SURVEY

1. THE EXISTING SITE CONDITIONS SHOWN ON THE FOLLOWING DRAWINGS HAVE BEEN SHOWN AS PER THE TOPOGRAPHIC SURVEY RECEIVED ON 18/01/2024 PREPARED BY BEVERIDGE WILLIAMS, LAND DEVELOPMENT CONSULTANTS REGISTERED SURVEYORS, REFERENCE '2103119-DET-003-B' DATED 16/01/2023.
2. THE INFORMATION IS SHOWN TO PROVIDE A BASIS FOR DESIGN. STANTEC DOES NOT GUARANTEE THE ACCURACY OR COMPLETENESS OF THE SURVEY BASE OR ITS SUITABILITY AS A BASIS FOR CONSTRUCTION DRAWINGS. SHOULD DISCREPANCIES BE ENCOUNTERED DURING CONSTRUCTION BETWEEN THE SURVEY DATA AND ACTUAL FIELD DATA, CONTACT THE SUPERINTENDENT.
3. IF AN EXISTING SERVICES PLAN HAS BEEN SUPPLIED THIS DOES NOT TAKE PRECEDENCE OVER ORIGINAL SURVEY PLAN.
4. CONTRACTOR TO REVIEW ORIGINAL SURVEY PLAN AND NOTES. THIS INCLUDES REVIEW OF SUBSURFACE UTILITY CLASS INFORMATION

SITEWORKS

1. ORIGIN OF LEVELS:- REFER SURVEY NOTES.
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. ALL WORK IS TO BE UNDERTAKEN IN ACCORDANCE WITH COUNCIL CONSTRUCTION SPECIFICATIONS, THE DETAILS SHOWN ON THE DRAWINGS AND THE SPECIFICATIONS AND THE DIRECTIONS OF THE PRINCIPAL'S REPRESENTATIVE.
4. ALL WORKS TO BE COMPLETED IN ACCORDANCE WITH CENTRAL COAST COUNCIL AND OTHER AUTHORITY REQUIREMENTS.
5. ALL CONSTRUCTION UNDERTAKEN BY THE CONTRACTOR IS TO COMPLY WITH THE REQUIREMENTS OF THE CURRENT WORKPLACE HEALTH AND SAFETY ACT.
6. CONTRACTOR TO CONFIRM ALL CBR VALUES PRIOR TO COMMENCEMENT OF WORKS.
7. WHERE NEW WORKS ABUT EXISTING THE CONTRACTOR SHALL ENSURE THAT A SMOOTH EVEN PROFILE, FREE FROM ABRUPT CHANGES, IS OBTAINED.
8. THE CONTRACTOR SHALL ARRANGE ALL SURVEY SETOUT TO BE CARRIED OUT BY A REGISTERED SURVEYOR.
9. CARE IS TO BE TAKEN WHEN EXCAVATING NEAR EXISTING SERVICES. NO MECHANICAL EXCAVATIONS ARE TO BE UNDERTAKEN OVER GAS, COMMUNICATIONS OR ELECTRICAL SERVICES. HAND EXCAVATE IN THESE AREAS ONLY.
10. ALL TRENCH BACKFILL MATERIAL NOT IN PAVEMENTS SHALL BE COMPACTED TO THE SAME DENSITY AS THE ADJACENT MATERIAL.
11. UNLESS NOTED OTHERWISE IN CIVIL SPECIFICATION, ALL SERVICE TRENCHES UNDER VEHICULAR PAVEMENTS SHALL BE BACKFILLED 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% MODIFIED MAXIMUM DRY DENSITY IN ACCORDANCE WITH AS 1289 5.2.1. (OR A DENSITY INDEX OF NOT LESS THAN 75).
12. ON COMPLETION OF PIPE INSTALLATION, ALL DISTURBED AREAS MUST BE RESTORED TO ORIGINAL, INCLUDING KERBS, FOOTPATHS, CONCRETE AREAS, GRAVEL AND GRASSED AREAS, AND ROAD PAVEMENTS.
13. TRENCHES THROUGH EXISTING ROAD AND CONCRETE PAVEMENTS SHALL BE SAWCUT TO THE FULL DEPTH OF CONCRETE AND MIN. 50mm IN BITUMINOUS PAVING.
14. MAKE SMOOTH TRANSITION TO EXISTING SERVICES AND MAKE GOOD.
15. THESE PLANS ARE TO BE READ IN CONJUNCTION WITH COUNCIL CONSTRUCTION SPECIFICATIONS AND APPROVED LANDSCAPE, ELECTRICAL AND TELECOMMUNICATION DRAWINGS AND SPECIFICATIONS.
16. 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.
17. ON COMPLETION OF WORKS, ALL DISTURBED AREAS MUST BE RESTORED TO ORIGINAL INCLUDING, BUT NOT LIMITED TO, KERBS, FOOTPATHS, CONCRETE AREAS, GRASS AND LANDSCAPED AREAS.

COUNCIL REQUIREMENTS

1. ALL WORKS TO BE CONDUCTED IN ACCORDANCE WITH CENTRAL COAST COUNCIL'S REQUIREMENTS.
2. THE CONTRACTOR MUST OBTAIN AND SUBMIT TRAFFIC/PEDESTRIAN MANAGEMENT PLANS TO CENTRAL COAST COUNCIL PRIOR TO WORKS.
3. ALL AREAS AFFECTED BY WORKS ARE TO BE MINIMIZED AT ALL TIMES AND BE MADE GOOD AT COMPLETION OF WORKS TO THE SATISFACTION OF THE SUPERINTENDENT AND CENTRAL COAST COUNCIL.
4. 1500mm MIN FOOTPATHS ARE TO BE MAINTAINED AT ALL TIMES AND, IF WIDTH NOT AVAILABLE, PROVIDE ADVISORY SIGNS REQUESTING PEDESTRIANS TO USE OPPOSITE FOOTPATH.
5. CONTRACTOR TO MEET ALL ABUTTING PROPERTIES REASONABLE ACCESS REQUIREMENTS THAT THEY MAY HAVE.
6. THE WORKS SHALL NOT IMPACT ON THE OPERATIONS OF BUSINESSES, HOTELS, RESTAURANTS, STREET VENDORS, OFF STREET CAR PARKS ETC. ALL PARKING AND NO STOPPING RESTRICTIONS SHALL BE OBSERVED.
7. THE WORKS/INSTALLATION SHALL NOT INTERFERE WITH COUNCILS AND PRIVATE DRAINAGE INFRASTRUCTURE INCLUDING SURFACE DRAINS.
8. THE CONTRACTOR SHALL AGREE TO A DEFECTS LIABILITY PERIOD FOR THE BACKFILLING OF ONE (1) YEAR COMMENCING FROM THE DATE OF WORK. ANY DEFECTS FOUND BY COUNCIL WITHIN THE ONE YEAR PERIOD SHALL BE RECTIFIED BY THE APPLICANT/CONTRACTOR TO COUNCILS SATISFACTION WITHIN TWO WEEKS OF NOTIFICATION IN WRITING.
9. IF COUNCIL'S INFRASTRUCTURE SUCH AS PARKING SIGNS, ROAD OR LINE MARKINGS, PARKING METERS TICKET MACHINES OR SUPPORTING CABLES/CONDUITS, IRRIGATION PIPES OR STREET FURNITURE ARE REMOVED OR DAMAGED AS A RESULT OF THE WORKS THE CONTRACTOR SHALL, AT COMPLETION OR WORKS, ARRANGE AND PAY FOR THEIR REINSTATEMENT.
10. ALL DRAWINGS TO BE READ IN CONJUNCTION WITH LATEST COUNCIL STANDARD DRAWINGS. ANY DISCREPANCY TO BE RAISED WITH STANTEC.

PROTECTION OF FLORA

1. ANY TRENCHES WITHIN 3m OF TREES SHALL BE DUG BY NON-DESTRUCTIVE MEANS TO AVOID DAMAGE TO THE TREE ROOTS, OR AS DIRECTED BY THE PROJECT ARBORIST.
2. THE STORMWATER WORKS HAVE BEEN LOCATED TO MINIMISE CLEARING AND DAMAGE TO THE EXISTING FLORA ENVIRONMENT TO BE RETAINED. NO TREES ARE PERMITTED TO BE REMOVED OR DAMAGES UNO. CONSTRUCTION OF THE STORMWATER IN THE VICINITY OF EXISTING TREES SHALL BE DUG BY NON-DESTRUCTIVE MEANS, OR AS DIRECTED BY THE PROJECT ARBORIST, ENSURING IRREVERSIBLE DAMAGE OF THE ROOT SYSTEM DOES NOT OCCUR.
3. ANY WORK ON TREES, INCLUDING TRIMMING, LOPPING, ROOT CUTTING, REPAIR AND REMOVAL, IS TO BE TO THE PROJECT ARBORIST'S REQUIREMENTS.
4. NO MATURE TREES OR SHRUBS ARE TO BE REMOVED FOR THE PURPOSES OF THE WORKS WITHOUT PRIOR APPROVAL FROM CENTRAL COAST COUNCIL.

ALTERNATIVE PRODUCTS

1. ALTERNATIVE PRODUCTS SUCH AS ALTERNATIVE STORMWATER PIPE MATERIALS OR WATER QUALITY TREATMENT DEVICES MAY ONLY BE USED WITH WRITTEN APPROVAL OF STANTEC. ALL TESTING AND MATERIAL DATA SPECIFICATIONS TO BE SUPPLIED TO STANTEC FOR REVIEW.

EXISTING SERVICES

1. EXISTING SERVICES, WHERE SHOWN, HAVE BEEN PLOTTED FROM SUPPLIED DATA AND SUCH THEIR ACCURACY CAN NOT BE GUARANTEED. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ESTABLISH THE LEVEL OF ALL EXISTING SERVICES PRIOR TO THE COMMENCEMENT OF WORK.
2. EXISTING SERVICES SHOWN ON THE PLANS ARE LOCATED APPROXIMATELY BASED ON INFORMATION SUPPLIED BY THE RELEVANT AUTHORITIES AND/OR SURVEY RECEIVED. STANTEC DOES NOT TAKE RESPONSIBILITY FOR THE SUITABILITY OR LOCATION/DEPTH OF THE EXISTING SERVICES.
3. STANTEC DOES NOT TAKE RESPONSIBILITY FOR ANY POSSIBLE DESIGN ADJUSTMENT OF ANY ADDITIONAL EXISTING SERVICES OR THE ASSOCIATED AUTHORITY NEGOTIATIONS AS A RESULT OF THE PROPOSED WORKS.
4. THE INFORMATION IS SHOWN TO PROVIDE A BASIS FOR DESIGN. STANTEC DOES NOT GUARANTEE THE ACCURACY OR COMPLETENESS OF THE SURVEY BASE OR ITS SUITABILITY AS A BASIS FOR CONSTRUCTION DRAWINGS.
5. EXISTING BUILDINGS, EXTERNAL STRUCTURES AND TREES SHOWN ON THESE DRAWINGS ARE FEATURES EXISTING PRIOR TO ANY DEMOLITION WORKS.
6. THE CONTRACTOR SHALL UNDERTAKE POTHOLING AND/OR INVESTIGATION WORKS TO LOCATE ALL EXISTING SERVICES PRIOR TO COMMENCING WORKS. THIS INCLUDES CONFIRMING THE LOCATION AND DETAILS OF THE EXISTING SITE STORMWATER DISCHARGE.
7. ALL AREAS WITHIN THE EXTENT OF WORKS TO BE SCANNED FOR EXISTING UTILITY SERVICES AND LOCATIONS PRIOR TO CONSTRUCTION.
8. WHIST REASONABLE EFFORT HAS BEEN MADE TO AVOID CLASHES WITH EXISTING SERVICES, EXTENT AND QUALITY OF SUPPLIED DATA IS INSUFFICIENT FOR COMPLETE CLASH DETECTION ACCURACY. CONTRACTOR TO TAKE CARE WORKING AROUND EXISTING UTILITIES AND REPORT ANY POSSIBLE CLASHES BACK TO THE ENGINEER.
9. THE CONTRACTOR SHALL ALLOW FOR THE CAPPING OFF, EXCAVATION, REMOVAL AND DISPOSAL IF REQUIRED OF ALL EXISTING SERVICES IN AREAS AFFECTED BY WORKS WITHIN THE CONTRACT AREA, AS SHOWN ON THE DRAWINGS UNLESS DIRECTED OTHERWISE BY THE SUPERINTENDENT.
10. THE CONTRACTOR SHALL ENSURE THAT AT ALL TIMES SERVICES TO ALL BUILDINGS NOT AFFECTED BY THE WORKS ARE NOT DISRUPTED.
11. THE CONTRACTOR SHALL CONSTRUCT TEMPORARY SERVICES TO MAINTAIN EXISTING SUPPLY TO BUILDINGS REMAINING IN OPERATION DURING WORKS TO THE SATISFACTION AND APPROVAL OF THE SERVICE AUTHORITY. ONCE DIVERSION IS COMPLETE AND COMMISSIONED, THE CONTRACTOR SHALL REMOVE ALL SUCH TEMPORARY SERVICES AND MAKE GOOD TO THE SATISFACTION OF THE RELEVANT SERVICE AUTHORITY.
12. PRIOR TO COMMENCEMENT OF ANY WORKS THE CONTRACTOR SHALL GAIN WRITTEN APPROVAL OF THEIR PROGRAMME FOR THE RELOCATION/CONSTRUCTION OF TEMPORARY SERVICES.
13. CLEARANCE AND COVER REQUIREMENTS SHALL BE OBTAINED FROM THE RELEVANT SERVICE AUTHORITY BEFORE COMMENCEMENT OF WORKS AND SHALL BE ADHERED TO AT ALL TIMES.

PROPOSED SERVICES

1. THESE DRAWINGS ARE TO BE READ IN CONJUNCTION WITH RELEVANT SERVICE AUTHORITY DOCUMENTATION AND CURRENT NSW STREETS OPENING CONFERENCE GUIDE TO CODES AND PRACTICES FOR STREETS OPENING LITERATURE.
2. THE CONTRACTOR SHALL ATTEND, MANAGE & SUPERVISE THE PROVISION OF PUBLIC UTILITY SERVICES TO THE WORKS GENERALLY AS INDICATED ON THE SERVICES PLANS, NOTING THAT PRIOR & DURING CONSTRUCTION THE PUBLIC UTILITY AUTHORITIES WILL FINALISE THEIR DOCUMENTATION TO CONSTRUCTION ISSUE STANDARD.
3. THE CIVIL CONTRACTOR (TRENCH PROVIDER) IS TO ARRANGE ON SITE MEETING WITH ALL SERVICE AUTHORITIES PRIOR TO THE INSTALLATION OF CONDUITS.
4. THE CIVIL CONTRACTOR TO CO-ORDINATE INSTALLATION OF ELECTRICITY, GAS,TELECOMMUNICATION, WATER AND SEWER SERVICES.
5. IT IS EXPECTED THAT ELECTRICITY, GAS AND TELECOMMUNICATION SERVICES ARE TO BE LAID FOLLOWING THE INSTALLATION OF STORMWATER, SEWER AND WATER SERVICES AND KERB AND GUTTER.
6. ALL UTILITY AUTHORITY REPRESENTATIVES TO INSPECT ROAD CROSSINGS PRIOR TO SEALING.
7. ALL ELECTRICAL ROAD CROSSINGS TO BE CLASS 6 (ORANGE) uPVC CONDUITS.
8. ALL GAS ROAD CROSSINGS TO BE uPVC GREY SEWER GRADE CONDUITS.
9. FOR ALL STREET POLES, REFER TO THE ELECTRICAL ENGINEER'S DOCUMENTATION. STREET POLES TO BE POSITIONED THE APPROPRIATE DISTANCE FROM FACE OF KERB TO FACE OF POLE ACCORDING TO THE CURRENT NSW STREETS OPENING CONFERENCE GUIDE TO CODES AND PRACTICES FOR STREETS OPENING LITERATURE. CONTRACTOR TO ALLOW TO EXCAVATE AND BACKFILL TRENCH GENERALLY IN ACCORDANCE WITH NOTE 2.
10. ALL SERVICE PIT COVERS AND MARKERS ARE TO BE LAID WHOLLY WITHIN THE CONCRETE FOOTPATH. CONTACT SUPERINTENDENT SHOULD DIFFICULTIES ARISE.
11. 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.
12. 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.

EROSION AND SEDIMENT CONTROL

GENERAL INSTRUCTIONS

1. THIS SPECIFICATION IS TO BE READ IN CONJUNCTION WITH THE ENGINEERING PLANS, AND ANY OTHER PLANS OR WRITTEN INSTRUCTIONS THAT MAY BE ISSUED AND RELATING TO DEVELOPMENT AT THE SUBJECT SITE.
2. THE CONTRACTOR WILL ENSURE THAT ALL SOIL AND WATER MANAGEMENT WORKS ARE UNDERTAKEN AS INSTRUCTED IN THIS SPECIFICATION AND CONSTRUCTED FOLLOWING THE GUIDELINES OF "MANAGING URBAN STORMWATER, SOILS AND CONSTRUCTION", DEPT OF HOUSING, 2004 (BLUE BOOK).
3. REQUIRED SITE SPECIFIC ADDITIONS/CHANGES TO THE SOIL AND WATER MANAGEMENT WORKS ARE TO BE MADE AS NECESSARY BY THE SUPERINTENDENT.
4. ALL WORK SHALL BE GENERALLY CARRIED OUT IN ACCORDANCE WITH
   4.1. LOCAL AUTHORITY REQUIREMENTS
   4.2. EPA REQUIREMENTS
   4.3. NSW DEPARTMENT OF HOUSING MANUAL "MANAGING URBAN STORMWATER, SOILS AND CONSTRUCTION", 4th EDITION, MARCH 2004.
5. MAINTAIN THE EROSION CONTROL DEVICES TO THE SATISFACTION OF THE SUPERINTENDENT AND THE LOCAL AUTHORITY.
6. WHEN STORMWATER PITS ARE CONSTRUCTED, PREVENT SITE RUNOFF ENTERING UNLESS SEDIMENT FENCES ARE ERECTED AROUND PITS.
7. 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.
8. ALL EROSION AND SEDIMENT CONTROLS ARE TO BE INSTALLED PRIOR TO ANY GROUND DISTURBANCE.

LAND DISTURBANCE

1. DISTURBANCE TO BE NO FURTHER THAN 5 (PREFERABLY 2) METRES FROM THE EDGE OF ANY ESSENTIAL ENGINEERING ACTIVITY AS SHOWN ON THE APPROVED PLANS. ALL SITE WORKERS WILL CLEARLY RECOGNISE THESE ZONES THAT, WHERE APPROPRIATE, ARE IDENTIFIED WITH BARRIER FENCING (UPSLOPE) AND SEDIMENT FENCING (DOWNSLOPE) OR SIMILAR MATERIALS.
2. ACCESS AREAS ARE TO BE LIMITED TO A MAXIMUM WIDTH OF 10 METRES. THE SITE MANAGER WILL DETERMINE AND MARK THE LOCATION OF THESE ZONES ON-SITE. ALL SITE WORKERS WILL CLEARLY RECOGNISE THESE BOUNDARIES THAT, WHERE APPROPRIATE, ARE IDENTIFIED WITH BARRIER FENCING (UPSLOPE) AND SEDIMENT FENCING (DOWNSLOPE) OR SIMILAR MATERIALS.
3. 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:
   3.1. INSTALL A BARRIER AND SEDIMENT FENCE ALONG THE BOUNDARIES AS SHOWN ON PLAN. REFER DETAIL.
   3.2. CLEAR SITE AND STRIP AND STOCKPILE TOPSOIL IN LOCATIONS AS AGREED WITH THE CONTRACTOR.
   3.3. CONSTRUCT STABILISED CONSTRUCTION ENTRANCE TO LOCATION AS DETERMINED BY SUPERINTENDENT/ENGINEER. REFER DETAIL.
   3.4. CONSTRUCT DIVERSION DRAINS AS REQUIRED.
   3.5. INSTALL MESH AND GRAVEL INLETS FOR ANY ADJACENT KERB INLETS. REFER DETAIL.
   3.6. INSTALL GEOTEXTILE INLET FILTERS AROUND ANY ON-SITE DROP INLET PITS. REFER DETAIL.
   3.6. INSTALL SEDIMENT BASIN AS SHOWN ON PLAN (IF REQUIRED).
   3.7. UNDERTAKE ALL ESSENTIAL CONSTRUCTION WORKS ENSURING THAT ROOF AND/OR PAVED AREA STORMWATER SYSTEMS ARE CONNECTED TO PERMANENT DRAINAGE AS SOON AS PRACTICABLE.
   3.8. GRADE AREAS TO FINAL GRADES AND APPLY PERMANENT STABILISATION (LANDSCAPING) WITHIN 20 DAYS OF COMPLETION OF CONSTRUCTION WORKS.
   3.9. REMOVE TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES AFTER THE PERMANENT LANDSCAPING HAS BEEN COMPLETED.
4. ENSURE THAT SLOPE LENGTHS DO NOT EXCEED 80 METRES WHERE PRACTICABLE. SLOPE LENGTHS ARE DETERMINED BY SILTATION FENCING AND CATCH DRAIN SPACING.
5. ON COMPLETION OF MAJOR WORKS, LEAVE DISTURBED LANDS WITH A SCARIFIED SURFACE TO ENCOURAGE WATER INFILTRATION AND ASSIST WITH KEYING TOPSOIL LATER.

SEDIMENT CONTROL

1. SEDIMENT FENCES WILL BE INSTALLED AS SHOWN ON THE PLAN AND ELSEWHERE AT THE DISCRETION OF THE SITE SUPERINTENDENT TO CONTAIN SOIL AS NEAR AS POSSIBLE TO THEIR SOURCE.
2. SEDIMENT FENCES WILL NOT HAVE CATCHMENT AREAS EXCEEDING 900 SQUARE METRES AND HAVE A STORAGE DEPTH OF AT LEAST 0.6 METRES.
3. SEDIMENT REMOVED FROM ANY TRAPPING DEVICES WILL BE RELOCATED WHERE FURTHER POLLUTION TO DOWNSLOPE LANDS AND WATERWAYS CANNOT OCCUR.
4. STOCKPILES WILL NOT BE LOCATED WITHIN 2 METRES OF HAZARD AREAS, INCLUDING LIKELY AREAS OF CONCENTRATED OR HIGH VELOCITY FLOWS SUCH AS WATERWAYS, PAVED AREAS AND DRIVEWAYS. WHERE THEY ARE BETWEEN 2 AND 5 METRES FROM SUCH AREAS, SPECIAL SEDIMENT CONTROL MEASURES SHOULD BE TAKEN TO MINIMISE POSSIBLE POLLUTION TO DOWNSLOPE WATERS, E.G. THROUGH INSTALLATION OF SEDIMENT FENCING.
5. WHERE AREA PERMITS, STOCKPILES SHALL BE A MAXIMUM OF 2 METRES IN HEIGHT AND WITH SIDE SLOPES OF 1(VER) TO 2(HOR). ADVICE SHOULD BE SOUGHT FROM THE CONTRACTOR FOR TEMPORARY STOCKPILES HIGHER THAN 2 METRES OR WITH SIDE SLOPES STEEPER THAN 1(VER) TO 2 (HOR).
6. TEMPORARY STOCKPILES STORED FOR LESS THAN 20 DAYS WILL BE ESTABLISHED WITH THE FOLLOWING CONTROLS:
   6.1. SEDIMENT FENCE ON DOWNSTREAM SIDE OF STOCKPILE
   6.2. DUST SUPPRESSION MEASURES TO BE PROVIDED SUCH AS COVERING STOCKPILE WITH GEOFABRIC AND/OR REGULAR WATERING
7. TEMPORARY STOCKPILES STORED FOR MORE THAN 20 DAYS WILL BE ESTABLISHED WITH THE FOLLOWING CONTROLS:
   7.1. SEDIMENT FENCE ON DOWNSTREAM SIDE OF STOCKPILE
   7.2. DUST SUPPRESSION MEASURES TO BE PROVIDED SUCH AS COVERING STOCKPILE WITH GEOFABRIC AND/OR REGULAR WATERING
   7.3. STABILISATION OF STOCKPILE SURFACE WITH HYDROMULCH / GEOTEXTILE BLANKET / SOIL GLUE / ROCK MULCH OR OTHER APPROVED EQUIVALENT
   7.4. PROVIDE DIVERSION BANK ON UPSTREAM SIDE TO PROTECT STOCKPILE FROM STORMWATER OVERLAND FLOW
8. 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.
9. WATER WILL BE PREVENTED FROM ENTERING THE PERMANENT DRAINAGE SYSTEM UNLESS IT IS RELATIVELY SEDIMENT FREE AND MEETS THE RELEVANT AUTHORITY REQUIREMENTS PRIOR TO LEAVING THE SITE, I.E. THE CATCHMENT AREA HAS BEEN PERMANENTLY LANDSCAPED AND/OR ANY LIKELY SEDIMENT HAS BEEN FILTERED THROUGH AN APPROVED STRUCTURE.
10. TEMPORARY SOIL AND WATER MANAGEMENT STRUCTURES WILL BE REMOVED ONLY AFTER THE LANDS THEY ARE PROTECTING ARE REHABILITATED.
11. ACCESS TO SITES SHOULD BE STABILISED TO REDUCE THE LIKELIHOOD OF VEHICLES TRACKING SOIL MATERIALS ONTO PUBLIC ROADS AND ENSURE ALL-WEATHER ENTRY/EXIT.

EROSION CONTROL

1. DURING WINDY WEATHER, LARGE, UNPROTECTED AREAS WILL BE KEPT MOIST (NOT WET) BY SPRINKLING WITH WATER TO KEEP DUST UNDER CONTROL.
2. FINAL SITE LANDSCAPING WILL BE UNDERTAKEN AS SOON AS POSSIBLE AND WITHIN 10 WORKING DAYS FROM COMPLETION OF CONSTRUCTION ACTIVITIES.
3. EARTH BATTERS WILL BE CONSTRUCTED WITH AS LOW A GRADIENT AS PRACTICABLE BUT NO STEPPER, UNLESS NOTED OTHERWISE, THAN:
   3.1. 2(H):1(V) WHERE SLOPE LENGTH IS LESS THAN 12 METRES
   3.2. 2.5(H):1(V) WHERE SLOPE LENGTH IS BETWEEN 12 AND 16 METRES
   3.3. 3(H):1(V) WHERE SLOPE LENGTH IS BETWEEN 16 AND 20 METRES
   3.4. 4(H):1(V) WHERE SLOPE LENGTH IS GREATER THAN 20 METRES
4. ALL WATERWAYS, DRAINS, SPILLWAYS AND THEIR OUTLETS WILL BE CONSTRUCTED TO BE STABLE IN AT LEAST THE 5% AEP TIME OF CONCENTRATION STORM EVENT.
5. WATERWAYS AND OTHER AREAS SUBJECT TO CONCENTRATED FLOWS AFTER CONSTRUCTION ARE TO HAVE A MAXIMUM GROUND COVER C-FACTOR OF 0.05 (70% GROUND COVER) WITHIN 10 WORKING DAYS FROM COMPLETION OF FORMATION. FLOW VELOCITIES ARE TO BE LIMITED TO THOSE SHOWN IN TABLE 5-1 OF "MANAGING URBAN STORMWATER - SOILS AND CONSTRUCTION", DEPT OF HOUSING 2004 (BLUE BOOK). FOOT AND VEHICULAR TRAFFIC WILL BE PROHIBITED IN THESE AREAS.
6. STOCKPILES, AFTER CONSTRUCTION, ARE TO HAVE A MAXIMUM GROUND COVER C-FACTOR OF 0.1 (60% GROUND COVER) WITHIN 10 WORKING DAYS FROM COMPLETION OF FORMATION.
7. ALL LANDS, INCLUDING WATERWAYS AND STOCKPILES, DURING CONSTRUCTION ARE TO HAVE A MAXIMUM GROUND COVER C-FACTOR OF 0.15 (50% GROUND COVER) WITHIN 20 WORKING DAYS FROM INACTIVITY EVEN THOUGH WORKS MAY CONTINUE LATER.
8. FOR AREAS OF SHEET FLOW, USE THE FOLLOWING GROUND COVER PLANT SPECIES FOR TEMPORARY COVER: JAPANESE MILLET 20KG/HA AND OATS 20KG/HA.
9. PERMANENT REHABILITATION OF LANDS AFTER CONSTRUCTION WILL ACHIEVE A GROUND COVER C-FACTOR OF LESS THAN 0.1 AND LESS THAN 0.05 WITHIN 60 DAYS. NEWLY PLANTED LANDS WILL BE WATERED REGULARLY UNTIL AN EFFECTIVE COVER IS ESTABLISHED AND PLANTS ARE GROWING VIGOROUSLY. FOLLOW-UP SEED AND FERTILISER WILL BE APPLIED AS NECESSARY.
10. RE-VEGETATION SHOULD BE AIMED AT RE-ESTABLISHING NATURAL SPECIES. NATURAL SURFACE SOILS SHOULD BE REPLACED AND NON-PERSISTANT ANNUAL COVER CROPS SHOULD BE USED.

SITE INSPECTION AND MAINTENANCE

1. THE SITE PRINCIPAL CONTRACTOR WILL INSPECT THE SITE AT LEAST WEEKLY AND AT THE CONCLUSION OF EVERY STORM EVENT TO:
   1.1. ENSURE THAT DRAINS OPERATE PROPERLY AND TO EFFECT ANY NECESSARY REPAIRS
   1.2. REMOVE SPILLED SAND OR OTHER MATERIALS FROM HAZARD AREAS, INCLUDING LANDS CLOSER THAN 5 METRES FROM AREAS OF LIKELY CONCENTRATED OR HIGH VELOCITY FLOWS ESPECIALLY WATERWAYS AND PAVED AREAS
   1.3. REMOVE TRAPPED SEDIMENT WHENEVER THE DESIGN CAPACITY OF THAT STRUCTURE HAS BEEN EXCEEDED
   1.4. ENSURE REHABILITATED LANDS HAVE EFFECTIVELY REDUCED THE EROSION HAZARD AND TO INITIATE UPGRADING OR REPAIR AS NECESSARY
   1.5. CONSTRUCT ADDITIONAL EROSION AND/OR SEDIMENT CONTROL WORKS AS MIGHT BECOME NECESSARY TO ENSURE THE DESIRED PROTECTION IS GIVEN TO DOWNSLOPE LANDS AND WATERWAYS. MAKE ONGOING CHANGES TO THE PLAN WHERE IT PROVES INADEQUATE IN PRACTICE OR IS SUBJECTED TO CHANGES IN CONDITIONS ON THE WORK-SITE OR ELSEWHERE IN THE CATCHMENT
   1.6. MAINTAIN EROSION AND SEDIMENT CONTROL STRUCTURES IN A FULLY FUNCTIONING CONDITION UNTIL ALL EARTHWORK ACTIVITIES ARE COMPLETED AND THE SITE IS REHABILITATED
2. THE SITE PRINCIPAL CONTRACTOR SHALL KEEP A LOGBOOK MAKING ENTRIES AT LEAST WEEKLY, IMMEDIATELY BEFORE FORECAST RAIN AND AFTER RAINFALL. ENTRIES WILL INCLUDE:
   2.1. THE VOLUME AND INTENSITY OF ANY RAINFALL EVENTS
   2.2. THE CONDITION OF ANY SOIL AND WATER MANAGEMENT WORKS
   2.3. THE CONDITION OF VEGETATION AND ANY NEED TO IRRIGATE
   2.4. THE NEED FOR DUST PREVENTION STRATEGIES
   2.5. ANY REMEDIAL WORKS TO BE UNDERTAKEN. THE LOGBOOK WILL BE KEPT ON-SITE AND MADE AVAILABLE TO ANY AUTHORISED PERSON UPON REQUEST. IT WILL BE GIVEN TO THE PROJECT MANAGER AT THE CONCLUSION OF THE WORKS

WASTE CONTROL MEASURES

1. ACCEPTABLE BINS WILL BE PROVIDED FOR ANY CONCRETE AND MORTAR SLURRIES, PAINTS, ACID WASHING, LIGHTWEIGHT WASTE MATERIALS AND LITTER. CLEARANCE SERVICES WILL BE PROVIDED AT LEAST WEEKLY. DISPOSAL OF WASTE WILL BE IN A MANNER APPROVED BT THE

EARTHWORKS

1.1. ALL BATTERS, ALLOTMENT FILL AREAS AND DISTURBED AREAS SHALL BE TOPSOILED FROM ONSITE STOCKPILES. THE TOPSOIL SHALL BE SCREENED PRIOR TO PLACING.

1.2. PRIOR TO EARTH FILLING WORKS ALL VEGETATION AND TOPSOIL SHALL BE STRIPPED. THE EXPOSED EMBANKMENT FOUNDATION SHALL BE MOISTURE CONDITIONED AND COMPACTED TO A MINIMUM OF 98% STANDARD COMPACTION PRIOR TO FILLING OR PAVEMENT CONSTRUCTION.

1.3. ANY SOFT OR WEAK AREAS IDENTIFIED DURING THE COMPACTION PROCESS THAT DO NOT RESPOND TO FURTHER COMPACTION, SHOULD BE REMOVED AND REPLACED WITH SELECT FILL IN LAYERS NOT EXCEEDING 200mm LOOSE THICKNESS AND EACH LAYER COMPACTED TO ACHIEVE A DRY DENSITY RATIO OF 98%.

1.4. ALL COMPACTION TO BE CARRIED OUT IN ACCORDANCE WITH THE CIVIL SPECIFICATION AND COMPACTION PROCEDURES AS DEFINED IN AS 1289 5.2.1 TEST PROCEDURE. CERTIFICATION IS TO BE AN INDEPENDENT GEOTECHNICAL ENGINEER (AT CONTRACTORS EXPENSE).

1.5. BENEATH PAVEMENTS A NON-EXPANSIVE APPROVED SELECT FILL SHALL BE PLACED WHERE REQUIRED IN UNIFORM LAYERS NOT TO EXCEEDING 200mm LOOSE THICKNESS AND COMPACTED AT OPTIMUM MOISTURE CONTENT (+OR- 2%) TO ACHIEVE A MINIMUM DRY DENSITY DETERMINED IN ACCORDANCE WITH AS1289.5.1.1-2003 AS FOLLOWS:-

LOCATION	STANDARD DRY DENSITY (MMDD)
UNDER BUILDING SLABS	98%
VEHICULAR PAVED AREAS	100%
NON-VEHICULAR PAVED AREAS	98%
LANDSCAPED AREAS	95%

1.6. ALL FILL MATERIAL SHALL BE FROM A SOURCE APPROVED BY THE SUPERINTENDENT AND SHALL COMPLY WITH THE FOLLOWING:-

1.6.1. FREE FROM ORGANIC AND PERISHABLE MATTER,

1.6.2. MAXIMUM PARTICLE SIZE 75mm,

1.6.3. PLASTICITY INDEX - BETWEEN 2% AND 15%

STORMWATER DRAINAGE

1. ON COMPLETION OF STORMWATER INSTALLATION, ALL DISTURBED AREAS MUST BE RESTORED TO ORIGINAL CONDITION, INCLUDING KERBS, FOOTPATHS, CONCRETE AREAS, GRAVEL AND GRASSED AREAS AND ROAD PAVEMENTS, UNLESS DIRECTED OTHERWISE.
2. THE CONTRACTOR IS TO EXERCISE DUE CARE AND ATTENTION DURING PIPE INSTALLATION ENSURING PIPES ARE NOT DAMAGES DURING CONSTRUCTION AND CONSTRUCTION TRAFFIC DOES NOT EXCEED THE LOAD SPECIFIED FOR THE PIPE PROPOSED. IF THE PROPOSED PIPE CLASS WILL NOT WITHSTAND THE CONSTRUCTION LOAD, THE CONTRACTOR IS TO UPGRADE PIPE CLASSES TO SUIT AT NO COST TO THE PRINCIPAL.
3. PIPES 300 DIA. AND LARGER TO BE REINFORCED CONCRETE CLASS '3' APPROVED SPIGOT AND SOCKET WITH RUBBER RING JOINTS. U.N.O.
4. PIPES LESS THAN OR EQUAL TO 225 DIA. SHALL BE uPVC DWV GRADE CLASS SN8 IN ACCORDANCE WITH AS/NZS 1260:2009-PVC-U PIPES AND FITTINGS FOR DRAIN, WASTE AND VENT APPLICATION WITH SOLVENT WELDED JOINTS.
5. EQUIVALENT STRENGTH REINFORCED CONCRETE OR FIBROUS REINFORCED CONCRETE PIPES MAY BE USED SUBJECT TO APPROVAL BY THE SUPERINTENDENT.
6. CONTRACTOR IS TO ENSURE THAT ALL DRAINAGE STRUCTURES ARE ADEQUATELY REINFORCED AND SHALL PROVIDE DESIGN CERTIFICATION FOR ALL REINFORCED CONCRETE LIDS.
7. ALL STORMWATER DRAINAGE LINES UNDER PROPOSED BUILDING SLABS TO BE uPVC PRESSURE PIPE GRADE 6. ENSURE ALL VERTICALS AND DOWNPIPES ARE uPVC PRESSURE PIPE, GRADE 6 FOR A MIN OF 3.0m IN HEIGHT.
8. PIPES TO BE INSTALLED TO TYPE H2 (NOT UNDER ROADWAYS) OR TYPE HS2 (UNDER ROADWAYS) SUPPORT IN ACCORDANCE WITH AS 3725 (2007). IN ALL CASES BACKFILL TRENCH WITH SAND TO 300mm ABOVE PIPE. WHERE PIPE IS UNDER PAVEMENTS BACKFILL REMAINDER OF TRENCH TO UNDERSIDE OF PAVEMENT WITH SAND OR APPROVED GRANULAR MATERIAL COMPACTED IN 150mm LAYERS TO MINIMUM 98% STANDARD MAXIMUM DRY DENSITY IN ACCORDANCE WITH AS 1289 5.2.1. (OR A DENSITY INDEX OF NOT LESS THAN 75)
9. PIT COVER LEVELS TO MATCH SURROUNDING FINISHED LEVELS. DESIGN FINISHED SURFACE LEVELS OF STRUCTURES ARE FOR THE CONTRACTORS GUIDANCE ONLY. ACTUAL FINISHED LEVELS SHALL BE SET OUT AS DIRECTED ON SITE IN KEEPING WITH THE REQUIREMENTS AND SPECIFICATIONS OF THE LOCAL AUTHORITY AND ACTUAL FINISHED GROUND LEVELS.
10. STORMWATER PIT COVERS FOR JUNCTION AND GRATED PITS TO COMPLY WITH AS 3996 FOR:

LOAD CLASS	TYPICAL USE
CLASS A	INTERNAL PEDESTRIAN PRECINCTS ONLY. NO VEHICULAR TRAFFIC
CLASS B	EXTERNAL AREAS INCLUDING FOOTPATHS, FOOTWAYS AND LIGHT VEHICULAR TRAFFIC ONLY
CLASS D	CARS, TRUCKS (HIGHWAY TRAFFIC) AND COMMERCIAL VEHICULAR TRAFFIC
CLASS E	HEAVY DUTY FORKLIFTS AND EARTHMOVING EQUIPMENT

11. REFER TO TABLE BELOW FOR MINIMUM PIT DIMENSIONS (AS 3500.3 TABLE 7.5.2.1):

DEPTH TO INVERT	WIDTH	LENGTH
LESS THAN 600mm	450mm	450mm
FROM 600mm TO 900mm	600mm	600mm
FROM 900mm TO 1200mm	600mm	900mm
MORE THAN 1200mm	900mm	900mm

12. ALL INTERNAL WORKS WITHIN PROPERTY BOUNDARIES ARE TO COMPLY WITH THE REQUIREMENTS OF AS 3500 3.1 (2006) AND AS/NZS 3500 3.2 (2010).
13. PRECAST PITS MAY BE USED EXTERNAL TO THE BUILDING SUBJECT TO APPROVAL BY STANTEC AUSTRALIA.
14. ENLARGERS, CONNECTIONS AND JUNCTIONS TO BE PREFABRICATED FITTINGS WHERE PIPES ARE LESS THAN 300 DIA.
15. PIPES FOR SUBSOIL DRAINS SHALL BE SLOTTED 100mm DIA. CLASS 1000 WRAPPED IN GEOFABRIC, UNO, COMPLYING WITH THE REQUIREMENTS OF AS2439. ALL SUBSOIL PIPES SHALL BE FACTORY SLOTTED HDPE, MIN. 100mm DIA. CLASS SN8, SIMILAR OR EQUAL TO VINIDEX DRAINCOIL, CERTIFIED uPVC, IN ACCORDANCE WITH AS1260, AS2032 (PIPE) & AS3789 (JOINTING) INSTALLED ON GEOTEXTILE FABRIC WITH 150mm SURROUND OF 25mm BLUE METAL AGGREGATE, UNO. WHERE SUBSOIL DRAINS PASS UNDER FLOOR SLABS AND PAVEMENTS, UNSLOTTED uPVC DWV GRADE CLASS SN8 SEWER GRADE PIPE IS TO BE USED.
16. CARE IS TO BE TAKEN WITH LEVELS OF STORMWATER LINES. GRADES SHOWN ARE NOT TO BE REDUCED WITHOUT APPROVAL.
17. 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

18. 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. CCTV SHALL BE UNDERTAKEN OF EXISTING PIPES WHERE NECESSARY TO CONFIRM THEIR ADEQUACY PRIOR TO AND FOLLOWING CONSTRUCTION.
19. THE CONTRACTOR IS TO ORGANISE AND STAGE CONSTRUCTION WORK AND UNDERTAKE ANY DIVERSION WORKS TO ENSURE THE EXISTING DRAINAGE IS ABLE TO CONVEY ALL STORMWATER FLOWS THAT MAY OCCUR DURING THE PERIOD OF THE CONSTRUCTION WORKS.
20. ANY DAMAGE TO THE WORKS DUE TO STORMWATER FLOWS OR FLOODING DURING THE CONSTRUCTION PERIOD IS AT THE CONTRACTOR'S RISK.
21. SETOUT POINTS FOR STORMWATER STRUCTURES ARE AS INDICATED IN THE DRAWINGS UNLESS OTHERWISE NOTED.
22. ALL PAVED SURFACE LEVELS AND GRADES TO BE COORDINATED WITH GULLY PIT LEVELS TO ENSURE NO UNDRAINED AREAS OCCUR.
23. THE SIDES OF ALL PIPE TRENCH EXCAVATIONS DEEPER THAN 1.0m SHALL BE FULLY SUPPORTED AT ALL TIMES AND HAVE APPROPRIATE EDGE PROTECTION.
24. ALL NEW PIPES TO BE LAID IN AN UPSTREAM DIRECTION. THE LINE, LEVEL AND LOCATION OF EXISTING SERVICES CROSSING THE LINE OF THE PROPOSED STORMWATER PIPE SHALL BE DETERMINED BY EXCAVATION PRIOR TO THE LAYING OF THE PIPE. IF CONFLICT IS APPARENT, THE ENGINEER SHALL BE NOTIFIED AND INSTRUCTIONS AS TO WHETHER THE EXISTING SERVICE IS TO BE ADJUSTED OR THE PROPOSED PIPE INVERT ALTERED WILL BE ISSUED.
25. PIPE BEDDING, HAUNCH AND BACKFILL TO BE AS SHOWN ON THE CIVIL DETAILS DRAWINGS AND THE CIVIL SPECIFICATION. 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.
26. SUBSOIL DRAINAGE PIPES TO BE SLOTTED PIPE AND FILTER SOCK CLASS 1000 TO AS2439 PART 1 LAID AT PREFERABLE MINIMUM GRADE 1 IN 100 OR ABSOLUTE MINIMUM 1 IN 200 WHERE LIMITED BY OUTFALL LEVELS.
27. 100mm DIA. SUBSOIL DRAINAGE SHALL BE PROVIDED IN THE FOLLOWING LOCATIONS AND CONNECTED TO THE SITE STORMWATER DRAINAGE SYSTEM, UNO.:-
    27.1. 27.1. UNDER KERBS AND ADJACENT TO ALL PAVEMENTS (UNLESS IT COINCIDES WITH A STORMWATER PIPE)
    27.2. AT THE BASE OF THE HIGH SIDE OF ALL RETAINING WALLS
    27.3. AROUND THE BUILDING SLAB FOOTPRINT
    27.4. AROUND ALL STORMWATER PITS
28. STORMWATER STRUCTURES ARE TO BE CONSTRUCTED PERPENDICULAR TO THE INCOMING PIPEWORK UNLESS OTHERWISE NOTED.
29. PRECAST COMPONENTS SHALL BE CONNECTED BY MEANS OF EPOXY OR CHEMICAL GROUTED BARS OF THE SAME DIAMETER AND SPACING AS THE SMALLER BARS IN THE RESPECTIVE COMPONENTS.
25. PRE-CAST PITS MUST HAVE LIFTING ANCHORS.
26. WORKING LOADS ARE THOSE DUE TO FILL MATERIAL AND STANDARD HIGHWAY VEHICLES AS PER AS3725. CONSTRUCTION LOADS HAVE NOT BEEN ALLOWED FOR.
27. ALL EXPOSED EDGES ON STORMWATER PITS TO BE ROUNDED TO 5mm RAD. UNO.
28. ALL MILD STEEL FIXTURES INCLUDING GRATES, FRAMES, STEP IRONS, LADDERS, ETC., SHALL BE HOT DIP GALVANISED. GALVANISING SHALL COMPLY WITH THE REQUIREMENTS OF AS1214 OR AS1650, AS APPROPRIATE.
29. ALL CONNECTIONS TO EXISTING DRAINAGE PITS SHALL BE MADE IN A TRADESMAN-LIKE MANNER AND THE INTERNAL WALL OF THE PIT AT THE POINT OF ENTRY SHALL BE CEMENT RENDERED TO ENSURE A SMOOTH FINISH.
30. PITS DEEPER THAN 1200mm SHALL HAVE ACCESS LADDERS OR STEP IRONS INSTALLED AND SHALL BE IN ACCORDANCE WITH AS1657 AND THE LOCAL OR STATUTORY REQUIREMENTS.
31. WHERE A PIT IS IDENTIFIED AS A CONFINED SPACE, PIT COVERS SHALL BE PROVIDED WITH STANDARD CONFINED SPACE SIGNAGE.
32. CAPPED FLUSHING POINTS MUST BE PROVIDED FOR ALL SUBSOIL AND SEEPAGE DRAINAGE SYSTEMS AT THE END OF EACH PIPE, AT MAX. 30m SPACING AND AT CHANGES IN DIRECTION.
33. THE CONTRACTOR SHALL OBTAIN A ROAD OPENING PERMIT FOR ANY WORKS WITHIN THE PUBLIC ROAD RESERVE AND COMPLY WITH ALL AUTHORITY REQUIREMENTS.
34. PIPES SHALL BE TRUE TO GRADES SHOWN AND ALIGNED SO THAT THE CENTRES OF THE INLET PIPES INTERSECT WITH THE CENTRE OF THE OUTLET PIPE AT THE DOWNSTREAM FACE OF THE PIT.
35. MINIMUM GRADES FOR GRAVITY STORMWATER DRAINAGE SHALL CONFORM TO AS 3500 PART 3 AS FOLLOWS, UNO:-
    35.1. 1% FOR 100mm AND 150mm DIA. PIPES
    35.2. 0.5% FOR 225mm DIA. PIPES
    35.3. 0.4% FOR 300mm DIA. PIPES
    35.4. 0.33% FOR 375mm DIA. PIPES
36. MINIMUM DEPTH OF COVER SHALL BE AS FOLLOWS, UNO:-
    36.1. 300mm IN PRIVATE PROPERTY (NON-VEHICULAR TRAFFIC)
    36.2. 450mm IN PUBLIC AREAS
    36.3. 600mm IN VEHICULAR TRAFFICABLE AREAS (FOOTWAY/ROADWAYS)
37. BED ALL PIPES FIRMLY AND EVENLY ONTO IMPORTED BEDDING FILL MATERIAL.
38. LAY AND JOINT ALL PIPES IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATION AND
    AS 3725 BURIED FLEXIBLE PIPELINES
    AS 2566 LOADS ON BURIED FLEXIBLE PIPELINES
    AS 1597.2 PRECAST REINFORCED CONCRETE BOX CULVERTS
    AS 3500 NATIONAL PLUMBING AND DRAINAGE CODE
    SYDNEY WATER REQUIREMENTS (WHERE APPLICABLE)
39. ALLOW TO TEST ALL PIPES AND PITS TO MANUFACTURERS REQUIREMENTS.
40. WHERE STORMWATER DRAINAGE IS LAID IN THE VICINITY OF TREES / CANOPIES OF TREES, THE WORKS ARE TO BE COMPLETED TO THE PROJECT ARBORISTS REQUIREMENTS.

ROOF AND SUSPENDED FLOOR DRAINAGE

1. ROOF AND SURFACE DRAINAGE (WITHIN THE BUILDING FOOTPRINT, INCLUSIVE OF BALCONIES, TERRACES, PODIUMS ETC) IS TO BE DETAILED BY THE HYDRAULIC CONSULTANT.
2. THE CONTRACTOR SHALL COORDINATE THE NECESSARY INTERFACE BETWEEN THE HYDRAULIC AND CIVIL WORKS.

CLOSED CIRCUIT TELEVISION (CCTV)

1. UNDERTAKE A CCTV INSPECTION OF ALL THE COMPLETED DRAINAGE IN ACCORDANCE WITH THE GUIDELINES OF THE AUSTRALIAN CONDUIT CONDITION EVALUATION MANUAL (ACCEM).
2. APPLY THE FOLLOWING REQUIREMENTS TO THE CCTV INSPECTION:-
    2.1. USE DATA CAPTURE SOFTWARE APPROVED BY SYDNEY WATER
    2.2. USE CERTIFIED CCTV OPERATORS
    2.3. THE CCTV VIDEOTAPE SHALL BE OF QUALITY TO ALLOW ACCURATE ASSESSMENT OF THE INTERNAL CONDITION OF THE PIPE
3. FURNISH TO THE DESIGN CONSULTANT THE FOLLOWING:-
    3.1. VIDEOS IN MPG FORMAT FOR VIEWING
    3.2. CCTV REPORT AND SURVEY DATA IN PDF FORMAT

WATER QUALITY TESTING

1. PRIOR TO DISCHARGE OF SITE STORMWATER, GROUNDWATER AND SEEPAGE WATER INTO THE COUNCIL STORMWATER SYSTEM, CONTRACTORS MUST UNDERTAKE WATER QUALITY TESTING IN CONJUNCTION WITH A SUITABLY QUALIFIED ENVIRONMENT CONSULTANT OUTLINING THE FOLLOWING:
    1.1. COMPLIANCE WITH THE CRITERIA OF THE AUSTRALIAN AND NEW ZEALAND GUIDELINES FOR FRESH AND MARINE WATER QUALITY (2000)
    1.2. IF REQUIRED SUBJECT TO THE ENVIRONMENTAL CONSULTANTS ADVICE, PROVIDE REMEDIAL MEASURES TO IMPROVE THE QUALITY OF WATER THAT IS TO BE DISCHARGED INTO COUNCIL'S STORMWATER DRAINAGE SYSTEM. THIS SHOULD INCLUDE COMMENTS FROM A SUITABLY QUALIFIED ENVIRONMENTAL CONSULTANT CONFIRMING THE SUITABILITY OF THESE REMEDIAL MEASURES TO MANAGE THE WATER DISCHARGED FROM THE SITE INTO COUNCIL'S STORMWATER DRAINAGE SYSTEM. OUTLINE THE PROPOSED, ONGOING MONITORING, CONTINGENCY PLANS AND VALIDATION PROGRAM THAT WILL BE IN PLACE TO CONTINUALLY MONITOR THE QUALITY OF WATER DISCHARGED FROM THE SITE. THIS SHOULD ALSO OUTLINE THE FREQUENCY OF WATER QUALITY TESTING THAT WILL BE UNDERTAKEN BY A SUITABLY QUALIFIED ENVIRONMENTAL CONSULTANT.

ROADWORKS NOTES

1. ALL BASECOURSE, SUB-BASECOURSE AND SELECT FILL MATERIALS SHALL CONFORM WITH THE DRAWINGS, COUNCIL CONSTRUCTION SPECIFICATIONS AND AUSTRALIAN STANDARDS.
2. ALL BASECOURSE, SUB-BASECOURSE AND SELECT FILL MATERIALS SHALL BE COMPACTED TO ACHIEVE A MINIMUM OF 100% STANDARD MAXIMUM DRY DENSITY AT OPTIMUM MOISTURE CONTENT OF +OR-2% IN ACCORDANCE WITH AS 1289 E1.1. UNO.
3. ALL WEARING SURFACES SHALL BE ASPHALTIC CONCRETE LAID TO THE THICKNESS SPECIFIED AND IN ACCORDANCE WITH THE SPECIFICATION.
4. CONCRETE FOR KERB SHALL HAVE A CONCRETE STRENGTH OF 25MPa AT 28 DAYS, MINIMUM SLUMP OF 80mm AND MAXIMUM AGGREGATE SIZE OF 20mm.
5. ALL DISTURBED EXISTING CONCRETE PAVEMENT SHALL BE REINSTATED TO MATCH EXISTING PAVEMENT FINISH INCLUDING PAVEMENT IN FOOTPATH AND DRIVEWAY AREAS.
6. NEW FLEXIBLE PAVEMENT MATCHING TO EXISTING FLEXIBLE PAVEMENT SHALL BE COMPLETED IN STRICT ACCORDANCE WITH THE DRAWINGS AND COUNCIL CONSTRUCTION SPECIFICATIONS.
7. ALL BASECOURSE MATERIAL SHALL BE IGNEOUS ROCK QUARRIED MATERIAL TO COMPLY WITH TfNSW. FORM 3051 (UNBOUND), TfNSW. FORM 3052 (BOUND) 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 BASECOURSE MATERIAL PLACED.
8. ALL SUB-BASE COURSE MATERIAL SHALL BE IGNEOUS ROCK QUARRIED MATERIAL TO COMPLY WITH TfNSW. FORM 3051, 3051.1 AND COMPACTED TO MINIMUM 98% 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.
9. AS AN ALTERNATIVE TO THE USE OF IGNEOUS ROCK AS A SUB-BASE MATERIAL IN (9.2) A CERTIFIED RECYCLED CONCRETE MATERIAL COMPLYING WITH TfNSW. FORM 3051 AND 3051.1 WILL BE CONSIDERED. SUBJECT TO MATERIAL SAMPLES AND APPROPRIATE CERTIFICATIONS BEING PROVIDED TO THE SATISFACTION OF STANTEC.
10. 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. THIS PRODUCT SHALL BE REVIEWED AND APPROVED BY THE ENGINEER.

KERBING NOTES

1. THE FOLLOWING NOTES ARE TO BE READ IN CONJUNCTION WITH COUNCIL SPECIFICATIONS AND TYPICAL DRAWINGS. COUNCIL SPECIFICATIONS SHALL TAKE PRECEDENCE OVER THE NOTES PROVIDED IN THIS SPECIFICATION.
2. ALL CONCRETE TO HAVE A MINIMUM COMPRESSIVE STRENGTH OF 25 MPa U.N.O IN REINFORCED CONCRETE NOTES.
3. ALL KERBS, GUTTERS, DISH DRAINS AND CROSSINGS TO BE CONSTRUCTED ON 100mm GRANULAR BASECOURSE COMPACTED TO MINIMUM 95% MODIFIED DRY DENSITY (AS 1289 5.2.1).
4. EXPANSION JOINTS (E.J) TO BE FORMED FROM 10mm COMPRESSIBLE CORK FILLER BOARD FOR THE FULL DEPTH OF THE SECTION AND CUT TO PROFILE. EXPANSION JOINTS TO BE LOCATED AT DRAINAGE PITS, ON TANGENT POINTS OF CURVES AND ELSEWHERE AT MAX 12m CENTRES EXCEPT FOR INTEGRAL KERBS WHERE THE EXPANSION JOINTS ARE TO MATCH THE JOINT LOCATIONS IN THE SLABS.
5. WEAKENED PLANE JOINTS TO BE MIN 3mm WIDE AND LOCATED AT 3m CENTRES EXCEPT FOR INTEGRAL KERBS WHERE THE WEAKENED PLANE JOINTS ARE TO MATCH THE JOINT LOCATIONS IN THE SLABS.
6. BROOMED FINISH TO ALL RAMPED AND VEHICULAR CROSSINGS. ALL OTHER KERBING OR DISH DRAINS TO BE STEEL FLOAT FINISHED.
7. WHERE KERB IS MACHINE PLACED THE CONCRETE MIX SHALL COMPLY WITH TfNSW R53 REQUIREMENTS
8. IN THE REPLACEMENT OF KERB AND GUTTER :- EXISTING ROAD PAVEMENT IS TO BE SAWCUT 900mm 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.
9. EXISTING ALLOTMENT DRAINAGE PIPES ARE TO BE BUILT INTO THE NEW KERB AND GUTTER WITH 100mm DIA HOLE.
10. EXISTING KERB AND GUTTER IS TO BE COMPLETELY REMOVED WHERE NEW KERB AND GUTTER IS SHOWN.

CONCRETE FINISHING NOTES

1. ALL EXPOSED CONCRETE PAVEMENT FINISHES ARE TO BE IN ACCORDANCE WITH THE LANDSCAPE SPECIFICATIONS.
2. ALL EDGES OF THE CONCRETE PAVEMENT, INCLUDING KEYED AND DOWELLED JOINTS, ARE TO BE FINISHED WITH AN EDGING TOOL.
3. CONCRETE PAVEMENTS WITH GRADES GREATER THAN 10% SHALL BE HEAVILY BROOM FINISHED.
4. CARBORUNDUM IS TO BE ADDED TO ALL STAIR TREAD AND RAMPED CROSSINGS, UNO.

CONCRETE NOTES

1. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH AS 3600 CURRENT EDITION WITH AMENDMENTS, EXCEPT WHERE VARIED BY THE CONTRACT DOCUMENTS.
2. CONCRETE QUALITY ALL REQUIREMENTS OF THE CURRENT ACSE CONCRETE SPECIFICATION DOCUMENT 1 SHALL APPLY TO THE FORMWORK, REINFORCEMENT AND CONCRETE UNLESS NOTED OTHERWISE.

ELEMENT	AS 3600 F'c MPa AT 28 DAYS	SPECIFIED SLUMP	NOMINAL AGG. SIZE
VEHICULAR BASE	32	80	20
KERBS, PATHS, AND PITS	25	80	20

- CEMENT TYPE SHALL BE (ACSE SPECIFICATION) TYPE SL
- PROJECT CONTROL TESTING SHALL BE CARRIED OUT IN ACCORDANCE WITH AS 1379.

3. NO ADMIXTURES SHALL BE USED IN CONCRETE UNLESS APPROVED IN WRITING BY STANTEC.
4. CLEAR CONCRETE COVER TO ALL REINFORCEMENT FOR DURABILITY SHALL BE 40mm TOP AND 70mm FOR EXTERNAL EDGES UNLESS NOTED OTHERWISE.
5. 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.
6. THE FINISHED CONCRETE SHALL BE A DENSE HOMOGENEOUS MASS, COMPLETELY FILLING THE FORMWORK, THOROUGHLY EMBEDDING THE REINFORCEMENT AND FREE OF STONE POCKETS. ALL CONCRETE INCLUDING SLABS ON GROUND AND FOOTINGS SHALL BE COMPACTED AND CURED IN ACCORDANCE WITH R.M.S. SPECIFICATION R83.
7. REINFORCEMENT SYMBOLS:
    N DENOTES GRADE 450 N BARS TO AS/NZS 4671 GRADE N
    R DENOTES 230 R HOT ROLLED PLAIN BARS TO AS/NZS 4671
    SL DENOTES HARD-DRAWN WIRE REINFORCING FABRIC TO AS/NZS 4671

    NUMBER OF BARS IN GROUP — BAR GRADE AND TYPE
    17 N 20 250
    NOMINAL BAR SIZE IN mm — SPACING IN mm

    THE FIGURE FOLLOWING THE FABRIC SYMBOL SL IS THE REFERENCE NUMBER FOR FABRIC TO AS/NZS 4671.

8. FABRIC SHALL BE LAPPED IN ACCORDANCE WITH THE FOLLOWING DETAIL:



ON-SITE STORMWATER DETENTION (OSD) NOTES

1. THIS SPECIFICATION IS TO BE READ IN CONJUNCTION WITH THE STORMWATER DRAINAGE NOTES.
2. CONTRACTOR MUST VERIFY ALL DIMENSIONS, EXISTING LEVELS, SERVICES AND STRUCTURES ON SITE PRIOR TO THE COMMENCEMENT OF WORK.
3. ALL WORK SHALL BE UNDERTAKEN IN ACCORDANCE WITH THE DETAILS SHOWN ON THE DRAWINGS AND THE SPECIFICATION.
4. ON COMPLETION OF PROPOSED WORKS, ALL DISTURBED AREAS MUST BE RESTORED TO ORIGINAL, INCLUDING KERBS, FOOTPATHS, CONCRETE AREAS, GRAVEL, GRASSED AND LANDSCAPE AREAS AND ROAD PAVEMENTS, UNO.
5. CONTRACTOR TO OBTAIN ALL AUTHORITY APPROVALS, IF APPLICABLE.
6. MAKE SMOOTH TRANSITION TO EXISTING / PROPOSED SERVICES AND MAKE GOOD.
7. WHERE NEW WORKS ABUT EXISTING, THE CONTRACTOR SHALL ENSURE THAT A SMOOTH EVEN PROFILE, FREE FROM ABRUPT CHANGES IS OBTAINED.
8. THE BASE OF THE OSD TANK IS TO BE SCREEDED TO ACHIEVE A MINIMUM 1% GRADE, IN ACCORDANCE WITH AUTHORITY REQUIREMENTS AND THE ENGINEERING PLANS, TO PREVENT PONDING OF WATER IN THE TANK AND DIRECT ALL FLOWS TO THE OUTLET.
9. THE CONTRACTOR MUST ENSURE THE LEVELS SPECIFIED ON THE PLANS ARE ACHIEVED TO A 5mm ACCURACY.
10. FOLLOWING CONSTRUCTION, WORK-AS-EXECUTED (WAE) DRAWINGS ARE TO BE PROVIDED TO STANTEC CONFIRMING THE FOLLOWING:
    10.1. TANK REDUCED LEVELS (RL)
    10.2. SOFFIT LEVEL
    10.3. BASE INVERT LEVELS (IL)
    10.4. TOTAL EFFECTIVE VOLUME
    10.5. INSTALLATION OF THE TRASH RACK
    10.6. INSTALLATION OF THE ORIFICE PLATE, IF APPLICABLE, AND DIAMETER
    10.7. INSTALLATION OF INTERNAL WEIR WALLS
    10.8. INSTALLATION OF SUMP, IF APPLICABLE
    10.9. INSTALLATION OF STEP IRONS, IF APPLICABLE. STEP IRONS ARE TO BE INSTALLED IN ALL TANK THAT EXCEED 1200mm DEPTH
    10.10. INSTALLATION OF WATER QUALITY IMPROVEMENT DEVICES, IF APPLICABLE WAE PLANS ARE TO BE UNDERTAKEN BY A REGISTERED SURVEYOR.
10. CONTRACTOR IS TO SUPPLY AND INSTALL ALL FITTINGS AND SPECIALS INCLUDING VARIOUS PIPE ADAPTORS TO ENSURE PROPER CONNECTION BETWEEN DISSIMILAR PIPEWORK.
11. A GENERAL INSPECTION OF THE OSD TANK IS TO BE UNDERTAKEN EVERY SIX (6) MONTHS AND AFTER MAJOR STORM EVENTS. THE GENERAL INSPECTION SHALL INVOLVE THE FOLLOWING:
    11.1. VISUAL INSPECTION INSIDE THE TANK
    11.2. CONDITION INSPECTION OF COMPONENTS SUCH AS ORIFICE PLATES AND VALVES
    11.3. REMOVAL AND DISPOSAL OF LARGER GROSS POLLUTANTS TO PREVENT BLOCKAGES
    11.4. MINOR RECTIFICATION WORKS AS REQUIRED
12. THE OSD TANK SHALL BE HOSED OUT AND CLEANED ON AN ANNUAL BASIS.

ASPHALTIC CONCRETE

1. GENERAL
    1.1. MINERAL AGGREGATED SHALL COMPLY WITH AUSTRALIAN STANDARDS
    1.2. MINERAL FILLER SHALL COMPLY WITH AS 2357 MINERAL FILLERS OR ASPHALT
    1.3. BITUMEN BINDER SHALL COMPLY WITH AS 2008.
2. MIX PROPORTIONS (UNO.)
    2.1. JOB MIX - 10mm NOMINAL SIZE AGGREGATE. MINIMUM BITUMEN CONTENT BY MASS OF TOTAL MASS - 5.1%
    2.2. MIX STABILITY SHALL BE BETWEEN 16kN AND 36kN AS DETERMINED BY AS 2891
    2.3. AIR VOIDS IN COMPACTED MIX SHALL BE BETWEEN 4% AND 7% OF THE TOTAL VOLUME OF THE MIX
    2.4. VOIDS FILLED IN BINDER - BETWEEN 65% AND 80% OF AIR VOIDS IN THE TOTAL MINERAL AGGREGATE FILLED BY BINDER IN ACCORDANCE WITH AUSTRALIAN STANDARDS
3. PAVEMENT PREPARATION
    3.1. THE EXISTING SURFACE TO BE SEALED SHALL BE DRY AND BROOMED BEFORE COMMENCEMENT OF WORK TO ENSURE COMPLETE REMOVAL OF ALL SUPERFICIAL AND FOREIGN MATTER
    3.2. ALL DEPRESSIONS OR UNEVEN AREAS ARE TO BE TACK-COATED AND BROUGHT UP TO THE GENERAL LEVEL OR PAVEMENT WITH ASPHALTIC CONCRETE BEFORE LAYING THE MAIN COURSE
4. TACK COATING
    4.1. THE WHOLE AREA TO BE SHEETED WITH ASPHALTIC CONCRETE SHALL BE LIGHTLY AND EVENLY COASTED WITH RAPID SETTING BITUMEN COMPLYING WITH AUSTRALIAN STANDARDS. APPLICATION RATE FOR RESIDUAL BITUMEN SHALL BE 0.15 TO 0.3L/m^2. APPLICATION SHALL BE BY MEANS OF A MECHANICAL SPRAYER WITH A SPRAY BAR.
5. SPREADING
    5.1. ALL ASPHALTIC CONCRETE SHALL BE SPREAD WITH A SELF-PROPELLING PAVING MACHINE
    5.2. THE ASPHALTIC CONCRETE SHALL BE LAID AT A MIX TEMPERATURE AS SPECIFIED BELOW:-

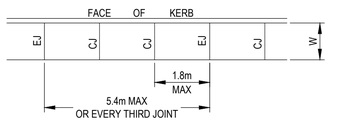
ROAD SURFACE TEMPERATURE IN SHADE (°C)	MIX TEMPERATURES (°C)
5 - 10	NOT PERMITTED
10 - 15	150
15 - 25	145
OVER 25	140

    5.3 ASPHALTIC CONCRETE SHALL NOT BE LAID WHEN THE ROAD SURFACE IS WET OR WHEN COLD WINDS CHILL THE MIX, ADVERSELY AFFECTING SPREADING AND COMPACTION
    5.4 THE MINIMUM COMPACTED THICKNESS IS 30mm OVER EXISTING SEALED PAVEMENTS AND 50mm OVER NEW PAVEMENTS
6. JOINTS
    6.1. THE NUMBER OF JOINTS BOTH LONGITUDINAL AND TRANSVERSE SHALL BE KEPT TO A MINIMUM
    6.2. THE DENSITY AND SURFACE FINISH AT JOINTS SHALL BE SIMILAR TO THOSE OF THE REST OF THE LAYER
7. COMPACTION
    7.1. ALL COMPACTION SHALL BE UNDERTAKEN US

JOINTING NOTES

PEDESTRIAN PAVEMENT JOINTS

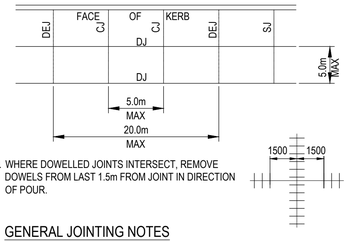
1. ALL PEDESTRIAN PAVEMENTS ARE TO BE JOINTED AS FOLLOWS. (U.N.O)
2. EXPANSION JOINTS ARE TO BE LOCATED WHERE POSSIBLE AT TANGENT POINTS OF CURVES AND ELSEWHERE AT MAX. 5.4m CENTRES.
3. CONTRACTION JOINTS ARE TO BE LOCATED AT A MAX. SPACING OF 1.8m
4. WHERE POSSIBLE JOINTS SHOULD BE LOCATED TO MATCH KERBING AND OR ADJACENT PAVEMENT JOINTS.
5. PEDESTRIAN PAVEMENT JOINT DETAIL:



ALL RAMPED CROSSINGS SHALL BE DOWELLED INTO THE AJOINING PATH PAVEMENT

VEHICULAR PAVEMENT JOINTS

6. ALL VEHICULAR PAVEMENTS TO BE JOINTED AS FOLLOWS. (U.N.O)
7. CONTRACTION JOINTS SHOULD GENERALLY BE LOCATED AT A MAX OF 5.0m CENTRES WITH DOWELED EXPANSION JOINTS AT MAX 20.0m CENTRES
8. SAWN JOINTS SHOULD GENERALLY BE LOCATED AT A MAXIMUM OF 5.0m CENTRES OR 1.5 x THE SPACING OF CONTRACTION JOINTS.
9. VEHICULAR PAVEMENT JOINT DETAIL.



10. WHERE DOWELLED JOINTS INTERSECT, REMOVE DOWELS FROM LAST 1.5m FROM JOINT IN DIRECTION OF POUR.

GENERAL JOINTING NOTES

11. PROVIDE 10mm WIDE EXPANDING CORK JOINTS BETWEEN CONCRETE PAVEMENTS AND ALL BUILDINGS, WALLS, FOOTINGS, CONCRETE AREAS, DISH DRAINS, GRATED DRAINS, BOLLARD FOOTINGS ETC.
12. CONCRETE MIX PARAMETERS ARE AS FOLLOWS:
    - 12.1. MAXIMUM AGGREGATE SIZE = 20mm
    - 12.2. FLEXURAL STRENGTH AT 28 DAYS = 3.5MPa
    - 12.3. FLEXURAL STRENGTH AT 90 DAYS = 3.85MPa
    - 12.4. MAXIMUM WATER / CEMENT RATIO = 0.55
    - 12.5. MAXIMUM SHRINKAGE LIMIT = 650 MICRON STRAINS (AS 1012 PT 13)
    - 12.6. MINIMUM CEMENT CONTENT = 300kg/m3
    - 12.7. CEMENT TO BE TYPE "A" (NORMAL CEMENT) TO AS 1315
    - 12.8. SLUMP = 50mm
13. JOINT TO BE SAWN AS SOON AS CONCRETE HAS HARDENED SUFFICIENTLY THAT IT WILL NOT BE DAMAGED BY SAWING. IF AN UNPLANNED CRACK OCCURS THE CONTRACTOR SHALL REPLACE WHOLE SLABS EITHER SIDE OF THE UNPLANNED CRACK, UNLESS DIRECTED OTHERWISE.
14. CONSTRUCT JOINTS AS DETAILED.
15. CONSTRUCTION JOINTS WHERE REQUIRED, BUT NOT SHOWN, SHALL BE LOCATED AT THE APPROVAL OF THE ENGINEER AND CONSTRUCTED AT THE CONTRACTORS EXPENSE.
16. ALL LONGITUDINAL CONSTRUCTION JOINTS SHALL BE FORMED AND INCLUDE DOWEL BARS AS SPECIFIED. ALL TRANSVERSE CONSTRUCTION JOINTS SHALL BE FORMED AND INCLUDE DOWEL BARS AS SPECIFIED.
17. BOND BREAKER TO BE TWO UNIFORM COATS OF BITUMEN EMULSION ALL OVER THE EXPOSED SURFACE AND ON END.
18. DOWELS AND TIE BARD TO MEET STRENGTH REQUIREMENTS OF STRUCTURAL GRADE STEEL IN ACCORDANCE WITH AS 1302. DOWELS AND TIE BARS SHALL BE:
    - 18.1. STRAIGHT
    - 18.2. TO LENGTH SPECIFIED
    - 18.3. CLEAN AND FREE FROM MILL SCALE, RUST AND OIL
    - 18.4. SAWN TO LENGTH, NOT CROPPED
19. DIMENSIONS OF SEALANT RESERVOIR DEPENDANT ON THE SEALANT TYPE ADOPTED. ENGINEERS APPROVAL TO BE OBTAINED FOR SEALANT AND RESERVOIR DIMENSIONS AND DETAIL PROPOSED BY THE CONTRACTOR. REFER DETAIL "B" FOR TYPICAL ARRANGEMENT AND SEALANT.
20. PRIOR TO THE PLACEMENT OF CONCRETE IN THE ADJACENT SLAB, SELF EXPANDING CORK FILLER SHALL BE ADHERED TO THE ALREADY CAST AND CLEANED CONCRETE FACE USING AN APPROVED WATERPROOF ADHESIVE. ADHESIVE SHALL BE LIBERALLY APPLIED TO THE FULL FACE OF THE CONCRETE SLAB TO BE COVERED BY THE FILLER, AND ON THE FULL FACE OF THE FILLER TO BE ADHERED.

ASPHALTIC CONCRETE

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    - 2.3. AIR VOIDS IN COMPACTED MIX SHALL BE BETWEEN 4% AND 7% OF THE TOTAL VOLUME OF THE MIX
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    - 5.2. THE ASPHALTIC CONCRETE SHALL BE LAID AT A MIX TEMPERATURE AS SPECIFIED BELOW:-

ROAD SURFACE TEMPERATURE IN SHADE (°C)	MIX TEMPERATURES (°C)
5 - 10	NOT PERMITTED
10 - 15	150
15 - 25	145
OVER 25	140

    - 5.3 ASPHALTIC CONCRETE SHALL NOT BE LAID WHEN THE ROAD SURFACE IS WET OR WHEN COLD WINDS CHILL THE MIX, ADVERSELY AFFECTING SPREADING AND COMPACTION
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    - 6.2. THE DENSITY AND SURFACE FINISH AT JOINTS SHALL BE SIMILAR TO THOSE OF THE REST OF THE LAYER
7. COMPACTION
    - 7.1. ALL COMPACTION SHALL BE UNDERTAKEN USING SELF-PROPELLED ROLLERS
    - 7.2. INITIAL ROLLING SHALL BE COMPLETE BEFORE THE MIX TEMPERATURE FALLS BELOW 105°C
    - 7.3. SECONDARY ROLLING SHALL BE COMPLETED BEFORE THE MIX TEMPERATURE FALLS BELOW 60°C
    - 7.4. MINIMUM CHARACTERISTICS VALUE OF RELATIVE COMPACTION OF A LOT WHEN TESTED IN ACCORDANCE WITH AS 2150
8. FINISHED PAVEMENT PROPERTIES
    - 8.1. FINISHED SURFACES SHALL BE SMOOTH, DENSE AND TRUE TO SHAPE AND SHALL NOT VARY MORE THAN 10mm FROM THE SPECIFIED PLAN LEVEL AT ANY POINT AND SHALL NOT DEVIATE FROM THE BOTTOM OF A 3m STRAIGHT EDGE LAID IN ANY DIRECTION BY MORE THAN 5mm.
9. OTHER
    - 9.1. ASPHALTIC CONCRETE SHALL CONFORM TO TfNSW. SPECIFICATION R116. UNO.

Key Plan

C SSDA ISSUE	YNL	JMB	2024.07.10
B SSDA ISSUE	LPT	JMB	2024.04.16
A SSDA ISSUE	LPT	JMB	2024.03.28
Issued/Revision	By	Appd	YYYY.MM.DD

Issue Status

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File Name: CI-007-001.DWG	-	-	-	2024.03.28
	Dwn.	Dsgn.	Chkd.	YYYY.MM.DD

Title

GENERAL NOTES
SHEET 3 OF 3

Project No. 301351398

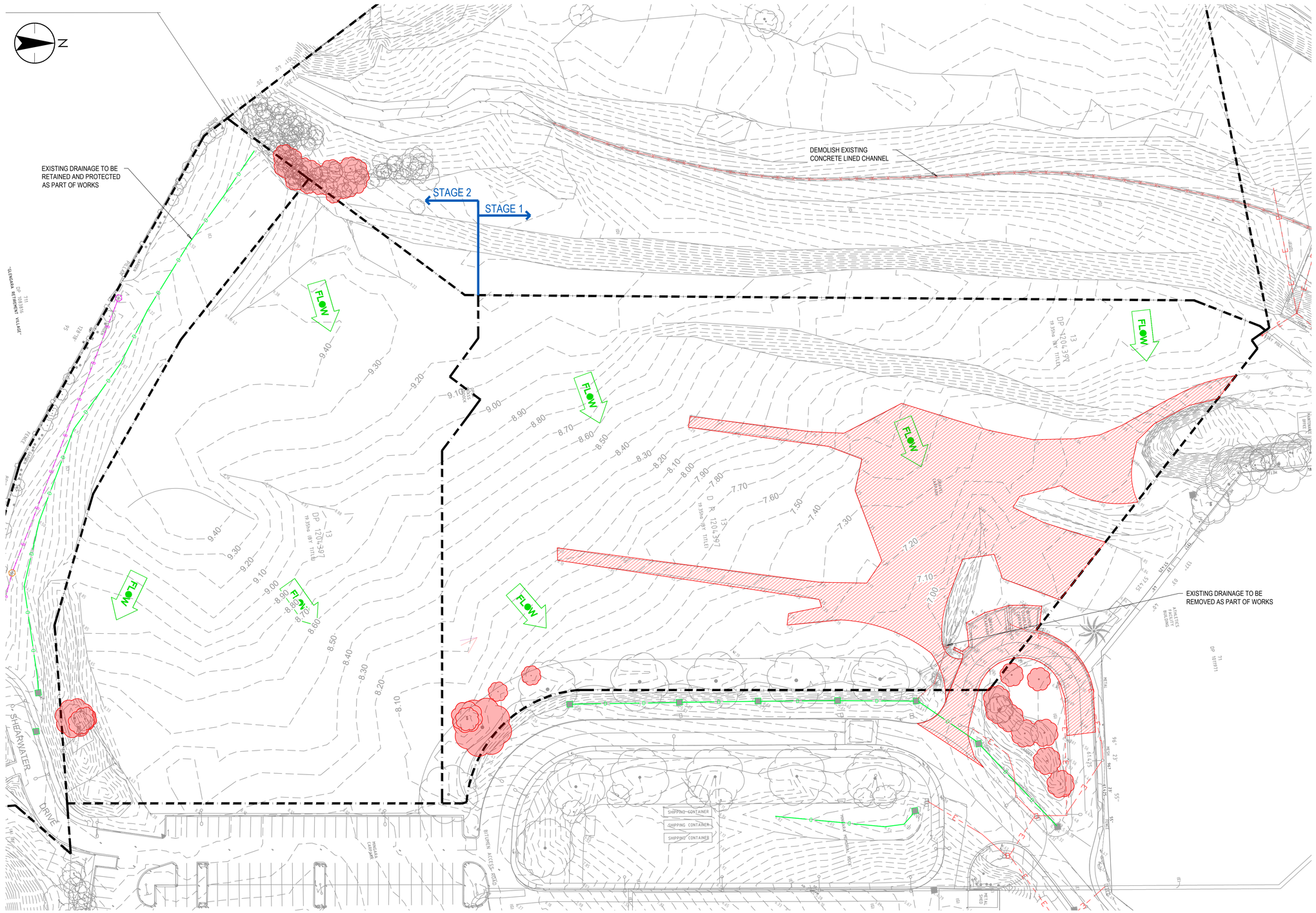
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Revision C

Drawing No. **CI-007-003**

Plotted: 10/07/2024 4:16:03 PM By: LAL HARSHIL
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ORIGINAL SHEET - ISO A1 COORD - GDA2020//MGA56 DATUM - mAHD



LEGEND

- STAGE BOUNDARY
- 45.10 EXISTING CONTOURS
- EXISTING STORMWATER PIT
- D EXISTING STORMWATER
- S EXISTING SEWER
- E EXISTING ELECTRICAL
- X D EXISTING SERVICE TO BE DEMOLISHED [EXAMPLE] DASHED RED WITH 'X'
- EXISTING TREES TO REMAIN
- EXISTING TREES TO BE REMOVED
- EXISTING PARKING/ROAD TO BE DEMOLISHED
- FLOW OVERLAND FLOW PATH

NOTES

1. EXISTING SERVICES SHOWN ON THE PLANS ARE LOCATED APPROXIMATELY BASED ON INFORMATION SUPPLIED BY THE RELEVANT AUTHORITIES, AND SURVEY RECEIVED ON 18/01/2024 PREPARED BY BEVERIDGE WILLIAMS, LAND DEVELOPMENT CONSULTANTS REGISTERED SURVEYORS, REFERENCE '2103119-DET-003-B', DATED 16/01/2023. STANTEC DOES NOT TAKE RESPONSIBILITY FOR THE SUITABILITY OR LOCATION/DEPTH OF THE EXISTING SERVICES.
2. THE INFORMATION IS SHOWN TO PROVIDE A BASIS FOR DESIGN. STANTEC DOES NOT GUARANTEE THE ACCURACY OR COMPLETENESS OF THE SURVEY BASE OR ITS SUITABILITY AS A BASIS FOR CONSTRUCTION DRAWINGS.
3. ALL AREAS WITHIN THE EXTENT OF WORKS TO BE SCANNED FOR EXISTING UTILITY SERVICES AND LOCATIONS PRIOR TO CONSTRUCTION.

BEFORE YOU DIG www.byda.com.au

1:500 5 0 5 10 15 20 25 A1
1:1000 A3

Key Plan

C	SSDA ISSUE	YNL	JMB	2024.07.10
B	SSDA ISSUE	LPT	JMB	2024.04.16
A	SSDA ISSUE	LPT	JMB	2024.03.28
Issued/Revision		By	Appd	YYYY.MM.DD

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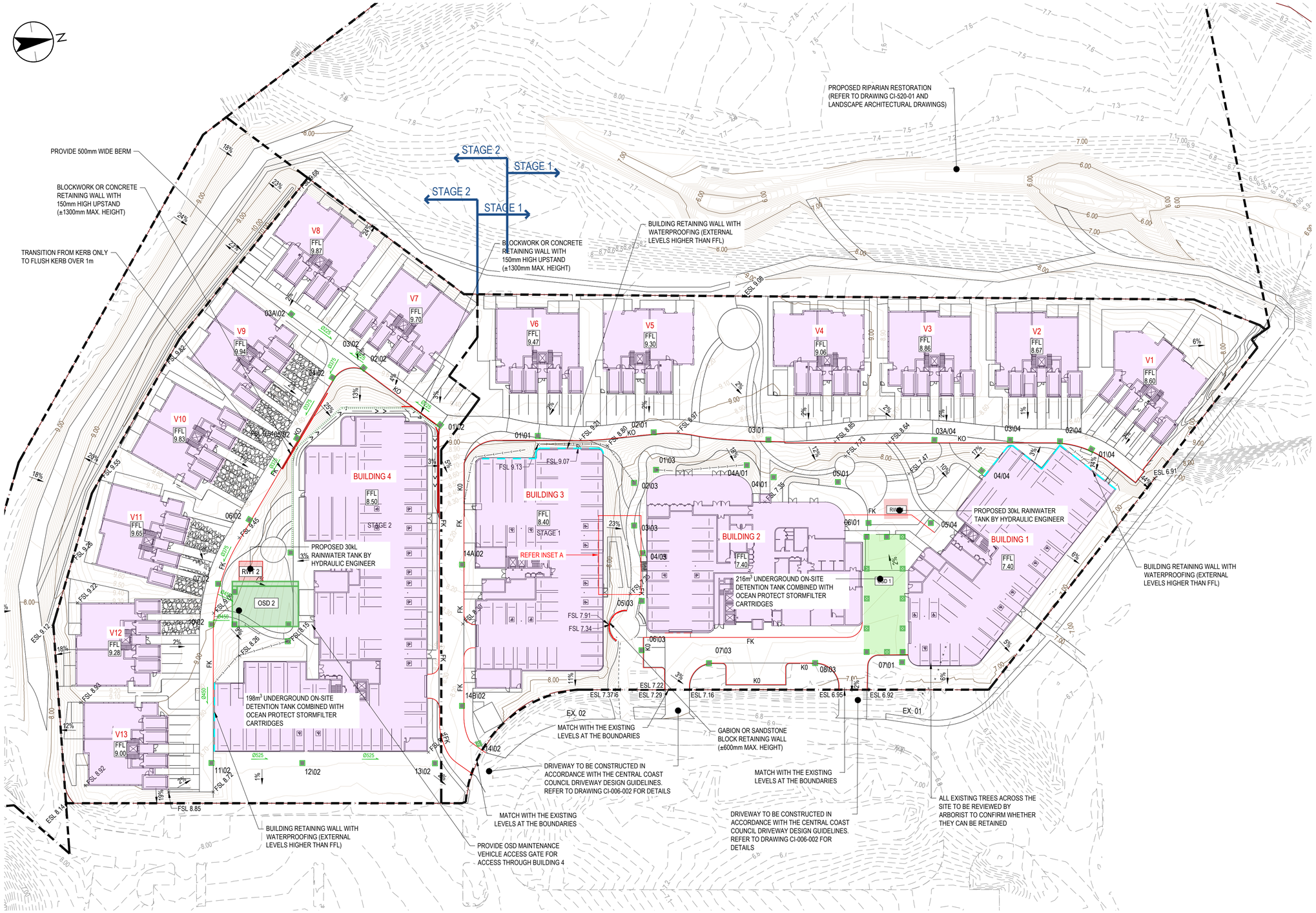
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File Name: CI-050-001.DWG	- Dwn.	- Dsgn.	- Chkd.	2024.03.28 YYYY.MM.DD

Title
EXISTING CONDITIONS PLAN

Project No. 301351398
Scale 1:500
Revision C
Drawing No. CI-050-001

Plotted: 1/07/2024 4:16:6 PM By: LAL, MADHU
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ORIGINAL SHEET - ISO A1 COORD - GDA2020/MGA56 DATUM - mAHD



1:### # 0 # ## ## ## ## A1
1:#### A3

Key Plan

E	SSDA ISSUE	YNL	JMB	2024.07.10
D	SSDA ISSUE	LPT	JMB	2024.04.16
C	SSDA ISSUE	LPT	JMB	2024.03.28
B	ISSUE FOR COORDINATION	LPT	JMB	2024.03.13
A	ISSUE FOR COORDINATION	LPT	JMB	2024.02.27
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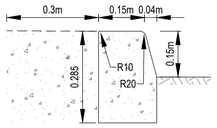
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Title
GENERAL ARRANGEMENT PLAN

Project No. 301351398
Scale 1:500
Revision E
Drawing No. CI-060-001

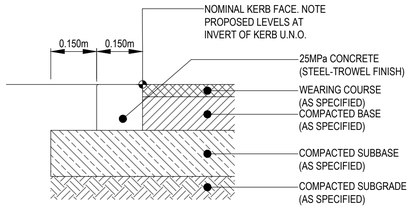
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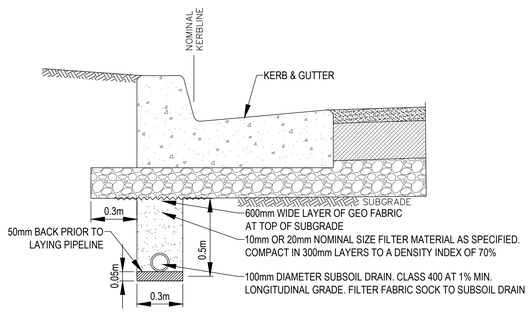
KERB ONLY (KO)

(SCALE 1:10)



FLUSH KERB (FK)

(SCALE 1:10)



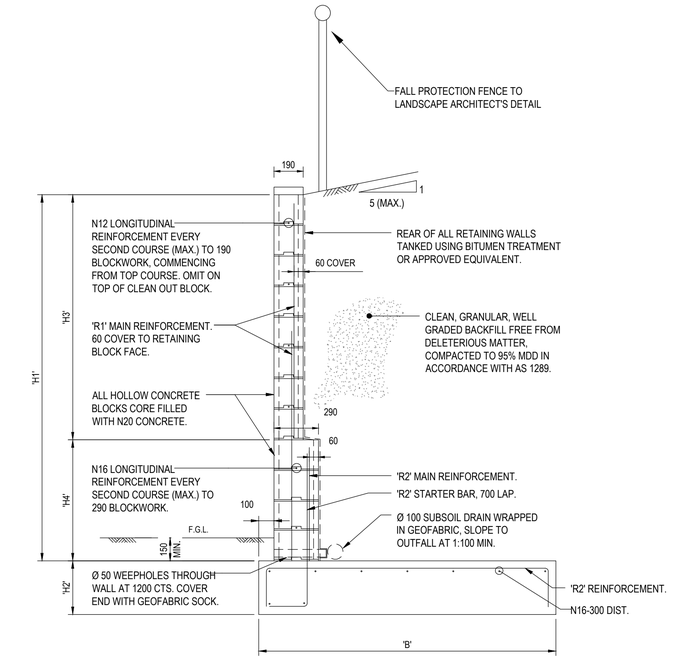
NOTE:
- SUBSOIL DRAINAGE IS REQUIRED BELOW ALL KERBS IF NO STORMWATER DRAINAGE LINE DIRECTLY BELOW
- SUBBASE & STABILISED LAYER TO EXTEND 300mm BEHIND BACK OF KERB

SUBSOIL DRAIN TYPICAL SECTION

NTS

NOTES:
1. CONCRETE COMPRESSIVE STRENGTH (F'c) AT 28 DAYS, TO BE 25MPa FOR KERB & GUTTER AND DISH CROSSINGS
2. ROAD SUBBASE SHALL BE EXTENDED 300mm BEHIND BACK OF KERB WITH THE THICKNESS TO BE NOT LESS THAN THE ROAD PAVEMENT SUBBASE THICKNESS.
3. DIMENSIONS ARE IN METRES, UNLESS NOTED OTHERWISE.
4. ALL EXPOSED EDGES TO BE ROUNDED TO 20mm RADIUS UNLESS NOTED OTHERWISE
5. SERVICE CONDUIT LOCATIONS SHALL BE MARKED ON KERB FACE WITH AN APPROVED TOOL OR AS OTHERWISE DIRECTED.

THESE DETAILS ARE TYPICAL ONLY - COUNCIL STANDARD DRAWINGS AND NOTES ARE TO TAKE PRECEDENCE



TYPICAL RETAINING WALL CROSS SECTION

SCALE - NTS
NOTE: 1. LOCATE WALL JOINTS AT 10m CTRS.
2. REINFORCEMENT LAPS TO BE 50dB (MIN.), UNLESS NOTED OTHERWISE

'H1' (mm)	'H2' (mm)	'H3' (mm)	'H4' (mm)	'B' (mm)	'R1'	'R2'	MIN. ALLOWABLE BEARING PRESSURE (kPa)
0-600	300	600	0	800	N16-400	N16-400	100 kPa
600-1200	300	1200	0	900	N16-400	N16-400	100 kPa
1200-1800	300	1800	0	1200	N16-400	N16-400	100 kPa
1800-2400	300	1800	600	1600	N16-400	N16-400	150 kPa
2400-3000	300	1800	1200	1900	N16-400	N16-200	150 kPa
3000-3600	300	1800	1800	2200	N16-400	N16-200	150 kPa
MAX. WALL HEIGHT 3600mm.							

NOTE:
SCHOOL RETAINING WALL TO BE FOUNDED ON A MINIMUM OF STIFF CLAY WITH AN ALLOWABLE BEARING CAPACITY OF 150kPa. CONTRACTOR TO CONFIRM ACCEPTABLE BEARING CAPACITY OF FOUNDATION PRIOR TO COMMENCEMENT OF WORKS

1:10 0.1 0 0.1 0.2 0.3 0.4 0.5 A1
1:20 A3

Key Plan

C	SSDA ISSUE	YNL	JMB	2024.07.10
B	SSDA ISSUE	LPT	JMB	2024.04.16
A	SSDA ISSUE	LPT	JMB	2024.03.28
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Issue Status

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TUMBI UMBI RETIREMENT LIVING

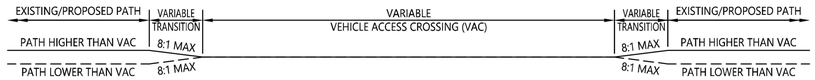
14 MINGARA DRIVE, TUMBI UMBI, NSW 2261

File Name: CI-066-001.DWG | Dwn. - | Dsgn. - | Chkd. - | 2024.03.28 YYYY.MM.DD

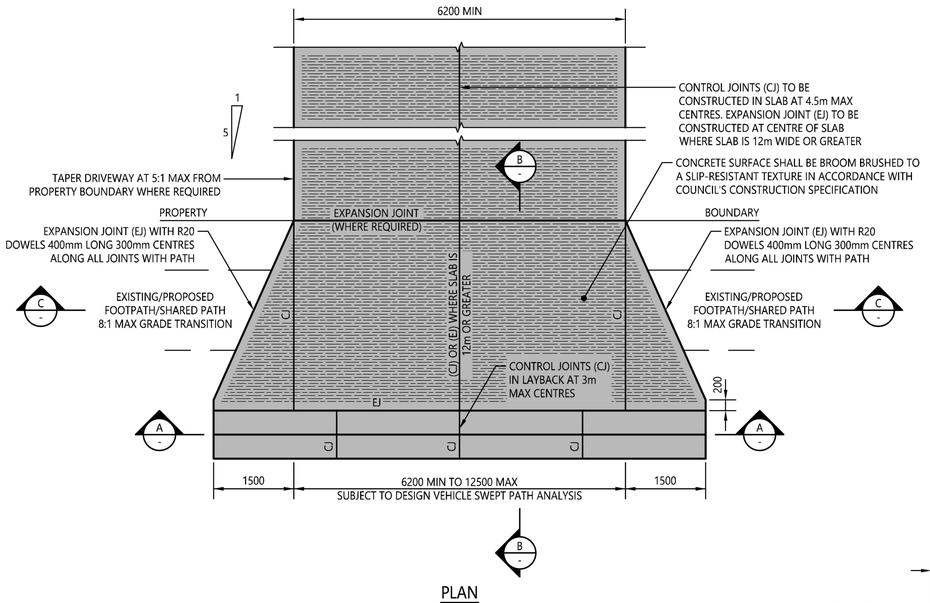
Title
ROADS AND GENERAL DETAILS
SHEET 1 OF 3

Project No. 301351398
Scale AS SHOWN
Revision C
Drawing No. **CI-066-001**

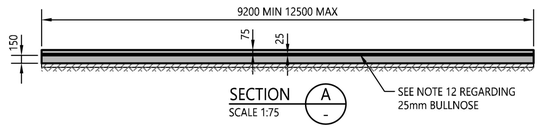
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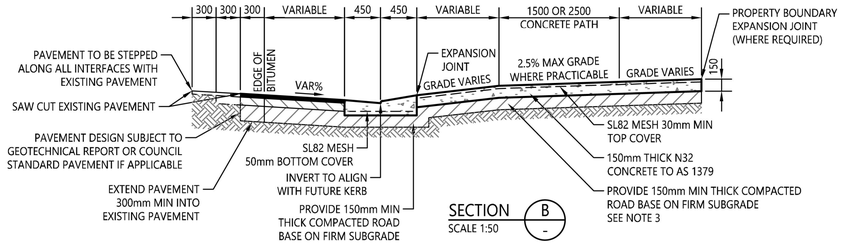
SECTION C
NOT TO SCALE



PLAN
SCALE 1:75



SECTION A
SCALE 1:75



SECTION B
SCALE 1:50

NOTES:

1. THIS DRAWING IS TO BE USED AS A GUIDE ONLY. INDUSTRIAL AND COMMERCIAL VEHICULAR ACCESS CROSSINGS ARE TO BE DESIGNED AND CONSTRUCTED TO COMPLY WITH AS 2890.1 AND AS 3727.1 (GVM<10t) AS APPLICABLE.
2. SUITABLY COMPACT APPROVED SUBGRADE MATERIAL. PROVIDE REPLACEMENT SUBGRADE IF REQUIRED.
3. CONCRETE STRENGTH GRADE SHALL BE N32 UNLESS OTHERWISE SPECIFIED AND SHALL CONFORM TO AS 1379 SPECIFICATION AND SUPPLY OF CONCRETE.
4. EXPANSION JOINTS SHALL BE 10mm WIDE AND FILLED WITH A PREFORMED COMPRESSIBLE BITUMEN-IMPREGNATED FILLER AT 12m CENTRES AS SHOWN ON SHEET 2.
5. CONTROL JOINTS SHALL BE FORMED AS SHOWN ON SHEET 2.
6. SAWN CONTROL JOINTS SHALL BE CUT AS SOON AS SURFACE IS HARD ENOUGH THAT IT WILL NOT CHIP, SPALL AND COLLAPSE ON THE CUTTING BLADE. GENERALLY, THIS SHOULD BE WITHIN 24 HOURS OF CONCRETE PLACEMENT.
7. REINFORCING MESH SHALL BE FABRICATED TO AS/NZS 4671 STEEL REINFORCING MATERIALS.
8. REINFORCING MESH IN SLABS SHALL BE PLACED WITH 30mm MINIMUM TOP COVER.
9. DOWELS SHALL BE GALVANISED AND INSTALLED PARALLEL TO EACH OTHER AND PARALLEL TO FINISHED SURFACE.
10. DOWELS SHALL BE INSTALLED WITH DOWEL SLEEVE AND GREASED AT ONE END WITH A 10mm FREE MOVEMENT GAP AT THE GREASED END, UNLESS OTHERWISE NOTED.
11. WHERE VEHICULAR ACCESS CROSSINGS ARE ALSO USED AS KERB RAMPS, THE LAYBACK SHALL BE MODIFIED TO OMIT THE 25mm BULLNOSE AND A KERB RAMP PROFILE AND SHAPE INTEGRATED WITH WHOLE VEHICULAR ACCESS CROSSING.
12. REFER TO SD0508 FOR APPROPRIATE DRIVEWAY PROFILE CONFIGURATION.
13. ALL SERVICES UNDER VEHICLE ACCESS CROSSING SHALL BE LOCATED BY POTHOLING AND RELOCATED WHERE REQUIRED PRIOR TO COMMENCEMENT OF CONSTRUCTION.

REV	AMENDMENT	DATE	DRAWN	APRVD

ALL DIMENSIONS IN mm UNLESS OTHERWISE SHOWN

SCALE ON ORIGINAL A3 SIZE DRAWING: AS SHOWN

DRAWN	T WILLIS
CHECKED	M BAMBER
DATE	28/4/20

UNIT MANAGER APPROVAL

ASSETS PLANNING AND DESIGN

Central Coast Council
ROADS TRANSPORT DRAINAGE AND WASTE

Central Coast Council

KERB AND CHANNEL SERIES
INDUSTRIAL AND COMMERCIAL VEHICLE ACCESS CROSSING ROADS WITHOUT KERB AND CHANNEL

STANDARD DRAWING

DRAWING NUMBER	REV
SD0507	-
SHEET 1 OF 2	A3

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1:20 0.2 0 0.2 0.4 0.6 0.8 1 A1
1:40 A3

Key Plan

C	SSDA ISSUE	YNL	JMB	2024.07.10
B	SSDA ISSUE	LPT	JMB	2024.04.16
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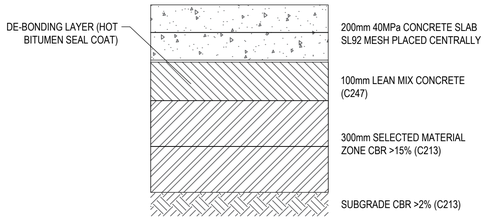
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File Name: CI-066-001.DWG	-	-	-	2024.03.28
	Dwn.	Dsgn.	Chkd.	YYYY.MM.DD

Title
ROADS AND GENERAL DETAILS
SHEET 2 OF 3

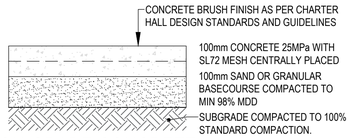
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Scale AS SHOWN
Revision C
Drawing No. CI-066-002

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CONCRETE PAVEMENT TRAFFICABLE

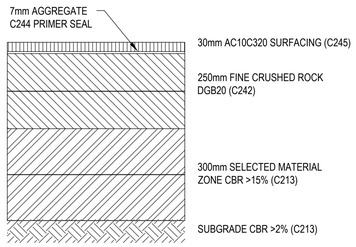
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ON-GRADE CONCRETE FOOTPATH DETAIL

(SCALE 1:10)

NOT FOR SUSPENDED SLABS OR STAIRS



ASPHALT PAVEMENT CARPARK

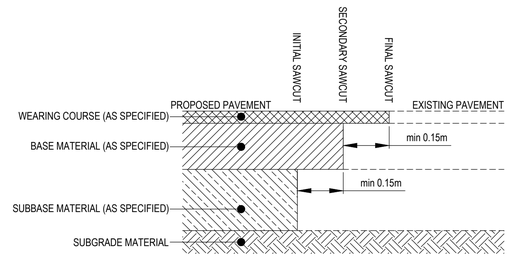
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MATERIAL	RELATIVE DENSITY	COMPACTIVE EFFORT
BASE COURSE	100%	MODIFIED
SUB-BASE COURSE	98%	MODIFIED
SUBGRADE	98%	STANDARD

THE PAVEMENT DESIGN ASSUMES THE SUBGRADE AND PAVEMENT MATERIALS TO BE COMPACTED TO THE FOLLOWING MINIMUM DRY DENSITY RATIO (AS1289 5.1.1, 5.2.1) ;

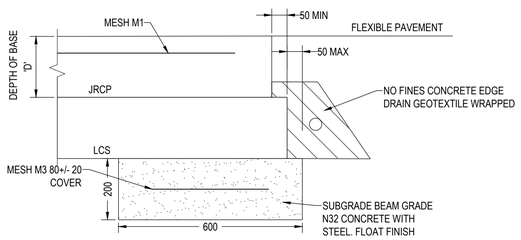
NOTES:

1. APPLY CONTROLLED TRAFFIC ON PRIMERSEAL FOR 2-4 WEEKS BEFORE PLACEMENT OF AC10 SURFACING COURSE.
2. PLACE FILLING APPROVED BY THE GEOTECHNICAL CONSULTANT (WHERE REQUIRED TO ACHIEVE DESIGN SUBGRADE LEVEL) IN MAXIMUM 250 mm THICK COMPACTED LAYERS TO AT LEAST 98% OF STANDARD MAXIMUM DRY DENSITY (SMDD) AND TO AT LEAST 100% SMDD IN PAVEMENT AREAS, WITH MOISTURE CONTENTS MAINTAINED WITHIN 2% OF STANDARD OPTIMUM MOISTURE CONTENT AS MEASURED IN THE STANDARD COMPACTION TEST.
3. REFER TO THE REPORTS PREPARED BY GEOTECHNICAL ENGINEER FOR FURTHER GEOTECHNICAL AND CONTAMINATION INFORMATION.



FULL DEPTH PAVEMENT CONNECTION TO EXISTING PAVEMENT

SCALE 1:10



INTERFACE DETAIL: CONCRETE TO FLEXIBLE PAVEMENT

(SCALE 1:10)

1:20 0.2 0 0.2 0.4 0.6 0.8 1 A1
1:40 A3

Key Plan

C	SSDA ISSUE	YNL	JMB	2024.07.10
B	SSDA ISSUE	LPT	JMB	2024.04.16
A	SSDA ISSUE	LPT	JMB	2024.03.28
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14 MINGARA DRIVE, TUMBI UMBI, NSW 2261

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Title

ROADS AND GENERAL DETAILS
SHEET 3 OF 3

Project No. 301351398

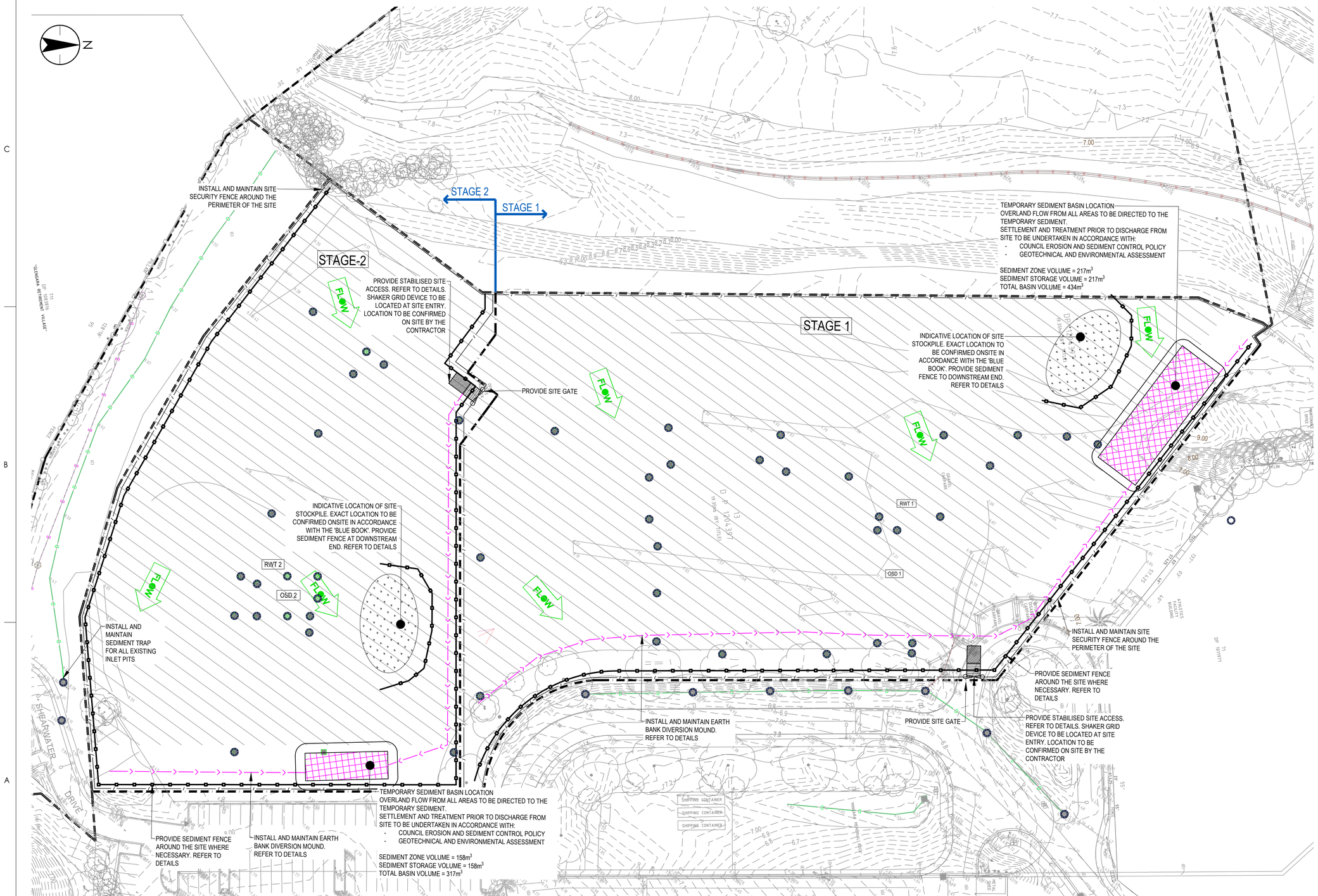
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Revision C

Drawing No. **CI-066-003**

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ORIGINAL SHEET - ISO A1 COORD - GDA2020/MGA56 DATUM - mAHD



LEGEND

- SITE BOUNDARY
- PROPOSED SEDIMENT FENCE
- PROPOSED SITE FENCE
- PROPOSED ENTRY GATE
- INLET SEDIMENT TRAP
- VEHICLE SHAKEDOWN DEVICE
- PROPOSED DIVERSION SWALE
- PROPOSED SEDIMENT BASIN
- PROPOSED JUNCTION PIT
- EXISTING JUNCTION PIT
- PROPOSED GRATED PIT
- EXISTING GRATED PIT

NOTES:

1. FOR EROSION AND SEDIMENT CONTROL NOTES REFER CI-007 SERIES
2. FOR EROSION AND SEDIMENT CONTROL DETAILS REFER DRAWING CI-076-01

Key Plan

C SSDA ISSUE	YNL	JMB	2024.07.10
B SSDA ISSUE	LPT	JMB	2024.04.16
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TUMBI UMBI RETIREMENT LIVING

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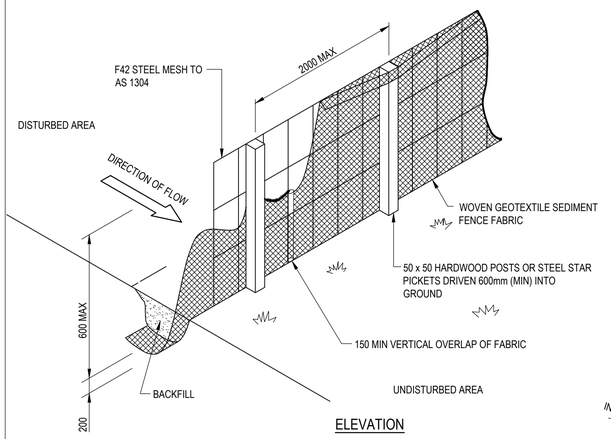
Title

EROSION AND SEDIMENT CONTROL PLAN

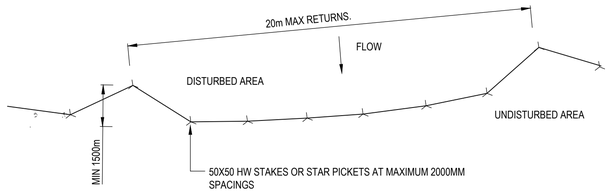
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Revision	Drawing No.
C	CI-070-001

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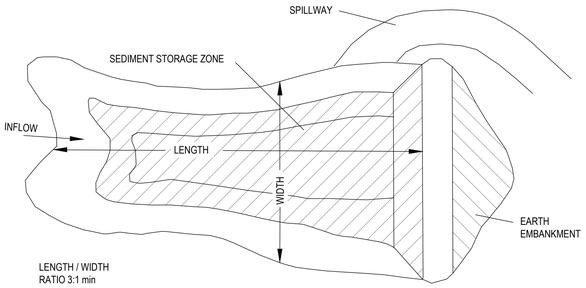
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ELEVATION

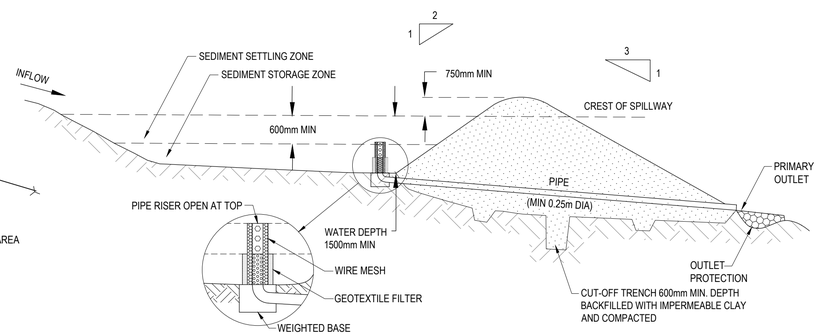


PLAN

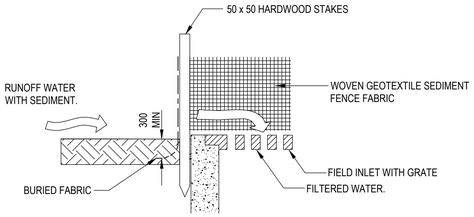


PLAN VIEW

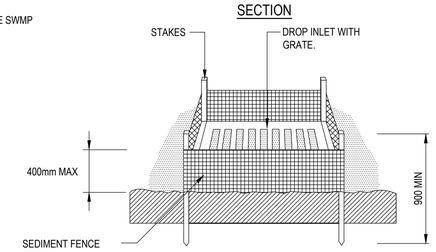
NOTES:
1. REMOVE ALL VEGETATION AND TOPSOIL FROM UNDER THE DAM WALL AND FROM WITHIN THE STORAGE AREA
2. CONSTRUCT A CUT-OFF TRENCH 500mm DEEP AND 1200mm WIDE ALONG THE CENTRELINE OF THE EMBANKMENT EXTENDING TO A POINT ON THE GULLY WALL LEVEL WITH THE RISER CREST.
3. MAINTAIN THE TRENCH FREE OF WATER AND RECOMPACT THE MATERIALS WITH EQUIPMENT AS SPECIFIED IN THE SWMP TO 95% STANDARD PROCTOR DENSITY
4. SELECT FILL FOLLOWING THE SWMP THAT IS FREE OF ROOTS, WOOD, ROCK, LARGE STONE OR FOREIGN MATERIAL.
5. PREPARE THE SITE UNDER THE EMBANKMENT BY RIPPING TO AT LEAST 100mm TO HELP BONG COMPACTED FILL TO THE EXISTING SUBSTRATE
6. SPREAD THE FILL IN 100mm TO 150mm LAYERS AND COMPACT IT AT OPTIMUM MOISTURE CONTENT FOLLOWING THE SWMP
7. CONSTRUCT THE EMERGENCY SPILLWAY
8. REHABILITATE THE STRUCTURE FOLLOWING THE SWMP



CROSS-SECTION
SEDIMENT BASIN DETAIL
SCALE N.T.S



SECTION



ELEVATION

GEOTEXTILE FILTER FABRIC
DROP INLET SEDIMENT TRAP
SCALE N.T.S.

NOTES

1. THIS PLAN IS TO BE READ IN CONJUNCTION WITH OTHER ENGINEERING PLANS AND ANY WRITTEN INSTRUCTIONS THAT MAY BE ISSUED.
2. THE CONTRACTOR SHALL IMPLEMENT ALL SOIL EROSION AND SEDIMENT CONTROL MEASURES PRIOR TO DISTURBANCE OF THE RELATED CATCHMENT AREA AND TO THE STANDARD OF 'MANAGING URBAN STORMWATER, SOIL & CONSTRUCTION' & COUNCIL SPECIFICATIONS.
3. ALL SUBCONTRACTORS SHALL BE INFORMED OF THEIR RESPONSIBILITIES IN MINIMISING THE POTENTIAL FOR SOIL EROSION AND POLLUTION TO DOWN SLOPE AREAS.
4. LAND DISTURBANCE SHALL BE LIMITED TO THAT NECESSARY FOR IMPLEMENTATION OF THE PLANS OF WORKS. BUFFER ZONES AND LAND NOT TO BE DISTURBED SHALL BE CLEARLY MARKED WITH BARRIER FENCE. 'SILT' FENCE FOR STRAW BALE SEDIMENT TRAPS SHALL BE PLACED AT REGULAR INTERVALS IMMEDIATELY DOWNSLOPE OF ALL UNPROTECTED DISTURBED LANDS.
5. THE LOCATION OF 'SILT' FENCES, BARRIER FENCES, SEDIMENT TRAPS AND OTHER DEVICES ARE INDICATIVE ONLY AND FINAL LOCATIONS ARE TO BE DECIDED ON SITE. VARIATIONS WILL BE PERMITTED TO BEST SUIT THE CIRCUMSTANCES. CONTRACTOR TO PREPARE DETAILED CONSTRUCTION SEDIMENT AND EROSION CONTROL PLAN.
6. ALL SOIL EROSION AND SEDIMENT CONTROL STRUCTURES SHALL BE INSPECTED FOLLOWING EACH STORM EVENT AND ANY NECESSARY MAINTENANCE WORK SHALL BE UNDERTAKEN TO ENSURE THEIR CONTINUED PROPER OPERATION. SEDIMENT SHALL BE REMOVED FROM THE SOIL EROSION & SEDIMENT CONTROL STRUCTURES WHEN
7. NO MORE THAN 40% CAPACITY HAS BEEN REACHED. THESE STRUCTURES SHALL CONTINUE IN PROPER OPERATION UNTIL ALL DEVELOPMENT ACTIVITIES HAS BEEN COMPLETED AND THE SITE FULLY ESTABLISHED.
8. WHERE THE AREA TO BE DISTURB CONTAINS TREES TO REMAIN, AN ARBORIST CONSULTANT SHOULD PROVIDE ADVICE ON PROCEDURES AND MEASURES TO BE PLACED.
9. TEMPORARY REHABILITATION SHALL BE UNDERTAKEN WITHIN 14 WORKING DAYS BEFORE EITHER WORKS CONTINUE OR PERMANENT REHABILITATION IS UNDERTAKEN.
10. ALL OF THE SOIL STORAGE, REVEGETATION AND SEDIMENT AND EROSION CONTROL MANAGEMENT DEVICES/MEASURES SHALL BE IMPLEMENTED TO NSW ENVIRONMENT PROTECTION AUTHORITY (EPA) AND DEPARTMENT OF LAND AND WATER REQUIREMENTS.
11. ALL SEDIMENT AND EROSION CONTROL MANAGEMENT MEASURES/DEVICES SHOWN ON THE PLANS SHALL BE IMPLEMENTED PRIOR TO CONSTRUCTION, AND MAINTAINED DURING AND AFTER.

SECTION DETAIL

SEDIMENT FENCE DETAIL
SCALE N.T.S.

SANDBAG KERB INLET SEDIMENT TRAP
SCALE N.T.S.

TEMPORARY CONSTRUCTION ENTRY/EXIT SEDIMENT TRAP
SCALE N.T.S.

SHAKER PAD
SCALE N.T.S

TYPICAL STOCKPILE CONFIGURATION
SCALE N.T.S.

NOTE:
1. LOCATE STOCKPILES AT TOP OF CATCHMENT ON FLAT GROUND AND NOT WITHIN 5m OF CONCENTRATED FLOW PATHS.

CATCH DRAIN / EARTH BANK DETAIL
SCALE N.T.S.

NOTES:
1. ONLY TO BE USED AS TEMPORARY BANK WHERE MAXIMUM UPSLOPE LENGTH IS 80 METRES.
2. BUILD DRAINS WITH CIRCULAR, PARABOLIC OR TRAPEZOIDAL CROSS SECTIONS RATHER THAN V SHAPED

DIVERSION CHANNEL/ BANK DETAIL
SCALE: NTS

C	SSDA ISSUE	YNL	JMB	2024.07.10
B	SSDA ISSUE	LPT	JMB	2024.04.16
A	SSDA ISSUE	LPT	JMB	2024.03.28
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Key Plan

Issue Status

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TUMBI UMBI RETIREMENT LIVING

14 MINGARA DRIVE, TUMBI UMBI, NSW 2261

File Name: CI-076-001.DWG	-	-	-	2024.03.28
	Dwn.	Dsgn.	Chkd.	YYYY.MM.DD

Title
EROSION AND SEDIMENT CONTROL DETAILS

Project No.
301351398

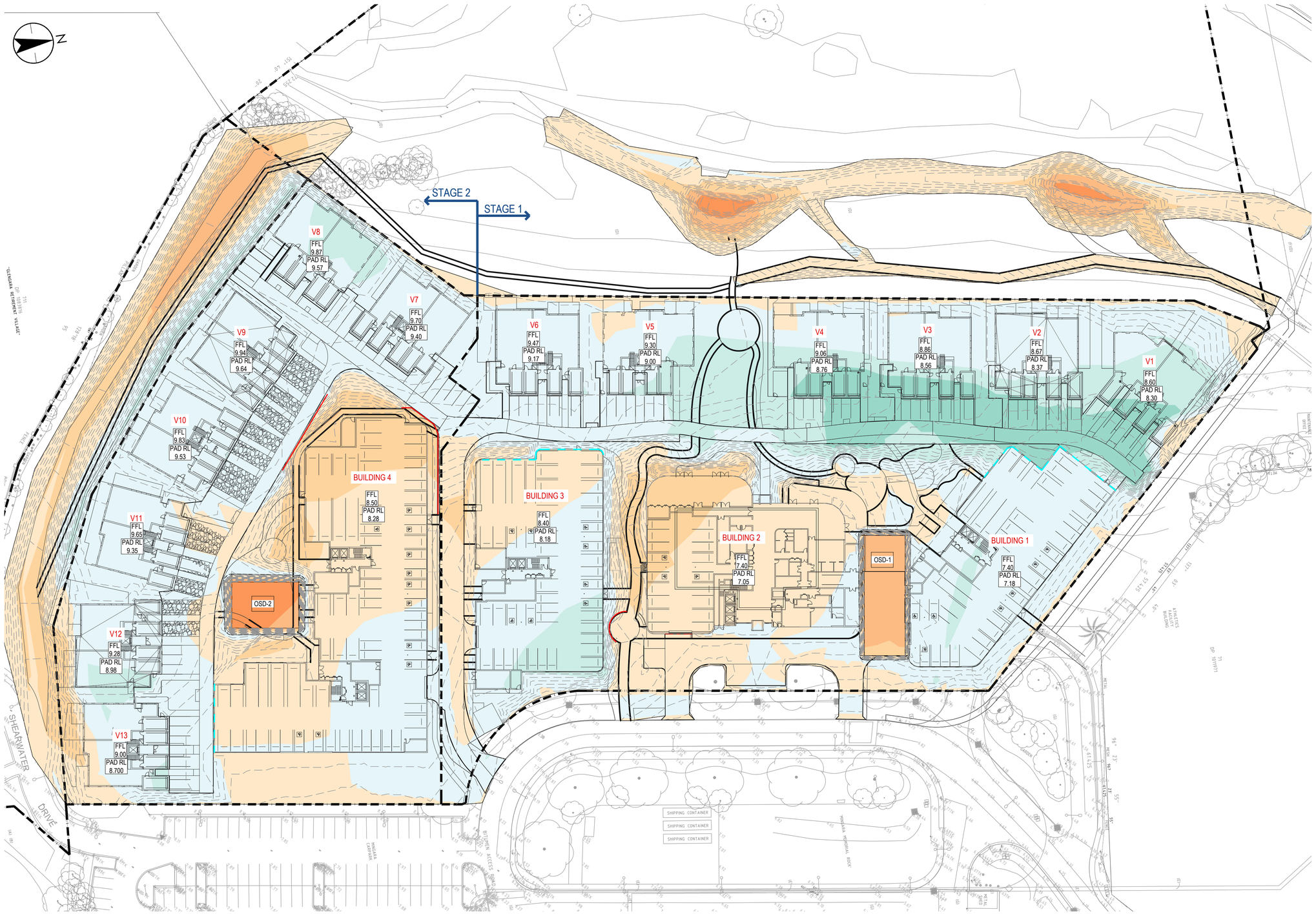
Scale
AS SHOWN

Revision
C

Drawing No.
CI-076-001

Plotted: 15/07/2024 4:17:48 PM By: LAL, MARSHIL
U:\301351398\PROJECT DOCUMENTATION\CIVIL\DRAWINGS & DESIGN\SHEET SET

ORIGINAL SHEET - ISO A1 COORD - GDA2020/MGA56 DATUM - mAHD



LEGEND

- SITE BOUNDARY
- BUILDING BASEMENT EXTENT
- 14.0 BULK EARTHWORKS CONTOUR
- PAD RL BULK EARTHWORKS LEVEL

CUT AND FILL VOLUME:

CUT: 5,856 m ^{3}
FILL: 7,330 m ^{3}
NET: 1,474 m ^{3} (FILL)

NOTES:

1. FOR GENERAL NOTES REFER CI-007 DRAWING SERIES
2. VOLUMES ARE BASED ON A COMPARISON BETWEEN THE BULK SURFACE AND THE STRIPPED SURFACE. STRIPPED SURFACE ASSUMES EXISTING SURFACE WILL BE STRIPPED 150mm OF TOPSOIL/EXISTING PAVEMENT
3. NO BULKING FACTORS HAVE BEEN APPLIED.
4. VOLUMES DETAILED ABOVE DO NOT TAKE INTO ACCOUNT BULKING & COMPACTION OF THE MATERIAL,& TEMPORARY SEDIMENT BASIN.
5. THE CONTRACTOR SHALL USE FINAL SURFACE LEVELS AND TYPICAL PAVEMENT DETAILS FOR ACTUAL EARTHWORKS LEVELS.
6. STANTEC DOES NOT TAKE RESPONSIBILITY FOR ACCURACY OF EXISTING SURVEY.
7. BULK EARTHWORKS DOES NOT TAKE INTO CONSIDERATION ANY CONTAMINATED MATERIAL AND ANY REMEDIATION STRATEGY WORKS
8. BULK EARTHWORKS ARE BASED ON THE FOLLOWING NOMINAL DEPTHS FROM FINISHED SURFACE LEVELS;

8.1.	GENERAL LANDSCAPE/OSD TANK	200mm
8.2.	BUILDING 1 PAD	220mm
8.3.	BUILDING 2 PAD	350mm
8.4.	BUILDING 3 PAD	220mm
8.5.	BUILDING 4 PAD	220mm
8.6.	VILLAGE BUILDING PADS	300mm
8.7.	INTERNAL ROAD	300mm

CUT/FILL DEPTH RANGES

COLOUR	LOWER	UPPER
	-4.0	-3.5
	-3.5	-3.0
	-3.0	-2.5
	-2.5	-2.0
	-2.0	-1.5
	-1.5	-1.0
	-1.0	-0.5
	-0.5	0.0
	0.0	0.5
	0.5	1.0
	1.0	1.5
	1.5	2.0
	2.0	2.5
	2.5	3.0
	3.0	3.5
	3.5	4.0

Key Plan

D	SSDA ISSUE	YNL	JMB	2024.07.10
C	SSDA ISSUE	LPT	JMB	2024.04.16
B	SSDA ISSUE	LPT	JMB	2024.03.28
A	ISSUE FOR COORDINATION	LPT	JMB	2024.02.27
Issued/Revision		By	Appd	YYYY.MM.DD

Issue Status

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14 MINGARA DRIVE, TUMBI UMBI, NSW 2261

File Name: CI-100-001.DWG	-	-	-	2024.02.27
	Dwn.	Dsgn.	Chkd.	YYYY.MM.DD

Title

BULK EARTHWORKS PLAN

Project No. 301351398

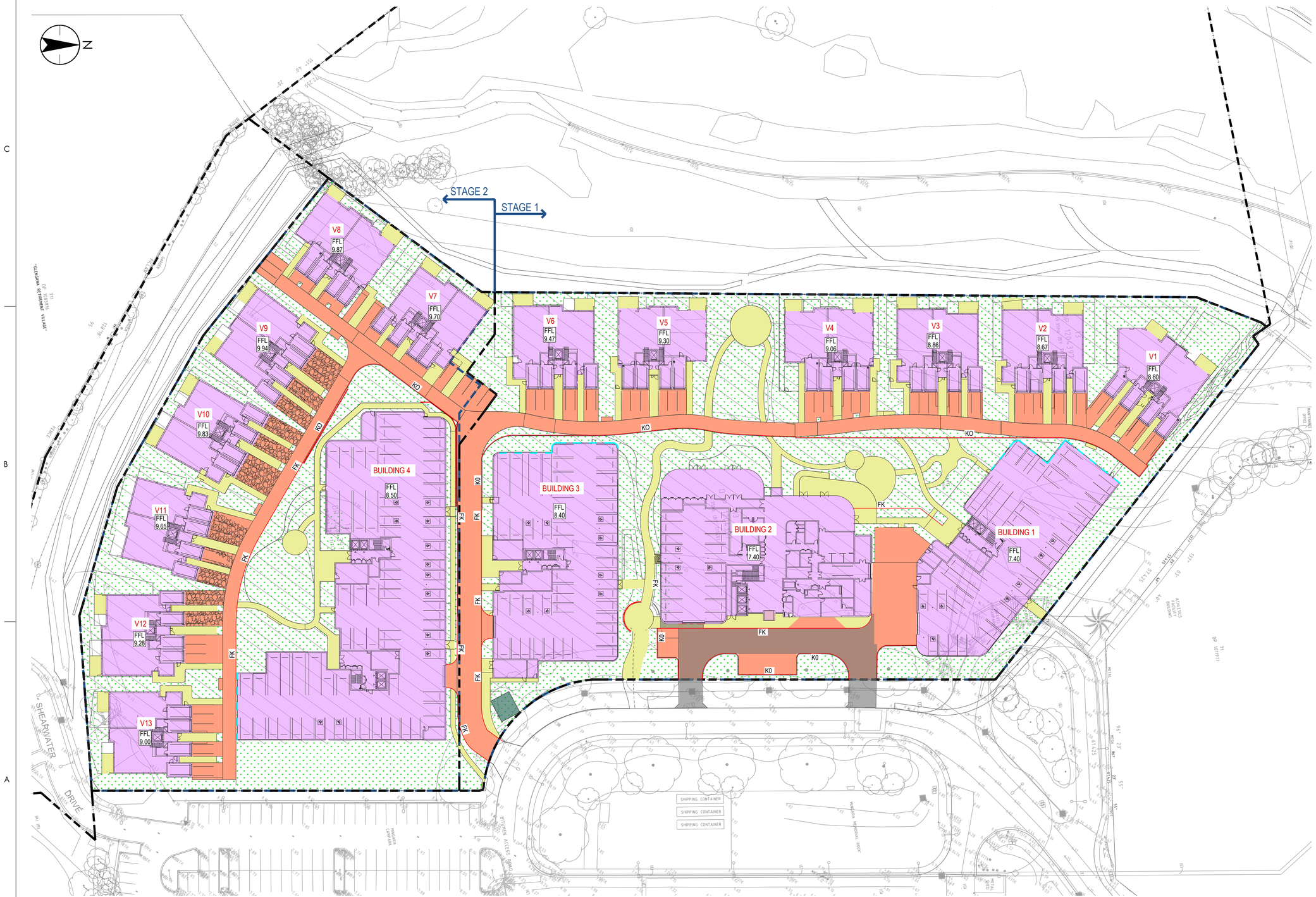
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Revision D

Drawing No. CI-100-001

Plotted: 7/11/2024 10:31:08 AM By: DE PASQUALE, PHILIP
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ORIGINAL SHEET - ISO A1 COORD - GDA2020/MGA56 DATUM - mAHD



LEGEND

- SITE BOUNDARY
- PROPOSED BUILDING
- PROPOSED NON-TRAFFICABLE PAVEMENT (REFER TO ARCHITECTURAL PLANS)
- PROPOSED TRAFFICABLE PAVEMENT (REFER TO ARCHITECTURAL PLANS)
- PROPOSED TRAFFICABLE PAVEMENT (ASPHALT PAVEMENT CARPARK)
- PROPOSED LANDSCAPE
- PROPOSED SUBSTATION (REFER TO STRUCTURAL ENGINEER DETAIL)

Key Plan

C	SSDA ISSUE	YNL	JMB	2024.07.10
B	SSDA ISSUE	LPT	JMB	2024.04.16
A	SSDA ISSUE	LPT	JMB	2024.03.28
Issued/Revision		By	Appd	YYYY.MM.DD

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TUMBI UMBI RETIREMENT LIVING

14 MINGARA DRIVE, TUMBI UMBI, NSW 2261

File Name: CI-440-001.DWG	-	-	-	2024.03.28
	Dwn.	Dsgn.	Chkd.	YYYY.MM.DD

Title

PAVEMENT PLAN

Project No. 301351398

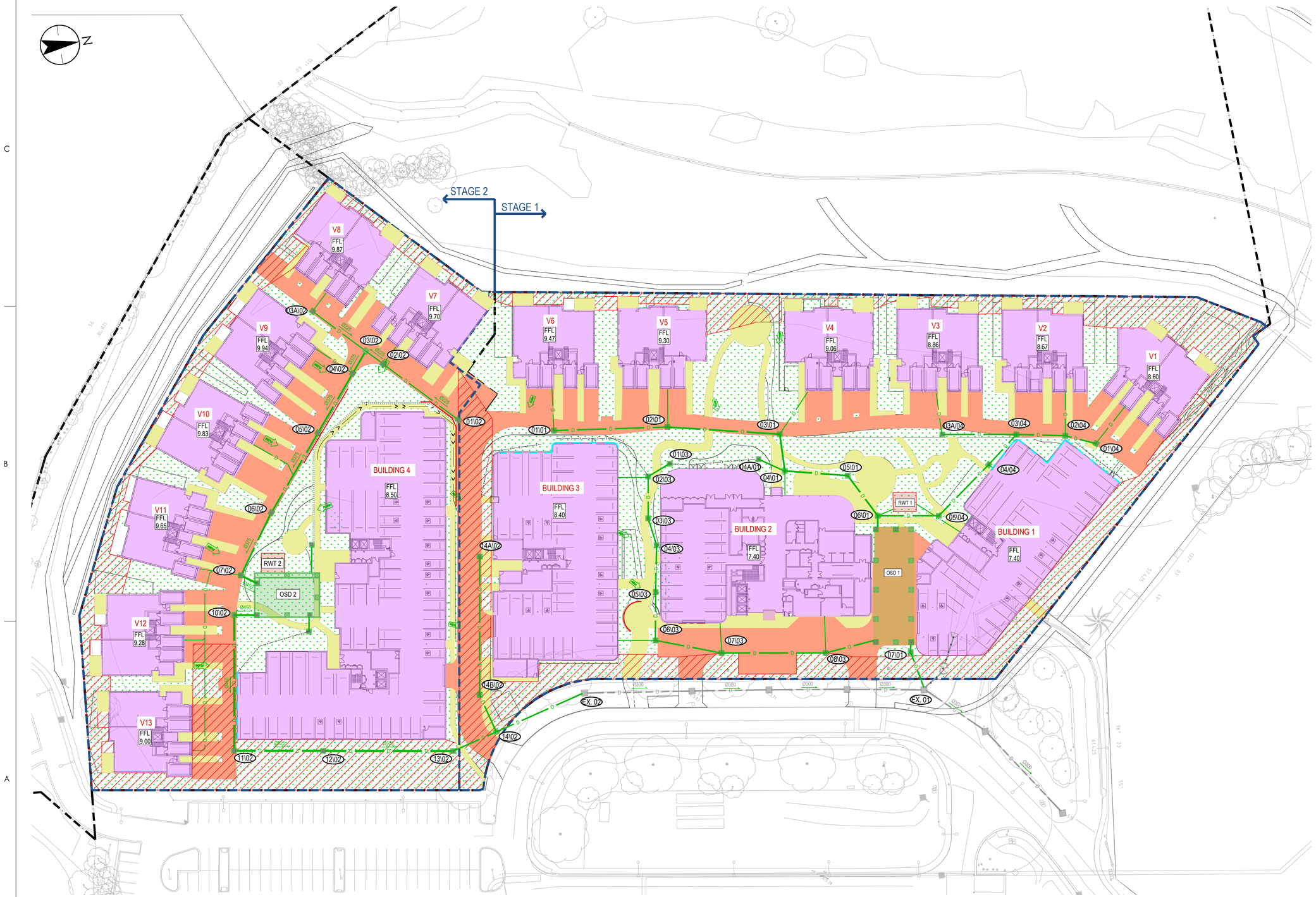
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Revision C

Drawing No. **CI-440-001**

Plotted: 7/11/2024 10:18:30 AM By: DE PASQUALE, PHILIP
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ORIGINAL SHEET - ISO A1 COORD - GDA2020/MGA56 DATUM - mAHD



LEGEND

- SITE BOUNDARY
- CATCHMENT BOUNDARY
- PROPOSED GRATED DRAIN
- PROPOSED SWALE
- ON SITE DETENTION (OSD) TANK
- PROPOSED JUNCTION PIT
- PROPOSED GRATED PIT
- EXISTING GRATED PIT
- PIT TAG (B.2)
- OVERLAND FLOW PATH (FLOW)
- PROPOSED RAINWATER TANK

CATCHMENT AREAS

- CAPTURED ROOF AEA
- TRAFFICABLE GROUND AREA
- NON-TRAFFICABLE GROUND AREA
- LANDSCAPE AREA
- BYPASS

CATCHMENT BREAKDOWN

STAGE 1

TO OSD TANK

LOCATION	AREA (Ha)	% Imp.	% Perv.
GROUND	0.454	35	65
ROAD	0.222	100	0
ROOF	0.782	100	0
BYPASS	0.305	14	86

STAGE 2

TO OSD TANK

LOCATION	AREA (Ha)	% Imp.	% Perv.
GROUND	0.314	32	68
ROAD	0.126	100	0
ROOF	0.591	100	0
BYPASS	0.202	2	98

1:### # 0 # # # # # A1
1:### A3

Key Plan

C SSDA ISSUE	YNL	JMB	2024.07.10
B SSDA ISSUE	LPT	JMB	2024.04.16
A SSDA ISSUE	LPT	JMB	2024.03.28
Issued/Revision	By	Appd	YYYY.MM.DD

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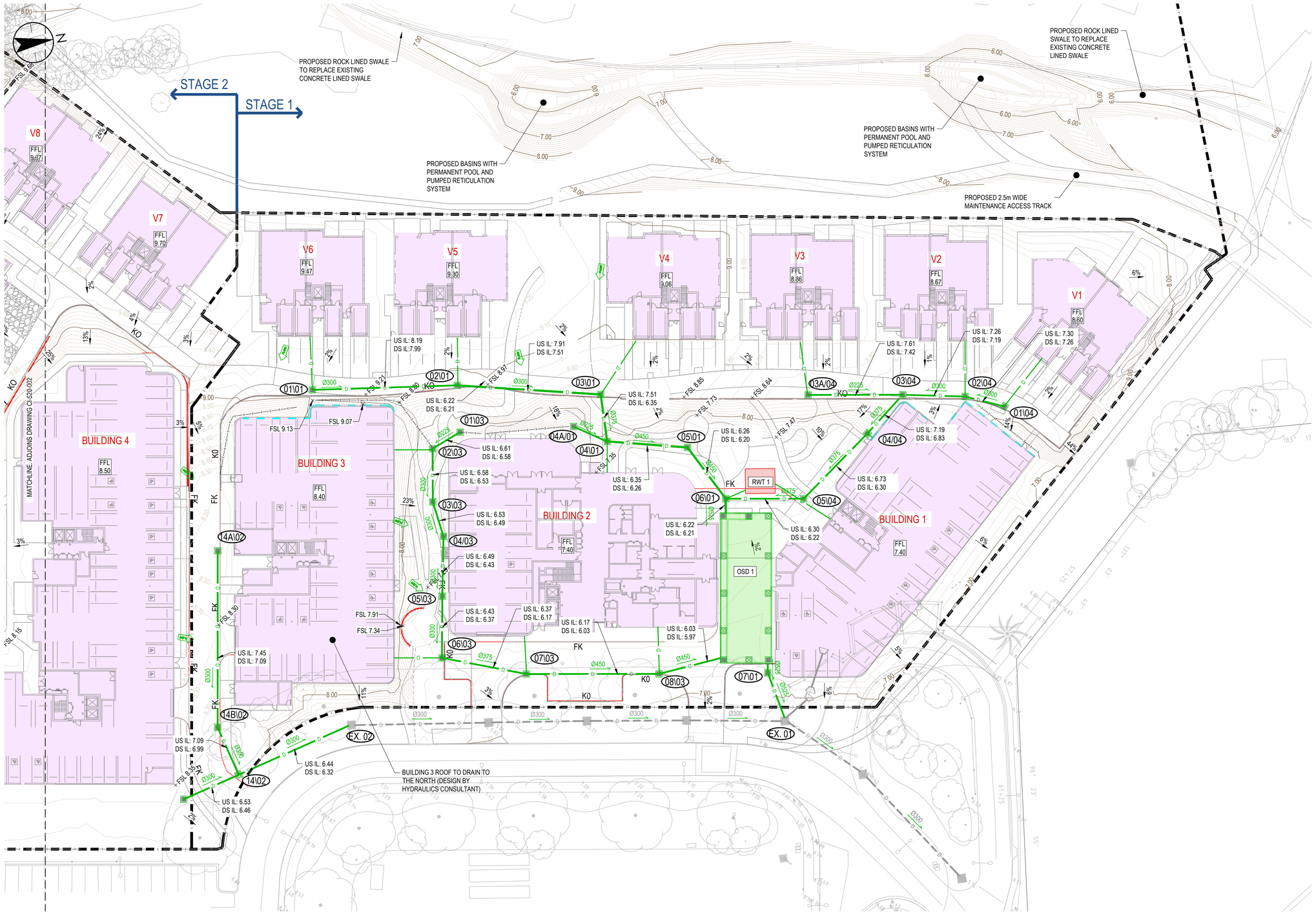
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File Name: CI-500-001.DWG	- Dwn.	- Dsgn.	- Chkd.	2024.03.28 YYYY.MM.DD

Title
STORMWATER CATCHMENT PLAN

Project No. 301351398
Scale 1:500
Revision C
Drawing No. CI-500-001

Plotted: 7/11/2024, 10:19:37 AM, By: DE PASQUALE, PHILIP
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ORIGINAL SHEET - ISO A1 COORD - GDA2020/MGA56 DATUM - mAHD



1:400 4 0 4 8 12 16 20 A1
1:800 A3

LEGEND

- SITE BOUNDARY
- PROPOSED STORMWATER PIPE
- PROPOSED GRATED DRAIN
- PROPOSED SWALE
- ON SITE DETENTION (OSD) TANK
- PROPOSED JUNCTION PIT
- PROPOSED GRATED PIT
- EXISTING GRATED PIT
- B.2 — PIT TAG
- FLOW — OVERLAND FLOW PATH
- PROPOSED RAINWATER TANK

NOTES

1. COUNCIL HAS CONFIRMED THAT THE OSD FOR THIS SITE IS TO BE DESIGNED TO CATER FOR MINOR 5% AEP FLOWS ONLY.
2. ALL GRATED DRAINS ARE 150mm WIDE WITH DN150 OUTLETS AND CLASS D.
3. ROOF DRAINAGE TO BE RETICULATED TO THE BELOW GROUND STORMWATER SYSTEM AND ULTIMATELY DISCHARGES TO THE ON-SITE DETENTION TANK.

AEP Rainfall Event	Pre-development Discharge (cu.m/s)	Stage 1 Post-Development Discharge
5% AEP	0.447	0.362

Key Plan

E	SSDA ISSUE	YNL	JMB	2024.07.10
D	SSDA ISSUE	LPT	JMB	2024.04.16
C	SSDA ISSUE	LPT	JMB	2024.03.28
B	PRELIMINARY ISSUE	LPT	JMB	2024.02.27
A	ISSUE FOR COORDINATION	LPT	JMB	2024.02.06
Issued/Revision		By	Appd	YYYY.MM.DD

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14 MINGARA DRIVE, TUMBI UMBI, NSW 2261

File Name: CI-520-001.DWG	-	-	-	2024.02.06
	Dwn.	Dsgn.	Chkd.	YYYY.MM.DD

Title
STORMWATER DRAINAGE PLAN
STAGE 1

Project No. 301351398
Scale 1:400
Revision E
Drawing No. **CI-520-001**

Plotted: 7/11/2024 4:13 PM By: DE PASQUALE, PHILIP
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ORIGINAL SHEET - ISO A1 COORD - GDA2020/MGA56 DATUM - mAHD



LEGEND

- SITE BOUNDARY
- PROPOSED STORMWATER PIPE
- PROPOSED GRATED DRAIN
- PROPOSED SWALE
- ON SITE DETENTION (OSD) TANK
- PROPOSED JUNCTION PIT
- PROPOSED GRATED PIT
- EXISTING GRATED PIT
- PIT TAG (B.2)
- OVERLAND FLOW PATH (FLOW)
- PROPOSED RAINWATER TANK

NOTES

1. COUNCIL HAS CONFIRMED THAT THE OSD FOR THIS SITE IS TO BE DESIGNED TO CATER FOR MINOR 5% AEP FLOWS ONLY.
2. ALL GRATED DRAINS ARE 150mm WIDE WITH DN150 OUTLETS AND CLASS D.
3. ROOF DRAINAGE TO BE RETICULATED TO THE BELOW GROUND STORMWATER SYSTEM AND ULTIMATELY DISCHARGES TO THE ON-SITE DETENTION TANK.

AEP Rainfall Event	Pre-development Discharge (cu.m/s)	Stage 1 Post-Development Discharge
5% AEP	0.289	0.269

1:400 4 0 4 8 12 16 20 A1
1:800 A3

Key Plan

E	SSDA ISSUE	YNL	JMB	2024.07.10
D	SSDA ISSUE	LPT	JMB	2024.04.16
C	SSDA ISSUE	LPT	JMB	2024.03.28
B	PRELIMINARY ISSUE	LPT	JMB	2024.02.27
A	ISSUE FOR COORDINATION	LPT	JMB	2024.02.06
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14 MINGARA DRIVE, TUMBI UMBI, NSW 2261

File Name: CI-520-002.DWG	Dwn.	Dsgn.	Chkd.	YYYY.MM.DD
	-	-	-	2024.02.06

Title
STORMWATER DRAINAGE PLAN
STAGE 2

Project No.
301351398

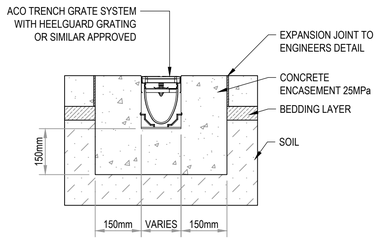
Scale
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Revision
E

Drawing No.
CI-520-002

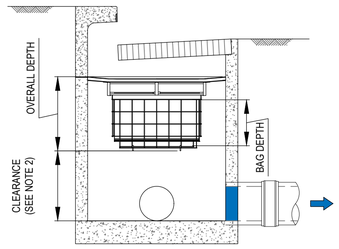
Plotted: 7/11/2024 4:14:21 PM By: JOE PASQUALE, PHILIP
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ORIGINAL SHEET - ISO A1 COORD - GDA2020/MGA56 DATUM - mAHD

NOTE: ALL PEDESTRIAN AREAS TO BE CLASS B GRATING.
ALL VEHICULAR PARKING AREAS TO BE CLASS D GRATING.
ALL CIRCULATION ROAD AREAS TO BE CLASS E GRATING



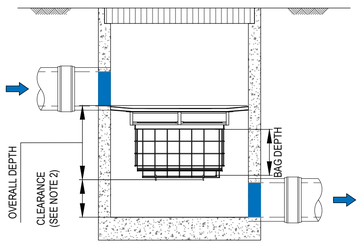
TRENCH GRATE DETAIL- FOR CONCRETE PAVEMENT

SCALE 1:10



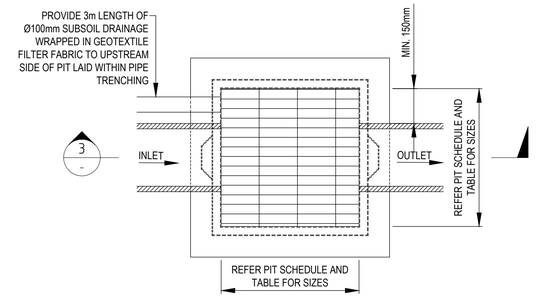
PIT FILTER BASKET SURFACE FLOW CONFIGURATION

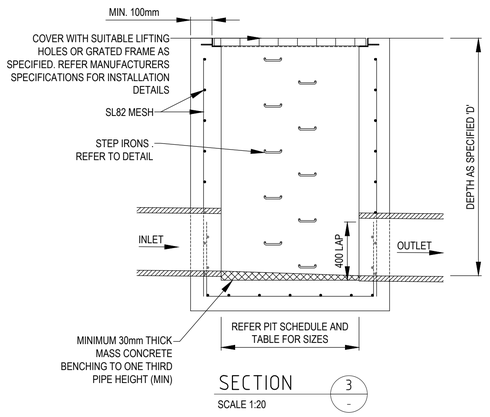
SCALE 1:20



PIT FILTER BASKET PIPE FLOW CONFIGURATION

SCALE 1:20





SECTION 3 -

SCALE 1:20

SURFACE INLET/JUNCTION PIT PLAN

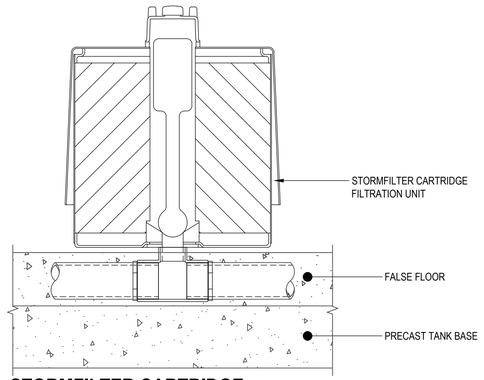
SCALE 1:20

INTERNAL PIT DIMENSIONS (MIN.)		
'D'	'X'	'Y'
D < 600	450	450*
600 < D < 900	600	600*
900 < D < 1200	600	900
D ≥ 1200	900	900

NOTE: PITS DENOTED *SHALL BE USED ONLY WHERE SPECIFIED IN DRAINAGE SCHEDULE OR ON PLAN

PITS TO BE:
- MIN 150mm THICK WALLS AND BASE U.N.O
- f'c = 32MPa
- MIN 45mm COVER
- FOUNDED ON STIFF NATURAL MATERIAL ON MIN 100kPa
- HAVE SUBSOIL DRAINAGE LINE
- INLET AND OUTLET LINES TO HAVE MIN 2N12 TRIMMER BARS CROSSING OVER AT EACH OPENING

PROVIDE 3m LENGTH OF Ø100mm SUBSOIL DRAINAGE WRAPPED IN GEOTEXTILE FILTER FABRIC TO UPSTREAM SIDE OF PIT LAID WITHIN PIPE TRENCHING



STORMFILTER CARTRIDGE

(OCEAN PROTECT STORMFILTER TYP.)

SCALE: NTS

1:10 0.1 0 0.1 0.2 0.3 0.4 0.5 A1
1:20 A3
1:20 0.2 0 0.2 0.4 0.6 0.8 1 A1
1:40 A3

Key Plan

C	SSDA ISSUE	YNL	JMB	2024.07.10
B	SSDA ISSUE	LPT	JMB	2024.04.16
A	SSDA ISSUE	LPT	JMB	2024.03.28
Issued/Revision		By	Appd	YYYY.MM.DD

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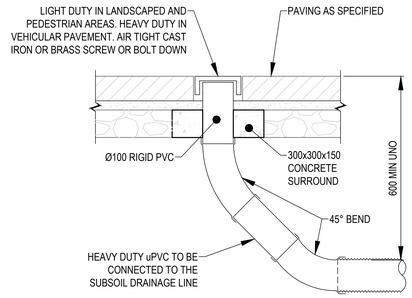
14 MINGARA DRIVE, TUMBI UMBI, NSW 2261

File Name: CI-526-001.DWG	-	-	-	2024.03.28
	Dwn.	Dsgn.	Chkd.	YYYY.MM.DD

Title
STORMWATER DRAINAGE DETAILS
SHEET 1 OF 3

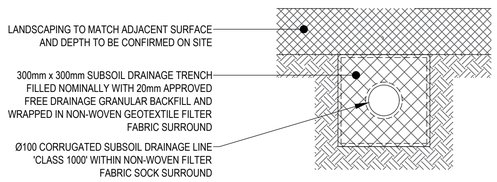
Project No. 301351398
Scale AS SHOWN
Revision C
Drawing No. **CI-526-001**

Plotted: 10/07/2024 4:20:15 PM By: LAL-MARSHL
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ORIGINAL SHEET - ISO A1 COORD - GDA2020/MGA56 DATUM - mAHD



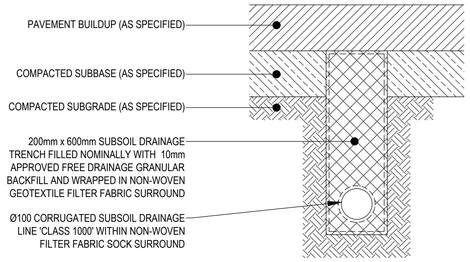
FLUSH OUT RISER IN PAVED AREAS

(SCALE 1:10)



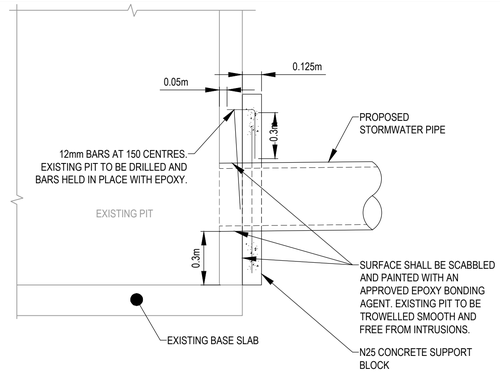
SUBSOIL DRAINAGE TRENCH DETAIL - UNDER LANDSCAPE AREAS

(SCALE 1:10)



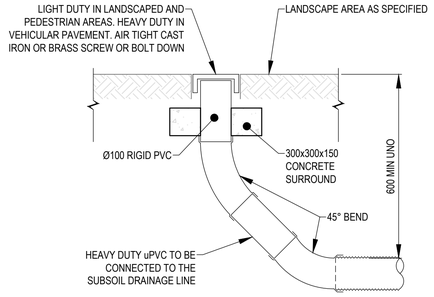
SUBSOIL DRAINAGE TRENCH DETAIL - UNDER PAVEMENT BUILTUP

(SCALE 1:10)



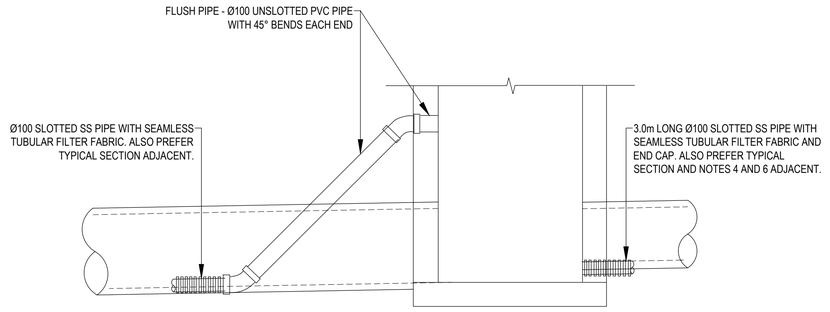
SECTION 1

SCALE 1:20



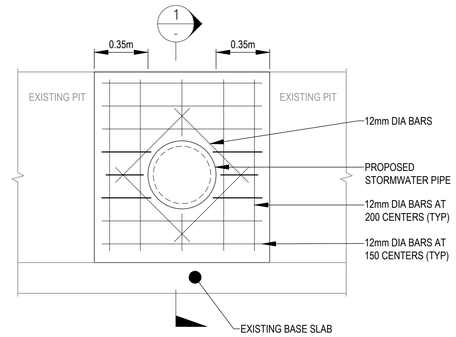
FLUSH OUT RISER IN LANDSCAPED AREAS

(SCALE 1:10)



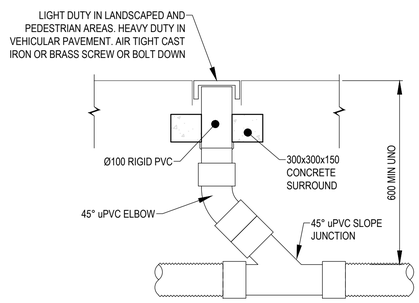
SUBSOIL DRAINAGE CONNECTION INTO STORMWATER PIT

NTS



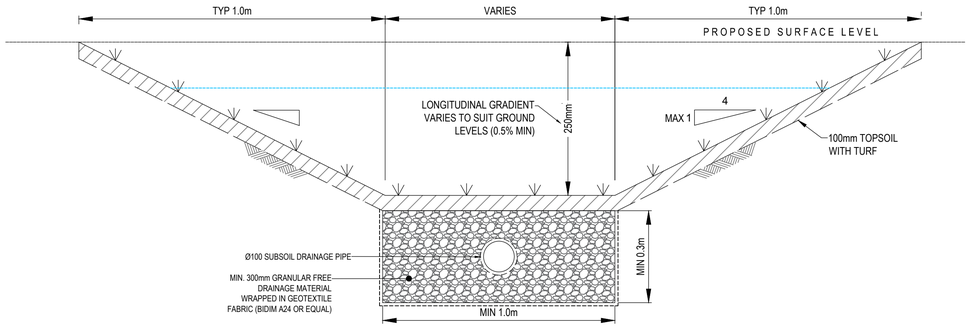
STORMWATER PIPE CONNECTION INTO EXISTING PIT

SCALE 1:20



INTERMEDIATE FLUSH OUT RISER

(SCALE 1:10)



TYPICAL SWALE DETAIL

SCALE NTS

1:10 0.1 0 0.1 0.2 0.3 0.4 0.5 A1

1:20 A3

Key Plan

C	SSDA ISSUE	YNL	JMB	2024.07.10
B	SSDA ISSUE	LPT	JMB	2024.04.16
A	SSDA ISSUE	LPT	JMB	2024.03.28
Issued/Revision		By	Appd	YYYY.MM.DD

Issue Status

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Client/Project Logo

PARITER

Client/Project

PARITER PTY LTD

TUMBI UMBI RETIREMENT LIVING

14 MINGARA DRIVE, TUMBI UMBI, NSW 2261

File Name: CI-526-001.DWG	-	-	-	2024.03.28
	Dwn.	Dsgn.	Chkd.	YYYY.MM.DD

Title

STORMWATER DRAINAGE DETAILS
SHEET 2 OF 3

Project No. 301351398

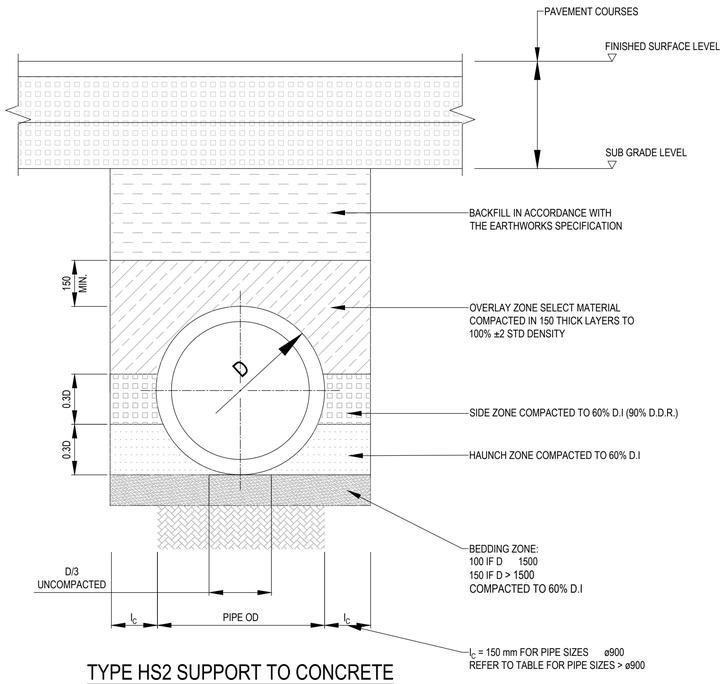
Scale AS SHOWN

Revision C

Drawing No. **CI-526-002**

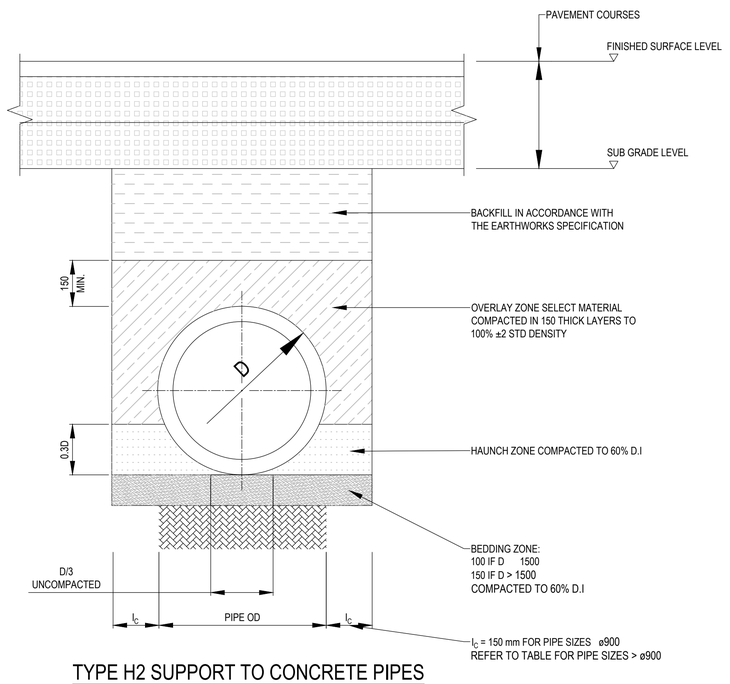
Plotted: 10/07/2024 4:20:21 PM By: LAL-MAEPHIL
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ORIGINAL SHEET - ISO A1 COORD - GDA2020/MGA56 DATUM - mAHD



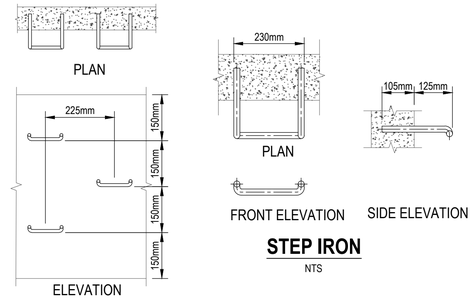
TYPE HS2 SUPPORT TO CONCRETE PIPES UNDER PAVEMENT (VEHICULAR)

SCALE 1:10



TYPE H2 SUPPORT TO CONCRETE PIPES UNDER PAVEMENT (NON-VEHICULAR)

SCALE 1:10



STEP IRON

NTS

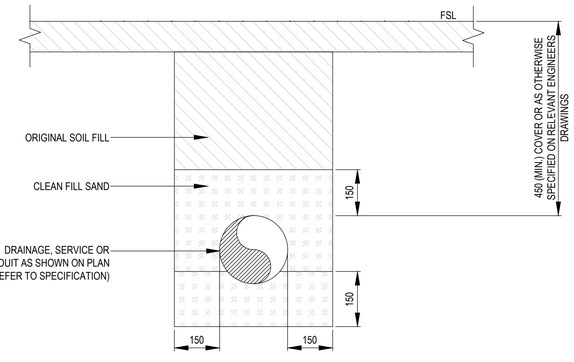
STEP IRON PLACEMENT TO PIT WALL

NTS

BEDDING & HAUNCH MATERIAL GRADING (TABLE 6 AS/NZS 3725)	
SIEVE SIZE (mm)	WEIGHT PASSING (%)
19.00	100
2.36	100 TO 50
0.60	90 TO 20
0.30	60 TO 10
0.15	25 TO 0
0.075	10 TO 0

SIDE ZONE WIDTH	
PIPE SIZE (mm)	l_C (mm)
ø900	150
ø1050	175
ø1200	200
ø1350	225
ø1500	250
ø1650	275
ø1800	300

SIDE ZONE MATERIAL GRADING (TABLE 7 AS/NZS 3725)	
SIEVE SIZE (mm)	WEIGHT PASSING (%)
19.00	100
9.50	100 TO 50
2.60	100 TO 30
0.60	50 TO 15
0.075	25 TO 0



BACKFILL TO DRAINAGE, SERVICES AND CONDUITS IN LANDSCAPE AREAS (TYP.)

SCALE: NTS

NOTES
1. TYPICAL DETAIL TO BE USED FOR ALL DRAINAGE SERVICES RUNNING UNDER LANDSCAPE
2. DRAINAGE INCLUDES ALL GRAVITY SERVICES (INCLUDES CONCRETE AND PLASTIC PIPES)
3. SERVICES INCLUDES ALL PRESSURE PIPES
4. FOR NEW SERVICE PIPES OR CONDUITS, REFER TO PLANS FOR SIZES AND LOCATIONS

FLEXIBLE PIPES UNDER PAVEMENTS

SCALE 1:10

SAND GRADING (TABLE G3 AS 2566.2)	
SIEVE SIZE (mm)	WEIGHT PASSING (%)
4.75	100 TO 90
2.36	90 TO 100
1.18	85 TO 100
0.60	70 TO 100
0.30	50 TO 100
0.15	0 TO 40
0.075	0 TO 5

10mm SINGLE-SIZE AGGREGATE GRADING (TABLE G2 AS 2566.2)	
SIEVE SIZE (mm)	WEIGHT PASSING (%)
13.20	100
9.50	85 TO 100
4.75	0 TO 20
2.36	0 TO 5
0.075	0 TO 2

1:10 0.1 0 0.1 0.2 0.3 0.4 0.5 A1
1:20 A3

Key Plan

C	SSDA ISSUE	YNL	JMB	2024.07.10
B	SSDA ISSUE	LPT	JMB	2024.04.16
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Client/Project
PARITER PTY LTD

TUMBI UMBI RETIREMENT LIVING

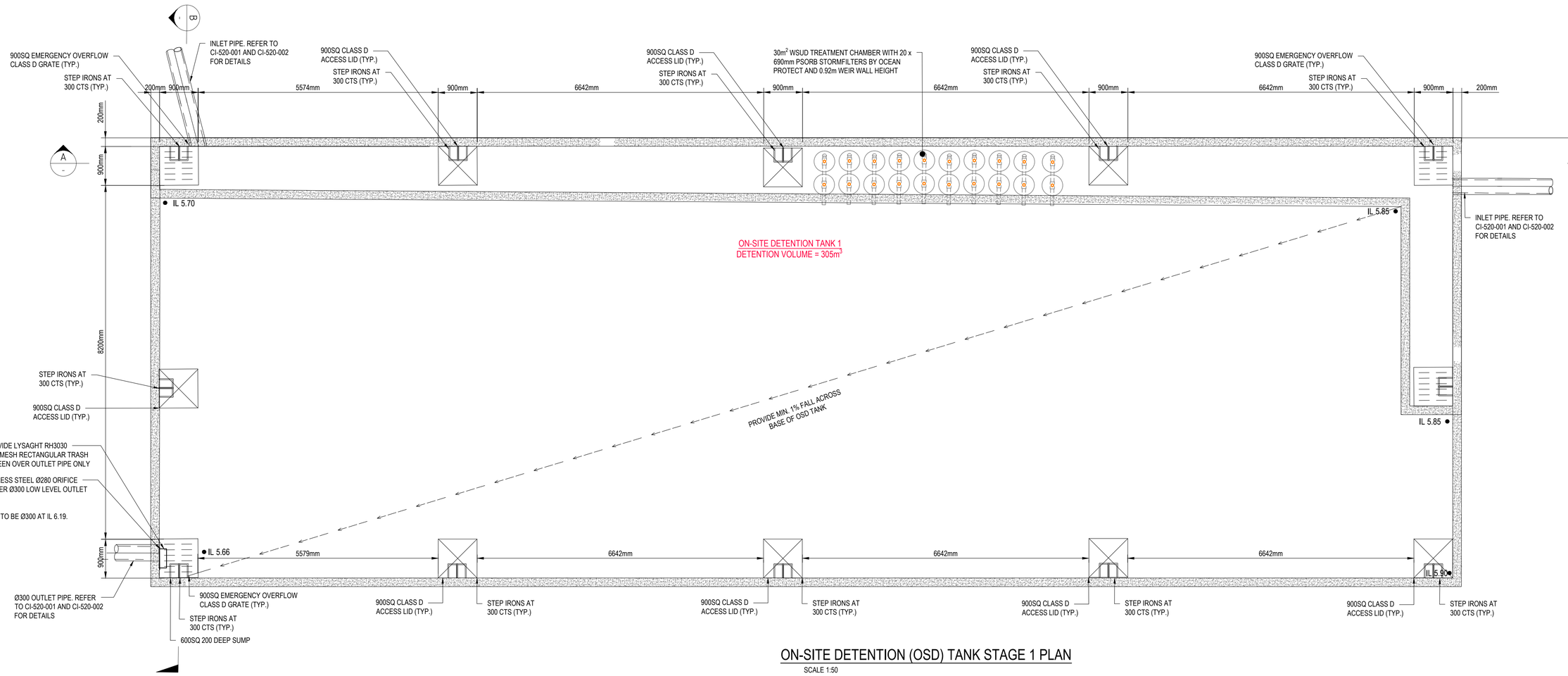
14 MINGARA DRIVE, TUMBI UMBI, NSW 2261

File Name: CI-526-001.DWG	-	-	-	2024.03.28
	Dwn.	Dsgn.	Chkd.	YYYY.MM.DD

Title
STORMWATER DRAINAGE DETAILS
SHEET 3 OF 3

Project No. 301351398
Scale AS SHOWN
Revision C
Drawing No. CI-526-003

Plotted: 10/07/2024 4:22:23 PM By: LAL-MARSHL
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ORIGINAL SHEET - ISO A1 COORD - GDA2020/MGA56 DATUM - mAHD



ON-SITE DETENTION (OSD) TANK STAGE 1 PLAN

SCALE 1:50

1:10 0.1 0 0.1 0.2 0.3 0.4 0.5 A1
1:20 A3

Key Plan

C	SSDA ISSUE	YNL	JMB	2024.07.10
B	SSDA ISSUE	LPT	JMB	2024.04.16
A	SSDA ISSUE	LPT	JMB	2024.03.28
Issued/Revision		By	Appd	YYYY.MM.DD

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PARITER

Client/Project

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TUMBI UMBI RETIREMENT LIVING

14 MINGARA DRIVE, TUMBI UMBI, NSW 2261

File Name: CI-526-001.DWG	-	-	-	2024.03.28
	Dwn.	Dsgn.	Chkd.	YYYY.MM.DD

Title

STORMWATER DRAINAGE
OSD DETAILS SHEET 1 OF 4

Project No. 301351398

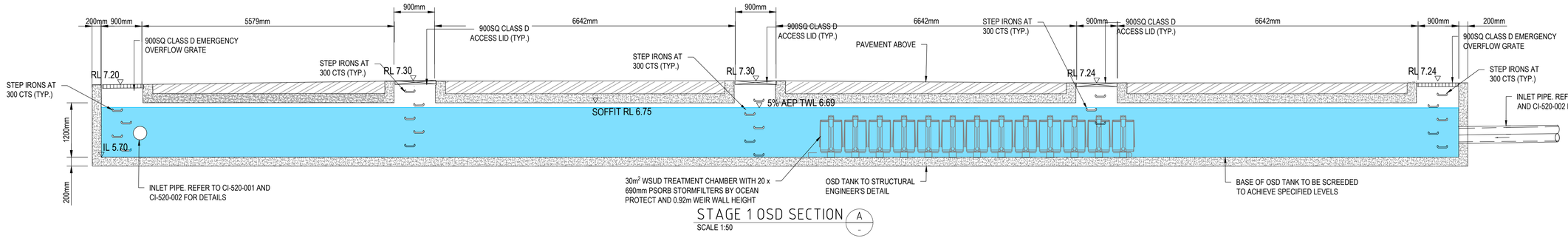
Scale AS SHOWN

Revision C

Drawing No. **CI-526-101**

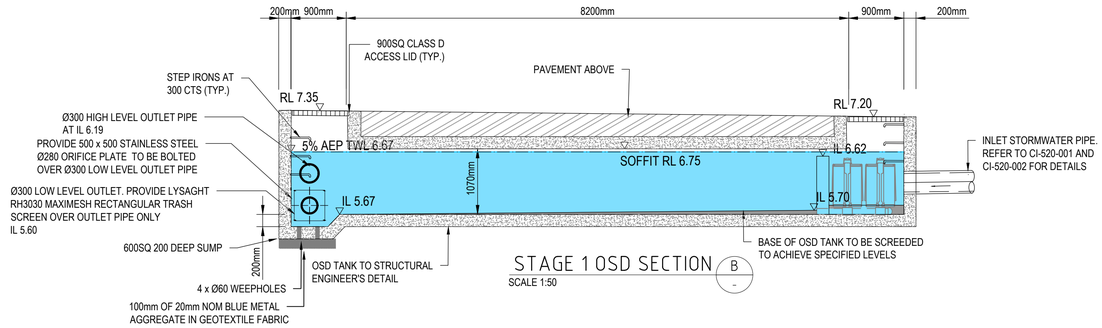
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ORIGINAL SHEET - ISO A1 COORD - GDA2020/MGA56 DATUM - mAHD



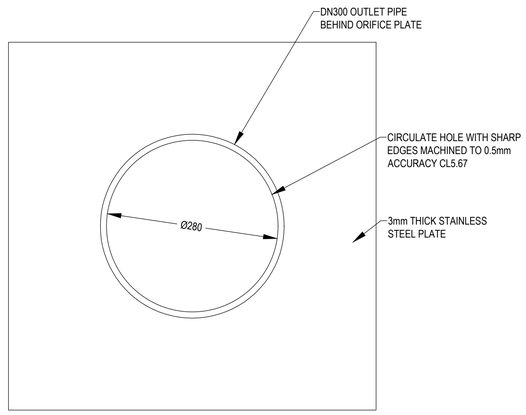
STAGE 1 OSD SECTION (A)

SCALE 1:50



STAGE 1 OSD SECTION (B)

SCALE 1:50



ORIFICE PLATE DETAIL 1

SCALE 1:5



SIGNAGE NOTES:

1. SIGN SHALL BE 600x450x1.6mm ALUMINIUM PLATE
2. COLOURS SHALL BE AS FOLLOWS:
   TRIANGLE = RED
   "WARNING" = RED
   WATER = BLUE
   PICTURE = BLACK
   WORDING = BLACK
3. SIGN TO BE FIXED TO FENCE IN A PROMINENT LOCATION WITHIN THE DETENTION BASIN AREA

ON SITE STORMWATER DETENTION WARNING SIGN

SCALE N.T.S.



NOTES:

1. A CONFINED SPACE DANGER SIGN SHALL BE PLACED NEXT TO EACH AND EVERY ACCESS POINT SO THAT THEY ARE VISABLE TO PERSONS ENTERING ANY BELOW GROUND TANK OR PIT.
2. COLOURS:
   DANGER AND BACKGROUND = WHITE
   ELLIPTICAL AREA = RED
   RECTANGLE CONTAINING ELLIPSE = BLACK
   OTHER LETTERING AND BORDER = BLACK
3. MINIMUM DIMENSIONS OF SIGN.
   LARGE ENTRIES: 300mm x 450mm
   SMALL ENTRIES: 250mm x 180mm
4. SIGN TO BE MADE FROM COLOUR BONDED ALUMINUM OR POLYPROPYLENE.
5. SIGN FIXED USING HILTI CHEMSETS OR EPOXY.

CONFINED SPACE SIGN

SCALE N.T.S.

1:10 0.1 0 0.1 0.2 0.3 0.4 0.5 A1
1:20 A3

Plotted: 10/07/2024 4:29:03 PM By: JAL, MARVIL
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Key Plan

C	SSDA ISSUE	YNL	JMB	2024.07.10
B	SSDA ISSUE	LPT	JMB	2024.04.16
A	SSDA ISSUE	LPT	JMB	2024.03.28
Issued/Revision		By	Appd	YYYY.MM.DD

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14 MINGARA DRIVE, TUMBI UMBI, NSW 2261

File Name: CI-526-001.DWG	-	-	-	2024.03.28
	Dwn.	Dsgn.	Chkd.	YYYY.MM.DD

Title

STORMWATER DRAINAGE
OSD DETAILS SHEET 2 OF 4

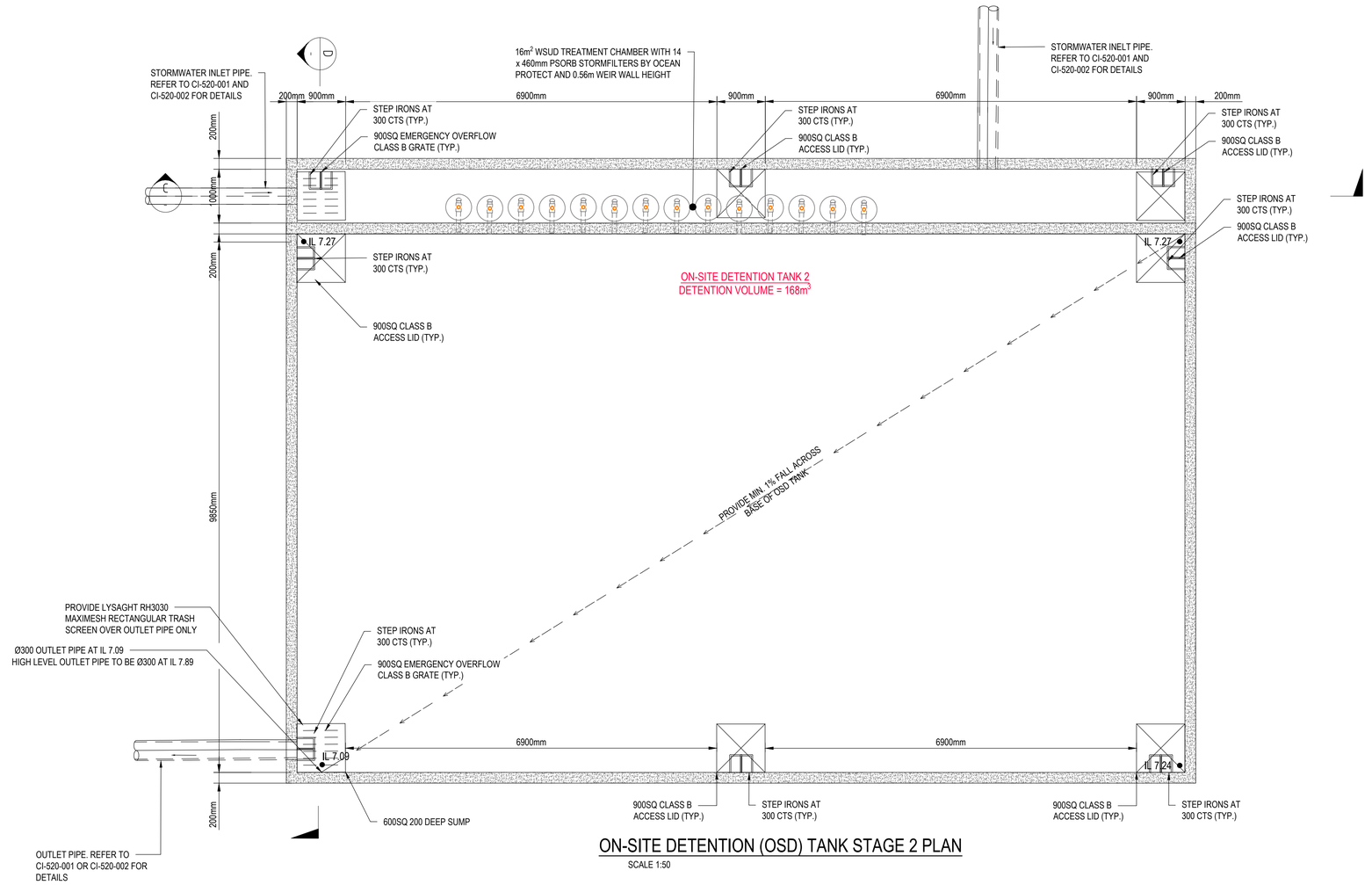
Project No.
301351398

Scale
AS SHOWN

Revision
C

Drawing No.
CI-526-102

ORIGINAL SHEET - ISO A1 COORD - GDA2020/MGA56 DATUM - mAHD



ON-SITE DETENTION (OSD) TANK STAGE 2 PLAN

SCALE 1:50

1:50 1 0.5 0 1 2 A1
1:100 A3

Key Plan

C	SSDA ISSUE	YNL	JMB	2024.07.10
B	SSDA ISSUE	LPT	JMB	2024.04.16
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TUMBI UMBI RETIREMENT LIVING

14 MINGARA DRIVE, TUMBI UMBI, NSW 2261

File Name: CI-526-001.DWG	-	-	-	2024.03.28
	Dwn.	Dsgn.	Chkd.	YYYY.MM.DD

Title
STORMWATER DRAINAGE
OSD DETAILS SHEET 3 OF 4

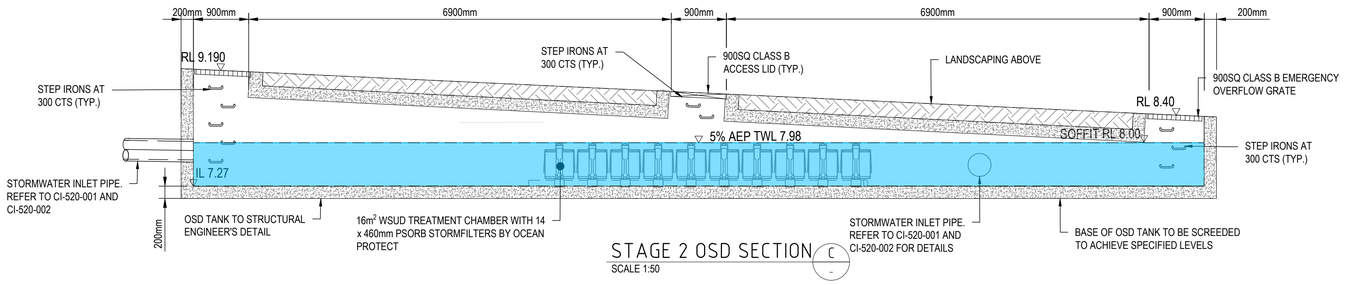
Project No.
301351398

Scale
AS SHOWN

Revision
C

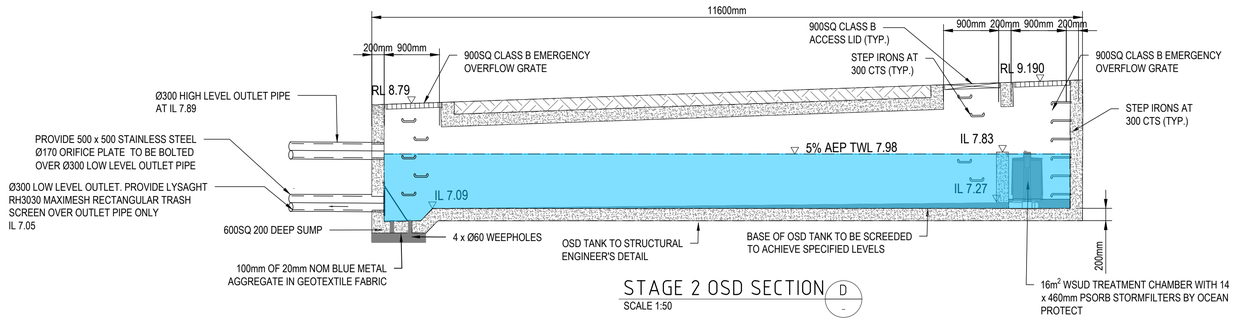
Drawing No.
CI-526-103

Plotted: 10/07/2024 4:20:36 PM By: JAL HASHIM
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ORIGINAL SHEET - ISO A1 COORD - GDA2020/MGA56 DATUM - mAHD



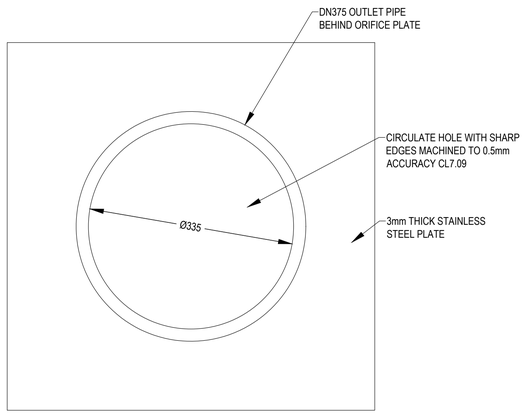
STAGE 2 OSD SECTION C

SCALE 1:50



STAGE 2 OSD SECTION D

SCALE 1:50



ORIFICE PLATE DETAIL 2

SCALE 1:5



SIGNAGE NOTES:

1. SIGN SHALL BE 600x450x1.6mm ALUMINIUM PLATE
2. COLOURS SHALL BE AS FOLLOWS:
   TRIANGLE = RED
   "WARNING" = RED
   WATER = BLUE
   PICTURE = BLACK
   WORDING = BLACK
3. SIGN TO BE FIXED TO FENCE IN A PROMINENT LOCATION WITHIN THE DETENTION BASIN AREA

ON SITE STORMWATER DETENTION WARNING SIGN

SCALE N.T.S.



NOTES:

1. A CONFINED SPACE DANGER SIGN SHALL BE PLACED NEXT TO EACH AND EVERY ACCESS POINT SO THAT THEY ARE VISABLE TO PERSONS ENTERING ANY BELOW GROUND TANK OR PIT.
2. COLOURS:
   DANGER AND BACKGROUND = WHITE
   ELLIPTICAL AREA = RED
   RECTANGLE CONTAINING ELLIPSE = BLACK
   OTHER LETTERING AND BORDER = BLACK
3. MINIMUM DIMENSIONS OF SIGN.
   LARGE ENTRIES: 300mm x 450mm
   SMALL ENTRIES: 250mm x 180mm
4. SIGN TO BE MADE FROM COLOUR BONDED ALUMINUM OR POLYPROPYLENE.
5. SIGN FIXED USING HILTI CHEMSETS OR EPOXY.

CONFINED SPACE SIGN

SCALE N.T.S.

1:50 1 0.5 0 1 2 A1
1:100 A3

Key Plan

C	SSDA ISSUE	YNL	JMB	2024.07.10
B	SSDA ISSUE	LPT	JMB	2024.04.16
A	SSDA ISSUE	LPT	JMB	2024.03.28
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Client/Project Logo

PARITER

Client/Project

PARITER PTY LTD

TUMBI UMBI RETIREMENT LIVING

14 MINGARA DRIVE, TUMBI UMBI, NSW 2261

File Name: CI-526-001.DWG	-	-	-	2024.03.28
	Dwn.	Dsgn.	Chkd.	YYYY.MM.DD

Title

STORMWATER DRAINAGE
OSD DETAILS SHEET 4 OF 4

Project No. 301351398

Scale AS SHOWN

Revision C

Drawing No. **CI-526-104**

Plotted: 1/07/2024 5:45:18 PM By: GIRI, MADHU
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ORIGINAL SHEET - ISO A1 COORD - GDA2020/MGA56 DATUM - mAHD

PIT SCHEDULE FOR: C-STAGE-1

PIT NAME	PIT TYPE	SETOUT COORDS	INTERNAL DIM [mm]	INLET Ø [mm]	INLET INV [m]	OUTLET Ø [mm]	OUTLET INV [m]	PIT FIN RL	PIT DEPTH [m]	COMMENTS
EX. 01	Reinforced Concrete	E: 354811.760 N: 6307532.138		Ø 525	5.510			6.416	0.906	
EX. 02	Reinforced Concrete	E: 354798.982 N: 6307445.439		Ø 525	6.320			7.414	1.094	
P 01\01	Reinforced Concrete	E: 354730.829 N: 6307448.155	W: 900 L: 900			Ø 300	8.192	9.123	0.931	
P 01\03	Reinforced Concrete	E: 354743.899 N: 6307476.327	W: 900 L: 900			Ø 225	6.612	7.243	0.631	
P 01\04	Reinforced Concrete	E: 354755.864 N: 6307585.891	W: 900 L: 900			Ø 300	7.297	8.228	0.931	
P 02\01	Reinforced Concrete	E: 354734.471 N: 6307477.245	W: 900 L: 900	Ø 300	7.986	Ø 300	7.908	8.918	1.010	
P 02\03	Reinforced Concrete	E: 354746.338 N: 6307470.342	W: 900 L: 900	Ø 225	6.579	Ø 300	6.579	7.500	0.921	
P 02\04	Reinforced Concrete	E: 354752.628 N: 6307578.353	W: 900 L: 900	Ø 300	7.256	Ø 300	7.256	8.310	1.054	
P 03\01	Reinforced Concrete	E: 354740.791 N: 6307505.606	W: 900 L: 900	Ø 300	7.509	Ø 375	7.509	8.521	1.011	
P 03\03	Reinforced Concrete	E: 354756.984 N: 6307468.697	W: 900 L: 900	Ø 300	6.525	Ø 300	6.525	7.168	0.643	
P 03\04	Reinforced Concrete	E: 354750.322 N: 6307565.950	W: 900 L: 900	Ø 225 Ø 300	7.418 7.193	Ø 375	7.193	8.415	1.223	
P 03A\04	Reinforced Concrete	E: 354747.367 N: 6307546.949	W: 900 L: 900			Ø 225	7.610	8.507	0.897	
P 04\01	Reinforced Concrete	E: 354750.367 N: 6307505.435	W: 900 L: 900	Ø 375 Ø 225	7.284 6.346	Ø 450	6.346	7.994	1.648	
P 04\03	Reinforced Concrete	E: 354764.212 N: 6307469.743	W: 900 L: 900	Ø 300	6.489	Ø 300	6.489	7.309	0.820	
P 04\04	Reinforced Concrete	E: 354756.910 N: 6307557.702	W: 900 L: 900	Ø 375	6.833	Ø 375	6.732	7.464	0.732	
P 04A\01	Reinforced Concrete	E: 354746.336 N: 6307499.199	W: 900 L: 900			Ø 225	6.420	7.051	0.631	
P 05\01	Reinforced Concrete	E: 354754.088 N: 6307521.286	W: 900 L: 900	Ø 450	6.264	Ø 450	6.264	7.150	0.886	
P 05\03	Reinforced Concrete	E: 354776.097 N: 6307467.649	W: 900 L: 900	Ø 300	6.429	Ø 300	6.429	7.212	0.783	
P 05\04	Reinforced Concrete	E: 354767.974 N: 6307542.892	W: 900 L: 900	Ø 375	6.299	Ø 375	6.299	7.150	0.851	
P 06\01	Reinforced Concrete	E: 354765.531 N: 6307527.332	W: 900 L: 900	Ø 450 Ø 375	6.200 6.220	Ø 525	6.220	7.150	0.950	
P 06\03	Reinforced Concrete	E: 354788.409 N: 6307465.625	W: 900 L: 900	Ø 300	6.366	Ø 375	6.366	7.339	0.973	
P 07\01	Reinforced Concrete	E: 354801.617 N: 6307530.263	W: 900 L: 900	Ø 525	5.627	Ø 525	5.607	10.755	5.148	
P 07\03	Reinforced Concrete	E: 354794.288 N: 6307482.039	W: 900 L: 900	Ø 375	6.167	Ø 450	6.167	7.098	0.932	
P 08\03	Reinforced Concrete	E: 354798.429 N: 6307508.568	W: 900 L: 900	Ø 450	6.033	Ø 450	6.033	7.099	1.067	
P 14\02	Reinforced Concrete	E: 354805.379 N: 6307421.367	W: 900 L: 900	Ø 525 Ø 225	6.465 6.986	Ø 525	6.445	7.894	1.449	
P 14A\02	Reinforced Concrete	E: 354759.986 N: 6307424.197	W: 900 L: 900			Ø 225	7.448	8.079	0.631	
P 14B\02	Reinforced Concrete	E: 354795.266 N: 6307418.640	W: 900 L: 900	Ø 225	7.091	Ø 225	7.091	8.103	1.012	

PIT SCHEDULE FOR: C-STAGE-2

PIT NAME	PIT TYPE	SETOUT COORDS	INTERNAL DIM [mm]	INLET Ø [mm]	INLET INV [m]	OUTLET Ø [mm]	OUTLET INV [m]	PIT FIN RL	PIT DEPTH [m]	COMMENTS
P 01\02	Reinforced Concrete	E: 354724.245 N: 6307424.210	W: 900 L: 900					9.249	0.931	
P 01\05	Reinforced Concrete	E: 354750.261 N: 6307381.842	W: 900 L: 900			Ø 300	7.600	8.298	0.698	
P 01\06	Reinforced Concrete	E: 354772.292 N: 6307377.649	W: 900 L: 900			Ø 225	7.487	8.130	0.643	
P 02\02	Reinforced Concrete	E: 354707.012 N: 6307407.310	W: 900 L: 900			Ø 225	8.177	9.589	1.412	
P 03\02	Reinforced Concrete	E: 354703.002 N: 6307403.379	W: 900 L: 900	Ø 225 Ø 225	8.599 8.149	Ø 375	8.129	9.644	1.495	
P 03A\02	Reinforced Concrete	E: 354690.766 N: 6307391.384	W: 900 L: 900			Ø 225	8.770	9.775	1.005	
P 04\02	Reinforced Concrete	E: 354708.184 N: 6307399.153	W: 900 L: 900	Ø 375	8.096	Ø 375	8.076	9.560	1.464	
P 05\02	Reinforced Concrete	E: 354721.962 N: 6307387.915	W: 900 L: 900	Ø 375	7.987	Ø 375	7.967	9.527	1.540	
P 06\02	Reinforced Concrete	E: 354740.453 N: 6307372.828	W: 900 L: 900	Ø 375	7.848	Ø 375	7.828	9.403	1.555	
P 07\02	Reinforced Concrete	E: 354755.256 N: 6307362.569	W: 900 L: 900	Ø 375	7.738	Ø 450	7.718	9.352	1.615	
P 10\02	Reinforced Concrete	E: 354765.081 N: 6307359.270	W: 900 L: 900	Ø 450	7.064	Ø 450	7.044	9.020	1.975	
P 11\02	Reinforced Concrete	E: 354799.690 N: 6307353.838	W: 900 L: 900	Ø 450	6.869	Ø 525	6.849	8.653	1.804	
P 12\02	Reinforced Concrete	E: 354803.286 N: 6307376.516	W: 900 L: 900	Ø 525	6.734	Ø 525	6.714	8.311	1.597	
P 13\02	Reinforced Concrete	E: 354808.545 N: 6307409.630	W: 900 L: 900	Ø 525	6.546			8.290	1.744	

Key Plan

C SSDA ISSUE	YNL	JMB	2024.07.10
B SSDA ISSUE	LPT	JMB	2024.04.16
A SSDA ISSUE	LPT	JMB	2024.03.28
Issued/Revision	By	Appd	YYYY.MM.DD

Issue Status

APPROVAL

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Notes

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File Name: CI-527-001.DWG	-	-	-	2024.03.28
	Dwn.	Dsgn.	Chkd.	YYYY.MM.DD

Title
STORMWATER DRAINAGE - PIT SCHEDULE

Project No.
301351398

Scale
AS SHOWN

Revision
C

Drawing No.
CI-527-001

Plotted: 1/07/2024 5:50:14 PM, By: LAL, MASPHL
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